

2015 - JCR Evaluation Form

SPECIES: Elk

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

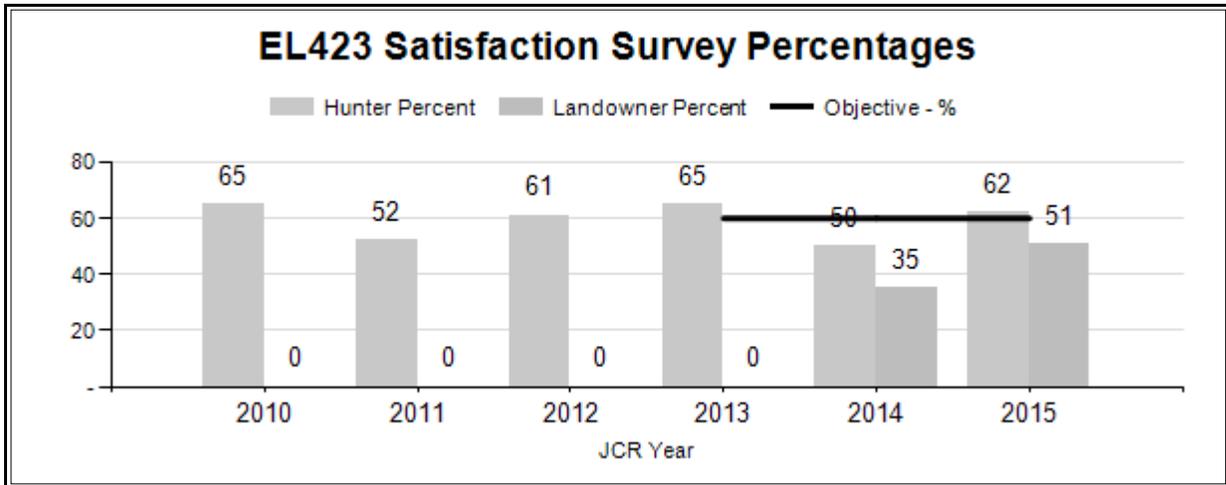
HERD: EL423 - UINTA

HUNT AREAS: 106-107

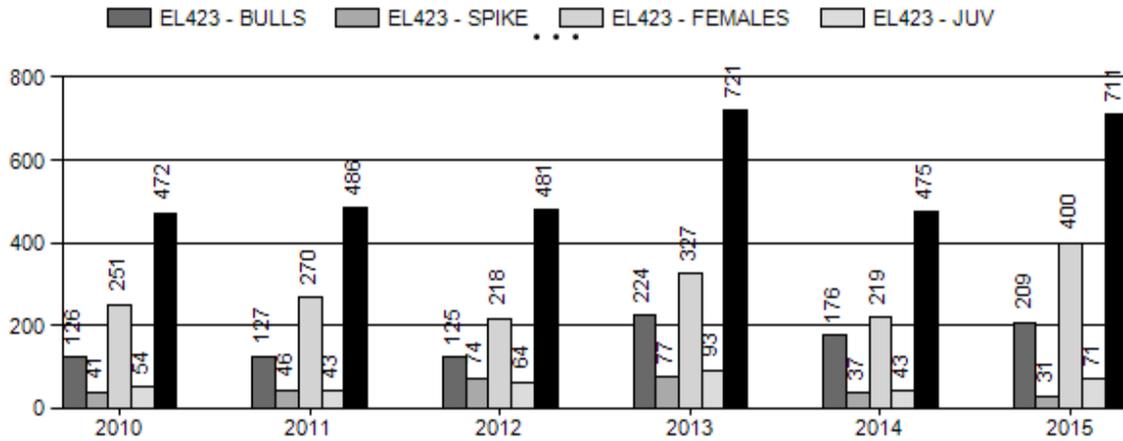
PREPARED BY: JEFF SHORT

	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Hunter Satisfaction Percent	59%	62%	62%
Landowner Satisfaction Percent	35%	51%	60%
Harvest:	527	711	700
Hunters:	1,439	1,782	1,800
Hunter Success:	37%	40%	39 %
Active Licenses:	1,473	1,890	1,900
Active License Success:	36%	38%	37 %
Recreation Days:	9,049	12,326	12,400
Days Per Animal:	17.2	17.3	17.7
Males per 100 Females:	0	0	
Juveniles per 100 Females	0	0	

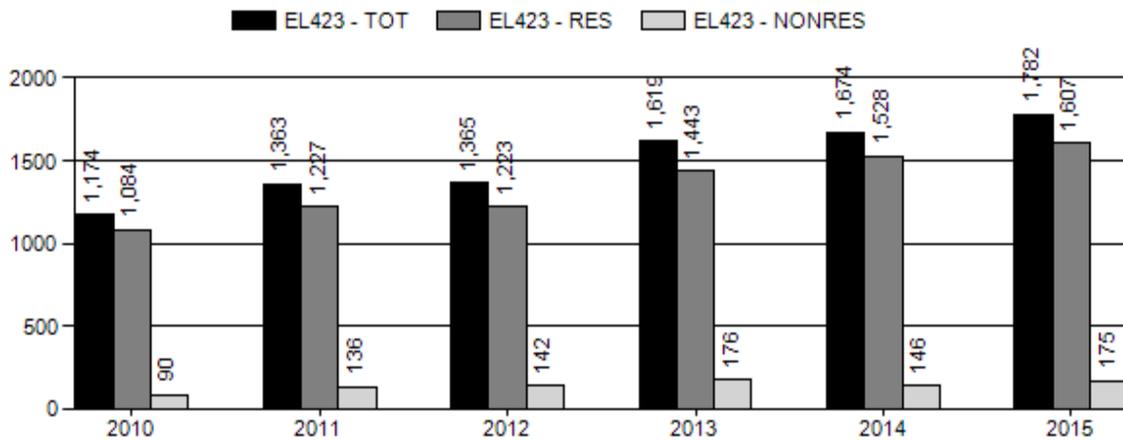
Satisfaction Based Objective	60%
Management Strategy:	Recreational
Percent population is above (+) or (-) objective:	-4%
Number of years population has been + or - objective in recent trend:	2



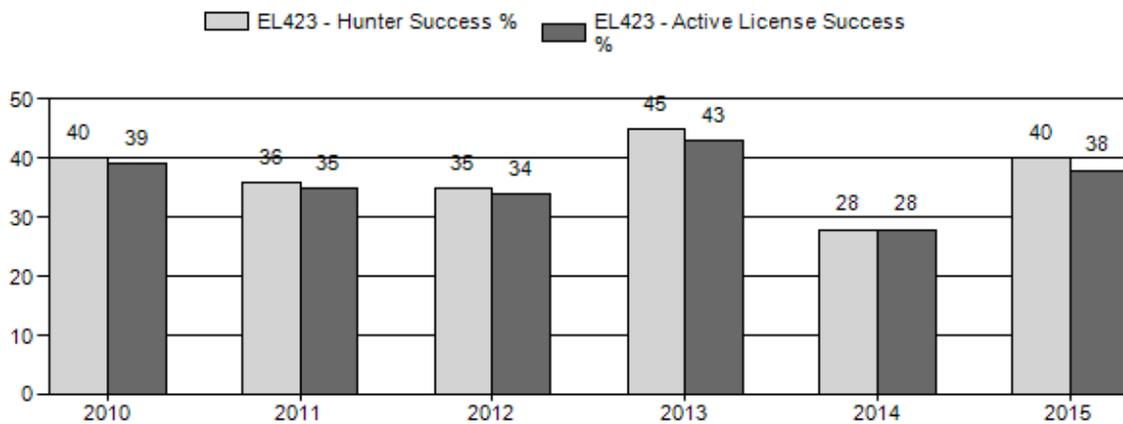
Harvest



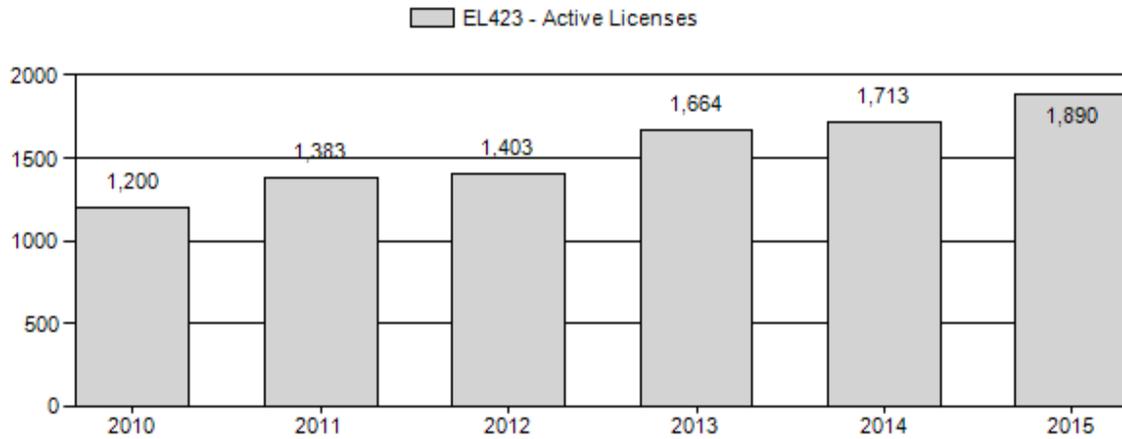
Number of Hunters



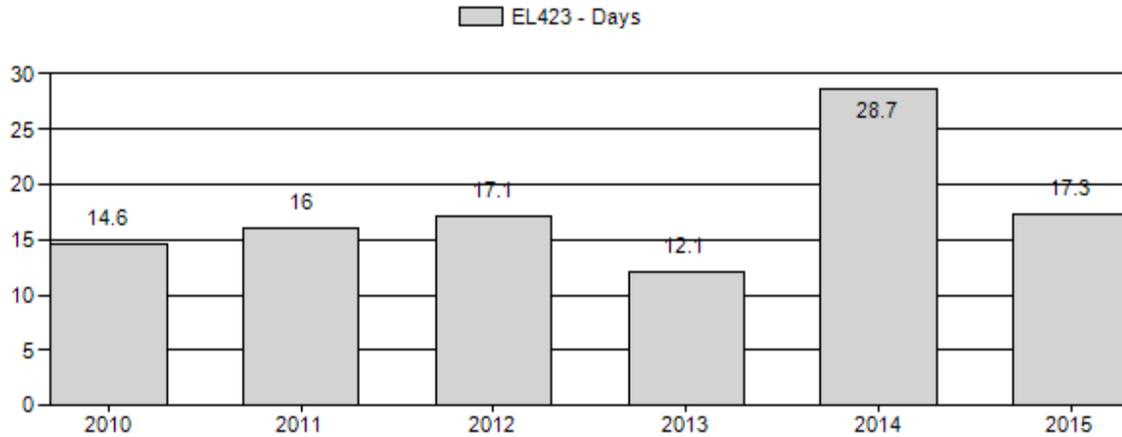
Harvest Success



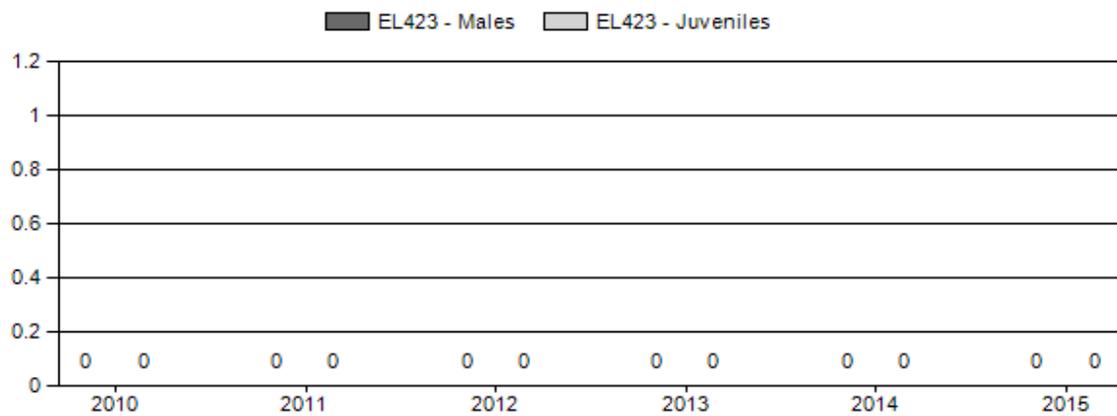
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



No classification data for this herd

2016 HUNTING SEASON

SPECIES : **Elk**

HERD UNIT : **Uinta (423)**

HUNT AREAS: **106, 107**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
106		Oct. 15	Oct. 31		General	Any elk
106		Nov. 1	Nov. 14		General	Antlerless elk
106	1	Nov. 15	Dec. 31	50	Limited quota	Any elk valid west of the Black's Fork River or north of Wyoming Highway 410; also valid in Area 105 west of the Bear River
106	1	Jan. 1	Jan. 31			Any elk valid in Area 105 west of the Bear River
106	4	Nov. 15	Dec. 31	100	Limited quota	Antlerless elk
106	4	Jan. 1	Jan. 31			Antlerless elk valid on private land or west of the Black's Fork River or north of Wyoming Highway 410
106	7	Aug. 15	Jan. 31	300	Limited quota	Cow or calf valid on private land or west of the Black's Fork River or north of Wyoming Highway 410
107		Oct. 15	Oct. 31		General	Any elk
107		Nov. 1	Nov. 14		General	Antlerless elk
107	4	Nov. 15	Dec. 31	150	Limited quota	Antlerless elk
107	4	Jan. 1	Jan. 31			Antlerless elk valid off national forest within the Henry's Fork River drainage
107	7	Aug. 15	Aug. 31	50	Limited quota	Cow or calf valid on private land in Sweetwater County
107	7	Dec. 15	Jan. 31			Cow or calf valid off national forest within the Henry's Fork River drainage

Hunt Area	License Type	Quota change from 2015
Herd Unit Total		

Management Evaluation

Current Postseason Population Management Objective: Satisfaction

Management Strategy: Recreational

2015 Postseason Population Estimate: ~1300

2016 Proposed Postseason Population Estimate: ~1100

Herd Unit Issues

This is an interstate herd shared with Utah. Elk summering in the Uinta Mountains in Utah come to Wyoming to winter. Limited winter range is the main issue for this herd. With winter range in short supply conflict with agriculture producers becomes an issue. Damage complaints occur on bad winters. Summer damage also occurs on crops in limited areas. Significant efforts have been made by field personnel to alleviate these problems. Perceived reduction in livestock forage due to elk grazing is an issue brought up by livestock producers.

Local ranchers set up a meeting through the county Farm Bureau Agency in February 2013 to discuss elk management in this herd. During the meeting ranchers expressed significant dissatisfaction with elk in areas of the herd unit. In difficult winters problems have occurred in parts of HA 106 with elk comingling with livestock along the Bear River and Blacks Fork River where cattle feeding operations occur. However, hunters feel that elk numbers in the southeast part of the hunt area are too low and would like that segment to increase. That area is largely public land and historically draws large hunter numbers due to its easy access. We direct pressure onto the northern and western portions of the hunt area with type 7 permits. The Hunt Area 106 Type 7 licenses also help deal with an early damage problem on growing crops.

The HA 107 antlerless licenses are used to maintain pressure on elk on the Wyoming side of the state boundary during a hunt on the Utah side. Damage complaints on the HA 107 side of the herd unit are typically low even during severe winters. However, ranchers will complain about elk numbers and the herd has been over objective. The late portions of antlerless hunts are designed to target elk that have potential to cause depredation problems while protecting elk in those areas where they can winter with low probability of problems. Hunters would like to see more elk in accessible public land areas in HA 107. These areas and a small portion of public land in HA 106 are the main areas for elk hunter access in the herd unit.

The strategy in this herd unit has been to ultimately minimize elk damage problems. However, it is difficult to manage a herd for limiting damage based solely on a number. Elk damage changes relative to many other factors. In 2014 the objective was reviewed and a new Satisfaction based objective was approved. This objective is to have a landowner satisfaction of 60% and a hunter satisfaction of 60%. In the second year of this objective we are meeting the hunter satisfaction objective but are not meeting the landowner satisfaction objective. However, the landowner satisfaction is rising and on the survey returns the majority of the landowners are satisfied with the current season structure. There is also a secondary objective of having $\geq 60\%$ branch-antlered bulls in the harvest. We are meeting that objective. The objective and management strategy were last revised in 2014.

Weather

Weather during 2015 and into 2016 has been highly variable. In the early part of 2015 the winter was very mild and dry. A moist spring and summer followed. In late August conditions dried considerably and a relatively dry fall continued into late December. Winter did not set in until mid December but it came in abruptly. The winter of 2015-2016 has been very cold with high snow loads to this point and elk have migrated winter ranges. A much needed warming trend has occurred in February and it remains to be seen how the winter will ultimately shape out. The winters from 2011 to 2015 were very mild with low snowpack and relatively warm temperatures resulting in very mild winter conditions. However, the dry springs and summers of 2012 and 2013 negatively impacted summer and winter range forage production.

Habitat

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

Field Data

Elk surveys are flown in cooperation with Utah DNR, most recently in February 2013. The results are shown below. No classification data is available. The 2011 count in Wyoming was higher than previous counts, the result of severe winter weather. The winter of 2012/13 was very mild but forage availability was a problem due to severe drought conditions. Damage involving elk has occurred but has not been a large problem. However, the 2013 count was still very high indicating we needed to increase harvest.

	YEAR								
	1992	1994	1996	1998	2001	2004	2007	2011	2013
Utah West Daggett	920	970	1408	919	923	716	863	No data	1055
Utah Summit	332	131	200	80	101	215	228	268	1006
Wyoming	298	238	635	299	512	446	746	1723	1810
Total	1550	1339	2243	1298	1536	1377	1837	1991	3871

Harvest Data

Antlerless harvest opportunity was increased for several years in this herd unit. The 2010, 2011 and 2012 season structures offered substantially increased antlerless harvest opportunity to reduce the possibility of damage in the herd unit. Those seasons allowed significant antlerless harvest with increases in permits and season lengths. These hunts had good success rates if weather conditions resulted in elk movement out of Utah and were largely successful at reducing damage issues. In 2013 we again made significant increases in antlerless hunting opportunity to further reduce elk numbers and damage concerns. Harvest numbers responded to the increased opportunity. Success rates were high at 45%. That combined with higher hunter numbers produced a harvest of 732 elk in the herd unit. That was well above the previous five year average of 450. In 2014 and 2015 we continued that harvest strategy. In 2014, weather conditions made elk hunting more difficult and harvest was lower at 489 animals harvested. In 2015 weather was more favorable and harvest was back up at 711 for the herd unit. For 2016 we will continue this aggressive hunting strategy to maintain harvest pressure on this herd.

Population

There is no population model for this interstate herd. Weather severity and forage availability are the determining factors in the number of elk that come into Wyoming from Utah during the winter. This and other factors make data collected in Wyoming unreliable.

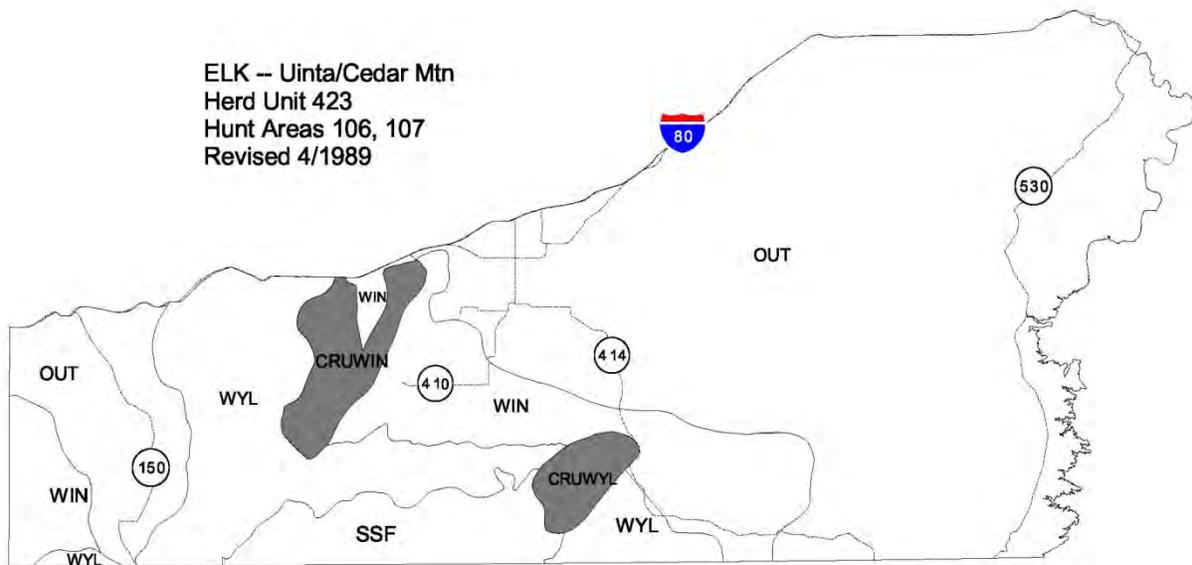
Since data is very limited in this herd it is very difficult to look at data trends. It is not possible to model this interstate herd. Classification data is not collected. Harvest rates are highly variable due to weather conditions pushing elk into the state from Utah. Harvest survey data indicate that we have likely had adequate harvest in recent years to reduce this herd.

Management Summary

Starting in 2013 we greatly increased hunter opportunity for antlerless elk. Comments from landowners in areas around Lonetree and in large portions of area 106 are that elk numbers are still an issue. We will continue with hunt timing and license management to maximize elk harvest opportunities throughout the season to target elk causing problems. It appears that these

new season structures will reduce this elk herd. An August 15 – 31 portion of the area 107 type 7 hunt will be added to address specific damage issues on private lands. The Hunt Area 106 Type 1 licenses are in place to help deal with late damage problems in the area for which they are valid. We are proposing to also make them valid in a far western portion of HA 105 and extend that part of the season into January. This is to address a specific problem where Utah elk from Deseret Land and Livestock are coming over to Wyoming and damaging stored hay on years with hard winters.

ELK – Uinta/Cedar Mtn
Herd Unit 423
Hunt Areas 106, 107
Revised 4/1989



2015 - JCR Evaluation Form

SPECIES: Elk

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

HERD: EL424 - SOUTH ROCK SPRINGS

HUNT AREAS: 30-32

PREPARED BY: PATRICK BURKE

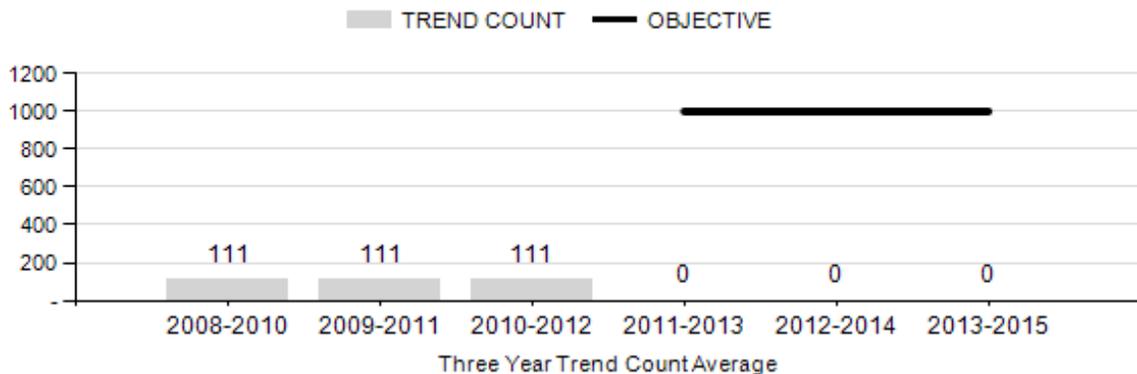
	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Trend Count:	67	0	0
Harvest:	304	220	300
Hunters:	469	323	395
Hunter Success:	65%	68%	76 %
Active Licenses:	469	323	395
Active License Success	65%	68%	76 %
Recreation Days:	3,663	2,294	3,000
Days Per Animal:	12.0	10.4	10
Males per 100 Females:	45	0	
Juveniles per 100 Females	38	0	

Trend Based Objective ($\pm 20\%$) 1,000 (800 - 1200)
 Management Strategy: Special
 Percent population is above (+) or (-) objective: N/A%
 Number of years population has been + or - objective in recent trend: 0

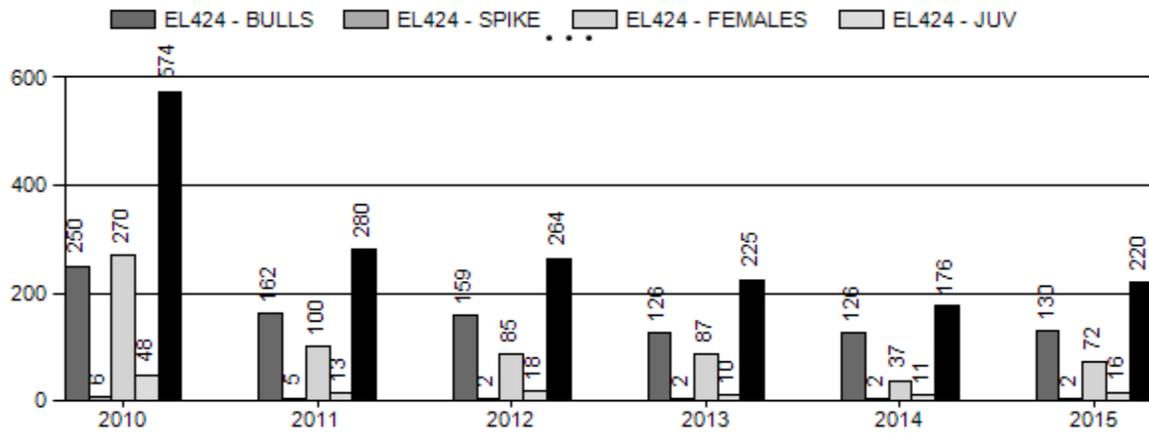
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

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

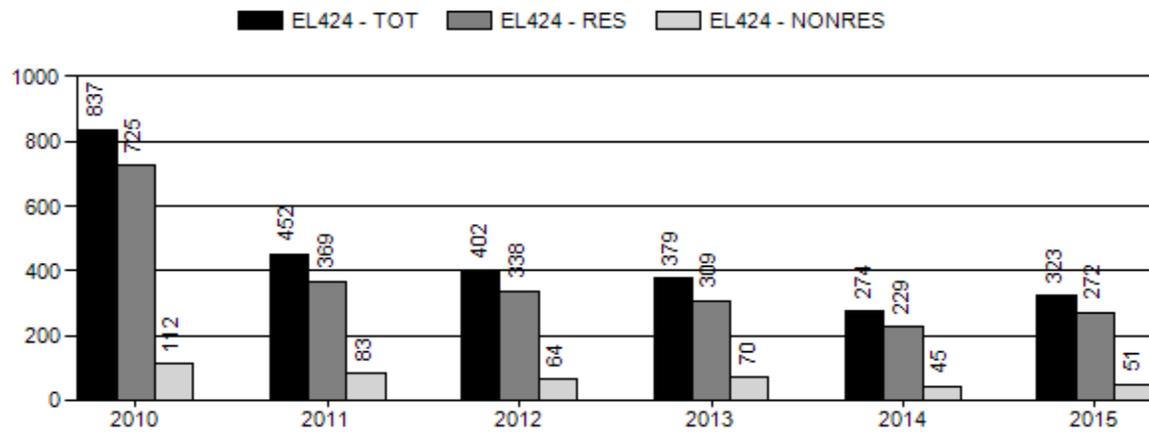
EL424 Trend Count



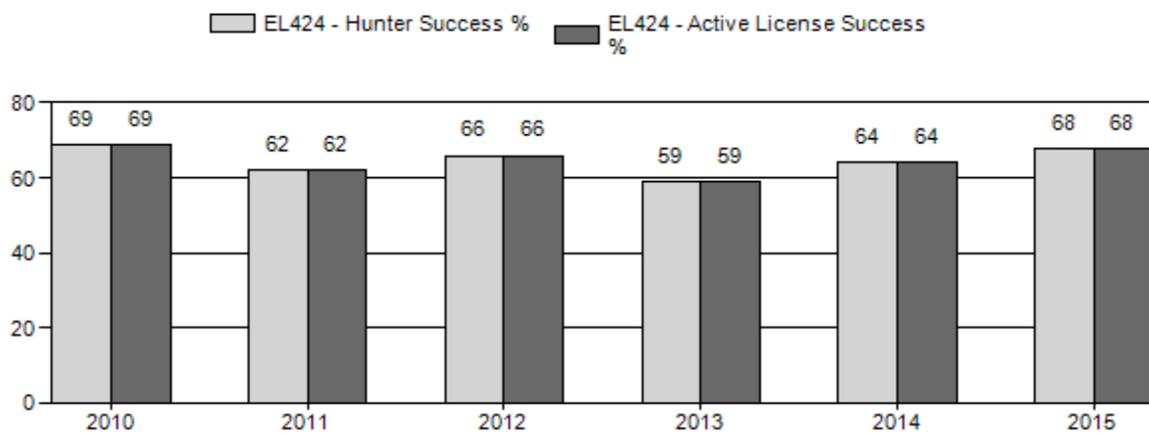
Harvest



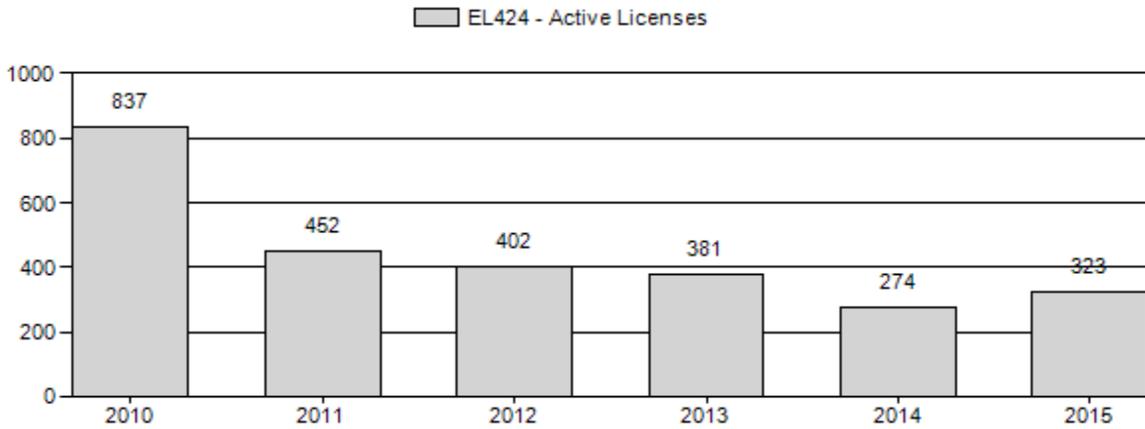
Number of Hunters



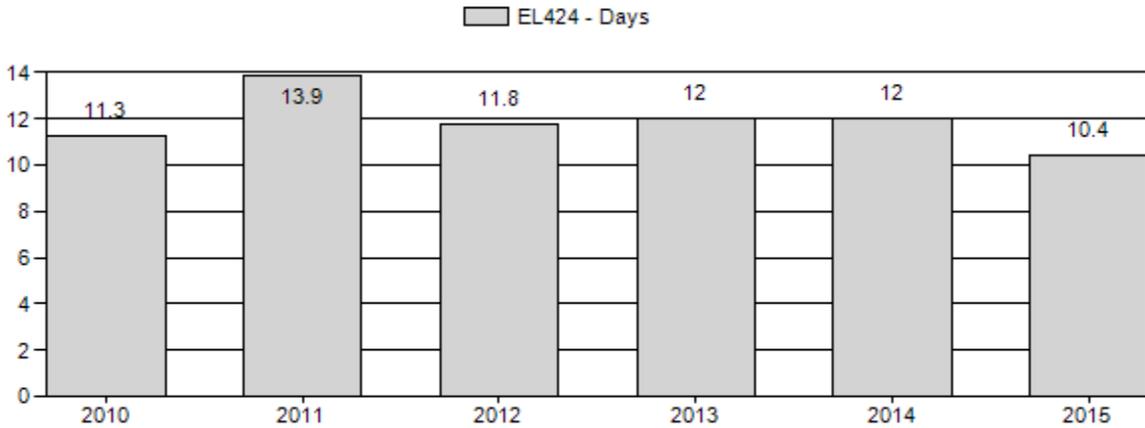
Harvest Success



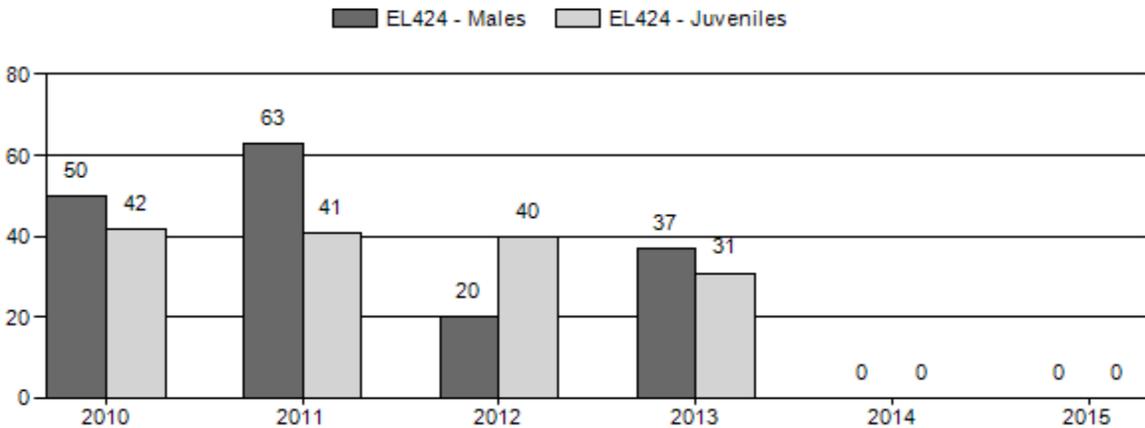
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2010 - 2015 Postseason Classification Summary

for Elk Herd EL424 - SOUTH ROCK SPRINGS

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylg	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2010	625	106	156	262	26%	525	52%	222	22%	1,009	379	20	30	50	± 19	42	± 22	28
2011	1,100	60	116	176	31%	280	49%	116	20%	572	485	21	41	63	± 5	41	± 4	25
2012	799	18	7	25	12%	126	62%	51	25%	202	361	14	6	20	± 5	40	± 7	34
2013	0	78	135	213	22%	582	60%	181	19%	976	398	13	23	37	± 0	31	± 0	23
2014	0	0	0	0	0%	0	0%	0	0%	0	397	0	0	0	± 0	0	± 0	0
2015	0	0	0	0	0%	0	0%	0	0%	0	397	0	0	0	± 0	0	± 0	0

**2016 HUNTING SEASONS
SOUTH ROCK SPRINGS ELK HERD (EL424)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
30	1	Oct. 1	Oct. 31	40	Limited quota	Any elk
	4	Oct. 1	Oct. 31	30	Limited quota	Antlerless elk
31	1	Oct. 1	Oct. 31	100	Limited quota	Any elk
	4	Oct. 1	Oct. 31	100	Limited quota	Antlerless elk
32	1	Oct. 1	Oct. 31	50	Limited quota	Any elk
	4	Oct. 1	Nov. 16	50	Limited quota	Antlerless elk
	9	Sept. 1	Sept. 30	25	Limited quota	Antlerless elk, archery only

Special Archery Season Hunt Areas	Type	Season Dates		Limitations
		Opens	Closes	
30-32	All	Sept. 1	Sept. 31	Valid in the entire area(s)

Hunt Area	Type	Quota change from 2015
30	1	+10
	4	+10
31	1	+25
	4	+25
Herd Unit	1	+35
Total	4	+35

Management Evaluation

Current Management Objective: 1,000

Management Strategy: Special

2015 Postseason Population Estimate: N/A

2016 Proposed Postseason Population Estimate: N/A

The South Rock Springs elk herd is a special management herd and has a mid-winter trend count objective of 1,000 elk. This objective was set in 2013, when the objective was changed from a population based objective to a trend count based objective. This change was made due to the difficulty and unreliability of attempting to model an interstate population.

Herd Unit Issues

This herd is shared between the states of Wyoming, Colorado, and Utah, with the largest segment of the population probably residing in Colorado. Because of the interstate nature of this population, the number of elk actually residing in Wyoming has been difficult to estimate since it probably changes on a day-to-day basis especially during hunting season since significant interchange has been documented between the three states, especially between Wyoming and Colorado.

In order to learn more about the amount of interchange between the three states that this herd occupies, the states of Colorado and Utah have placed GPS collars on cow elk in their portions of this herd. Colorado deployed collars in the 2011-2012 winter and Utah put out collars during the 2012-2013 winter. Results from these studies have documented use of Wyoming by elk collared in both Utah and Colorado with more interchange occurring between Colorado and Wyoming than between Wyoming and Utah or between Utah and Colorado. Most of the collared elk appear to be frequenting the areas between Middle Mountain in Colorado and the Little Red Creek, 4-J Basin areas in Wyoming with some of the elk using areas further south in Colorado and Utah. Most of the elk collared in Utah left that state after being collared and have been spending most of their time in either Colorado or Wyoming.

Weather

The summers of 2012 to 2014 were all extremely dry with little summer precipitation, especially the summer of 2012. The summer of 2012 was the driest on record at the Rock Springs monitoring station with only 3.13 inches of precipitation recorded, 2013 was the 5th driest with 4.68 inches of precipitation measured and 2014 was the second driest on record with only 4.24 inches of precipitation for the year. This lack of moisture was especially evident in areas of the herd unit below 8,000 ft. The drought conditions at the lower elevation winter ranges of the herd unit have had some minor impacts on this in the form of elk choosing to winter at higher elevations than normal which may result in more use of already stressed summer parturition ranges that are used by this herd and the South Rock Springs mule deer herd. During December 2013 classification flights, some elk were seen wintering at over 9,000 ft. and other groups were observed at higher elevations than typically occupied despite substantial snow depths in those areas. Three summers in a row of less than desired precipitation certainly had a negative impact on the vegetation in the area, but do not appear to have had a negative impact on this herd. Near normal precipitation levels were documented in 2015, with 8.62 inches of precipitation recorded at the Rock Springs monitoring site. Most of the moisture came in July, however which did not benefit plant growth as much as if it had arrived earlier in the growing season.

Habitat

The Green River aquatic habitat biologist has established six aspen regeneration monitoring transects throughout the herd unit. These transects are designed to evaluate browsing impacts from ungulates on young aspen suckers, especially elk. 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 that fall and the South Pine Mountain site was not read in 2014 due to the aspen stand that it was located in dying off resulting in an insufficient number of aspen suckers left alive to measure. Because of the loss of the South Pine Mountain site, a new transect was established near the tri-state marker in 2014.

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, four of the five monitored sites showed positive LD values for 2015, while two of the sites had LD values at or below zero.

Table 1. Trends in aspen regeneration LD Index values (vertical inches) for the SRS herd unit 2012-2015.

Monitoring site	2012	2013	2014	2015
Pine Mt/Red Ck.	-3.0	NA	-7.8	-1.8
Tri-State /Red Ck.	NA	NA	+3.36	+7.2
Miller Mt.	+5.3	+6.6	+4.6	+3.6
Aspen Mt.	-6.0	+4.6	-4.5	+1.2
Little Mt./Dipping Spr.	-2.6	0	-0.9	+1.2
Little Mt./West Currant Ck.	0	0	-1.6	0

Field Data

The South Rock Springs elk herd is classified in conjunction with the South Rock Springs deer herd alternating between ground classifications and aerial classifications. This herd was last classified from a helicopter in 2013, since that time, funds have not been available for aerial classification efforts. During the ground classification efforts in 2014 and 2015, insufficient numbers of elk were observed to obtain classification ratios for the herd. This was most likely because during November, when the classifications were conducted, the elk were in areas that were inaccessible from the ground. The average ratios from the last three years when adequate sample sizes were obtained are 36 calves per 100 cows and 32 bulls per 100 cows with an average sample of 583 elk.

Harvest Data

In 2015 there were a total of 323 active licenses in the herd unit. The overall harvest success rate for those 323 licenses across all hunt areas and license types in the herd unit in 2015 was 68% and it took the average hunter just under 10.5 days to harvest an elk in the herd unit. A total of 220 elk were harvested during the 2015 hunting season, with 130 two year or older bulls, two spike bulls, 72 cows and 16 calves harvested. The hunt area with the highest harvest success rate was HA30, with reported an 83% success rate, although the number of licenses issued in that hunt area was relatively small with only 34 Type 1 licenses and 20 Type 4 licenses in the hunt area. Hunt area 31 reported a 90% success rate for the Type 1 licenses and a 65% success rate for Type 4 license holders. Hunt area 32 reported a 79% success rate for Type 1 license holders and a 33% success rate for Type 4 license holders, along with a 19% success rate for the Type 9 license holders.

Because of the special management status and the local prominence of the South Rock Springs elk herd, successful Type 1 license holders are asked to voluntarily submit tooth samples from harvested elk for cementum annuli analysis. In 2015, tooth samples were submitted from 69 bull elk or about 52% of the bull elk harvested based on the harvest survey. Based on these

submissions, the average age of harvested bulls in 2015 was 5.6 years old. This compares with an average age of 6.2 in 2014, and 5.7 in both 2013 and 2012. Three 9.5 year old bulls were harvested and aged from the herd unit in 2015. One of those bulls came from HA30 and the other two were submitted from HA32. In past years, the oldest age class of bull harvested was 10.5 in 2014, 9.5 in 2013, 7.5 in 2012, and 11.5 in 2011.

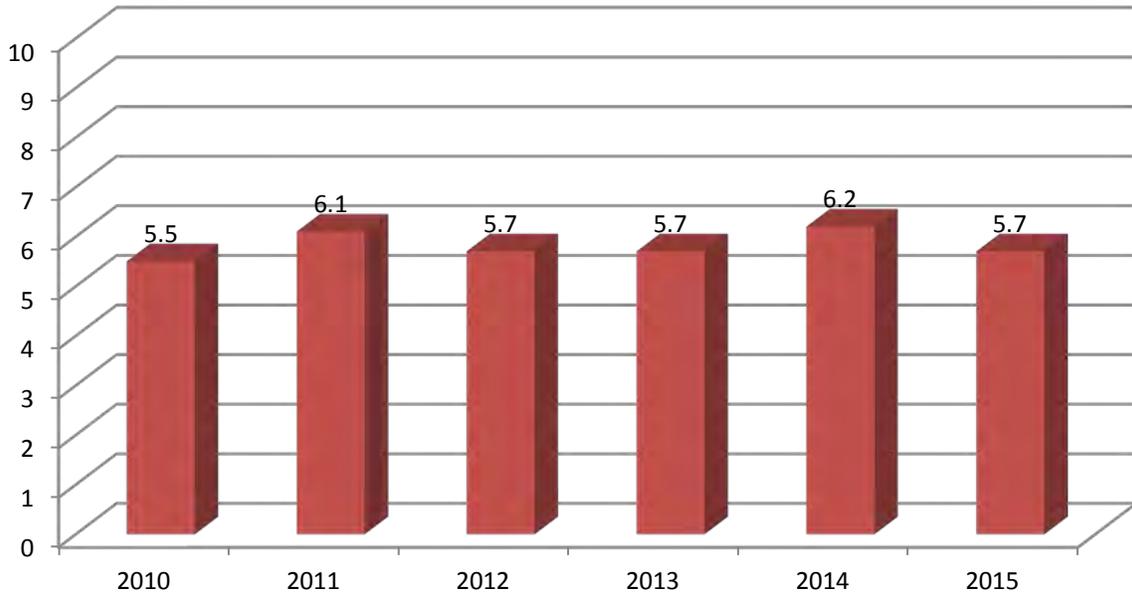
Population

Since collar data from three separate studies being conducted in Colorado, Utah, and Wyoming have demonstrated that at least portions of this herd move freely between Wyoming, Colorado, and Utah; attempting to model this herd is not feasible because it violates the fundamental assumption of a closed population. Therefore, there is no population estimate for this herd and classification numbers are probably the best approximation for the number of animals in the herd in years when trend-counts are not conducted. The most recent year that had an adequate classification sample size for consideration was 2013 when 976 animals were observed in Wyoming with 536 of those elk probably residing in Wyoming year-round, since the other 440 elk classified that year were within one mile of the state line and contained at least nine cows that were collared in other states. The last trend count flown on this herd was conducted in 2010, when 334 elk were counted. Due to budget restrictions and the need for data from higher profile herds in the region, no flights have been conducted in the herd unit since 2013.

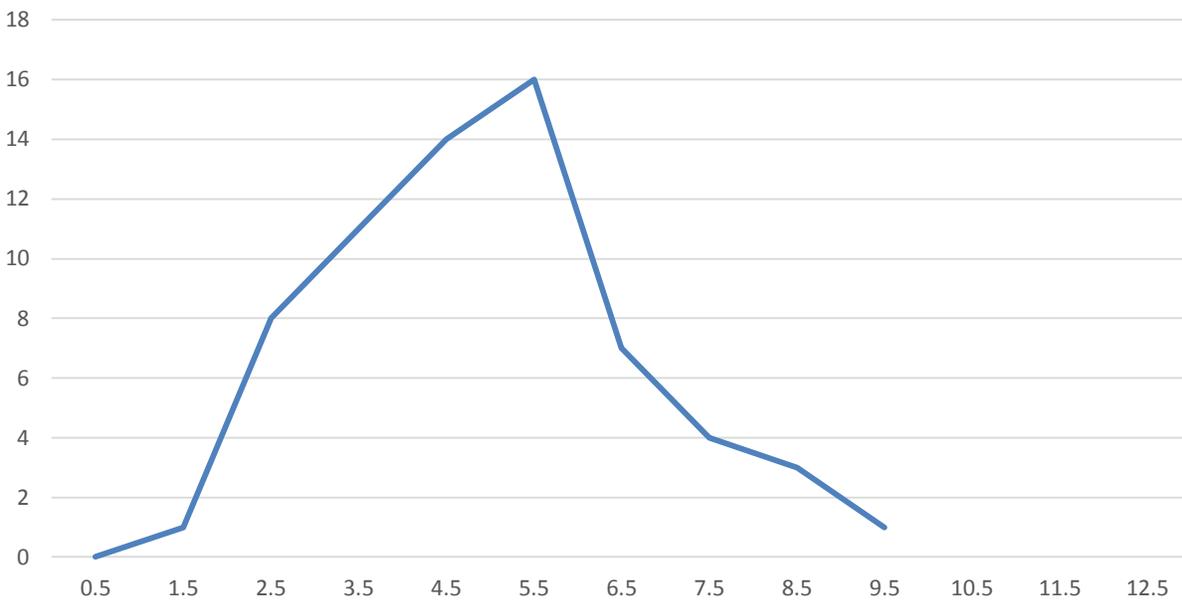
Management Summary

The 2016 hunting season is generally similar to season structures from the past few years. The only changes for 2016 season are slight increases in both the Type 1 and Type 4 license types in Hunt Areas 30 and 31. These increases were instituted due to the feeling by the local managers that the available elk population in those two hunt areas would allow for some increased hunter opportunity. License increases were not being proposed for Hunt Area 32 due to the lower success rates for hunters in that area and due to the fact that almost all of the elk in the hunt area leave the state and move into Colorado as soon as hunters show up for rifle season. One of the hunter comments received from the 2015 hunting season sums up the experience of many HA32 license holders: "The number of cow elk located in this area was very minimal. Most of the cow elk had moved over into the Colorado area the very first day of the rifle hunt. I spoke with several other area 32 hunters that observed the same thing. The overall hunting experience was extremely disappointing". Instead of increasing Type 4 license numbers, which will probably not result in an increased elk harvest, the 2016 season package includes again offering the Type 9 license valid in September for cow elk only. While success was minimal on this license type in 2015, it is hoped that this strategy will help harvest some cow elk from the hunt area before they move into Colorado.

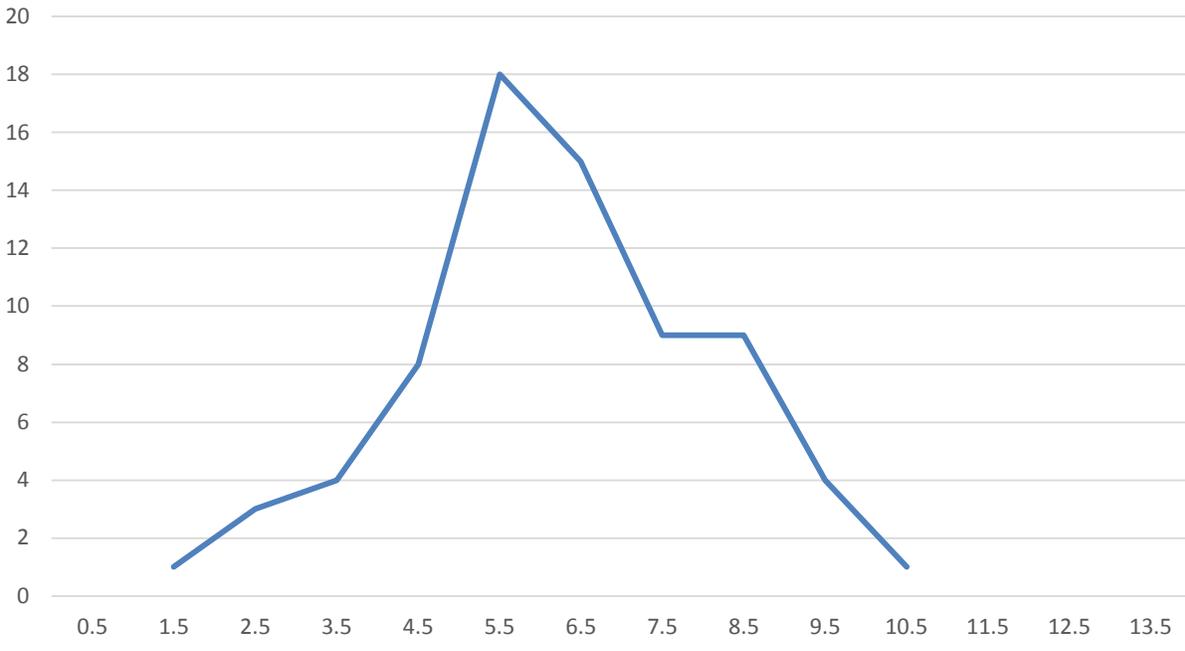
SRS Elk Average Age of Harvested Bulls



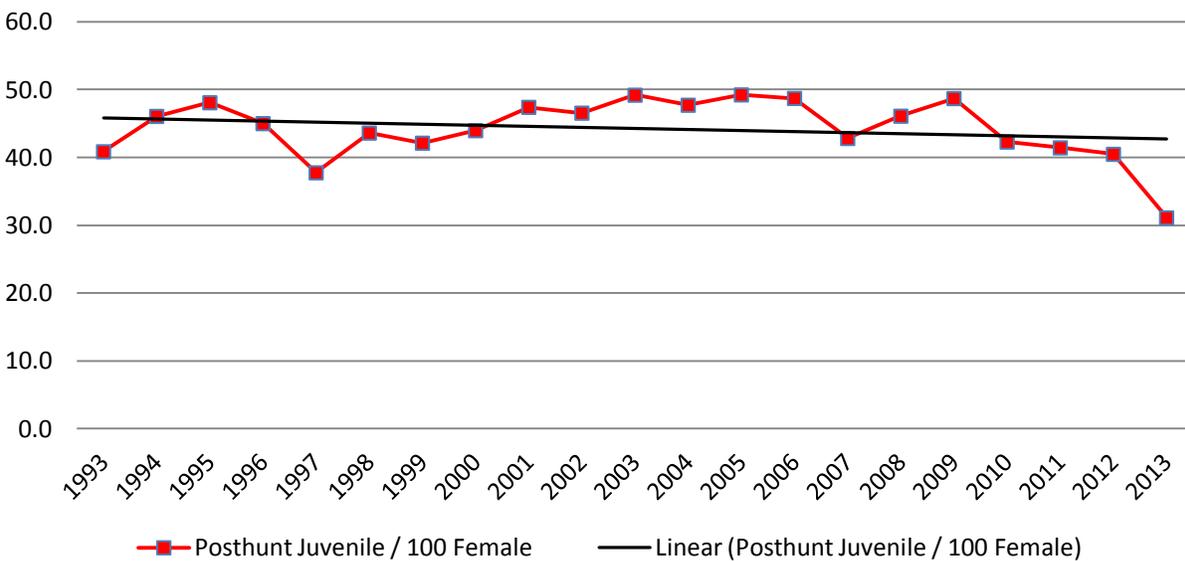
2015 SRS BULL ELK HAVESTED # PER AGE CLASS



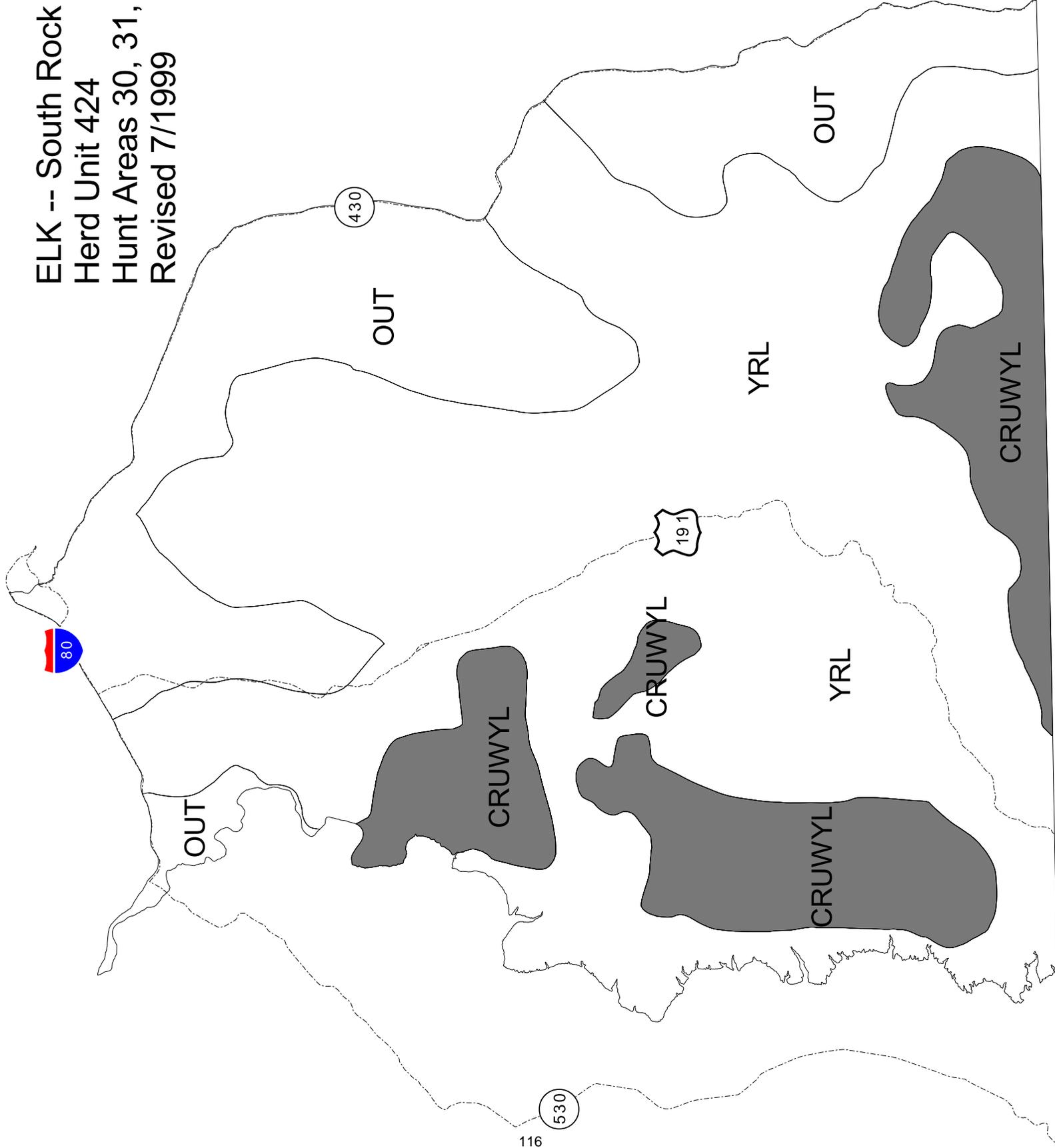
2014 SRS BULL ELK HAVESTED # PER AGE CLASS



Posthunt Juvenile / 100 Female



ELK -- South Rock Springs
Herd Unit 424
Hunt Areas 30, 31, 32
Revised 7/1999



2015 - JCR Evaluation Form

SPECIES: Elk

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

HERD: EL425 - SIERRA MADRE

HUNT AREAS: 13, 15, 21, 108, 130

PREPARED BY: TONY MONG

	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Population:	11,624	8,295	6,800
Harvest:	2,390	2,306	2,000
Hunters:	5,669	6,183	5,800
Hunter Success:	42%	37%	34%
Active Licenses:	5,891	6,503	6,200
Active License Success:	41%	35%	32%
Recreation Days:	37,898	46,179	42,000
Days Per Animal:	15.9	20.0	21
Males per 100 Females	27	13	
Juveniles per 100 Females	37	42	

Population Objective (± 20%) : 5000 (4000 - 6000)

Management Strategy: Recreational

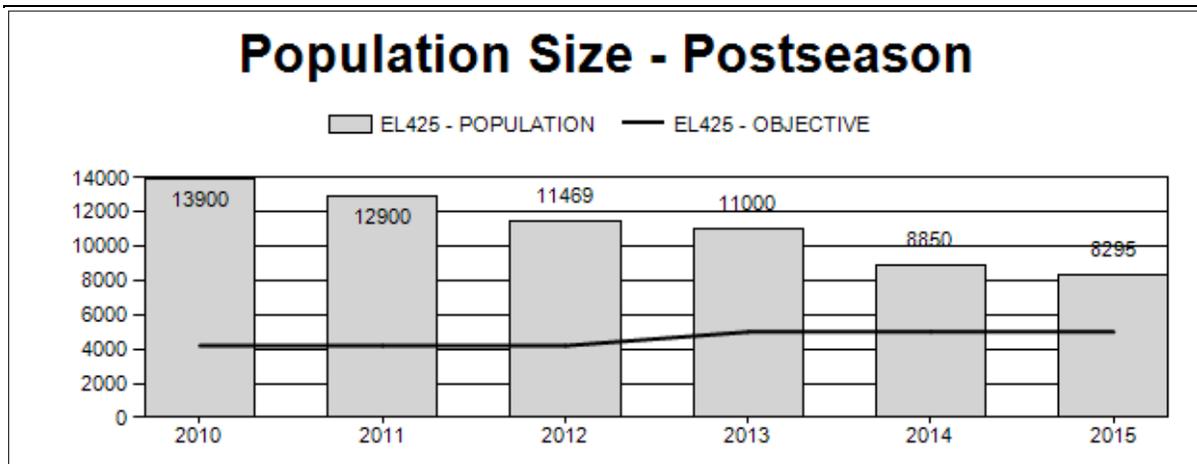
Percent population is above (+) or below (-) objective: 66%

Number of years population has been + or - objective in recent trend: 10

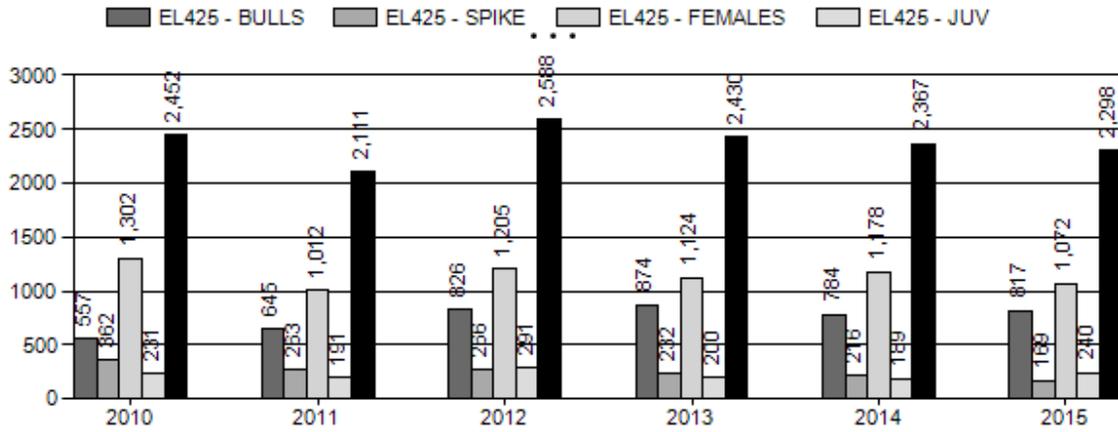
Model Date: 02/20/2016

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

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	15%	18%
Males ≥ 1 year old:	62%	55%
Juveniles (< 1 year old):	9%	8%
Total:	22%	22%
Proposed change in post-season population:	9%	10%



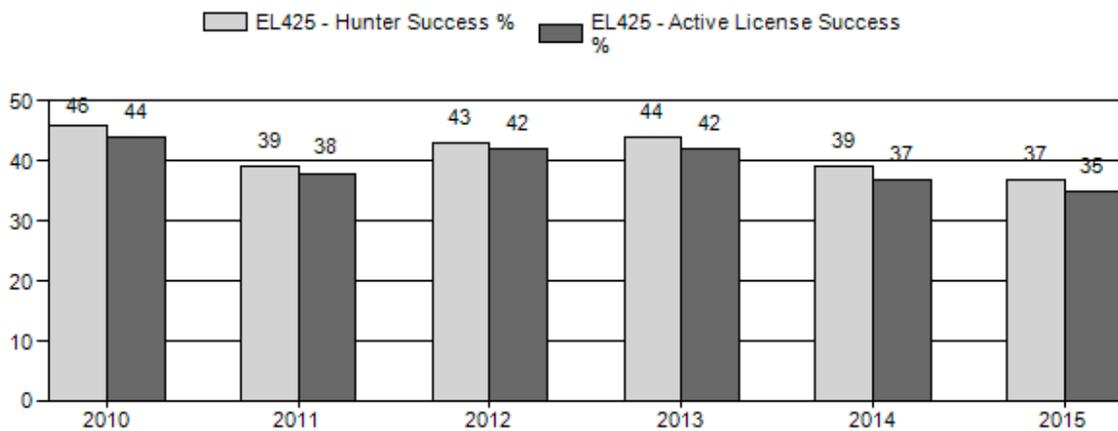
Harvest



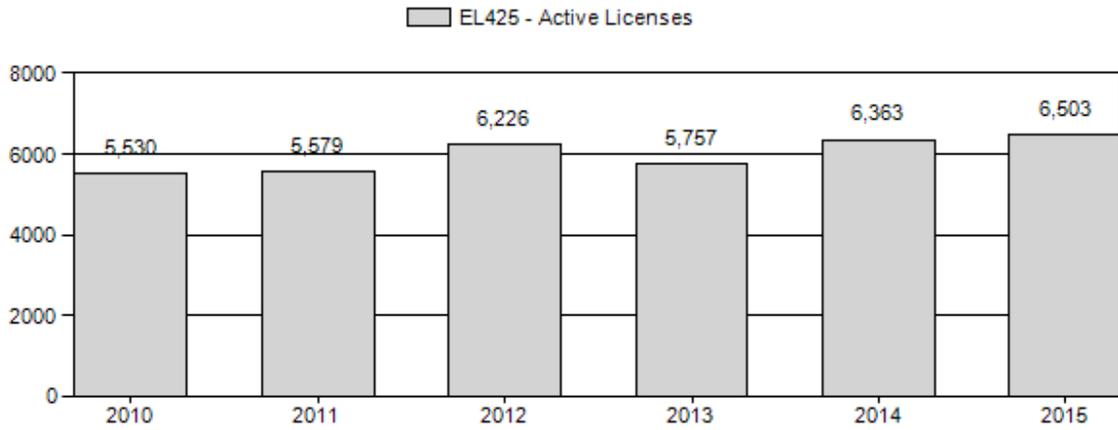
Number of Hunters



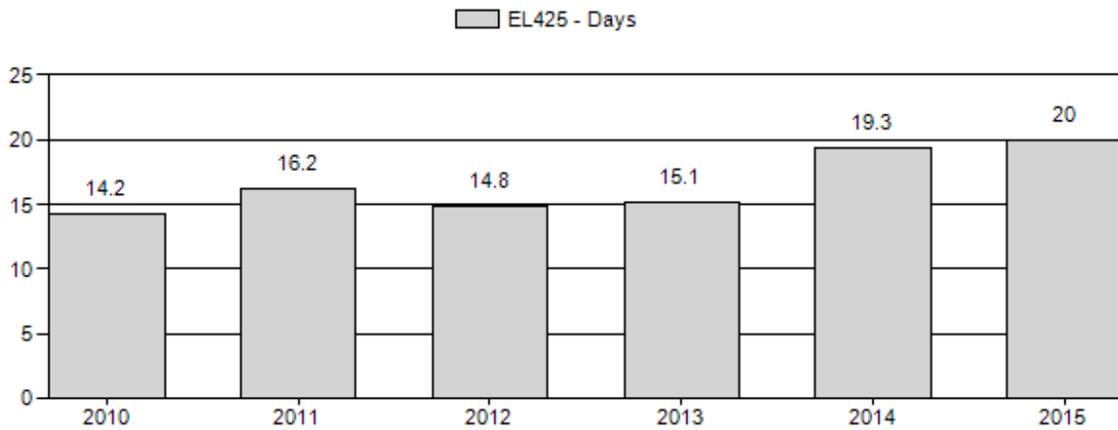
Harvest Success



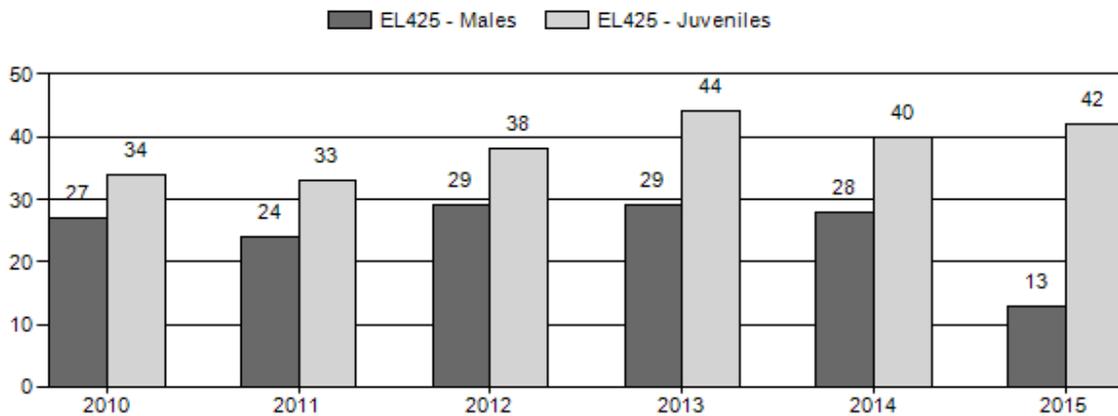
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



- * No data collected in Area 21.

2016 HUNTING SEASONS

SPECIES : Elk

HERD UNIT : Sierra Madre (425)

HUNT AREAS: 13, 15, 21, 108, 130

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
13		Oct. 15	Oct. 31		General	Any elk
	6	Oct. 1	Nov. 14	100	Limited quota	Cow or calf
15		Oct. 15	Oct. 31		General	Any elk
	6	Oct. 1	Nov. 14	100	Limited quota	Cow or calf
21		Oct. 13	Oct. 14		General youth	Antlerless elk
		Oct. 15	Oct. 19		General	Antlered elk
		Oct. 20	Oct. 26		General	Any elk
		Oct. 27	Nov. 15		General	Antlerless elk
	6	Oct. 15	Nov. 30	400	Limited quota	Cow or calf
	7	Aug. 15	Dec. 31	25	Limited quota	Cow or calf valid on private land
108	1	Oct. 11	Oct. 31	75	Limited quota	Any elk
	4	Oct. 11	Nov. 30	50	Limited quota	Antlerless elk
	6	Oct. 11	Jan. 31	150	Limited quota	Cow or calf
	7	Dec. 1	Jan. 31	200	Limited quota	Cow or calf
130		Oct. 1	Oct. 23		General	Any elk

Special Archery Season Hunt Areas	Type	Season Dates		Limitations
		Opens	Closes	
13	All	Sep. 1	Sep. 30	Valid in the entire area(s)
15	All	Sep. 1	Sep. 30	Valid in the entire area(s)
21	All	Sep. 1	Sep. 30	Valid in the entire area(s)
108	All	Sep. 1	Sep. 30	Valid in the entire area(s)
130	All	Sep. 1	Sep. 30	Valid in the entire area(s)

<i>Hunt Area</i>	<i>Type</i>	<i>Quota change from 2015</i>
<i>13</i>	<i>6</i>	<i>0</i>
<i>15</i>	<i>6</i>	<i>0</i>
<i>21</i>	<i>6</i>	<i>-50</i>
	<i>7</i>	<i>-25</i>
<i>108</i>	<i>1</i>	<i>0</i>
	<i>4</i>	<i>0</i>
	<i>6</i>	<i>0</i>
	<i>7</i>	<i>0</i>

<i>Herd Unit Total</i>	<i>1</i>	<i>0</i>
	<i>4</i>	<i>0</i>
	<i>6</i>	<i>0</i>
	<i>7</i>	<i>0</i>
	<i>Total</i>	<i>-75</i>

Management Evaluation

Current Management Objective: 5,000 (2013)

Management Strategy: *Recreational*

2015 postseason Estimate: 8,300

2016 Proposed Postseason Population Estimate: 6800

The Sierra Madre elk herd (SMEH) is above the objective of 5,000 (set in 2013) therefore our current management strategy is to decrease herd size.

Herd Unit Issues

The SMEH continues to be productive and has not shown negative impacts from the increase in gas and oil activities in the herd unit. The large Choke Cherry-Sierra Madre wind project may impact SMEH negatively because of the proximity of the project to both wintering elk and migrating elk. A new gas/oil project within elk winter range between Battle Mountain and Muddy Mountain has the potential to displace wintering elk onto local private lands.

There were three major issues discussed by hunters in the elk general comments, these issues included number of hunters/ATVs, elk numbers and beetle kill. Again this year we have seen a high number of negative comments related to hunter crowding in the 3 main hunt areas for the SMEH (13, 15, 21). In addition to the common complaint of too many hunters during both the archery and rifle season, it seems more comments were focused on ATV use, with one hunter saying “Ban all atv's from hunting.”

The high harvest and management strategy within the SMEH over the last 5 years has been successful in reducing the number of elk within the herd. Negative comments from hunters regarding elk numbers have increased as elk numbers have decreased. In 2015 harvest reports indicated 6,182 hunters hunted in the SMEH. Population models indicate that population numbers in the SMEH could reach a low of 6,800 post-hunt in 2016. This is alarming as we will have the potential to have close to a 1:1 ratio of hunters and elk which could lead to the potential for over harvest and a population crash. A related emerging issue that will become apparent as we reach objective is maintaining the high level of opportunity for residents and non-residents and maintaining bull ratios at acceptable levels. This may be very difficult with the current objective and current level of hunters using the SMEH.

A landscape wide impact to the SMEH that is being noticed and commented on by hunters is the progression of beetle kill through the Sierra Madre range. Currently trees have begun to fall at alarming rates which may lead to disruption in traditional movement patterns of elk or the ability

of hunters to access the forest. One hunter commented “Hunting was overly challenging due to beetle kill and associated blow down areas.” A greater effort to work with the U.S. Forest Service to address these areas must be made in the coming years to ensure the SMEH remains open to hunting.

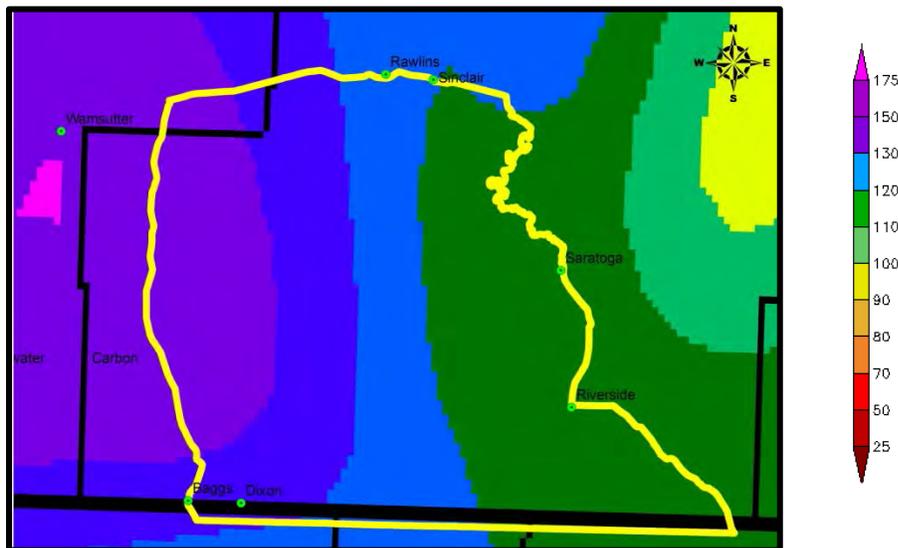
Elk and hunter distribution throughout the herd unit has been and continues to be an issue for managers in the three different regions that hold management responsibilities for the herd. The 3 main general hunt areas (13, 15, 21) see not only major differences in hunter numbers but also in harvest success, days to harvest and classification data. A challenge moving into the future will be to understand elk distribution in each of these hunt areas during the hunting season and how to manage hunters to allow for the best opportunity and hunting experience in the general hunt units.

Weather

Moisture levels during 2015 were some of the highest seen in many years. The moisture came in the form of rain in April and May setting up the herd unit for incredible vegetative response. The moisture was especially good in the lower elevation areas of the herd unit which should equate to good feed on winter ranges for the SMEH.

Snow levels in 2015 have been higher than previous years, however temperatures in February have been high enough to melt off south facing slopes and allow some relief for wintering SMEH elk.

Figure 1. Percent of normal precipitation for the herd unit from February 2015 to February 2016.



Field Data

The SMEH herd has traditionally been a very productive herd and until 2010 had shown steady growth. The institution of an any elk season in 2010 clearly marks the start of decreasing overall

numbers bringing this population closer to objective. In 2015 we flew an intensive classification flight that yielded 5,939 total elk classified. Calf ratios have increased over the last 3 years compared to the previous 3 years (41:100 compared to 35:100) and the population model predicts population levels have decreased significantly during that same time frame. This higher calf ratio may indicate a return to a population level that is closer to carrying capacity or may be a facet of the high cow harvest we have had over the same time period skewing our data.

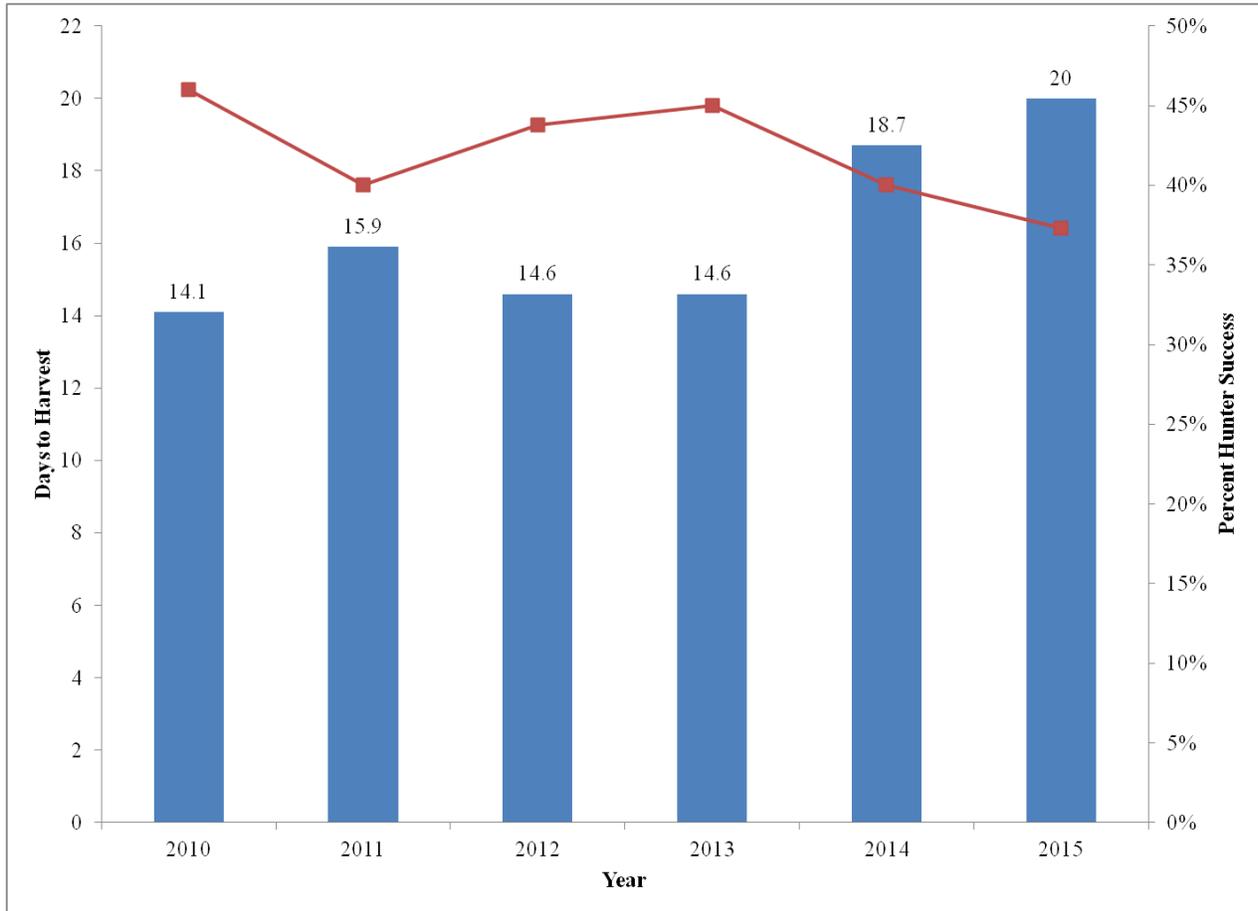
Historically this herd has had low bull ratios and low bull quality due to heavy hunting pressure on bulls. However, with the recent focus on cow harvest and the any elk seasons we are seeing an increase in branch antlered bull ratios herd unit wide (10 year average prior to any elk seasons, 9; average after any elk seasons, 13). This is most likely a combination of artificial inflation due to higher cow harvest compared to bull harvest and actual increases in the number of bulls that live through the season because many hunters are not waiting to harvest a bull but harvesting a cow instead.

There is a divergence in data between hunt area 21 and 13 and 15 with both harvest data and classification data. Traditionally hunt area 21 has contributed ~60% of the total harvest for the herd unit which drives the harvest data for the herd unit. Hunt areas 13 and 15 normally run close to 10%-15% lower in their harvest success rates compared to hunt area 21 and classification data for elk in hunt areas 13 and 15 during the winter have always shown much lower bull ratios over the last 3 years (hunt areas 13 and 15 3-year average, 14; hunt area 21 3-year average, 29).

Harvest Data

The SMEH continues to be the most heavily hunted/highest harvested herd units in the state, over the last 6 years over 34,000 hunters have harvested over 14,000 elk out of the SMEH. The 2015 hunting season was one of the warmest on record with an opening day high temperature (at the Battle Mtn NRCS SNOTEL weather station) of 69 degrees F and an average high temperature for the entire season of 58 degrees F. Higher temperatures during the hunting season coupled with a decreasing elk herd over the last several years has led to a decrease in the harvest success and an increase in the days to harvest (Figure 2). We can expect hunter satisfaction to decrease as we decrease elk numbers to reach objective.

Figure 2. Sierra Madre elk herd hunter success (red line, secondary axis) and days to harvest (blue bars, primary axis) from 2010 to 2015.



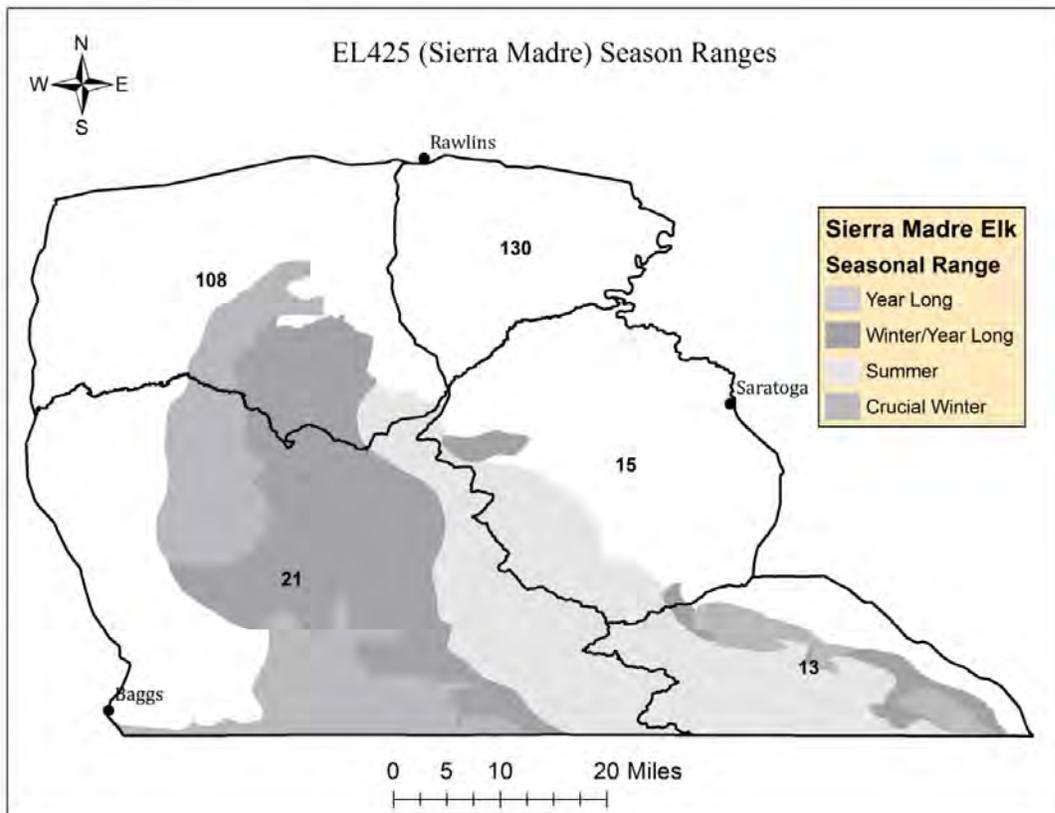
Population

The current post-hunt population objective model estimate for the SMEH indicates that we are still above the current objective at 8,300 animals. The TSF, CA, MSC model has the lowest AICc value indicating the best model fit and tracks bull ratios better than other models because of these reasons we chose this model to represent the population. In addition to the standard parameters included in the model, an independent estimate of the population was created from a sightability flight conducted in March 2013 (WGFD JCR 2012). The model indicates that the sightability estimate was most likely estimating low however, adding that parameter does seem to restrain the model to more likely spreadsheet model estimates.

Recent collar studies have indicated interchange with Colorado however the extent of that interchange on a herd unit basis is still being analyzed. This could potentially cause some issues with our estimated herd size.

Management Summary

Harvest success, days to harvest, model estimates and local manager opinion all indicate the SMEH has decreased over the last 6 years. However, there are some discrepancies between model estimates, total number of elk classified and local manager's sense of population size. Because of these discrepancies, we are going to continue to try and decrease overall numbers of the herd but because the 2016 opener falls on a Saturday we feel the hunter crowding issue would be exacerbated. In order to try and decrease the potential issues associated with a weekend opener coupled with an "any elk" option we are proposing to try and spread pressure out over two weekends by using a "bull only" opener followed by "any elk" season 5 days later. In addition to decreasing hunter pressure on the opening weekend we hope to decrease cow harvest slightly to ensure we do not "overshoot" the population objective. This slight decrease in cow harvest approach will allow us to continue to decrease the herd population but in a manner that will help to keep the herd from "tipping" or getting to an unrecoverable level so quickly that we would have to take drastic measures to reverse the effects of too high of harvest in one year.



2015 - JCR Evaluation Form

SPECIES: Elk

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

HERD: EL426 - STEAMBOAT

HUNT AREAS: 100

PREPARED BY: PATRICK BURKE

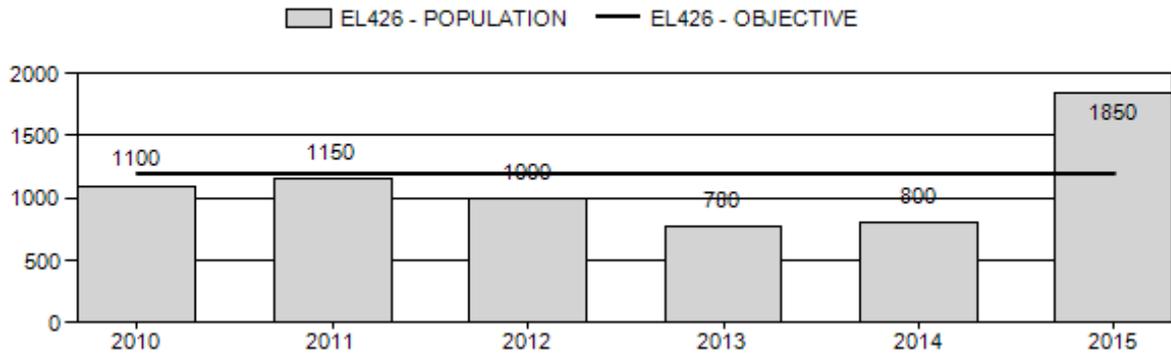
	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Population:	966	1,850	1,400
Harvest:	325	125	420
Hunters:	396	146	500
Hunter Success:	82%	86%	84 %
Active Licenses:	402	146	500
Active License Success:	81%	86%	84 %
Recreation Days:	1,692	613	2,500
Days Per Animal:	5.2	4.9	6.0
Males per 100 Females	61	34	
Juveniles per 100 Females	36	44	

Population Objective ($\pm 20\%$) :	1200 (960 - 1440)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	54%
Number of years population has been + or - objective in recent trend:	0
Model Date:	2/21/2016

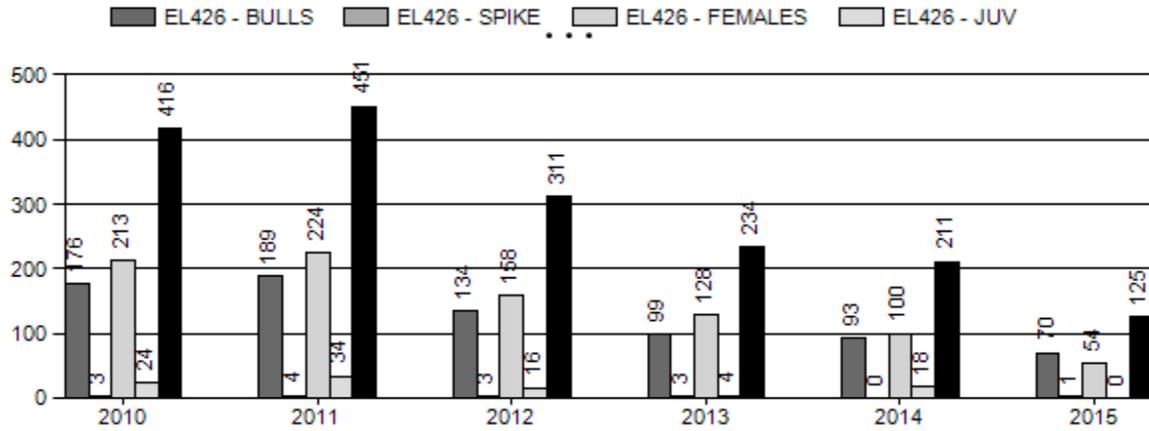
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	6%	20%
Males ≥ 1 year old:	15%	34%
Juveniles (< 1 year old):	0%	9%
Total:	17%	22%
Proposed change in post-season population:	0%	-35%

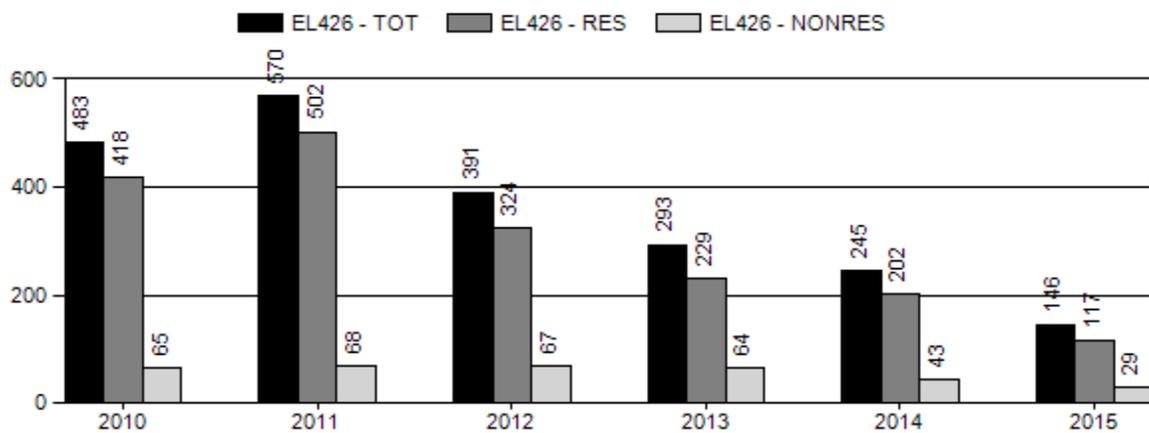
Population Size - Postseason



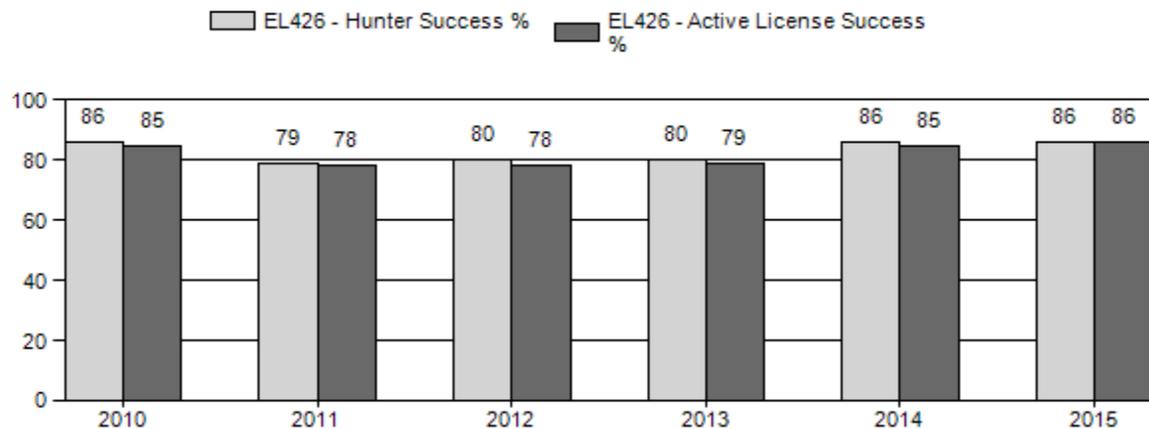
Harvest



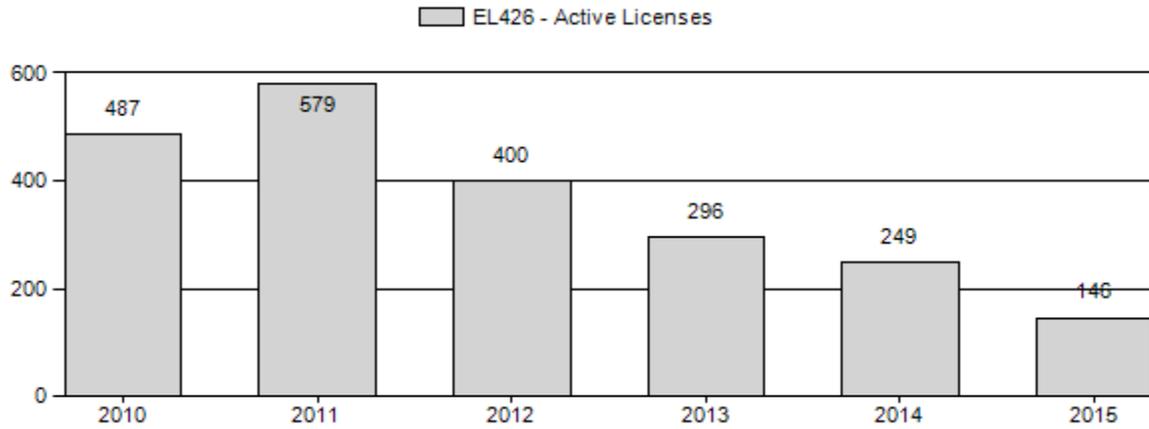
Number of Hunters



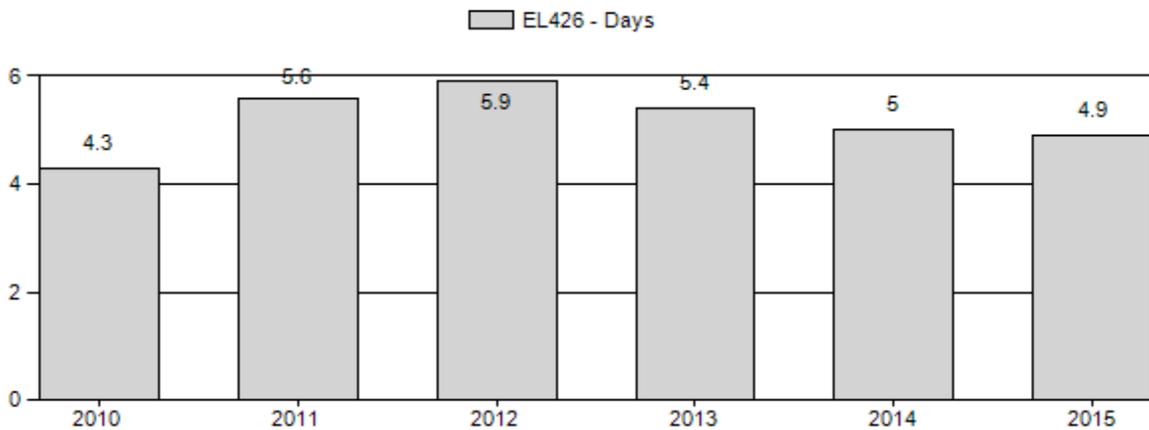
Harvest Success



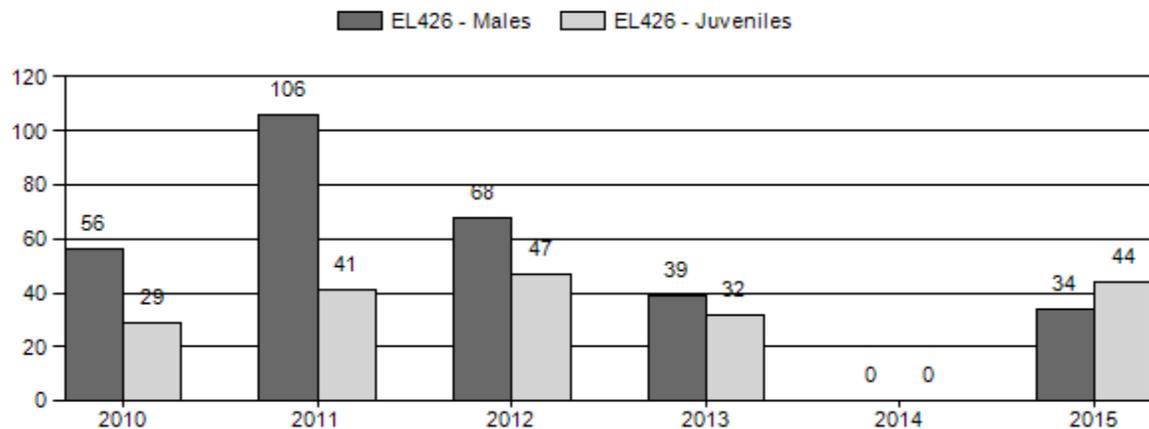
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2010 - 2015 Postseason Classification Summary

for Elk Herd EL426 - STEAMBOAT

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	CIs Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylg	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2010	1,100	168	243	411	30%	739	54%	217	16%	1,367	657	23	33	56	± 0	29	± 0	19
2011	1,150	45	131	176	43%	166	40%	68	17%	410	505	27	79	106	± 12	41	± 6	20
2012	1,000	102	171	273	32%	403	47%	189	22%	865	485	25	42	68	± 3	47	± 2	28
2013	780	34	76	110	23%	280	58%	90	19%	480	432	12	27	39	± 4	32	± 3	23
2014	800	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2015	1,850	167	172	339	19%	998	56%	442	25%	1,779	540	17	17	34	± 1	44	± 1	33

**2016 HUNTING SEASONS
STEAMBOAT ELK HERD (EL426)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
100	1	Oct. 15	Oct. 31	100	Limited quota	Antlered elk
	4	Oct. 15	Oct. 31	200	Limited quota	Antlerless elk
	6	Oct. 22	Nov. 30	100	Limited quota	Cow or calf valid east of Sweetwater County Road 19, south of Sweetwater County Road 82, east of Sweetwater County Road 21, and south of Sweetwater County Road 20
	7	Oct. 1	Oct. 31	100	Limited quota	Cow or calf valid east of US Highway 191, south of Sweetwater County Road 17, and Sweetwater County Road 15 and west of Sweetwater County Road 19

Special Archery Season Hunt Areas	Type	Season Dates		Limitations
		Opens	Closes	
100	All	Sept. 1	Sept. 30	Valid in the entire area

Hunt Area	Type	Quota change from 2015
100	1	+25
	4	+175
	6	+100
	7	+50
Herd Unit Total	1	+25
	4	+175
	6	+100
	7	+50

Management Evaluation

Current Management Objective: 1,200

Management Strategy: Special

2015 Postseason Population Estimate: ~1,900

2016 Proposed Postseason Population Estimate: ~1,300

The population objective for the Steamboat elk herd of 1,200 elk post-season was set in 2002 and was reviewed in 2014, when no changes were made. The Steamboat elk herd is managed under a special management prescription.

Herd Unit Issues

The 2015 post-season modeled population estimate for the Steamboat elk herd is approximately 1,900 elk. This population estimate is a significant departure from recent population estimates when the herd was estimated to be significantly smaller. This variation in population estimates depending on varying data quality years is one of the biggest issues for this elk herd. The large geographic area occupied by this and its relative low density can make locating groups of elk difficult, especially in years when funds for an aerial classification flight are not available. Another issue for this herd is that a very large proportion of the post-season bull population consists of yearling bulls. In 2015, 49% of the post-season bull population was spike bulls. This has caused some concern about how much harvest pressure is being applied to the older age-class bulls of this herd in the name of bringing down total bull to cow ratios. This continued high proportion of yearlings in the post-hunt population can probably be explained by the open nature of the area this herd occupies and a preference for harvesting larger branch antlered bulls by the hunting public. This can be evidenced by the fact that no spike bulls were harvested in this herd unit in 2014 and only 1 was harvested in 2015. If this trend is allowed to continue, the size class of harvested bulls will be significantly reduced to a level that the hunting public will find simply unacceptable.

Weather

The summers of 2012 to 2014 were extremely dry with little summer precipitation, especially the summer of 2012 when only 3.15 inches of precipitation were recorded in Rock Springs and 2014 when 4.24 inches were measured in Rock Springs. Three summers in a row of less than desired precipitation certainly had a negative impact on the vegetation in the area, but due to the hardy nature of elk and the relatively low densities of elk in the herd unit, the drought conditions will probably not have any population level impacts on this herd. Fortunately, near normal precipitation levels were observed in 2015, and even though much of this precipitation didn't come until July, grasses in this herd unit responded favorably to the increased moisture levels.

Habitat

No habitat transects targeting elk habitat were conducted within the Steamboat herd unit since the Green River Region lacks a terrestrial habitat biologist. However, the drought conditions experienced from 2012 to 2014 did result in limited plant growth during those years. The grass growth the resulted from the moisture received in 2015 was noticeably better than it had been in the preceding years.

Field Data

Post-season classifications on the Steamboat herd were conducted from a helicopter during January 2016. The resulting observed ratios from the ground classification efforts were 44 calves per 100 cows and 17 bulls per 100 cows and 17 yearling bulls per 100 cows. The proportion of yearling to adult bulls observed in 2015 was that just over 49% of all bulls classified this year were yearlings. This proportion of yearling bulls observed in the post-season bull population is the highest that has been in this herd unit, and causes some concern about the long term implications of continued over selection of older age class bulls in this herd.

Harvest Data

Harvest statistics for the Steamboat herd from the 2015 hunting season are generally in line with normal values for this herd. The overall harvest success rate for the herd was 86% and the days per animal harvested was 5 days per animal harvested. Both statistics are in the normal range for this herd. Due to the open nature of the country that this herd inhabits, harvest success rates and days per harvest will certainly always remain fairly constant for this herd. Since this herd lives only in open sagebrush habitat largely on public land, this population exhibits harvest statistics more similar to a pronghorn population than a typical Wyoming elk herd.

During the 2015 hunting season, Type 1 license holders in HA100 enjoyed a 93% success rate harvesting a total of 70 adult bulls and one spike bull. The Type 4 license holders had a 61% success rate, harvesting 19 cows and no calves, while the Type 7 license holders had an 89% success rate. The total number of elk harvested in the herd unit in 2015 was 125 elk - 70 adult bulls, 1 spike, 54 cows, and no calves.

Because of the special management status of the Steamboat elk herd, hunters who draw a Type 1 license are asked to voluntarily submit tooth samples from harvested bulls for cementum annuli analysis. Based on the 31 bull elk tooth samples submitted from the 2015 hunting season, the average age of harvested bulls was 5.3 years old. The 31 teeth submitted for laboratory aging represent a little under 44% of the bulls reported harvested in the harvest survey. The 2015 average age of 5.3 compares to 5.9 years old in 2014, 5.7 years old in 2013, and 4.9 years old in 2012. Based on the teeth that were submitted for aging, the oldest bull harvested in 2015 was

one 9.5 year old bull. The oldest bull aged in 2014 was also 9.5 years old, this compares with 10.5 in 2013, 7.5 in 2012, 9.5 in 2011, 10.5 in 2010, 12.5 in 2009, and 13.5 in 2008. This general decline in the oldest age class harvested can probably be attributed the increased bull harvest rates of the last several years.

Population

The 2015 post-season population estimate for the Steamboat herd is a little over 1,850 elk. This estimate is a roughly 1,000 elk larger than the 2014 post-season population estimate. This radical increase in the estimated population size is due to classifying over 1,700 elk during the 2015 post-season classification flight. Part of the reason for the radically different population estimates from year to year is due to the fact that this herd is not consistently flown since resources are usually directed to the general license herds in the region. Because of this inconsistency in data collection flights and the difficulty in locating representative samples from the ground when monies for aerial classifications are not available, average herd unit statistics had to be used for seven of the 23 years in the model.

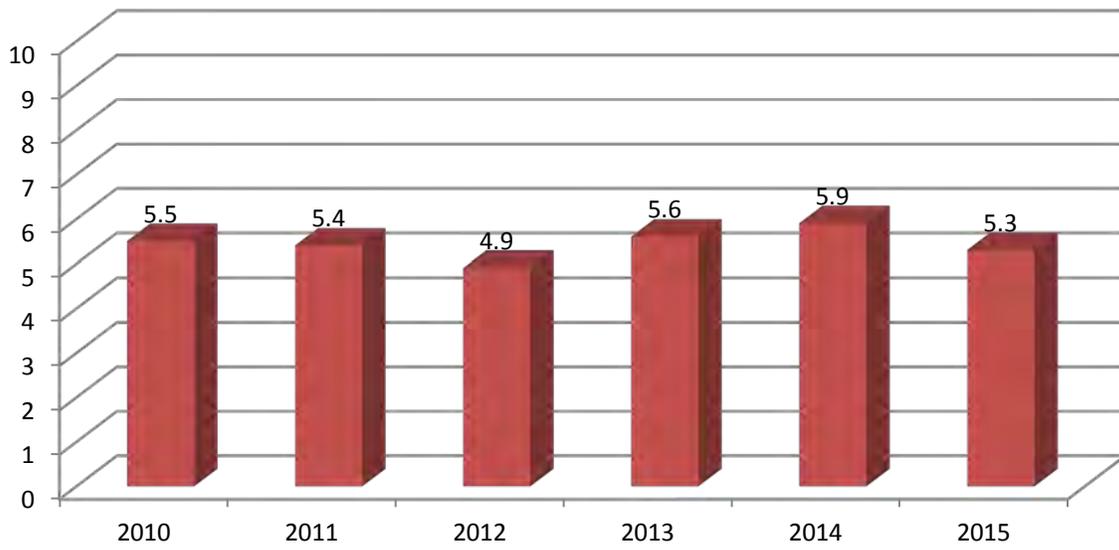
The population model for this herd tracks poorly well with observed data due to varying data quality from year to year. In order to get the population model to accommodate the large number of elk classified after the 2015 season, population parameter range constraints had to be moved outside of the accepted limits or the model simply could not reconcile the number of elk classified this year. The high bull ratios that are sometimes observed in years when representative samples are hard to come by on the ground also cause the model difficulty.

Management Summary

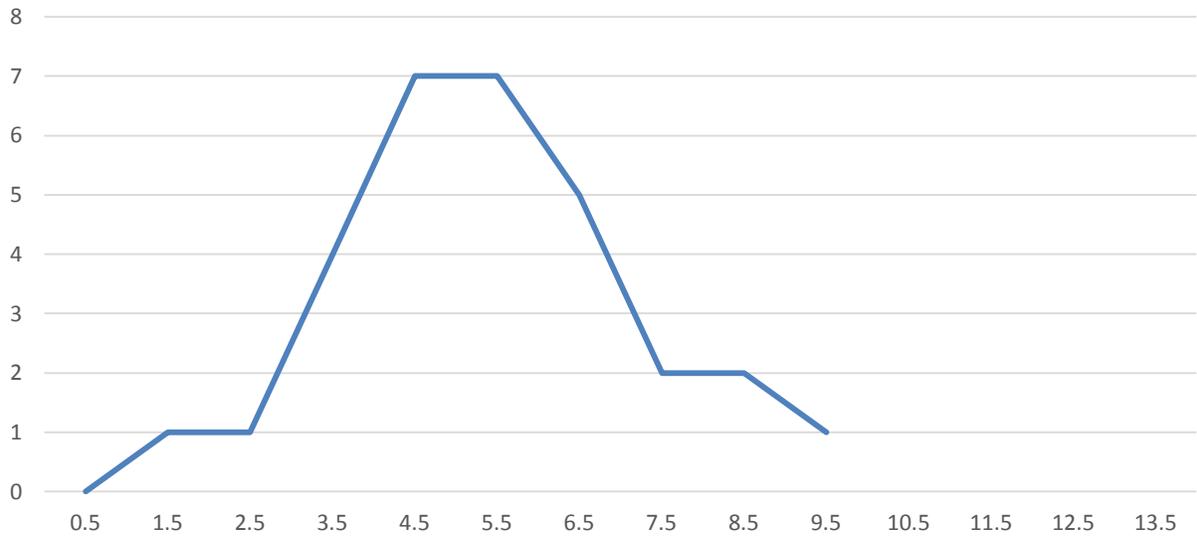
The 2016 hunting season includes increases in the Type 1, 4 and 7 licenses and the addition of a Type 6 license type. The increase in the Type 1, Type 4 and Type 7 licenses were proposed to help move this herd towards objective. The Type 1 license numbers are set at 100 licenses since only 172 adult bulls were classified during the 2015 classification flight. The Type 6 license type targeting elk living in the eastern portion of the herd unit is being created in order to address concerns of some grazing lessees and sub-lessees over elk numbers in that portion of the herd unit.

It is anticipated that the proposed season for 2016 will result in the harvest of approximately 95 bulls, 300 cows and 25 sub-adult elk. The 2016 seasons will also result in a projected 2016 post-hunt population of just over 1,400 elk, which will be slightly above, but within 20% of its population objective of 1,200 elk post-season.

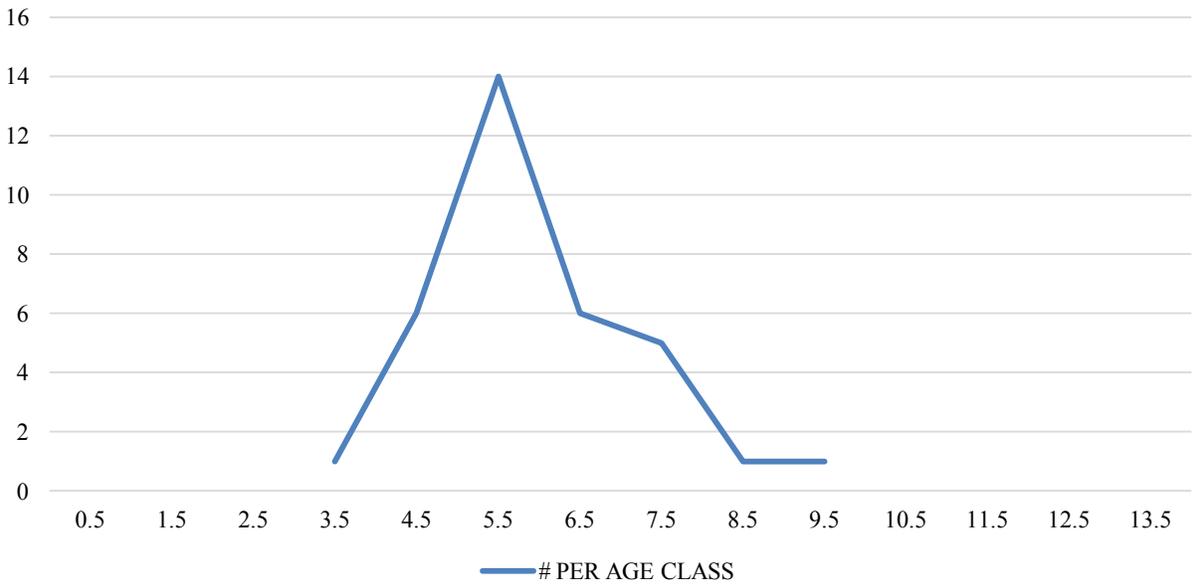
Steamboat Elk Average Age of Harvested Bulls



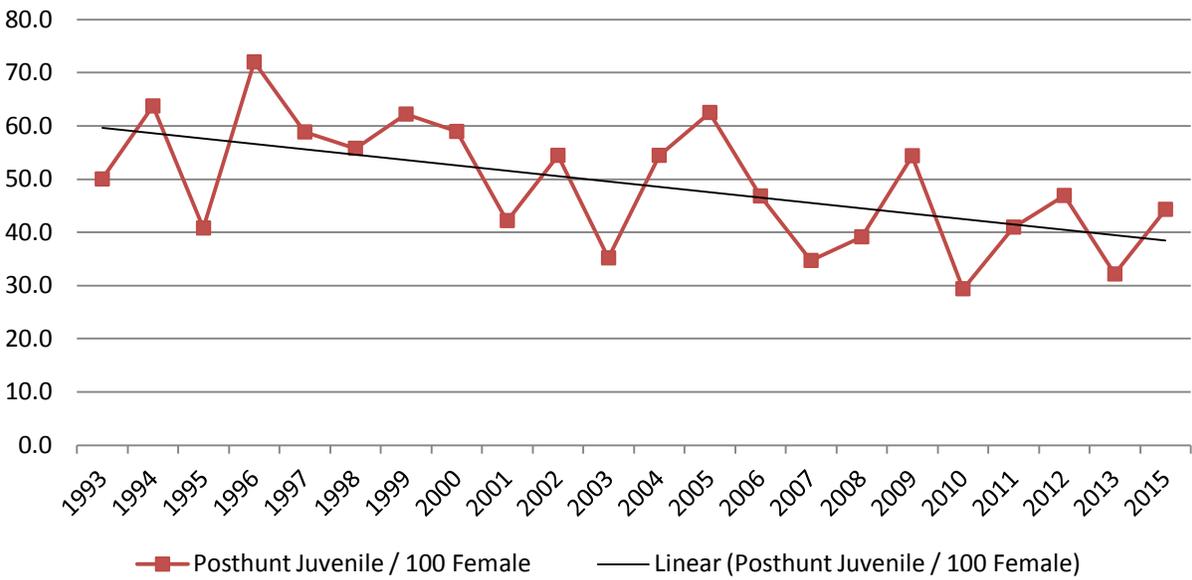
2015 STEAMBOAT BULL ELK HAVESTED # PER AGE CLASS



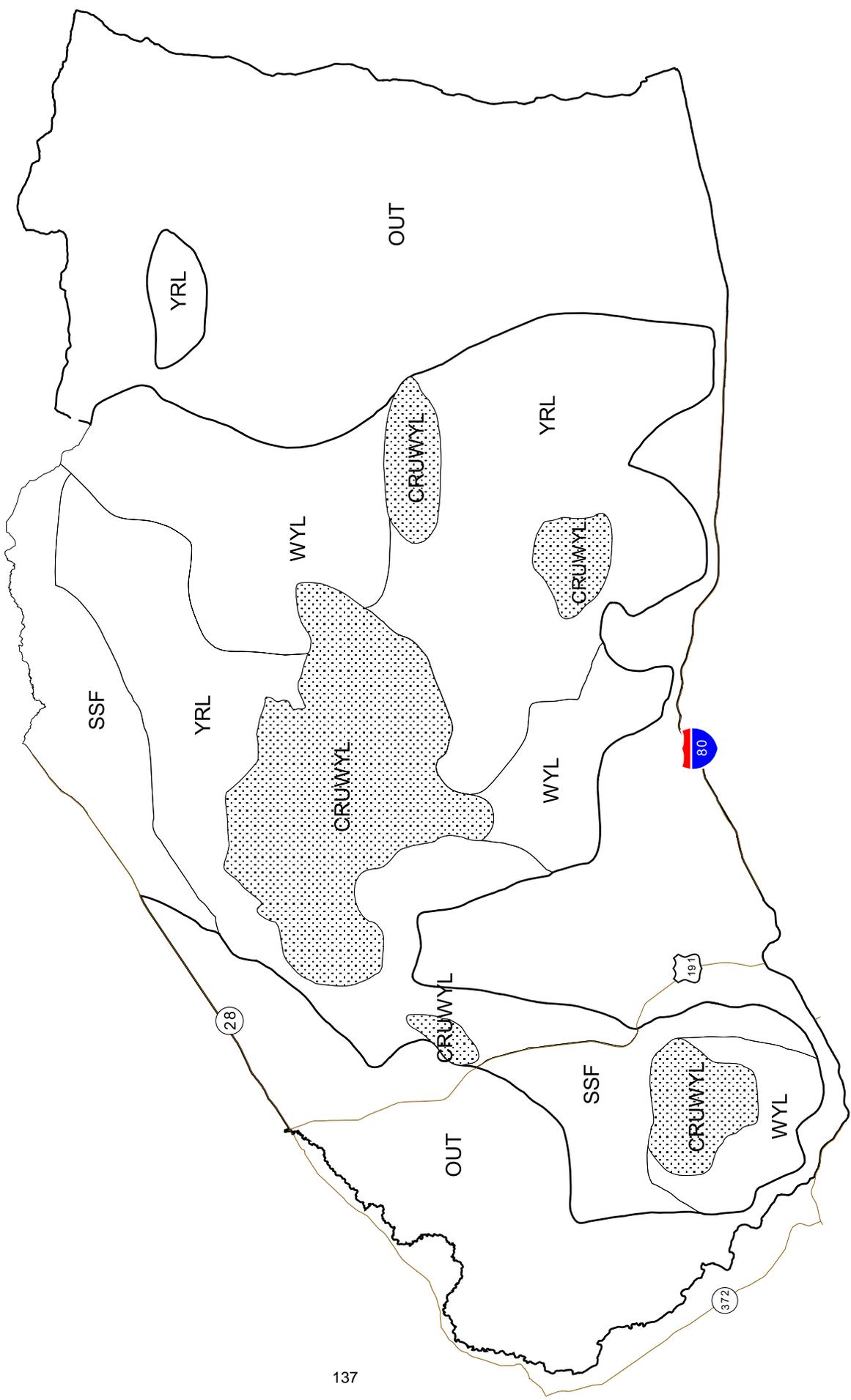
2014 STEAMBOAT ELK # BULLS HAVESTED PER AGE CLASS



Posthunt Juvenile / 100 Female



ELK -- Steamboat
Herd 426
Hunt Area 100
Revised 5/2004



2015 - JCR Evaluation Form

SPECIES: Elk

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

HERD: EL428 - WEST GREEN RIVER

HUNT AREAS: 102-105

PREPARED BY: JEFF SHORT

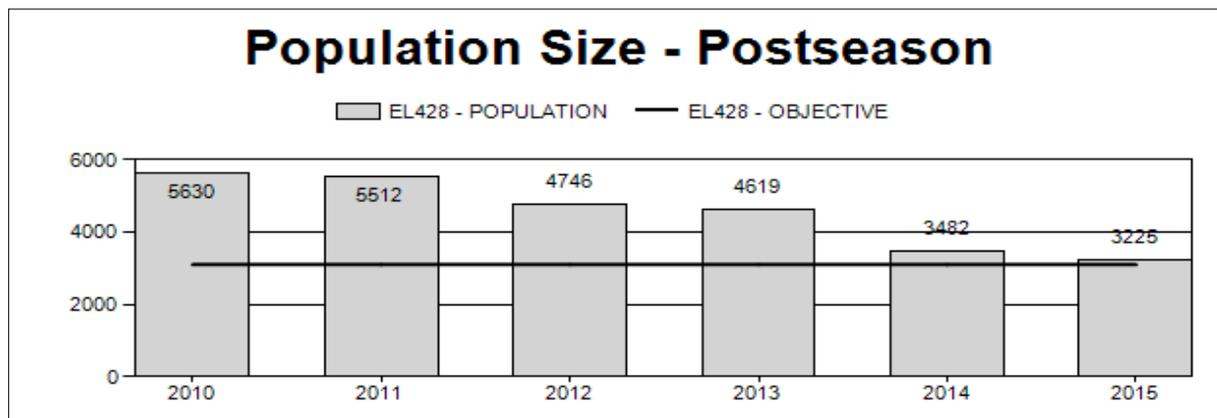
	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Population:	4,798	3,225	3,009
Harvest:	1,336	1,054	730
Hunters:	4,206	3,887	3,000
Hunter Success:	32%	27%	24%
Active Licenses:	4,387	4,096	3,200
Active License Success:	30%	26%	23%
Recreation Days:	30,647	28,501	20,000
Days Per Animal:	22.9	27.0	27.4
Males per 100 Females	36	37	
Juveniles per 100 Females	30	34	

Population Objective (\pm 20%) 3100 (2480 - 3720)

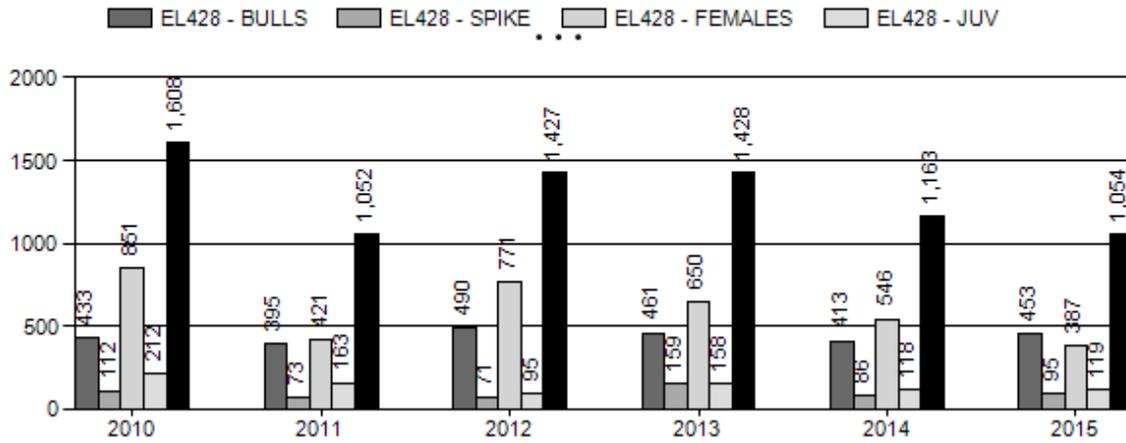
Management Strategy: Recreational
 Percent population is above (+) or below (-) objective: 4%
 Number of years population has been + or at or- objective in recent trend: 2
 Model Date: 02/16/2016

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

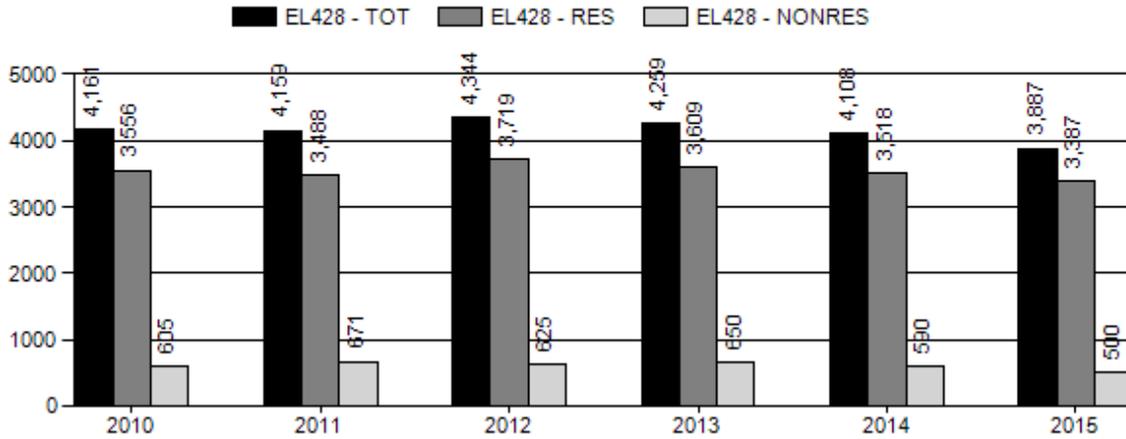
	<u>JCR Year</u>	<u>Proposed</u>
Females \geq 1 year old:	14.8%	9.3%
Males \geq 1 year old:	57.4%	75.9%
Juveniles (< 1 year old):	13.5%	8.8%
Total:	24.6%	19.7%
Proposed change in post-season population:	-12.3%	-6.9%



Harvest



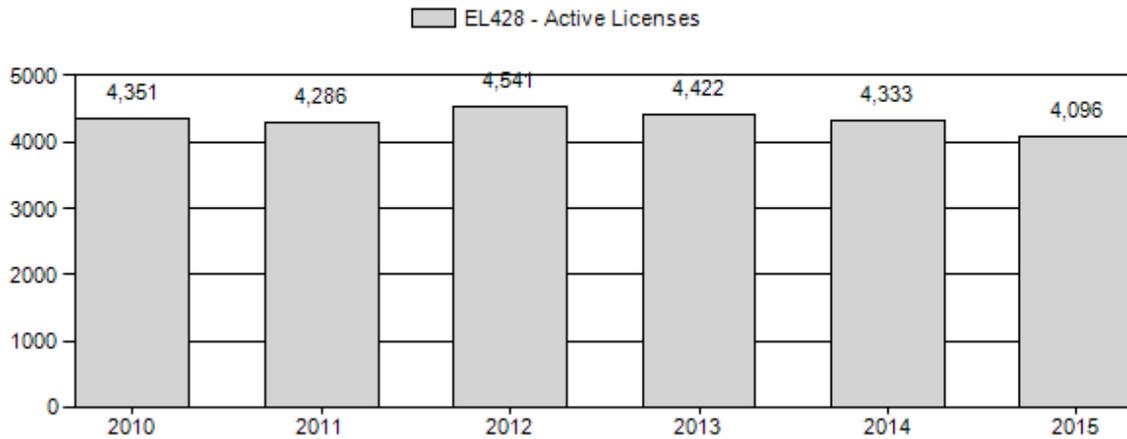
Number of Hunters



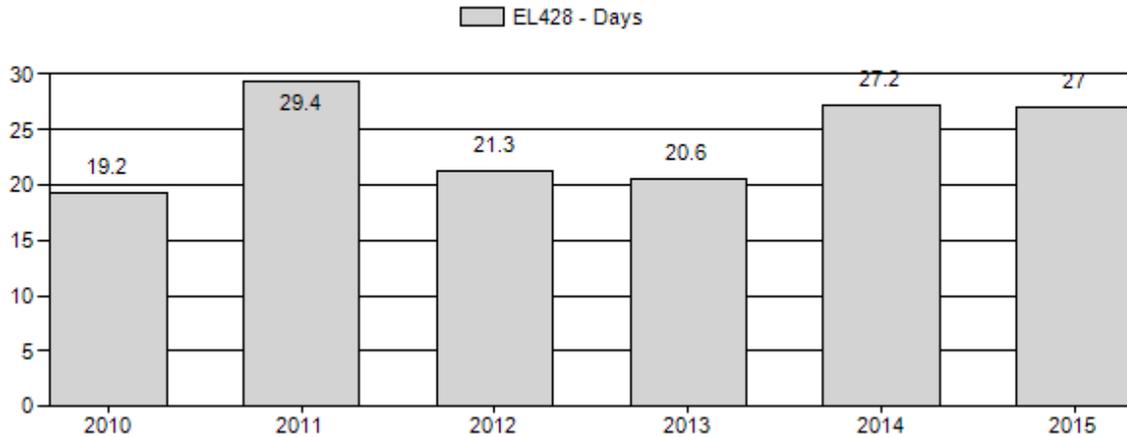
Harvest Success



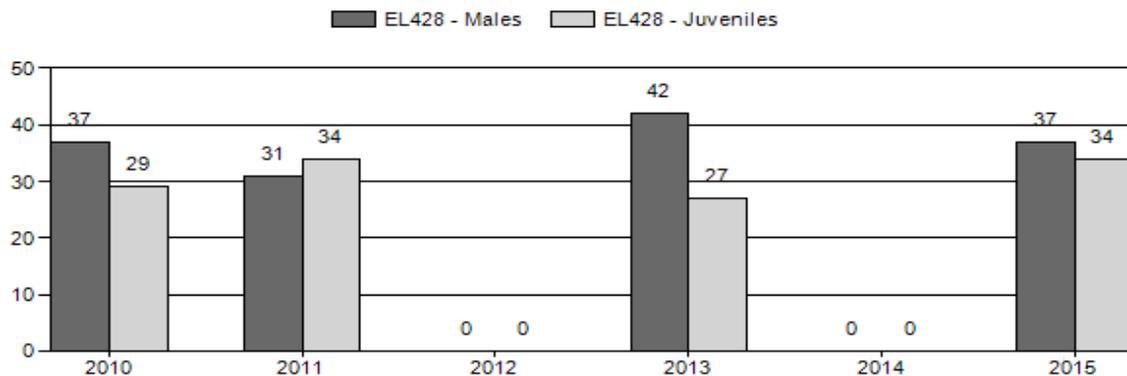
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2010 - 2015 Postseason Classification Summary

for Elk Herd EL428 - WEST GREEN RIVER

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
2010	5,630	265	264	529	22%	1,424	60%	409	17%	2,362	0	19	19	37	± 2	29	± 2	21
2011	5,512	385	474	859	19%	2,758	61%	929	20%	4,546	0	14	17	31	± 1	34	± 1	26
2012	4,746	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2013	4,619	440	510	950	25%	2,285	59%	627	16%	3,862	0	19	22	42	± 1	27	± 1	19
2014	3,482	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2015	3,225	283	354	637	21%	1,740	59%	593	20%	2,970	0	16	20	37	± 1	34	± 1	25

2016 HUNTING SEASONS

SPECIES : Elk

HERD UNIT : West Green River (428)

HUNT AREAS: 102, 103, 104, 105

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
102		Oct. 15	Oct. 24		General	Any elk
102	6	Oct. 15	Nov. 6	25	Limited quota	Cow or calf
102	7	Dec. 15	Jan. 31	25	Limited quota	Cow or calf
103		Oct. 15	Oct. 24		General	Any elk
103		Oct. 25	Oct. 31		General	Antlerless elk
103	6	Oct. 15	Nov. 6	50	Limited quota	Cow or calf
103	6	Dec. 15	Jan. 31			Cow or calf
104		Oct. 15	Oct. 24		General	Any elk
104		Oct. 25	Oct. 31		General	Antlerless elk
104	6	Oct. 15	Nov. 6	50	Limited quota	Cow or calf
104	7	Dec. 15	Dec. 31	25	Limited quota	Cow or calf
104	7	Jan. 1	Jan. 31			Cow or calf valid west of U.S. Highway 30 and east of Lincoln County Road 207 or east of Rock Creek within the Twin Creek drainage
105		Oct. 15	Oct. 31		General	Any elk

Hunt Area	License Type	Quota change from 2014
102	6	-75
103	6	-100
104	6	-350
104	7	-75
Herd Unit Total	6	-525
	7	-75

Management Evaluation

Current Postseason Population Management Objective: 3,100

Management Strategy: Recreation

2015 Postseason Population Estimate: ~3,225

2016 Proposed Postseason Population Estimate: ~3,009

Herd Unit Issues

Energy development on crucial elk habitat is a potential issue for this herd. As an unfed elk herd in Western Wyoming, habitat integrity is of critical importance. Additionally, conflict with agriculture producers can be an issue for this elk herd. Damage complaints can occur during bad winters but are rare. Elk comingling with livestock during winter is very rare in limited areas but needs to be considered a potential issue. Limited past problems have typically been dealt with if the Department was notified. The area was recently added to the Brucellosis surveillance area. Even though the area has a very low brucellosis prevalence in elk this adds additional concern over elk and cattle comingling. Summer damage is rare. Significant efforts have been made by field personnel to alleviate potential problems. Perceived reduction in livestock forage due to elk grazing is an issue that can be brought up.

In the last five hunting seasons hunters commonly complain that elk numbers are down significantly and they were too low for their standards. However, we have been over the set objective until last year. This herd recently went through an objective review in 2012 and it was determined that the objective should remain at 3,100 animals. This was mainly due to input from agriculture producers. Under our recent harvest strategies and attempts to get down to objective we have been successful and the population is now at the objective. Hunters are largely unhappy with the current elk population and the set objective.

In recent years elk moving onto Fossil Butte National Monument prior to the season has increased, and is estimated to be 500 animals. Radio collar data indicates that a significant number of the marked animals moved back onto the Monument in early September. Additionally 100+ head of elk have stayed yearlong on Cokeville Meadows National Wildlife Refuge. Both the Monument and the Refuge have been closed to hunting. As the number of elk on the Monument and the refuge increased, it has become more difficult to manage this herd to objective while still providing huntable elk for sportsmen. The Cokeville Meadows National Wildlife Refuge became open for elk hunting in 2014 and this has greatly helped to alleviate elk problems in the Bear River valley but there is no solution in sight for Fossil Butte.

Weather

Weather during 2015 and into 2016 has been highly variable. In the early part of 2015 the winter was very mild and dry. A moist spring and summer followed. In late August conditions dried considerably and a relatively dry fall continued into late December. Winter did not set in until mid December but it came in abruptly. The winter of 2015-2016 has been very cold with high snow loads to this point and elk have migrated to winter ranges. A much needed warming trend has occurred in February and it remains to be seen how the winter will ultimately shape out. The winters from 2011 to 2015 were very mild with low snowpack and relatively warm temperatures resulting in very mild winter conditions. However, the dry springs and summers of 2012 and 2013 negatively impacted summer and winter range forage production.

Habitat

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

Field Data

Intensive helicopter based elk flights were performed in early 2012, 2014 and 2016. Idaho's sightability model correction was used for these three surveys. In the 2016 survey 2,970 elk were observed. Flight conditions were favorable and the sightability correction estimate was 3,053 elk. On these surveys a low sightability correction factor is produced due to large groups of elk in high snow cover and open environments. This creates survey conditions where very

few elk are missed during helicopter surveys. We flew the majority of available elk winter range during the survey. There is an additional area in the herd unit that is not flown in Hunt Area 105. This is not flown due to budget constraints and low elk densities in that area. This area is thought by field personnel to contain approximately 100 elk. This information is added to the sightability estimates to create a total herd unit estimate.

Recent post-season bull ratios have been excellent. Calf ratios have fluctuated recently but are still reasonable. Harvest was increased on this herd markedly over several years in an effort to get the herd to objective. It appears that this has worked and that the herd is at objective. Antlerless harvest needs to be greatly reduced now that the herd has reached objective. It is probable that bull harvest will go down in the future due to less elk production with a smaller herd and it may become difficult to maintain favorable bull:cow ratios. Another intensive helicopter survey is planned for post season 2017 barring budget limitations. This is a new sampling strategy where surveys are flown every other year and with greater intensity. In the past, classification surveys were flown on a yearly basis but with less intensity. This provided excellent classification data but did not provide any estimate of overall population size and/or trend information. The new strategy improves overall population model estimates and gives us a better estimate of trend.

Harvest Data

Antlerless harvest opportunity was increased every year for several years in this herd unit. The 2010 to 2014 season structures offered substantially increased cow/calf harvest opportunity to try to reduce the herd. Those seasons allowed significant antlerless harvest with large increases in licenses and season lengths. These hunts had good success rates as weather moved elk to winter ranges during those hunts. This management framework has reduced this population to objective. The public has voiced many concerns about the population reduction but it was required to get the herd to objective. For 2016 we are recommending a significant reduction of antlerless harvest since the estimates indicate we are at the population objective. The current elk population level is very unpopular with the hunting public who feel elk numbers are too low.

Population

The post season 2015 population model estimate is 3,225 elk with the population still trending downward. The TSJ,CA model was selected due to the low AICc score and its good fit with the data. The TSJ,CA, MSC model scored very similar but there is no information to indicate that a MSC model would be appropriate for this herd.

The addition of aerial population estimates every other year since 2012 has been very valuable to check the status of the herd and anchor the model. With this continuing into the future it is likely that we can provide a reasonable population model and track the trend of this population. Without this it will be unclear if our current harvest levels can be sustained or if we are on the right management track relative to objective.

Due to documented interchange with adjacent herd units, models generated for this herd should be used with some caution. This interchange has been affirmed in recent years with several radio collared elk from multiple studies crossing the herd unit border at different times of year. More radio collar studies would help determine the extent of these movements. 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.

Currently the model is estimating we have around 3,225 elk in the herd. This is a significant reduction in the herd over the last five years and is essentially at the objective of 3,100 elk. The

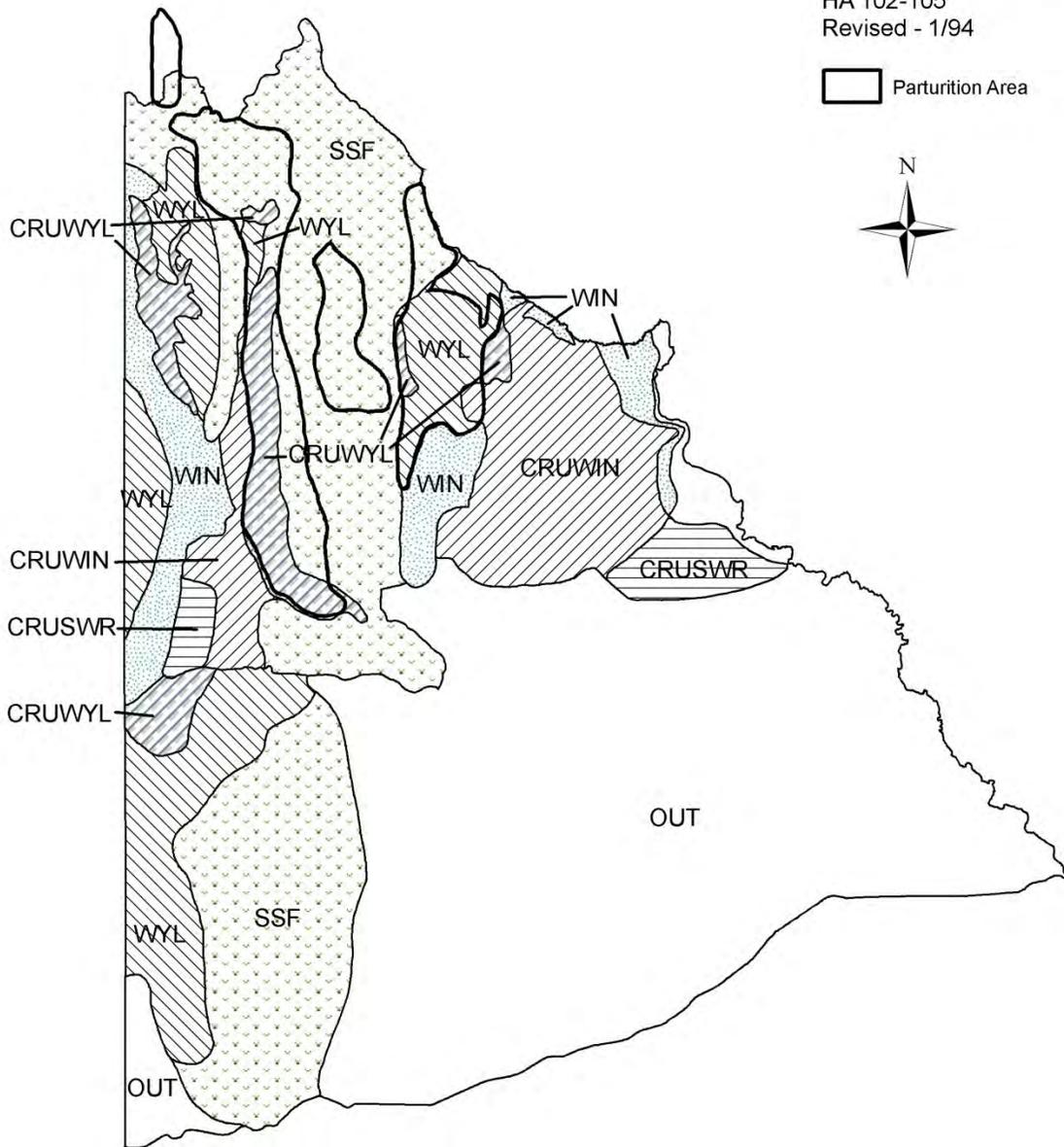
sharp decline in population was driven by antlerless harvest. This is substantiated by hunter comments and field observations. Harvest survey data indicate that we have had more than adequate harvest in the past four years to reduce this herd and move to objective. This supporting information gives us confidence in model results.

Management Summary

For 2016 season setting we will greatly reduce antlerless harvest to reduce population decline since the population is at the objective. We are planning hunt timing and license management to minimize antlerless harvest. The harvest system in place should keep this herd near objective in the near future. This will need to be evaluated carefully each year to avoid taking this population below objective.

E428 - West Green River
HA 102-105
Revised - 1/94

 Parturition Area



2015 - JCR Evaluation Form

SPECIES: EIk

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

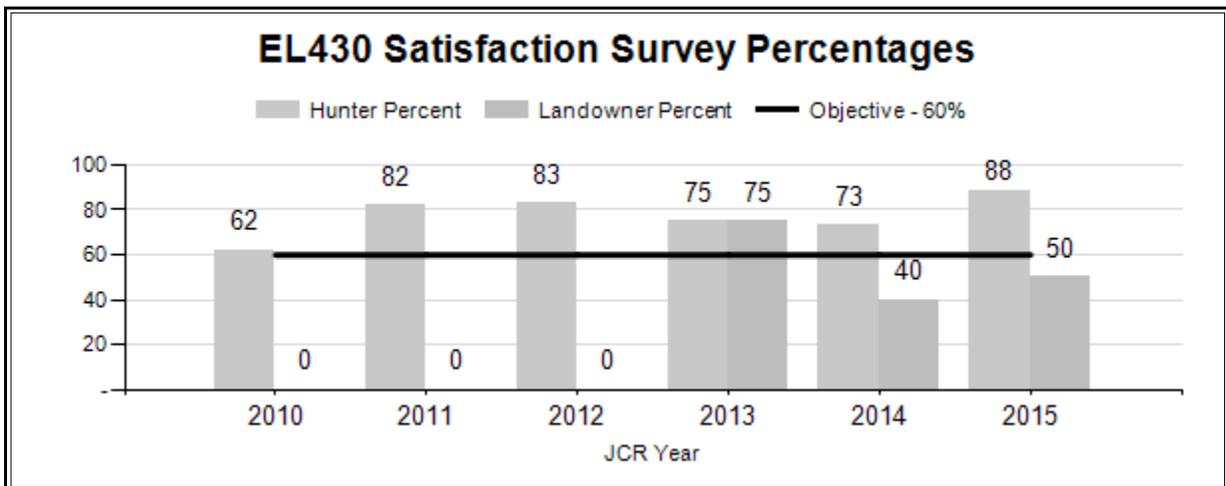
HERD: EL430 - PETITION

HUNT AREAS: 124

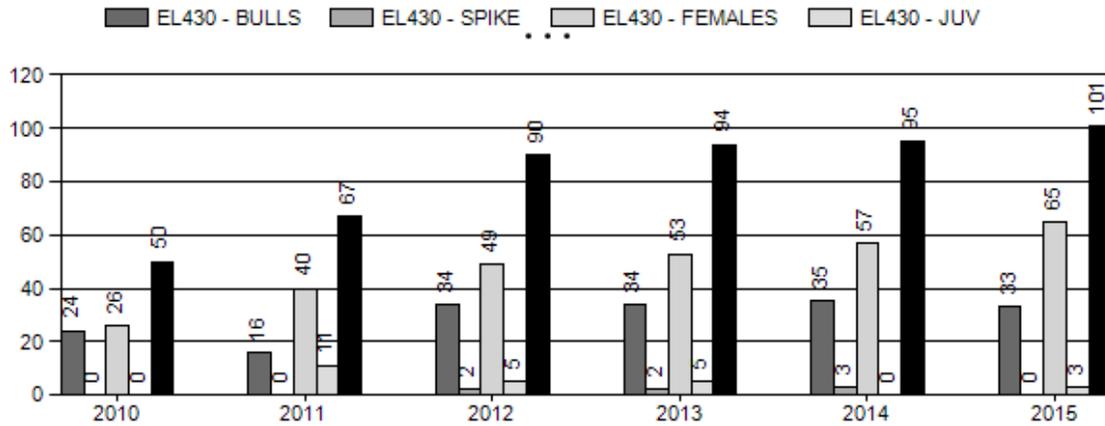
PREPARED BY: TONY MONG

	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Hunter Satisfaction Percent	75%	88%	75%
Landowner Satisfaction Percent	62%	50%	70%
Harvest:	79	101	191
Hunters:	117	141	245
Hunter Success:	68%	72%	78%
Active Licenses:	117	141	245
Active License Success:	68%	72%	78%
Recreation Days:	876	1,000	1,700
Days Per Animal:	11.1	9.9	8.9
Males per 100 Females:	0	0	
Juveniles per 100 Females	0	0	

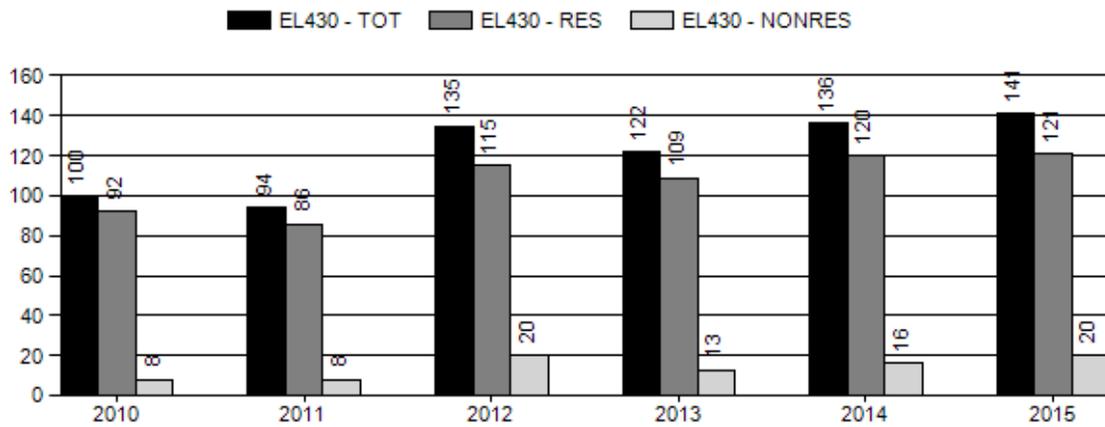
Satisfaction Based Objective	60%
Management Strategy:	Recreational
Percent population is above (+) or (-) objective:	9%
Number of years population has been + or - objective in recent trend:	1



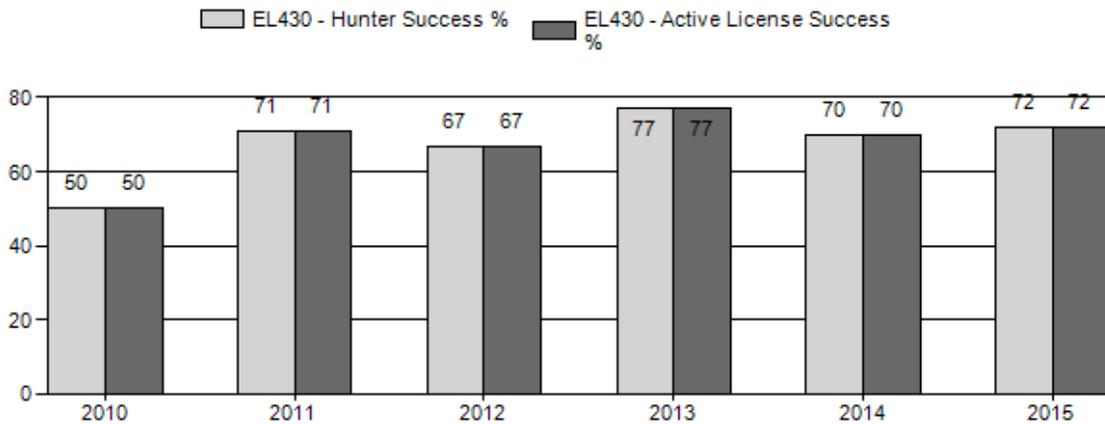
Harvest



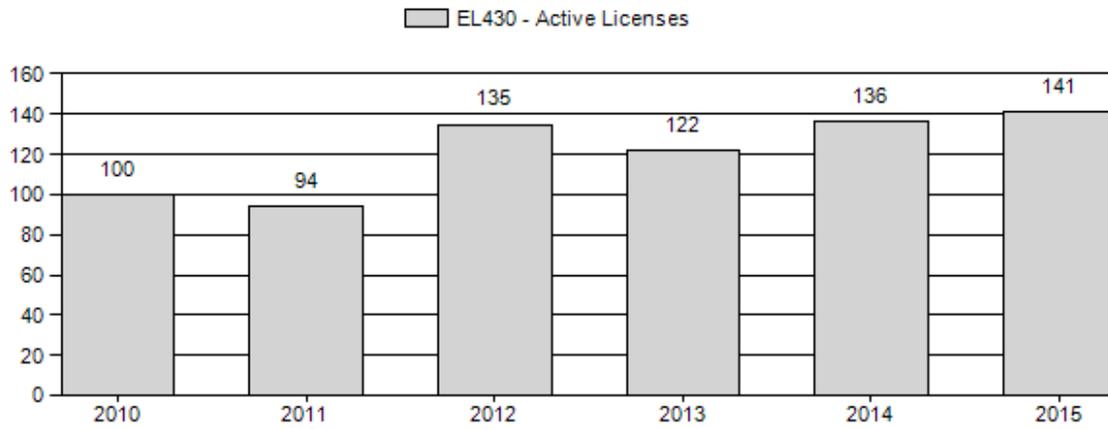
Number of Hunters



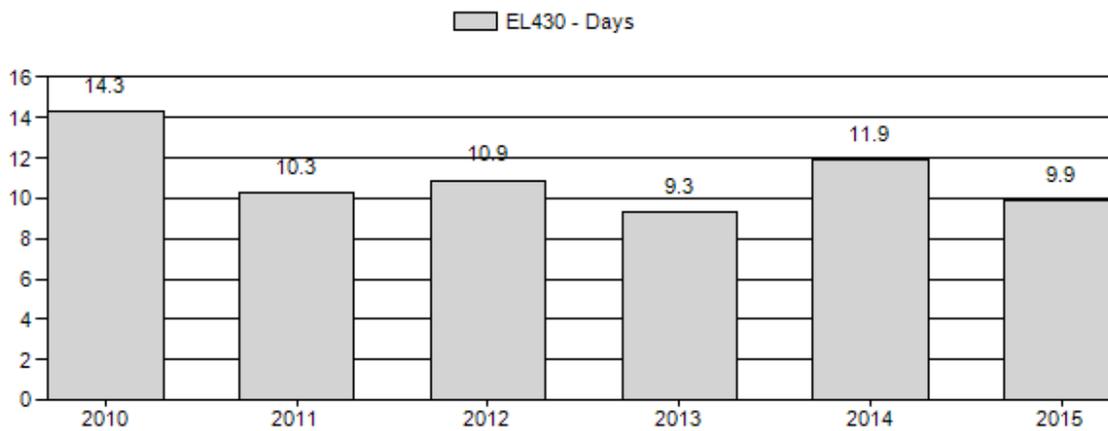
Harvest Success



Active Licenses



Days per Animal Harvested



2016 HUNTING SEASONS

SPECIES : **Elk**

HERD UNIT : **Petition (430)**

HUNT AREAS: **124**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
124	1	Oct. 15	Nov. 30	50	Limited quota	Any elk
	4	Oct. 15	Nov. 30	200	Limited quota	Antlerless elk
	4	Dec. 1	Dec. 31			Antlerless elk valid east of Sweetwater County Road 19, and north and east of B.L.M. Roads 4409 and 4411, and west of B.L.M. Road 3310 and Sweetwater County Road 23S

Special Archery Season Hunt Areas	Type	Season Dates		Limitations
		Opens	Closes	
124	All	Sep. 1	Sep. 30	Valid in the entire area(s)

<i>Hunt Area</i>	<i>Type</i>	<i>Quota change from 2015</i>
<i>124</i>	<i>1</i>	<i>+10</i>
	<i>4</i>	<i>+100</i>
	<i>7</i>	<i>0</i>
<i>Herd Unit Total</i>	<i>1</i>	<i>+10</i>
	<i>4</i>	<i>+100</i>
	<i>7</i>	<i>0</i>

Management Evaluation

Current Hunter/Landowner Satisfaction Objective: 60% landowner/hunter satisfaction; bull quality (average age of harvested elk 7.0)

Management Strategy: Recreational

2015 Hunter Satisfaction Estimate: 88%

2015 Landowner Satisfaction Estimate: 50%* (7 out of 14 respondents to the survey)

Most Recent 3-year Running Average Hunter Satisfaction Estimate: 79%

Most Recent 3-year Running Average Landowner Satisfaction Estimate: 55%

Most Recent 3-year Running Average Tooth Age: 7.20

The current management objective was set in 2013 and was set as an alternative objective of Landowner and sportsmen satisfaction along with a bull quality measure using tooth age of harvested bulls. We will increase cow harvest across the area and specifically within the northern-central portion of the area to address damage issues and we will slightly increase bull harvest across the area to provide more opportunity.

Herd Unit Issues

The Petition elk herd is a small highly mobile herd of elk spread over a large area showing large interchange with Colorado and hunt area 100 making meaningful data collection and population estimation difficult. There are three potential issues for the herd, possible competition with mule deer in the South Rock Springs Deer herd, some blossoming damage issues on the northern portion of the herd unit and the popularity of this herd for trophy quality bulls is increasing which is causing additional licenses from Commissioner and Governor to also increase.

Competition for space could occur between mule deer and elk. The South Rock Springs Deer herd is a high profile deer herd and any perception of competition between the two species could result in a call for drastic reduction of elk numbers in those areas where competition could be taking place. We need to ensure we are keeping this in mind as we move forward in the management of this herd.

In 2013 there were no commission licenses issued for hunt area 124, however in 2014 7 licenses were issued and in 2015 8 licenses were issued. Because we are issuing a small number of licenses, any addition could have major impacts. We need to monitor the number of these licenses being issued.

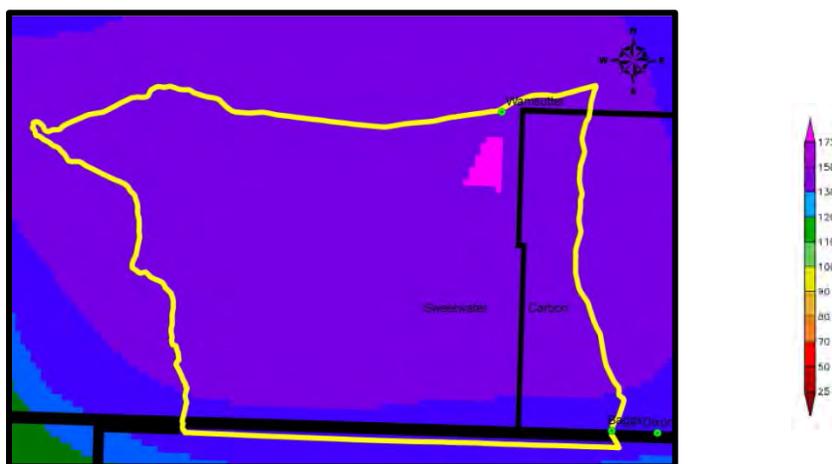
A rather large group of elk have become established in the north-central portion of the herd unit and spend a good portion of the winter in that area. The late season portion of the type 4 license should begin to address these issues.

Weather

There has been an increase in moisture over the last two years, especially in 2015, which has led to the filling of reservoirs and a positive response from vegetation (Figure 1). 2015 saw a 150% increase in normal precipitation across the entire herd unit.

The 2014 winter was extremely mild with no noticeable winter kill events. 2015 has seen an unusually high amount of snow in the herd unit, especially in areas that have traditionally seen very little snow along the Colorado/Wyoming border. This could lead to higher winter mortality for the elk in the southern portion of the herd unit.

Figure 1. Percent of normal precipitation for the herd unit from February 2015 to February 2016.



Field Data

No population data is currently collected for this herd making management difficult. However, public input and harvest statistics lead us to believe this herd has grown over the last 5 years.

Field checks and pre-season setting meetings have indicated that many hunters that have hunted in HA 124 are seeing more elk than they had historically.

Tooth age data from teeth sent in to the WGFD tooth aging lab for 2015 (N = 15) yield an average age of 7.5 (range 5.5 to 12.5). Combined with 2013 and 2014 (both averages 7.0) we have a 3-year average of a little over 7.0. There are two potential issues with the tooth data. The first is the low participation by landowner license holders within the unit. This may artificially decrease the average age of bulls harvested within the herd unit as personal discussions and knowledge of the bulls harvested on this license tend to be older age class bulls. The other potential issue is the potential lack of participation by those harvesting young bulls due to their lack of interest in the age of the animal, which could have the opposite effect of the landowner licenses. A greater effort must be made in the future to get a sample of all bulls harvested in the area.

Sportsmen satisfaction in this herd is high with 88% of the 60 respondents “satisfied or very satisfied” with their overall hunting experience. Landowner satisfaction was collected through personal contacts either via phone or face to face meetings. Fourteen landowners were contacted by 3 WGFD managers. Seven respondents felt elk numbers were “at or about at desired levels”, four felt numbers were “above desired levels” and two felt elk numbers were “below desired levels”.

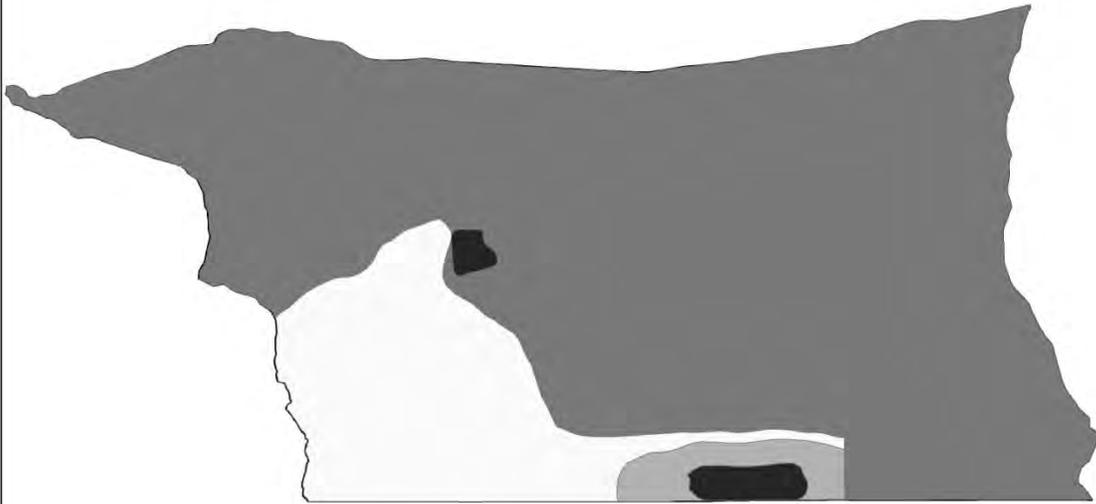
Harvest Data and Population Indications

Hunter success continues to be high (72%) and is significantly higher than the previous 10 year average (61%). Days to harvest has been variable over the last 5 years with an average of 10.5 days and a range of 9.3 to 12.3 days. Cow harvest was the highest recorded in 2015 with 68 cows harvested. The higher success rates and high cow harvest are an indication that population levels are higher than they were 5 years ago.

Management Summary

It is important that we balance the management of an import resource to hunters (i.e. good opportunity for large bulls) and the extremely sensitive ecosystem found in the Petition elk herd as we move forward with the management of this herd. Currently we see only few issues between land owners and the Petition elk herd and strong support from sportsmen hunting elk within the herd. We are addressing landowner concerns for elk numbers in the north-central portion of the herd unit by allowing type 4 hunters to hunt late in that portion of the herd unit. In addition to our harvest data, field contacts and meeting contacts with other big game hunters (mule deer and pronghorn) indicate numbers have increased and concern is arising over competition for resources in the area. Our current management strategy is to increase cow harvest to maintain or decrease overall numbers of elk and to increase bull licenses for more hunter opportunity at trophy quality bulls.

Petition Elk Herd Seasonal Ranges



Petition Elk Herd Seasonal Range

 Undetermined/Undocumented	 Crucial Winter/Year long
 Year long	 Winter/ Year long

