

2018 - JCR Evaluation Form

SPECIES: Elk

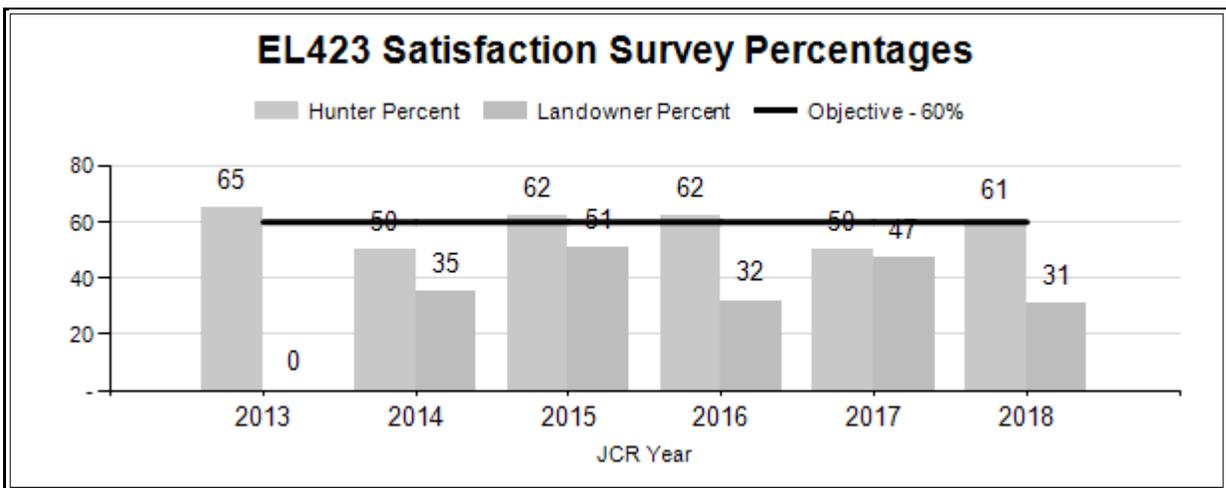
PERIOD: 6/1/2018 - 5/31/2019

HERD: EL423 - UINTA

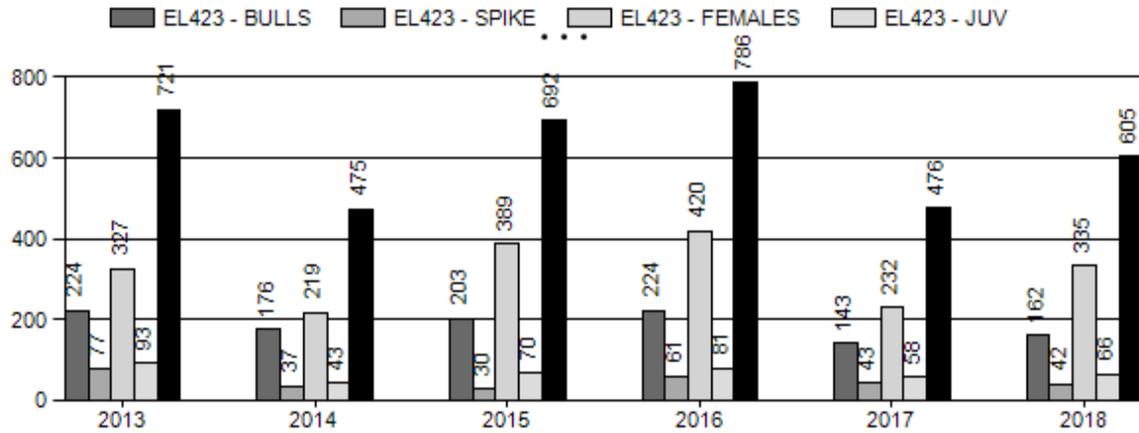
HUNT AREAS: 106-107

PREPARED BY: JEFF SHORT

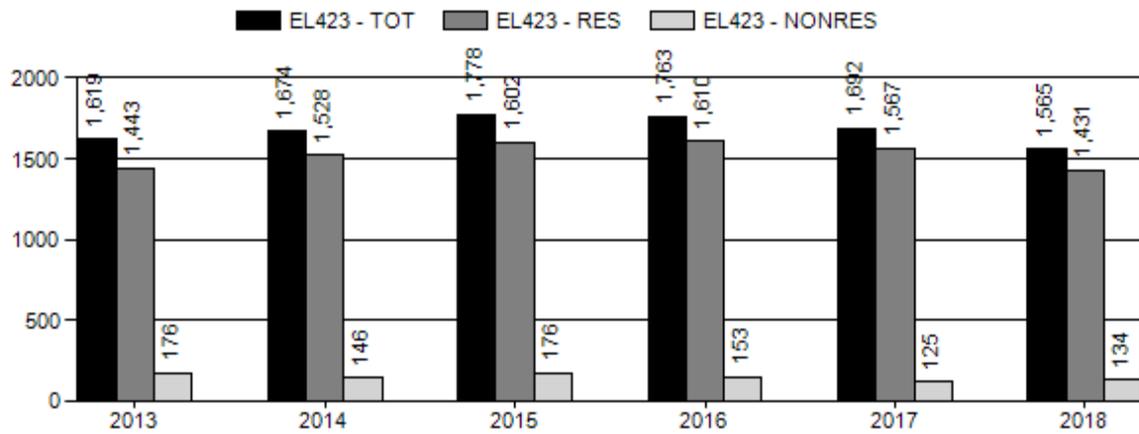
	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Hunter Satisfaction Percent	58%	62%	60%
Landowner Satisfaction Percent	41%	31%	60%
Harvest:	630	605	600
Hunters:	1,705	1,565	1,600
Hunter Success:	37%	39%	38%
Active Licenses:	1,770	1,651	1,650
Active License Success:	36%	37%	36%
Recreation Days:	11,578	10,614	10,000
Days Per Animal:	18.4	17.5	16.7
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:			-14%
Number of years population has been + or - objective in recent trend:			4



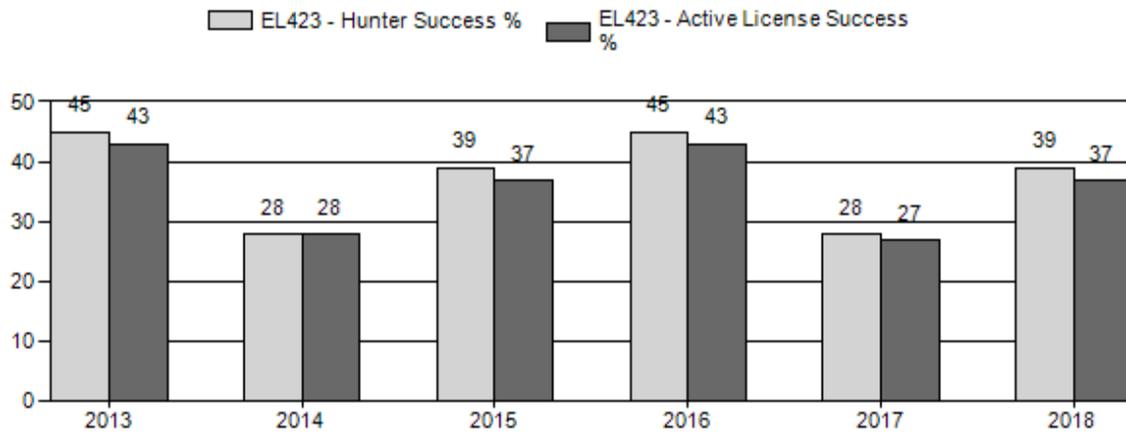
Harvest



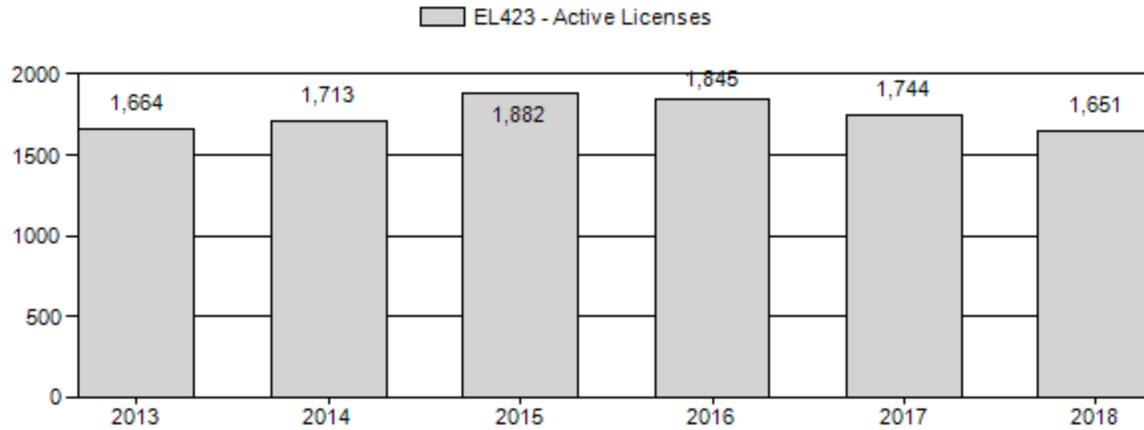
Number of Hunters



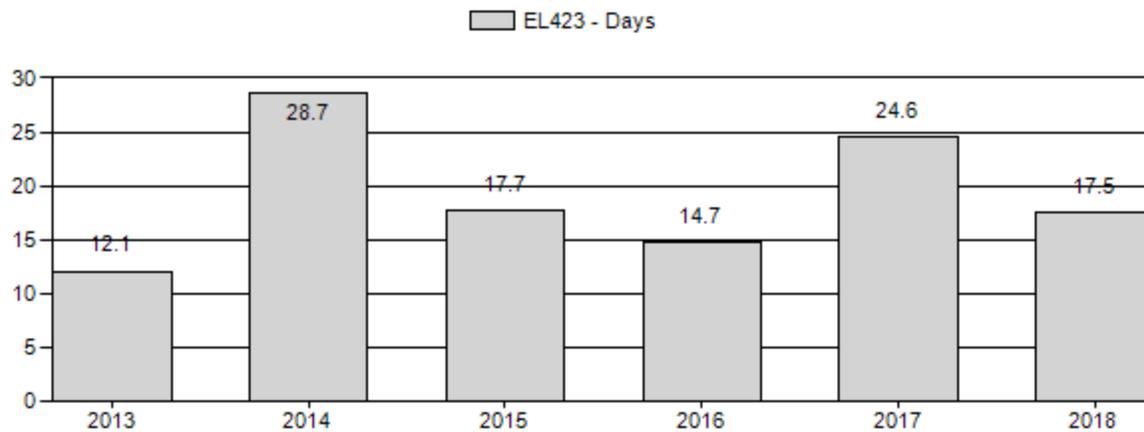
Harvest Success



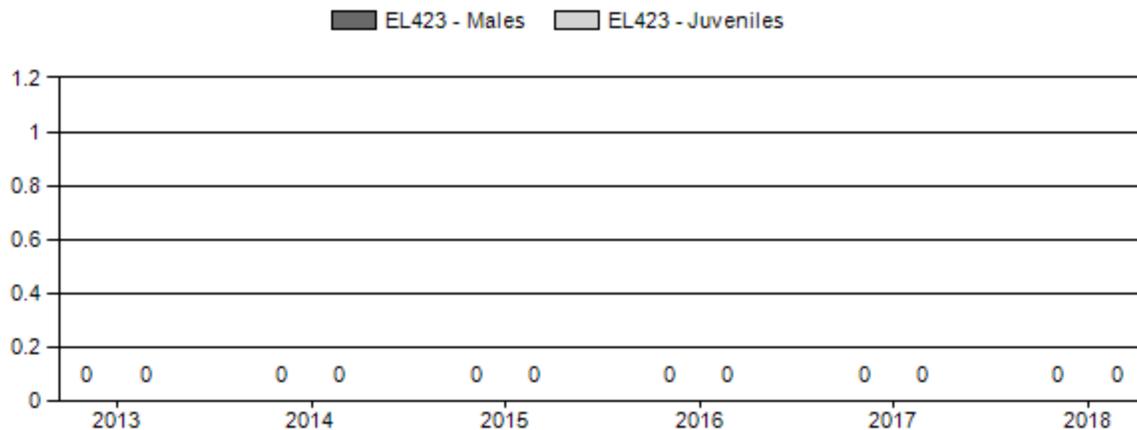
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



No classification data for this herd

2019 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	Jan. 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	4	Oct. 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	Oct. 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 in Sweetwater County
107	7	Dec. 15	Jan. 31			Cow or calf valid off national forest within the Henry's Fork River drainage

106, 107 Archery Sep. 1 Sep. 30 Refer to Section 3 of this chapter

Hunt Area	License Type	Quota change from 2018
Herd Unit Total		

Management Evaluation

Current Postseason Population Management Objective: Satisfaction

Management Strategy: Recreational

2018 Postseason Population Estimate: ~1600

2019 Proposed Postseason Population Estimate: ~1300

Herd Unit Issues

This is an interstate herd shared with Utah. There are elk that summer in Wyoming but many elk summering in the Uinta Mountains in Utah come to Wyoming to winter. Limited public land 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 but is not substantiated biologically.

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 part of the area is largely public land and historically draws larger 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 the small portion of public land in southeast 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 fifth year of this objective, we are meeting the hunter satisfaction objective but not the landowner satisfaction objective. Hunter satisfaction is correlated to hunter harvest success and weather conditions in the fall greatly influence elk harvest. Even though landowner satisfaction is below objective, the landowner survey shows 80% of 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 at 80% of the harvest being branch-antlered bulls. The objective and management strategy were last revised in 2014.

Weather

Weather during 2018 and into 2019 has been highly variable. The early part of 2018 was very mild with low snow loads and moderate temperatures. Spring brought some moisture but in late summer and fall the weather was very warm and dry. Summer range conditions were very poor and animals were in lower body condition due to low habitat productivity. Elk distribution and migration in the fall of 2018 were unusual due to abnormal habitat conditions. Many elk migrated early and further down due to poor forage conditions, cold temperatures and ample snow in December. From December 2018 to May 2019 the winter was harsh with high snow loads and cold temperatures. Snow is persisting and spring has been cold and wet.

Habitat

Habitat data 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 DWR, most recently in January of 2019. The results are shown in the table below. No classification data is available. The 2011 count in Wyoming was higher than previous counts, the result of severe winter weather and elk migration into Wyoming. The 2013 count was a very high elk count. This along with landowner complaints prompted much more aggressive elk hunting strategies. The 2019 count showed a decrease in elk numbers. This is likely correct since both Utah and Wyoming have been running aggressive hunting seasons to increase cow elk harvest.

	YEAR									
	1992	1994	1996	1998	2001	2004	2007	2011	2013	2019
Utah West Daggett	920	970	1408	919	923	716	863	NA	1055	487
Utah Summit	332	131	200	80	101	215	228	268	1006	299
Wyoming	298	238	635	299	512	446	746	1723	1810	1641
Total	1550	1339	2243	1298	1536	1377	1837	1991	3871	2427

Harvest Data

Antlerless harvest opportunity has increased for several years in this herd unit. The season structures have 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 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 through 2016 we continued that harvest strategy. In 2014, weather conditions made elk hunting more difficult and harvest was low at 489 animals harvested. In 2015 weather was more favorable and harvest was up at 692 for the herd unit. For 2016 harvest was gain high at 787 elk harvested. For 2017 mild weather brought the harvest back down to 493. In 2018 harvest was good at 601 elk due to some snowstorms in late fall. We will continue this aggressive hunting strategy to maintain harvest pressure on this herd. We are also adding increased opportunity to the type 4 licenses making them good during the general any elk season which should increase cow harvest.

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 indicated elk numbers were still an issue. We will continue that aggressive hunt timing and license allocation to maximize elk harvest and target elk causing problems. It appears that these new season structures are reducing this elk herd. The August 15 – 31 portion of the area 106 and 107 type 7 hunts is 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. They are also valid in a far western portion of HA 105. This is to address a specific problem where Utah elk from Deseret Land and Livestock are coming to Wyoming and damaging stored hay on years with hard winters. For 2019 we will also leave this hunt open in Hunt Area 106 during the January season to address problems there. This hunt is very helpful during difficult winters.

The objective and management strategy were recently revised in 2014. During that objective review process we moved to a new objective type for this herd. Due to the issues associated with estimating this population, we switched to a satisfaction based objective for this herd. Hunter and landowner satisfaction is measured to compare to a set level of satisfaction in the objective. The new objective criteria is to have a landowner satisfaction of $\geq 60\%$ and a hunter satisfaction of $\geq 60\%$. There is also a secondary objective of having $\geq 60\%$ branch-antlered bulls in the harvest. In 2019 we went through an internal review of the objective and harvest strategy. The recommendation for the Uinta Elk Herd is to maintain the newly adopted satisfaction based objective.

2018 - JCR Evaluation Form

SPECIES: EIK

PERIOD: 6/1/2018 - 5/31/2019

HERD: EL424 - SOUTH ROCK SPRINGS

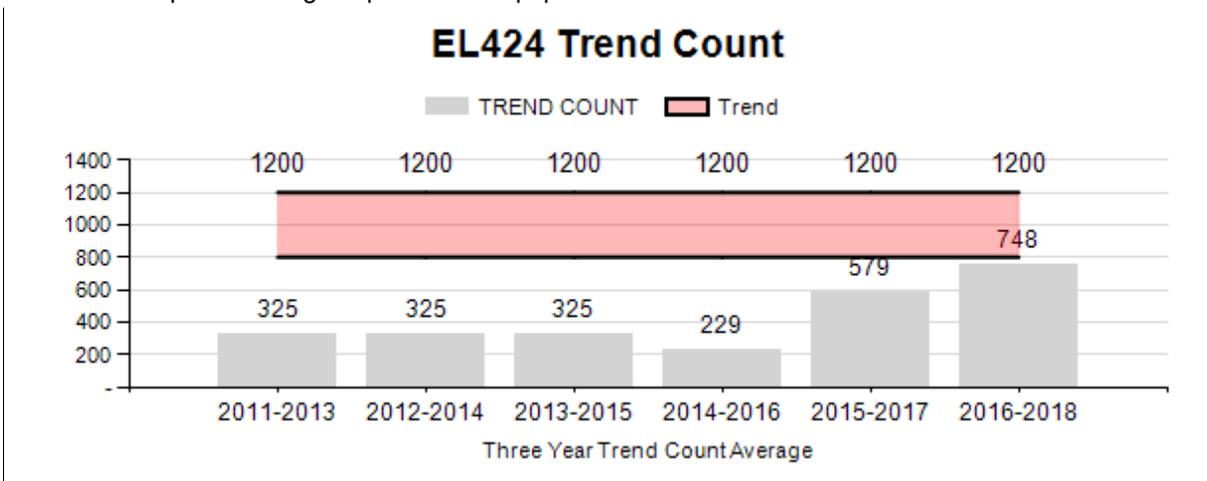
HUNT AREAS: 30-32

PREPARED BY: PATRICK BURKE

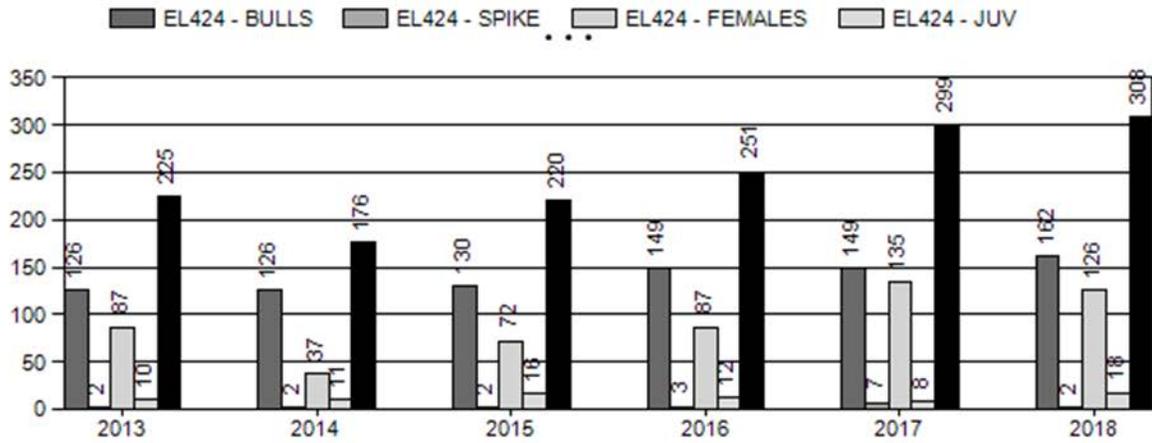
	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Trend Count:	543	506	900
Harvest:	234	308	350
Hunters:	355	405	450
Hunter Success:	66%	76%	78 %
Active Licenses:	355	405	450
Active License Success	66%	76%	78 %
Recreation Days:	2,674	3,201	3,300
Days Per Animal:	11.4	10.4	9.4
Males per 100 Females:	36	53	
Juveniles per 100 Females	39	45	
Trend Based Objective (± 20%)			1,000 (800 - 1200)
Management Strategy:			Special
Percent population is above (+) or (-) objective:			-49.4%
Number of years population has been + or - objective in recent trend:			5

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

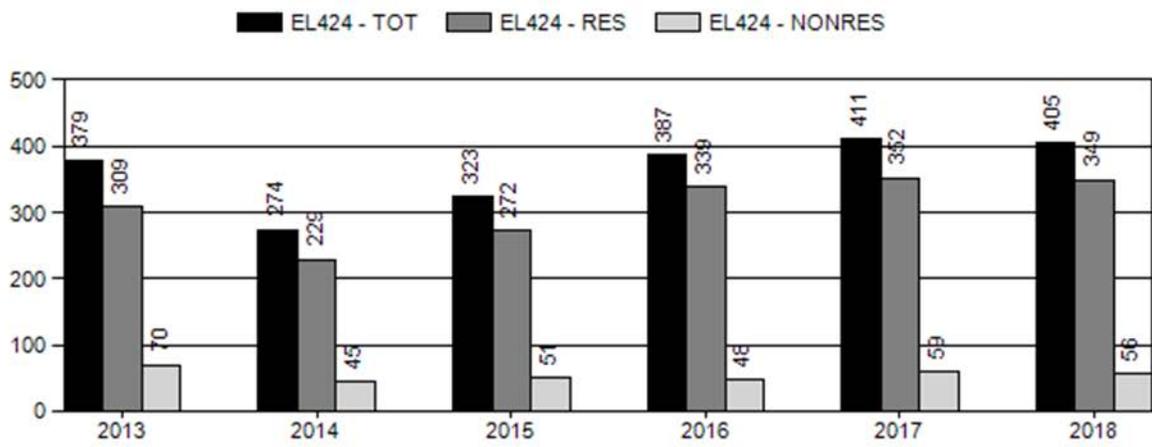
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%
Total:	0%	0%
Proposed change in post-season population:	0%	0%



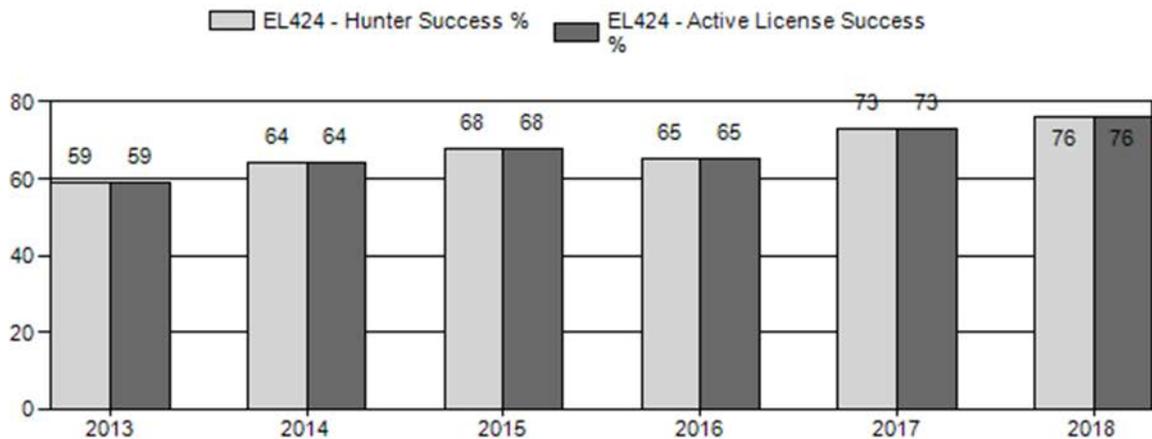
Harvest



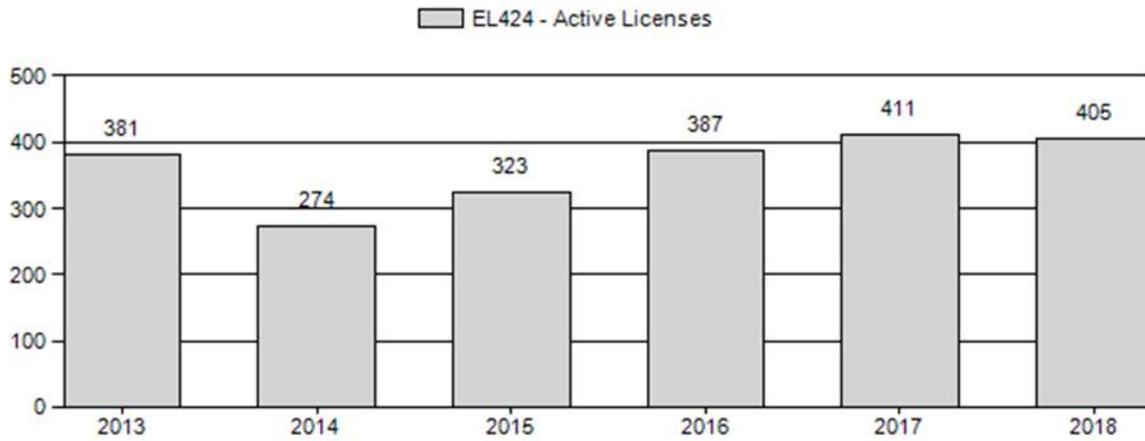
Number of Hunters



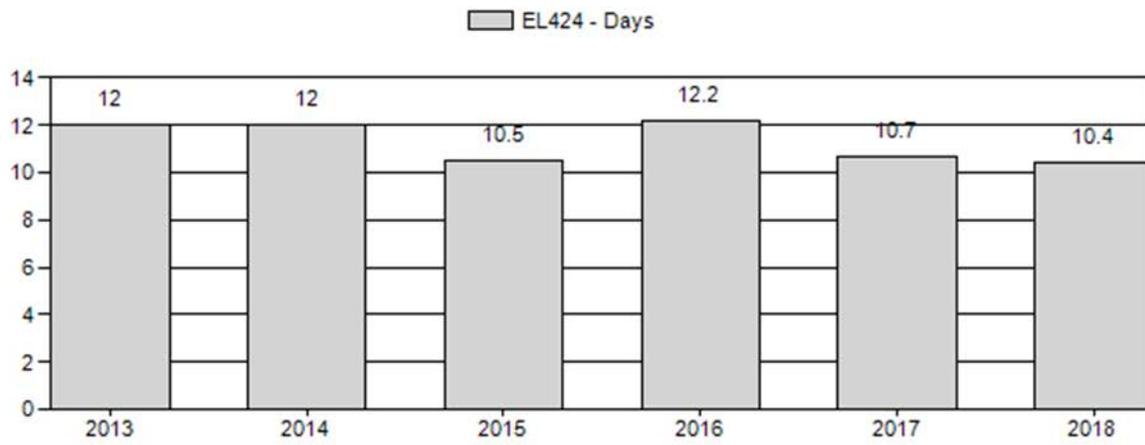
Harvest Success



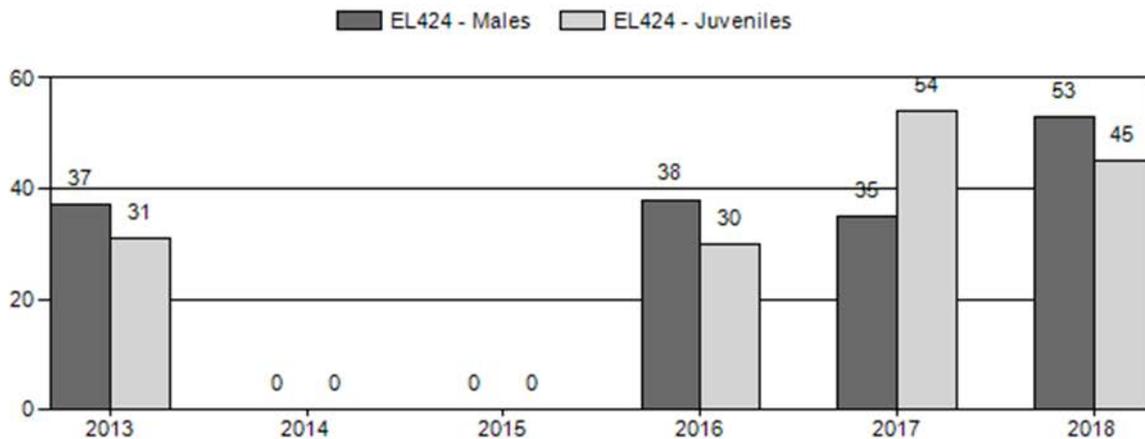
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 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	%			Yng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
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	0	76	78	154	22%	410	60%	124	18%	688	485	19	19	38	±0	30	±0	22
2017	0	83	110	193	18%	555	53%	301	29%	1,049	558	15	20	35	±0	54	±0	40
2018	0	67	139	206	27%	388	51%	173	23%	767	564	17	36	53	±0	45	±0	29

**2019 HUNTING SEASONS
SOUTH ROCK SPRINGS ELK HERD (EL424)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
30	1	Oct. 1	Oct. 31	50	Limited quota	Any elk
	4	Oct. 1	Nov. 15	50	Limited quota	Antlerless elk
31	1	Oct. 1	Oct. 31	100	Limited quota	Any elk
	4	Oct. 1	Nov. 15	150	Limited quota	Antlerless elk
32	1	Oct. 1	Oct. 31	50	Limited quota	Any elk
	4	Oct. 1	Nov. 15	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. 30	Valid in the entire area(s)

Hunt Area	Type	Quota change from 2018
31	4	+50
Herd Unit Total	4	+50

Management Evaluation

Current Management Objective: 1,000

Management Strategy: Special

2018 Postseason Population Estimate: N/A

2019 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 this interstate elk 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 can change on a day-to-day basis, especially during the hunting season since significant interchange has been documented between the three states, with most of the interchange

occurring between Wyoming and Colorado. There is a fairly large group of elk living near the Tri-State marker that tend to bounce back and forth 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. This segment of the herd has particularly difficult to target for harvest as they have learned that they can use the state line as a refuge from hunting pressure.

Weather

The South Rock Springs herd has experienced relatively dry summers for the last several years; while some of the recent summers have seen decent spring time moisture, the late summers have been extremely dry lately. These dry conditions have had a negative impact on vegetative growth in the region, due to early senescence caused by a lack of moisture. Fortunately, most of the recent winters have seen relatively mild winter condition, with the exception of the 2018-2019, winter which delivered significantly increased snowfall for the herd unit. This year's winter conditions, while above average for the area, will probably not have a significant impact on the South Rock Springs elk herd, as conditions were probably not be severe enough to affect elk.

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 by 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 2018, while one of the sites had LD values at or below zero.

The Little Mt. /Dipping Springs LD transect that had been included in the past was excluded from this report because it was fenced with an ungulate excluding modified steel jack fence in

2016. The erection of that fence makes the LD values for that site is no longer comparable to the other sites in the herd unit.

Table 1. Trends in aspen regeneration LD Index values (vertical inches) 2015-2018

Monitoring site	2015	2016	2017	2018
Pine Mt/Red Ck.	-1.8	0	-4.1	-5.8
Tri-State /Red Ck.	+7.2	+13.2	+10.7	+6.8
Miller Mt.	+3.6	+18.6	+3.9	+3.0
Aspen Mt.	+1.2	+4.6	+8.3	+8.9
Little Mt./West Currant Ck.	0	+5.5	+10.6	+3.8

Field Data

The South Rock Springs elk herd was classified from a helicopter in conjunction with the South Rock Springs deer herd during December 2018, as it has been done in the past several years. During those classification flights, a total of 767 elk were classified in the herd unit, consisting of 388 cows, 173 calves, 139 adult bulls, and 67 yearling bulls. That resulted in observed ratios of 45 calves per 100 cows, and 53 bulls per 100 cows which included 17 yearling bulls per 100 cows.

The majority of the elk observed during those flights were seen in HA31, with 554 of the classified elk coming from that hunt area. Hunt Area 30 contained the next largest sample of elk, with 135 elk being found in that hunt area, and HA32 contained the smallest number of elk with only 78 elk being located in that hunt area during the classification flights.

In addition to the helicopter classification survey, a mid-winter fixed wing trend count was also conducted in January 2019. During that flight, a total of 506 elk were observed, with the majority of those elk (n=471) being observed in the Red Creek Basin in HA32. The deep snow conditions present during January probably pushed those elk into the basin, since it had lighter snow accumulation than other areas of the herd unit. This trend count number was lower than had been expected due to several factors, as the deep snow on Little Mountain may have pushed elk into the deep draws of the Marsh Creeks which made them harder to located from the air, and as time was split between the South Rock Springs and the Petition herds for this flight, the herd unit was not flown as thoroughly as it had been in previous trend counts.

Harvest Data

In 2018 there were a total of 405 active licenses in the herd unit, which is down slightly from the 411 active licenses seen in 2017. The overall harvest success rate for those 405 hunters across all hunt areas and license types in the herd unit was 76%, and it took the average hunter 10.4

days to harvest an elk in the herd unit. The 2018 hunting season resulted in a harvest of 308 elk across the herd unit. Of those 308 harvested elk, 162 of them were two year or older bulls, two were spike bulls, 126 of them were cows, and 18 were calves.

When broken out by individual hunt area, the hunt area with the highest harvest success rate in 2018 was HA31, which reported an 83.5% success rate for Type 1 and 4 license types combined, with 83.7% success for the Type 1 license holders and 83.3% for the Type 4 hunters. Hunt Area 30 reported a 81.5% overall success rate, with Type 1 licenses having a success rate of 84.8%, and a 78.3% success rate for Type 4 license holders. Hunt Area 32 reported a 57% overall success rate, with the Type 1 license holders experiencing a 85.1% success rate, and a 45.5% success rate for Type 4 license holders, along with a 6.3% 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 2018, tooth samples were submitted from 92 bull elk or about 57% of the bulls harvested based on the harvest survey. Based on those tooth submissions, the average age of harvested bulls in 2018 was 6.1 years old. This compares with an average age of 6.2 years old in 2017 and 2016, and 5.6 in 2015. The oldest bull aged from the herd unit in 2018 was a 13.5 year old bull harvested from HA31. The oldest bull aged from HA30 a 10.5 year old bull, and the oldest from HA32 were three 11.5 year old bulls. In past years, the oldest age class of bull harvested was 10.5 in 2017, 11.5 in 2016, and 9.5 in 2015.

Population

Since collar data from separate studies being conducted in Colorado, Utah, and Wyoming have demonstrated that at least portions of this herd move freely between Wyoming, Colorado, and to a lesser extent 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.

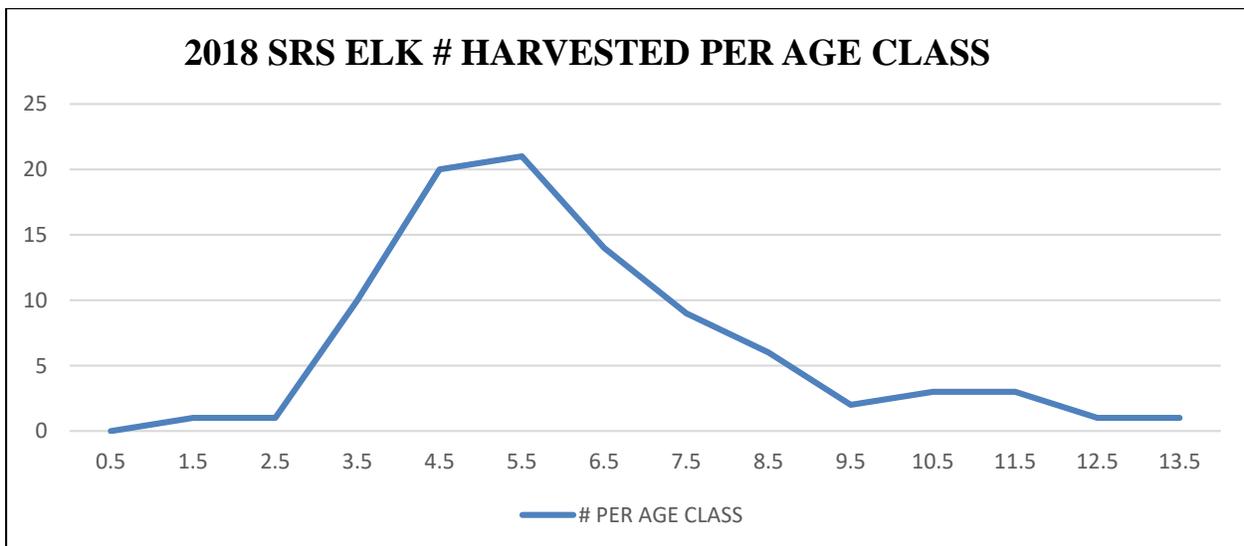
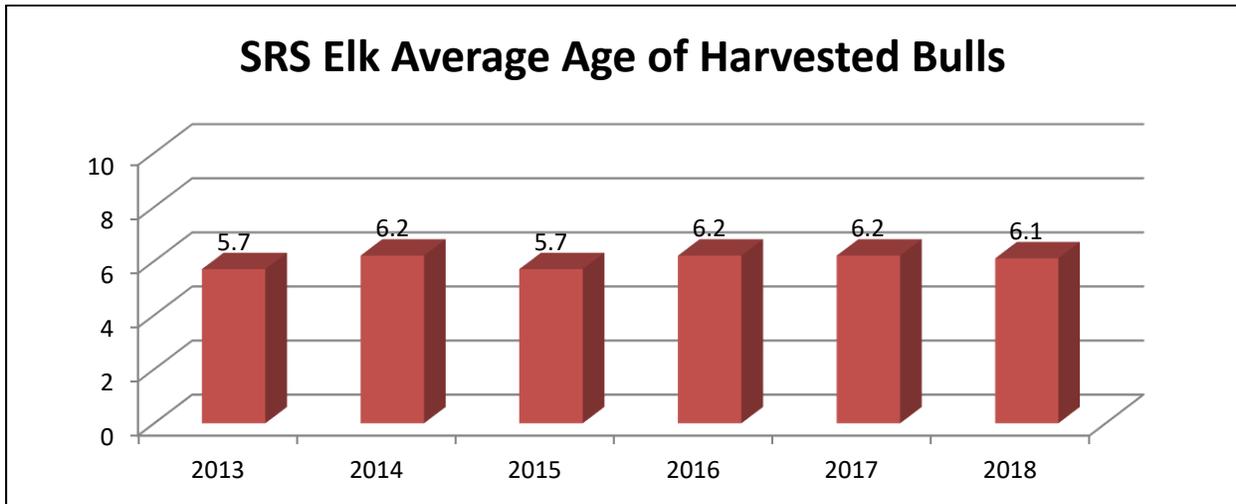
The results from 2018's trend count survey, along with recent classification sample sizes of 767 in 2018, 1,049 in 2017, and 688 elk in 2016 suggest that the herd is still at an appropriate level. However, relatively high observed calf ratios from the last two years do suggest that this herd could be growing.

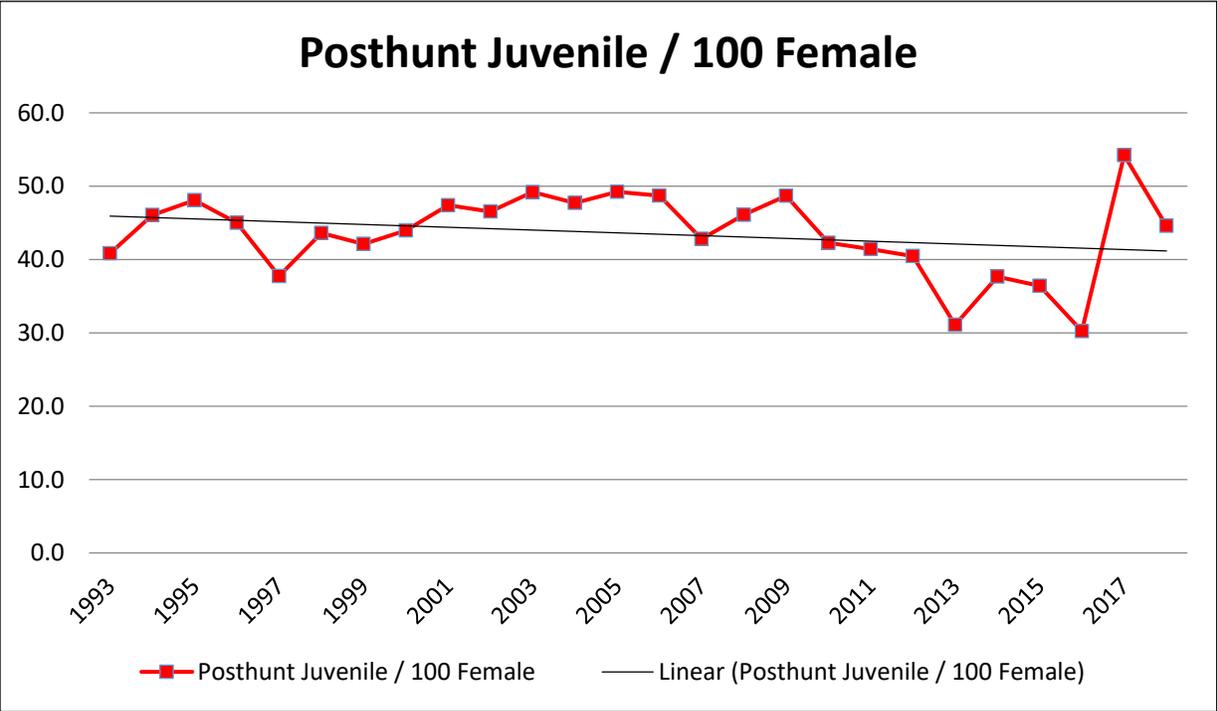
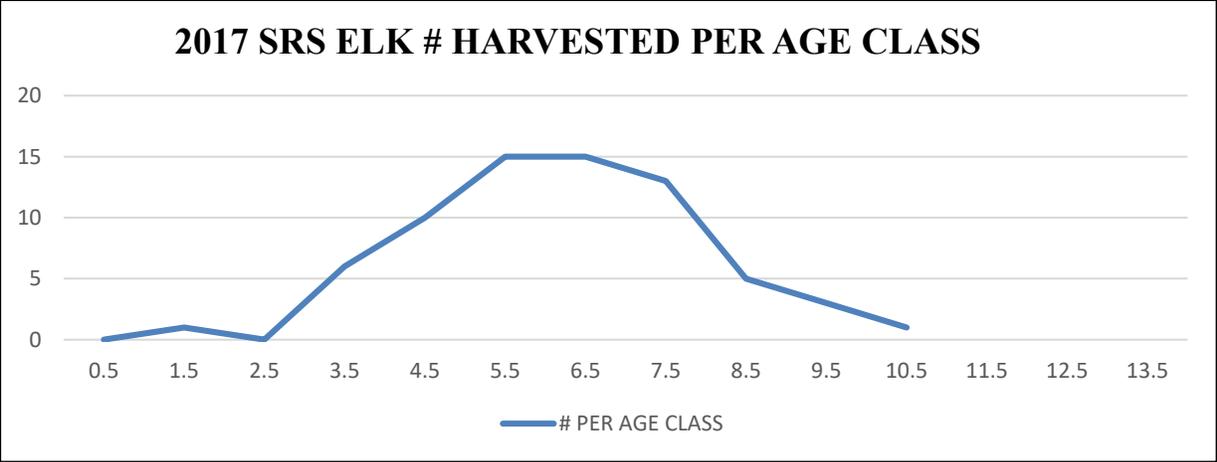
Management Summary

The 2019 season contains a few changes from the seasons seen in recent years. The biggest change is the extension of the Type 4 seasons from closing on October 31 in HAs 30 and 31, and the second weekend in November in HA32 to November 15th for all three areas. This change

was proposed to one, hopefully increase cow harvest by giving hunters more opportunity to harvest a cow; and two, to help alleviate crowding concerns that are often voiced by hunters, including deer hunters, in the area.

An increase in HA31 Type 4 licenses was also implemented for the 2019 season. This increase was a result of the observed calf ratios that had been observed in the last couple years. These observed calf ratios suggest that the herd, and especially the Little Mountain portion of the herd, could be growing; and an increased level of cow harvest in that area should help keep the elk numbers at an appropriate level.





2018 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2018 - 5/31/2019

HERD: EL425 - SIERRA MADRE

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

PREPARED BY: PHIL DAMM

	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Population:	8,898	7,000	6,500
Harvest:	2,191	1,979	2,100
Hunters:	5,775	4,915	5,000
Hunter Success:	38%	40%	42%
Active Licenses:	6,050	5,113	5,000
Active License Success:	36%	39%	42%
Recreation Days:	42,179	34,330	38,000
Days Per Animal:	19.3	17.3	18.1
Males per 100 Females	31	23	
Juveniles per 100 Females	41	38	

Population Objective (\pm 20%) : 5000 (4000 - 6000)

Management Strategy: Recreational

Percent population is above (+) or below (-) objective: 40%

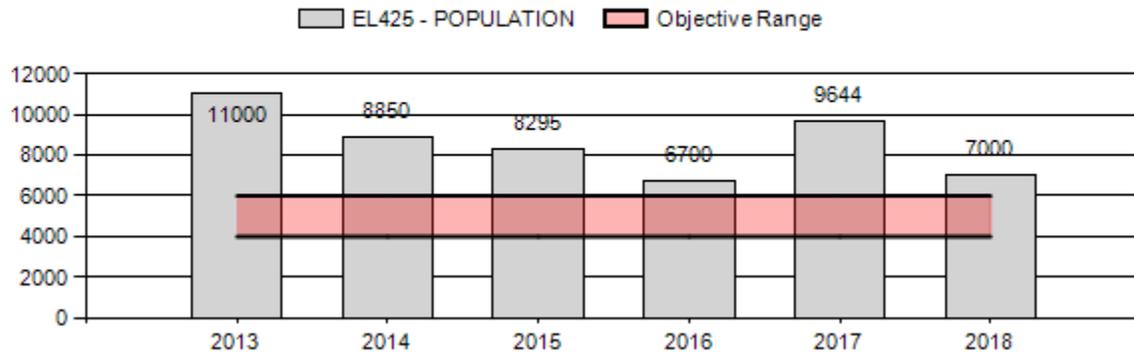
Number of years population has been + or - objective in recent trend: 5

Model Date: 3/20/2019

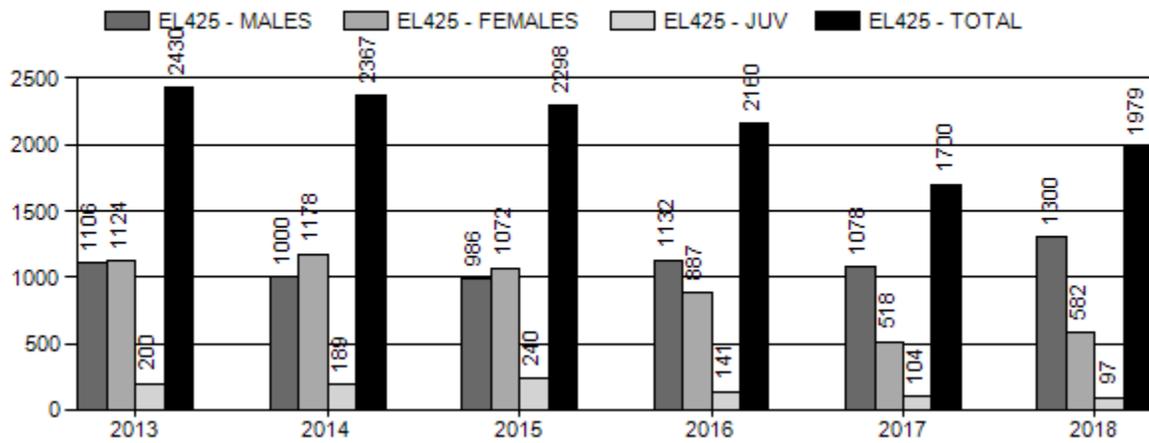
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females \geq 1 year old:	6%	7%
Males \geq 1 year old:	12%	12%
Total:	18%	19%
Proposed change in post-season population:	25%	27%

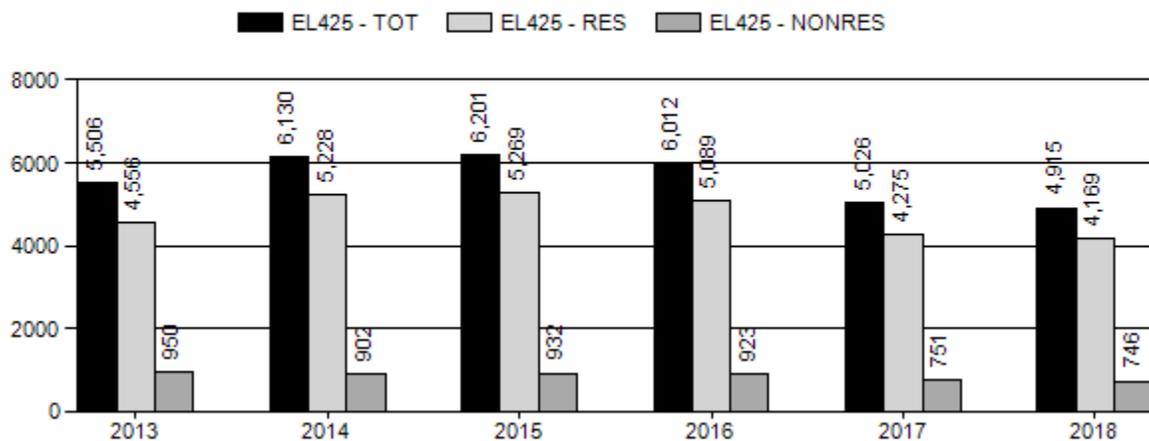
Population Size - Postseason



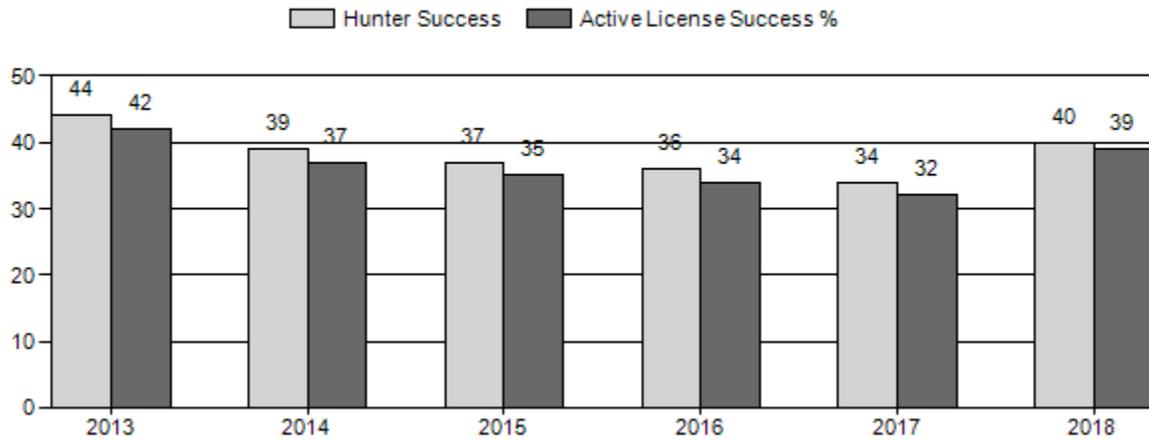
Harvest



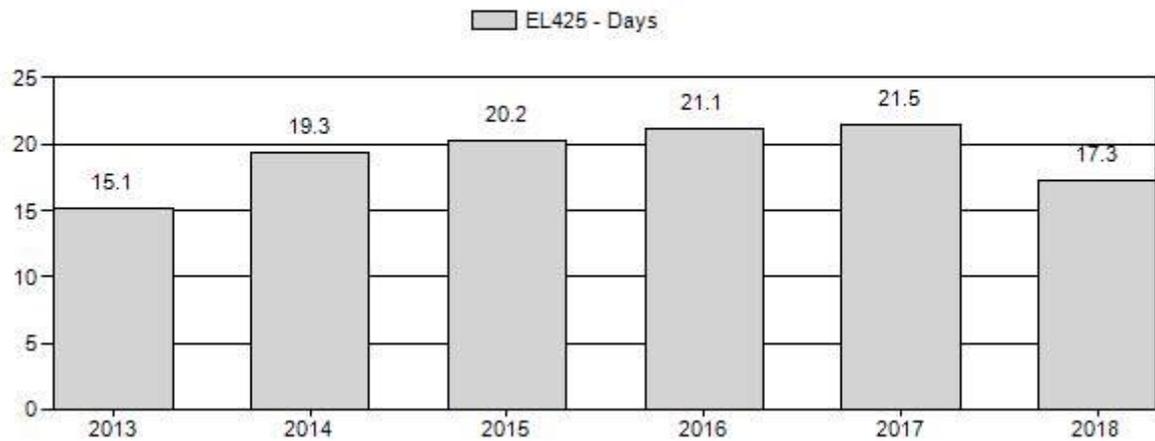
Number of Active Licenses



Harvest Success



Days Per Animal Harvested



2013 - 2018 Postseason Classification Summary

for Elk Herd EL425 - SIERRA MADRE

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Yng	Adult	Total	%	Total	%	Total	%			Yng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2013	11,000	158	124	282	17%	985	58%	430	25%	1,697	0	16	13	29	± 2	44	± 3	34
2014	8,650	432	554	986	17%	3,546	60%	1,407	24%	5,939	0	12	16	28	± 1	40	± 1	31
2015	8,295	20	9	29	8%	222	65%	93	27%	344	0	9	4	13	± 3	42	± 6	37
2016	6,700	480	610	1,090	21%	2,835	56%	1,149	23%	5,074	0	17	22	38	± 1	41	± 1	29
2017	9,644	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2018	7,000	551	572	1,123	19%	3,456	58%	1,352	23%	5,931	0	16	17	32	± 1	39	± 1	30

2018 PROPOSED HUNTING SEASON

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
13	6	Oct. 1	Nov. 14	100	Limited quota	Cow or calf
15		Oct. 15	Oct. 31		General	Any elk
15	6	Oct. 1	Nov. 14	100	Limited quota	Cow or calf
21		Oct. 13	Oct. 14		General youth	Any elk
21		Oct. 15	Oct. 22		General	Antlered elk
21		Oct. 23	Oct. 31		General	Any elk
21	6	Oct. 15	Nov. 17	200	Limited quota	Cow or calf
21	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
108	1	Nov. 1	Jan. 31			Antlerless elk
108	4	Oct. 11	Jan. 31	50	Limited quota	Antlerless elk
108	6	Oct. 11	Dec. 31	200	Limited quota	Cow or calf
108	6	Jan. 1	Jan. 31			Cow or calf valid west of the Twentymile Road (Carbon County Rd 605 N)
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)

Hunt Area	Type	Quota change from 2017
21	6	+100
108	6	+50
108	7	-200
Herd Unit Total	1	0
	4	0
	6	+150
	7	-200
	Total	-50

Management Evaluation

Current Management Objective: 5,000 (2013)

Management Strategy: *Recreational*

2018 postseason Estimate: 7000 (see below)

2019 Proposed Postseason Population Estimate: ~6500

The current abundance estimate for the Sierra Madre elk herd (SMEH) is 40% over objective. However, the current model being used to monitor this population is producing unrealistic results, likely exacerbated by interchange with Colorado. The spreadsheet model currently employed is only one tool in managing this elk herd. Indications are that the modeled estimates have not even provided a good trend (index) to the actual population, and other variables such as harvest data and age/sex ratios have provided more valuable indices to population performance. For example, in 2017, the modeled population increased from 6,700 to 9,644 (+44%), which is not plausible. Therefore, the 2019 management strategy for this herd will be based largely off of other indices. With the exception of 2018, harvest success has declined gradually over the last five years, while hunter effort has increased. Even with fairly substantial opportunity and harvest, the population is performing fairly well with calf ratios around 40 per 100 cows and bull ratios around 30 per 100 cows; this indicates the level of harvest should be able to be maintained. Mid-winter classifications yielded 6,151 elk being counted for this herd, which is more than have been counted since 1997. However, caution must be exercised when making comparisons and assuming a large upward trend, as winter severity on higher elevation winter ranges meant that a larger proportion of the herd was counted than on more typical years. Although, given reasonably good productivity, an upward trend is plausible. Hopefully, consistent annual mid-winter flights will continue and the trend will be confirmed in 2020. Across the herd unit, reduced price cow/calf licenses will decrease by 50, but a more liberal general season will likely make up this potential difference in harvest.

Herd Unit Issues

Three major issues continue to be discussed by hunters in the elk hunting 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 areas 13, 15, and 21 which is where we see the majority of harvest due to the general season structure. The high harvest and liberal management strategy within this herd over the last 7 years might have 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 or have become less accessible. Hunter numbers were maintained from 2017 to 2018 with about 5,000 in both years participating.

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. Trees continue to fall at alarming rate which may lead to disruption in traditional movement patterns of elk and will impact hunters ability to access the forest. A greater effort to work with the U.S. Forest Service to address these areas should be made in the coming years to ensure this herd remains accessible to hunters who wish to access the resource by foot or horseback.

Another issue for the management of this elk herd is that a growing proportion of resident elk subsist on private lands in hunt areas 108 and 130. These areas are largely dominated by private

land or checkerboard ownership, and are largely inaccessible to hunters. Some slight manipulations to those season structures in 108 were approved by the Commission for the 2019 hunting season to continue to provide opportunity and limit elk conflict on private lands.

Weather

Weather during 2018 and into 2019 has been highly variable. In the early part of 2017 the winter was light and spring moisture was extremely limited across much of the herd unit. However, higher elevations where most elk spend summer were relatively more productive as usual. Some concern existed for the productivity of the herd, but calf ratios in February 2019 counts were typical, and yearling bull ratios were excellent. Snow began to re-accumulate in the higher elevations in the latter parts of the hunting seasons, and the winter of 2018-2019 was substantial in terms of snow through to spring and lower temperatures well into February, which is atypical. Winter severity does not seem to pose a very significant risk to this elk population. Relatively stable recruitment of yearling bulls over the past ten years and decent calf ratios indicates calves fare well in spite of severe Sierra Madre winters since elk are free to move to more hospitable areas. Elk seemed to continue to do well through this winter, but with higher densities than typical in lower elevation winter ranges, and very few to no elk in higher elevation winter ranges. Lichen in certain south facing and wind-swept slopes can pose a risk to elk at the northern end of the herd, but no major issues were observed.

Habitat

Growing season precipitation was well below normal across the lower to middle elevations of the herd unit in 2018. In fact, much of the desert shrub, Utah juniper, and Wyoming big sagebrush communities received almost no precipitation during the growing season. Resident ranchers, cowboys, and herders reported no green-up in many of these desert communities. This was concerning for productivity of winter range shrubs, which showed nearly no growth during 2018. However, as mentioned previously SMEH elk seemed to weather the winter well regardless. In 2016, the Snake Fire burned approximately 2,565 acres located between the Roaring Fork and North Fork of the Little Snake River drainages. This was a high elevation wildfire that could improve summer range elk habitat by increasing herbaceous forage production within the burn area. There is a growing concern in this herd unit of increased elk use of deer winter ranges. It is possible the large Chokecherry-Sierra Madre wind development (over 1000 turbines) will displace additional elk to deer winter ranges during the colder months.

Field Data

Mid-winter classification flights were completed in later February, covering all major elk winter ranges for the SMEH. Detection rates were high, as high winter severity led to congregated elk on lower elevation winter ranges than what is probably typically observed. These classifications yielded 6,151 elk being counted for this herd, which is more than have been counted since 1997. However, caution must be exercised when making comparisons and assuming a large upward trend due to high detectability. Although, given reasonably good productivity, an upward trend is still plausible. Hopefully, consistent annual mid-winter flights will continue and the trend will be confirmed in 2020.

Harvest Data

Elk harvest data over the last several years indicates that it has become more difficult to find an elk during hunting season. Since 2013 we have seen a steady increase in effort and a decrease in hunter success, outside of 2018. Success climbed to 40% in 2018, at least partially due to some snow events during the hunting season that tend to increase elk vulnerability. Cow and calf harvest were similar to 2017, but bull harvest climbed by a little over 200, again likely due to weather events. Concern about drastic reductions in cow harvest in 2017 leading to skewed bull ratios may be unfounded, since those ratios in the classification flights were still good. However, with high winter severity and thus detection, it may be too early to judge. If a mid-winter classification flight is completed in 2020, and 2019-20 is a more “normal” winter, bull ratios should be more telling.

Population

The current abundance estimate for the Sierra Madre elk herd (SMEH) is 40% over objective, but we have mentioned this estimate is fraught with error and we place no stock in this number. Thus, other variables such as harvest data and age/sex ratios will continue to provide more valuable indices to population performance. See following report.

Management Summary

The Sierra Madre elk herd has always presented a challenge due to high harvest, high productivity and typically low bull ratios. The implementation of any elk and general cow seasons in 2010 has been successful in providing ample opportunity for hunters in Wyoming and has actually addressed the low bull ratios issues of the past. The season structure over the last 7 years has been extremely successful in harvesting large numbers of cows and potentially decreasing population size. However, it should be noted that as populations fall and elk become less accessible, so does hunter opportunity. Given the popularity of this herd with the hunting public, it is likely hunter complaints will continue to escalate, particularly in years when elk are more difficult to harvest because of weather, beetle kill, and private land accessibility. In order to decrease the impact posed by high hunter numbers, we are generally continuing to maintain a more conservative general season structure in the accessible portion of the herd unit (Area 13, 15, and 21), and will maintain similar seasons in area 108 and identical seasons in area 130.

Sierra Madre Elk Herd Unit (EL425)
Population Objective Review
May 2019

Prepared by: Phil Damm, Baggs Wildlife Biologist

HERD UNIT OVERVIEW

The Sierra Madre Elk Herd Unit is located in south central Wyoming, ranging from WY Highway 789 on the western edge to the North Platte River on the east, and from US Interstate Highway 80 on the northern end to the Wyoming-Colorado state line on the south (Figure 1). This herd unit spans three Wyoming Game and Fish Department administrative regions and is comprised of five hunt areas: 13, 15, 21, 108, and 130 (Figure 1). Habitats vary from the most productive high elevation summer ranges in the Sierra Madres in the south-central portion of the herd unit to the big sagebrush, Utah juniper, and desert shrub communities on the outer edges in the high desert, which generally function as winter range. Mid-elevations habitats, dominated by mixed mountain shrub, aspen and oak communities, remain productive during most of the year and are used to varying degrees based on winter severity.

This herd is being managed using a recreational management strategy. General license hunting opportunities follow areas with higher proportions of accessible public lands, primarily within Areas 13, 15, and 21. Fewer opportunities exist in Areas 108 and 130 due to limited entry licenses, limited access due to private ownership, or both. Late season antlerless opportunity exists in all areas except Area 130. With the exception of 2018, harvest success has declined gradually over the last five years, while hunter effort has increased. Even with fairly substantial opportunity and harvest, the population is performing well with calf ratios around 40:100 cows and bull ratios around 30:100 cows, suggesting current levels of harvest are likely sustainable. The number of sportsmen hunting in this herd unit has been around 5,000 for the past two years, one of the highest in the state of Wyoming, but this is actually a modest decline from the previous three years of over 6,000. Following a public outreach effort, the population objective for this herd unit was increased from 4,200 to 5,000 in 2013. Sportsmen satisfaction was significantly higher when numbers exceeded this by a large degree, while landowners and livestock producers generally favored lower abundance.

POPULATION OBJECTIVE REVIEW

Population estimates for this herd are suspect as the spreadsheet model seems to unrealistically over-estimate elk numbers (Figure 2). Based on the model (and other parameters such as classification sample size and hunter statistics) the population has been over objective (objective range of 4,000-6,000 elk) since 2013. It is not surprising the model performance is poor given known, significant interchange with Colorado. Based on classification counts, harvest statistics, and professional judgement, annual model estimates do not even provide a good trend (index) to actual population size. Further, the current model produces estimates that are often not plausible or realistic. For example, in 2017, the modeled population increased from around 6,700 to 9,600 (+44%), which is not biologically possible based on estimated production and harvest. Other variables such as harvest estimates and age/sex ratio data provide more reasonable indices to

population change. A sightability survey was conducted in 2013 but results were not reliable due to less than adequate coverage of the herd unit.

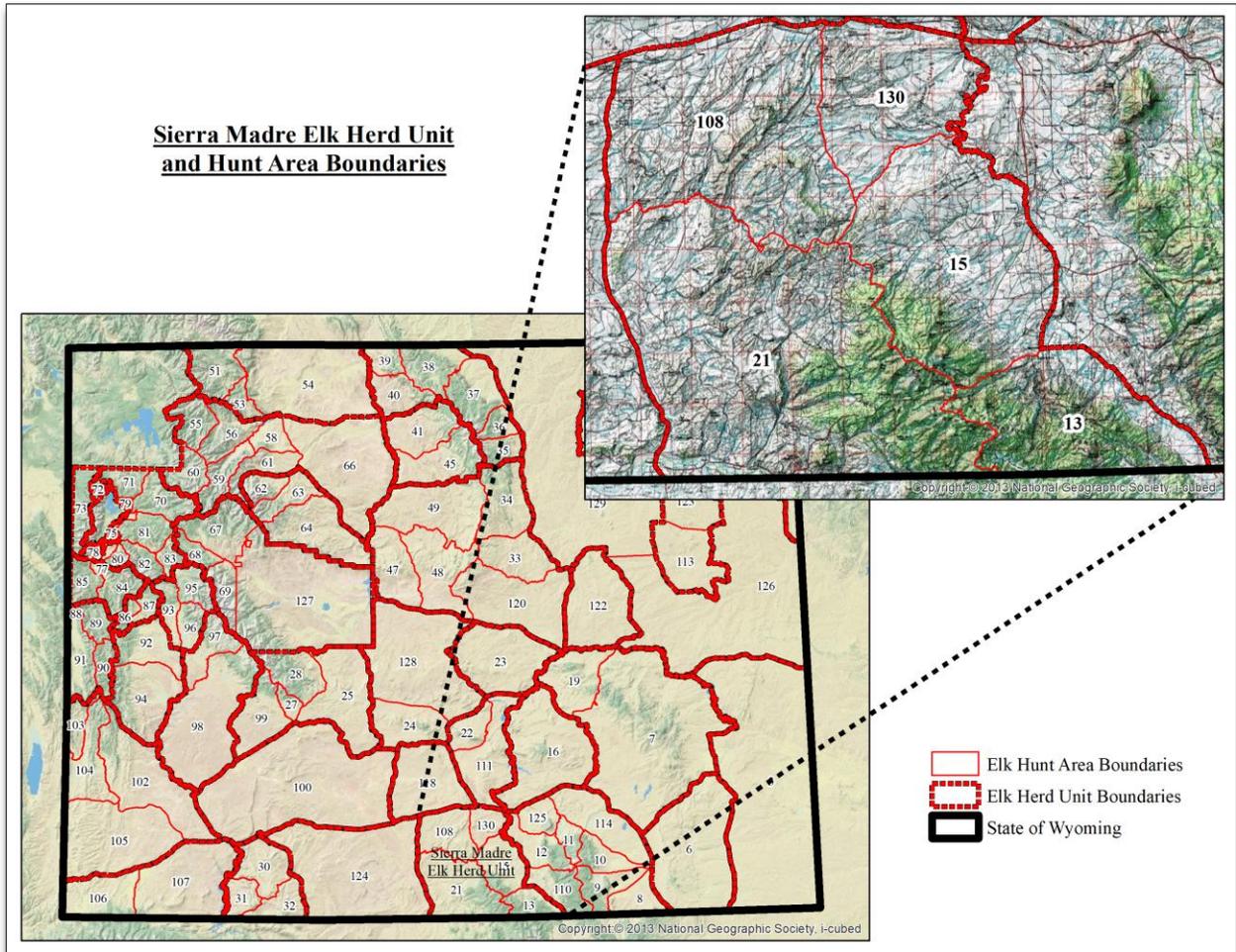


Figure 1. Sierra Madre Elk Herd Unit location and Hunt Areas 13, 15, 21, 108, and 130.

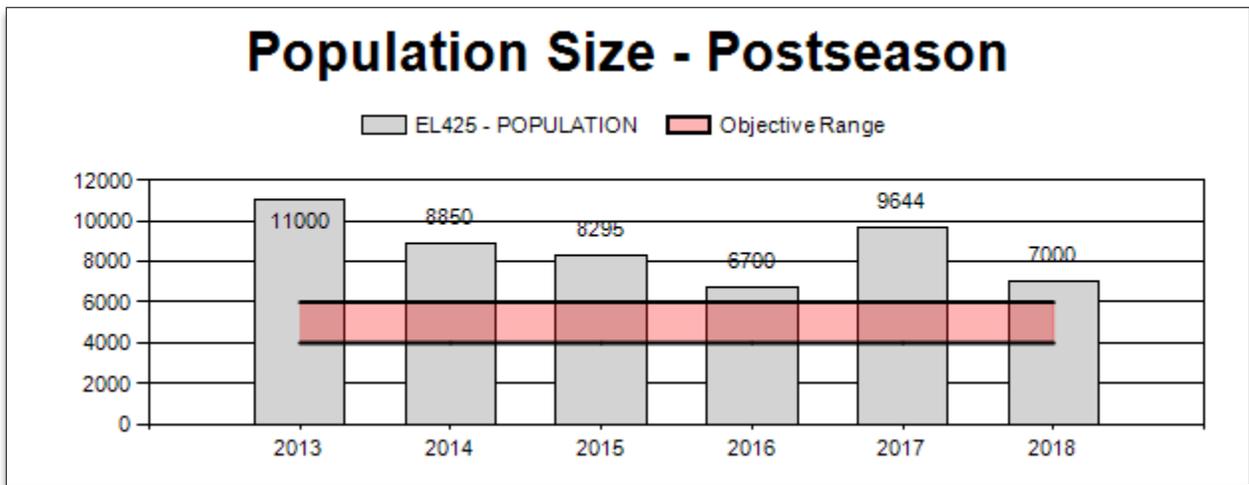


Figure 2. Post-season population size from the spreadsheet model for Sierra Madre Elk Herd.

CURRENT MANAGEMENT STRATEGIES BY HUNT AREA

Hunt Areas 13, 15, and 21: These hunt areas are generally comprised primarily of lands administered by the U.S. Forest Service and the Bureau of Land Management. There are also significant private lands occurring throughout these areas, primarily within riparian areas at lower elevations and small scattered parcels at higher elevations surrounded by federal lands. Because the majority of these hunt areas is public land, general license hunting opportunity results in substantial harvest, especially in hunt area 21. Harvest in these general license seasons is typically managed using hunting season length and a combination of “any,” “antlered” or “antlerless elk” types. Reduced price “cow or calf” licenses and seasons are used for population management, and to address damage concerns on private lands.

Hunt Area 108: Much of this hunt area is comprised of checkerboard ownership, with alternating sections of private and federal land. This land ownership pattern makes access difficult for most of the general public, with a few exceptions. There are a few roads that provide some legal access. Hunting season dates are similar to those in the adjoining general areas, beginning with an “any elk” season followed by “antlerless” opportunities to address damage concerns on private lands or to discourage elk wintering in areas where they can potentially consume lethal quantities of lichen on or near the Red Rim.

Hunt Area 130: While similar to Area 108 regarding land ownership, the similarities between these two areas stops there. Hunter access and the road system are much more restrictive in Area 130, with a single corporate ranch controlling the majority of private land within the area. Nearly no public access exists in this area. This area is managed with a longer (3 weeks) general “any elk” season. To gain some public access in Area 130, the Department attempted a Hunter Management Area, but the effort was largely unsuccessful due to landowner restrictions and the HMA was discontinued.

RECOMMENDED HERD UNIT OBJECTIVE AND MANAGEMENT STRATEGIES

Given the issues with obtaining a valid population size estimate for this herd, a mid-winter trend count objective is the best and most logical approach to manage these elk. Excluding the years 2013 and 2015, mid-winter trend counts were conducted for this herd with similar (Figure 3) flight path and survey effort since 2005. Fewer hours (effort) were flown in the years prior to 2005, and are not directly comparable. Results from 2005-2019 yielded an average of 4,941 elk counted, with 6,151 being counted in February, 2019. For this herd, trend counts appear to be a much more reliable indicator of population size and change (index) when compared to the many unsuccessful attempts to model this population. Trend counts are easier for the public and landowners to understand and relate to, as opposed to modeled estimates which are frequently viewed as nebulous. The annual Green River flight budget request will be adjusted to include funds necessary to accomplish this trend flight on an annual basis. In the recent past, flights were conducted every other year, with the funds being split with West Green River Elk (where we fly a biannual sightability survey). Elk winter concentration areas will be compiled and mapped to ensure adequate coverage and consistency between years. To account for varying elk detection rates from year to year due to changing weather severity and elk distribution, herd size will be evaluated using a 3-year running average. All three WGFD regions (Green River, Lander, and

Laramie) agree a mid-winter trend count objective of 5,000 elk (trend objective range of 4,000-6,000 elk counted) with a maintained recreational management strategy is appropriate to balance both hunter and landowner expectations of this elk population. Also, this number of elk seems reasonable based on historic trends indicating habitats are capable of sustaining this number of elk over the long-term.

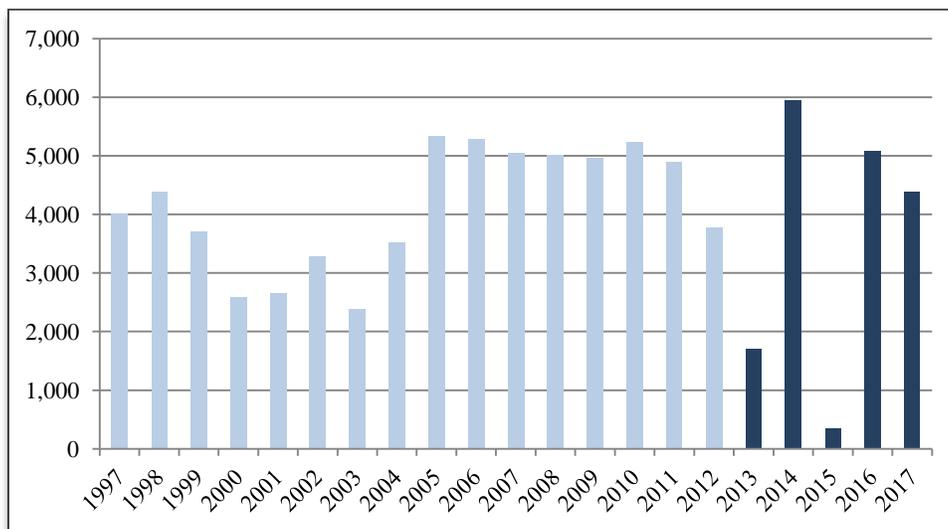


Figure 3. Post-season classification totals for the Sierra Madre Elk Herd, Wyoming. Note: effort (flight hours) was increased substantially in 2005. Effort has been consistent since that time with the exception of 2013 and 2015 when no aerial surveys were conducted.

LANDOWNER, AGENCY, AND PUBLIC INVOLVEMENT

Landowners, affected sportsmen and other members of the public, and federal/state/county agency partners were contacted during this effort to gather input and to gauge support for the Department’s new objective proposal. The following sections outline those various methods and results.

- **Sportsman Contacts**

Hunters were contacted during the 2018 elk season concerning their desires for this population, and results were not surprising given typical sportsmen desires regarding populations. At the time of the survey, the trend suggested well over 6,000 elk (2019 trend count of 6,151) in this herd unit and sportsmen indicated they either wanted more (78%) elk or for the herd to remain at similar abundance (22%). Archers polled during the September archery season, who perhaps not coincidentally encountered more elk per unit time than did rifle hunters, were on average more satisfied with current numbers.

- **Landowner Contacts**

Landowners were contacted both in the fall of 2018, and during the winter of 2018-19. Fifty-five percent (55%) of surveyed landowners in initial contacts thought we should increase the current population objective (from the population based objective of 5,000) and that more elk were

needed. The remaining 45% (including some of the key landowners mentioned below) of landowners were comfortable with both the current population and the direction we were discussing concerning potentially moving to a trend-based objective. Following initial contacts and inter-regional discussions/meetings to determine objective type and level, in-person follow-up contacts were made with key landowners concerning the final proposal to move toward a trend based objective of 5,000. These contacts included: Niels Hansen, John Espy, Ron Wille, Randy Montgomery, Pat and Sharon O'toole, Cody Mckee, Jack Cobb, Jack Berger, Mark Dunning (Big Creek Ranch), Dave Sturm (Silver Spur Outfitting), and Ron Platte. All were supportive of the proposal and felt this type of objective made more sense than model estimates, especially with a model that functions poorly.

- 2019 Season Setting – Follow-up for Sportsmen

Sportsmen were notified of the Department's draft proposal during March season setting meetings in Baggs, Rawlins, Saratoga, and Green River (n=75, Appendix B). To increase public education of this proposal and prompt public comment, Department personnel developed a power point presentation (Appendix A) to be presented at these meetings. The presentation contained general information about the herd unit, current herd status as of the February 2019 classification survey, issues with the current objective and population modeling process, the proposed trend based objective, and explanation of this different method for assessing herd size and trend. Results per meeting are found below.

Baggs: Five people attended the Baggs meeting and no comments, verbal or written, were provided.

Rawlins: Twenty-seven people attended. One written comment was submitted supporting the change to a mid-winter trend, but wanted the objective increased to 6,500-7,000 elk.

Green River: Twenty-three people attended. No written comments were submitted and one verbal comment was made after the meeting ended. The commenter expressed concern that this herd's objective was too low and should be raised. The concern was alleviated somewhat when the trend count method was clarified.

Saratoga: Twenty people attended. One written comment was received and centered on the migratory nature of the elk from Colorado into Wyoming, particularly in more severe winters. The commenter wanted the trend count objective raised to 6,000 elk.

- Agency Coordination

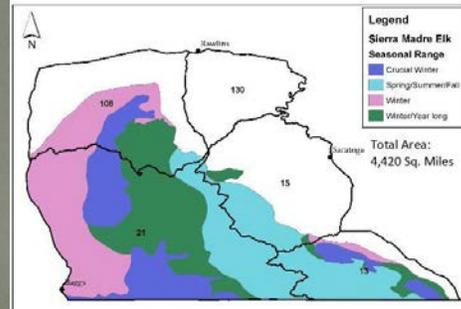
Agency coordination occurred between local field personnel and the Rawlins Field Office of the Bureau of Land Management and Medicine Bow National Forest personnel in Saratoga. Coordination also occurred between our personnel and the Little Snake River Conservation District and NRCS.

Appendix A: Season Setting Meetings Power Point Presentation

Sierra Madre Elk Objective Proposal

March 2019

Hunt Areas 13,15,21,108,130



Current Elk Objective

Post-season population estimate of 5,000 elk

Set in 2013 5 year review



- Issues/Concerns
- Model does not perform well with this unit
- No sightability to anchor the model
- Interchange with Colo.
- Flying every couple of years

Proposed Elk Objective

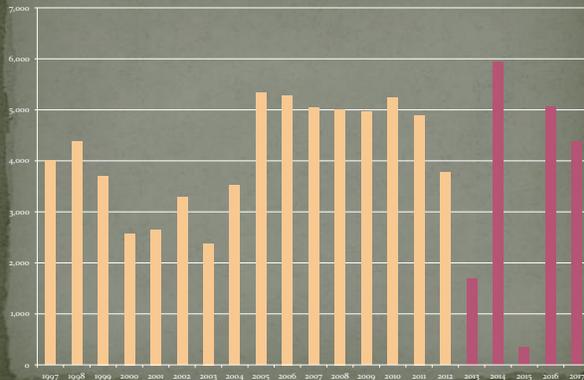
Mid-winter trend count of 5,000 elk

Still a Recreational management herd



- Consistent flight path
- Consistent amount of time flown
- Population is based upon actual numbers seen
- Flown every year
- 3-year running average
- Can range within 20%

Herd Population from 1997-2017



OBJECTIVE REVIEW PROCESS

- Proposal is made and the Dept. says take it to the public and stakeholders
- Obtain feedback from public meetings and stakeholders
- Compile information for internal Dept. review and approval
- Approved by the Commission in July
- We need your concerns /thoughts/ comments/questions

Feb. 2019 Flight Data

- Calf ratio of 39:100
- Spike ratio of 14:100
- Adult bull ratio of 16:100
- Total bull ratio of 30:100
- Classified 6,100 elk



Changes in recent years in area 21...

- Better bull quality
- Fewer hunters
- Harvesting more bulls
- Shortened the season



Questions? Concerns? Comments?



Appendix B: Public Participation/Comments

Baggs Season Setting Meeting

**Wyoming Game and Fish Department
Meeting Attendance Form**



Date: March 21, 2019

Meeting Location: Baggs

	NAME	CITY/TOWN
1.	Dan Allen	Baggs
2.	Caleb Owens	Dixon
3.	ROBERT DUNN	DARWIN
4.	Lele Emmons	Savary
5.	DUSTIN DEVOS	RAGGS
6.		
7.		
8.		

Saratoga Season Setting Meeting

**Wyoming Game and Fish Department
Meeting Attendance Form**



Date: March 21, 2019

Meeting Location: Saratoga

	NAME	CITY/TOWN
1.	Mark Miller	Saratoga
2.	Harry & Judy	Encampment
3.	Roy Wells	Riverdale
4.	Nick Warrington	Rawlins
5.	Mike Johnson	Saratoga
6.	JASON THEESPEED	SARATOGA
7.	Dave Starnes	SARATOGA
8.	Tom Crowe	SARATOGA
9.	Herb Porter	Saratoga
10.	Roger Cox	Saratoga
11.	Joe Parsons	Saratoga
12.	Pat Malone	Saratoga
13.	TREVOR LAISW	SARATOGA
14.	Dak Kostur	S/E
15.	Ron Platt	S of E
16.	Bob JOHNSON	SARATOGA
17.	Brad Weatherd	Saratoga
18.	PAT Rollison	SARATOGA
19.	Garratt Pantle	Encampment
20.	Leonard Johnson	Saratoga
21.		

**Wyoming Game and Fish Department
2019 Season Setting**



The Department welcomes comment regarding proposed changes to regulations. Questions about these proposed regulation changes should be directed to Department Regional Offices for clarification. No individual Department response will be generated from questions submitted through this comment form. Written comments shall be accepted at all public meetings, by standard mail at the address below, or on the WGFD website at <https://wgfd.wyo.gov/Get-Involved/Public-Meetings>. Comments will not be accepted via email, fax or telephone. All written comments must be received at the below address no later than 5:00 p.m., April 1, 2019.

Wyoming Game and Fish Department
Wildlife Division
ATTN: Regulations
3030 Energy Lane
Casper WY 82604

Please use a separate form for each of the categories below:

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> General Hunting | <input type="checkbox"/> Moose | <input type="checkbox"/> Wild Bison |
| <input type="checkbox"/> Antelope | <input type="checkbox"/> Bighorn Sheep/Mountain Goat | <input type="checkbox"/> Wild Turkey |
| <input type="checkbox"/> Deer | <input type="checkbox"/> Upland Game Bird/Small Game | |
| <input checked="" type="checkbox"/> Elk | <input type="checkbox"/> Migratory Game Bird/Light Goose | |

Comments:

Ref: Head level objective - At the Saratoga meeting you made reference to wanting a head level objective of 5,000 head in that portion of the head unit that includes hunt area 13. And said you counted 6,100 animals in the area. As a landowner in area 13 and 110 and with over 100 years of history in the area I have a excellent knowledge of this herd.

First, these elk are known no state line boundaries many live in Colo. a long part of the year. All animals in this part of the world move North in the winter and on a hard winter (2018) such as this year many Colo elk are here when you counted them in Feb. For the last three years the elk population during summer & fall months has declined on our property. Basically this means that huntable elk population (WY) is well below

(Please use reverse for additional comments.)

Ros Platt
Printed Name

3/27/19
Date

2/2019

13 elk 5000 herd objective was 6100 elk Feb

The number you counted in Feb. In addition, this year we have seen an unacceptable number of elk kill by large trucks now using the Hwy's in the area more than the past. These losses should be figured in total harvest. I feel that the area can safely have a herd level objective of 6,000 elk and request that the level be set at this number (6,000).

Rawlins Season Setting Meeting

**Wyoming Game and Fish Department
Meeting Attendance Form**



Date: March 26, 2019

Meeting Location: Jeffrey Memorial Community Center-Rawlins

	NAME	CITY/TOWN/Email
1.	Mike Clegg	Rawlins - mclegg57@gmail.com
2.	JIM ANSWORTH	Rawlins - mawlingHE@hotmail.com
3.	Bryson Spilski	Rawlins - BrysonSpilski14@gmail.com
4.	Levi Beard	Rawlins - LeviBeard@icloud.com
5.	Kirk Warrington	Rawlins Kirkdevlin@excite.com
6.	Palma Jack	Rawlins PL11874yo@gmail
7.	Bill Jack	" " "
8.	Steve Kovachevich	Rawlins sage713@gmail.com
9.	GARRY EVANS	✓ GANOSTR@HOTMAIL.COM
10.	Dan Howard	Rawlins danhow@Q.com
11.	BRAD TRIBBY	btribby@gmail.com
12.	John Sjogren	jrsjogren@hotmail.com
13.	Rocco Ear	
14.	George Postlethwaite	
15.	Tyrell Perry	Rawlins
16.	Wade D. Murray	Rawlins
17.	Krist Strong	Rawlins
18.	Mike Carrico	Rawlins
19.	Justin Carrico	Rawlins
20.	Scott Roberts	Rawlins
21.	Elias Gonzalez	Rawlins
22.	Sean Tyson	Rawlins
23.	CHRIS BEZOLD	SINCLAIR
24.	CHRIS STEW	RAWLINS
25.	Albert Dickinson	Rawlins hootwo@gmail.com

2/2019

Wyoming Game and Fish Department
Meeting Attendance Form



Date: March 26, 2019

Meeting Location: Jeffrey Memorial Community Center-Rawlins

	NAME	CITY/TOWN/Email
1.	Spencer Larsen	Rawlins Spencer1084@gmail.com
2.	Kathy Hiatt	Simclair
3.		
4.		
5.		
6.		

**Wyoming Game and Fish Department
2019 Season Setting**



The Department welcomes comment regarding proposed changes to regulations. Questions about these proposed regulation changes should be directed to Department Regional Offices for clarification. No individual Department response will be generated from questions submitted through this comment form. Written comments shall be accepted at all public meetings, by standard mail at the address below, or on the WGFD website at <https://wgfd.wyo.gov/Get-Involved/Public-Meetings>. Comments will not be accepted via email, fax or telephone. **All written comments must be received at the below address no later than 5:00 p.m., April 1, 2019.**

Wyoming Game and Fish Department
Wildlife Division
ATTN: Regulations
3030 Energy Lane
Casper WY 82604

Please use a separate form for each of the categories below:

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> General Hunting | <input type="checkbox"/> Moose | <input type="checkbox"/> Wild Bison |
| <input type="checkbox"/> Antelope | <input type="checkbox"/> Bighorn Sheep/Mountain Goat | <input type="checkbox"/> Wild Turkey |
| <input type="checkbox"/> Deer | <input type="checkbox"/> Upland Game Bird/Small Game | |
| <input checked="" type="checkbox"/> Elk | <input type="checkbox"/> Migratory Game Bird/Light Goose | |

Comments:

SIERRA MADRE OBJECTIVE REVIEW —

This Review is overdue & the proposed plan to change

to midwinty count will provide a much better

basis to establish new objectives for this herd.

The objective should be raised from 5000 to either

6500 or 7000 upon completion of this proposal.

Highly Recommend IT BE ADOPTED & IMPLEMENTED!

(Please use reverse for additional comments.)

Jim Ainsworth, Realtor

Printed Name

(HAVE HUNTED AREA 21 FOR OVER 50 YEARS)

03/26/2019

Date

2/2019

Green River Season Setting Meeting

**Wyoming Game and Fish Department
Meeting Attendance Form**



Date: March 27, 2019

Meeting Location: Green River

	NAME	CITY/TOWN
1.	Edward Lacy	G.R.
2.	DAVID R FRANKS	G.R.
3.	Troy Pistono	G.R.
4.	Troy Thomas	R.S.
5.	DAVE SIMCO	G.A.
6.	MARK Anselmi	R.S.
7.	JIM STOREY	R.S.
8.	Jim McElroy	R/S
9.	Allen Jaggi	Lyman
10.	Joe V Hickey	honetree
11.	Mark Lutz	G.R.
12.	Duane Kerr	G.R.
13.	Don Guthbertson	GR
14.	BOB WYANT	G.R.
15.	Ralph O'bray	G.R.
16.	Stelby Martin	RS
17.	Steve Martin	RS.
18.	Lexi Schultz	GJR
19.	David Schutze	GJR
20.	CODY CROSBY	MANILA
21.	MIKE SCHMID	LABARGE
22.	MIKE CHAFFIN	GR
23.	Wayne Moses	R. S.
24.		
25.		

2/2019

2018 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2018 - 5/31/2019

HERD: EL426 - STEAMBOAT

HUNT AREAS: 100

PREPARED BY: PATRICK BURKE

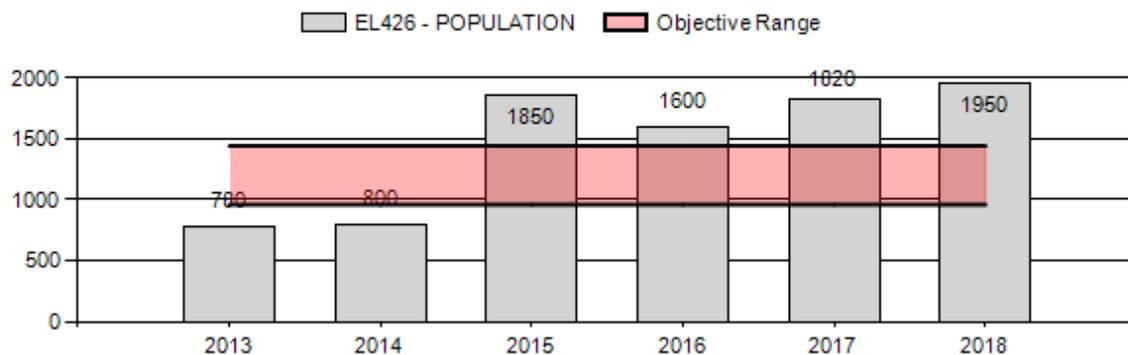
	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Population:	1,370	1,950	1,400
Harvest:	284	547	600
Hunters:	339	690	700
Hunter Success:	84%	79%	86%
Active Licenses:	346	722	750
Active License Success:	82%	76%	80%
Recreation Days:	1,320	3,179	3,600
Days Per Animal:	4.6	5.8	6
Males per 100 Females	48	76	
Juveniles per 100 Females	43	38	

Population Objective (± 20%) :	1200 (960 - 1440)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	62%
Number of years population has been + or - objective in recent trend:	4
Model Date:	02/19/2019

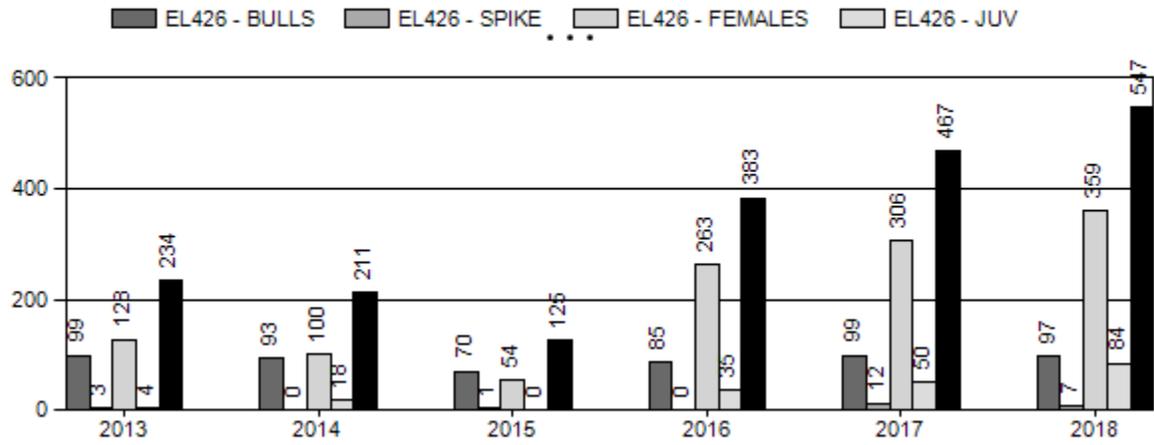
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	37%	40%
Males ≥ 1 year old:	23%	32%
Total:	25%	30%
Proposed change in post-season population:	-25%	-30%

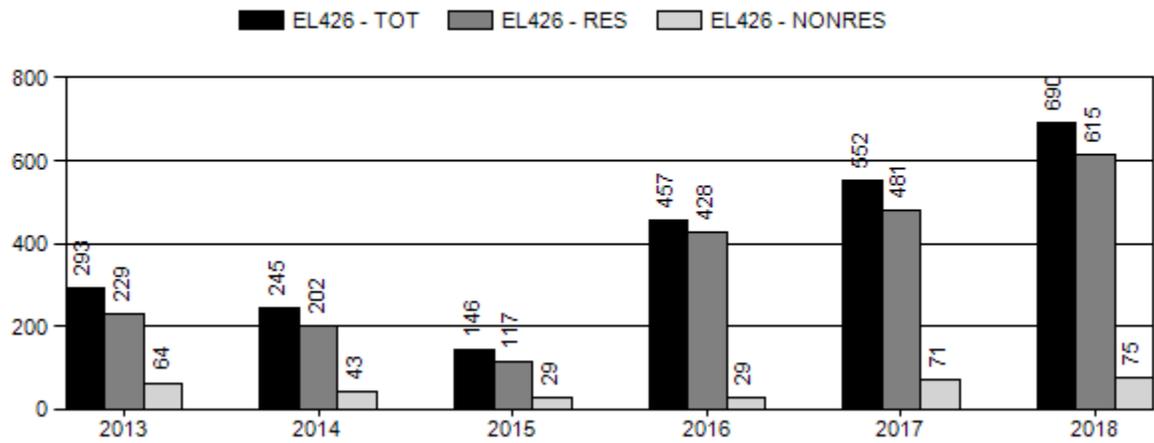
Population Size - Postseason



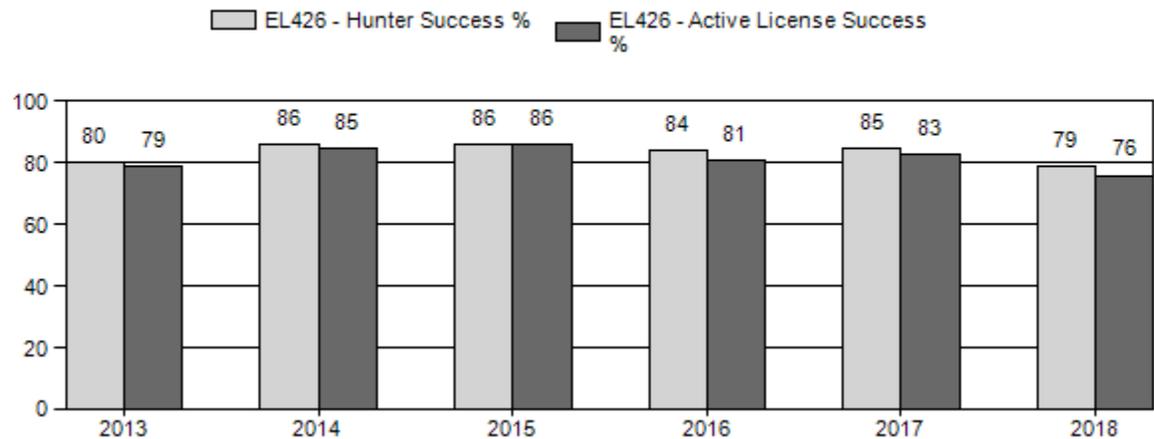
Harvest



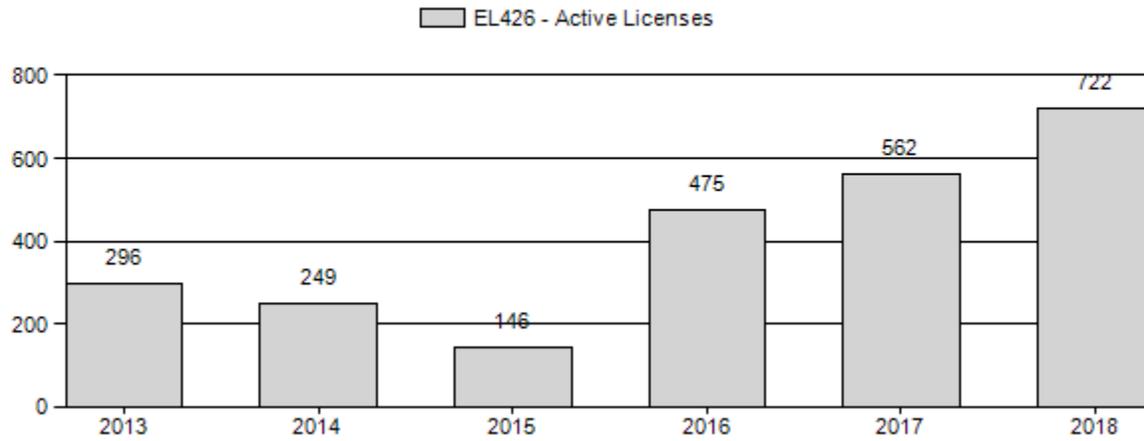
Number of Hunters



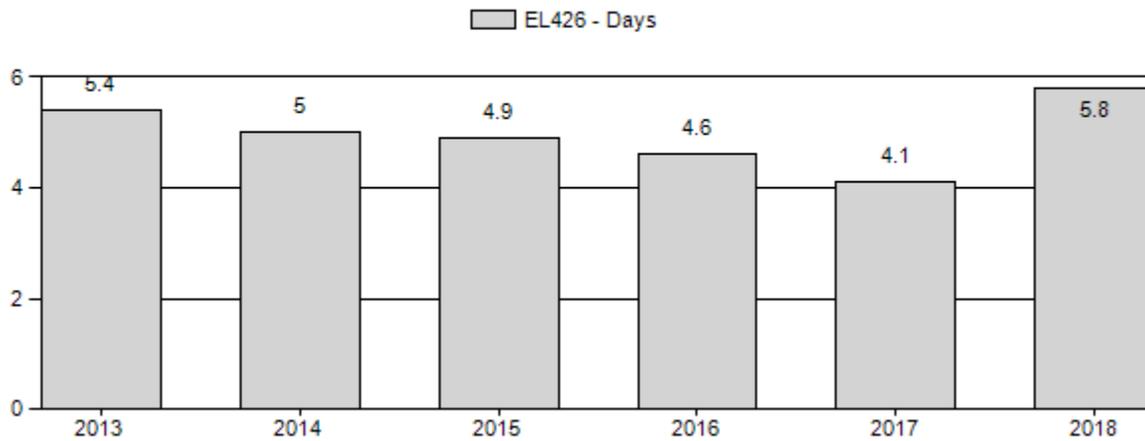
Harvest Success



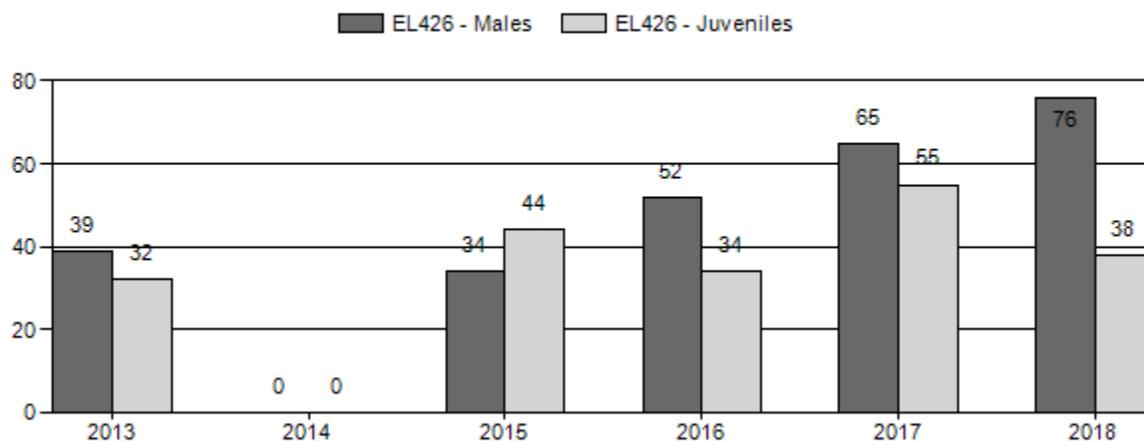
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 Postseason Classification Summary

for Elk Herd EL426 - STEAMBOAT

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylg	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
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	1,600	166	221	387	28%	749	54%	257	18%	1,393	604	22	30	52	± 1	34	± 1	23
2017	1,820	130	385	515	30%	791	45%	433	25%	1,739	551	16	49	65	± 1	55	± 1	33
2018	1,950	198	463	661	35%	872	47%	330	18%	1,863	766	23	53	76	± 1	38	± 1	22

**2019 HUNTING SEASONS
STEAMBOAT ELK HERD (EL426)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
100	1	Aug. 15	Oct. 6	200	Limited quota	Any elk valid within the Farson-Eden Irrigation Project or on or within one (1) mile of irrigated land east of U.S. Highway 191
	1	Oct. 7	Oct. 31			Any elk
	2	Oct. 15	Oct. 31	50	Limited quota	Spike elk
	4	Oct. 15	Oct. 31	200	Limited quota	Antlerless elk
	5	Nov. 8	Dec. 1	200	Limited quota	Antlerless elk
	6	Oct. 15	Dec. 1	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 U.S. Highway 191, south of Sweetwater County Road 17, and Sweetwater County Road 15, and west of Sweetwater County Road 19
	8	Aug. 15	Sept. 15	50	Limited quota	Cow or calf valid west of the Blue Rim Road (Sweetwater County Road 5) and the Lower Farson Cutoff Road (Sweetwater County Road 8)

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 2018
100	1	+100
	2	+25
	5	+50
	8	-50
Herd Unit Total	1	+100
	2	+25
	5	+50
	8	-50

Management Evaluation

Current Management Objective: 1,200

Management Strategy: Special

2018 Postseason Population Estimate: ~1,900

2019 Proposed Postseason Population Estimate: ~1,400

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

Starting in 2015, the number of elk classified in this herd increased dramatically from previous samples. Prior to that year, the number of elk annually classified in the herd was usually somewhere around 800 elk, since then the number of elk classified each year has been in the 1,400 to 1,800 range. This sudden increase in the number of elk classified each year suggests that some number of elk from outside the herd unit have moved into the area. This feeling that new elk have moved into the area from elsewhere is echoed by some of the landowners in the area. This sudden and fairly drastic increase in the number of elk classified each December in the herd unit is currently the largest issue facing this herd.

Despite dramatically increasing license numbers in the herd by over 450% above 2015 license issuance levels, attempts to reduce the number of elk present in the herd unit have so far been unsuccessful. To further complicate herd reduction efforts, hunter complaints from the 2017 season indicate that we have reached a point of diminishing returns, where simply issuing more licenses may not result in increasing the number of elk harvested, as hunter crowding appears to be impeding our ability to harvest additional elk.

Another issue that has been developing in recent years is growing damage issues with some irrigated alfalfa and grain pivots in the far western and north central portions of the herd unit. There has been a number of elk that have almost become residents on some of these irrigated fields, and since these fields have provided an oasis in the desert, the number of elk residing on these fields has increased in the past few years. As the number of elk occupying these fields has

grown, landowner tolerance for their presence has decreased. In order to address this situation, increased harvest pressure will need to be placed on the elk that are visiting these fields.

Weather

Due to where the Steamboat herd unit is situated in the Red Desert, weather conditions generally do not have a large impact on elk residing in this herd. However, because the elk in this herd live year round in a low precipitation zone, dry summers that result in little plant growth can potentially have negative impacts on elk in the herd unit. Fortunately, the last three summers saw decent moisture levels in the Steamboat herd unit, which resulted in ample grass production throughout the herd unit.

The 2018 summer was fairly dry, with little mid to late summer precipitation. These conditions did not appear to have negative impacts on this elk herd however, as calf ratios observed during December classification flights were good; this calf ratio may have been slightly inflated due to the large number of cows harvested in 2018 though.

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, however that resulted from the moisture received in the last several years has been 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 December 2018. Those aerial classification flights resulted in a total of 1,863 elk being classified, consisting of 872 cows, 330 calves, 463 adult bulls, and 198 yearling bulls. This resulted in observed ratios of 38 calves per 100 cows and 76 total bulls per 100 cows including 23 yearling bulls per 100 cows. While this herd has historically exhibited high bull ratios, the 2018 observed bull ratio was probably artificially inflated by the large number of cows harvested in the past two seasons.

The largest number of elk observed during the flights were in the Alkali Draw Wilderness Study Area where over 900 elk were in essentially one large group. This increase in the number of elk residing in the Wilderness Study Areas and the large group size can probably be explained by the large number of cow licenses and the late cow seasons that were held in 2018. These elk probably moved into the WSA to avoid hunter pressure since the majority of hunters in HA100 will not venture into these roadless areas in pursuit of a cow.

Harvest Data

According to the number of elk reported to have been harvested in HA100 from the harvest survey, a total of 547 elk were harvested in the herd unit in 2018. Interestingly, this is only 80 elk more than were harvested in 2017, despite there being 225 more licenses issued in 2018 over what had been issued in 2017.

According to the harvest survey, the overall harvest success rate for the Steamboat elk herd in 2018 was 79%. Broken out by license type, the success rates were 89% for the Type 1 license holders, 79% for the Type 2 hunters, 81% for the Type 4 hunters, 74% for the Type 5 licenses, 79% for the Type 6 licenses, 63% for the Type 7 hunters and Type 8 hunters. These harvest success rates are generally slightly lower than what is typically reported for HA100.

Some of this decline in success rates can probably be attributed to the increase in the number of hunters in the field at any one time. Due to the open country where the Steamboat elk herd lives, it is difficult for too many hunters to pursue the same group of elk without affecting each other's hunt. Many of the hunter comments from the harvest survey suggest that this was a common problem in 2018. The lower than typical success rates for the Type 7 and 8 licenses also contributed to the decline in the overall success rate for the herd unit. This may be due to fewer elk being available in these areas, especially the Type 8 area after several years of significantly increased harvest in those areas; or due to elk moving to areas where they are inaccessible to hunters, such as the mine property in the Type 7 area which is off limits to hunting.

The 2018 season did see an increase in the number of days it took the average hunter to harvest an elk in the herd unit as well. Typically the Steamboat elk herd has a reported average of around 4 days per harvest, this year that number was almost 6 days per harvest. Much of this increase was driven by the Type 5 licenses, which had an estimate of almost 8 days hunted per animal harvested. This may have been caused by elk responding to the increased hunting pressure and longer seasons by moving to areas where they were less susceptible to harvest. The Type 7 and 8 license types also had higher than typical days per harvest estimates of around 6 days.

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 33 bull elk tooth samples submitted from the 2018 hunting season, the average age of harvested bulls was 6.4 years old. The 33 teeth submitted from bull elk for laboratory aging represent around 34% of the bulls reported harvested in the harvest survey, which is quite a bit below the usual submission rate of around 50% of the reported harvest. The 2018 average age of 6.4 years old compares to 5.7 years old in 2017, 6.1 years old in 2016, and 5.3 years old in 2015. Based on the teeth that were submitted for aging, the oldest bulls harvested in 2018 were two 10.5 year old bulls. The oldest bulls aged in 2017, 2016, 2015, and 2014 were 9.5 years old.

Population

The 2018 post-season population estimate for the Steamboat herd is just over 1,900 elk. The recent population estimates have been driven solely by the increased number of elk classified in the last four years, which has been a significant departure from the number of elk that had been

classified in previous years. The average number of elk classified during the 10 year period for 2005 to 2014 was 775 elk, while the average classification sample size for 2015 to 2018 is a little under 1,700 elk. This increase in the number of elk observed each winter suggests that a number of elk has moved into the hunt area from some nearby elk populations. This sudden change in the number of elk observed during winter classification counts has required that major modifications be made to the model in an attempt to try and accommodate the large number of elk observed in recent years. Even with those modifications, the model has a difficult time accommodating the number of elk classified from 2015 to 2018, and still produce a realistic trend for the population. This is because the model is not designed to deal with immigration events like what appears to have happened in this area, as this a violation of the assumption of a closed population.

Because of these issues, the population model for this herd tracks poorly with observed data due partly to varying data quality from year to year, and partly due to what appears to be the movement of animals into this area. In order to get the population model to accommodate the large number of elk classified in the last several winters, population parameters range constraints had to be moved outside of the normal accepted limits or the model simply could not reconcile the number of elk classified recently. In order to attempt to fit the data, the model puts calf survival at an unrealistically low level, and would probably put that value even lower if the constraints would allow for it. This unrealistically low calf survival rate along with the model's poor correlation with observed bull ratios suggest that its functionality is low.

Management Summary

The 2019 season will again offer increases in the number of elk licenses being offered throughout the herd unit. Due to the bull numbers seen during the December classification flights, the 2019 season included doubling the number of Type 1 and Type 2 licenses. This increased number of licenses may further contribute to the hunter crowding issues experienced in 2018, so to help alleviate some of those issues, the opening date for the time period when the Type 1 licenses are valid in the whole hunt area was moved to Oct. 7, a week earlier than when the Type 4 hunters can take to the field. In recent years, the HA100 Type 1 license has been the hardest elk license to draw in the state of Wyoming, with drawing odds for residents being approximately 2% for the license type. This, combined with the special management status of the herd has raised concerns about placing increasing numbers of hunters in the field during a short two week season. In addition to opening in the whole area a week earlier, the 2019 season also includes an early season for the Type 1 license holders where the licenses are valid in the Farson-Eden Irrigation project and on irrigated land east of U.S. Highway 191. This change was put forward to help address some damage issues in the Farson and Hay Middle Ranch areas; where elk, and in particular bulls, have been frequenting agricultural fields and causing damage concerns.

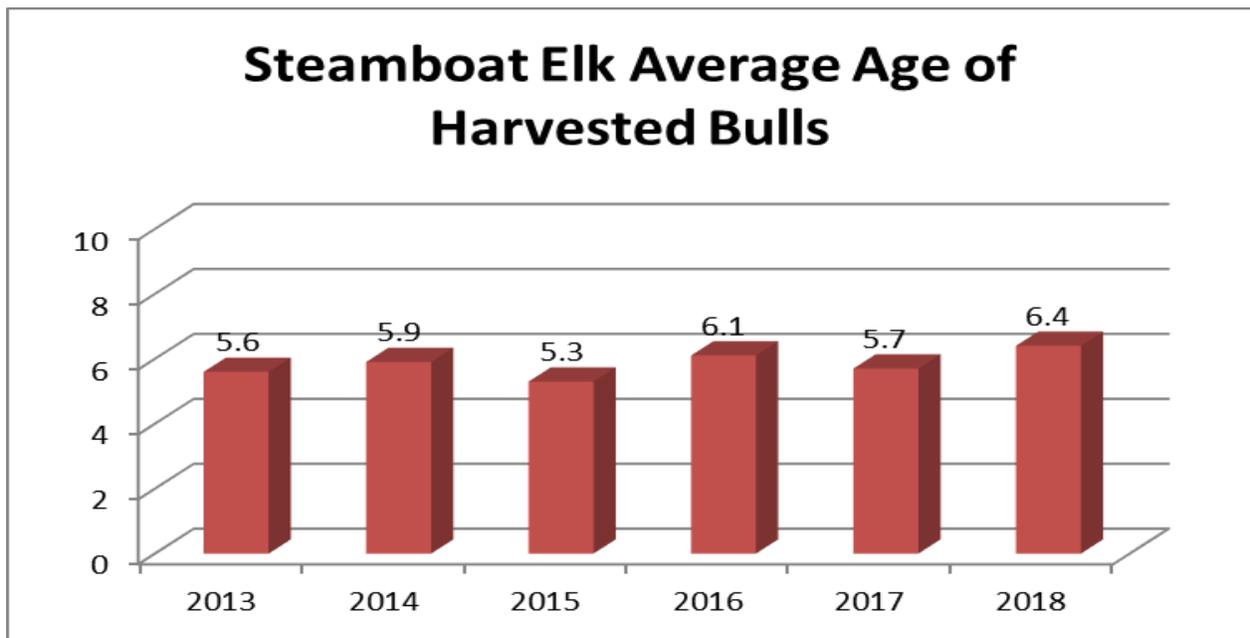
Along with the changes to the Type 1 licenses, a few changes were also implemented to the Type 5 licenses. Those changes included removing the early season west of U.S. Highway 191, putting a week long break in between when the Type 1, 2, and 4 licenses end and when the Type 5 licenses open, as well as increasing the number of Type 5 licenses to 200. It is hoped that by better focusing the Type 5 licenses on the portion of the herd in the Jack Morrow Hills area, where the largest increases in the number of elk classified has been documented, that they will be more effective in reducing the elk population where the greatest number of elk reside. It is also

hoped that by putting a break in between the earlier hunts and when the Type 5 licenses open that the elk that may have sought refuge in the Wilderness Study Areas, and other more difficult to access areas may leave those areas and move to places where they may be more available for harvest.

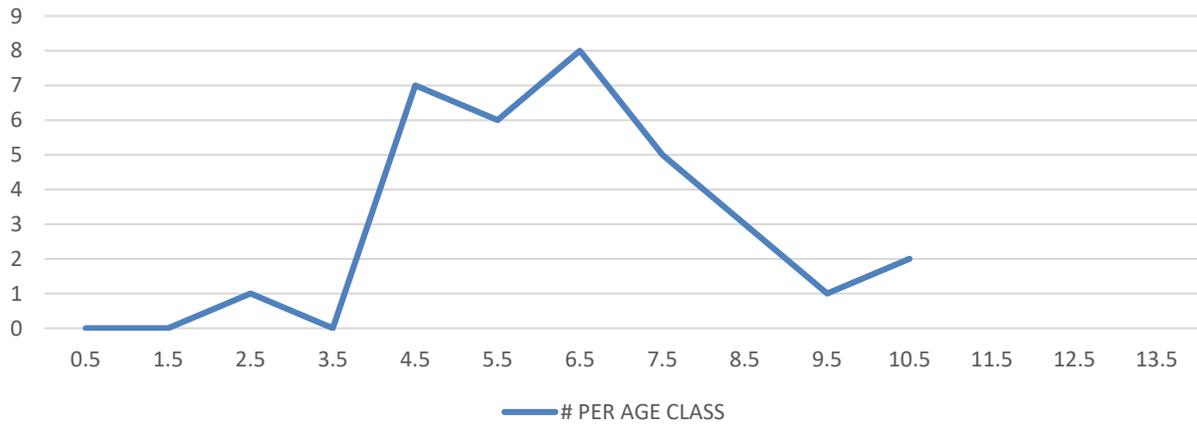
The final significant change for the 2019 season is to the Type 8 licenses. The season modification for that license type is to reduce the number of those licenses to 50 licenses with the same area limitations. This change was done to better align the number of hunters on the river to the amount of available access.

These changes brought the number of licenses available for the herd to 900 licenses for the herd unit. The 2019 season should harvest somewhere between 600 and 700 elk depend on how harvest success is influenced by the increased number of hunters in the field.

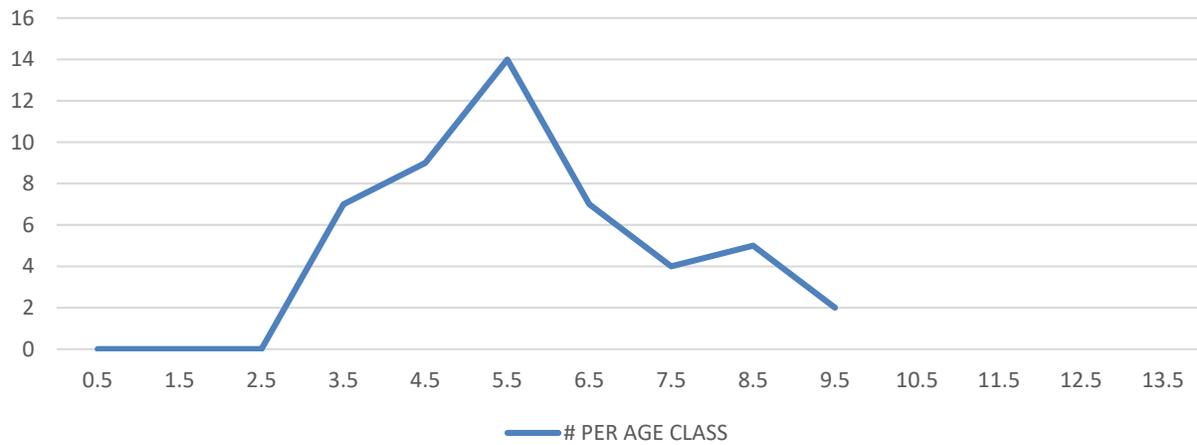
While it is difficult to project where the population will be after the 2019 season, as putting this level of harvest on a population of this size artificially alters bull and calf ratios to a point that the model cannot accommodate, the 2019 seasons will certainly substantially reduce the number of elk in the Steamboat herd.



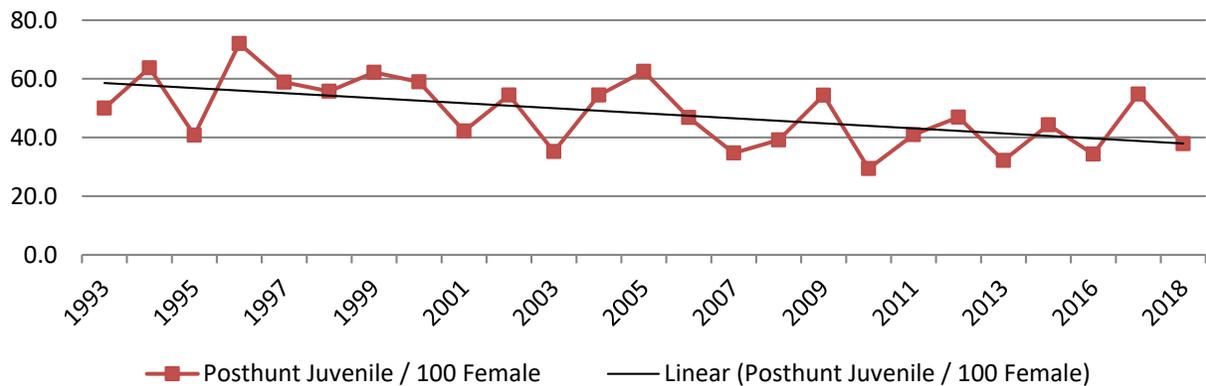
2018 STEAMBOAT ELK # HARVESTED PER AGE CLASS



2017 STEAMBOAT ELK # HARVESTED PER AGE CLASS



Posthunt Juvenile / 100 Female



2018 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2018 - 5/31/2019

HERD: EL428 - WEST GREEN RIVER

HUNT AREAS: 102-105

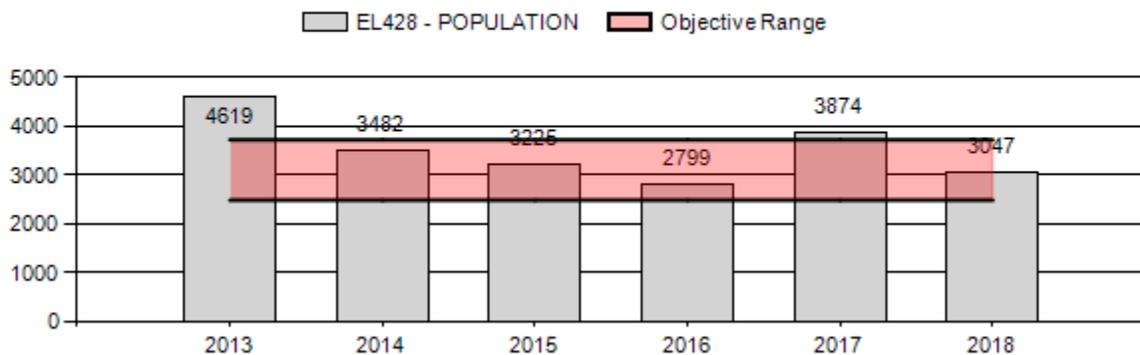
PREPARED BY: JEFF SHORT

	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Population:	3,600	3,047	2,945
Harvest:	1,125	1,199	1,200
Hunters:	3,743	3,375	3,400
Hunter Success:	30%	36%	35%
Active Licenses:	3,896	3,541	3,500
Active License Success:	29%	34%	34%
Recreation Days:	26,065	21,064	21,000
Days Per Animal:	23.2	17.6	17.5
Males per 100 Females	31	0	
Juveniles per 100 Females	30	0	

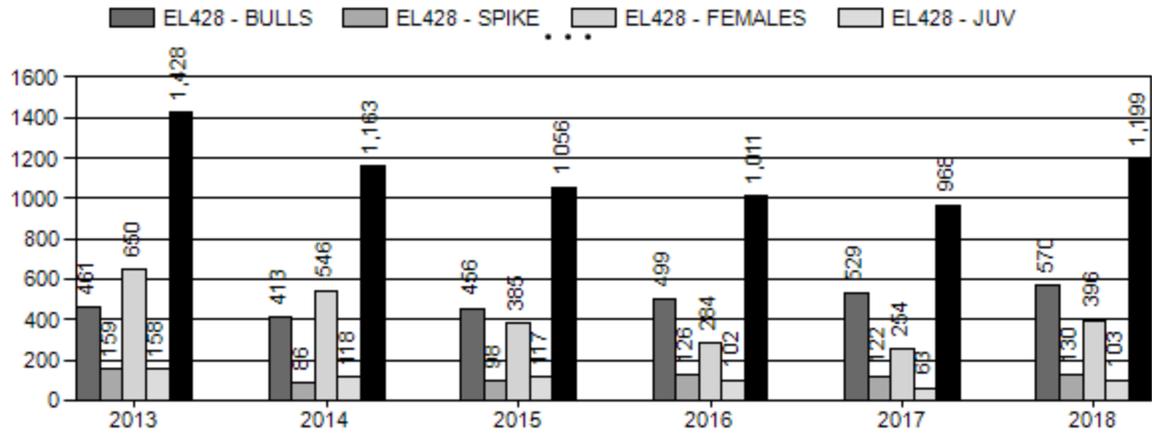
Population Objective ($\pm 20\%$) :	3100 (2480 - 3720)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-1.7%
Number of years population has been + or - objective in recent trend:	1
Model Date:	02/18/2019

Proposed harvest rates (percent of pre-season estimate for each sex/age group):		
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	12.42%	8.19%
Males ≥ 1 year old:	826.91%	-85.41%
Total:	28.17%	20.43%
Proposed change in post-season population:	-17.4%	-3.5%

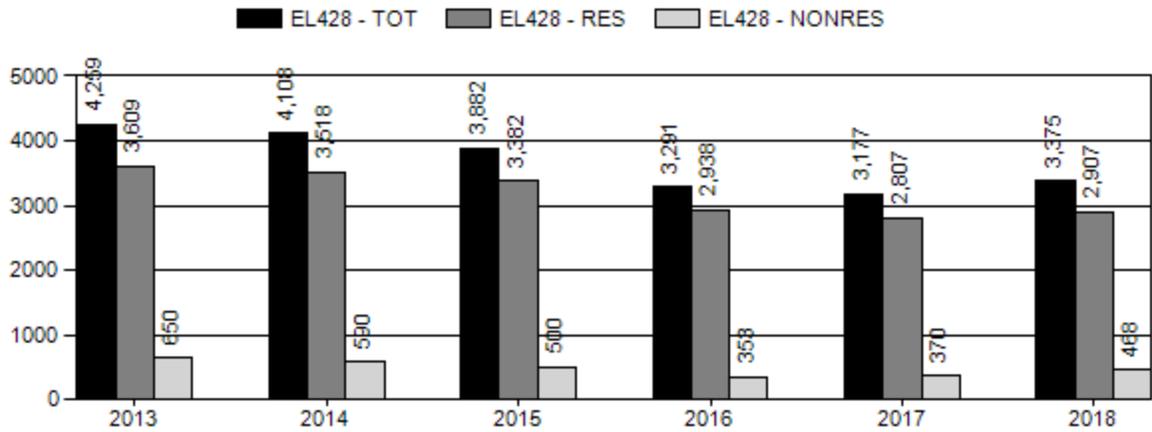
Population Size - Postseason



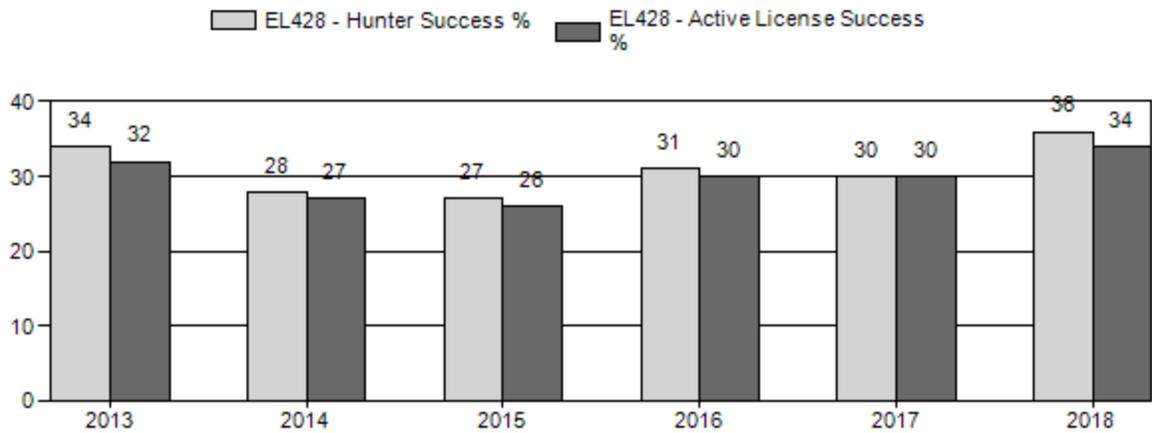
Harvest



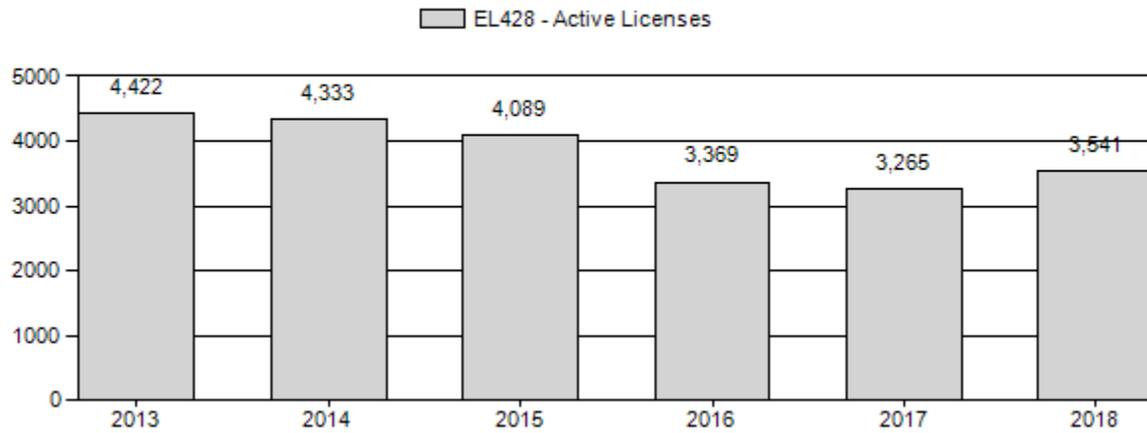
Number of Hunters



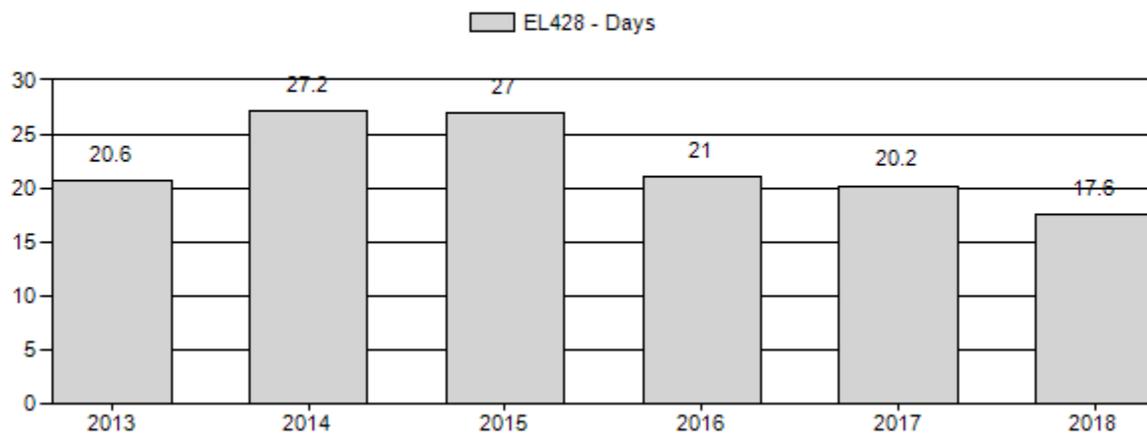
Harvest Success



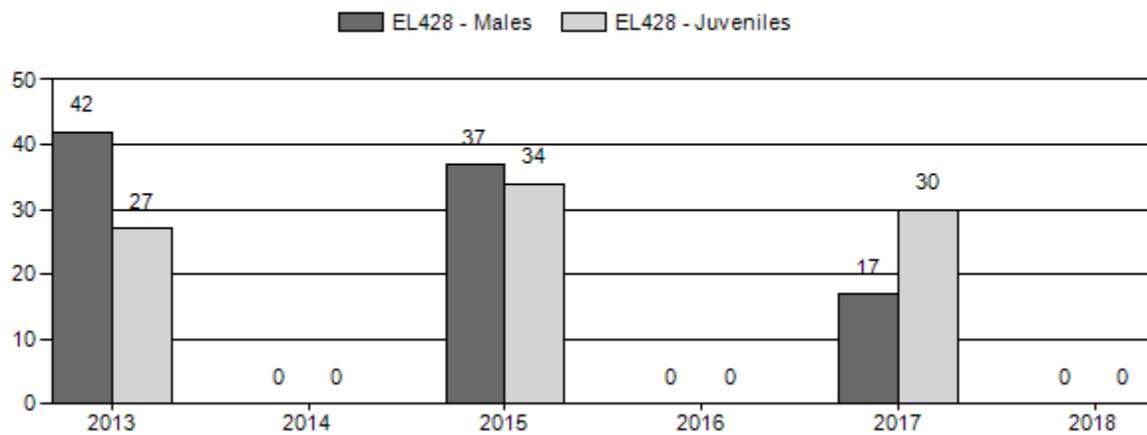
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 Postseason Classification Summary

for Elk Herd EL428 - WEST GREEN RIVER

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females			Young to			
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
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	2,799	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2017	3,874	180	218	398	11%	2,396	68%	723	21%	3,517	0	8	9	17	± 0	30	± 0	26
2018	3,047	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0

2019 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. 30	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	Oct. 31	100	Limited quota	Cow or calf
103	6	Aug. 15	Aug. 30			Cow or calf valid on or within one-quarter (1/4) mile of irrigated land
103	6	Dec. 15	Jan. 31			Cow or calf
104		Oct. 15	Oct. 24		General	Any elk
104		Oct. 25	Nov. 10		General	Antlerless elk
104	6	Oct. 15	Nov. 30	200	Limited quota	Cow or calf
104	7	Aug. 15	Aug. 30			Cow or calf valid on or within one-quarter (1/4) mile of irrigated land
104	7	Dec. 15	Dec. 31	75	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 2018
Herd Unit Total		

Management Evaluation

Current Postseason Population Management Objective: 3,100

Management Strategy: Recreation

2018 Postseason Population Estimate: ~ 3,047

2019 Proposed Postseason Population Estimate: ~ 2,945

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 usually rare. Elk comingling with livestock during winter is rare in limited areas but is considered a potential issue. Limited past problems have typically been dealt with successfully if the Department was notified. The area has been added to the Brucellosis surveillance area. Even though the area has very low brucellosis prevalence in elk this adds additional concern over elk and cattle comingling specifically on the west side of the herd unit. Summer damage is rare but has been an issue lately. Significant efforts by field personnel have been made to alleviate potential conflicts. Perceived reduction in livestock forage due to elk grazing is an issue that can be brought up but is not biologically substantiated.

In the last several hunting seasons hunters commonly complain that elk numbers are down significantly and they were too low for their standards. However, we were over the set objective until 2016. This herd went through an extensive public 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 aggressive harvest strategies and attempts to get down to objective, we were successful and the population is at the objective. Hunters are largely unhappy with the reduced 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 around 600-800 animals. Radio collar data indicates that a significant number of the marked animals moved onto the Monument in early September. The Monument is closed to hunting. As the number of elk on the Monument 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 2018 and into 2019 has been highly variable. Winter conditions in early 2018 were very mild with low snow loads. Spring brought adequate moisture however, summer dried out quickly. In late summer and fall of 2018 the weather was very warm and dry. Summer range conditions were very poor and animals were in lower body condition due to low habitat productivity. Elk distribution and migration in the fall of 2018 were unusual due to abnormal habitat conditions. From December 2018 to May 2019 the winter has been harsh with high snow loads and cold temperatures. Snow is persisting and the spring has been cold and wet.

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 Hunt areas 102, 103 and 104 every other year from 2012 to 2018. Idaho's sightability model correction was used for these four surveys. In the 2018 survey 3,740 elk were observed. Flight conditions were favorable and elk were primarily in very large groups. The sightability correction estimate was 3,774 elk. This is a very low correction. 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 all known 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 has traditionally been thought to contain approximately 100 elk. This information is added to the population estimates to create a total herd unit estimate.

Recent post-season bull:cow ratios have been excellent. However, during the 2018 survey snow conditions were highly unusual creating a situation where we were unable to find many bull groups. This is a common phenomenon in many elk herds but does not usually happen in the West Green River Herd. Due to this bad data point we decided to use average bull:cow ratios for modeling purposes. Calf ratios have fluctuated recently but are still reasonable. Harvest was decreased on this herd markedly in 2016 in an effort to keep the herd from going below objective. This has worked and the herd is right at 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 helicopter survey will not be conducted until post season 2019. This is a 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 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 reduced this population to objective in 2016. The public has voiced many concerns about the population reduction but it was required to get the herd to objective. For 2019 we are recommending no change to antlerless license allocation since the estimates indicate we are at the population objective and should stay there with the current harvest. The current elk population level is still unpopular with the hunting public who feel elk numbers are too low.

Population

The West Green River elk model is comprised of data from Hunt Areas 102, 103 and 104 only. Hunt Area 105 is left out due to a different hunting season structure, sub-objective and survey methodology. The post season 2018 population model estimate is 2,947 elk with the population trending downward. The TSJ,CA,MSC model was selected due to the low AICc score and its good fit with the data. The herd estimate published will be plus 100 to account for unknown

numbers of elk residing in Hunt Area 105. The model cannot reconcile the current population level with bull harvest estimated in this herd. We do not know if this is a data issue or a model issue but it has been the case for over 6 years and gives us concern over the validity of the model. We rely largely on the aerial survey population estimates for population management.

The addition of aerial population estimates every other year since 2012 has been very valuable to check the status of the herd and this data is more useful than the model. With this continuing into the future it is likely that we can provide good population estimates and track the trend of this population. Without this, the model would not function and it would 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 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.

Management Summary

For 2019 season setting, we will continue the current level of antlerless harvest. We will reevaluate harvest strategies after new flight data is available in 2020. The harvest system in place should keep the herd at objective. I hope that we can gain a handle on conflicting data within this herd since the model does not function properly. However, there are many herd units where spreadsheet models are not functioning well for modeling elk populations. Elk damage situations have increased on irrigated land in Hunt Area 103 and 104. To address this we will make Type 7 licenses valid in August. These licenses will only be good on or within ¼ mile of irrigated lands. Considerable numbers of elk have been wintering close to Highway 30 in Nugget Canyon. There is concern that those elk may get pushed across the highway during late season hunts. If they were to cross, they would end up in an unintended sanctuary from hunting in Hunt Area 105. To address this we are going to allow 104 type 7 licenses to also be valid in the northern portion of Hunt area 105 during the December season.

The Herd unit objective and management strategy were last reviewed in 2018. We went through an internal review of the objective and harvest strategy. The recommendation was to maintain the post-season population objective of 3,100 and to continue with recreational management.

2018 - JCR Evaluation Form

SPECIES: Elk

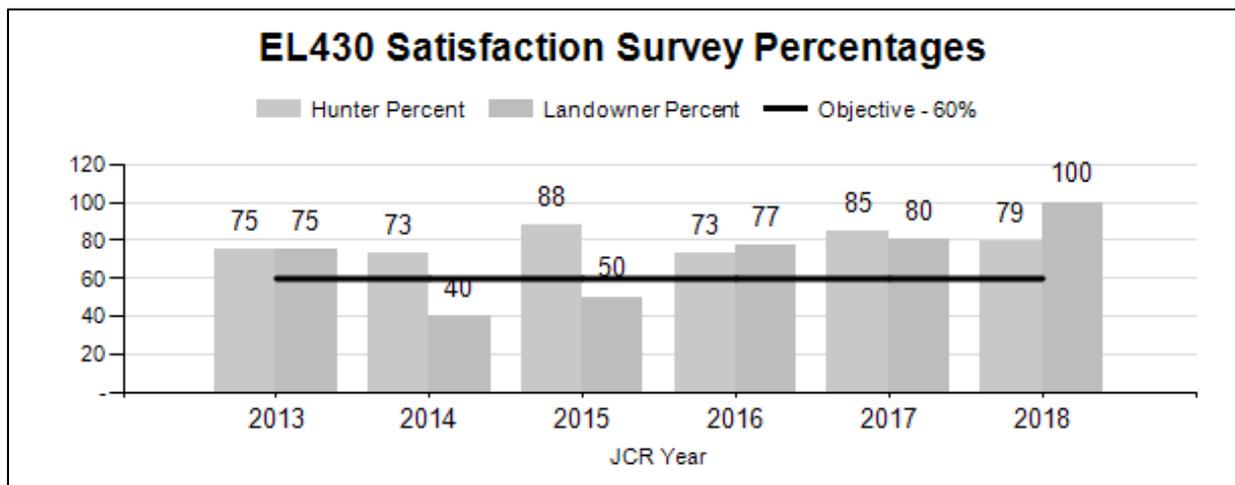
PERIOD: 6/1/2018 - 5/31/2019

HERD: EL430 - PETITION

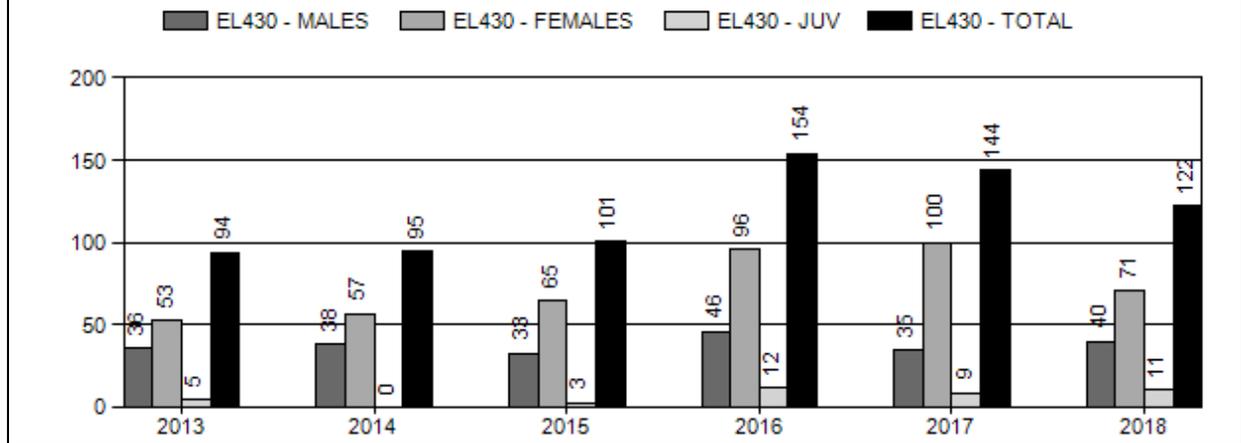
HUNT AREAS: 124

PREPARED BY: PHIL DAMM

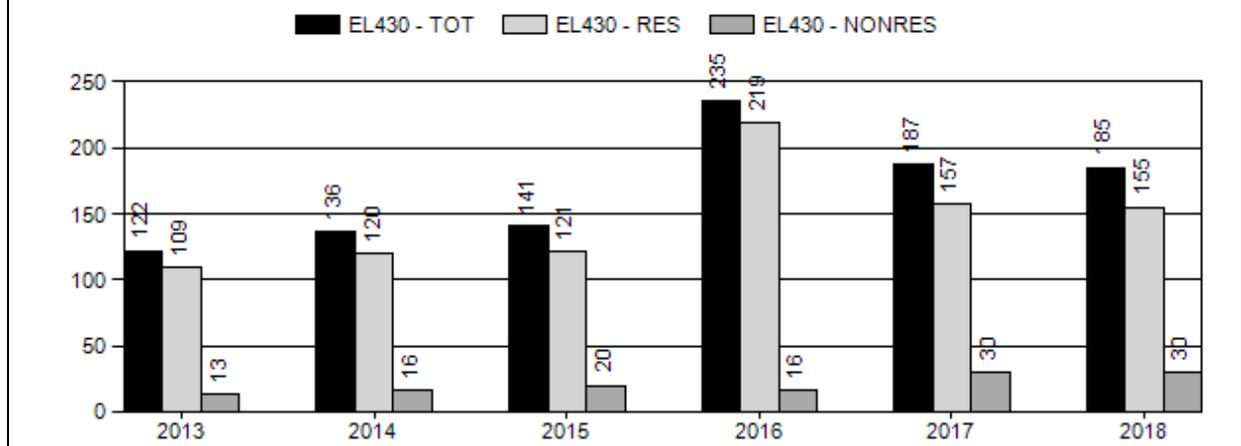
	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Hunter Satisfaction Percent	79%	79%	75%
Landowner Satisfaction Percent	62%	100%	75%
Harvest:	118	122	120
Hunters:	164	185	180
Hunter Success:	72%	66%	67%
Active Licenses:	164	185	180
Active License Success:	72%	66%	67%
Recreation Days:	1,188	1,099	1,100
Days Per Animal:	10.1	9.0	9.2
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:			N/A%
Number of years population has been + or - objective in recent trend:			3



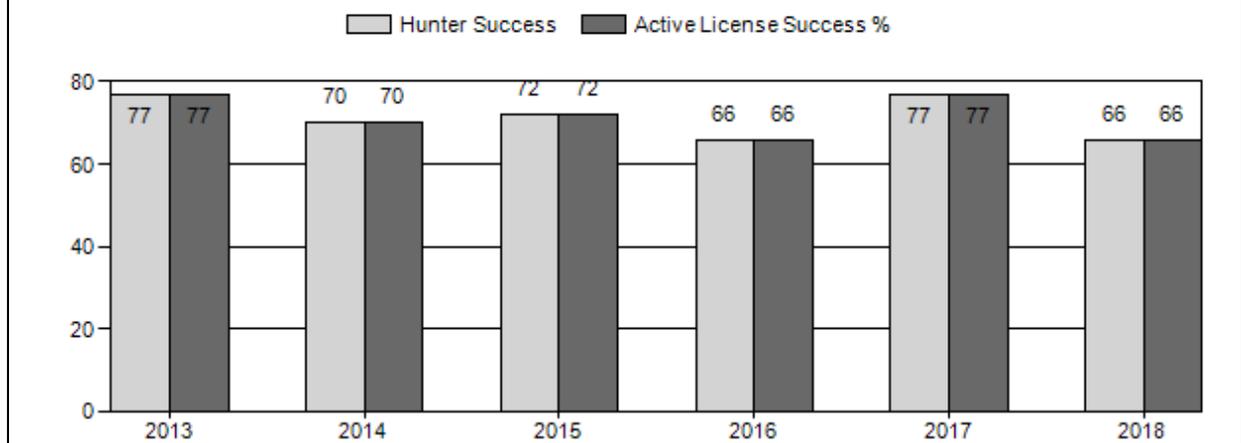
Harvest

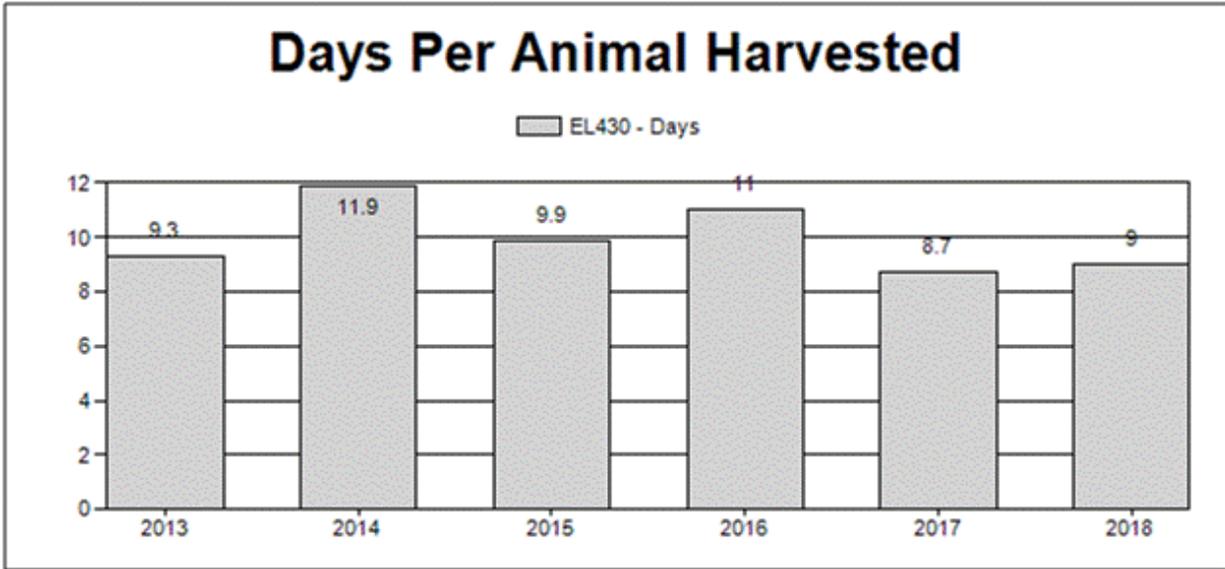


Number of Active Licenses



Harvest Success





2019 PROPOSED HUNTING SEASON

SPECIES : **Elk**
 HUNT AREAS: **124**

HERD UNIT : **Petition (430)**

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	150	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)

Hunt Area	Type	Quota change from 2018
124	1	0
	4	0
Herd Unit Total	1	0
	4	0

Management Evaluation

Current Hunter/Landowner Satisfaction Objective: 60% landowner/hunter satisfaction; sub-objective bull quality (average age of harvested elk 7.0) (2013)

Management Strategy: “Recreational” *treated as Special by the public and landowners*

2018 Hunter Satisfaction Estimate: 79%

2018 Landowner Satisfaction Estimate: 100%

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

Most Recent 3-year Running Average Landowner Satisfaction Estimate: 86%

Most Recent 3-year Running Average Tooth Age: 6.9

Currently the average bull elk tooth age, landowner satisfaction, and hunter satisfaction indicate we are meeting our management objectives. The current management objective was established in 2013. Due to our inability to collect a reasonable estimate of abundance in this huge area with few elk, the objective consists of an alternative objective of landowner and sportsmen satisfaction along with a sub-objective measure of bull quality measure using tooth age of harvested bulls. Given our concerns for habitat impacts in this xeric area, our proposal is to limit growth through continued higher cow harvest across the area, with a season extension in the northern portion of the herd unit where there are landowner concerns. Bull harvest is proposed to remain highly limited to maintain age and antler size, but with a marginal increase in licenses to provide more opportunity and account for what is likely a growing herd.

Herd Unit Issues

The Petition elk herd is a small highly mobile elk herd spread over a very large area. A great deal of interchange occurs with both the state of Colorado, the South Rock Springs herd, and hunt area 100, making meaningful data collection and population estimation difficult, if not impossible. There are three issues for the herd; possible competition with Bitter Creek pronghorn and mule deer in the South Rock Springs Deer herd (Area 101), competition with the non-native and invasive feral horse, and the increasing popularity of this herd for large antlered bulls.

Competition for space and forage could occur between mule deer and elk in the western half of this herd (overlap with Deer Area 101). The South Rock Springs mule deer herd is a high profile population and any perception of competition between the two species could result in a call for a reduction of elk numbers in those areas where competition could be taking place. We need to ensure managers keep this in mind as we move forward with the management of this herd.

Many of the areas used by the Petition elk are also occupied by feral horses. Feral horses have been shown to be aggressive at water holes and may also exhibit the same behavior when it comes to feeding areas. The areas encompassed by both animals are typically low in plant production. Feral horses may be causing a shift in distribution by elk and other native wildlife and definitely negatively impact both herbaceous plants and shrubs in this area.

The popularity of this herd has increased due to the reputation for trophy bulls. However overall antler size was down from previous years during the period 2016 – 2018, which can likely be attributed to drought and subsequent decrease in forage production. It certainly is not an indicator

of harvest pressure in this lightly hunted herd unit. As the word has gotten out regarding bull size in this herd, the number of nonresident outfitters (especially from Utah) conducting day hunts in this area has increased, and the use of commissioner's licenses is common.

Weather

Dry weather and decreased precipitation persisted through the summers of 2016, 2017 and 2018. This has moderated somewhat with increased winter precipitation in 2018-19. Typically, this desert environment receives less than 12 inches of annual precipitation, and may receive less than 2 inches during the growing season. Current moisture levels within the Petition Herd unit continue to be below average. If drought conditions persist it will likely have continued effects on antler growth next year.

Field Data

Classification and population data are rarely collected in this herd due to the scattered nature of these elk over a vast desert landscape. They are unpredictable and frequently enter or leave the area at whim. However, personnel felt it was appropriate to periodically attempt to get a minimum count on these elk from the air to assist us in management.

A trend flight using a fixed wing aircraft was flown during February of 2019 in an attempt to get a minimum count of elk using this herd unit at that time. As mentioned above, these efforts are hampered by herd unit size (area) and leaky borders. At the time of the flight, 8 hours were flown during the survey, and 381 elk were counted, 49 of which were adult bulls.

Tooth age data from teeth sent in to the WGFD tooth aging lab for 2018 (N = 18) yield an average age of 6.9 (the oldest being 11+). Combined with the 2 previous years we have a 3-year average of a little over 7.0. An issue with the tooth age sample is that the vast majority of hunters who are interested in the age of their animals typically have a proclivity for large antlers. This is likely skewing the data towards an older average age. Additionally, some hunters deliberately do not submit teeth because of their fear we will increase bull licenses. A greater effort must be made in the future to get a sample of all bulls harvested in the area.

Despite some concerns about perceived reduced antler size, sportsmen satisfaction in this herd is very high for this species, with nearly 80% of hunters "satisfied or very satisfied" with their overall hunting experience (including the large number of cow hunters).

Landowner satisfaction was collected through personal contacts either via phone or face to face meetings. Five key landowners were contacted by WGFD managers. All five felt elk numbers were "at or about at desired levels", none felt numbers were "above desired levels" and none felt elk numbers were "below desired levels".

Harvest Data and Population Indications

Hunter success decreased from 77% to 66% in 2018. This is totally driven by cow hunters, as bull elk hunters achieved a success rate in excess of 80%. Much like the desert area to the north (Area 100), this is not uncommon since cow-calf groups tend to be larger and less widespread on the landscape, and can be difficult to locate at times. Cow harvest has always been erratic in this herd unit, despite nearly unlimited access. As is typical with antlerless hunts, hunters typically expend far less effort in the pursuit of a cow or calf than they do a bull.

Management Summary

It is important that we balance the management of an important 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. The area is extremely unproductive and fragile, yet supports a host of wild, feral, and domestic ungulates and can have use levels in excess of its capability. Currently we see only few issues between landowners/lessees and the Petition elk herd and strong support from sportsmen hunting elk within the herd. Because of the low number of elk in this unit we feel having flexibility in the harvest numbers between years is key. The overlap of elk and the important south Rock Springs deer herd unit has not been shown to be adverse to those deer, although research in the adjacent elk herd (overlap with Area 102) suggests both separation is occurring and dietary overlap is higher than expected (for browse). This may be a point of contention in the future leading to specific increased elk harvest in that portion of the herd unit. An increase in average age of bull harvested and a higher landowner satisfaction rate has led to our current management strategy for a minor increase in bull licenses in the area to allow for increased chances to draw the highly coveted opportunity, without dramatically increasing hunter density or competition for these animals.