

2017 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2017 - 5/31/2018

HERD: EL635 - WIGGINS FORK

HUNT AREAS: 67-69, 127

PREPARED BY: GREG ANDERSON

	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Trend Count:	5,726	5,542	5,500
Harvest:	1,100	912	900
Hunters:	2,705	2,428	2,400
Hunter Success:	41%	38%	38%
Active Licenses:	2,814	2,545	2,500
Active License Success	39%	36%	36%
Recreation Days:	18,889	15,237	15,000
Days Per Animal:	17.2	16.7	16.7
Males per 100 Females:	16	0	
Juveniles per 100 Females	26	0	

Trend Based Objective (± 20%) 5,500 (4400 - 6600)

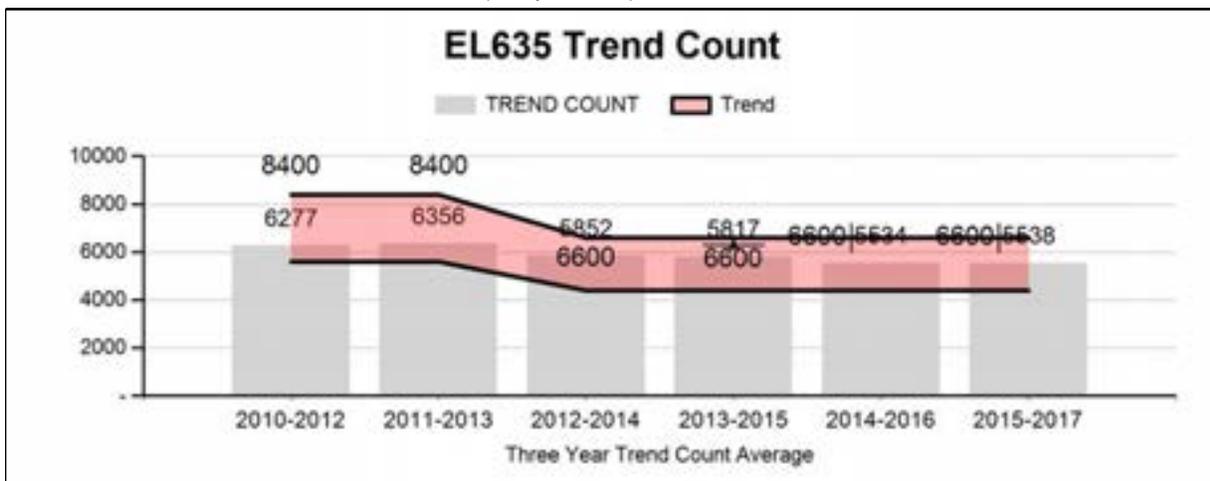
Management Strategy: Recreational

Percent population is above (+) or (-) objective: 1%

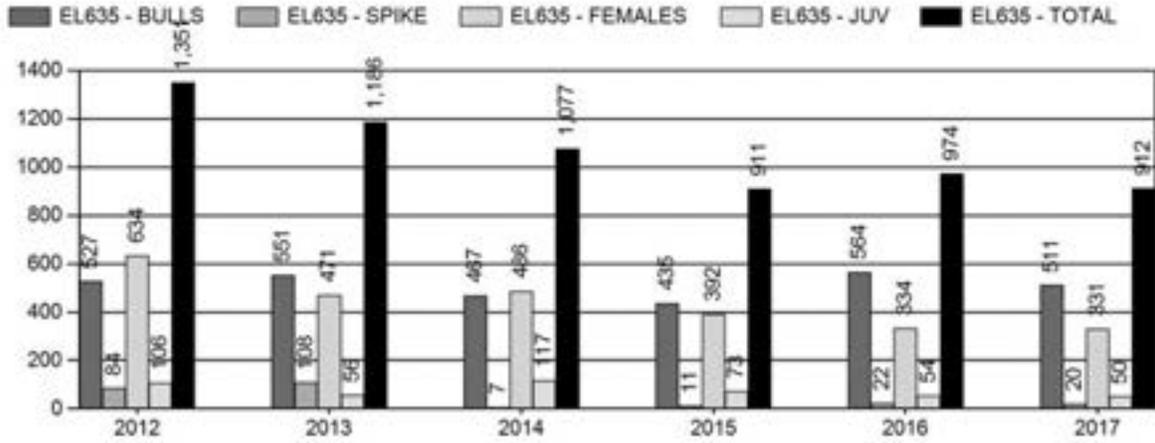
Number of years population has been + or - objective in recent trend: 0

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

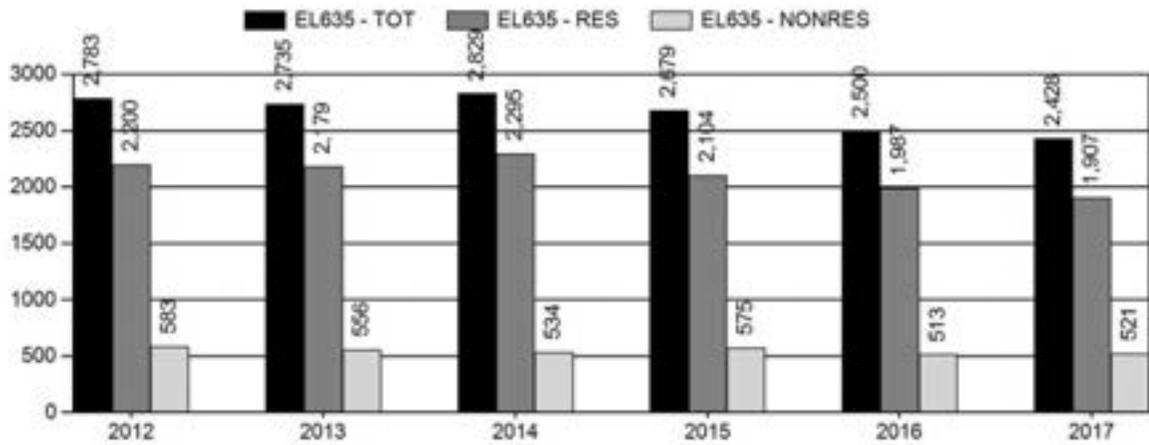
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



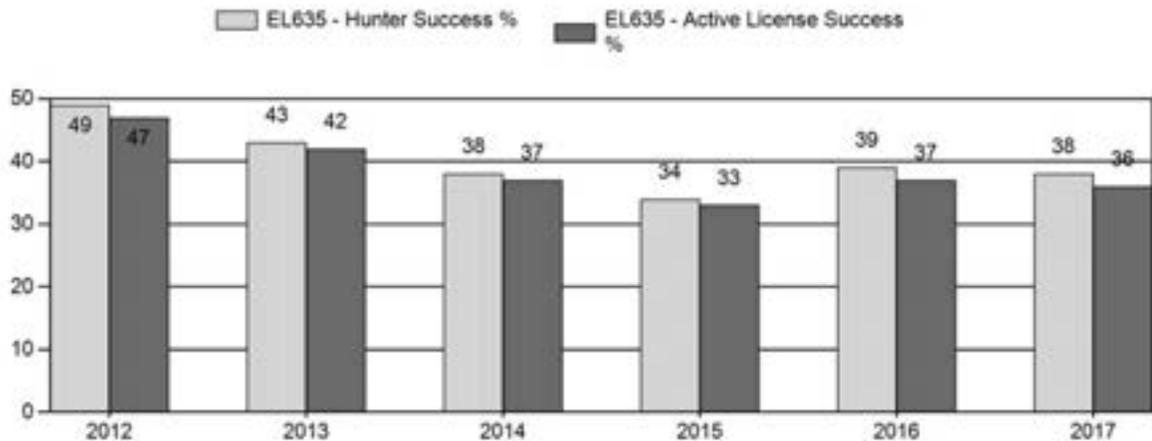
Harvest



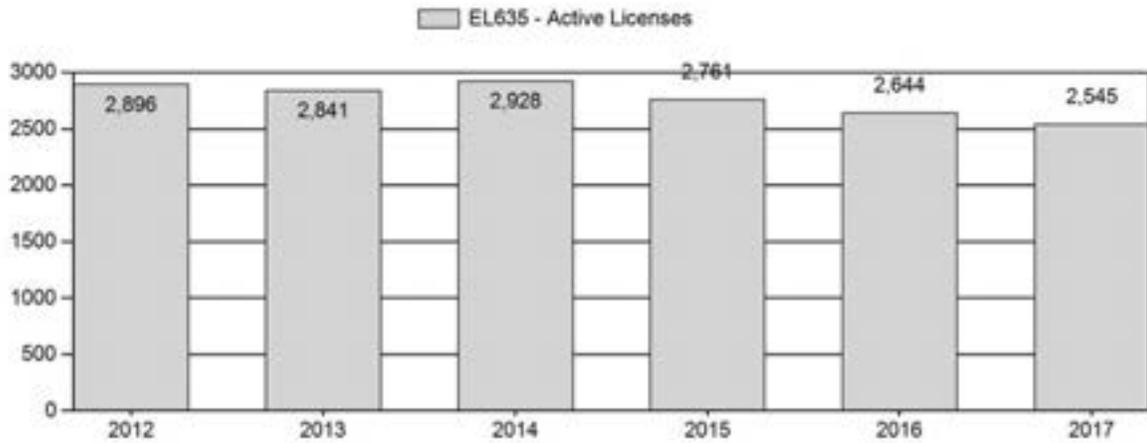
Number of Hunters



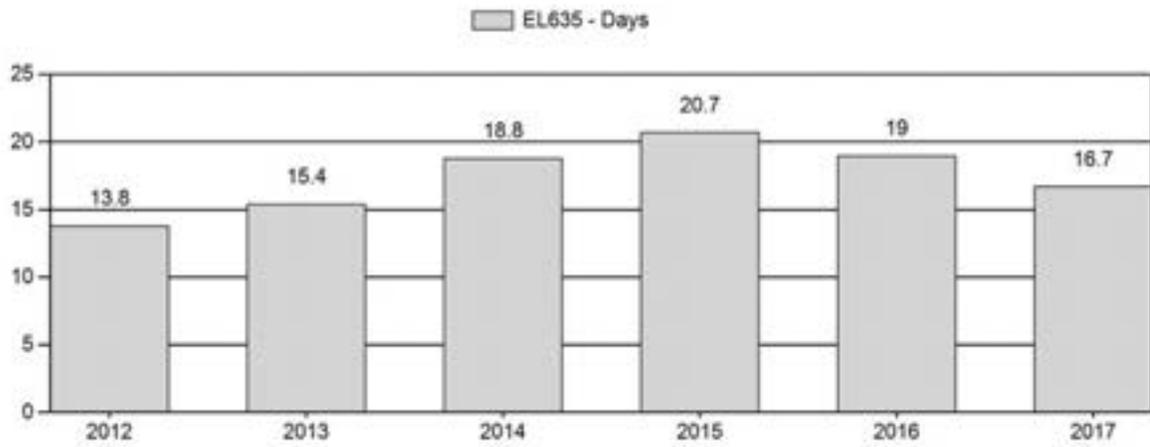
Harvest Success



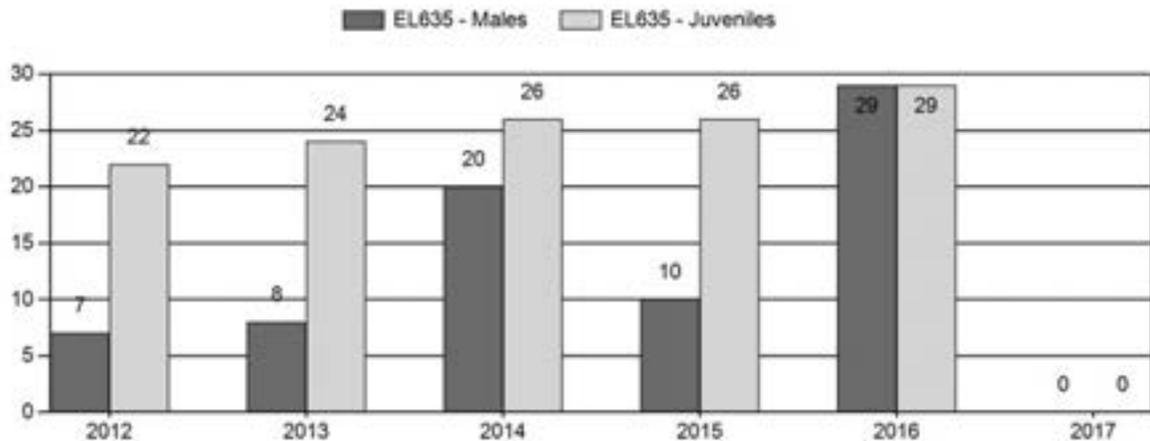
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2012 - 2017 Postseason Classification Summary

for Elk Herd EL635 - WIGGINS FORK

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2012	0	138	22	160	6%	2,143	77%	463	17%	2,766	0	6	1	7	± 0	22	± 0	20
2013	0	135	23	158	6%	1,881	76%	451	18%	2,490	0	7	1	8	± 0	24	± 0	22
2014	0	304	256	560	14%	2,817	69%	720	18%	4,097	0	11	9	20	± 0	26	± 0	21
2015	0	120	166	286	8%	2,741	73%	705	19%	3,732	0	4	6	10	± 0	26	± 0	23
2016	0	311	480	791	18%	2,731	63%	804	19%	4,326	0	11	18	29	± 0	29	± 0	23
2017	0	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0

**2018 HUNTING SEASONS
WIGGINS FORK ELK (EL 635)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
67		Oct. 1	Oct. 10		General	Antlered elk
67		Oct. 11	Oct. 31		General	Antlered elk, spikes excluded
67	4	Nov. 1	Dec. 15	100	Limited quota	Antlerless elk
67	6	Nov. 15	Dec. 15	400	Limited quota	Cow or calf valid west of the Wiggins Fork and west of the East Fork downstream from the confluence with the Wiggins Fork
67, 68, 69	9	Sep. 1	Sep. 30	125	Limited quota	Any elk, archery only
68		Oct. 1	Oct. 10		General	Antlered elk
68		Oct. 11	Oct. 31		General	Antlered elk, spikes excluded
68	6	Nov. 1	Nov. 30	100	Limited quota	Cow or calf
69		Oct. 1	Oct. 31		General	Any elk
69	6	Oct. 1	Nov. 30	50	Limited quota	Cow or calf
127		Oct. 1	Oct. 31		General	Any elk
127		Nov. 1	Dec. 31		General	Antlerless elk
Archery 67, 68, 69	All	Sep. 15	Sep. 30			Valid in the entire area(s)
127	All	Sep. 1	Sep. 30			Valid in the entire area(s)

Hunt Area	Type	Quota change from 2017
67	4	-50
68	6	-50
Total		-100

Management Evaluation

Current mid-winter trend count management objective: 5,500

Management strategy: Recreational

2017 trend count: 5,542

Most recent 3-Year running average trend count: 5,538

Management Issues

The Wiggins Fork elk herd is managed based on a winter trend count. The trend count management objective has been in place since 2002. The original objective was reviewed in 2014 and modified. The new objective set in 2014 is to maintain a mid-winter count of 5,500 elk in the herd unit with a recreational management strategy. Annual trend counts are conducted each January to assess the population.

The Wiggins Fork elk herd occupies the upper Wind River drainage west of the Wind River Reservation (WRR). There is good documentation elk wintering in the herd unit migrate into a number of other northwest Wyoming elk herd units in the summer and early fall. An elk migration study that concluded in 1995 found approximately 60% of collared elk in the herd unit migrated into neighboring herd units in the summer. More recently, 15 elk were outfitted with GPS collars in 2015. Similar to the previous elk study, data from the GPS collared elk reveals they migrate into the neighboring Jackson and Cody herd units in the summer time. Given the amount of interchange with these herd units, the number of elk present can vary significantly throughout the hunting season. Seasons structured to reduce the elk population generally need to include antlerless elk harvest later in the fall to allow elk to migrate into the herd unit from neighboring areas.

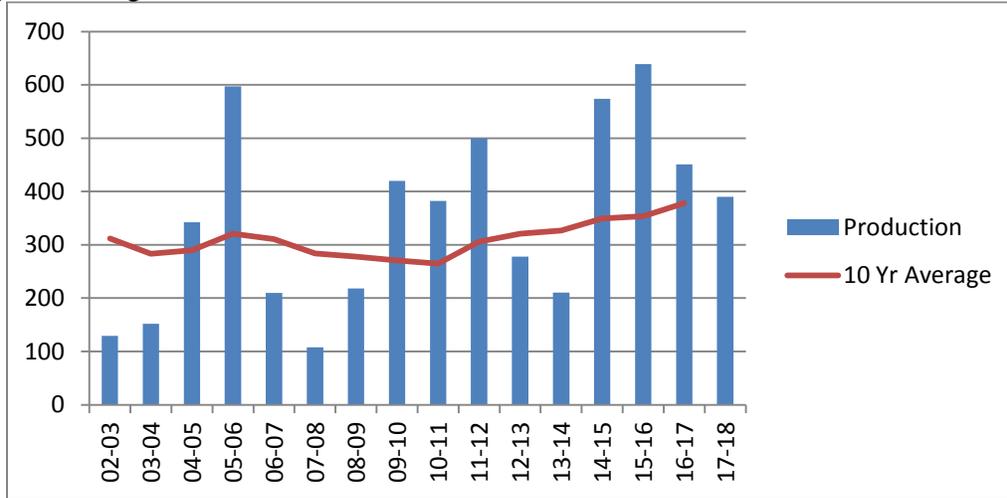
From 2014 through 2016 limitations in hunt areas 67 and 68 included a ‘spikes excluded’ restriction. This was originally put in place at the request of area outfitters and supported by the public. At the time, there was no management or biological necessity to have the limitation since the population, recruitment, and bull harvest were all relatively stable and indicative of a healthy elk herd. Despite the lack of necessity, the Department agreed to implement the restriction for 3 years in areas 67 and 68. In the 5 years prior to the ‘spikes excluded’ restriction, spikes constituted on average 18% of the male harvest in these areas. In 2015 and 2016 with the ‘spikes excluded’ restriction, spikes constituted 2% of the male harvest in areas 67 and 68 (by youth

hunters). Classification data reveals the spike/cow ratio averaged 7/100 in the 5 years prior to having 'spikes excluded'. From 2014 through 2016 the spike/cow ratio averaged 9/100. This is a minimal increase and within the range of variability for the ratio data. In the fall of 2016, a total of 102 hunting parties were asked about their preference regarding the 'spikes excluded' restriction. Of the contacts, 36% preferred to keep the 'spikes excluded' restriction, 31% preferred to remove the restriction, and 32% indicated no preference. Despite information indicating no need to restrict yearling bull harvest there was significant opposition to removing the restriction for the 2017 season. In particular, Dubois area outfitters expressed a strong desire to maintain the spikes excluded limitation. As a compromise to provide recreational opportunity per the management emphasis in the herd and satisfy a group of publics requesting continuation of the 'spikes excluded' restriction, the 2017 season in hunt areas 67 and 68 included 10 days of unrestricted antlered elk harvest followed by a 'spikes excluded' restriction for the remainder of the season. Field personnel were questioned by hunters several times during the 2017 as to why the restriction existed. On hearing the explanation outlined above, most seemed satisfied and there was no evident opposition to the restriction. Despite 10 days of 'antlered' elk harvest, only 3% of the male harvest in hunt areas 67 and 68 was spikes in 2017. This was virtually the same as the 2015 and 2016 seasons when the 'spikes excluded' restriction was in place the entire season.

Habitat/Weather

Herbaceous vegetation production was quite high throughout the herd unit from 2014 through 2016. Following 2 years of extreme drought, vegetation production increased significantly in 2014 and remained quite good in 2015 and 2016. In 2017 production fell to 390 lbs/acre across monitoring sites on elk winter range. This was much lower than the previous 3 years but very close to the 10-year average of 378 lbs/acre (Fig. 1). Although no vegetation monitoring is conducted at high elevation summer range, it appeared vegetation growth was good on summer and transitional ranges as well. Unusually early snowfall at higher elevations in mid-September forced elk to move to lower elevations earlier than normal. Conditions throughout the winter range complex were average throughout fall and winter. Given abundant feed throughout the summer it is likely elk entered winter in good shape. With average conditions throughout winter, it is likely overwinter elk survival will be average.

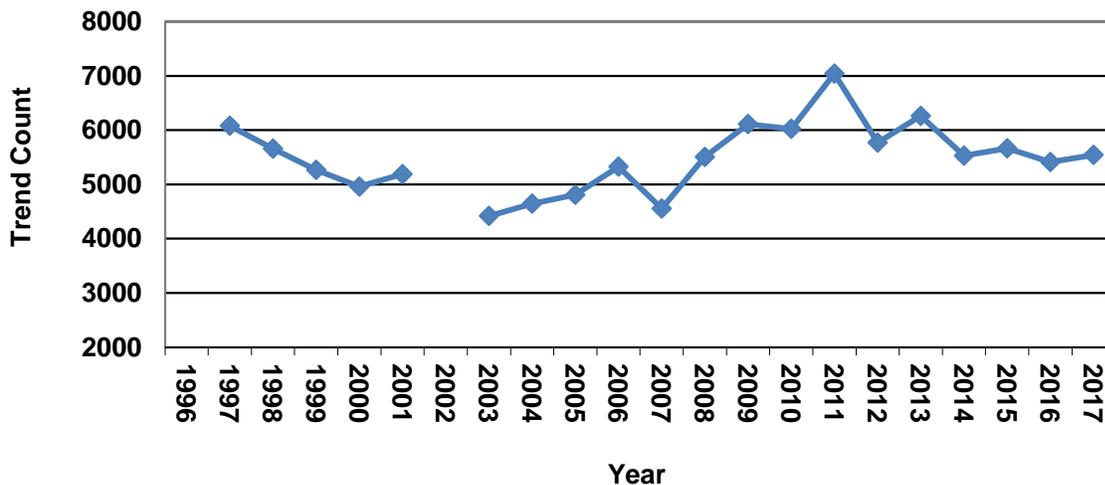
Figure 1. Annual, herbaceous production on winter range in the Wiggins Fork Elk Herd and 10 year average.



Field/Harvest Data/Population

Trend counts to estimate the wintering population are conducted each January. Trend count numbers declined from 1997 through 2003. From 2004 through 2007, the population appeared to stabilize. Winter count numbers fluctuated year-to-year but did not indicate any consistent population trends. In 2008, personnel counted a significantly higher number of elk (5,504). This was the highest count since 1998. In 2009 and 2010, personnel again counted a significantly greater number of elk; 6,110 and 6,023 respectively (Fig. 2). In 2011 the trend count increased significantly again to 7,039. Following a liberal season in 2012, the trend count declined to 5,768. The count increased again in 2013 by 500 elk to 6,260 followed by a decline to 5,528 in 2014 (Fig. 2). The 2017 count of 5,542 was quite close to counts from 2014 through 2016 and indicates the herd has been very stable over the past 4 years.

Figure 2. Wiggins Fork Elk trend count



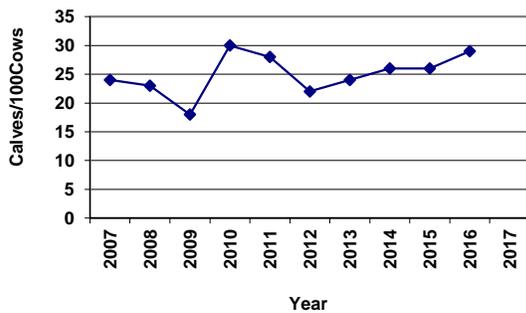
The trend count objective includes sub-objectives for 3 areas in the herd unit. The sub-objectives were set to recognize reasonably well-defined, spatially segregated elk groups wintering in the area. The sub-groups include the East Fork, Dunoir/Spring Mountain, and South Dubois groups. While there is a significant amount of interchange, elk from the three groups tend to segregate themselves on winter range and utilize different spring/fall migration routes. Recent GPS collar distribution data has reinforced the distinction of the 3 sub-groups. Since elk in the three sub-groups are subjected to different demographic influences, sub-objectives were set for each of the three groups (Table 1). One of the sub-groups (East Fork) has been below objective for the past decade. The 2015 count for this group was the highest in over 15 years but the count declined in 2016 and again in 2017 to 1474 elk. This herd sub-unit has consistently been below the desired objective for the past 10 years. In contrast, the Dunoir/Spring Mtn sub-group has consistently been above objective for the past decade. Liberal cow harvest in November and December has been structured to target this sub-group. The South Dubois segment has historically been above objective. However, personnel counted significantly fewer elk in this sub-group each of the past 3 years. The sub-herd is currently at objective.

Table 1. Trend count numbers from sub-groups in the Wiggins Fork Elk Herd Unit.

Year	East Fork	Dunoir/Spring Mountain	South Dubois	Wiggins Fork Herd Unit	
	Objective: 2,200 Count	Objective: 2,200 Count	Objective: 1,100 Count	Objective: 5,500 Count	3 Year Average
1998	2154	2457	1046	5657	
1999	2180	2109	977	5266	
2000	1883	2014	1061	4958	5294
2001	2100	1818	1269	5187	5137
2002	nc	nc	nc	nc	5073
2003	1857	1666	895	4418	4803
2004	1832	1601	1211	4644	4531
2005	1669	1807	1331	4807	4623
2006	1623	2297	1406	5326	4926
2007	1478	1634	1441	4553	4895
2008	1294	2620	1590	5504	5128
2009	1457	3186	1467	6110	5389
2010	1930	2704	1389	6023	5879
2011	1765	3680	1594	7039	6391
2012	1834	2580	1354	5768	6277
2013	1713	3022	1525	6260	6356
2014	1620	2551	1357	5528	5852
2015	2118	2497	1048	5663	5817
2016	1591	2715	1104	5410	5534
2017	1474	2928	1140	5542	5538

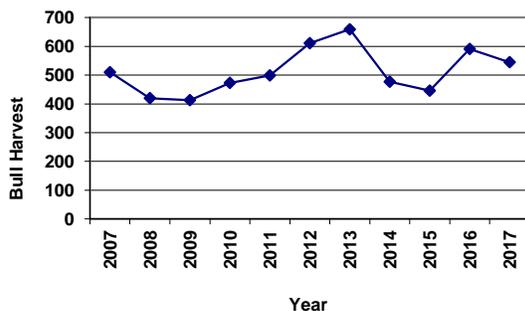
Over the past five years, the calf/cow ratio has increased steadily (Fig. 3). Ratios from the past 4 years have ranged from 24/100 to 29/100. This recruitment level is not particularly high for an elk population and explains the population stability seen in the trend counts over the same time period. Over the past 4 years personnel have used trend count video to classify elk in an attempt to standardize classification methodology and get a more representative sample of bulls. In 2017 flight conditions for the trend count were marginal with heavy winds. While the video was good for trend count purposes, acceptable video classification was not possible. As such, no classification data is available for 2017.

Figure 3. Ten year recruitment history in the Wiggins Fork Elk Herd.



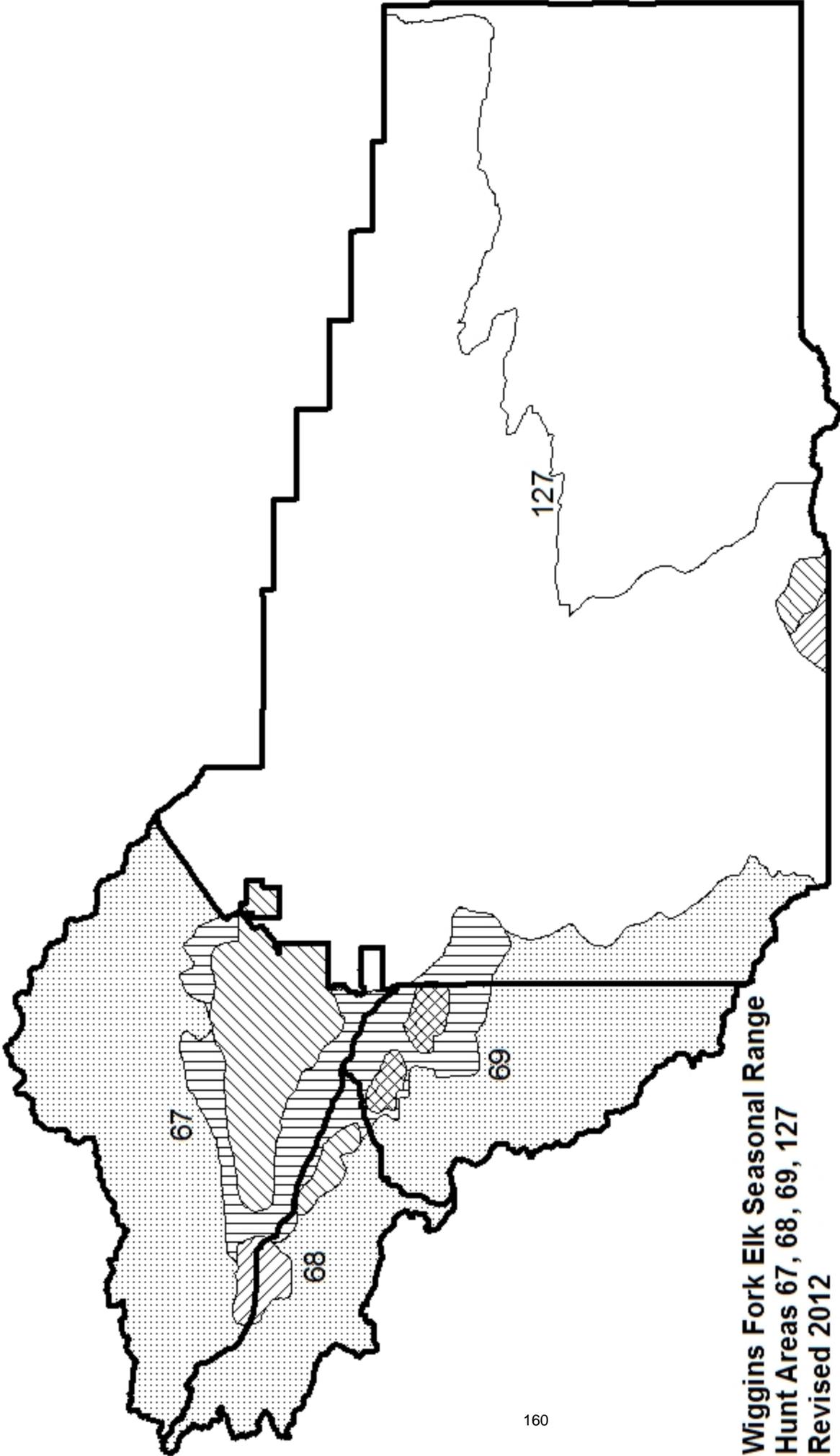
Although bull/cow ratio data for the herd unit tend to be unreliable and is unavailable for 2017, bull harvest has been fairly high each of the past 2 years (Fig. 4). Antlered elk harvest in both 2012 and 2013 was unusually high for the herd unit. The high bull harvest in 2013 is not indicative of any demographic changes in the population. Instead, the high harvest can be directly linked to environmental conditions. Heavy snows in late September forced elk (including bulls) onto winter range where they were extremely vulnerable to harvest throughout the general, October season. Likewise, the decreased bull harvest in 2014 and 2015 is certainly tied to more typical hunting conditions throughout the fall. Although bull harvest declined from 2016 to 2017, the 2017 harvest of 545 was nearly identical to the previous 5-year average of 556 bulls.

Figure 4. Antlered elk harvest in the Wiggins Fork Elk Herd.



Management Summary

The 2017 trend count indicates the Wiggins Fork elk population is at objective. The population appears to have been fairly stable over the past 4 years with slight declines in the East Fork and South Dubois herd segments. Given the small declines in these herd segments and to maintain the population at objective, cow licenses targeting each segment will be reduced. Bull harvest has generally been good over the past 5 years. To provide recreational opportunity and satisfy a large group of publics requesting continuation of the 'spikes excluded' restriction, the 2018 season in hunt areas 67 and 68 will continue to include 10 days of unrestricted antlered elk harvest followed by a 'spikes excluded' restriction for the remainder of the season. With small reductions in cow harvest, the population should remain stable and at objective in 2018.



**Wiggins Fork Elk Seasonal Range
Hunt Areas 67, 68, 69, 127
Revised 2012**

- CRUWIN
- CRUWYL
- OUT
- SSF
- WIN
- WYL

2017 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2017 - 5/31/2018

HERD: EL637 - SOUTH WIND RIVER

HUNT AREAS: 25, 27-28, 99

PREPARED BY: STAN HARTER

	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Trend Count:	2,742	2,736	2,600
Harvest:	661	572	500
Hunters:	2,079	1,965	1,800
Hunter Success:	32%	29%	28%
Active Licenses:	2,121	2,032	1,850
Active License Success	31%	28%	27%
Recreation Days:	15,621	14,457	13,500
Days Per Animal:	23.6	25.3	27
Males per 100 Females:	27	30	
Juveniles per 100 Females	31	34	

Trend Based Objective (± 20%) 2,600 (2080 - 3120)

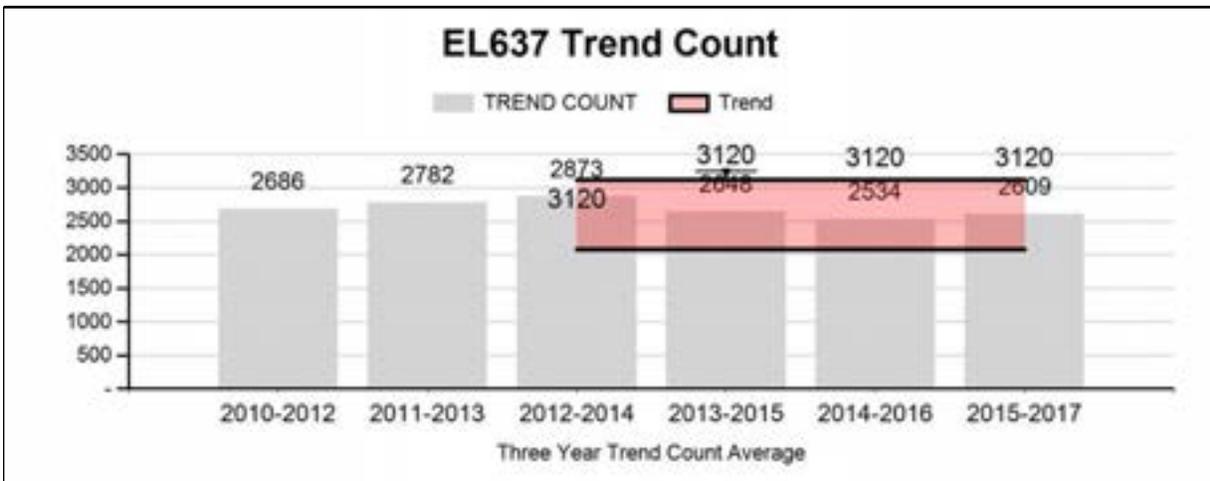
Management Strategy: Recreational

Percent population is above (+) or (-) objective: 5%

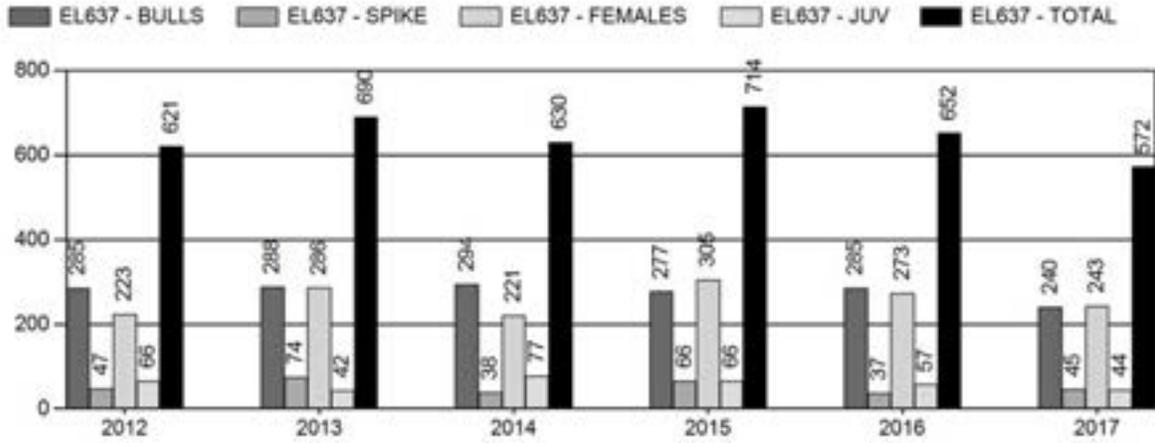
Number of years population has been + or - objective in recent trend: 0

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

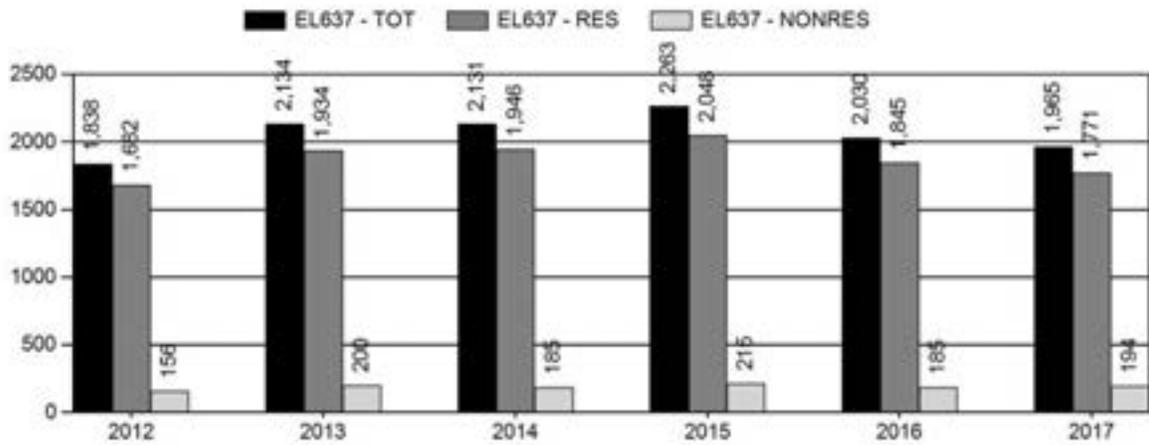
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



Harvest



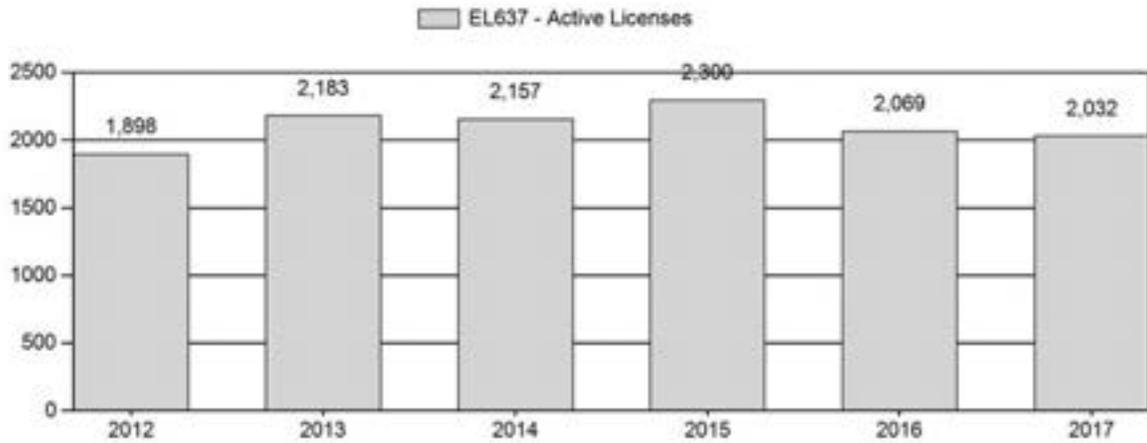
Number of Hunters



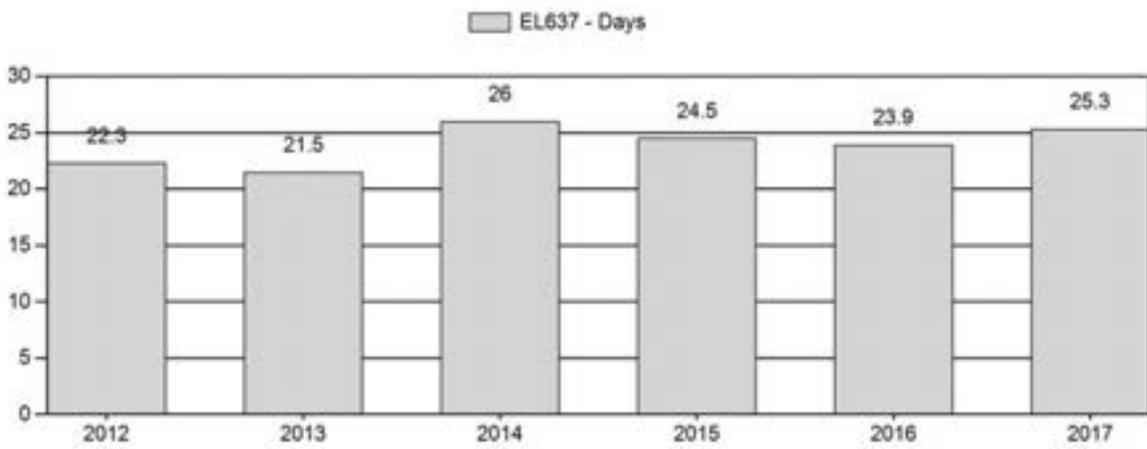
Harvest Success



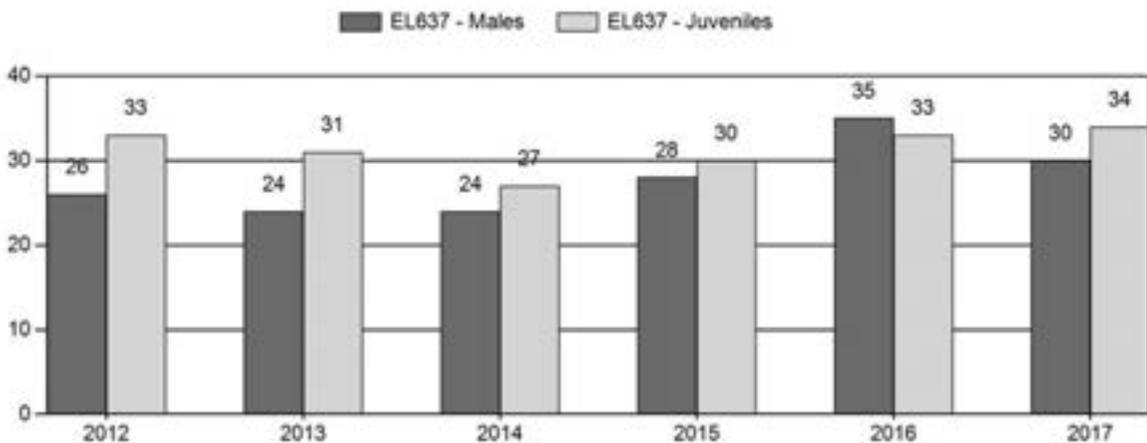
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2012 - 2017 Postseason Classification Summary

for Elk Herd EL637 - SOUTH WIND RIVER

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2012	0	183	356	539	16%	2,066	63%	691	21%	3,296	0	9	17	26	± 1	33	± 1	27
2013	0	165	228	393	16%	1,623	65%	499	20%	2,515	0	10	14	24	± 0	31	± 0	25
2014	0	149	226	375	16%	1,550	66%	420	18%	2,345	0	10	15	24	± 0	27	± 0	22
2015	0	181	288	469	18%	1,650	63%	502	19%	2,621	0	11	17	28	± 0	30	± 0	24
2016	0	158	352	510	21%	1,472	60%	487	20%	2,469	0	11	24	35	± 0	33	± 0	25
2017	0	94	248	342	18%	1,143	61%	385	21%	1,870	0	8	22	30	± 0	34	± 0	26

2018 HUNTING SEASONS
South Wind River Elk Herd Unit (EL 637)

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
25, 27	1	Oct. 1	Oct. 31	200	Limited Quota	Any elk
25, 27	1	Nov. 1	Nov. 20			Antlerless elk
25	4	Oct. 15	Nov. 20	100	Limited Quota	Antlerless elk
25	6	Nov. 1	Nov. 20	75	Limited Quota	Cow or calf
27	4	Oct. 1	Nov. 20	50	Limited Quota	Antlerless elk
28		Oct. 1	Oct. 5		General	Any elk
28		Oct. 6	Oct. 22		General	Antlered elk
28	4	Nov. 1	Nov. 20	100	Limited Quota	Antlerless elk
28	6	Dec. 1	Jan. 31	25	Limited Quota	Cow or calf, valid between the Middle Fork and the North Fork of the Popo Agie River east of Range 101 West; also valid in that portion of Area 127 south of the Boulder Flats Road and west of U.S. Highway 287.
99	1	Oct. 1	Oct. 31	150	Limited Quota	Any elk
99	1	Nov. 1	Nov. 20			Antlerless elk
99	4	Oct. 1	Nov. 20	175	Limited Quota	Antlerless elk
Archery		Sept. 1	Sept. 30			Refer to license type and limitations in Section 2

Hunt Area	License Type	Quota Change from 2017
25	4	-50
25	6	-25
27	4	-25
28	4	-100
28	6	+25
Herd Unit Total	4	-175
	6	0

MANAGEMENT EVALUATION

Current Mid-Winter Trend Count Management Objective: 2,600

Management Strategy: Recreation (15 – 29 bulls/100 cows)

2017 Mid-winter Trend Count: 2,736

Most Recent 3-year Running Average Trend Count: 2,609

Herd Unit Issues/Population

The management objective for the South Wind River Elk Herd Unit was changed in 2014 to a mid-winter trend count of 2,600 elk, based on a running 3-year average. Trend count data vary due to annual changes in snow depth, light and wind conditions during flights, and condition of habitats each winter. A key factor in our ability to detect elk in winter is the variability and extent of winter habitats, which range from mixed aspen/conifer/sagebrush habitats to open sagebrush/grassland habitats. The 2017 trend count/classification survey was conducted in February and March 2018, with a total of 2,736 elk observed. Aerial survey conditions were favorable, with decent snow cover in many areas and few issues with wind; as such we believe this to be a good trend count.

Increased wolf activity, additional foothills snowpack in 2016-17, reported landowner hazing of elk near livestock and stored hay, and hunter pressure during late-season cow hunts have led to several groups of elk, totaling over 400, moving into rural housing developments and agricultural lands near Lander in Area 28 in recent years. We have good trend count data overall, but were unable to complete classifications of some of those groups, resulting in a lower classification sample for South Wind River elk. Concerns over damage to fences and stored or growing hay, along with potential for brucellosis transmission have prompted recent efforts to haze elk away from the at-risk private lands and to develop alternative hunting season strategies to reduce the safe-haven “refugia” these elk have become habituated to. Another group of 200 elk have been observed just north of the North Fork Popo Agie River in Area 127, and merit attention as they could easily cross into the same areas the other habituated elk are currently occupying.

Weather

Precipitation from October 2016 through September 2017 was markedly higher than the 30-year average. Heavy winter snows contributed the majority of the annual precipitation. Precipitation during the growing season (April-June 2017) was also higher than the 30-year average, while precipitation in high elevation spring-summer-fall ranges was slightly below the 30-year average. Most of the growing season (April-June) precipitation fell during April and May, which was followed by a dry, hot summer and a mild fall.

Winter 2017-18 has been characterized by warmer than average temperatures, with the temperature from November-February averaging 27 degrees Fahrenheit, which is considered above normal for this time period in the Lander Area. A mild fall gave way to a relatively mild winter. A total of 38.8” of snowfall has been recorded in Lander from November 2017-February 2018, 4.2” below the 30-year average. Below average snowfall and above average temperatures for Lander and the surrounding foothills is likely helping wildlife access forage and maintain body condition compared to the previous winter of continuous snow cover. However, less snow may negatively affect vegetation production during the coming growing season, if spring precipitation is also lacking. Snow water equivalents for the South Pass, Deer Park, and Townsend Creek SnoTel sites recorded February 15th, 2018 were 100%, 96%, and 96% of the official mean for those respective sites.

Habitat

Precipitation was above average during the spring of 2017, which provided good early forage production across the herd unit for elk. Above normal temperatures, and very low precipitation amounts from June-August likely caused lower vegetation production than the previous two years.

Several rapid habitat assessments (RHA) were conducted in 2017, in shrub and aspen habitats. More RHAs will be conducted in the next 2 years, for a total of 10 each in shrub, aspen, and riparian habitats. Results of the 2017 assessments indicate shrub and aspen habitats are generally in late-seral states, with moderate to severe herbivory. Yet, plant species diversity was medium to high for grasses, forbs, and shrubs, which is encouraging. However, the state and condition of shrubs and aspen are concerning, and will likely limit population growth and stability, especially in periods of drought. These assessments should also be useful for evaluating habitat conditions for South Wind River elk.

Field Data

Trend count/classification flights were completed in early March 2018, with a Bell 47 Soloy helicopter in Areas 25, 27, and 28. Personnel from the Pinedale Region surveyed Area 99 in early-February 2018, with the same helicopter. Combined with ground counts of several groups near Lander, a total of 2,736 elk were observed in the trend count. The classification sample of 1,870 elk was much lower than the trend count, since we were unable to get good ground classification data for all low elevation elk near Lander without duplication of groups, and video footage of about 220 elk in Canyon Creek was unsatisfactory for classifying those elk. We have not seen any large groups wintering in the portion Area 25 south of the Sweetwater River in a several years, despite awareness of expanding elk numbers there during other seasons.

Harvest Data

Weather during fall 2017 hunting seasons was once again very mild in the South Wind River Herd Unit, with above average temperatures and below average snowfall. The biggest snow event occurred early in the November antlerless elk seasons, a reversal from the last few years when snows came late in that season.

Total harvest was 14% below average in 2017 with 572 elk taken, mostly likely due to mild weather. Total bull harvest dropped 11% in 2017, with 240 adult bulls and 45 spikes harvested. Antlerless harvest dropped to 287 cows and calves, below the previous 5-year average. Hunter success rates also suffered, with the 2017 rate of 28% dropping below the 5-year average. Hunter effort data also indicate hunters were less able to find elk compared with the previous 5 years (25.3 days/harvest in 2017 vs. an average of 23.6 days per harvest since 2012).

Management Summary

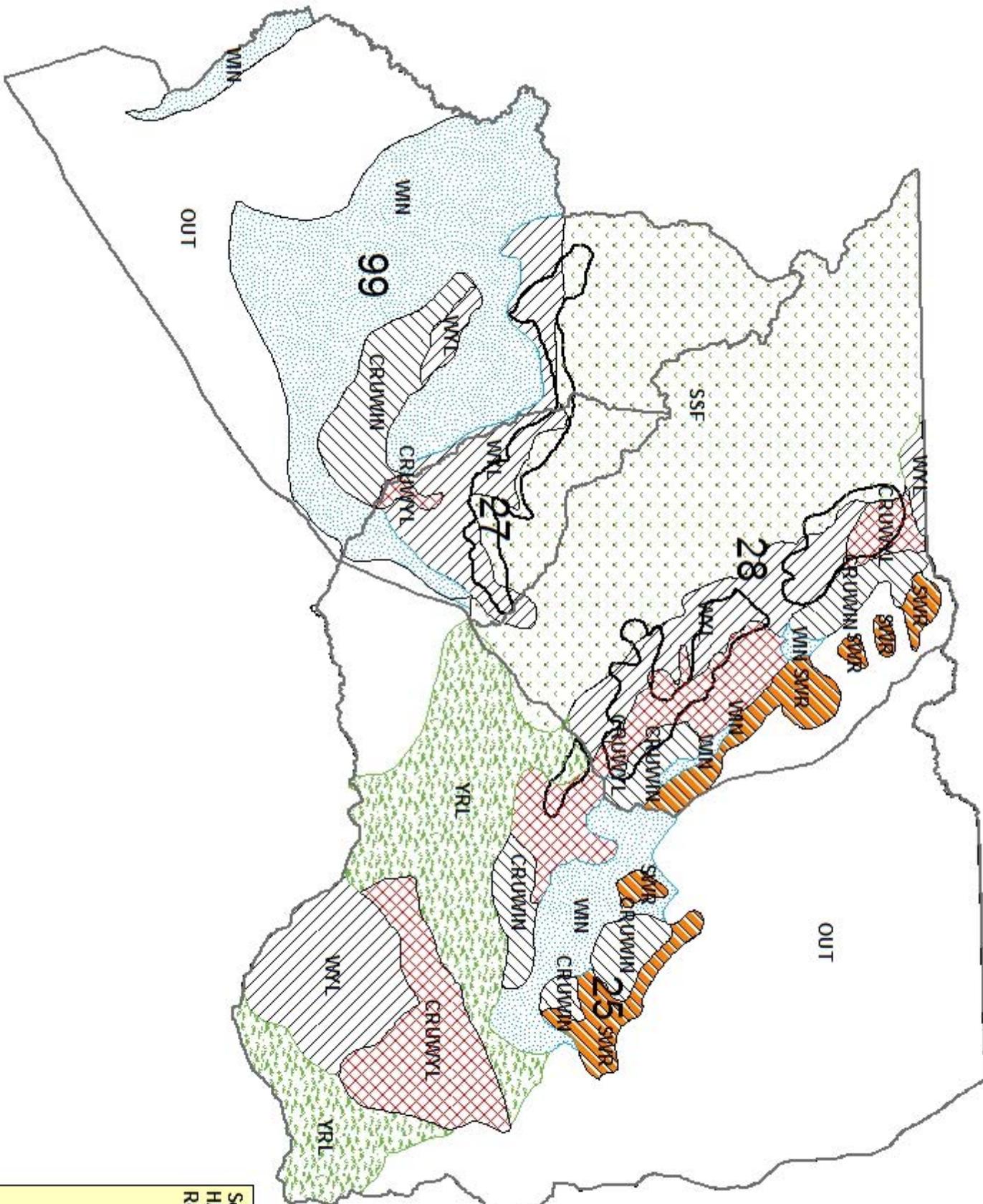
With the 2017 mid-winter and 3-year running average trend counts being nearly the same as the objective, the 2018 seasons are designed to maintain this population at the current level. Elk hunters will again be allowed to harvest “any elk” for the first part of the general license season in hunt area 28 (October 1–5), shifting to antlered only for the remainder of the season (October 6–22). The 2017 harvest survey indicates 1,069 hunters utilized general licenses in Area 28, which is just 1.4% above the average since 2004. Allowing general license hunters to hunt any elk for all or a portion of the season seems to have resulted in less pressure on adult bulls, which should lead to improved bull/cow ratios and bull quality over time. Despite light snow conditions and incomplete classification data for all groups of elk in Area 28, several groups of good, mature bulls were observed, at least partly supporting these beliefs.

With South Wind River elk being at objective, there is less need for intensive female elk harvest, and license numbers are being reduced in Areas 25, 27, and 28 to balance harvest with maintenance

of the population at objective. Changes in elk distribution in Hunt Area 28 have been documented over the last few winters due a variety of reasons. As such, a few groups have become acclimated to spending substantial time in and around rural subdivisions and agricultural lands. At least 3 calves were reported being born within one mile of Lander city limits in 2017. Having elk close to town has become very popular with many people; yet concerns have also been raised over increasing damage to fences, agricultural interests – particularly risk of brucellosis transmission from elk commingling with cattle, and potential for elk/vehicle collisions. Discussions and landowner meetings have been held regarding the potential for additional hunting opportunities and access, and other counter measures to reduce elk conflicts. Two cow elk were darted and outfitted with GPS tracking collars in late January 2018 to monitor movements, and plans have been made to deploy up to 8 more collars on elk in these conflict prone areas. Both elk collared tested negative for brucellosis. With increased concerns about the risk of this disease, landowners and Department personnel have been aggressively hazing elk away from cattle feedlines and hay. The 2018 season includes 25 Type 6 cow/calf licenses valid only in the area where these problem elk are lingering with multiple goals, including enhanced brucellosis testing, eliminating elk commingling with cattle, and hopefully discourage them from spending time in the damage prone areas.

Beginning in 2015, the hunt area 25 boundary was extended southerly to encompass the Cyclone Rim area south to the Rocky Crossing Road. This has been very popular with many hunters and initially met with few complaints. However, several incidents have occurred with multiple hunters engaging in vehicular pursuit of bull elk, and will warrant additional enforcement presence to prevent similar incidents in the future. We will continue to monitor elk numbers and distribution to determine if this boundary move is successful or if elk begin to avoid this area and move across the boundary where hunting pressure is often lower in that portion of Hunt Area 100.

We expect the 2018 seasons outlined above should result in a harvest of at least 500 elk with lower cow harvest. If calf recruitment remains near the average and winter losses are minimal, this harvest should maintain the population at objective.



South Wind River Elk (EL637)
 HA 25, 27, 28, 99
 Revised September 2011

Elk Hunt Area Boundaries
Elk Seasonal Range
RANGE
 CRUWIN
 CRUWYL
 OUT
 SSF
 SWR
 WIN
 WYL
 YRL
 Partition

2017 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2017 - 5/31/2018

HERD: EL638 - GREEN MOUNTAIN

HUNT AREAS: 24, 128

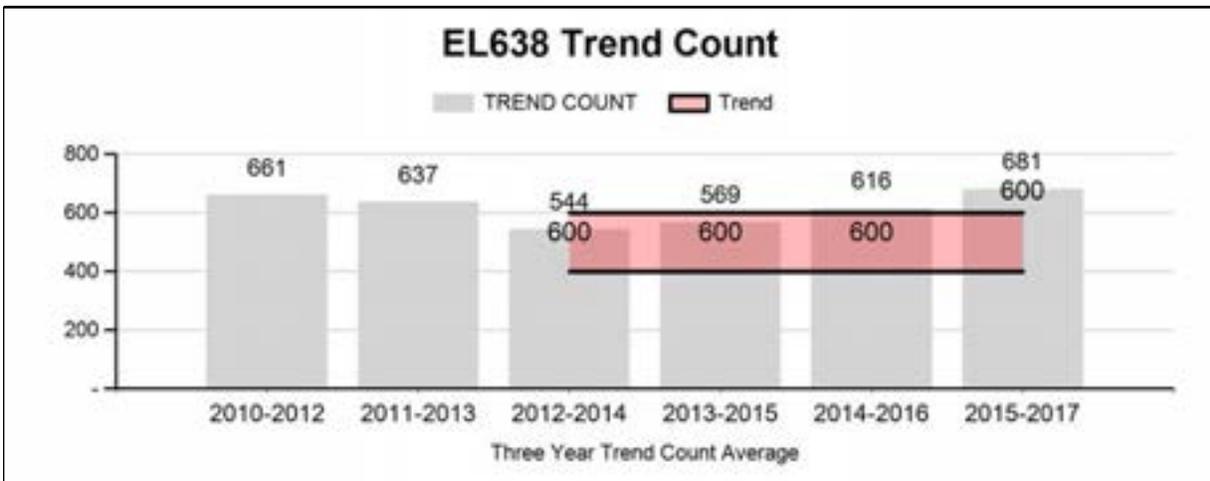
PREPARED BY: STAN HARTER

	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Trend Count:	619	582	500
Harvest:	242	211	235
Hunters:	612	591	525
Hunter Success:	40%	36%	45 %
Active Licenses:	619	602	525
Active License Success	39%	35%	45 %
Recreation Days:	3,651	3,393	3,500
Days Per Animal:	15.1	16.1	14.9
Males per 100 Females:	31	44	
Juveniles per 100 Females	39	22	

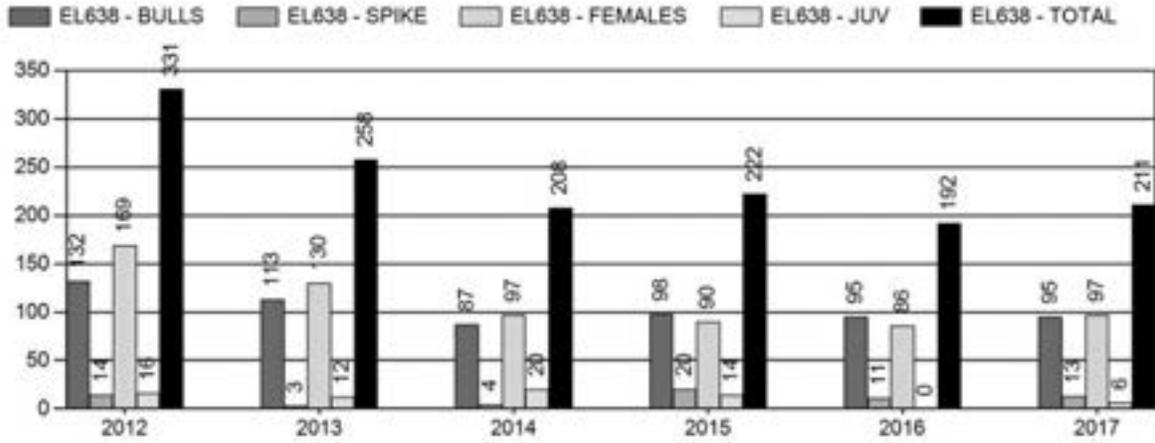
Trend Based Objective (± 20%) 500 (400 - 600)
 Management Strategy: Recreational
 Percent population is above (+) or (-) objective: 16%
 Number of years population has been + or - objective in recent trend: 0

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

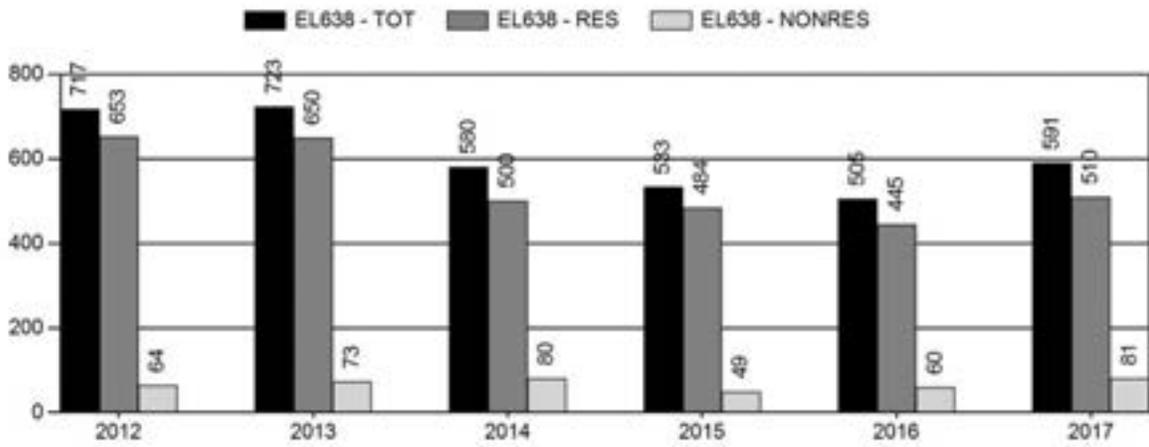
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



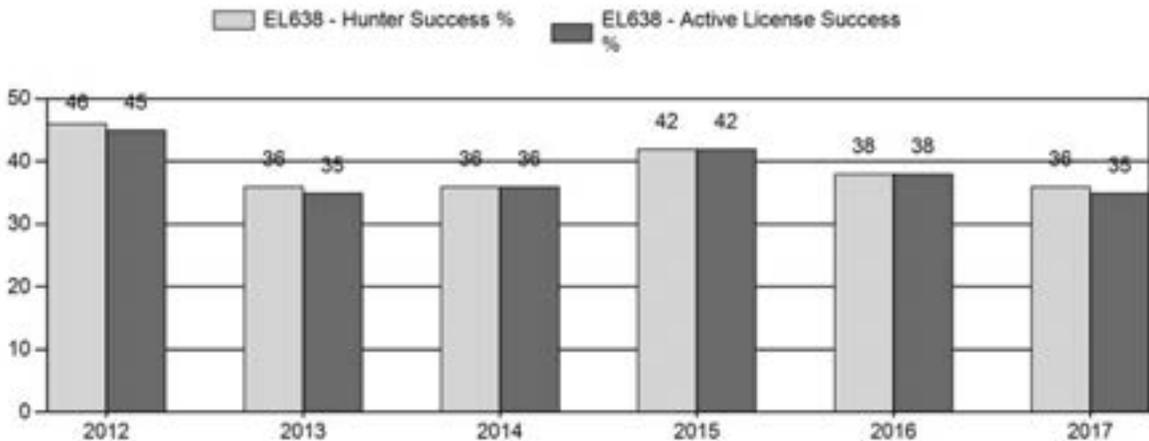
Harvest



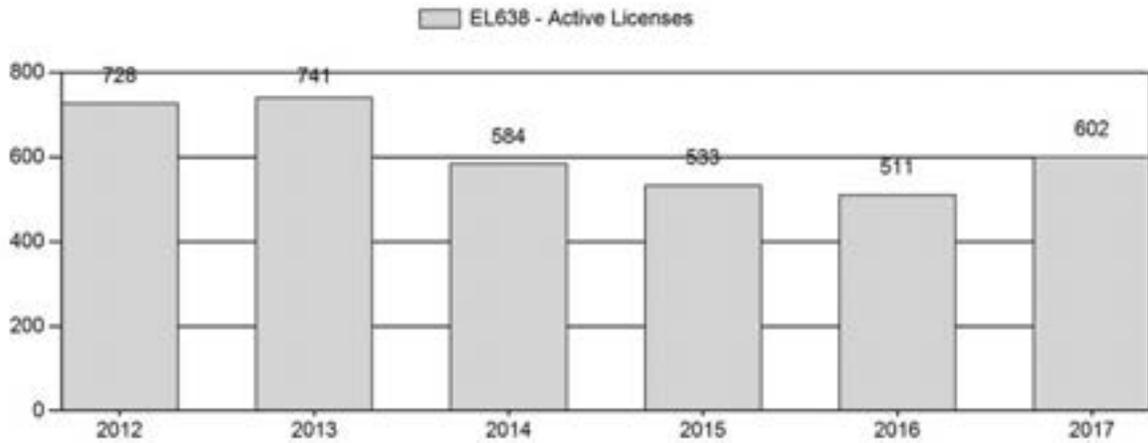
Number of Hunters



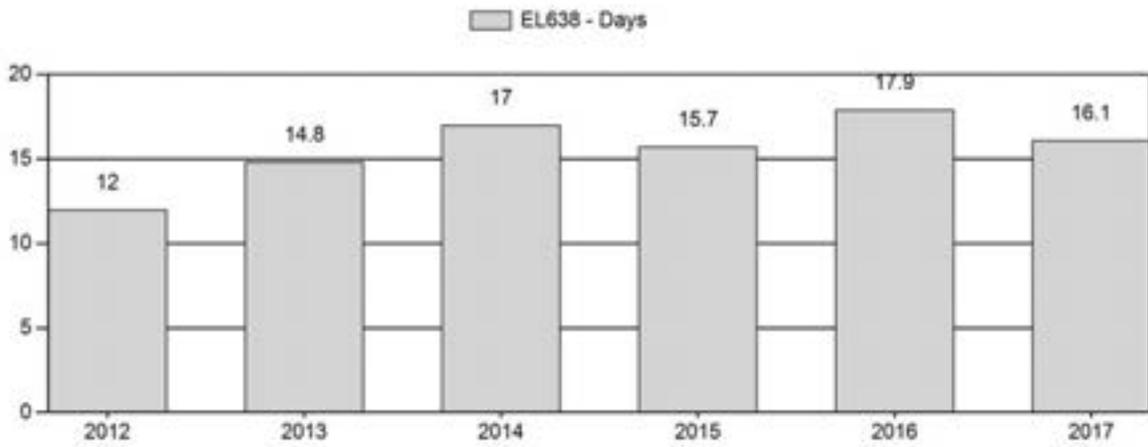
Harvest Success



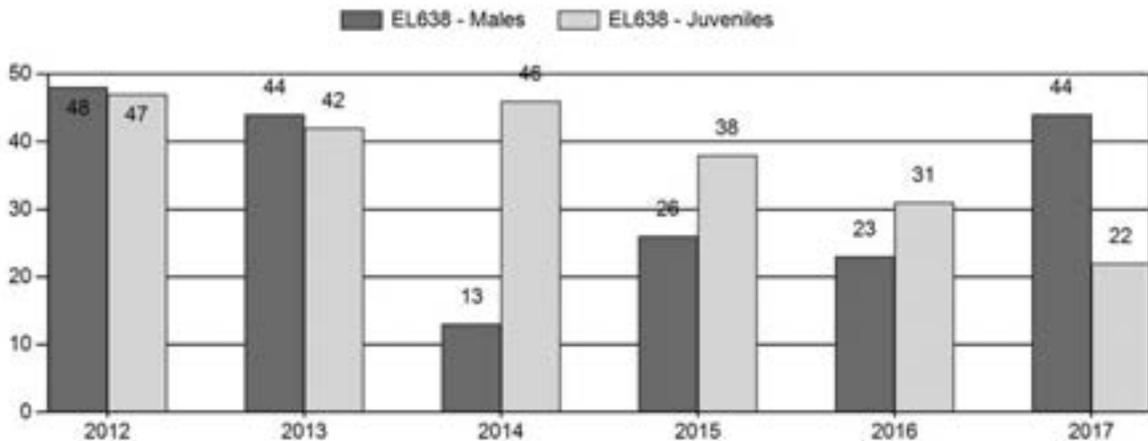
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2012 - 2017 Postseason Classification Summary

for Elk Herd EL638 - GREEN MOUNTAIN

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2012	0	49	111	160	24%	336	51%	158	24%	654	0	15	33	48	± 0	47	± 0	32
2013	0	41	99	140	24%	319	54%	135	23%	594	0	13	31	44	± 0	42	± 0	29
2014	0	19	12	31	8%	243	63%	111	29%	385	0	8	5	13	± 0	46	± 0	41
2015	0	73	44	117	16%	444	61%	167	23%	728	0	16	10	26	± 0	38	± 0	30
2016	0	64	45	109	15%	478	65%	147	20%	734	0	13	9	23	± 0	31	± 0	25
2017	0	35	118	153	26%	351	60%	78	13%	582	0	10	34	44	± 0	22	± 0	15

**2018 HUNTING SEASONS
Green Mountain Elk Herd Unit (EL 638)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
24	1	Oct. 1	Oct. 14	175	Limited Quota	Any elk
24	1	Nov. 1	Nov. 30			Antlerless elk
24	4	Oct. 1	Oct. 14	75	Limited Quota	Antlerless elk
24	4	Nov. 1	Nov. 30			Antlerless elk
24	5	Nov. 1	Nov. 30	150	Limited Quota	Antlerless elk
128		Oct. 1	Oct. 5		General	Any elk
128		Oct. 6	Oct. 14		General	Antlered elk
Archery		Sept. 1	Sept. 30			Refer to license type and limitations in Section 2

Hunt Area	License Type	Quota Changes from 2017
24	1	+25
Herd Unit Total		0

MANAGEMENT EVALUATION

Current Mid-Winter Trend Count Management Objective: 500

Management Strategy: Recreation (15 – 29 bulls/100 cows)

2017 Mid-Winter Trend Count: 582

Most Recent 3-year Running Average Trend Count: 681

Herd Unit Issues/Population

The management objective for the Green Mountain Elk Herd Unit was changed in 2014 to a mid-winter trend count of 500 elk, based on a running 3-year average. Trend count data vary due to annual changes in snow depth, light and wind conditions during flights, and condition of habitats each winter. A key factor in our ability to detect elk in winter is the extreme variability and extent of winter habitats, which range from mixed aspen/conifer/sagebrush habitats to open sagebrush/grassland habitats. The 2017 trend count/classification survey was completed in February 2018, with a total of 582 elk observed.

Weather

Precipitation information for Green Mountain elk is based on one weather station located near Jeffrey City, where precipitation recorded from October 2016 through September 2017 was markedly higher than the 30-year average. Precipitation during the growing season (April-June 2017) was slightly above the 30-year average; while precipitation in higher elevation spring-summer-fall seasonal ranges was below the 30-year average. Temperatures through the summer were slightly above average.

Winter 2017-18 has been characterized by slightly above normal snowfall amounts with temperatures averaging 28.11° F, which is considered above normal for the November-February time period in the Jeffrey City area. The area has experienced high winds across the herd unit for

extended periods this winter, atypical even for this area which is in the middle of a corridor known for high winds. A total of 31.5” of snowfall has been recorded in Jeffrey City from November 2016-February 2017, 4.92” above the 30-year average.

Habitat

Growing season precipitation was nearly average during the spring/early summer of 2017 which provided good forage across the herd unit for elk. Above normal temperatures and low precipitation amounts from June-August likely caused lower vegetation production than the previous two years.

Rapid habitat assessments (RHA) were initiated in 2017, in shrub, riparian, and aspen habitats. More RHAs will be conducted in the next 2 years, for a total of 10 each in shrub, aspen, and riparian habitats. Results of the 2017 assessments indicate shrub and aspen habitats are generally in late-seral states, with moderate to severe herbivory. A riparian assessment on West Cottonwood Creek on Green Mountain showed the site was in late seral state with medium site function and has experienced severe herbivory from wildlife, livestock, and feral horses. Yet, plant species diversity was high for grasses, forbs, and shrubs, which is encouraging. However, the state and condition of shrub, riparian, and aspen habitats are concerning, and will likely limit population growth and stability, especially in periods of drought. These assessments should also be useful for evaluating habitat conditions for the Green Mountain elk herd.

Field Data

The 2017 trend count/classification survey was conducted in February 2018 using a Bell 47 Soloy helicopter, with very little snow cover in most areas, especially around Green Mountain. We observed 582 elk in Hunt Area 24, with most elk found in the lower elevations away from Green Mountain and Crooks Mountain, placing the annual trend count 16% over the mid-winter trend count objective of 500 elk. No elk were observed in Hunt Area 128 this year. The 3-year trend count average of 681 is 36% above objective. Even with light snow cover and a lower trend count, 153 spikes and bulls were observed this year, the third highest total since 1994. The resulting post-season calf/cow ratio of 22J/100F is unusually low, prompting the need for another review of video recordings of the larger elk groups prior to final JCR submission. The observed bull/cow ratio of 44M/100F is tied for the third highest since 1994 and was 47% above average.

Harvest Data

In 2017, a total of 211 elk were harvested in the Green Mountain herd unit. Warm weather with minimal snowfall throughout the hunting season seems the likely culprit for such low harvest levels. Cow hunter success increased in Area 24 this year, 53% and 43% respectively for Type 4 and Type 5 antlerless elk hunters (50% overall – below the long-term average of 58%). Bull harvest was lower than usual, with 48% success for the Type 1 any elk season, the lowest Type 1 success rate since 1994.

Fall 2017 was once again abnormally warm with little snow during the elk hunting season, creating difficulty for hunters to locate elk. Changes were made to the season structure in 2017 to address the number of elk observed in Hunt Area 24, by increasing antlerless elk licenses and reducing any elk licenses in response to concerns about bull quality and numbers. Elk numbers in Area 128 have been relatively stable over the past several years, lessening the need to focus additional

harvest there. Hunters with antlerless license types in neighboring Rattlesnake Hills Area 23 were also allowed to hunt in Area 128 in the 2017 season, but only 3 cow elk were harvested by a small number of hunters taking advantage of that opportunity. Hunters with Area 24 Type 1 and 4 licenses were allowed to hunt for antlerless elk in November, if unsuccessful in October, but this resulted in minimal additional harvest according to the “date of harvest” data provided by the harvest survey and field checks. Complaints about hunter crowding were minimal during the 2017 seasons. Concurrent with lower hunter success, the number of days/animal harvested remained above average in 2017 to 16.1 days/elk killed, 1 day per animal longer than the previous 5-year average.

Management Summary

Over the last decade or so, various management strategies have been implemented to attempt population reduction in the Green Mountain herd unit with varying results. Increases in licenses available in Area 24 did not achieve desired increases in harvest as illustrated in Figure 1, but certainly led to many complaints about crowded hunter densities, prompting reductions in licenses beginning in 2014. Although the trend count remains above objective, we are recommending no changes in antlerless license numbers in Area 24 following changes made in 2017, with cautious hope improved hunting season conditions return in 2018, leading to increases in female elk harvest. Increases in license issuance in 2017 did not lead to increased total harvest in Area 24 as expected.

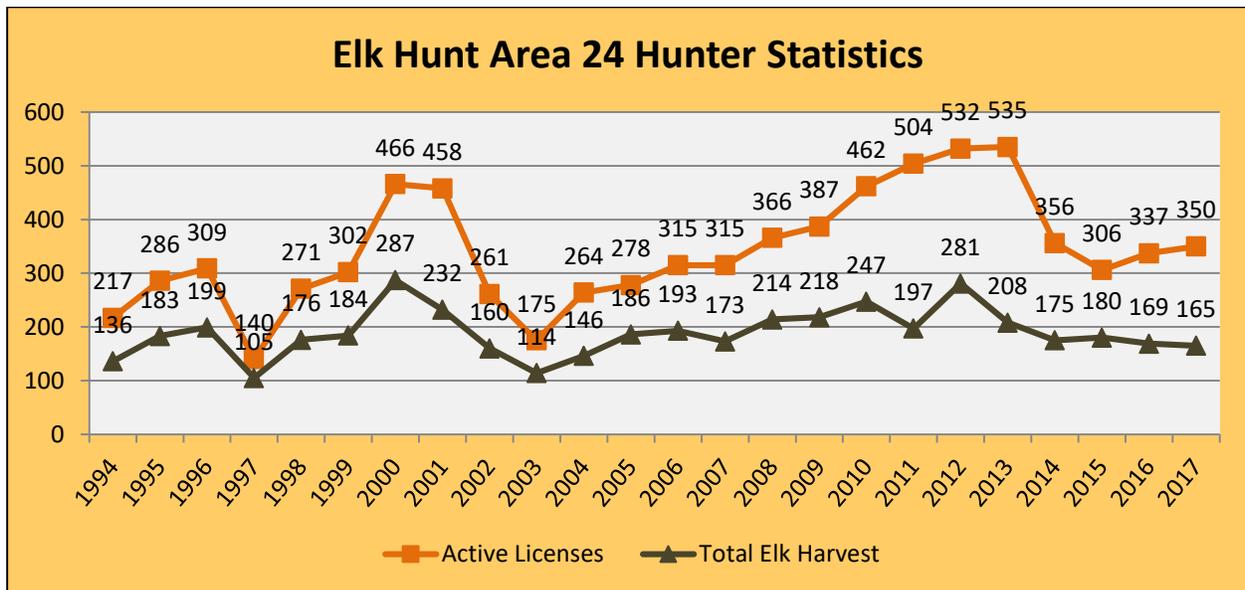


Figure 1. Comparison of elk license numbers and elk harvest trends in Elk Hunt Area 24, 1994-2017.

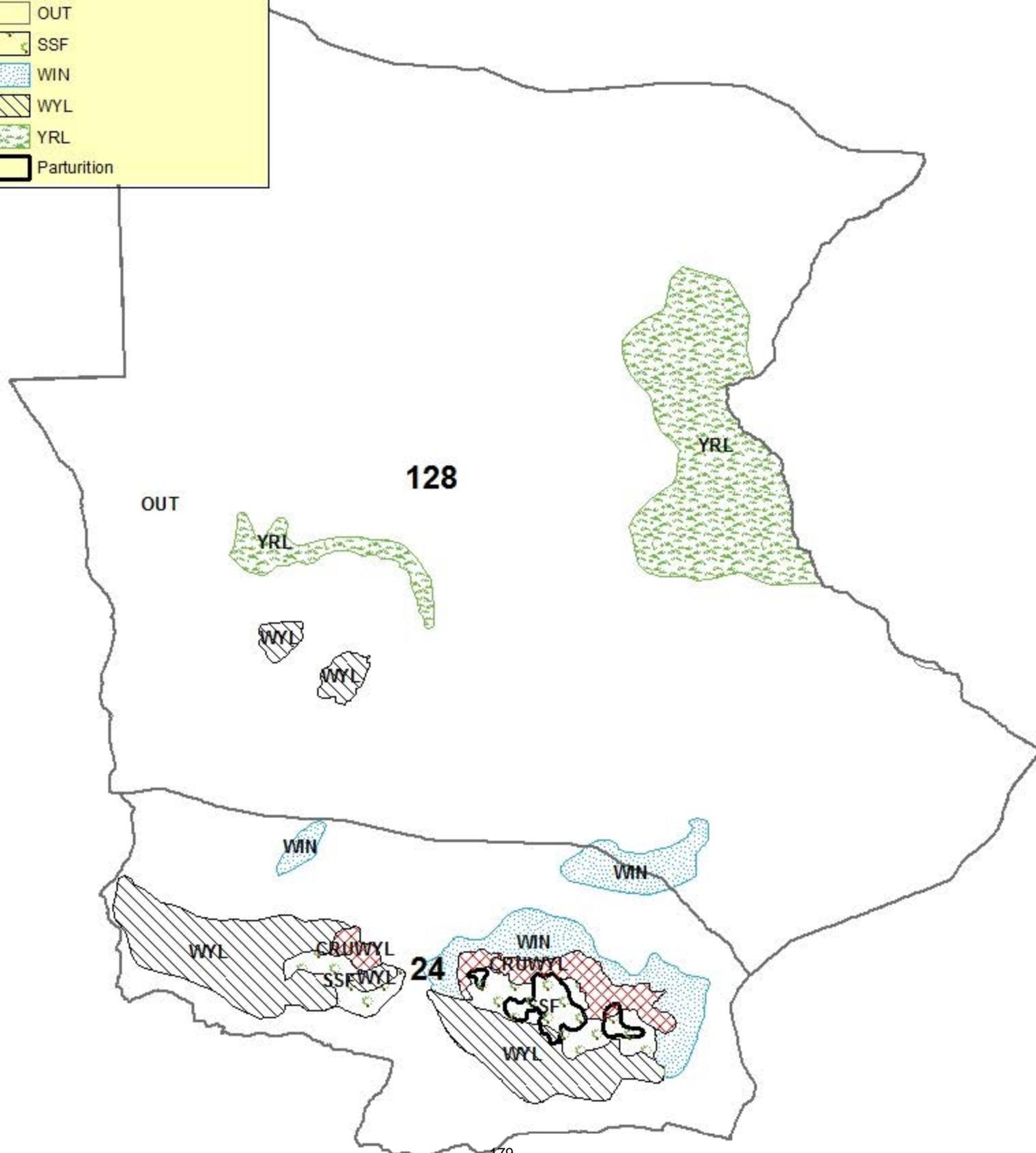
All of the elk observed during the February 2018 trend count were in Hunt Area 24. In response to declining bull numbers and bull/cow ratios over the previous 6 years, we reduced the number of Type 1 licenses in 2017, in attempt to reduce pressure on mature bulls, yet maintain opportunity for hunters to harvest bulls within the recreational management strategy. More bulls were seen in the trend count this year. Therefore, we added 25 Type 1 licenses to Area 24 to provide more opportunity for bulls, and hopefully won’t push the hunter density limit too much with more total licenses available in the October seasons, as per the discussion above.

We are continuing our emphasis on harvesting female elk in Area 24 with moderate numbers of antlerless elk licenses, and allowing Area 24 Type 1 and 4 hunters who are not successful in October to hunt for antlerless elk in November in only Hunt Area 24. November harvest from Type 1 and 4 hunters increased in 2017, with a few Type 1 or 4 hunters reporting a November date of harvest via harvest surveys. Since complaints about hunter crowding have waned, we will continue this strategy for the foreseeable future.

Casper Region is not recommending Area 23 licenses be valid in Area 128 at any time in the 2018 season. Therefore, to maintain some female harvest in Area 128, we will maintain the 14-day General License season in Hunt Area 128, with the first 5 days as an “any elk” season, then switching to “antlered elk” on October 6. The expected 2018 harvest should consist of about 220 elk, mostly from Area 24, and move the herd closer to objective, which will be reviewed again in 2019.

Green Mountain Elk (EL638)
HA 24, 128
Revised January 2012

 ELK Hunt Area Boundaries
Elk Seasonal Range
RANGE
 CRUWYL
 OUT
 SSF
 WIN
 WYL
 YRL
 Parturition



2017 - JCR Evaluation Form

SPECIES: Elk
 HERD: EL639 - FERRIS
 HUNT AREAS: 22, 111

PERIOD: 6/1/2017 - 5/31/2018

 PREPARED BY: GREG HIATT

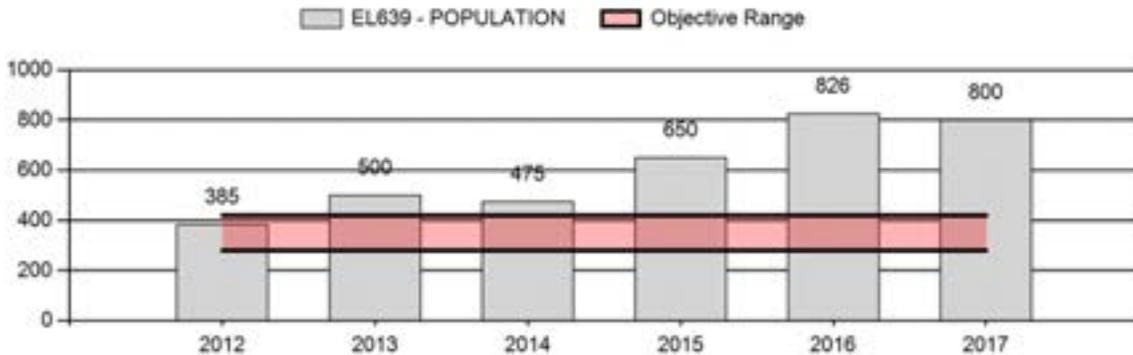
	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Population:	567	800	750
Harvest:	121	188	200
Hunters:	227	362	384
Hunter Success:	53%	52%	52%
Active Licenses:	234	369	392
Active License Success:	52%	51%	51%
Recreation Days:	1,575	2,033	2,600
Days Per Animal:	13.0	10.8	13
Males per 100 Females	51	102	
Juveniles per 100 Females	34	39	

Population Objective (± 20%) :	350 (280 - 420)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	129%
Number of years population has been + or - objective in recent trend:	6
Model Date:	None

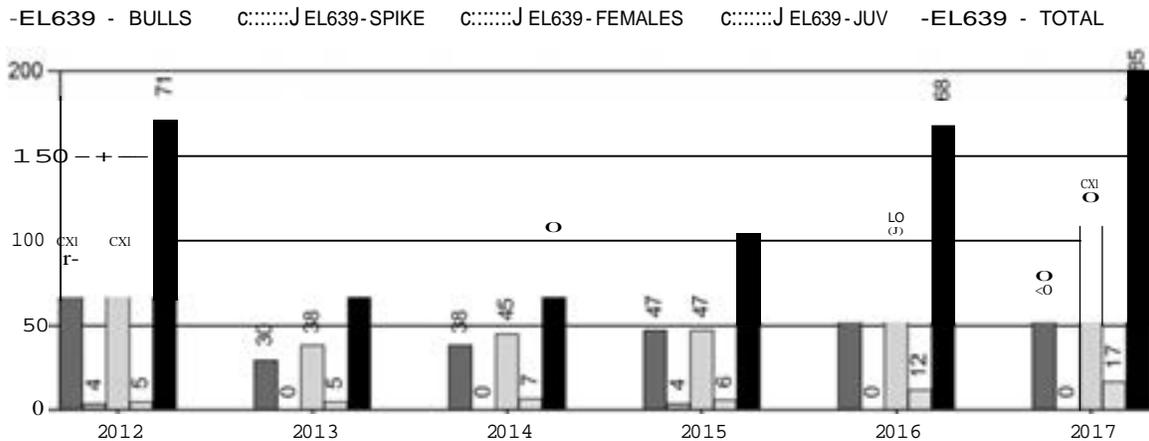
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ;; 1 year old:	0%	0%
Males ;; 1 year old:	0%	0%
Total:	0%	0%
Proposed change in post-season population:	-3%	-6%

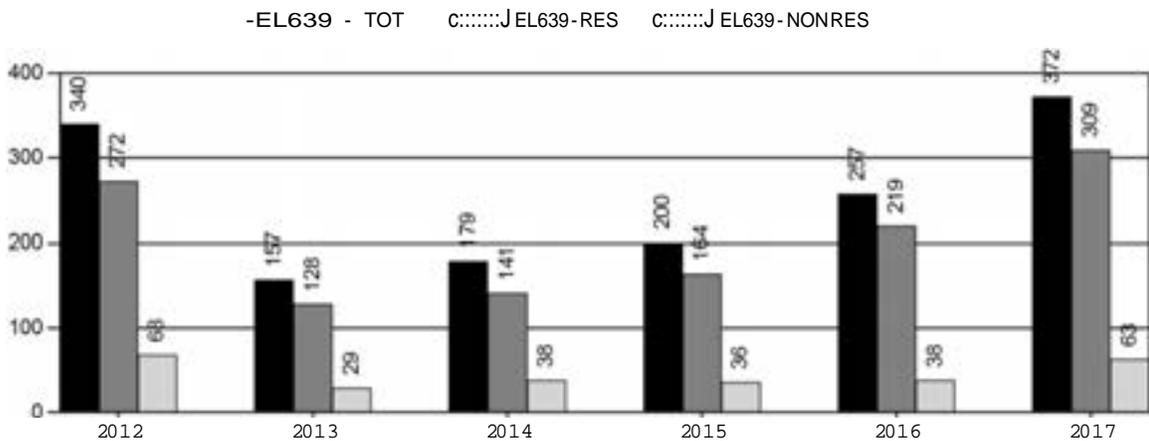
Population Size - Postseason



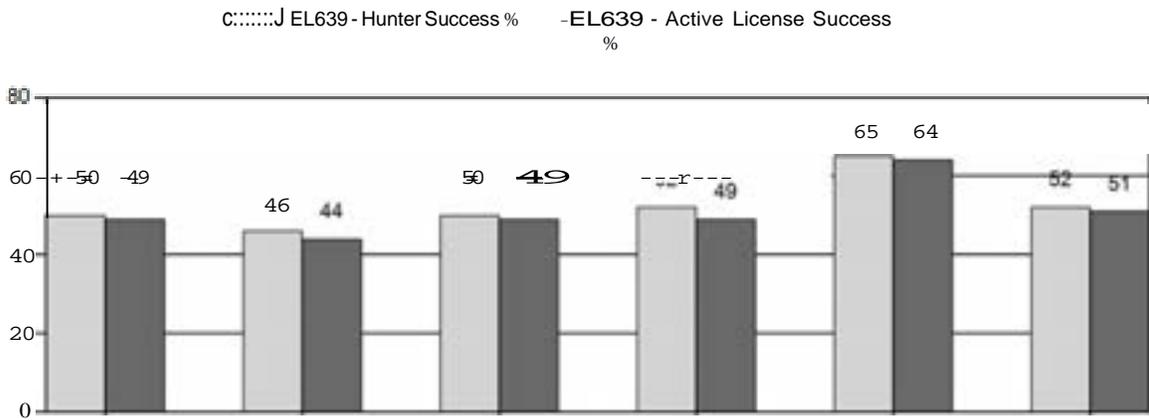
Harvest



Number of Hunters



Harvest Success



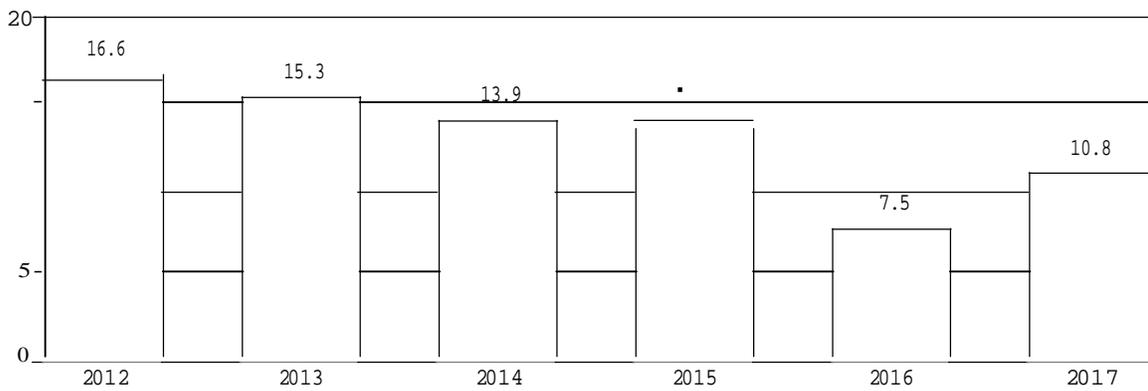
Active Licenses

C:\J EL639- Active Licenses



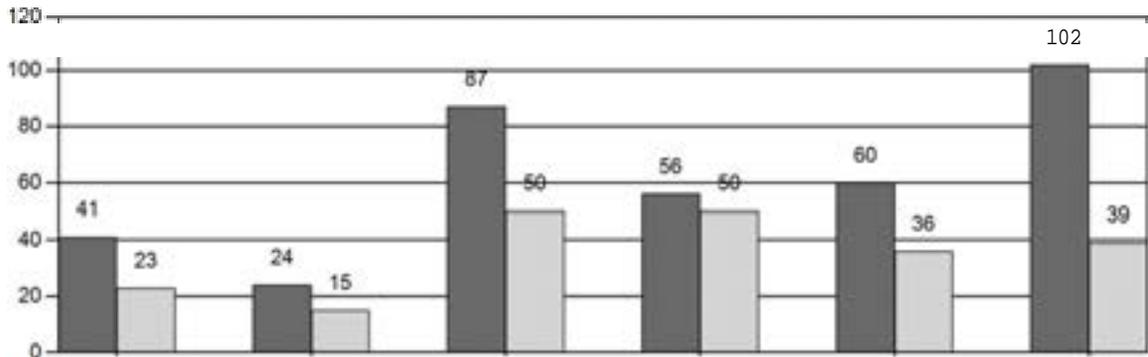
Days per Animal Harvested

C:\J EL639- Days



Postseason Animals per 100 Females

-EL639- Males C:\J EL639- Juveniles



2012 - 2017 Postseason Classification Summary

for Elk Herd EL639 - FERRIS

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2012	385	25	50	75	25%	182	61%	42	14%	299	237	14	27	41	± 3	23	± 2	16
2013	500	34	49	83	17%	353	72%	54	11%	490	176	10	14	24	± 1	15	± 0	12
2014	475	39	112	151	37%	174	42%	87	21%	412	400	22	64	87	± 5	50	± 3	27
2015	650	55	108	163	27%	291	49%	145	24%	599	420	19	37	56	± 2	50	± 2	32
2016	826	70	184	254	31%	420	51%	152	18%	826	496	17	44	60	± 0	36	± 0	23
2017	800	26	147	173	42%	170	41%	67	16%	410	496	15	86	102	± 10	39	± 5	20

**2018 HUNTING SEASONS
FERRIS ELK HERD (EL639)**

Hunt Area	Type	Dates of Seasons		Quota	License	Limitations
		Opens	Closes			
22	1	Oct. 8 Nov. 1	Oct. 31 Jan. 31	40	Limited quota	Any elk Antlerless elk
	6	Oct. 8 Nov. 1	Oct. 31 Jan. 31	50	Limited quota	Cow or calf valid in the Muddy Creek drainage Cow or calf valid in the entire area
111	1	Oct. 10 Nov. 1	Oct. 31 Jan. 31	50	Limited quota	Any elk Antlerless elk; the Wyoming Game and Fish Commission's Morgan Creek Wildlife Habitat Management Area shall be closed
	4	Oct. 10 Nov. 1	Oct. 31 Jan. 31	50	Limited quota	Antlerless elk Antlerless elk; the Wyoming Game and Fish Commission's Morgan Creek Wildlife Habitat Management Area shall be closed
	6	Nov. 1	Jan. 31	150	Limited quota	Cow or calf; the Wyoming Game and Fish Commission's Morgan Creek Wildlife Habitat Management Area shall be closed
	7	Nov. 10	Jan. 31	150	Limited quota	Cow or calf; the Wyoming Game and Fish Commission's Morgan Creek Wildlife Habitat Management Area shall be closed
Archery 22, 111		Sep. 1	Sep. 30			Refer to Section 2 of this Chapter

Hunt Area	License Type	Quota change from 2017
22	1	0
	6	0
111	1	+10
	4	0
	6	0
	7	0
Herd Unit Total	1	+10
	4	0
	6	0
	7	0

Management Evaluation

Current Postseason Population Management Objective: 350

Management Strategy: Special

2017 Postseason Population Estimate: ~800

2018 Proposed Postseason Population Estimate: ~750

Herd Unit Issues

The management objective for the Ferris Elk Herd Unit is a post-season population of 350 elk. The management strategy is “special” management, with bull:cow ratios allowed to exceed 30:100 and the proportion of branch-antlered bulls expected to exceed 66 percent of the antlered harvest. The population objective and management strategy were last publicly reviewed in 2012. All affected major landowners strongly endorsed keeping the population objective of 350 elk.

Access is a major issue with this herd unit. While there are large blocks of accessible, public land, refuges created by several large ranches that are either closed to hunting or greatly limit hunter numbers have prevented harvest from most of the elk in this herd unit, particularly in Area 111. As license quotas are increased to reduce elk numbers to objective, the lack of hunter access to these animals leads to over-harvest of public land areas while still preventing the harvest necessary to reach the population objective.

Weather

Spring precipitation was average in 2017 providing reasonably good vegetative growth and allowing for good calf survival. Condition of elk going into the 2017-18 winter is expected to have been excellent. The 2017-18 winter was cold but with little to no snow accumulation. Elk were not heavily concentrated on winter ranges and many remained in higher elevation habitats.

Habitat

While no herbaceous habitat transects are established within occupied habitats of this herd unit, herbaceous forage production appeared to be average. Two shrub transects have been established

within this herd unit, primarily to monitor mule deer winter forage. One of these, on the Morgan Creek WHMA, was burned in the 2012 fires and the second was not read in 2017.

Over the past several years the Rawlins BLM has implemented prescribed burns in the Seminoe and Ferris Mountains, partly to address conifer encroachment while also rejuvenating decadent aspen, mountain mahogany and bitterbrush stands. In the summer of 2012, two large wildfires in the Seminoe Mountains and the eastern Ferris Mountains burned thousands of acres. These prescribed burns and the recent wildfires have benefited elk as herbaceous forage reclaims burned areas.

The Seminoe Fire burned over 3,800 acres in the Seminoe Mountains including areas within Morgan Creek WHMA. As in other years following the fire, the Rawlins BLM coordinated and funded aerial application of Plateau® to inhibit cheatgrass spread on BLM and WGFD managed areas within the fire perimeter. The wildfire enveloped several previously planned prescribed burns, although not with the desired prescriptions.

Plans for additional prescribed fires in the Ferris and Seminoe Mountains, particularly on the Morgan Creek WHMA, have been accelerated to take advantage of the secure fire breaks provided by the 2012 wildfire.

Field Data

Obtaining reliable classification samples from small populations is difficult because, statistically, the majority of the population must be included in the sample to have any confidence in the resulting ratios. Ratios collected for this herd can be further skewed because elk in this herd are not distributed randomly among the winter bands. Missing any of the bachelor bull groups will significantly under-estimate bull:cow ratios. Failure to classify even one of the large cow/calf groups will greatly over-estimate bull:cow ratios, as happened in 2011 and 2014 and again post-season 2017. Without reliable, consistent herd ratios, spreadsheet modeling for this small herd does not work.

Conditions during a helicopter trend count in March 2018 were windy, making classifications closer to the mountain and in certain areas difficult. Snow cover was patchy, making it more difficult to see elk from the air. A total of 410 elk were counted and classified. As with most recent surveys, elk numbers were skewed between the two hunt areas. Only 64 elk, all of which were branch-antler bulls, were found in Area 22. The remaining 346 elk, mostly cow/calf groups, were observed in Area 111. Of the elk found in Area 111, the majority were located in the checkerboard area where they are largely unavailable to hunters.

Calf production was similar to that in 2016 at 39:100, after remaining high at 50:100 in 2014 and 2015, but was still well above record low ratios recorded in 2012 and 2013. The observed bull:cow ratio in 2017 was 102:100 and is, of course, unrealistic and indicative of missing large groups of cows and calves. Distribution of antlered elk was highly skewed, with 44 percent observed in Area 22, where no cow/calf groups were seen. The bull:cow ratio in Area 111 was 49:100, but 54 percent of those were in the un-hunted checkerboard or other private lands. Many bull groups in this herd unit commonly winter along the border between Areas 22 and 111, and hunt area ratios may not reflect fall distributions.

Subtracting the un-hunted elk on private lands, the ratio for the remaining portion of the herd was 45:100, near the upper limit for special management.

The spike:cow ratio declined slightly to 15:100. No spikes, cows, or calves were observed in Area 22.

Harvest Data

Hunter success for Type 1 licenses remained high for the herd unit, but was within ranges seen in recent years. Success was lower for bull hunters in Area 22, but was higher in Area 111 as compared to 2016.

Beginning in 2010, Type 6 licenses in Area 22 were restricted to the Muddy Creek drainage for the first portion of the 5-week season to address damage concerns on irrigated hayfields. Initial success for hunters with these licenses was high, at 72 percent, but has steadily declined and was only 21 percent in 2013, 25 percent in 2014 and 19 percent in 2015. The average number of days hunted per elk harvested on these licenses began at 5 days in 2010 and steadily rose to 11 days in 2015. But this trend reversed in 2016 and 2017. In 2016 success for these hunters rose to 77 percent and the days per elk declined to 5.3. In 2017 the success rate was 83 percent and the days per elk declined to 3.9.

To address a problem of inadequate harvests resulting from poor license sales, most of the antlerless licenses in Area 111 were converted into reduced price cow/calf licenses beginning in 2009. To address crowding issues in the Seminole Mountains and to direct harvest to the segments of the herd protected by ranches with limited access during the fall hunt, those cow/calf licenses were not valid on the Morgan Creek WHMA. Seasons were extended through January to offer hunters opportunity to harvest antlerless elk in early winter when they are often found in winter ranges on accessible public lands. Success for hunters with these licenses dropped off each year since, yielding only 33 percent success in 2015. In 2016 harsher winter conditions that moved more elk north to public lands resulted in increased hunter success. In 2017 mild winter conditions resulted in elk remaining at higher elevations and on private lands where they were less accessible and resulted in low success rates for the Type 6 and 7 hunters at 35 and 29 percent, respectively.

Population

Past efforts to model this herd using spreadsheet modeling failed, largely due to widely fluctuating bull:cow ratios. As a result, population estimates and harvest recommendations have been based on winter trend counts. In years when counting conditions were not favorable, estimates of herd size are made using the most recent reliable trend count, adding annual calf production and subtracting harvest for each intervening year. Ideal conditions during the 2015 count yielded a count of 599 elk, still well above objective and little different from numbers seen in 2009, despite large increases in antlerless license quotas and seasons extended through January. Last year's count of 826 elk was the highest recorded for this herd, exceeding the 2015 count by 38 percent and twice the 2014 count. All of the surplus elk were in Area 111 where access is limited. The March, 2018 trend count resulted in a total of 401 elk. A total of 150 elk were found in the Haystack Mountains in the checkerboard in the southern portion of Area 111 where landowners do not allow public access. In Area 22 where most lands are accessible to

hunters, numbers have been successfully reduced and remain low. Very mild winter conditions, suboptimal flying conditions for the trend count in March, and wolf activity in the herd unit, may have all contributed to the reduced number of observed elk during the winter count in 2018.

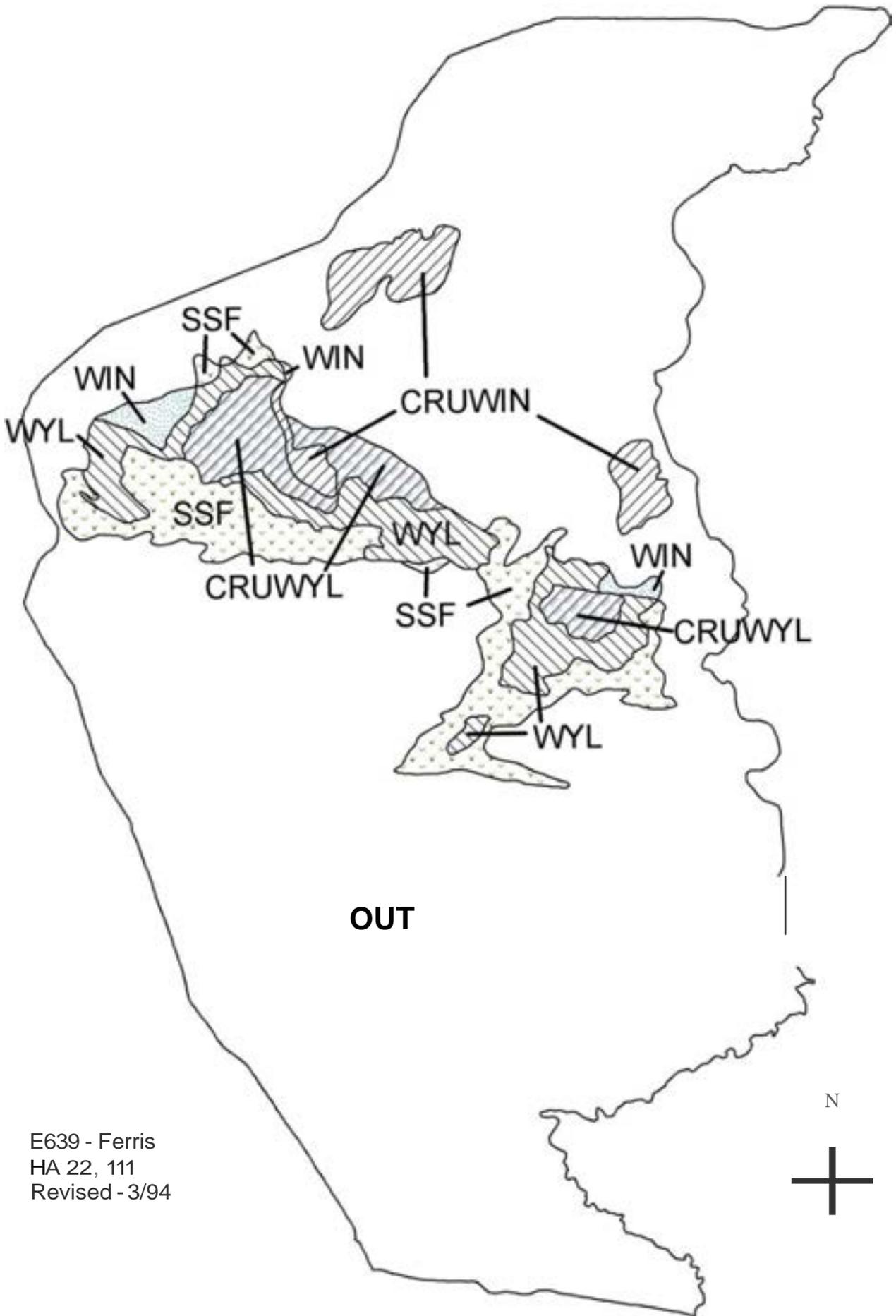
Management Evaluation

In response to a low trend count, poor hunter success and exceptionally low calf production in 2012, license quotas were reduced in 2013 to maintain herd reduction while providing reasonable chances of success for hunters receiving tags. This was the proper response for Area 22, but elk numbers were still above objective in Area 111 and quotas for that area have been increased each subsequent year. The high bull:cow ratio seen in Area 22 is probably skewed by bulls from Area 111 wintering in Area 22. More than 30 percent of the bulls in the herd classification are in the checkerboard in Area 111 and unavailable to hunters. A small increase in Type 1 bull licenses is recommended in Area 111 to encourage increased harvest on bulls to help address the high bull:cow ratio and increase opportunity for hunters. Due to low success of Area 111 Type 6 and 7 licenses, no change is recommended. No changes are recommended for Area 22.

Expected harvest from the 2018 season would be about 200 elk, with roughly 74 percent being antlerless. About 80 percent of the harvest should come from Area 111. Assuming normal calf production and improved hunter success, the herd should be reduced. Achieving this harvest will largely depend upon gaining managed access to addition tracts of deeded lands within Area 111.

Comments from several major landowners indicated they want elk harvested from this herd, but do not want public hunters on their lands. This herd offers an unusual opportunity where large portions of summer/fall habitats are on private lands with limited or no public access, but many winter ranges are on accessible public lands. Hence a strategy was initiated with an emergency regulation in 2012 and continued in the following years to allow hunters to pursue antlerless elk as late as January, where most of the elk are expected to be on public land. The intent is to achieve harvest of the reproductive segment of most of the elk herd, not just the segments which are publicly available in the fall. This same strategy is repeated in the 2018 seasons. Barring changes in access across private lands, elk occupying the Haystack Mountains in checkerboard lands in Area 111 will continue to be unavailable to most hunters, and will thwart efforts to reduce this herd towards objective.

All 2018 license types are consistent with the application booklets. Opening dates in both areas are consistent with the application booklets. Closing dates are the same as in the 2017 season. Archery seasons coincide with local deer archery seasons and archery seasons in neighboring elk areas.



E639 - Ferris
 HA 22, 111
 Revised - 3/94

2017 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2017 - 5/31/2018

HERD: EL643 - SHAMROCK

HUNT AREAS: 118

PREPARED BY: GREG HIATT

	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Trend Count:	8	0	0
Harvest:	48	66	60
Hunters:	87	96	92
Hunter Success:	55%	69%	65 %
Active Licenses:	92	101	92
Active License Success	52%	65%	65 %
Recreation Days:	462	325	360
Days Per Animal:	9.6	4.9	6
Males per 100 Females:	0	0	
Juveniles per 100 Females	0	0	

Trend Based Objective (± 20%)

75 (60 - 90)

Management Strategy:

Recreational

Percent population is above (+) or (-) objective:

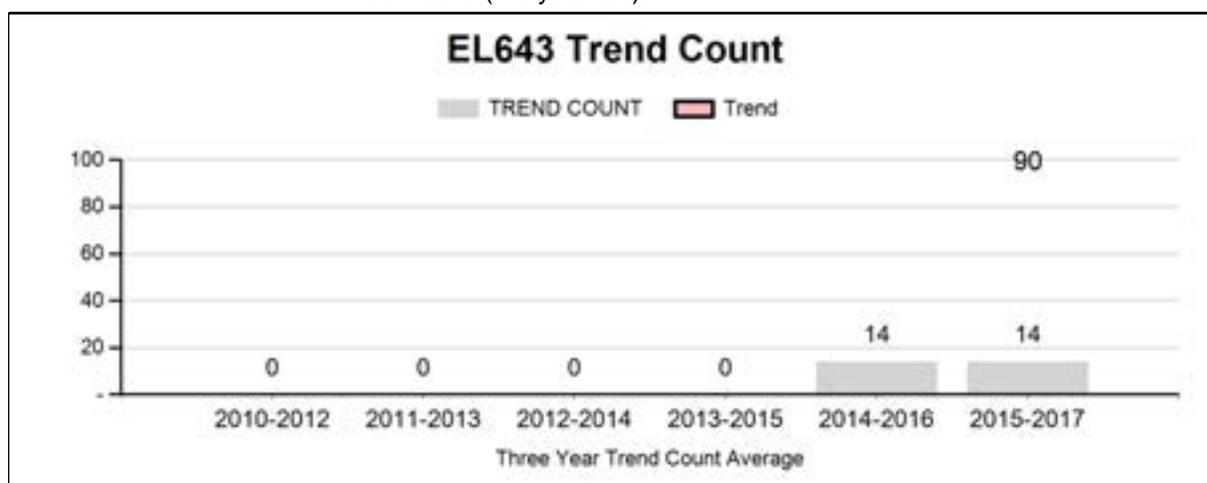
N/A%

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

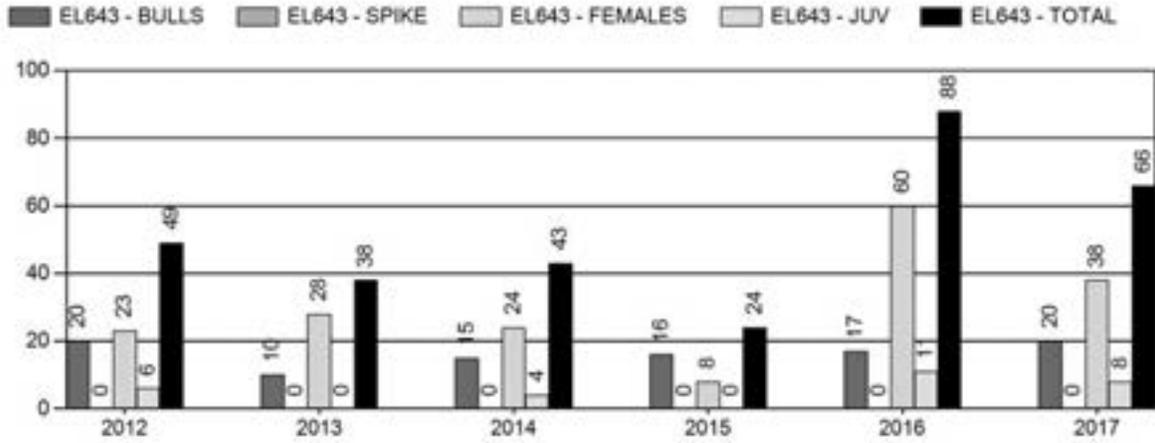
1

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

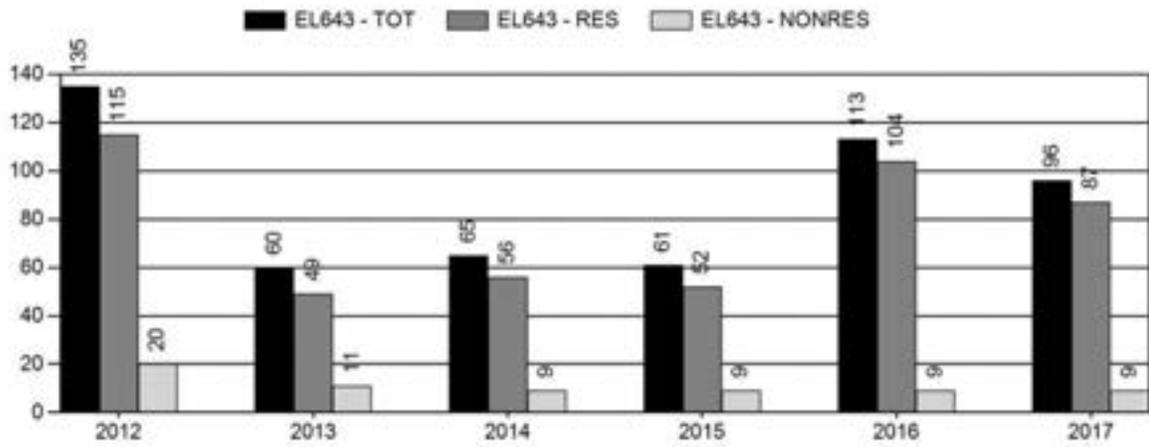
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



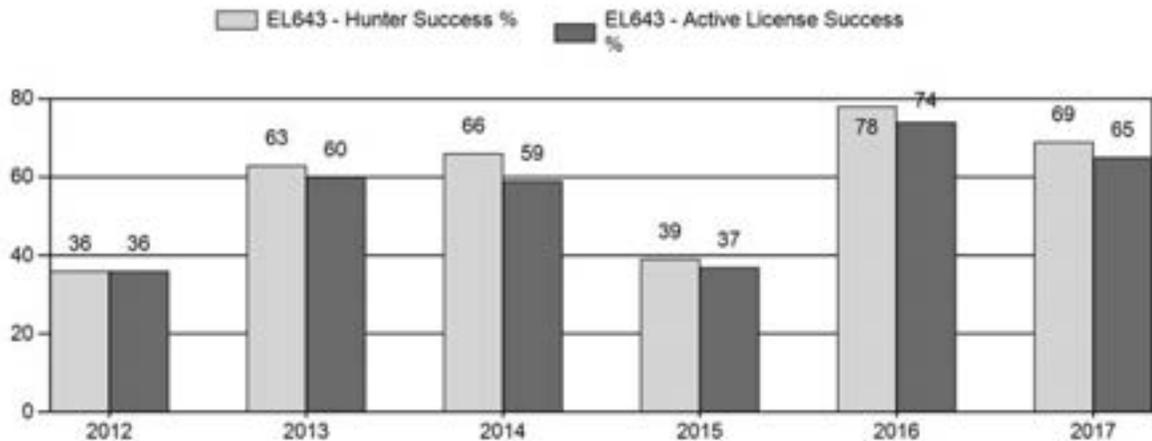
Harvest



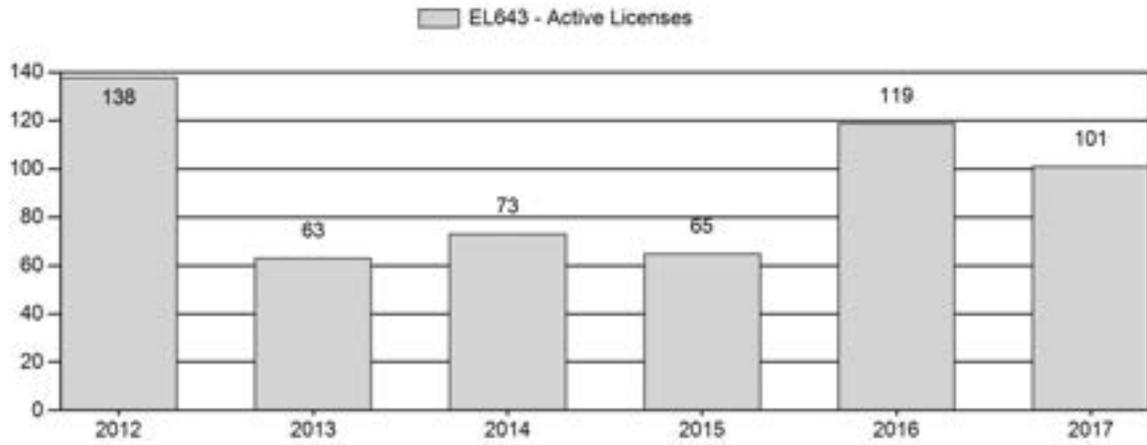
Number of Hunters



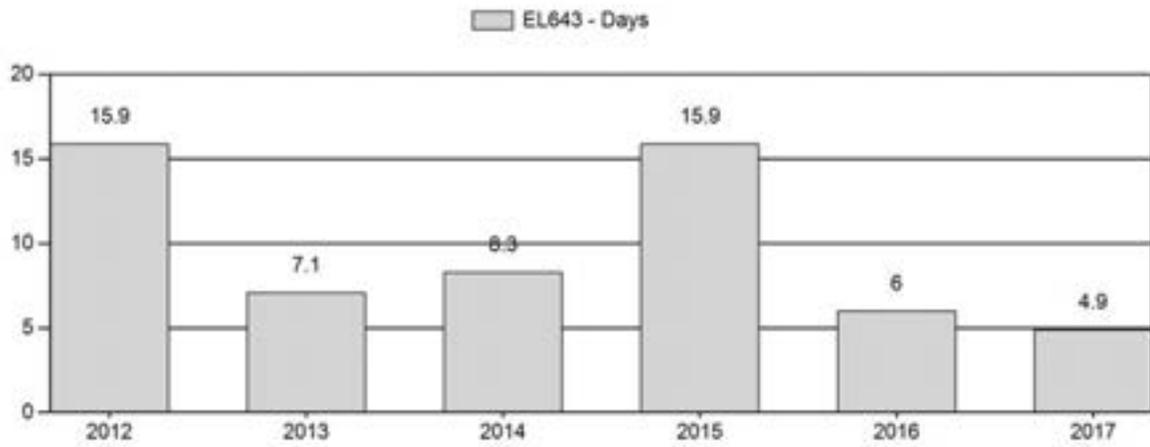
Harvest Success



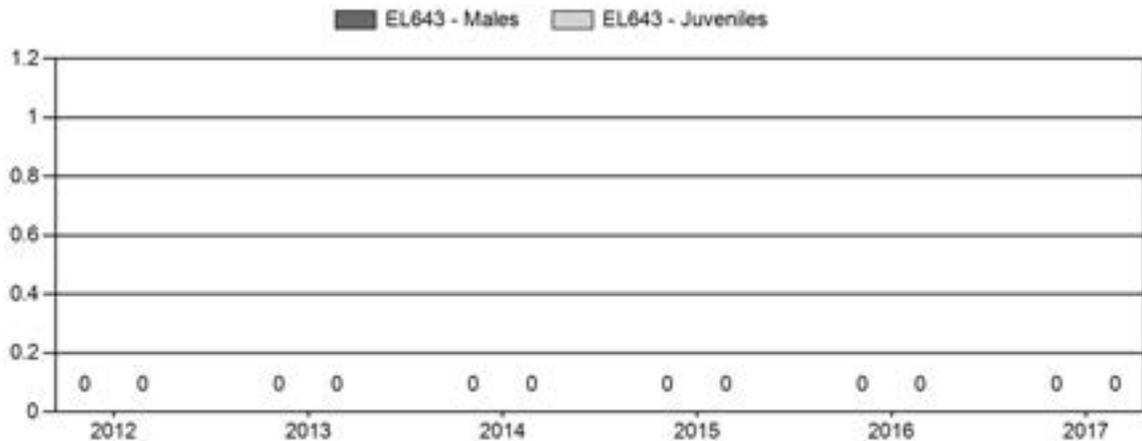
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



**2018 HUNTING SEASONS
SHAMROCK ELK HERD (EL643)**

Hunt Area	Type	Dates of Seasons		Quota	License	Limitations
		Opens	Closes			
118	1	Oct. 22	Nov. 12	25	Limited quota	Antlered elk
	4	Oct. 22	Nov. 30	25	Limited quota	Antlerless elk
	6	Oct. 1	Nov. 30	50	Limited quota	Cow or calf valid south of the Mineral X Road (Sweetwater County Road 63 and BLM Road 3206)
118		Sep. 1	Sep. 30			Archery Refer to Section 2 of this Chapter

Hunt Area	License Type	Quota change from 2017
118	1	0
	4	0
	6	-25
Herd Unit Total	1	0
	4	0
	6	-25

Management Evaluation

Current End-of-Year Population Trend Count Objective: 75

Management Strategy: Recreation

2016 End-of-Year Trend Count: 42

2017 End-of-Year Trend Count: N/A

2018 Proposed Postseason Population Estimate: N/A

Herd Unit Issues

The management objective for the Shamrock Elk Herd Unit is an end-of-year trend count of 75 elk. The management strategy is recreational management. A post-hunt objective of 75 elk and the recreation management strategy were first established in 1984, when elk were found almost exclusively in the southeastern quarter of the herd unit. A change to a landowner and hunter satisfaction objective was proposed in 2015 and was met with resistance by landowners who prefer management be committed to a fixed number of elk. Changing to an end-of-year trend count population objective was proposed, publicly reviewed, and accepted in 2016, while retaining recreational management.

This herd consists of bands of elk scattered in open sagebrush desert with three main areas of concentration in the southeast, southwest and the northeast corners of the herd unit. Observations have documented movement of bands of elk between these three concentration areas, as well as into Area 100 to the west, producing uncertainty on the actual numbers of elk in the population. Prior to 2017, aerial

trend counts were attempted, but often failed to find elk in the three main areas of concentration. Due to relatively flat terrain and frequent winds, snow cover is rarely adequate for good visibility of elk from an aircraft. Attempts to obtain classifications have been futile and resulted in samples too small and inconsistent to allow for a reliable herd population model to guide management. As a result, prior to 2017 license quotas have been based upon harvest statistics and simple assumptions of annular herd growth and harvest.

These bands of elk are highly mobile, and observations before and during the 2012 hunt suggested a significant number of elk from the southwestern portion of the herd may have moved west into more mesic habitats in the eastern portion of Area 100. This shift into Area 100 was noted again in 2014 and 2015, but may have been due to hunting pressure from cow/calf hunters rather than weather or drought.

At least eight elk died of lichen toxicity in the eastern portion of Area 100 during the 2015- 16 winter, but no incidences of lichen toxicity in elk were noted in the Shamrock Elk Herd Unit. Roughly 150- 200 elk wintering along the border between Areas 118 and 100 were reported to have left orange and red urine stains, indicative of lichen consumption, during both the 2014-15 and 2015-16 winters. No indications of lichen toxicity have been noted in this herd during the 2017-18 winter.

Weather

Above average precipitation in 2016 and 2017 produced good vegetation growth and, presumably, high calf survival. Condition of elk going into the 2017-18 winter was excellent and most winter ranges were available through the winter. The 2017-18 winter had periods of bitter cold, but with little snowfall or snow accumulation, so winter losses are expected to have been light.

Habitat

While no herbaceous habitat transects are established within this herd unit, herbaceous forage production appeared to be above average in 2016 and good in 2017. Only one shrub transect has been established in this herd unit, on the Chain Lakes WHMA, but was not read in 2017.

Habitat losses to uranium development increased with the opening of the Lost Creek *in situ* uranium mine near the center of the herd unit, but the disturbance is not in or near crucial elk ranges. Habitat losses to gas development have slowed in portions of the herd unit due to low oil and gas prices, but recently surged on the west half of the Chain Lakes WHMA.

Field Data

Classification samples for this herd have been statistically inadequate and no posthunt classification data were collected again this year. Dispersal of these elk in small bands across hundreds of square miles of sagebrush makes both aerial and ground classifications prohibitively expensive.

The first spring trend count of this herd was flown in May 2017, with 42 elk observed. The survey was flown with a single observer along north-south transects. The southern, checker-boarded half of the herd unit was flown at 2-minute intervals, while transects in the northern half, where elk are less commonly seen, were spaced at 4-minute intervals. One trend line near the western herd unit boundary was not flown, which may have missed a band of ~75 elk routinely seen moving across the Area 100/118 boundary. Also, the trend count sampling design did not include a line over Cherokee Peak in the southeastern portion of the herd unit where elk have also been observed. Both of these trend lines should be included in future surveys of this herd, and it may be necessary to add additional lines based upon areas of elk use identified in the future.

Following the aerial spring trend count in 2017, field observations confirmed at least 125 elk in the herd

unit. These observations included at least 45 elk in the southeastern portion of the herd unit, ~40 elk near the Continental Divide, ~25 elk in the Chain Lakes WHMA, ~15 elk near the Lost Creek *in situ* uranium mine, and several small (less than 5) bull and cow/calf groups in the northeastern and southwestern portions of the herd unit. Movement of bull elk to and from the herd unit was confirmed in August, when two branch antlered bulls were hit by vehicles on I-80 near mile post 176. Approximately 75 elk were also recorded moving between Area 118 and Area 100 near Siberia Ridge.

Good precipitation during 2016 and 2017 improved calf production in neighboring herds and production in this desert herd probably increased as well.

Harvest Data

Hunter success is typically high in this herd unit due to the open terrain and limited cover. However, prior to 2016, many hunters attributed low numbers of elk seen during the hunting season in Area 118 to movement west into the southeast portion of Area 100. To compensate, Type 4 and 6 hunters were allowed to hunt in the southern portion of Area 100 in 2016 and 2017, where landowners had requested increased elk harvest. The strategy was successful in increasing hunter success for these license types. At 70% success in 2016, the Type 6 hunters enjoyed the highest antlerless success ever recorded in this herd. Type 6 hunter success dropped to 69% in 2017, which was expected, as hunters reported that finding a cow or calf in the herd unit (and the southeastern portion of Area 100) was more difficult than in 2016.

As would be expected with improved hunter success in 2016 and 2017, the average number of days hunted per elk harvested decreased for both antlerless license types. In 2016, hunter satisfaction jumped to 84 percent with the increased access to elk for harvest. Hunter satisfaction dropped slightly in 2017 to 81 percent.

With the increase in the Type 6 quota, harvest in 2016 was more than three times that taken in 2015, despite having the option to hunt in a portion of Area 100. The added pressure along the eastern edge of Area 100 may have prevented the border crossing seen in 2012 and 2015. None of the Type 1 holders reported harvesting a spike.

In 2016, only 21 (27 percent) of the 77 Type 6 license holders that responded to the harvest survey reported harvesting their elk in Area 100. Yet a phone survey of 53 of these 77 license holders found 63 percent reporting they harvested their elk in Area 100. A portion of the Area 100 hunters were also allowed to hunt in the southwestern portion of Area 118 in 2016, but none reported doing so. In 2017, of 39 Type 6 license holders who responded to the harvest survey, only 9 (23 percent) reported harvesting their elk in Area 100. The additional phone survey was not repeated after the 2017 hunting season, but, based on the 2016 phone survey, it is assumed a higher percentage of Type 6 license holders harvested their elk in Area 100 than reported in the harvest survey.

Population

While initially found only in the southeastern portion of the herd unit, over the past 20 years elk have expanded into most portions of Area 118. Numbers increased as well, with Department personnel confirming at least 270 elk in this area prior to the 2010 hunting season. Harvests were increased, and the herd was estimated at about 200 elk following the 2011 hunt. Harvest from Type 6 licenses was most effective at reducing elk numbers in the southeast corner where elk use of private lands had been a concern.

Localized movement of elk westward into Area 100 from the southwest portion of Area 118 cannot explain all of the difficulty hunters had finding elk to harvest in the years since 2015. Harvest statistics indicate increased harvests in recent years have reduced elk numbers across the herd unit. Forty-two elk were observed during the spring trend count in 2017, but observations in the months following the trend count

confirm at least 125 elk in the herd unit prior to the hunting season.

During the 2017 hunting season, observations of elk moving between Area 118 and Area 100 were again documented. Unlike some previous years, most of this movement was occurring near Siberia Ridge where hunting access was limited and will probably continue to be limited.

Management Evaluation

Expected harvest from the 2018 season is about 60 elk, comprised of ~50 antlerless elk and ~10 bulls. In previous years, cow/calf licenses were restricted to the southeastern portion of the area to address landowner concerns about elk numbers on private lands close to Rawlins. This strategy was successful, and the restricted area for those Type 6 licenses was expanded to include all of the hunt area south of the Mineral X Road beginning in 2013, which encompasses most private lands within the checkerboard. A similar delineation for the Type 6 licenses is again proposed in 2018.

Opening date in this hunt area has been in the third week of October since it was reopened to hunting in 1992. Recently, there have been years when significant numbers of elk moved west out of the southwestern portion of this herd unit into Area 100 before or during hunting season, reducing harvests. In an attempt to compensate for this movement, the opening date for this area was synchronized with Area 100 in 2011 and 2012, on Oct 15. The attempt failed, with a large number of elk still moving west in 2012. There simply was not enough hunting pressure in the eastern end of Area 100 to shift elk back into Area 118. Complaints about the earlier opening date were received from nearly every hunter contacted, most being upset about crowding due to the season opener coinciding with that for the deer season. Others commented on the lack of a Department presence in the field on opening day, and subsequent poor hunting behavior (chasing with vehicles, herd shooting) by some participants.

Opening date for the Type 1 and Type 4 seasons was returned to the traditional third week of October beginning in 2014, avoiding overlap with the general license deer hunt in the same area. Closing date for the Type 4 season is extended to the end of November to match the opportunity available to the Type 6 hunters. The archery season uses standardized dates and is comparable to those in neighboring areas.

In 2016 and 2017, the problem of elk dispersing into the southeastern portion of Area 100 was addressed with Area 118 Type 4 and Type 6 licenses also being valid in the southeastern corner of Area 100, bounded by the Bar-X and Luman Roads. This strategy was also used to test a boundary change between these two herd units that was proposed in 2014. In 2016 and 2017, landowners in Area 118 and 100 saw an increase in elk harvest. Type 4 and Type 6 license hunters expressed appreciation at having the option to follow elk if they did cross the boundary. However, the increased Type 4 and Type 6 hunters did not focus hunting pressure on elk that were moving across the Area 118/100 boundary to the extent intended. During hunter contacts and the phone survey in 2016, it was discovered that many Type 6 and Type 4 hunters focused their hunting efforts either exclusively in Area 100 or Area 118. When Type 4 and Type 6 hunters did follow elk across the Area 118/100 boundary (specifically near Siberia Ridge) it was onto properties where only a limited amount of hunting access was permitted.

Landowners in the southeastern portion of Area 100 voiced concern over the number of hunters they observed in 2017. Landowners in Area 100 agreed that in 2018, a more effective way to address their concerns about the number of elk residing in Area 100 or crossing into Area 100 would be with the Area 100 Type 6 license as opposed to making Area 118 Type 4 and 6 valid in a portion of Area 100. Landowners in the Shamrock Elk Herd Unit agreed that Type 4 and Type 6 licenses could go back to the boundaries established prior to the 2016 hunting season.

In 2015, Type 6 licenses were set at 25. In 2016, Type 6 licenses were increased to 50 and then again in 2017 to 75. This increase in Type 6 licenses addressed concerns about elk numbers on private lands. In 2016 and 2017, the size of the hunt area was increased (Type 6 hunters could hunt the southeastern

portion of Area 100), so an increase in Type 6 licenses was appropriate. Several landowners in the Shamrock Elk Herd Unit still express concern about the distribution of elk on private lands. However, some properties in the herd unit that were historically easy to access may be more difficult to access in 2018. To address concerns about elk distribution on private lands 50 Type 6 licenses are recommended. While this is a reduction in these licenses, it is appropriate considering access to some private lands may be more difficult and the hunt area size is reduced.

E643 - Shamrock
HA 118
Revised - 5/88

