

2018 - JCR Evaluation Form

SPECIES: Bighorn Sheep

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

HERD: BS516 - DOUGLAS CREEK

HUNT AREAS: 18

PREPARED BY: LEE KNOX

	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2018 Proposed</u>
Population:		N/A	N/A
Harvest:	1	0	
Hunters:	1	0	
Hunter Success:	100%	0%	
Active Licenses:	1	0	CLOSED
Active License Success:	100%	0%	
Recreation Days:	2	0	
Days Per Animal:	2	0	

Limited Opportunity Objective:

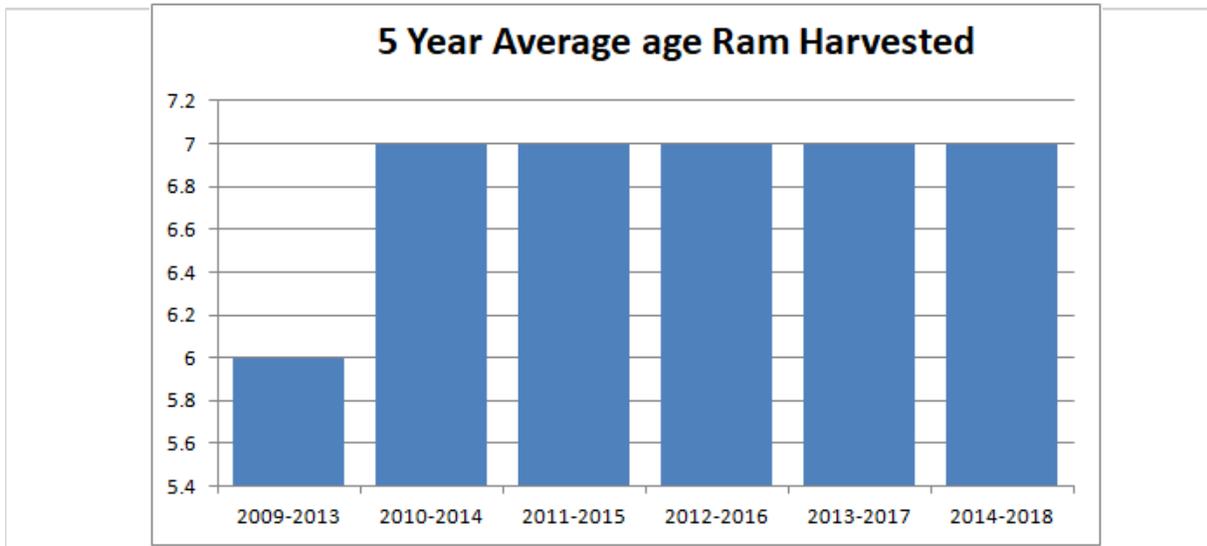
5-year average of > 75% hunter success

5-year average harvest age of 6-8 years

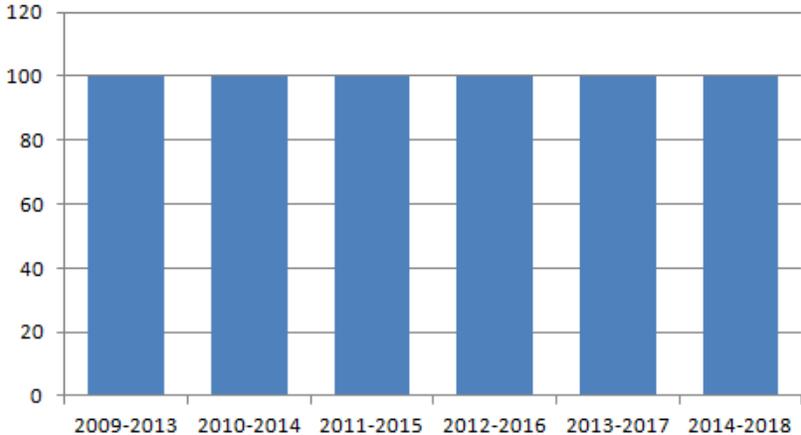
Secondary Objective:

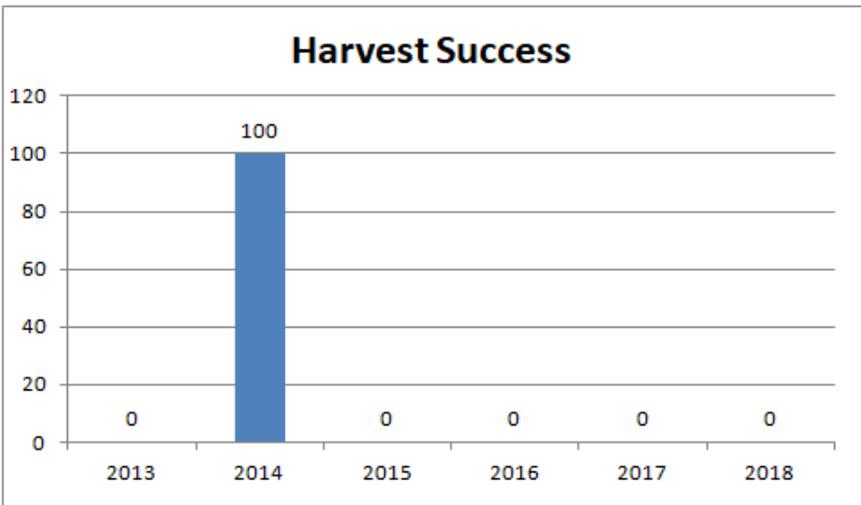
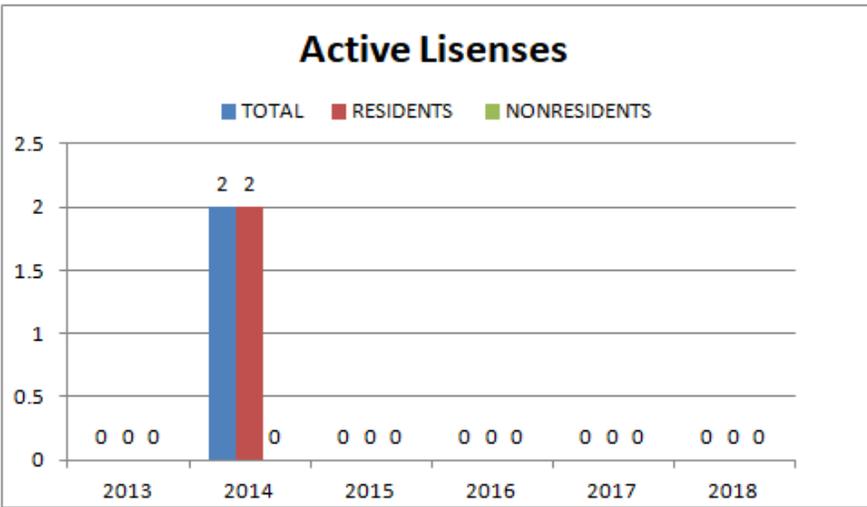
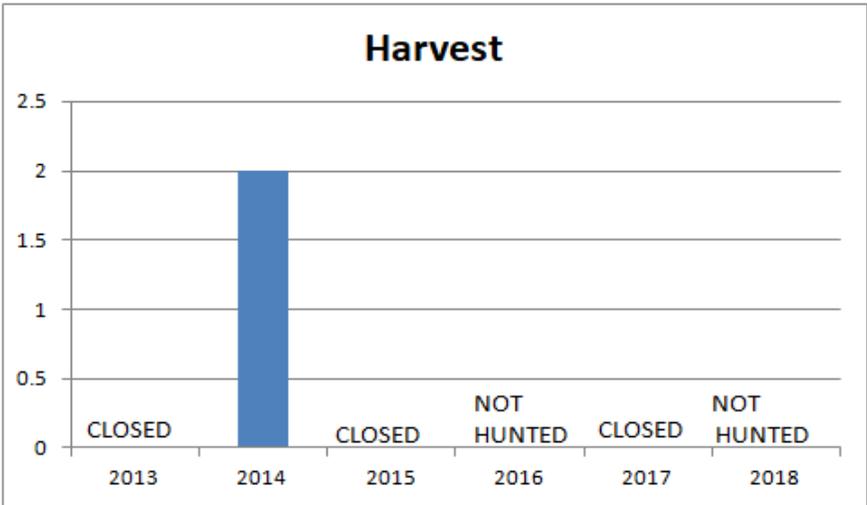
Management Strategy:

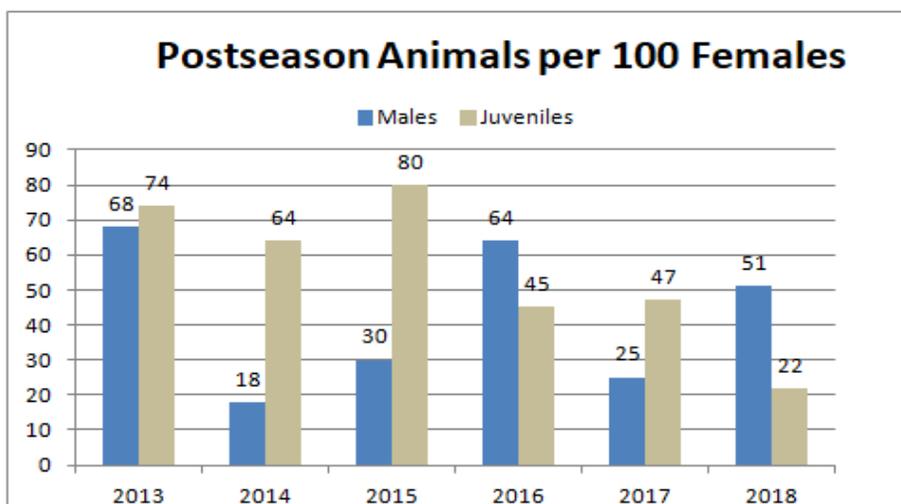
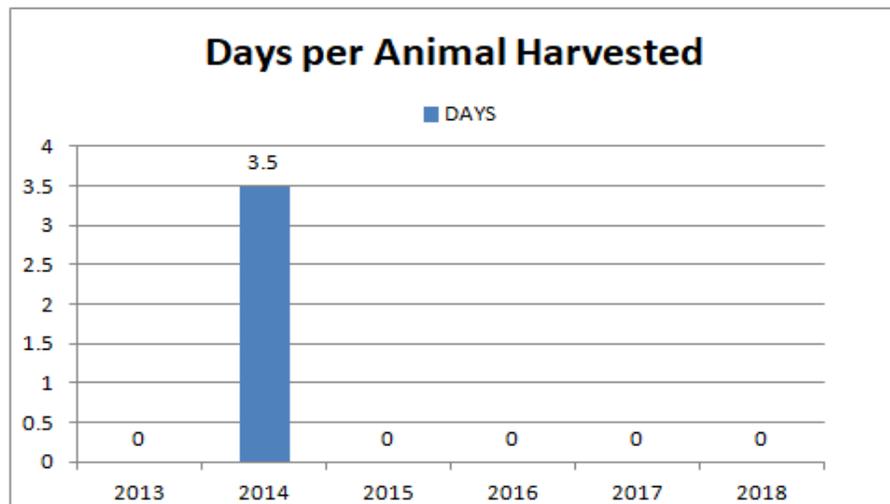
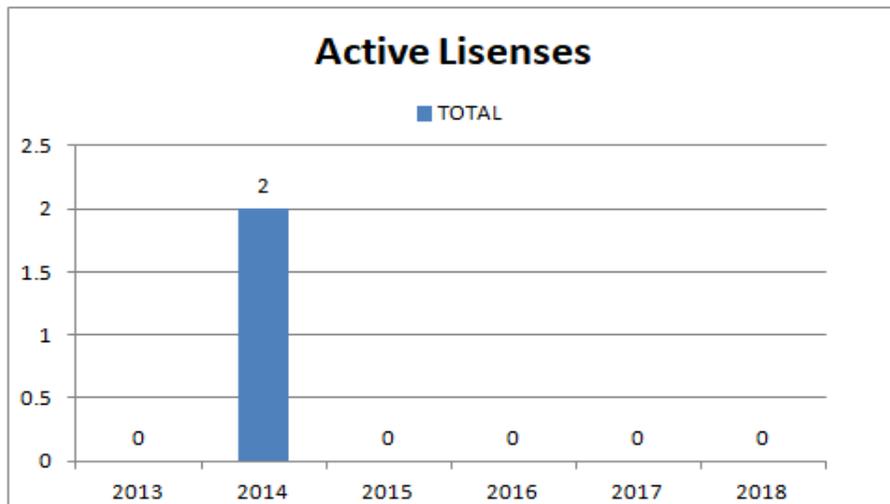
Special



Harvest Success







2013 - 2018 Postseason Classification Summary

for Bighorn Sheep Herd BS516 - DOUGLAS CREEK

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
2013	0	6	7	13	28%	19	41%	14	30%	46	0	32	37	68	± 0	74	± 0	44
2014	75	3	1	4	10%	22	55%	14	35%	40	0	14	5	18	± 9	64	± 19	54
2015	75	0	3	3	14%	10	48%	8	38%	21	0	0	30	30	± 21	80	± 41	62
2016	0	4	3	7	30%	11	48%	5	22%	23	0	36	27	64	± 33	45	± 26	28
2017	0	1	7	8	15%	32	58%	15	27%	55	68	3	22	25	± 0	47	± 0	38
2018	75	1	18	19	30%	37	58%	8	12%	64	0	3	49	51	± 0	22	± 0	14

**2019 HUNTING SEASONS
DOUGLAS CREEK BIGHORN SHEEP (BS516)**

Hunt Area	Type	Date of Seasons		Quota	License	Limitations
		Opens	Closes			
18,21	1	Sept. 1	Oct. 31	CLOSED	Limited quota	CLOSED

Area	Type	Changes from 2018
18,21	1	-2
Herd Unit Total	1	-2

Management Evaluation

2017 population estimate: 75

Current Management Objective:

- 1) **5-year running average of $\geq 75\%$ hunter success- 100%**
- 2) **5-year running average age of harvested rams between 6 and 8 years of age- 2012-2017 Average Age: 7 years old**
- 3) **Documented occurrence of adult rams in the population~ > 25 rams observed**

Management Strategy: Special

The management objective for the Douglas Creek bighorn sheep herd unit was changed in 2016 from a post season population objective to limited opportunity that manages for the following objectives:

- 1) 5-year running average of $\geq 75\%$ hunter success
- 2) 5-year running average age of harvested rams between 6 and 8 years of age
- 3) Documented occurrence of adult rams in the population

Herd unit Issues

The Douglas Creek herd unit is located primarily in the Savage Run and Platte River wilderness areas in the Snowy Range Mountains on the Medicine Bow National Forest. The herd is under special management guidelines to provide trophy opportunity to the public. Pine beetles have dramatically changed the landscape in the Medicine Bow National Forest where a large percentage of mature pines have died and are starting to fall over. At this time, the impacts to this herd from the pine beetle epidemic are unclear. Area 18 was closed from 2004 through 2007 and then again in 2009, 2011, 2013, 2015, and 2017 because this population has remained below desired levels. Licenses were offered in 2018 for one resident and one nonresident, however both hunters choose to hunt area 21, and did not hunt in 18. Hunt Area 18 will be closed in 2019.

Weather

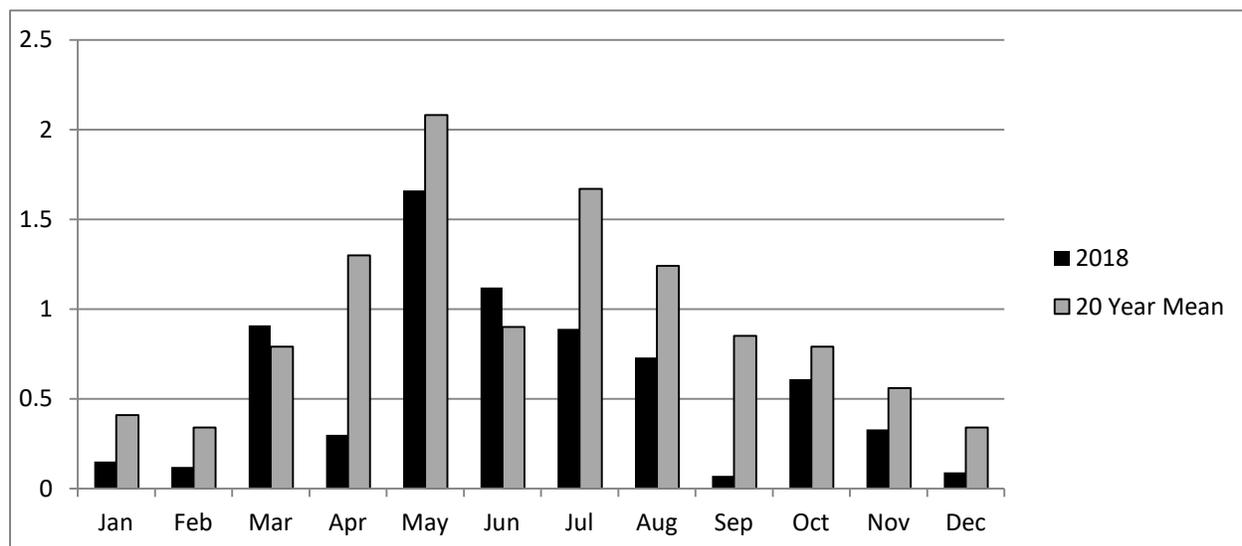


Figure 1. Monthly precipitation totals in inches for 2018 and the 20 year mean (1999-2019). Report was created at <https://w2.weather.gov/climate/xmacis.php?wfo=cys> using data collected at the Laramie Regional Airport.

Precipitation amounts were below average at all elevations throughout southeast Wyoming. No significant prolonged periods of extreme heat or cold temperatures were observed, or extreme or prolonged periods of snow loading in lower elevation winter ranges. Timing of precipitation and amounts received during key growth periods for cool season grasses and preferred transitional range and winter range shrub species was excellent. While early season growing conditions were optimal, late summer and fall precipitation were lacking.

Habitat

Precipitation received in April, May, and early June resulted in excellent growth of cool season grasses and forbs, and above average leader growth on preferred key shrubs in low elevations. At upper elevations, May, June, and July precipitation was also above average, and created favorable forage conditions. While early season growing conditions were optimal, late summer and fall precipitation were lacking. Conifer encroachment and windthrow of beetle-killed pine trees is suspected to, or likely will, have negative impacts on bighorn sheep movements and migrations. Cheatgrass prevalence at lower elevations is also concerning to habitat managers, particularly on south facing aspects in the Platte Valley.

The limited number of habitat transects that have been established throughout the Laramie Region have not provided sufficient data to make reliable assumptions of habitat quantity or quality. Data should not heavily influence population management in the Douglas Creek herd unit.

Field Data

We have very little data on this population. The general public provides few reports during the summer and hunting seasons. Field personnel make an effort to document the status of segments of the herd during other big game surveys and an annual winter ground survey. Past observation data consistently documents low post-weaning lamb survival. Poor habitat quality, lack of habitat, and the lack of well-defined seasonal migrations, and perhaps lingering effects of Pasteurellosis or some other disease may be stagnating this population. In December, 64 sheep

were classified with a lamb to ewe ratio of 22:100, low even in this herd unit. Nineteen rams were also documented on that flight, for a ratio of 51 rams: 100 does. This winter 10 ewes were caught, sampled and collared (9 were collared) for disease as part of a state wide disease surveillance in bighorn sheep. While capturing sheep, the crew documented 25 rams by the A Bar A ranch, with an additional 4 at the state line.

Harvest Data

In 2016, two licenses were issued for one nonresident and one resident, valid in Hunt Areas 18 and 21; however the two hunters choose not to hunt in 18. Two rams were harvested in Hunt Area 21. The herd unit was closed in 2017. In 2018 the herd unit was open for two residents. Both rams were harvested in Hunt Area 21. The Last Ram harvested in Hunt Area 18 was in 2014.

Population

Data is not adequate for developing a reasonable population model. We are unable to collect the data needed to reliably estimate the population size of this sheep herd. This herd remains stagnate. The population and distribution of sheep has shrunken considerably over the last 20+ years for unclear reasons. With field data and public reports, it's reasonable to estimate this population between 70-100 sheep.

Management Strategy

The season is open for 2 rams every other year to maintain the opportunity to harvest a 6 year or older age class ram, which is specified by the special management guidelines. The season will be Closed in 2019.

2018 - JCR Evaluation Form

SPECIES: Bighorn Sheep

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

HERD: BS517 - LARAMIE PEAK

HUNT AREAS: 19

PREPARED BY: MARTIN
HICKS

	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Population:		N/A	N/A
Harvest:	6	9	8
Hunters:	7	9	8
Hunter Success:	86%	100%	100 %
Active Licenses:	7	9	8
Active License Success:	86%	100%	100 %
Recreation Days:	79	83	80
Days Per Animal:	13.2	9.2	10

Limited Opportunity Objective:

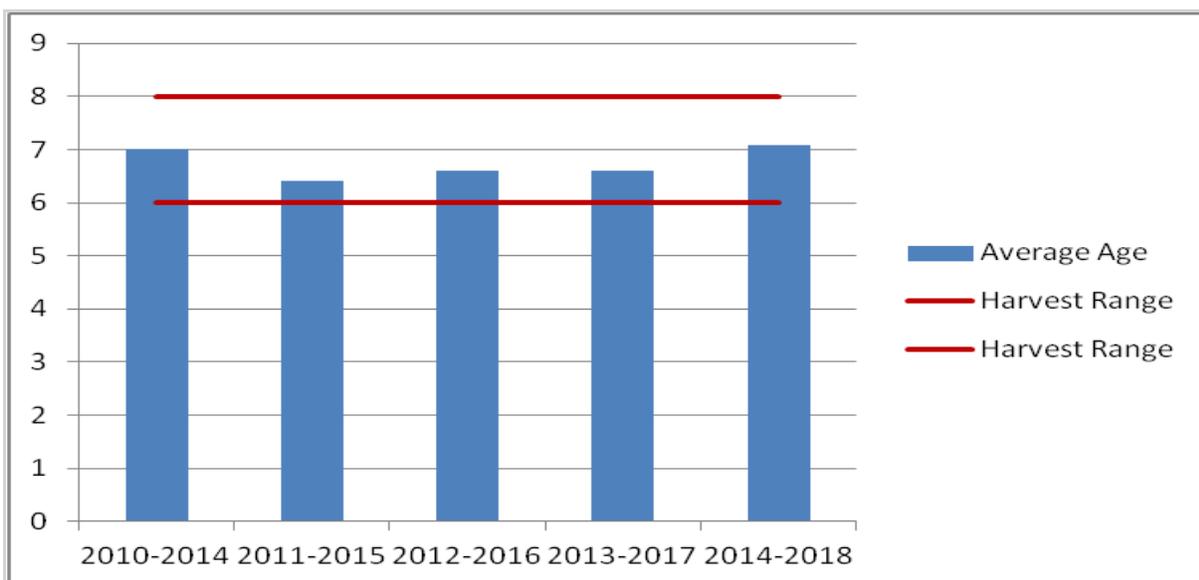
5-year average of > 75% hunter success

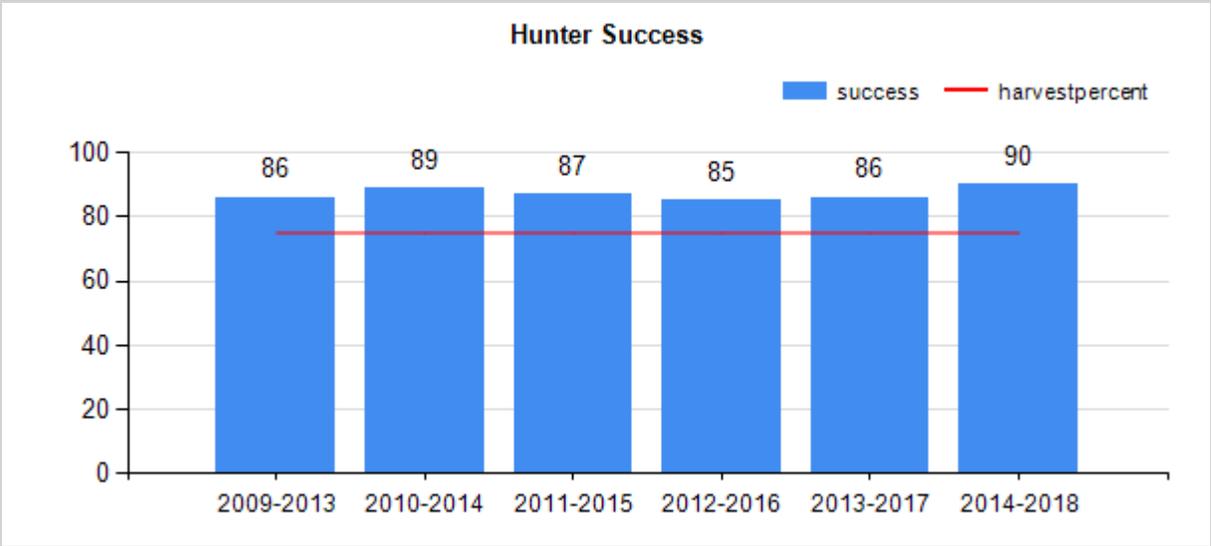
5-year average harvest age of 6-8 years

Secondary Objective:

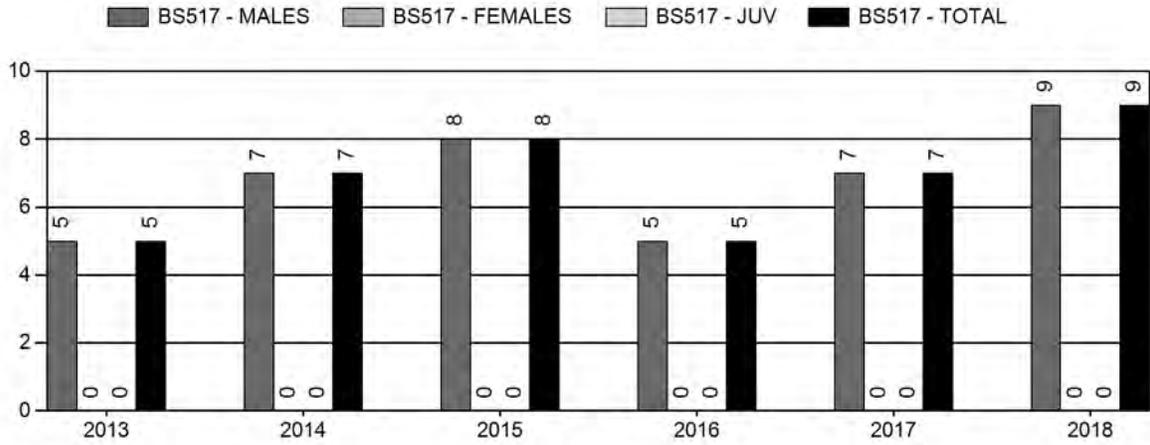
Management Strategy:

Special

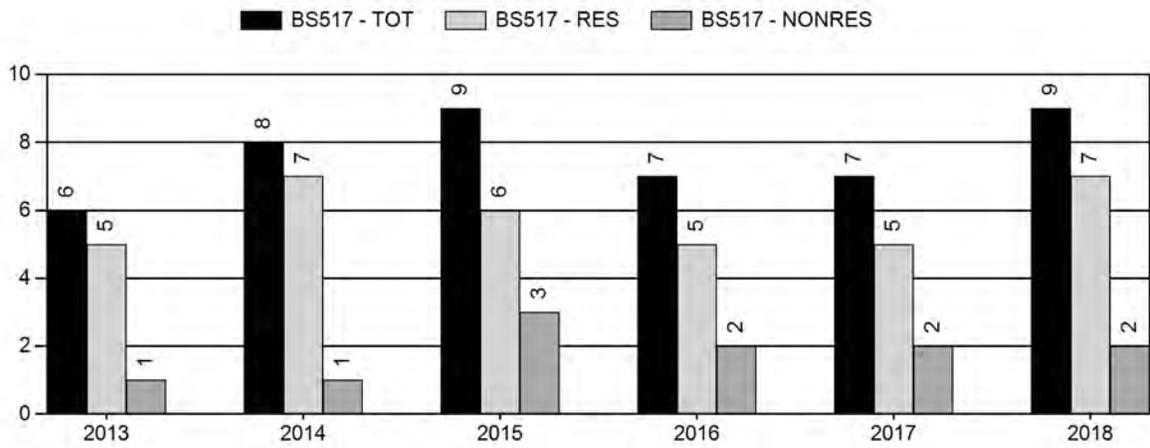




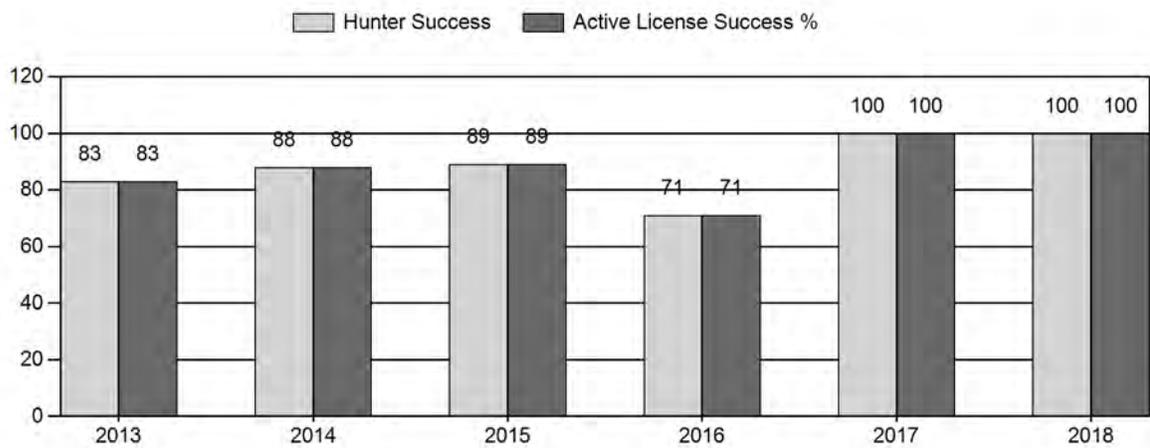
Harvest



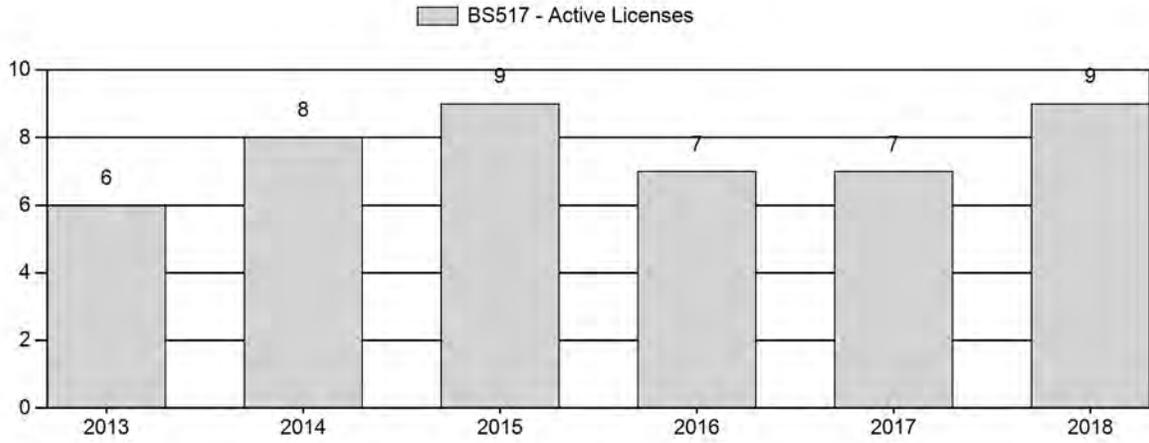
Number of Active Licenses



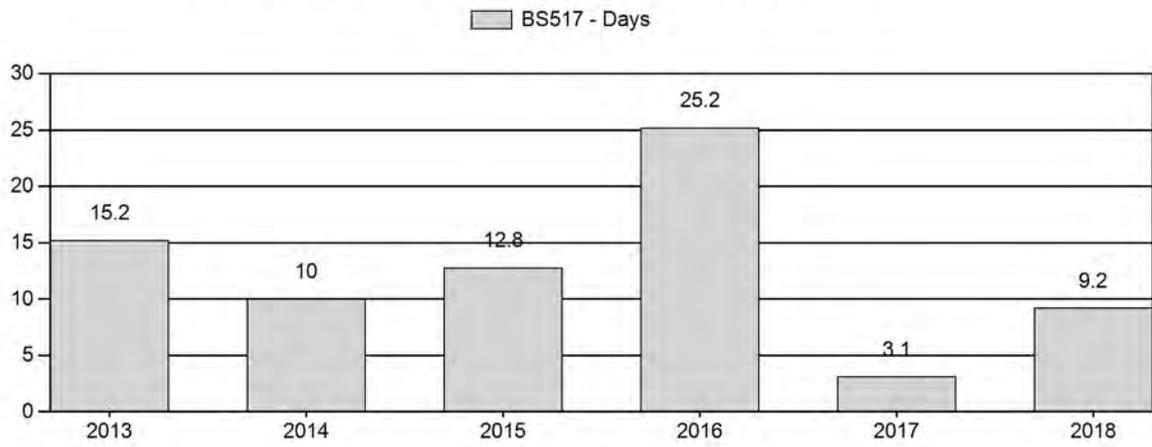
Harvest Success



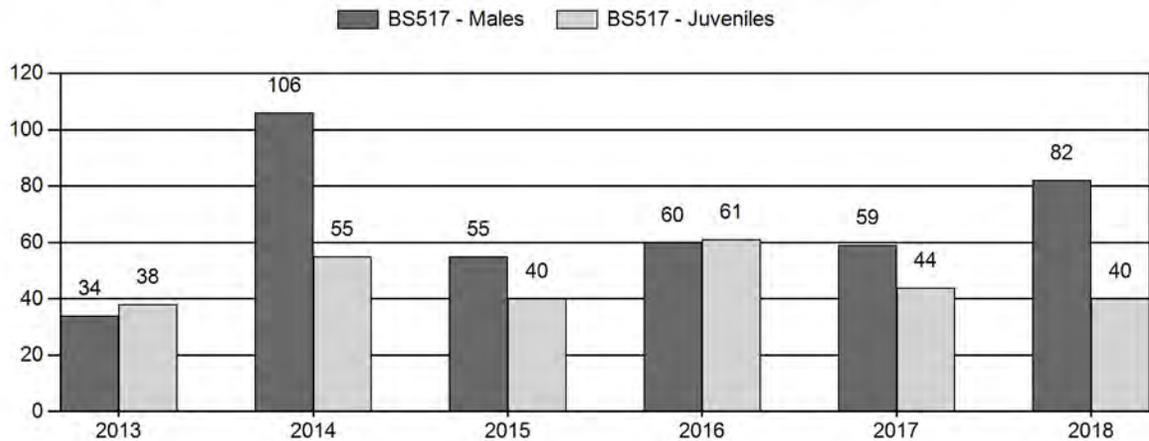
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 Postseason Classification Summary

for Bighorn Sheep Herd BS517 - LARAMIE PEAK

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylng	Adult	Total	Int	Conf	100 Fem	Conf Int
2013	0	7	16	23	20%	68	58%	26	22%	117	0	10	24	34	± 0	38	± 0	29
2014	0	8	25	33	41%	31	38%	17	21%	81	0	26	81	106	± 0	55	± 0	27
2015	0	2	21	23	28%	42	51%	17	21%	82	0	5	50	55	± 0	40	± 0	26
2016	0	10	30	40	27%	67	45%	41	28%	148	0	15	45	60	± 0	61	± 0	38
2017	0	5	30	35	29%	59	49%	26	22%	120	0	8	51	59	± 0	44	± 0	28
2018	0	9	28	37	37%	45	45%	18	18%	100	0	20	62	82	± 0	40	± 0	22

**2019 HUNTING SEASONS
LARAMIE PEAK BIGHORN SHEEP HERD (BHS517)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
19	1	Sept. 1	Oct. 31	8	Limited quota	Any ram

Special Archery Season Hunt Areas	Opening Date	Closing Date	Limitations
19	Aug. 15	Aug. 31	Refer to Section 2 of this Chapter

Hunt Area	Type	Quota change from 2018
19	1	0

Management Evaluation

Current Management Objective:

- 1) **5-year running average of $\geq 75\%$ hunter success- 90%**
- 2) **5-year running average age of harvested rams between 6 and 8 years of age- 2014-2018 Average Age: 7 years old**
- 3) **Documented occurrence of adult rams in the population- 37**

Management Strategy: Recreational

Herd Unit Issues

The management objective for the Laramie Peak Bighorn Sheep herd was a post-season population objective of 500 wild sheep. The management strategy is recreational management. The objective and strategy were last revised in 1978. The population objective was reviewed during the winter/spring of 2014 and will be reviewed again in 2019. Based on department staff, landowner, and public comments the following population management alternative objectives were approved by the WGFD Commission:

- 1) 5-year running average of $\geq 75\%$ hunter success
- 2) 5-year running average age of harvested rams between 6 and 8 years of age
- 3) Documented occurrence of adult rams in the population

The Laramie Peak Herd Unit is comprised of 70% private land. The southern portion (south of WY Hwy 34) is over 90% private land. Hunters can expect to pay a trespass/trophy or outfitter fee to hunt on private land. There are two state sections that hunters can access that hold sheep throughout the season and have produced adult rams in past hunting seasons. A portion of occupied sheep habitat was within the 2012 Arapahoe fire that burned over 98,000 acres. This affected sheep distribution post-fire, but above average summer/fall precipitation in 2013 and spring precipitation in 2014 resulted in increased vegetation production for pre-winter diets and early spring green up that will benefit parturition areas for pregnant ewes. The fire will have long-term benefits for wild sheep, but initially there has been a flush of noxious weeds (e.g. cheatgrass, Canada thistle) that land managers will need to address.

A majority of wild sheep are harvested within the northern portion of the herd unit. The Laramie Peak Wildlife Habitat Management Unit is essential for sheep habitat and harvest where 200 plus sheep inhabit. In 2007 forty-two sheep were released in this area from the Perma-Paradise Herd in Montana. These sheep have thrived and improved the overall genetics and health of the existing herd.

During the winter of 2018/19 the WGFD did aerial capture 16 female wild sheep to finish up the state-wide disease surveillance research. Of those 16 sheep captured 15 were fitted with GPS satellite radio collars. Biological samples were collected on all sheep, 6 from Sybille Canyon and 10 from Duck Creek. The herd objective was reviewed in 2019 and there were no changes.

Weather

Weather in this herd unit was relatively normal during the past bio-year. Precipitation amounts were average throughout most elevations throughout southeast Wyoming during spring months then became dry and hot from July through October. Higher elevations (>8,000 ft) did start to receive snow in November and December. High wind events coupled with periods of extreme cold temperatures did occur throughout winter months which most likely had a negative effect on wild ungulates. Timing of precipitation and amounts received during key growth periods for cool season grasses and preferred transitional range and winter range shrub species was slightly above average. While early season growing conditions were adequate, late summer and fall precipitation were lacking. Generally speaking weather patterns most likely had a positive influence on all big game species. For specific meteorological information for the Laramie Peak herd unit the reviewer is referred to the following link: <http://www.ncdc.noaa.gov/cag/>

Habitat

Forage availability in 2018 was similar to 2017 based on NOAA weather data. Precipitation was similar to the long-term average which produced adequate forage for lactating ungulates. Cheatgrass continues to be a major threat to native rangelands and big game ranges, particularly at all elevations below 6,500'. Its presence ties the hands of habitat managers limiting habitat enhancement options, and may result in reduced carrying capacities of rangelands if it is the predominant species.

Cheatgrass prevalence at lower elevations such as Sybille Canyon and areas burned by the Arapaho Fire of 2012 is concerning to habitat managers. While wildfires have reduced conifer canopies in the Laramie Range, deemed to be largely conducive to bighorn sheep movements and migrations, the prevalence of cheatgrass is cause for concern. In Summer 2015, Colorado State University natural resource program scientists worked cooperatively with WGFD and USFS personnel to map cheatgrass infestations via satellite imagery and on-the-ground vegetation sampling efforts. Future herbicide applications to control cheatgrass will likely be largely based off of this data. With recent completion of an Environmental Assessment by the USFS, options have expanded greatly to control cheatgrass, including aerial application of herbicides.

There were two wild fires that occurred within bighorn sheep habitat in 2018. The Britania fire burned approximately 30,000 acres and the School Creek fire burned 320 acres. Both fires are

concerning because of the potential for cheatgrass invasion. Funding has been submitted to six different entities in the amount of \$100,000 that would be used for aerial application of the herbicide Plateau to control 4,000 acres of cheatgrass. If funded application period would be August 15-September 15, 2019.

Field Data

In 2018 there were 9 out of the 9 bighorn sheep harvested (one license carry over from 2018) with an average age of 8.4 years old for a 100% success rate. The five-year average is slightly lower at 7 years old and the five-year running success average is 90%, which met the two alternative objective criteria.

Since 1964 there have been a total of 228 wild sheep released from two herd sources: Whiskey Mountain in Wyoming and Perma-Paradise in Montana (Table 1). These transplants have helped to supplement the herd and improve overall herd health.

Table 1. Transplant release data for the Laramie Peak Bighorn Sheep Herd.

Year	Number	Release Location	Source Herd
1964	40	North Laramie River Canyon	Whiskey Mountain Herd
1965	36	Labonte Canyon	Whiskey Mountain Herd
1966	21	Labonte Canyon	Whiskey Mountain Herd
1973	42	Duck Creek Canyon	Whiskey Mountain Herd
1982	27	Marshall	Whiskey Mountain Herd
1989	20	Marshall	Whiskey Mountain Herd
2007	42	Hay Canyon	Perma-Paradise- MT
Total	228		

Lamb recruitment continues to improve compared to ratios prior to the 2007 release. There were a total of 100 wild sheep classified in 2018 with lamb ratios of 40 lambs:100 ewes which was slightly lower than the 5-year average (47 lambs:100 ewes) but still way higher prior to the 2007 release. In 2018 the post-season male ratios were 82 rams:100 ewes, which was significantly higher than the 5-year average of 62 rams:100 ewes. The yearling ram ratio (20 yearling rams:100 ewes) was higher than the 5-year average (13 yearling rams:100 ewes). Based on surveys there is a well represented number for each age class. Several 8+ old rams were observed in the Duck Creek sub-herd.

In February 2017 six ewes were collared and disease samples collected from the Iron Mountain sub-herd. Year-round collar data overlaps the areas that were treated with prescribed fire in 2010 and 2014 demonstrating the importance fire plays in habitat enhancement (Figure 1). From October to December 2018 there were three mortalities. Cause of death is unknown but they died within 1 mile of each other.

In January 2019, 16 female bighorn sheep were captured within the Laramie Peak Herd unit, which was part of the state-wide disease surveillance program. Results of the biological samples taken are unknown at this time, but will be available by the 2019 JCR reporting period to determine overall herd health. There were 6 ewes captured within the Sybille Canyon sub-herd and 10 ewes captured within the Duck Creek sub-herd with one mortality on Feb 4 (cause

unknown) and one collar malfunctioning so only 8 collars remain active at this time. Movement data has shown they have not traveled far from the capture site (Figures 2 and 3). These sheep will be continued to be monitored throughout the year particularly during lambing periods and winter to obtain post-season classifications.

Figure 1. Data points from six different female bighorn sheep (Jan 2018 - Feb 2019) that overlap two prescribed burns (dark blue polygon) within the Iron Mt sub-herd.

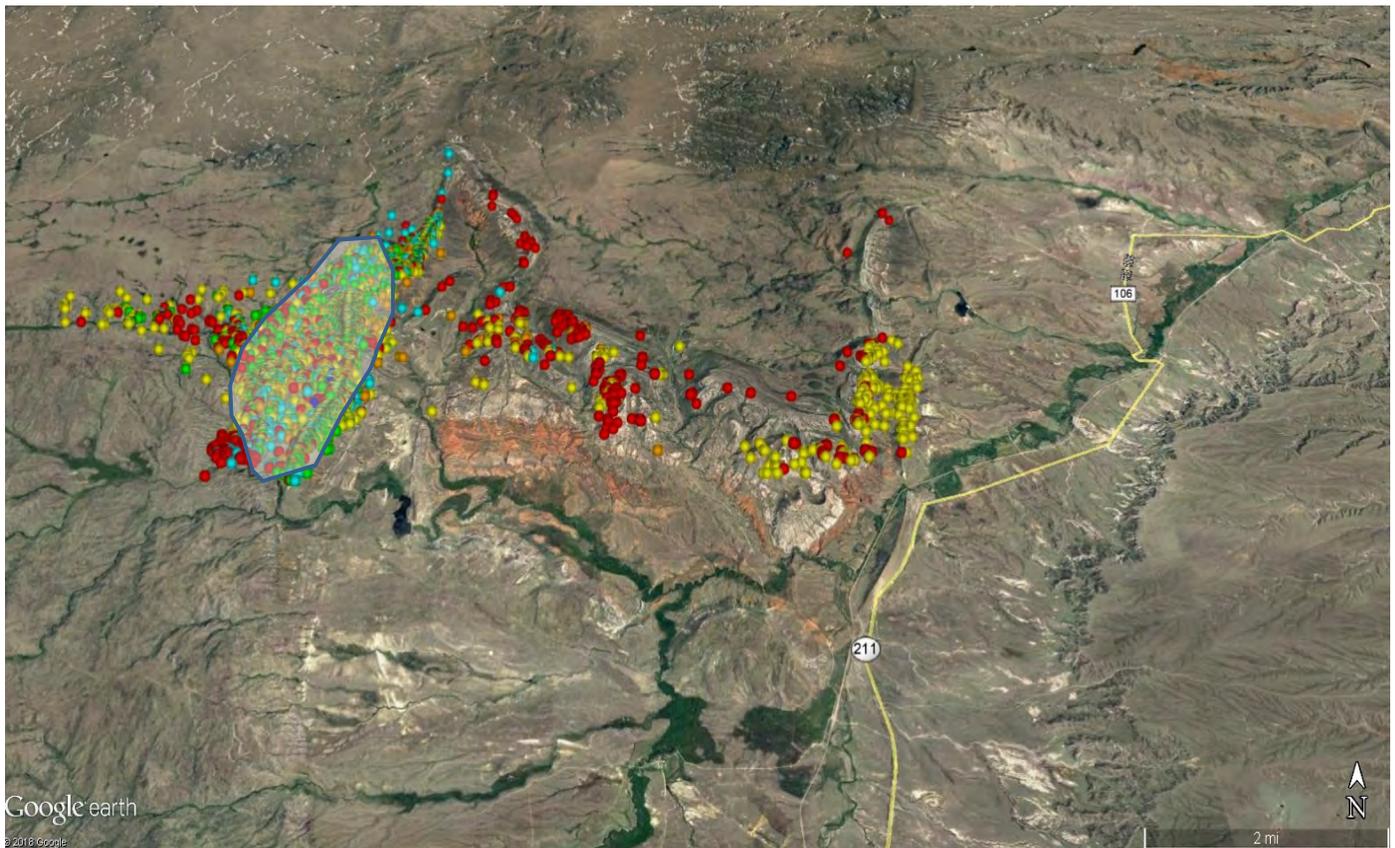


Figure 2. Data points from five bighorn sheep ewes within Sybille Canyon from Jan 20-Feb 12, 2019.

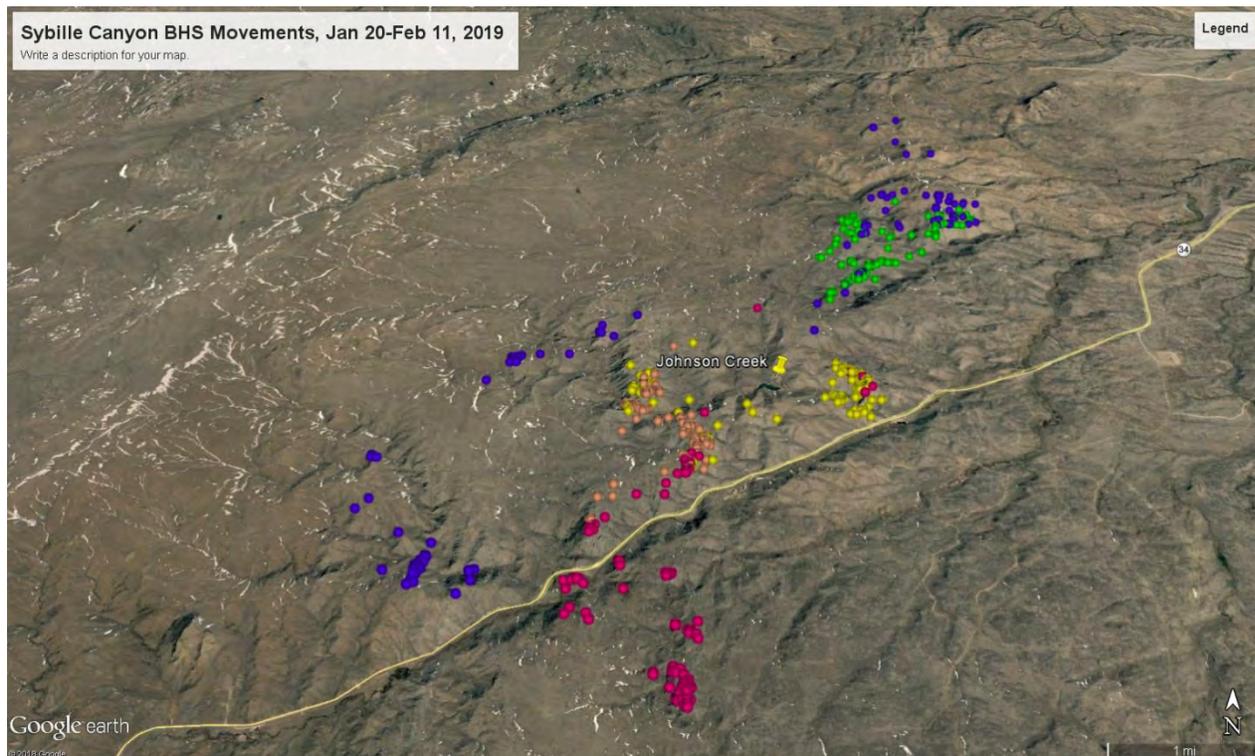
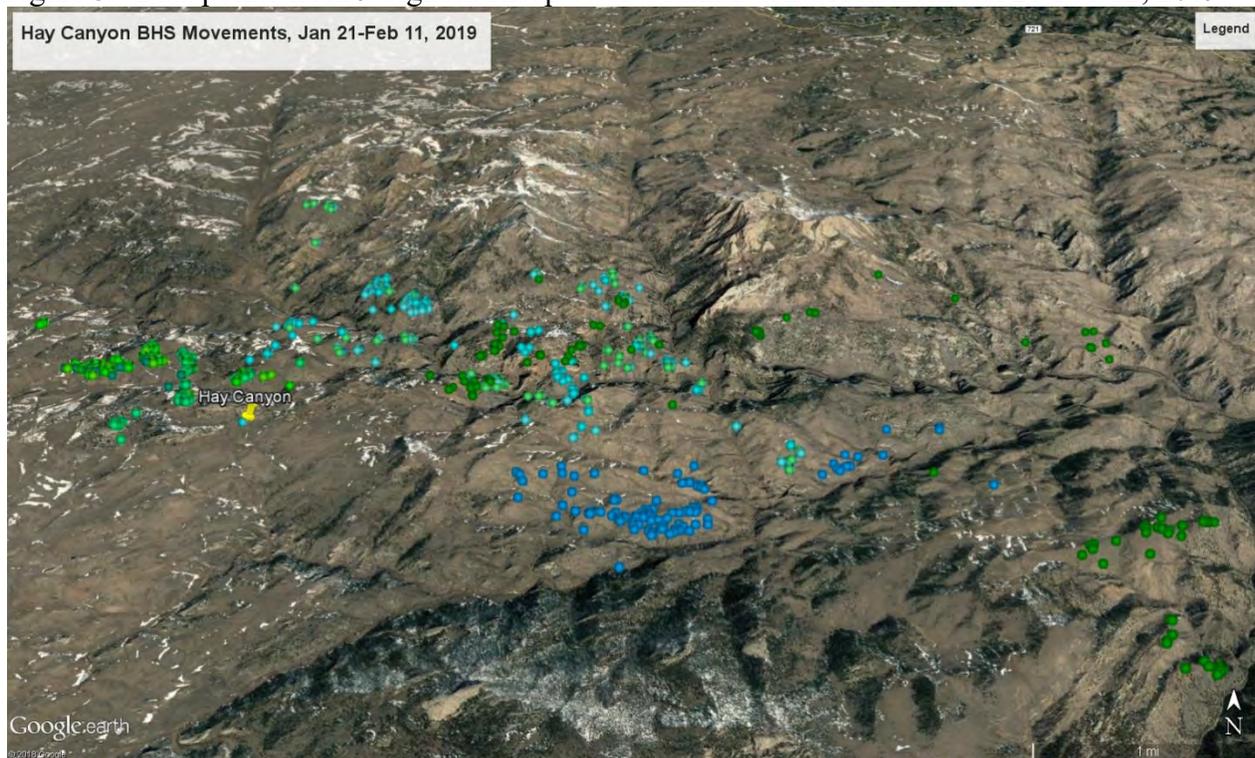


Figure 3. Data points from 9 bighorn sheep ewes within Duck Creek from Jan 21-Feb 12, 2019.



Harvest Data

This was the second year harvest success reached 100% since 2010. There was one carry over license due to a medical hardship for a total of nine rams harvested. There were two 11 year old rams harvested, one that scored 191” under the Boone and Crocket Scoring system (Figure 4), which is the third largest ram harvested in Wyoming all time. The other 11 year old ram was one that was brought in from Montana as a lamb in 2007. In 2018 hunters were willing to put in the time to scout and effort it takes to harvest a ram in Hunt Area 19. The majority of harvest came from Duck Creek (7/9 rams) with two within Sybille Canyon. It was also apparent that hunters took time to scout given the average number of days to harvest a ram was 9.2 days, slightly below the five-year average of 13.2 days per harvest. Three of the hunters went with an outfitter and three were local that knew the country and took the time to scout during the summer.

The Laramie Peak bighorn sheep season has run from September 1-October 31 for the past 27 years. Prior to that, the season ran from September 1- October 14. The increased season length appears to provide adequate opportunity to harvest a ram, given this is typically a once in a lifetime license.

In 2012 there were several fires that burned within bighorn sheep occupied habitat. The Arapahoe, Cow Camp, and Russell’s Camp fires burned over 112,000 acres, with the Arapahoe fire being the largest (98,000 acres). Throughout the area there is observed recovery in vegetation. Photo points have been established throughout the fire to document plant succession. Perennial forbs and grasses along with aspen have re-established post-fire. The Britania fire (30,000 acres) and School Creek fire (320 acres) should also benefit bighorn sheep in the future. The major obstacle will be cheatgrass control within the burned areas. If funding is available, treatments will start in the fall of 2019 to control this noxious weed.

There is not a reliable working model for this herd unit due to limited population data collected on an annual basis.

We are maintaining this herd at the current objective and management strategy based on internal discussions and conversations with our constituents. We evaluated and considered population status and habitat data included in this document and a change is not warranted at this time. We will review this herd objective again in 2024; however, if the situation arises that a change is needed, we will review and submit an updated proposal.

Management Summary

For the 2019 season, 8 licenses will be offered for any ram. Given previous harvest statistics, fire activity and current ram ratios hunters should have a high probability of harvesting a mature ram.

2018 - JCR Evaluation Form

SPECIES: Bighorn Sheep

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

HERD: BS519 - ENCAMPMENT RIVER

HUNT AREAS: 21

PREPARED BY: TEAL
CUFAUDE

	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Population:		N/A	N/A
Harvest:	0	2	0
Hunters:	0	2	0
Hunter Success:	0%	100%	0 %
Active Licenses:	0	2	0
Active License Success:	0%	100%	0 %
Recreation Days:	4	16	0
Days Per Animal:	0	8	0

Limited Opportunity Objective:

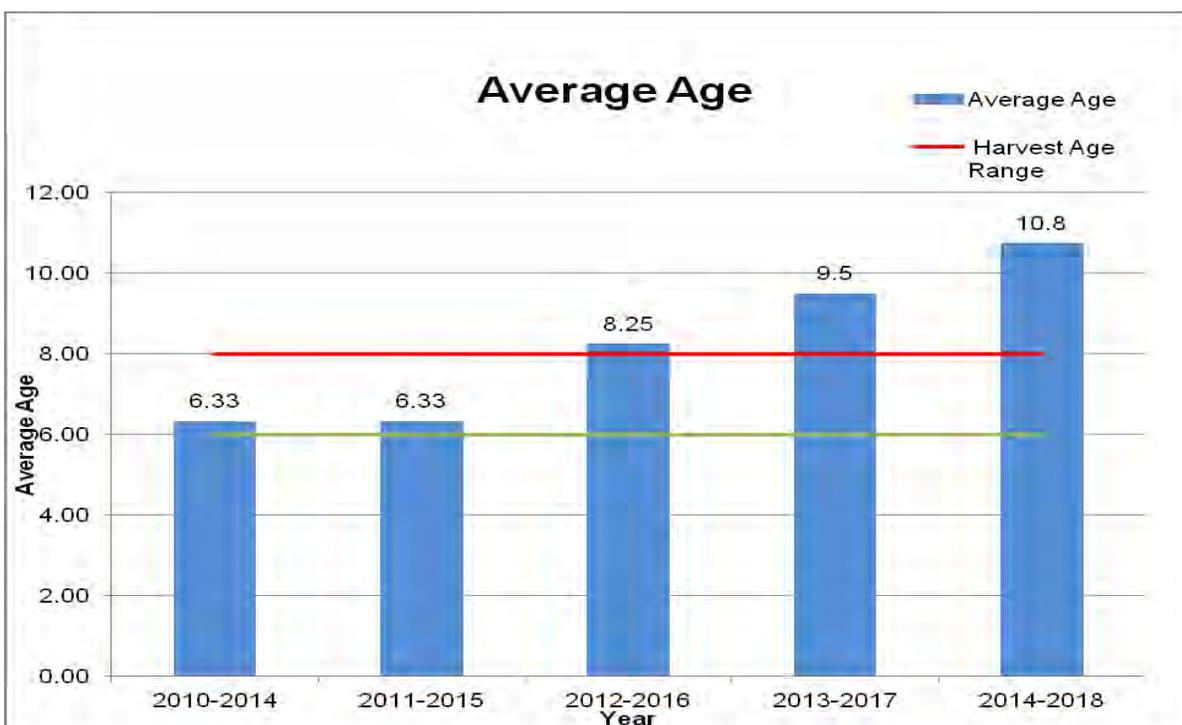
5-year average of > 75% hunter success

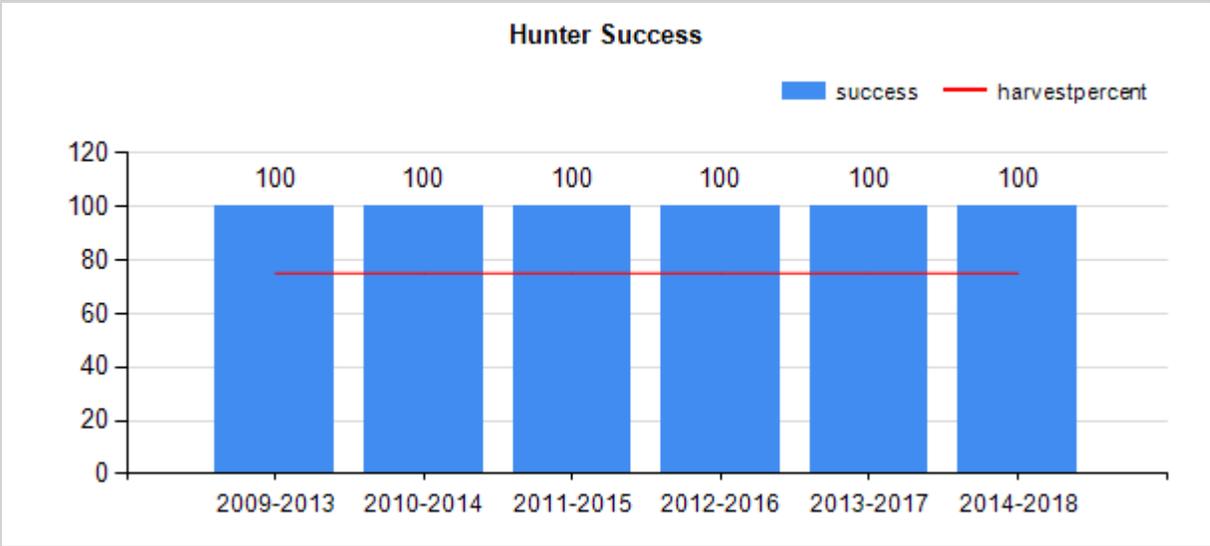
5-year average harvest age of 6-8 years

Secondary Objective:

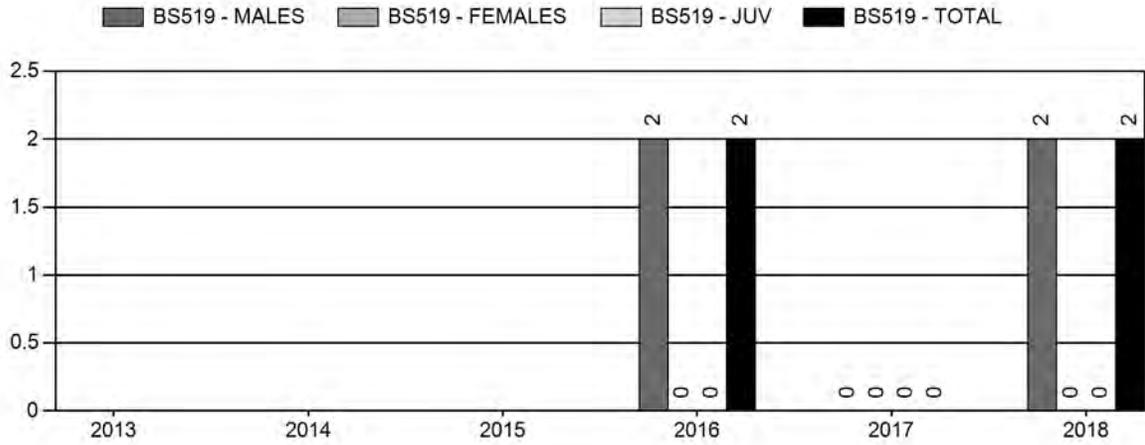
Management Strategy:

Special

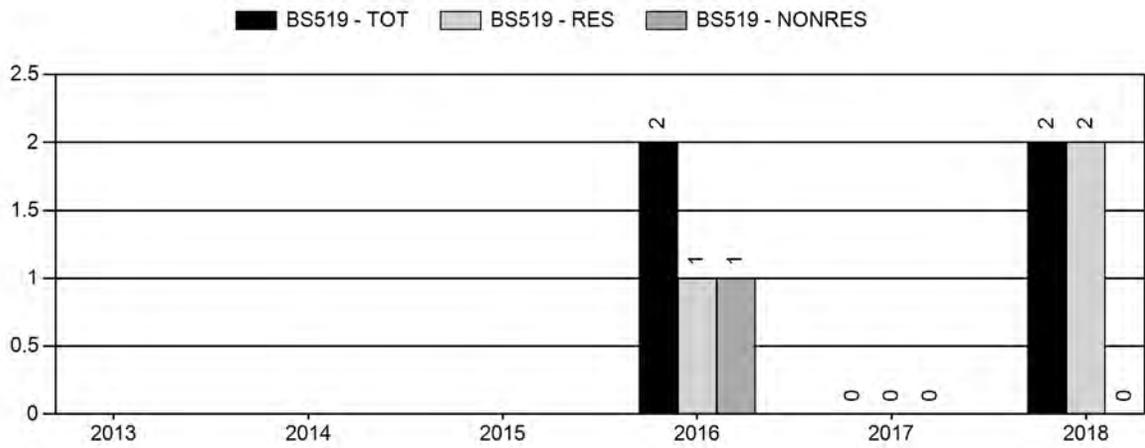




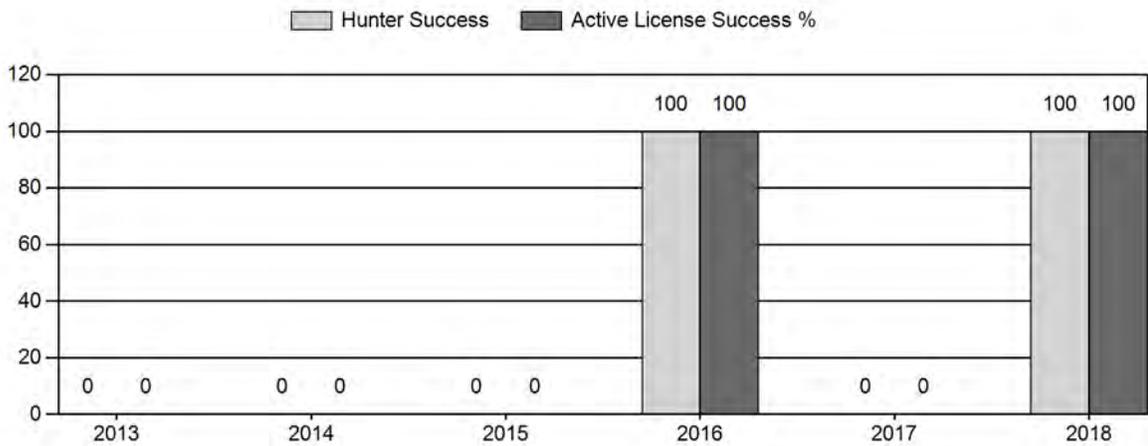
Harvest



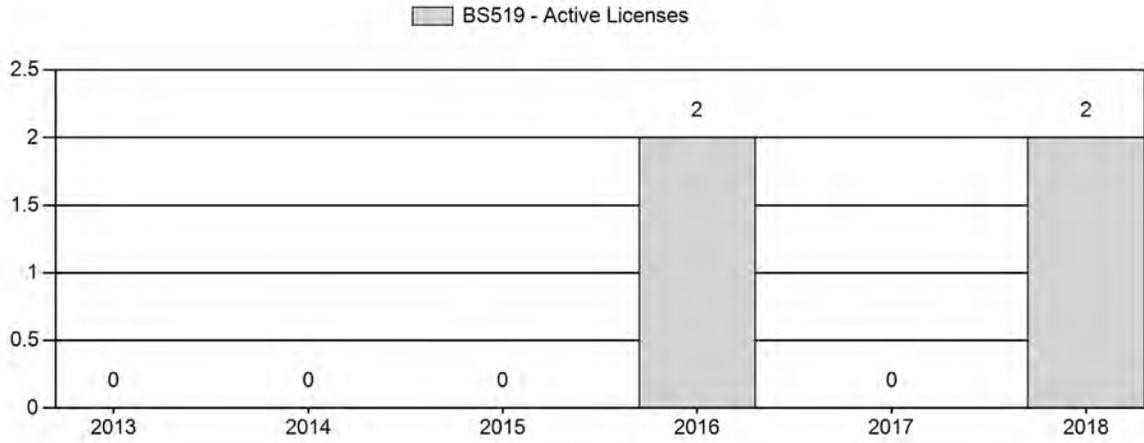
Number of Active Licenses



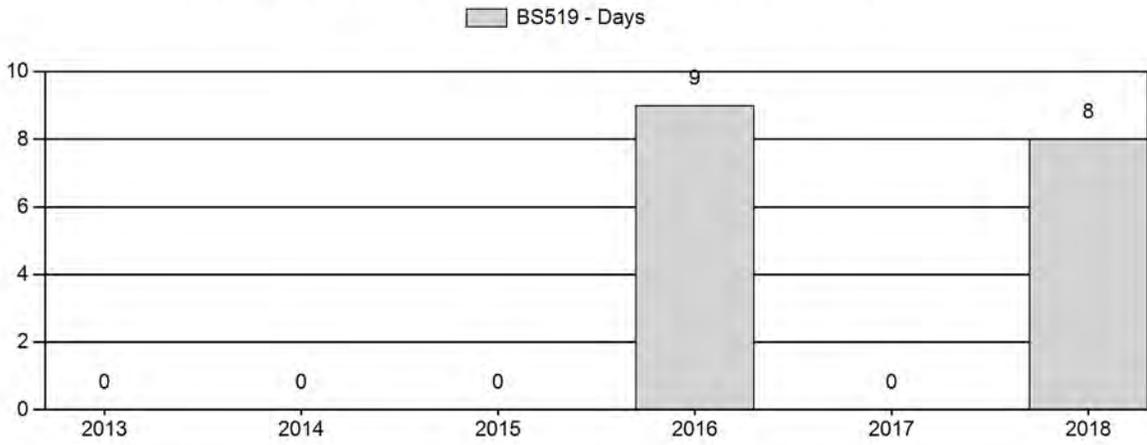
Harvest Success



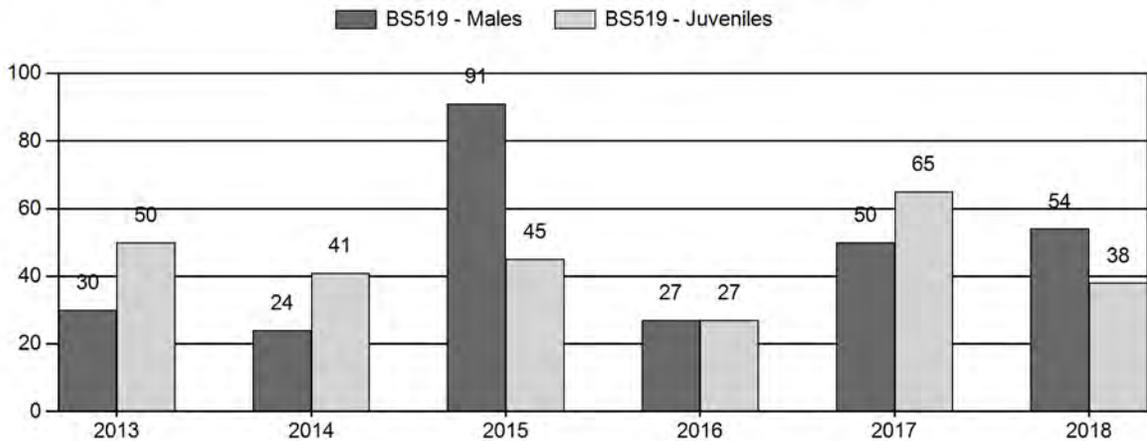
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 Postseason Classification Summary

for Bighorn Sheep Herd BS519 - ENCAMPMENT 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
2013	0	0	3	3	17%	10	56%	5	28%	18	0	0	30	30	± 0	50	± 0	38
2014	0	1	3	4	14%	17	61%	7	25%	28	0	6	18	24	± 0	41	± 0	33
2015	0	2	8	10	38%	11	42%	5	19%	26	47	18	73	91	± 0	45	± 0	24
2016	0	1	3	4	17%	15	65%	4	17%	23	0	7	20	27	± 0	27	± 0	21
2017	0	2	8	10	23%	20	47%	13	30%	43	0	10	40	50	± 0	65	± 0	43
2018	0	0	7	7	28%	13	52%	5	20%	25	0	0	54	54	± 0	38	± 0	25

**2019 HUNTING SEASON RECOMMENDATIONS
Encampment River Bighorn Sheep (BS519)**

Season Dates						
Hunt Area	Type	Opens	Closes	Quota	License	Limitations
18,21	1					Any ram (-2 residents) CLOSED

Hunt Area	License Type	Quota change from 2018
18,21	1	-2
Herd Unit Total	1	-2

Management Evaluation

Current Management Objective: Bighorn Sheep Limited Opportunity

- 1) 5-year running average of >75% hunter success
 - Currently Met: 2014-2018 Hunter Success- 100%
- 2) 5-year running average age of harvested rams between 6 and 8 years of age, and
 - Currently Met: 2014-2018 Harvest Mean Age- 10.8 years of age
- 3) Documented occurrence of adult rams in the population.
 - Currently Met: >7 adult rams observed in 2018

Management Strategy: Special

Based on Wyoming Game and Fish Department (WGFD), landowner, and public comments the objective for the Encampment River Bighorn Sheep herd was changed from a postseason population objective to the Bighorn Sheep Limited Opportunity Objective in 2016. The management strategy for this herd is classified as special (mean age of harvested rams between 6-8 years of age). The Encampment River Bighorn Sheep herd provides limited hunting opportunities. Challenging terrain, weather, and budgetary constraints have resulted in minimal population monitoring data collection in this herd unit. Annual classification data has been collected opportunistically in conjunction with deer and elk surveys. A population model has not been constructed for the herd unit.

Herd Unit Issues

Bighorn sheep were reintroduced in the Encampment River area, south of Encampment, in 1977. Bighorn sheep numbers in this herd unit appeared to peak at approximately 130 bighorn sheep, in the early-1980s. Bighorn sheep numbers in this herd unit have been in decline since the early 1980s. The lack of a rebound in numbers has been primarily attributed to decadent habitat. Domestic sheep grazing on United States Forest Service (U.S.F.S) lands within the western half

of the herd unit and the potential for comingling and disease transmission have ultimately limited attempts to actively increase bighorn sheep numbers either through additional habitat improvement or supplemental transplants. The population is now at such a low number it is assumed natural recovery is limited. Harvest opportunities have been offered every other year for the past decade in combination with the Douglas Creek Bighorn Sheep herd unit (BS516).

In 2013, the State of Wyoming, and thus WGFD, intervened on behalf of the U.S.F.S, in the United States District Court petition for judicial review, BIODIVERSITY CONSERVATION ALLIANCE vs. BUTCH BLAZER, et al. In 2017, Judge Alan B. Johnson ordered the petition for judicial review be denied. The Deputy Under Secretary's decision to uphold the Medicine Bow National Forest Revised Land and Resource Management Plan concerning the issue of bighorn sheep viability was affirmed.

Weather

The 2017-18 winter was mild with below average snowpack and was relatively favorable to wildlife. The spring of 2018 was dry, resulting in slow plant growth and green-up of rangelands. The majority of the summer and fall were extremely dry, causing much of the available forage to cure. Fortunately, precipitation in October resulted in a late surge of plant growth, which may have provided bighorn sheep with a valuable boost in nutrition prior to the winter of 2018-19. While there have been several notable snow storms and cold snaps during the winter of 2018-19, there were also periods of warm weather and high winds that melted and drifted snow to expose forage. Fairly average bighorn sheep survival is expected for the winter of 2018-19.

Temperature and precipitation data was obtained for the National Oceanic and Atmospheric Administration (NOAA), <https://w2.weather.gov/climate/xmacis.php?wfo=cys> to illustrate weather conditions thus far, during bio-year 2018 (Figures 1 and 2). These figures also include data from January-May of bio-year 2017 to describe the weather conditions immediately preceding bio-year 2018.

Figure 1. January 2018 - January 2019 mean monthly temperatures and 20-year monthly means for Rawlins, Wyoming.

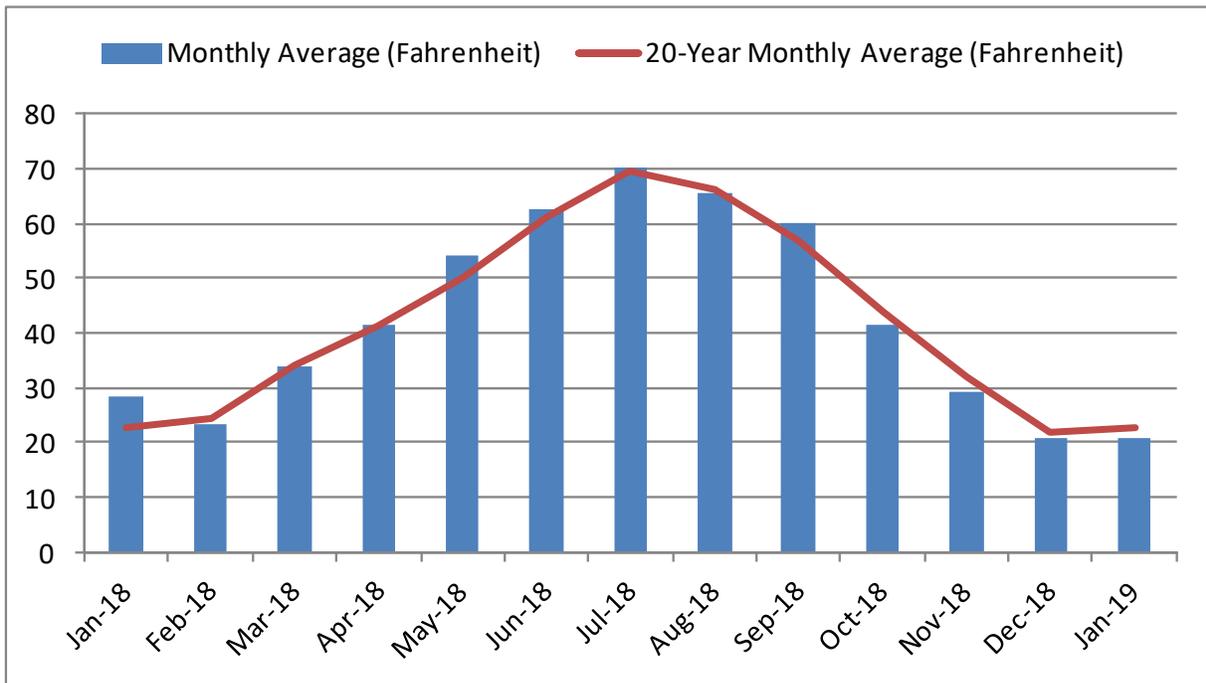
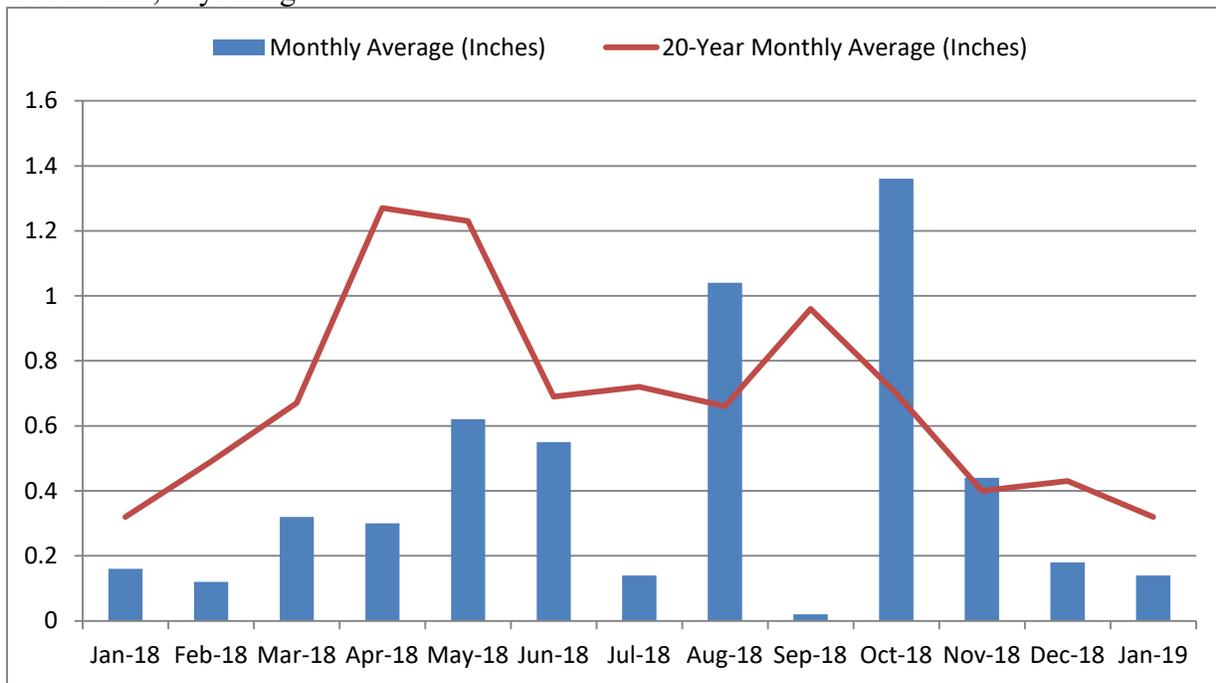


Figure 2. January 2018 - January 2019 mean monthly precipitation and 20-year monthly means for Rawlins, Wyoming.



Habitat

Current transects have not always been located in the best locations due to terrain or ownership status. We plan to reevaluate each transect this spring to improve the quality of data being gathered. The spring and summer of 2018 were severe and little to no new growth was documented by field staff. Most available forage appeared to be growth from 2017.

Field Data

Adequate classification data for this herd has been difficult to collect. The 2018 postseason classification sample (n=25) was obtained from a single observation during aerial deer classifications in December 2018. The postseason classification results were 7 adult rams, 0 yearling rams, 13 ewes, and 5 lambs. This sample produced ratios of 53 rams/100 ewes and 38 lambs/100 ewes. Due to the variable nature of data collection in this herd unit, it can be difficult to interpret the data annually.

Harvest Data

In 2018, the hunting season was open in conjunction with the Douglas Creek Bighorn Sheep herd unit. Two Type 1 license (two residents) were offered. Both hunters harvested trophy quality rams in the Encampment River Bighorn Sheep herd unit. The ages for the harvested rams were 9 and 15 years of age. The five-year (2014-2018) mean age of 10.8 years of age is older than the preceding five-year mean. The five-year average hunter success remained at 100%.

Population

A population model has not been constructed for this herd unit due to limited classification data and no annual survival information. Based on the trend of classification data and casual observations, a reasonable estimate of 40-60 bighorn sheep should be considered for this herd unit.

In February 2018, five bighorn sheep ewes from this herd unit were helicopter/net-gun captured and collared. The purpose of this effort was to provide a credible, standardized estimate of the number of bighorn sheep that utilize winter range. Additionally bighorn sheep location information will help inform where habitat monitoring should occur in this herd unit. A full array of disease samples were also collected from captured bighorn sheep as part of a statewide disease surveillance effort. The GPS capabilities of these collars did not function properly so recapture was scheduled for 2019. In January 2019, a total of eight bighorn sheep were helicopter/net-gun captured. Three of the five previously collared bighorn sheep ewes were recaptured and the collars that were not working were removed. A total of six GPS collars were deployed.

Management Summary

The hunting season is closed in 2019 for this herd unit. Issuance of Type 1 licenses will be considered again in 2020. The 2020 bighorn sheep licenses for this herd unit will likely be valid in Hunt Area 18 (Douglas Creek Bighorn Sheep herd unit) as well.

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