

2018 - JCR Evaluation Form

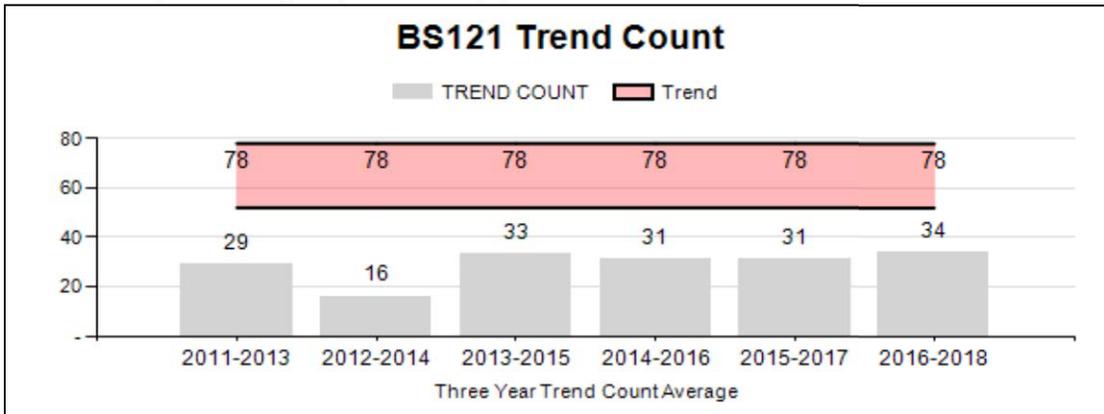
SPECIES: Bighorn Sheep
 HERD: BS121 - DARBY MOUNTAIN
 HUNT AREAS: 24

PERIOD: 6/1/2018 - 5/31/2019
 PREPARED BY: GARY FRALICK

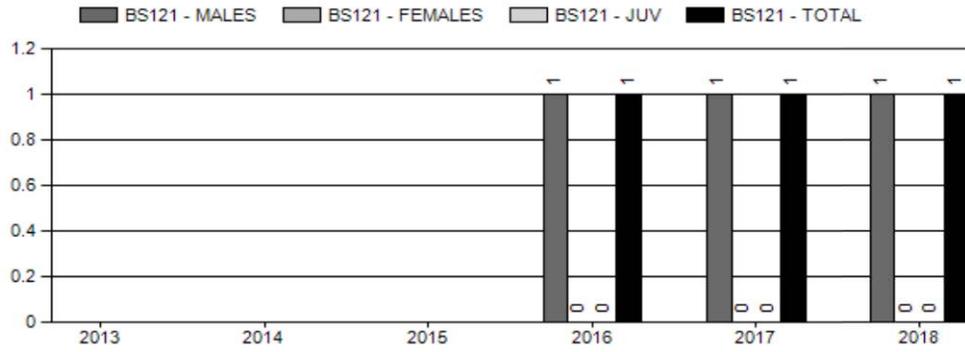
	<u>2013 - 2017 Average</u>	<u>2018</u>	<u>2019 Proposed</u>
Trend Count:	28	63	55
Harvest:	0	1	1
Hunters:	0	1	1
Hunter Success:	0%	100%	100 %
Active Licenses:	0	1	1
Active License Success	0%	100%	100 %
Recreation Days:	1	2	3
Days Per Animal:	0	2	3
Males per 100 Females:	220	112	
Juveniles per 100 Females	70	50	
Trend Based Objective ($\pm 20\%$)			65 (52 - 78)
Management Strategy:			Special
Percent population is above (+) or (-) objective:			-3.1%
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):

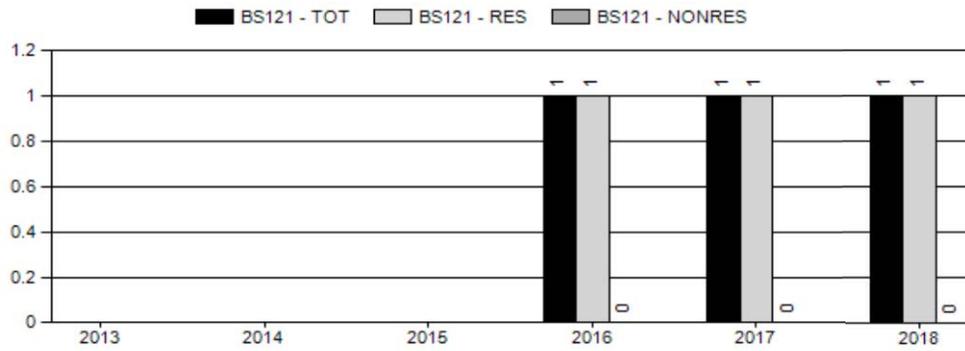
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	NA%	NA%
Males ≥ 1 year old:	NA%	NA%
Juveniles (< 1 year old):	NA%	NA%
Total:	NA%	NA%
Proposed change in post-season population:	NA%	NA%



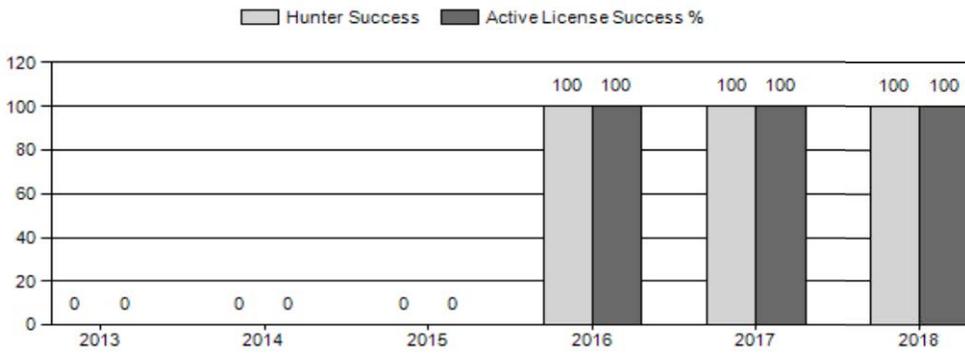
Harvest



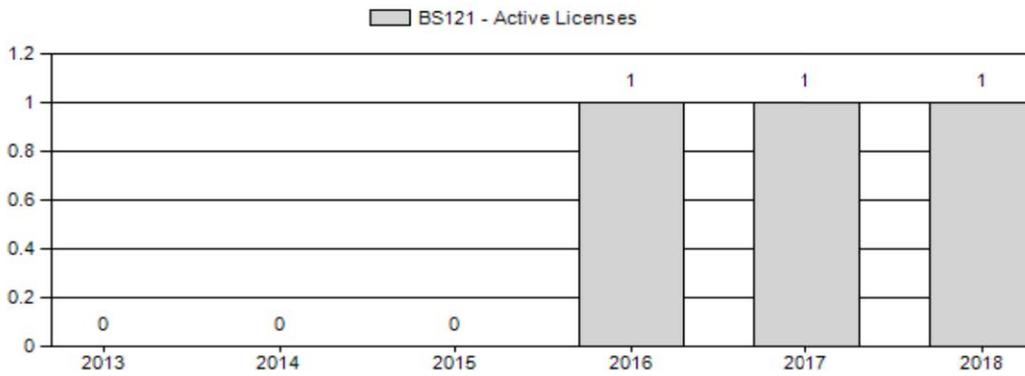
Number of Active Licenses



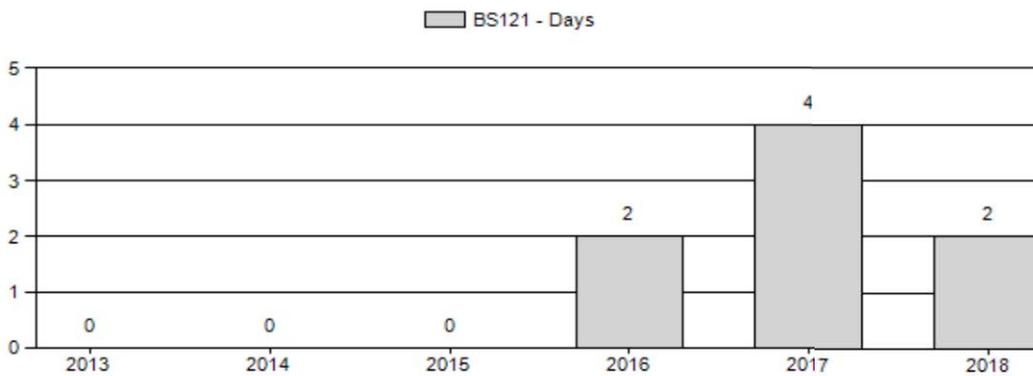
Harvest Success



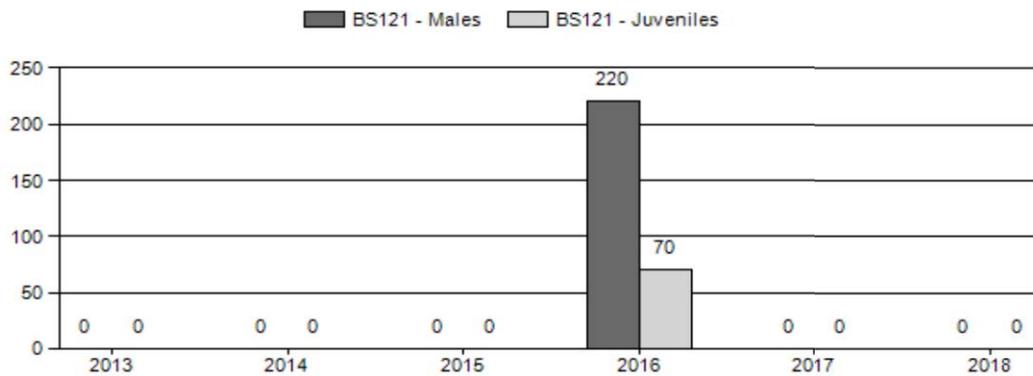
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 - 2018 Postseason Classification Summary

for Bighorn Sheep Herd BS121 - DARBY MOUNTAIN

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females			Young to			
		Ylg	Adult	Total	%	Total	%	Total	%			Yng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2013	60	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	±0	0	±0	0
2014	60	0	0	0	0%	0	0%	0	0%	0	0	0	0	±0	0	±0	0	
2015	75	3	7	10	18%	28	51%	17	31%	55	0	1	25	36	±0	61	±0	45
2016	0	2	20	22	56%	10	26%	7	18%	39	0	10	200	210	±0	70	±0	23
2017	0	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	±0	0	±0	0
2018	75	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	±0	0	±0	0

**2019 HUNTING SEASON
DARBY MOUNTAIN HERD UNIT - BHS121**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
24	1	Sep. 1	Oct. 31	1	Limited quota	Any ram
		Aug. 15	Aug.31			Archery only; REFER TO SECTION 4

SUMMARY OF PROPOSED CHANGES BY LICENSE NUMBER

Area	License Type	Change from 2018
24	Limited Quota Type 1	Change; One (1) License will be issued to a Non-resident Hunter
Herd Unit Total	Net Change	Change from Resident hunt to nonresident hunter

Management Evaluation

Current Mid-Winter Trend Count Management Objective: 65

Management Strategy: Recreational

2018 Mid-Winter Trend Count: NA

Most Recent 3-Year Running Average Trend Count: 34

The Darby Mountain bighorn sheep herd mid-winter trend objective is 65 sheep. The objective was established in 2016, and the 2019 hunting season will be the third year of hunting since the season was closed in 2012. During the period from 2012 to 2015, the season was closed due to concerns over the difficulty of locating trophy class rams in the population. The last comprehensive aerial surveys were completed in 2015 and 2017. On-

ground and aerial surveys were conducted in April through July 2015, and in July 2018. The 2015 surveys resulted in a minimum of 55 different sheep being observed. In February 2017, an aerial survey was conducted and 39 sheep were observed. In July 2018 a total of 63 sheep were counted.

Herd Unit Issues

In 1981 the Wyoming Game and Fish Department and U.S. Forest Service reintroduced bighorn sheep (*Ovis canadensis*) into the Wyoming Mountain Range, west of Big Piney, Wyoming. The last wild sheep occupied this range in the early 1960s. Competition with domestic sheep and illegal harvest were believed responsible for their extirpation. Prior to the transplant, domestic sheep were removed from allotments on Fish Creek and Darby Mountain, which provided the best historic bighorn sheep habitat. In January 1981, 35 Rocky Mountain sheep were transplanted from the Whiskey Basin Habitat Unit near Dubois, Wyoming to Fish Creek Mountain. In January 1987, another 25 bighorn sheep were transplanted from Whiskey Basin to the Fish Creek Mountain site. Funding assistance for this relocation effort was provided by the Foundation for North American Wild Sheep (FNAWS).

The estimated herd size in mid-winter 1988 was 110 sheep. However, the actual count on 20 February 1988 was 70 sheep and poor weather prevented completion of the survey. A comprehensive on-ground and aerial survey was conducted from 20 June - 14 July 1988 in approximately a 90 square mile area around Fish Creek Mountain. These surveys resulted in a post-lambing count of a minimum of 124 sheep consisting of 56 ewes, 28 lambs and 40 rams in the herd. In 1988 the first hunt was conducted in Hunt Area 24, based primarily on the results of the previous survey. Four permits were issued with 3/4 curl restrictions and four rams were harvested. The population is estimated to have increased to a maximum of approximately 150 sheep in 1994. The department continued to issue four permits for 3/4 curl rams from 1988 through 1997.

Forage production and availability studies on Fish Creek and Darby Mountain winter ranges, (prior to the 1981 re-introduction) suggested a combined capacity for 150 to 175 sheep in most winters. Other potential wintering sites were identified north and east of Fish Creek Mountain. Since 1981 individuals and small groups of sheep that typically number less than 15 individuals have been observed wintering near Star Hill, above the Middle Piney Creek summer homes, the hydrographic divide between the Greys River and Green River drainages in Box Canyon Creek in Greys River drainage, and the windblown ridge tops in the Straight Creek drainage west of Mount Schidler. Fish Creek Mountain and Darby Mountain continue to support the largest concentrations of wintering sheep.

Most summer observations have occurred within the 90 square mile core area around Fish Creek Mountain. However, since 1994 a few sub-legal rams and small ewe-lamb groups have been observed on summer range outside the core area. Summer dispersal of bighorn sheep have been documented along the crest of the Wyoming Mountain Range in the vicinity of the headwaters of South Cottonwood Creek, McDougal Peak, Gunsight Pass,

Middle Piney Creek, Straight Creek, North Piney Creek and Roaring Fork drainages as well. This dispersal has resulted in bighorn sheep and domestic sheep mingling on summer ranges in several active sheep allotments.

Weather

Overall precipitation from October 2017 through September 2018 was well below average when evaluated across the entire herd unit, over the water year (October through September of the following year). The general characteristics included a very mild and dry winter followed by average spring precipitation. Although growing season (April through June) precipitation was near average due to several significant precipitation events, summer (May-July) precipitation was significantly below average and resulted in less than ideal growing conditions on summer range.

The 2018-2019 winter began mild, but the months of January and February have been increasingly tough for wildlife with regard to snow accumulation and cold temperatures on winter ranges. As of February 24, 2019, SNOWTEL locations in the high elevations of the Wyoming Range indicate snow water equivalent ranging from 85-100% of average and the Green River Basin watershed is close to 100% of average. Additional snow accumulation and warmer temperatures are forecasted for the next several weeks.

Habitat

Forage production and availability studies on Fish Creek and Darby Mountain winter ranges, (prior to the 1981 re-introduction) suggested a combined capacity for 150 to 175 sheep in most winters. Given the lower than average precipitation during May-July, the high elevation habitats used by Darby Mountain sheep likely produced less forage than normal.

Field Data

2018 Pre-season Survey

Preseason on-ground surveys were conducted in July and August 2018. A total of 63 sheep were observed. On-ground surveys were conducted over a period of 6-10 days using binoculars and spotting scopes. The results of those surveys were as follows: 25 adult rams, 2 yearling rams, 24 ewes and 12 lambs were observed. A total of 27 sheep were observed on Fish Creek Mountain and in the headwaters of Middle Piney Creek, and 36 sheep were observed along the crest of the Wyoming Range from Box Canyon northward to South Cottonwood Creek. No mountain goats (*Oreamnos americanus*) were observed along the crest of the Wyoming Range during these pre-season 2018 surveys.

2018 Post-hunt Survey

No postseason aerial surveys were conducted in 2018 due to time and budget constraints and conflicts with other aerial surveys. Moreover, inclement weather conditions when the helicopter was in the area made flying conditions unsafe and not feasible.

2016 Post-hunt Survey

An aerial survey was conducted in February 2017 from a Bell 47 Turbine helicopter. The area surveyed encompassed the crest of the Wyoming Range from Marten Creek southward to Box Canyon. Fish Creek and Darby Mountains were not surveyed because of time and fuel constraints. These areas typically support substantial numbers of bighorn sheep. A total of 39 sheep were observed. The age/sex classification of the sheep observed during this survey is as follows: 22 adult rams, 2 yearling rams, 10 ewes and 7 lambs. No mountain goats (*Oreamnos americanus*) were observed along the crest of the Wyoming Range during this survey. Approximately one (1) hour of survey time was completed.

2015 Post-hunt Survey

An aerial survey was conducted on April 2, 2015 from a Bell 47 Turbine helicopter. The primary survey area encompassed the crest of the Wyoming Mountain Range and Bighorn Sheep Hunt Area 24. The objective of the survey was to document the location and age/sex characteristics of bighorn sheep. The survey was initiated on the north at Mount McDougal and terminated on the south along the crest of the Wyoming Range at Cheese Pass and Fish Creek and Darby Mountains. All suitable bighorn sheep habitat was surveyed within the required budgetary constraints and as weather conditions permitted safe flying conditions. No mountain goats (*Oreamnos americanus*) were observed along the Wyoming Range crest during this survey. Approximately 6 hours of survey time were completed, and a total of 55 sheep were observed. The age/sex classes were: 7 adult rams, 3 yearling rams, 28 ewes and 17 lambs. The observed age/sex ratios were noted as follows: 36 rams:100 ewes:61 lambs. Bighorn sheep were observed in three primary locations; the crest of the Wyoming Range from Marten Creek south to Box Canyon Creek, Fish Creek Mountain to Middle Piney Creek and Darby Mountain. A total of three (n=3) sheep were observed in Marten Creek and 16 sheep observed in Box Canyon Creek. Two rams (n=2) were observed in Straight Creek and one ewe and one lamb were observed in Middle Piney Creek. A total of 27 sheep were observed on Fish Creek Mountain, while five adult rams were noted on Darby Mountain.

Harvest

One license valid for any ram was issued annually during the period from 2008 to 2012. A total of four rams were harvested from 2008 – 2011. In 2012, the one licensed hunter observed very few sheep and could not find a mature ram older than 5 years of age after 15 total days of hunting. The lack of mature rams observed by the hunter was consistent with Department field surveys during that period. The hunting season was closed in 2013 and remained closed until 2016.

The first license issued since 2012 was awarded to a resident hunter in 2016. This hunter harvested a mature ram that was estimated at 8 years old. In 2017, a resident hunter harvested a mature ram on Darby Mountain. The estimated age of this ram was 9 years of age. In 2018, a resident hunter harvested a ram also estimated to be 9 years old.

Population

The population has stabilized at approximately 60 - 75 sheep. Systematic surveys, typically conducted from a helicopter in winter, have resulted in fewer than 60 sheep observed. Summer on-ground surveys conducted in August have identified the Box Canyon and Fish Creek Mountain areas as locations that typically support the highest aggregations of sheep.

The population objective was evaluated for the first time since 1991. Since that time the Darby Mountain herd objective was 150 sheep. The population objective was revised in 2016 based on public and federal agency input and approval by the Wyoming Game and Fish Commission. The current 3-year mid winter trend population objective for the Darby Mountain herd is 34 sheep.

Management Summary

The 2019 bighorn sheep hunting season for Hunt Area 24 will remain open to hunting for the 4th consecutive year. A total of one (1) limited quota license will be issued for any ram to a nonresident hunter. This hunting season will result in the harvest of one adult ram 2+-years old. The posthunt 2019 population trend count is projected at approximately 75 sheep.