

2017 - JCR Evaluation Form

SPECIES: Bison

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

HERD: BI101 - JACKSON

HUNT AREAS: 2, 3

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	<u>2012 - 2016 Average</u>	<u>2017</u>	<u>2018 Proposed</u>
Trend Count:	714	567	500
Harvest:	243	70	173
Hunters:	297	111	204
Hunter Success:	82%	63%	85 %
Active Licenses:	297	111	204
Active License Success	82%	63%	85 %
Recreation Days:	1,646	1,183	1,200
Days Per Animal:	6.8	16.9	7.0
Males per 100 Females:	71	131	
Juveniles per 100 Females	50	50	

Trend Based Objective (\pm 20%)

500 (400 - 600)

Management Strategy:

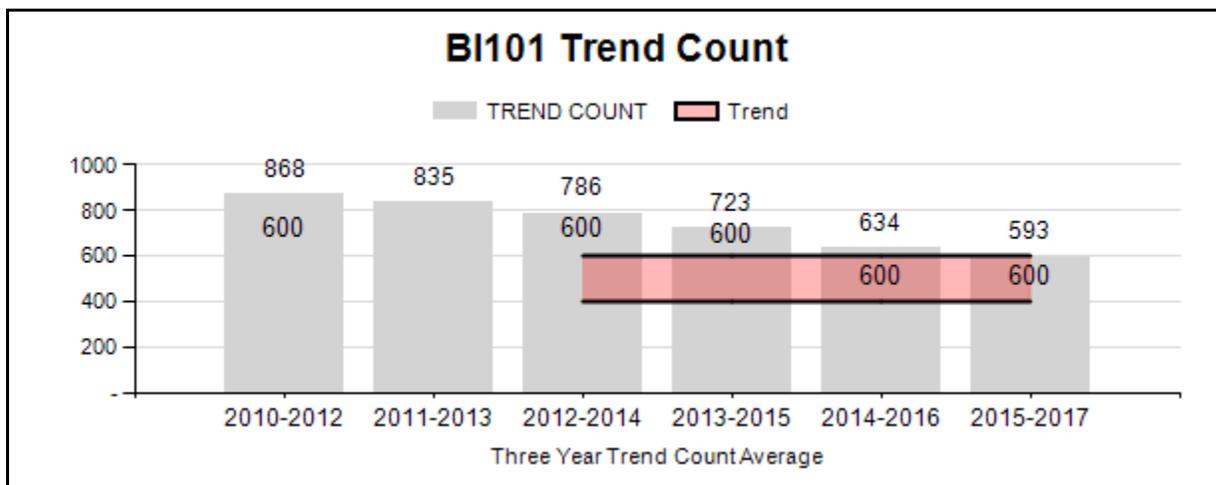
Recreational

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

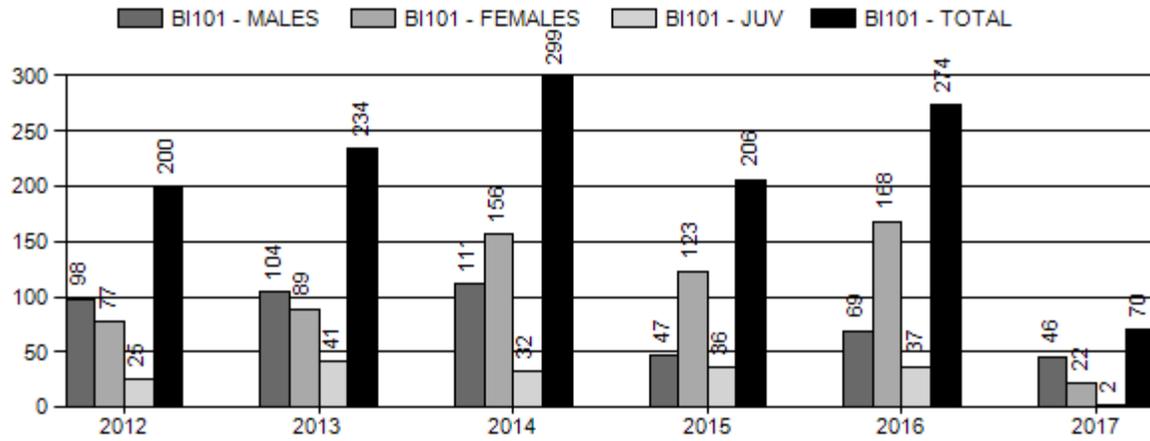
13%

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

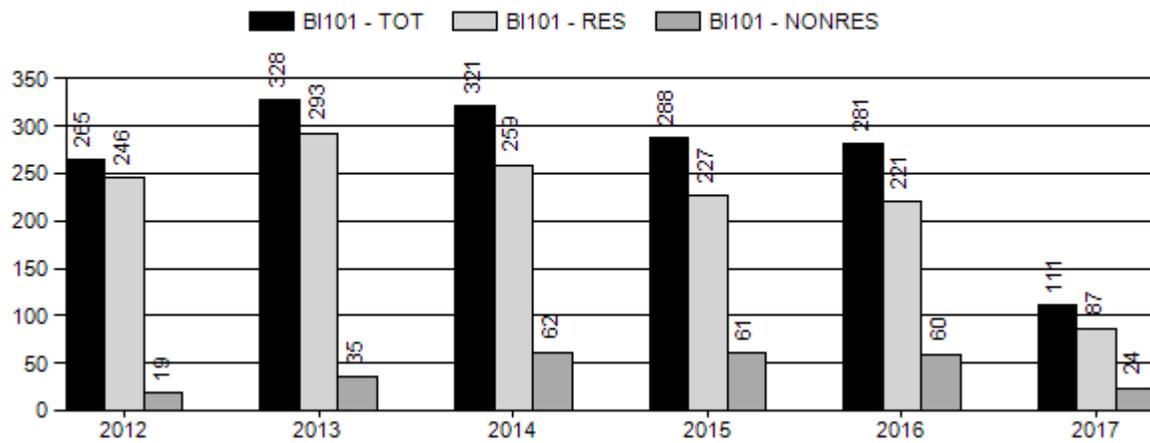
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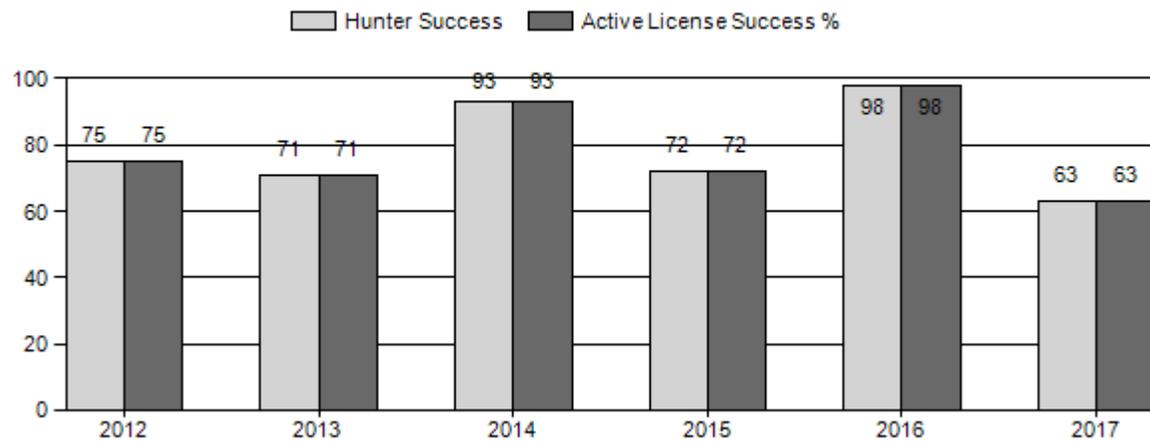
Harvest



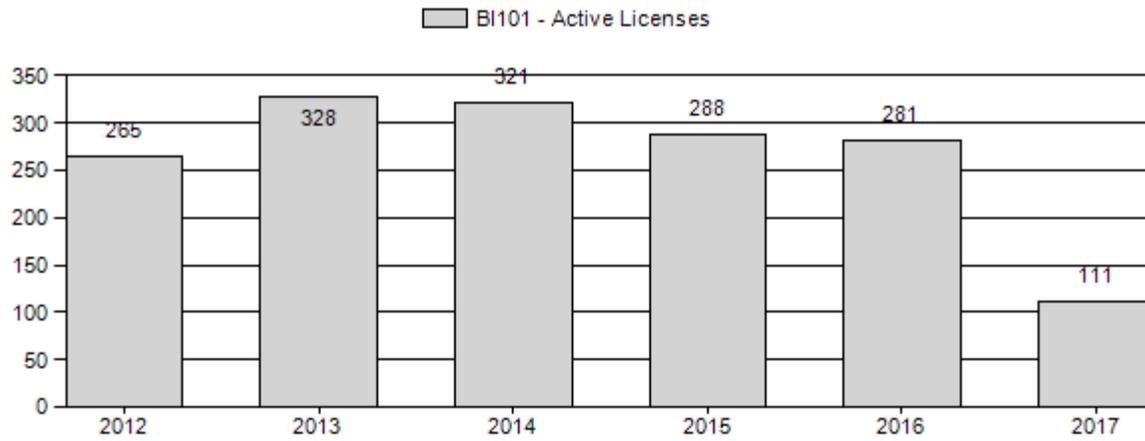
Number of Active Licenses



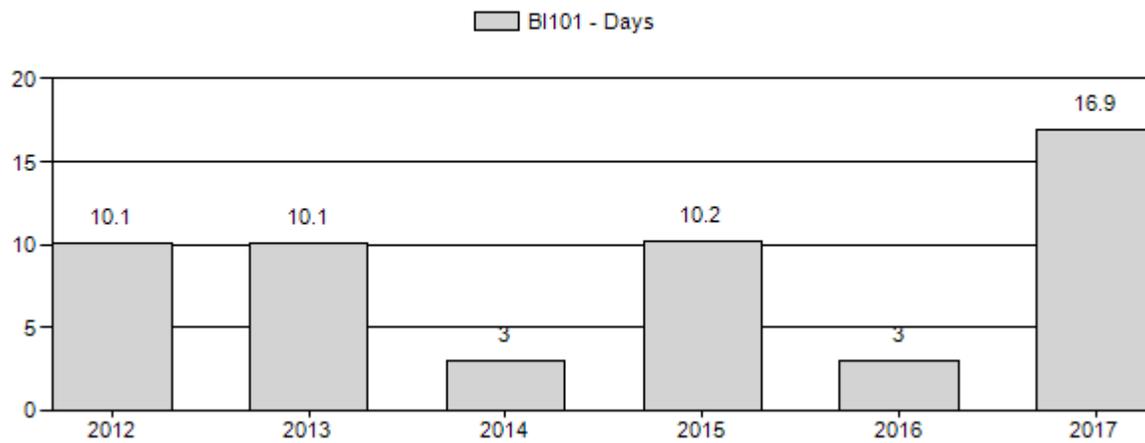
Harvest Success



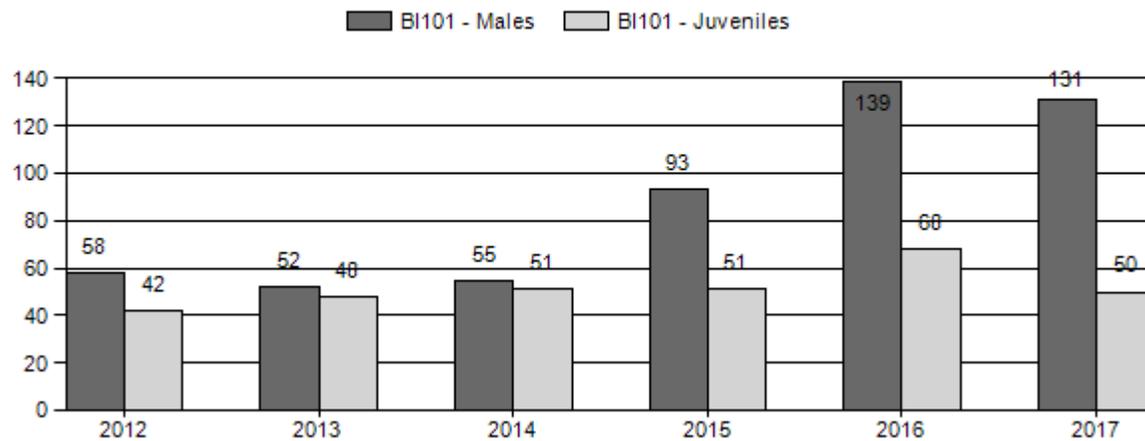
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2012 - 2017 Postseason Classification Summary

for Bison Herd BI101 - JACKSON

Year	Post Pop	MALES				FEMALES		JUVENILES		Males to 100 Females				Young to				
		Ylg	Adult	Total	%	Total	%	Total	%	Tot	Cls	Ylng	Adult	Total	Conf	100	Conf	100
2012	875	73	174	247	29%	429	50%	179	21%	855	0	17	41	58	± 1	42	± 1	26
2013	825	74	131	205	26%	398	50%	191	24%	794	0	19	33	52	± 1	48	± 1	32
2014	691	68	117	185	27%	336	49%	170	25%	691	0	20	35	55	± 0	51	± 0	33
2015	666	42	212	254	38%	273	41%	139	21%	666	0	15	78	93	± 0	51	± 0	26
2016	546	34	213	247	45%	178	33%	121	22%	546	0	19	120	139	± 0	68	± 0	28
2017	567	67	197	264	47%	202	36%	101	18%	567	0	33	98	131	± 0	50	± 0	22

**2018 HUNTING SEASONS
JACKSON BISON HERD (BI101)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
2	1	Aug. 15	Jan. 1	117	Limited quota	Any wild bison; also valid in Area 1 within the Clark's Fork River and Soda Butte Creek drainages. Valid in other portions of Area 1 upon notification and authorization by the Department (94 residents, 23 nonresidents)
2	1	Jan. 2	Jan. 31			Any wild bison. Limited alternate permits for the National Elk Refuge may be available through the Department's Jackson Regional Office on a first-come first-served basis until the season closes or forage/weather conditions dictate that supplemental feeding is necessary
2	4	Aug. 15	Jan. 1	75	Limited quota	Any female or calf wild bison; also valid in Area 1 within the Clark's Fork River and Soda Butte Creek drainages. Valid in other portions of Area 1 upon notification and authorization by the Department
2	4	Jan. 2	Jan. 31			Any female or calf wild bison. Limited alternate permits for the National Elk Refuge may be available through the Department's Jackson Regional Office on a first-come first-served basis until the season closes or forage/weather conditions dictate that supplemental feeding is necessary
3	1	Sep. 1	Jan. 1	3	Limited quota	Any wild bison (2 residents, 1 nonresident)

Summary of 2018 License Changes

Hunt Area	Type	Quota change from 2017
2	1	+47
2	4	+25
3	1	+3

Management Evaluation

Mid-Winter Trend Count Objective: 500 \pm 20% (400-600)

Management Strategy: Recreational

2017 Mid-Winter Trend Count: 567

3-Year Mid-Winter Trend Average (2015-2017): 593

2018 Proposed Mid-Winter Trend Count: 500

Evaluation: At objective

The mid-winter trend count objective for the Jackson Bison Herd is 500 bison. The management strategy is recreational and the objective and management strategy were last revised in 2014. The herd objective was publicly reviewed in 2014 and changed to a mid-winter trend count objective of 500 bison. The current trend count is 567 bison, which is within 20% of the objective of 500. Annual harvest rates have successfully reduced the population to meet objective. Beginning in 2017, hunting seasons were restructured from the goal of reducing the population to stabilizing the population close to the 500 bison objective and reducing the bull to cow ratio.

Herd Unit Issues

Management of this herd is complicated because occupied habitat includes Grand Teton National Park (GTNP), the National Elk Refuge (NER) and the Bridger-Teton National Forest (BTNF). Bison remain distributed in GTNP during much of the summer and fall and are not available for hunting until they migrate to either BTNF or the NER. Over the past several years, bison have become sensitized to the presence of hunters on the NER and will vacate the open hunt area. In 2017, bison did not migrate to the NER until late January due to mild winter conditions, which made harvest difficult. Bison hunter numbers are limited on the NER due to concurrent elk hunting seasons and issues with hunter crowding. Permits for the NER are structured in an attempt to provide hunters with a quality hunting experience while achieving population goals.

Weather

Spring and summer 2017 produced average moisture. The area received unusually early and deep snow at higher elevations in September and October. Higher elevations in the mountains had snowpack at or above average this winter, however, the winter was exceptionally mild at lower elevations in the valleys around Jackson Hole. At the time of the mid-winter survey in February 2018, winter snowpack was reported at 119% of average in the Snake River Basin. Please refer to the following web sites for specific weather station data.

<http://www.wrds.uwyo.edu/wrds/nrcs/snowprec/snowprec.html> and <http://www.ncdc.noaa.gov/oa/climate/research/prelim/drought/pdiimage.html>

Habitat

No habitat data have been collected on bison summer and winter ranges. There are no established vegetation transects in this herd unit. Please refer to the 2017 Annual Report Strategic Habitat Plan Accomplishments for Jackson Region habitat improvement project summaries (<https://wgfd.wyo.gov/Habitat/Habitat-Plans/Strategic-Habitat-Plan-Annual-Reports>).

Field Data

During the mid-winter trend count in February 2018, a total of 567 bison were classified. Due to mild winter conditions, supplemental feeding did not occur on the NER this winter. Therefore, bison were classified from a helicopter instead of from the ground. The majority of bison were on the NER during the survey, despite the absence of supplemental feeding. Herd unit ratios were 131 bulls:100 cows and 50 calves:100 cows.

The population reached objective for the first time in the history of the herd after the 2016 hunting season (Figure 1). However, after several successful years of high cow harvest success and population reduction, the bull ratio has become very high (currently 131 bulls:100 cows) (Figure 2). The population could be managed for a much lower bull:cow ratio and future seasons will be structured to stabilize the herd and decrease and ultimately maintain the bull ratio in the neighborhood of 80-100 bulls:100 cows.

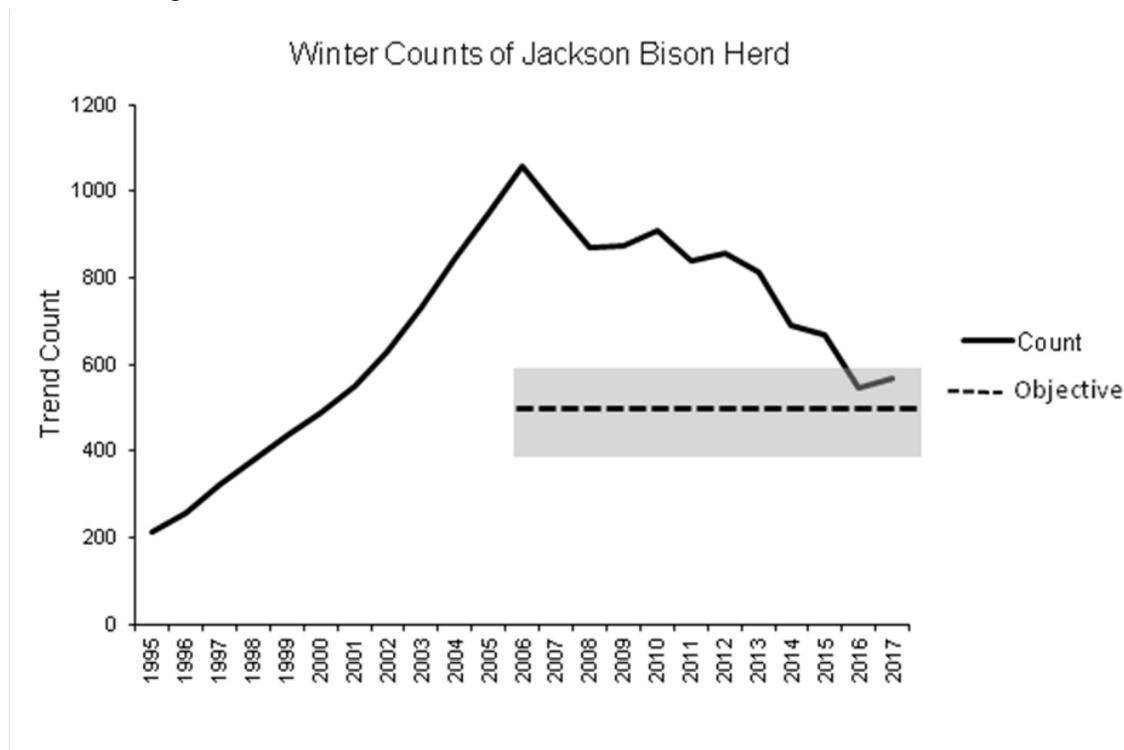


Figure. 1. Winter counts of the Jackson Bison Herd, 1995-2017. The mid-winter trend count objective is 500 bison \pm 20% (shaded gray box).

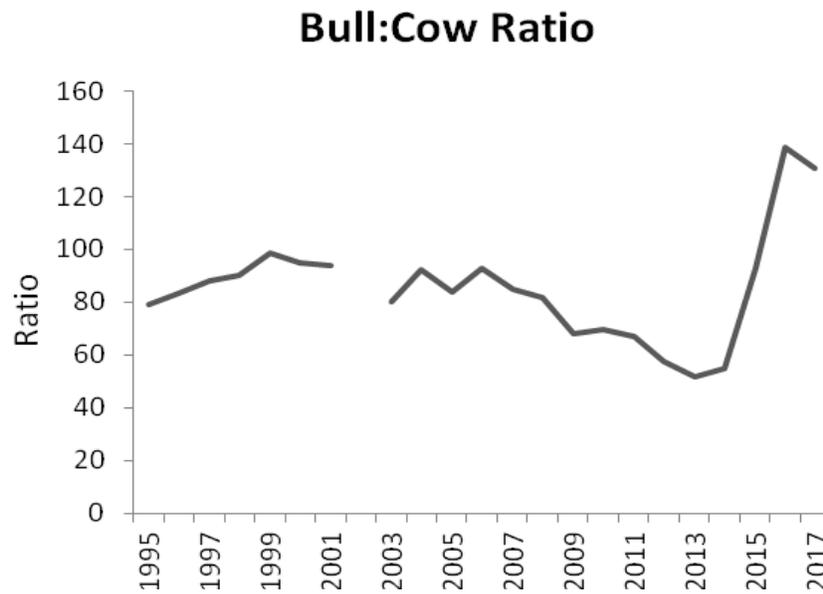


Figure. 2. Bulls to 100 cows ratios for the Jackson Bison Herd, 1995-2017.

Harvest Data

During the 2017 hunting season, 111 hunters harvested 46 bulls, 22 cows, and 2 calves, totaling 70 bison. Harvest success (63%) was the lowest since 2009. In recent years, harvest success has ranged from 71-98%. Days per animal harvested (16.9) was the highest ever recorded for this hunt. This was due to very mild winter conditions that allowed bison to remain on summer range in Grand Teton National Park through November, December, and into January. The majority of bison harvest occurred on one day near the end of January when bison moved to the NER. In 2017, there were 5 Governor’s Licenses, 1 Super Tag, and 1 Super Tag Trifecta license available for bison in Hunt Area 2.

When the population was high, the annual bison harvest had to exceed 200 animals to move the population toward its mid-winter objective of 500 bison. This was due to the high number of cows in the herd and the consistently high reproductive rate; approximately 50 calves:100 cows during postseason classifications. As the population has been reduced to objective, the reproductive rate remains high but the number of adult females has decreased, therefore fewer calves are added to the population each year. In February 2018, 202 cows were classified in the herd. At a 50% calf recruitment rate, 101 bison will need to be harvested in 2018 to hold the population stable at the current level, and more will need to be harvested to reduce the population to the objective of 500.

Population

The Jackson Bison Herd peaked at 1,100 animals in 2007, was stabilized by harvest from 2008-2010, trended downward in recent years, and was within 20% of the population objective after the 2016 and 2017 hunting seasons. The herd is within 20% of the 500 objective at 567 bison,

even though harvest success was low during the 2017 hunting season. The population grew by approximately 21 bison between the 2016 and 2017 mid-winter trend counts. However, managers would like to structure hunting seasons in 2018 to reduce to herd closer to the 500 objective.

The Jackson Bison Herd dynamics are very predictable due to high visibility of bison during winter surveys, consistent annual calf ratios, and very low adult mortality other than from hunter harvest. As long as hunter success remains relatively consistent from year to year, managing the herd at the 500 objective and desired ratios is straightforward. When the herd is at the 500 objective (and assuming a maximum of 100 bulls:100 cows ratio), the classification goal would be: 200 cows, 100 calves, and 200 bulls. By the beginning of the 2018 hunting season, managers expect there will be approximately 253 cows, 101 calves, and 315 bulls for a total of 669 bison. The following tables show how the 2018 hunting season proposal achieves this objective and target bull:cow ratio. Using the most recent 5-year average hunter success rates for bull hunters (90%) and cow hunters (75%), a total of 115 Type 1 licenses (plus 2 additional resident licenses are needed to meet the 80:20 split) for a total of 117 licenses and 75 Type 4 licenses are needed to reduce the population to 500 animals, and reduce the bull:cow ratio from 131:100 to 101:100 (Table 1).

Table 1. Predicted 2018 post-season classifications under an average harvest scenario (90% for Type 1, 75% for Type 2).

2018 Predictions	Bull (Type 1)	Cows (Type 4)	Calves	Total		Bull:cow ratio	Calf:cow ratio
2018 Proposed licenses	117	75		192			
Average Harvest Success (last 5 years)	90% success	75% success					
Predicted harvest + 12 Gov tags, etc. for bulls	117	56		173			
Predicted 2018 post- season classification	198	197	101	496		101	51

Management Summary

Harvest success was below average (63%) in 2017 due to mild winter conditions that allowed bison to remain in Grand Teton National Park until late January. Because of the lower population size and resulting licenses numbers, even with below average harvest success, the bison population only grew by 21 animals. The population is still within 20% of the 500 bison objective at 567 animals. To reduce it further toward the objective of 500 animals, 75 Type 4 licenses and 117 Type 1 licenses will be offered for Hunt Area 2 in 2018. In addition, 12 bulls can be harvested on special licenses such as Governor’s Licenses, Super Tag, Super Tag Trifecta, and through Native American tribal harvest. Assuming hunter success is 90% for Type 1 hunters and 75% for Type 2 hunters, these licenses should result in the harvest of

approximately 117 bulls and 56 cows, and produce a postseason 2018 population of about 500 bison at the end of 2018. The bull ratio is predicted to decrease to approximately 101 bulls:100, and the herd will continue the trend toward younger age classes of both cows and bulls.

Two additional resident licenses will be issued in Hunt Area 2 to account for the issuance of 2 resident and 1 nonresident licenses in Hunt Area 3 and maintain the 80:20 resident:nonresident split. In addition, 5 Governor's Licenses and 1 Super Tag for bison are expected to hunt in Area 2. The one winner of the Super Tag Trifecta drawing may also choose a bison license, depending on their species preference. These licenses will result in additional bull harvest beyond those licenses specifically issued in Area 2, but are accounted for in harvest projections.

The season dates will remain the same as 2017 with the regular season remaining open through January 1 and continuing on a provisional basis from January 2 to 31 with alternate permits available for the NER until either forage/weather conditions dictate that elk supplemental feeding is necessary or January 31 is reached.

Hunt Area 3

Beginning in 2016, the number of bison in the North Fork corridor within the Shoshone National Forest has been increasing with as many as 18 bison being counted within the North Fork drainage. The "Brucellosis Management Action Plan For Bison Using the Absaroka Management Area" was finalized in 2008 with direction given to WGFD to not allow more than 15 bull bison within the North Fork Shoshone River corridor due to "concerns for safety, property damage, and available forage on crucial winter ranges" and to "minimize potential brucellosis transmission to wintering elk on crucial winter ranges along the North Fork corridor". In addition to a higher than prescribed number of bull bison in the corridor, WGFD has hazed bison off of private lands east of the National Forest more than a dozen times over the last 1.5 years. Both of these factors have led to the decision to utilize hunters to decrease the total number of bull bison in the corridor and align the numbers with what has been prescribed in the Brucellosis Management Action Plan. Three Type 1 licenses (2 residents, 1 nonresident) will be offered for Area 3 in 2018.

Bibliography

Berger, J. and S.L. Cain. 1999. Reproductive synchrony in brucellosis-exposed bison in the southern Greater Yellowstone Ecosystem and in noninfected populations. *Conservation Biology* 13:357-366.

National Elk Refuge and Grand Teton National Park. 2007. Final Bison and Elk Management Plan and Environmental Impact Statement for the National Elk Refuge/Grand Teton National Park/John D. Rockefeller, Jr., Memorial Parkway. U.S. Fish and Wildlife Service, Region 6, Denver, CO. 605 pp. <http://www.fws.gov/bisonandelkplan>

Williams, E.S., Thorne, E.T., Anderson, S.L., and J.D. Herriges, Jr. 1993. Brucellosis in free-ranging wild bison (*Bison bison*) from Teton County, Wyoming. *Journal of Wildlife Diseases* 29:118-122.