

2016 - JCR Evaluation Form

SPECIES: Bison

PERIOD: 6/1/2016 - 5/31/2017

HERD: BI101 - JACKSON

HUNT AREA: 2

PREPARED BY: ALYSON COURTEMANCH

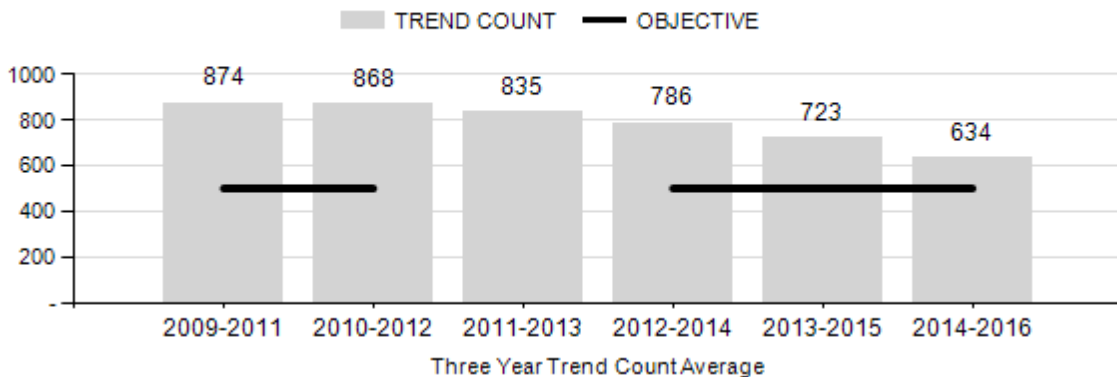
	<u>2011 - 2015 Average</u>	<u>2016</u>	<u>2017 Proposed</u>
Trend Count:	773	546	504
Harvest:	227	274	117
Hunters:	286	281	120
Hunter Success:	79%	98%	98%
Active Licenses:	286	281	120
Active License Success	79%	98%	98%
Recreation Days:	1,790	823	600
Days Per Animal:	7.9	3.0	5.0
Males per 100 Females:	63	139	
Juveniles per 100 Females	48	68	

Trend Based Objective ($\pm 20\%$) 500 (400 - 600)
 Management Strategy: Recreational
 Percent population is above (+) or (-) objective: 9%
 Number of years population has been + or - objective in recent trend: 0

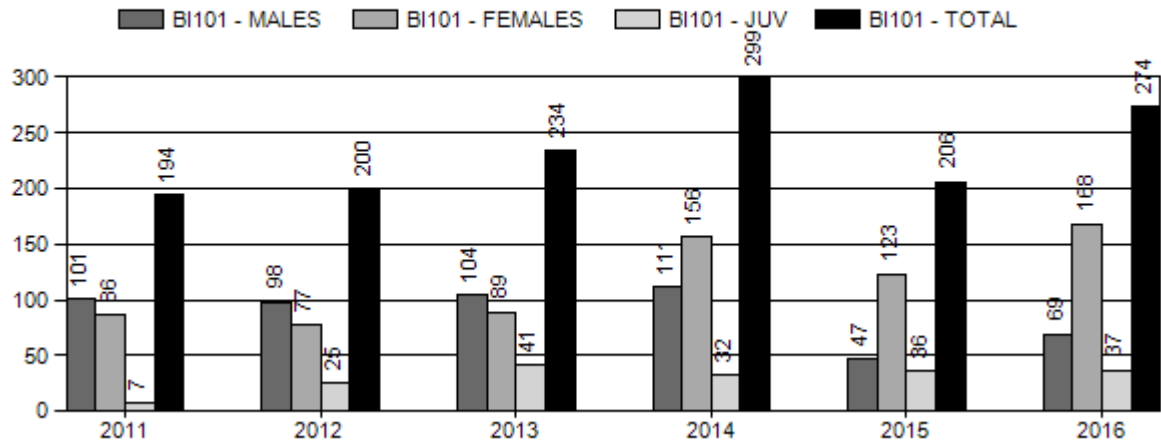
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	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%

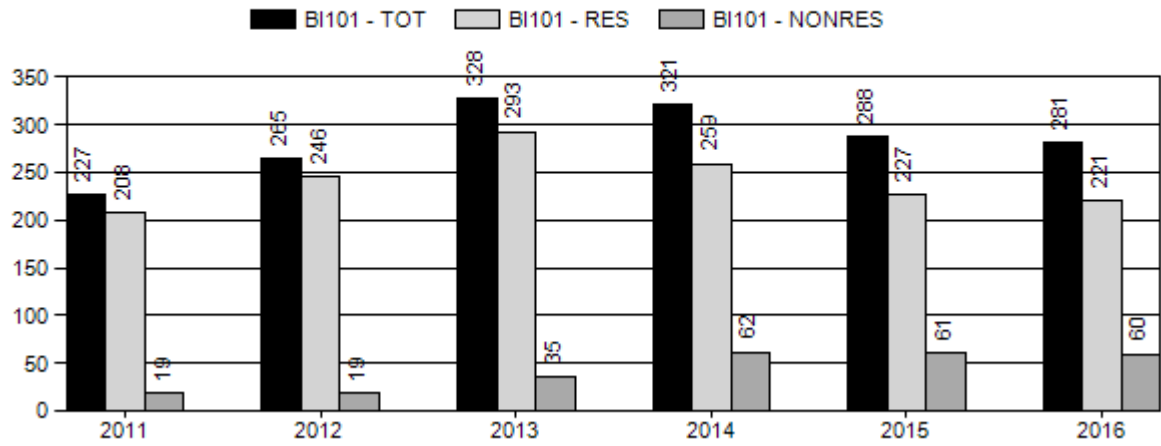
BI101 Trend Count



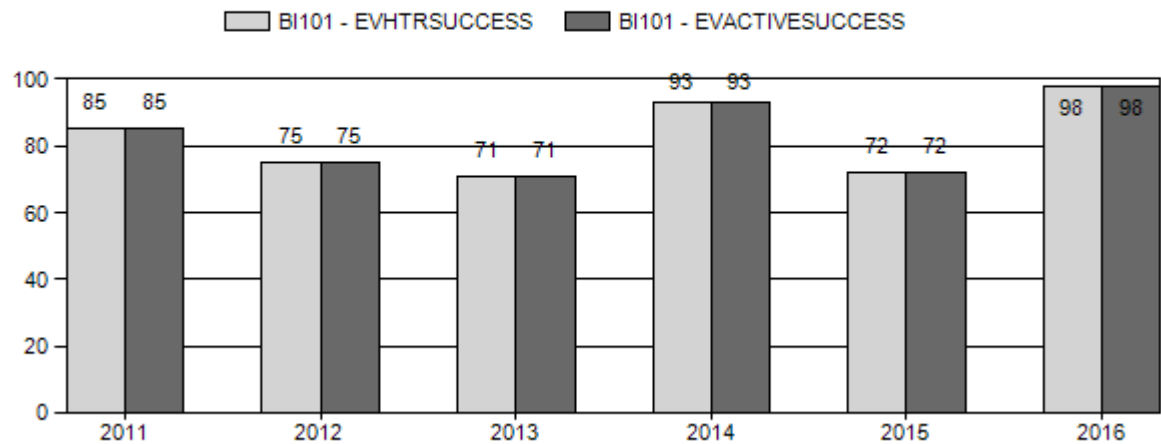
Harvest



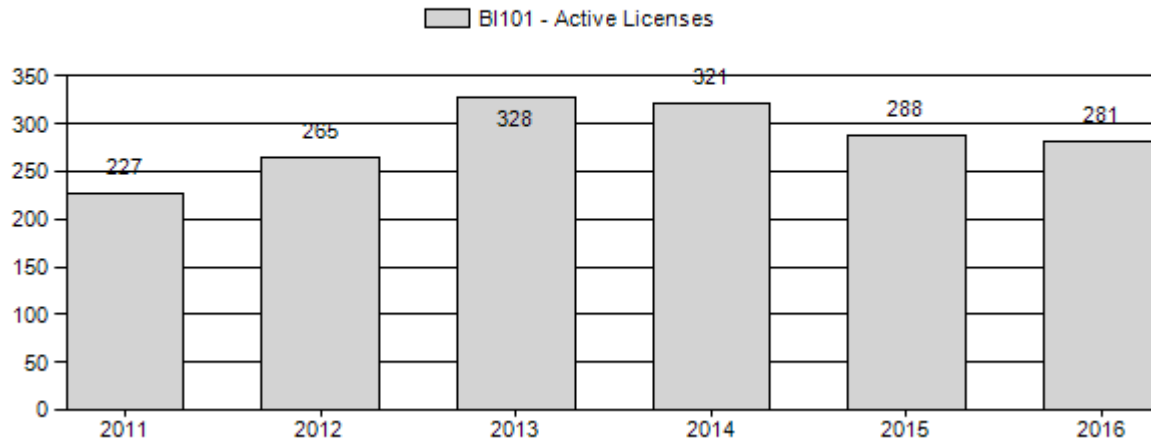
Number of Hunters



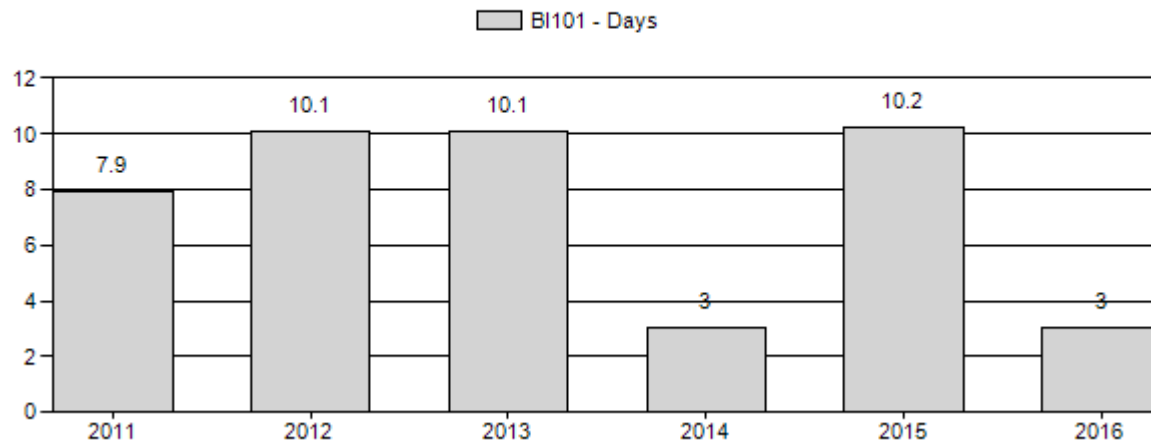
Harvest Success



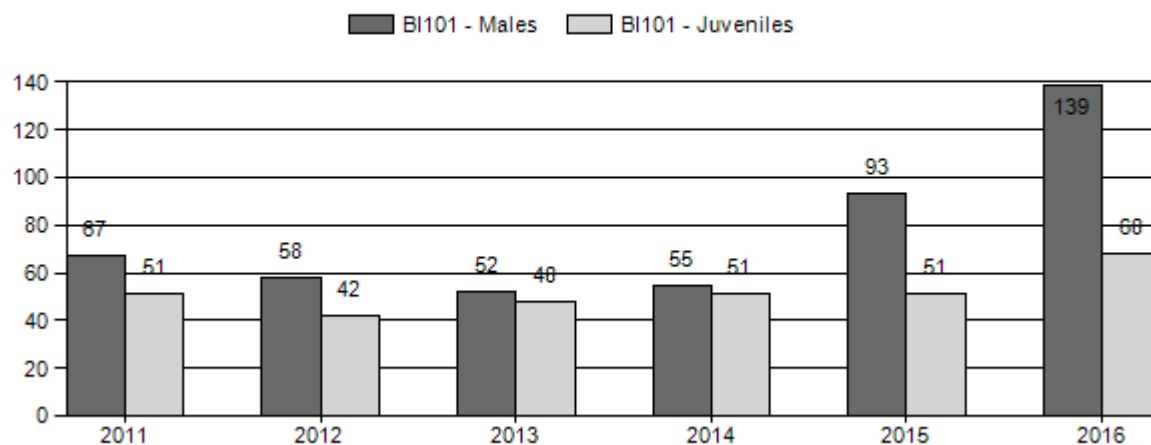
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2011 - 2016 Postseason Classification Summary

for Bison Herd BI101 - JACKSON

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2011	887	102	156	258	31%	386	46%	196	23%	840	0	26	40	67	±2	51	±1	30
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 HUNTING SEASONS
JACKSON BISON HERD (BI101)**

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
2	1	Aug. 15	Jan. 1	70	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.
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	50	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						CLOSED

Summary of Changes in License Number

Hunt Area	Type	Quota change from 2016
2	1	+20
	4	-195
Herd Unit Total	1	+20
	4	-195

Management Evaluation

Mid-Winter Trend Count Objective: 500 \pm 20%

Management Strategy: Recreational

2016 Mid-Winter Trend Count: 546

3-Year Mid-Winter Trend Average (2014-2016): 634

2017 Proposed Mid-Winter Trend Count: 504

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 546 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 will be structured to stabilize the population at the 500 bison objective and align 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. 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

Summer 2016 was very dry. Precipitation in July was only 50% of average. September and October were rainy, resulting in a late-season flush of forage production. November was relatively warm and mild with no significant snowfall until early December. However, the region received significant snowfall and freeze/thaw events in late December through January, causing severe winter conditions. Bison did not move to the NER in large numbers until mid December when snow depths began to make forage inaccessible. At the time of the mid-winter survey in

February 2017, winter snowpack was reported at 131% 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 2016 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 2017, a total of 504 bison were classified on supplemental feed in the McBride area on the NER and an additional 42 bison were observed on native ranges on the northern NER, Spread Creek area, and Snake River Bottom in GTNP for a total of 546 bison. Personnel from GTNP and the WGFD classified 213 adult males, 34 yearling males, 178 cows, and 121 calves. Herd unit ratios were 139 bulls:100 cows and 68 calves:100 cows. Trend data indicate that harvest has caused the bison population to decline steadily toward objective (Fig. 1). The mature bull ratio declined from 78 bulls:100 cows in 1999 to 34:100 in 2014, likely due to high bull harvest. The population is managed to maintain a high bull to cow ratio, therefore managers adjusted licenses in 2015 to harvest fewer bulls and more cows. This resulted in a rapid increase in the mature bull ratio to 78 bulls:100 cows in 2015 and 120 bulls:100 cows in 2016 (Fig. 2). Future seasons will be structured to stabilize the herd and maintain a bull ratio of approximately 100 bulls:100 cows.

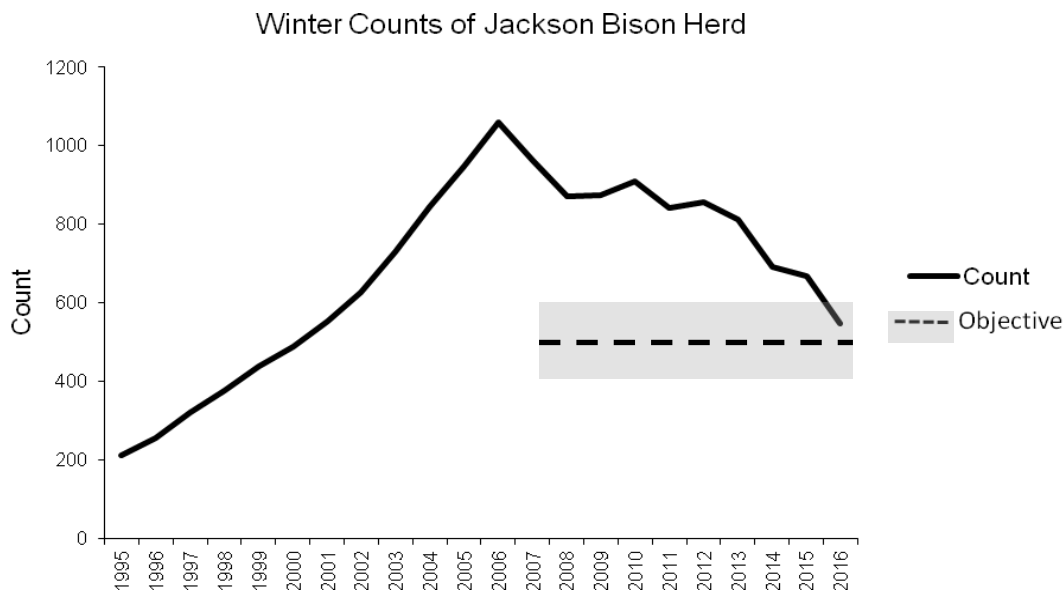


Fig. 1. Winter counts of the Jackson Bison Herd, 1995-2016. The mid-winter trend count objective is 500 bison \pm 20% (shaded gray box).

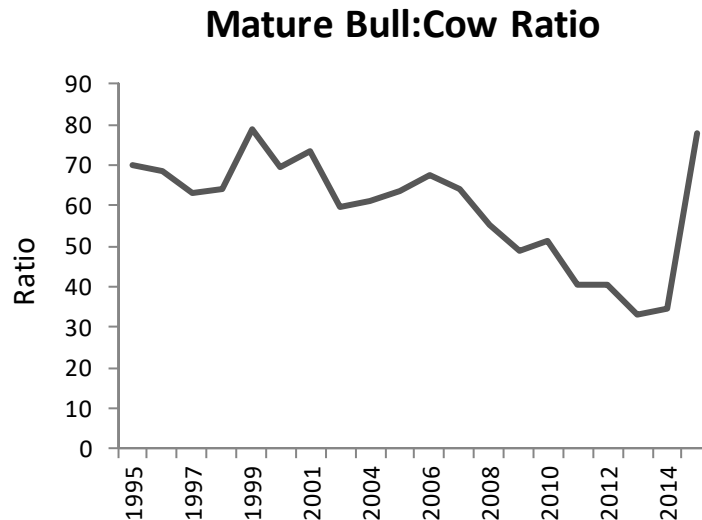


Fig. 2. Mature bull to 100 cows ratios for the Jackson Bison Herd, 1995-2016. Changes to the number of Type 1 licenses in fall 2015 and 2016 caused a rapid increase in the ratio.

Harvest Data

During the 2016 hunting season, 281 hunters harvested 69 bulls, 168 cows, and 37 calves, totaling 274 bison. Harvest in 2016 was the second highest on record. Harvest success was very high at 98% and it took hunters an average of 3 days to harvest. Misidentification of bulls as cows continues to be a challenge for hunters and 17 bulls were accidentally harvested on Type 4 cow/calf licenses in 2016. In 2016, there were 5 Governor’s Licenses, 1 Super Tag, and 1 Super Tag Trifecta license available for bison in Area 2. The majority of harvest occurred on the NER during late December and early January.

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 toward objective, the reproductive rate remains high but the number of adult females has decreased. In 2017, approximately 89 calves are expected to be recruited into the population, therefore, harvest needs to be at least 89 animals to stabilize the population.

Population

The 2016 mid-winter trend count indicates that the population decreased by approximately 120 animals (18% of the population) in 2016. The population 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 objective after the 2016 hunting season. Managers reduced bull licenses in 2015 in an effort to increase the bull ratio. The bull ratio responded rapidly and increased to 93 bulls:100 cows in 2015 and 139 bulls:100 cows in 2016. Bull licenses will remain conservative in the short-term to allow younger bulls to mature, but hunting seasons will be structured to achieve a bull ratio of

approximately 100 bulls:100 cows.

Management Summary

Harvest success was very high in 2016 (98% success), which resulted in a significant reduction in the bison population. The population is currently within 20% of the 500 bison objective at 546 animals. Hunting seasons will be changed substantially in 2017 to switch from the goal of population reduction to population stability. The license quota for Type 1 (any wild bison) will be increased slightly from 50 to 70 in 2017 to bring the bull to cow ratio closer to 100 bulls:100 cows. The license quota for Type 4 (cow or calf wild bison) will be decreased significantly to 50 licenses, a reduction of 195 licenses. This is due to the very high success on Type 4 licenses in 2016 and the subsequent need to prevent a further decrease of cows in the herd. 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. Hunter access to the NER will be allowed along the Gros Ventre River from U.S. Highway 191 and at designated parking areas along the Kelly Road in GTNP. Since the number of adult cows has been reduced through harvest, approximately 89 calves are expected to be recruited by fall 2017. Therefore, harvest must be at least 89 bison to stabilize the population. With an expected high harvest success, the population is expected to be approximately 504 bison at the end of 2017. The regular season will remain open through January 1 and continue on a provisional basis from January 2 - 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. The bull ratio is expected to be 120 bulls:100 cows and bulls will continue to be skewed to younger age classes.

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.