2017 - JCR Evaluation Form

SPECIES: Mountain Goat
PERIOD: 6/1/2017 - 5/31/2018

HERD: MG201 - BEARTOOTH

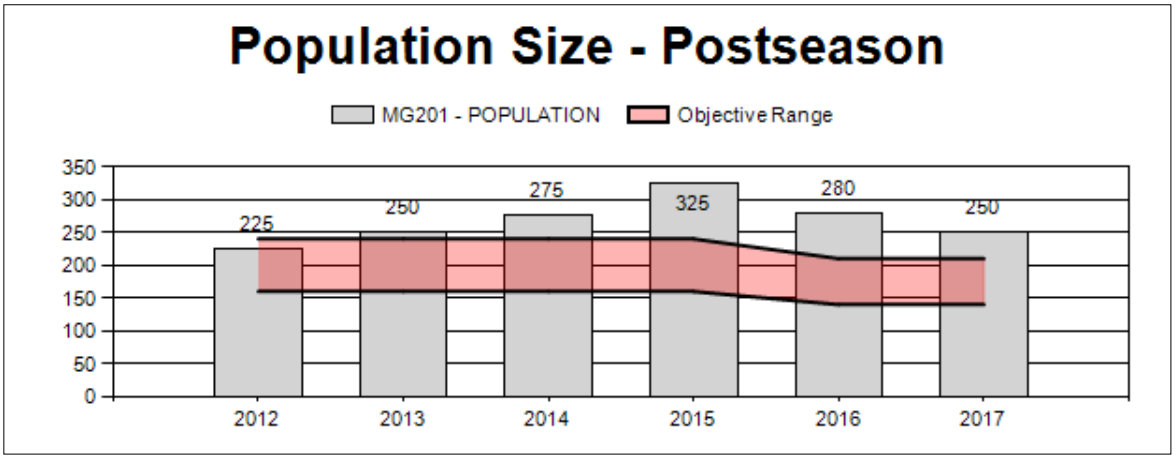
HUNT AREAS: 1, 3, 514, 999
PREPARED BY: TONY MONG

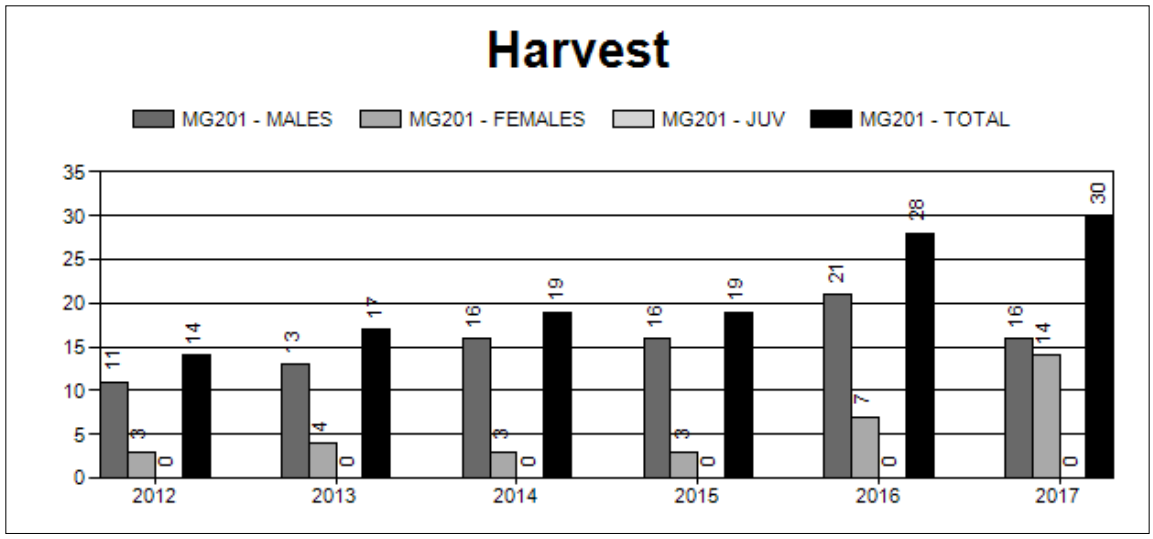
	2012 - 2016 Average	2017	2018 Proposed
Population:	271	250	250
Harvest:	19	30	28
Hunters:	20	33	30
Hunter Success:	95%	91%	93 %
Active Licenses:	20	33	30
Active License Success:	95%	91%	93 %
Recreation Days:	101	243	225
Days Per Animal:	5.3	8.1	8.0
Males per 100 Females	0	0	
Juveniles per 100 Females	37	0	

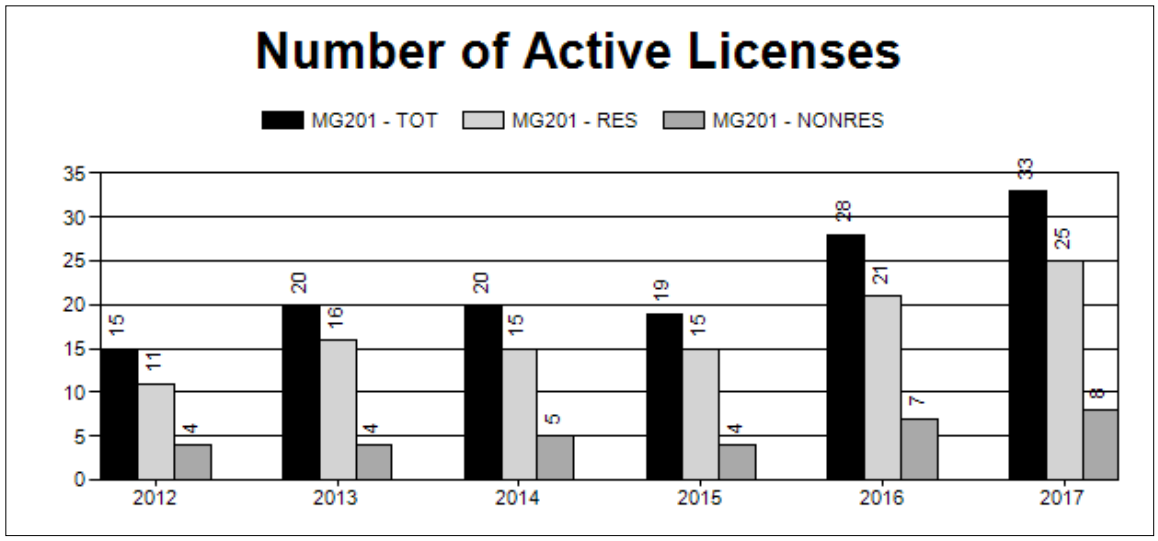
Population Objective (± 20%) :	175 (140 - 210)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	43%
Number of years population has been + or - objective in recent trend:	10
Model Date:	3/5/2018

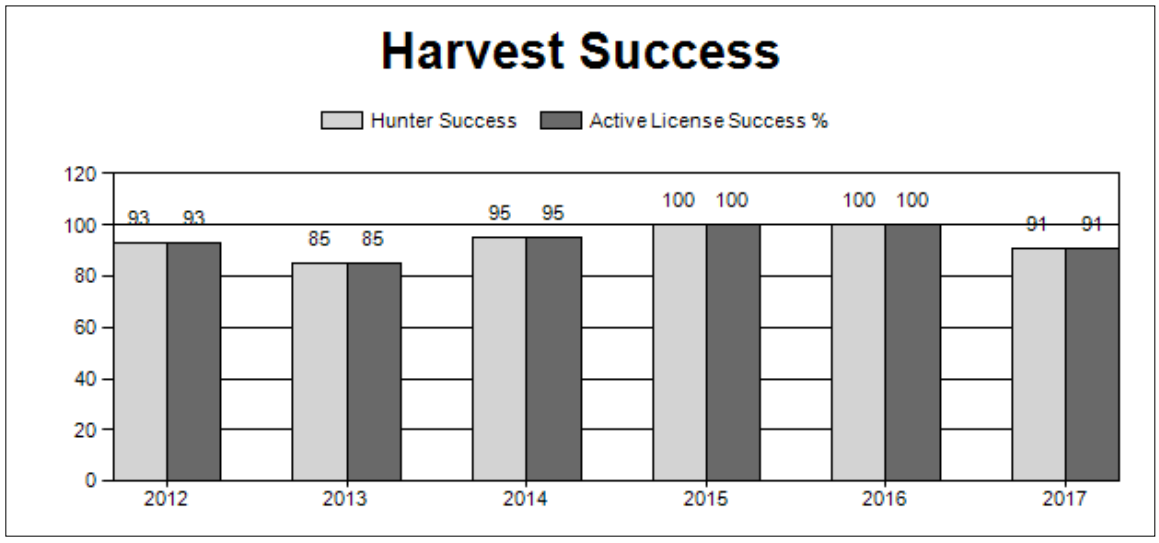
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

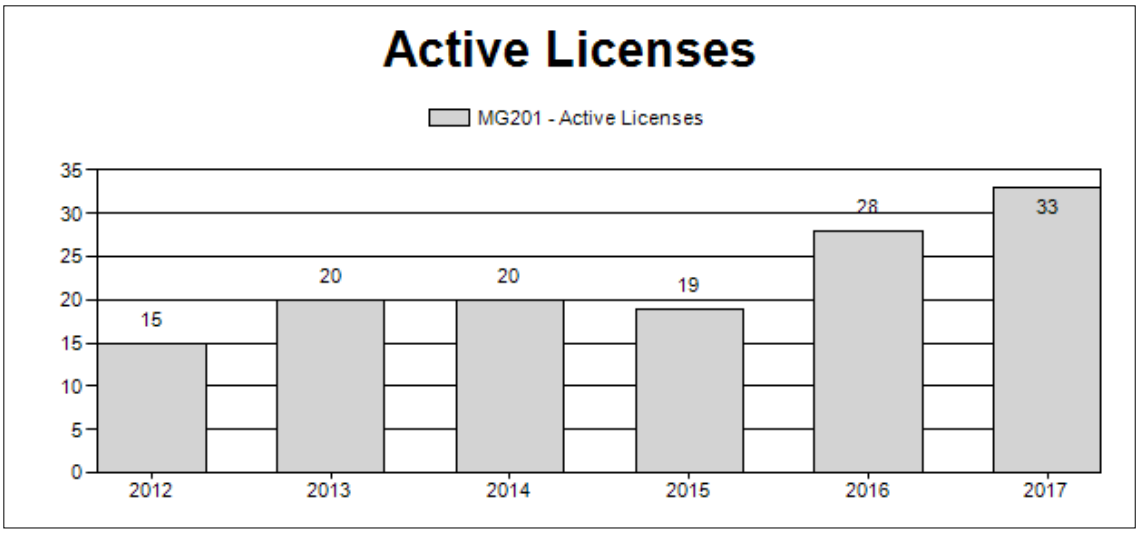
	JCR Year	Proposed
Females ≥ 1 year old:	n/a%	n/a%
Males ≥ 1 year old:	n/a%	n/a%
Total:	n/a%	n/a%
Proposed change in post-season population:	n/a%	n/a%

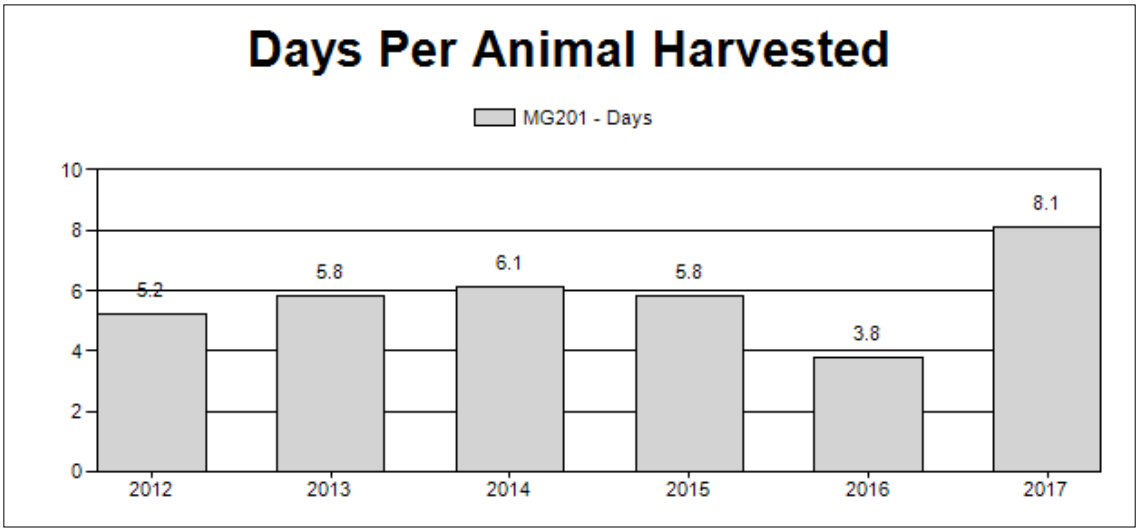


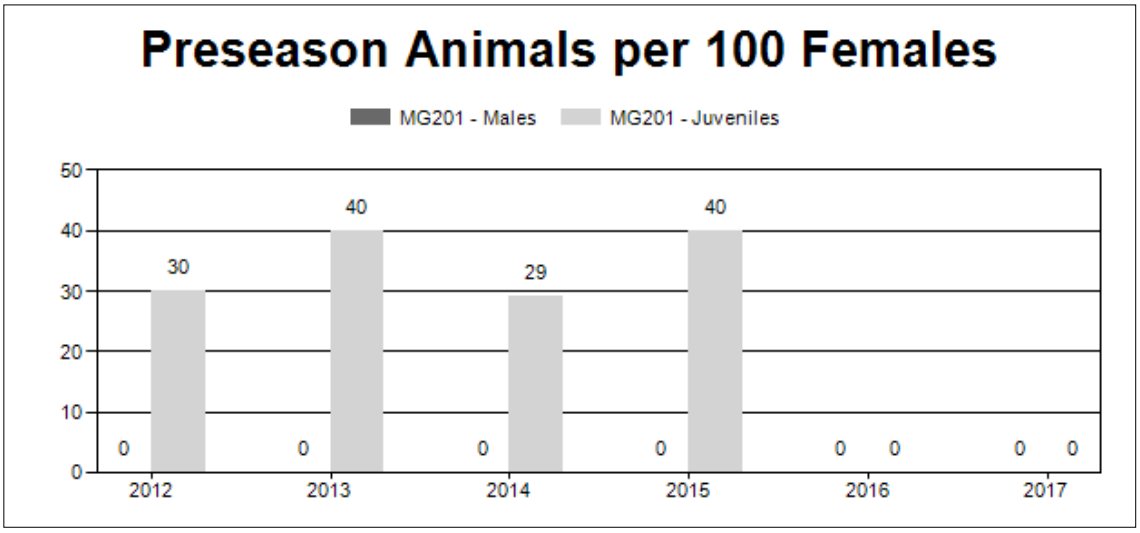

Harvest
MG201 - MALES
MG201 - FEMALES
MG201 - JUV
MG201 - TOTAL
35
30
25
20
15
10
5
0
11
3
0
14
13
4
0
17
16
3
0
19
16
3
0
19
21
7
0
28
16
14
0
30
2012
2013
2014
2015
2016
2017


Number of Active Licenses
MG201 - TOT
MG201 - RES
MG201 - NONRES
35
30
25
20
15
10
5
0
15
11
4
20
16
4
20
15
5
19
15
4
28
21
7
33
25
8
2012
2013
2014
2015
2016
2017


Harvest Success
Hunter Success
Active License Success %
120
100
80
60
40
20
0
93
93
85
85
95
95
100
100
100
100
91
91
2012
2013
2014
2015
2016
2017


Active Licenses
MG201 - Active Licenses
35
30
25
20
15
10
5
0
15
20
20
19
28
33
2012
2013
2014
2015
2016
2017


Days Per Animal Harvested
MG201 - Days
10
8
6
4
2
0
5.2
5.8
6.1
5.8
3.8
8.1
2012
2013
2014
2015
2016
2017


Preseason Animals per 100 Females
MG201 - Males
MG201 - Juveniles
50
40
30
20
10
0
30
40
29
40
0
0
0
0
0
0
0
0
0
0
2012
2013
2014
2015
2016
2017

2012 - 2017 Preseason Classification Summary																	
for Mountain Goat Herd MG201 - BEARTOOTH																	
	MALES				FEMALE		JUVENIL				Males to 100 Females				Young to		
Year	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2012	0	0	0	0%	60	77%	18	23%	78	179	0	0	0	± 0	30	± 0	30
2013	0	0	0	0%	125	71%	50	29%	175	167	0	0	0	± 0	40	± 0	40
2014	0	0	0	0%	56	78%	16	22%	72	155	0	0	0	± 0	29	± 0	29
2015	0	0	0	0%	216	71%	87	29%	303	207	0	0	0	± 0	40	± 0	40
2016	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0
2017	0	0	0	0%	0	0%	0	0%	0	0	0	0	0	± 0	0	± 0	0

2018 HUNTING SEASONS
BEARTOOTH MOUNTAIN GOAT HERD (MG201)

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
1	1	Sep. 1	Oct. 31	8	Limited quota	Any mountain goat
3	1	Sep. 1	Oct. 31	16	Limited quota	Any mountain goat
3	2	Oct. 1	Oct. 31	8	Limited quota	Any mountain goat

Special Archery Season Hunt Areas	Season Dates		Limitations
	Opens	Closes	
1, 3	Aug. 15	Aug. 31	Refer to Section 7 of this Chapter

Hunt Area	Type	Quota change from 2017
1	1	-4
3	1	+4
Total	**1**	**0**

Management Evaluation
Current Mid-Winter Trend Count Objective: 175
2017 Mid-summer trend count Estimate: 280
2018 Mid-summer trend count Estimate: 250

Herd Unit Issues

Mountain goat harvest management relies on the ability of hunters to access remote areas that contain mountain goats. In the Beartooth herd there is a mix of accessibility and we are seeing the easier access areas get hunted regularly but the more difficult areas receiving light pressure. This is creating an uneven distribution of harvest across the herd unit.

Weather

Weather conditions during the 2016-17 winter were very difficult with high amounts of snowfall and colder than normal temperatures (figures 1 and 2). Precipitation levels in most of the herd unit were 200% or more of normal. These higher than normal precipitation events through the winter created a very wet summer and vegetative response was phenomenal with good growth throughout the herd unit. Current winter conditions (2017-18) are much milder with early snows but melting occurring throughout the season and overall more mild conditions within the herd

unit (figure 3). Winter weather came early to mid-ranges in the mountains but not to the Yellowstone NP area. Big snows occurred in the mid-September time frame (Sept. 20-25) which piled large amounts of snows in the areas outside of Yellowstone NP but not in the park.

Figure 1. Percent of normal precipitation for the herd unit from January to March 2017.

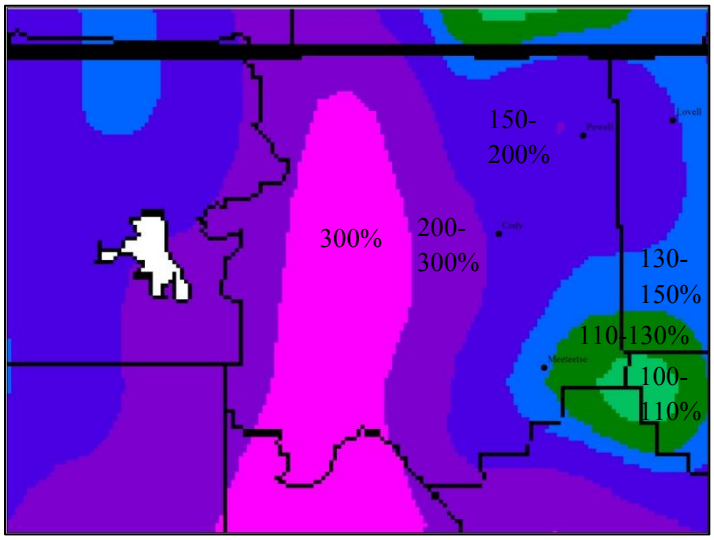


Figure 2. Departure from normal temperature for the herd unit from January to March 2017.

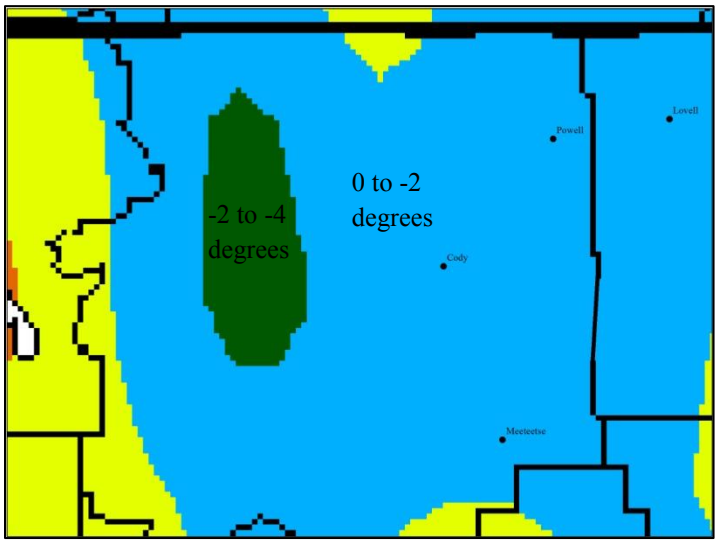
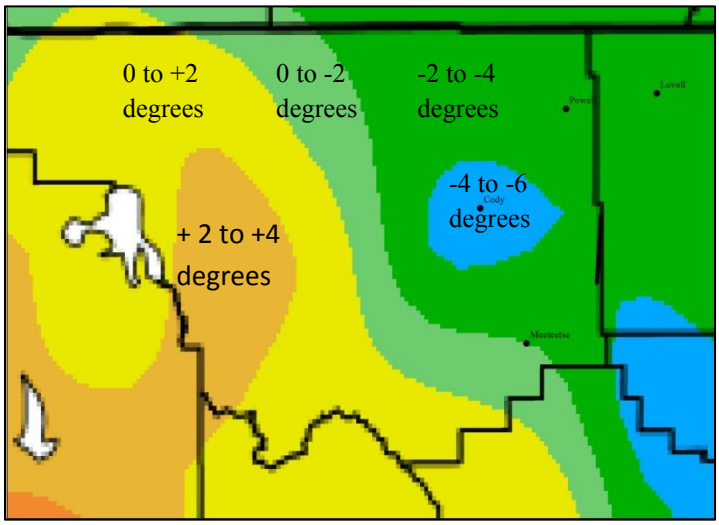


Figure 3. Departure from normal temperature for the herd unit from January to March 2018.



Habitat

No habitat monitoring data is collected in this herd unit.

Field Data

Trend data for mountain goats is not collected every year, whereas classification data is opportunistically collected during bighorn sheep flights. The last mountain goat trend/classification count was completed in 2016; however, a dedicated trend and classification flight is scheduled for the summer of 2018.

Harvest Data

Harvest in the Beartooth herd has been increasing over the last ten years in response to the increase in license availability. A total of 30 goats were harvested, which is the highest harvest on record. Various studies have shown that goat populations are sensitive to female harvest. We saw a big jump in nanny harvest in 2017 from seven in 2016 to 14 in 2017 making up almost half of the entire harvest (Table 1) with a majority of those nannies taken in hunt area 1 (60% of HA1 harvest were nannies). Hunter effort increased in 2017 to 8.1days/harvest compared to the 10-year-average of 5.7 days/harvest. The average age of all harvested goats in 2017 was 4.8 years, and is similar to the 5-years-average of 5.0 years. Female goats (average age =5.3) were slightly older compared to males (average age = 4.4).

Table 1. Management parameters for Hunt Area 1 of the Beartooth Mountain Goat Herd (Wyoming portion only), 1969-2017.

	1969-1979	1980-1992	1993-2010	2011	2012	2013	2014	2015	2016	2017
Hunters	4	8	12	12	11	14	14	11	12	13
Harvest	3.4	7.3	11.7	11	11	12	14	11	12	13
Success	84.1%	95.1%	97.7%	100%	100%	86%	100%	100%	100%	100%
Effort	5.4 days	3.7 days	4.5 days	3.5 days	5.2 days	6.9 days	4.6 days	7.5 days	3.3 days	5.4 days
Avg Age	-	-	4.5 years	5.9 years	5.1 years	5.2 years	5.7 years	4.8 years	5.5 years	4.9 years
% Nannies	23.5%	32.9%	32.5%	36.4%	27.3%	41.7%	14.3%	27.3%	41.7%	69%
Trend Counts	19.0	104.7	125.5	-	-	125	-	102	28	-

Table 2. Management parameters for Hunt Area 3 of the Beartooth Mountain Goat Herd, 2011-2017.

	1969-1979	1980-1992	1993-2010	2011	2012	2013	2014	2015	2016	2017
Hunters				3	4	6	6	8	16	20
Harvest				3	3	5	5	8	16	17
Success				100.0%	75%	83%	83%	100%	100%	85%
Effort				9.7 days	5.3 days	3.2 days	10.4 days	3.6 days	4.1 days	6.8 days
Avg Age				3.5 years	4.8 years	4.9 years	4.5 years	5.4 years	4.5 years	4.8 years
% Nannies				0%	0%	20.0%	0%	0%	12.5%	29.4%
Trend Counts				-	-	34	-	93	87	-

Table 3. Mountain goat trend counts in Yellowstone National Park (Soda Butte creek to Lamar Headwaters), 1998-2017.

	1969-1979	1980-1992	1993-2010	2011	2012	2013	2014	2015	2016	2017
Trend Counts	-	-	13.5	-	-	74	67	108	83	-

Population

Due to the difficulty of distinguishing males and females during aerial surveys, mountain goats are classified as either kids or adults. Only from close observation can males and yearlings be determined. Due to the inability to distinguish between males and females, construction and validation of a functional population model is difficult.

Management Evaluation

Management of the Beartooth herd relies on the harvest information, hunter observations and trend counts. Based on these parameters, it seems that the increase in nanny harvest as well as increase in days/harvest in hunt area 1 may indicate a population decline in that portion of the herd, and has led to a reduction in licenses for 2018. It seems that hunters are reporting good numbers of goats in hunt area 3 especially in the more difficult areas to hunt. Hunt area 3 did see an increase in days to harvest, but we feel that the mid-September snow storms affected access for hunt area 3 goat hunters. Based on reports from hunters, and our own field observations, we are increasing the hunt area 3 type 1 licenses by 4.