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Acknowledgement

The field data contained in these reports was collected by the combined efforts of the Cody Region Wildlife Division personnel including District Wildlife Biologists, District Game Wardens, the Wildlife Technicians, the Habitat Biologist, the Wildlife Management Coordinator and Regional Supervisor, and other Department personnel and volunteers working at check stations. The authors wish to express their appreciation to all those who assisted in data collection.

2020 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2020 - 5/31/2021

HERD: PR201 - Copper Mountain

HUNT AREAS: 76, 79, 114-116
PREPARED BY: Bart Kroger

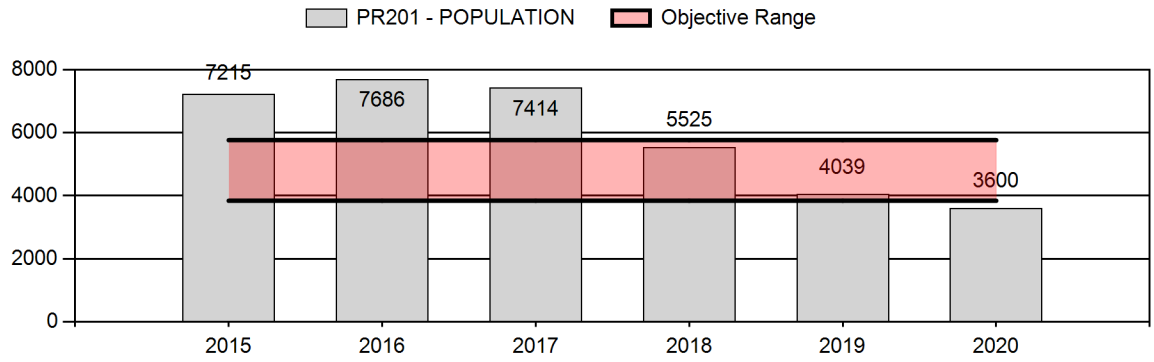
	2015 - 2019 Average	2020	2021 Proposed
Population:	6,376	3,600	2,786
Harvest:	932	722	565
Hunters:	969	779	650
Hunter Success:	96%	93%	87 %
Active Licenses:	1,116	859	675
Active License Success:	84%	84%	84 %
Recreation Days:	3,728	3,445	3,000
Days Per Animal:	4	4.8	5.3
Males per 100 Females	59	53	
Juveniles per 100 Females	69	49	

Population Objective (± 20%) :	4800 (3840 - 5760)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-25%
Number of years population has been + or - objective in recent trend:	2
Model Date:	2/22/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	15%	11%
Males ≥ 1 year old:	28%	52%
Total:	16%	17%
Proposed change in post-season population:	-10%	-22%

Population Size - Postseason



2021 Hunting Seasons
Copper Mountain Pronghorn (PR201)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
76	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	150	Any antelope
79	1			Oct. 1	Oct. 15	25	Any antelope valid on or within one-half (1/2) mile of irrigated land
79	6			Sep. 1	Nov. 30	75	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
79	9			Aug. 15	Sep. 30	50	Any antelope, archery only
114	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	75	Any antelope
114	2			Aug. 15	Sep. 30	25	Any antelope valid on or within one-half (1/2) mile of irrigated land
114	6			Aug. 15	Oct. 24	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
114	7			Oct. 25	Nov. 30	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
115	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	200	Any antelope
115	6	Aug. 15	Aug. 31	Sep. 1	Nov. 30	150	Doe or fawn valid east of the Nowood River or south of the Nowater Stock Trail (B.L.M. Road 1404)

2020 Hunter Satisfaction: 80% Satisfied, 12% Neutral, 8% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 season structure is again very conservative due to declining numbers of pronghorn in the herd. A significant late winter die-off in 2018/19, along with two recent years of poor fawn production have contributed to these declines. Fawn ratios in 2019 (41:100) and 2020 (49:100) were two of the lowest on record for this herd, which will further suppress population growth into the future. The number of pronghorn classified in the herd unit has declined by nearly 40% in recent years. Based on field personnel perceptions, along with landowner and hunter comments during the 2019 and 2020 hunting season, it is believed nearly a 50% loss in this pronghorn population has occurred, especially in the southern portion of the herd unit. Hunter satisfaction declined from 92% satisfied in 2018 to 78% and 80% satisfied in 2019 and 2020, respectively. Although hunter success was up slightly in 2020 (93%) compared to 87% in 2019, hunter effort has increased by 1.2 days since 2018. Overall, a reduction of 175 Type 6 licenses will occur for the herd unit in 2021. Nearly 700 licenses have been reduced in this herd unit over the

last two years. Until fawn ratios improve and overall population increases are observed, this herd will likely continue to have very conservative hunting seasons. A slight change to the Area 115 Type 6 limitation was made to reduce hunter confusion. Some Type 6 and 7 licenses remain in the season structure to address potential crop damage concerns. The 3-year average percent harvest of the preseason males (≥1 year old) is currently 25.3%.

2.) Management Objective Review: The Copper Mountain Pronghorn herd unit objective was not reviewed in 2020. Field managers feel pronghorn numbers are likely below current model estimates.

2020 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2020 - 5/31/2021

HERD: PR204 - FIFTEENMILE

HUNT AREAS: 77, 83, 110
PREPARED BY: BART KROGER

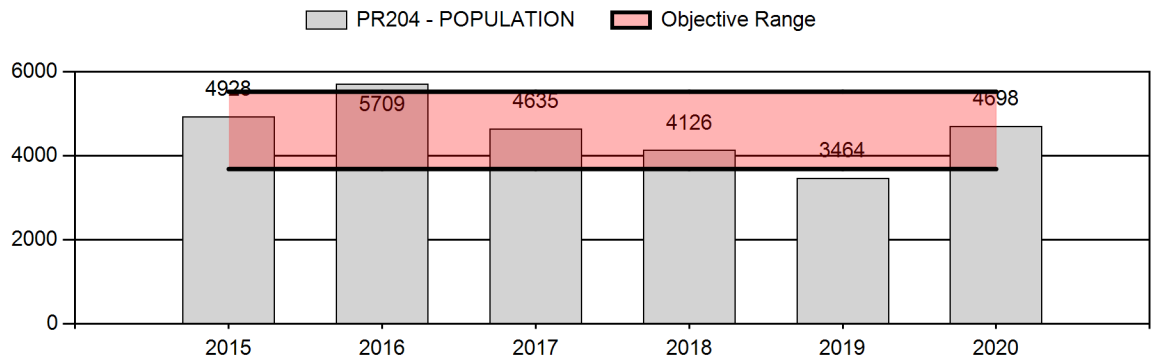
	2015 - 2019 Average	2020	2021 Proposed
Population:	4,572	4,698	3,344
Harvest:	914	534	530
Hunters:	901	573	575
Hunter Success:	101%	93%	92 %
Active Licenses:	1,036	608	610
Active License Success:	88%	88%	87 %
Recreation Days:	3,081	1,353	1,350
Days Per Animal:	3.4	2.5	2.5
Males per 100 Females	42	40	
Juveniles per 100 Females	60	64	

Population Objective (± 20%) :	4600 (3680 - 5520)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	2%
Number of years population has been + or - objective in recent trend:	1
Model Date:	2/22/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	5%	6%
Males ≥ 1 year old:	37%	72%
Total:	10%	14%
Proposed change in post-season population:	-1%	-26%

Population Size - Postseason



2021 Hunting Seasons
Fifteen Mile Pronghorn (PR204)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
77	1	Aug. 15	Sep. 19	Sep. 20	Oct. 14	125	Any antelope
77	2			Aug. 15	Sep. 19	25	Any antelope valid on or within one-half (1/2) mile of irrigated land
77	6			Aug. 15	Oct. 24	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
77	7			Oct. 25	Nov. 30	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
83	1	Aug. 15	Sep. 19	Sep. 20	Nov. 7	250	Any antelope
83	6			Aug. 15	Nov. 15	50	Doe or fawn valid on irrigated land
110	1	Aug. 15	Sep. 19	Sep. 20	Oct. 14	125	Any antelope
110	6	Aug. 15	Sep. 19	Sep. 20	Oct. 14	50	Doe or fawn

2020 Hunter Satisfaction: 91% Satisfied, 5% Neutral, 4% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 season structure is again mostly conservative due to a significant loss of pronghorn during the 2018/19 winter in Hunt Areas 77 and 83. Field personnel and landowner perceptions are that a 50% loss of pronghorn has occurred in recent years. Current model estimates and trends are considered unreliable because they do not reflect these significant declines in pronghorn numbers. Hunter satisfaction declined from a 93% satisfied in 2018 to 84% satisfied in 2019, but did increase to 91% in 2020 likely because of reduced hunting pressure and harvest. Hunter success declined from 110% in 2018 to 93% in 2019 and 2020. Roughly 1,200 pronghorn were classified in 2020, down 50% since 2016. Overall, a reduction of 900 licenses has occurred in the herd unit the past two years. The only changes for the 2021 season in a slight decrease in Hunt Area 83 Type 6 licenses and a slight increase in the Hunt Area 110 Type 1 licenses. Although this pronghorn herd is well below its post-season objective level, more so than model predictions, some Type 6 and 7 licenses remain to address potential damage concerns in each hunt area. The 3-year average percent harvest of the preseason males (≥1 year old) is currently 34.6%.

2.) Management Objective Review: The Fifteen Mile Pronghorn herd unit objective was last reviewed in 2018, with no changes made. This herd population is field estimated to be roughly 50% of the current model prediction of 4,700 pronghorn.

3.) Epizootic Hemorrhagic Disease (EHD) was confirmed near Worland in 2021. However, no significant die-off of pronghorn were detected.

2020 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2020 - 5/31/2021

HERD: PR205 - CARTER MOUNTAIN

HUNT AREAS: 78, 81-82
PREPARED BY: SAM STEPHENS

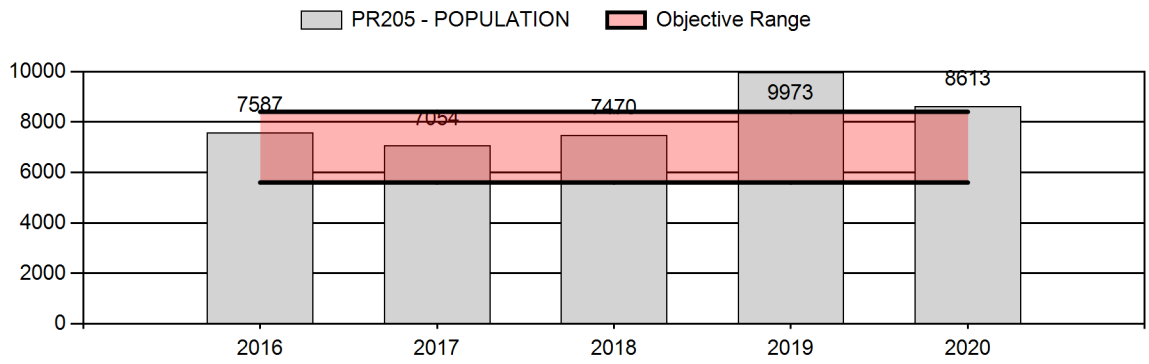
	2015 - 2019 Average	2020	2021 Proposed
Population:	7,756	8,613	8,045
Harvest:	749	883	923
Hunters:	748	974	1,025
Hunter Success:	100%	91%	90 %
Active Licenses:	860	1,063	1,110
Active License Success:	87%	83%	83 %
Recreation Days:	2,467	3,444	3,700
Days Per Animal:	3.3	3.9	4.0
Males per 100 Females	52	56	
Juveniles per 100 Females	58	53	

Population Objective (± 20%) :	7000 (5600 - 8400)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	23%
Number of years population has been + or - objective in recent trend:	2
Model Date:	02/12/2020

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

	JCR Year	Proposed
Females ≥ 1 year old:	10%	10%
Males ≥ 1 year old:	19%	23%
Total:	9%	10%
Proposed change in post-season population:	-9%	-10%

Population Size - Postseason



2021 HUNTING SEASONS
CARTER MOUNTAIN PRONGHORN HERD (PR205)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
78	1	Aug. 15	Sep. 19	Sep. 20	Oct. 31	150	Any antelope
78	6			Aug. 15	Nov. 15	100	Doe or fawn valid on irrigated land
81	1	Aug. 15	Sep. 19	Sep. 20	Nov. 15	275	Any antelope
81	6	Aug. 15	Sep. 19	Sep. 20	Nov. 15	300	Doe or fawn
82	1	Aug. 15	Sep. 19	Sep. 20	Oct. 14	200	Any antelope
82	2	Aug. 15	Sep. 19	Oct. 15	Nov. 15	100	Any antelope valid east of Wyoming Highway 120
82	6	Aug. 15	Sep. 19	Sep. 20	Oct. 14	200	Doe or fawn
82	8	Aug. 15	Sep. 19	Oct. 15	Nov. 30	100	Doe or fawn valid in Big Horn County

2020 Hunter Satisfaction: 90% Satisfied, 5% Neutral, 5% Dissatisfied

2020 Management Summary

1.) **Hunting Season Evaluation:**

In 2020 we saw the increased hunter opportunity result in the largest harvest of pronghorn for the Carter Mountain Pronghorn (n=883). Changes in 2021 are intended to increase harvest by adding Hunt Area 81 Type 1 and 6 licenses as well as the creation of a late season Hunt Area 82 license (Type 2). This is largely due to the population estimate being over objective (n=8,613) and an increase in sagebrush utilization (Figure 1) which indicates that we are seeing the effects of successive years of population growth. It's suspected that increased use of sagebrush may also be impacting the ability of plants to recover. This is especially pronounced where the age-class of sagebrush within the Dry Creek Basin is showing an increase in the proportion of decadent and dead plants (Figure 2). Over-browsing of an aging sagebrush resource could be a limitation for future population performance of the Carter Mountain Herd. Maintaining harvest levels to curb population growth within the objective range (±20% of 7000) should alleviate the impact to available habitat. Hunt Areas 81 and 82 include the more migratory segment of the herd. The success of this migratory life history strategy is reflected in the dissimilarity with respect to fawn recruitment rates between resident and migratory pronghorn, where those that summer at higher elevations in Hunt Areas 81 and 82 typically show a higher fawn ratio. Higher recruitment rates give a population more resilience to mortality events (i.e. hunting or winter-kill). Increases to

the 81 and 82 Type 1, 2, and 6 quotas are intended to increase hunter opportunity and female harvest as a means to mediate population growth. The cumulative increase of 150 “Any antelope” licenses is intended to increase the adult buck harvest rate. From 2018 to 2020 the adult buck harvest rate averaged 20%. We anticipate the 2021 harvest rate approaching 25%, given these license increases.

2.) **Carter Mountain Pronghorn Study:**

In November of 2019 the Wyoming Game and Fish Department worked with researchers from West Inc. to capture and GPS collar pronghorn in the Carter Mountain Herd Unit. GPS collars were deployed on adult female pronghorn (n=100) within the Dry Creek and Little Dry Creek watersheds, which spans from Wyoming State Highway 120 easterly to Greybull Wyoming (Figure 1). An additional 25 collars were deployed in August and December 2020 to redeploy collars lost to mortalities and augment the sample size. These collars are programmed to collect a location every 2 hours which is then transmitted remotely via satellite. Data from this study will be collected over a two year period to determine seasonal movements, adult female survival rates, and habitat use for the Carter Mountain Pronghorn Herd. So far seasonal movements have been documented with individual pronghorn using summer and winter range habitats separated by 40-60 miles (Figure 3). In 2020: sixteen (n=16) mortalities were detected resulting in an annual survival rate of 0.84 (95% CI was 0.77 to 0.91) (Figure 4). Currently 102 collared females are on air with 95 collars scheduled to drop off in November 2021.

Figure 1

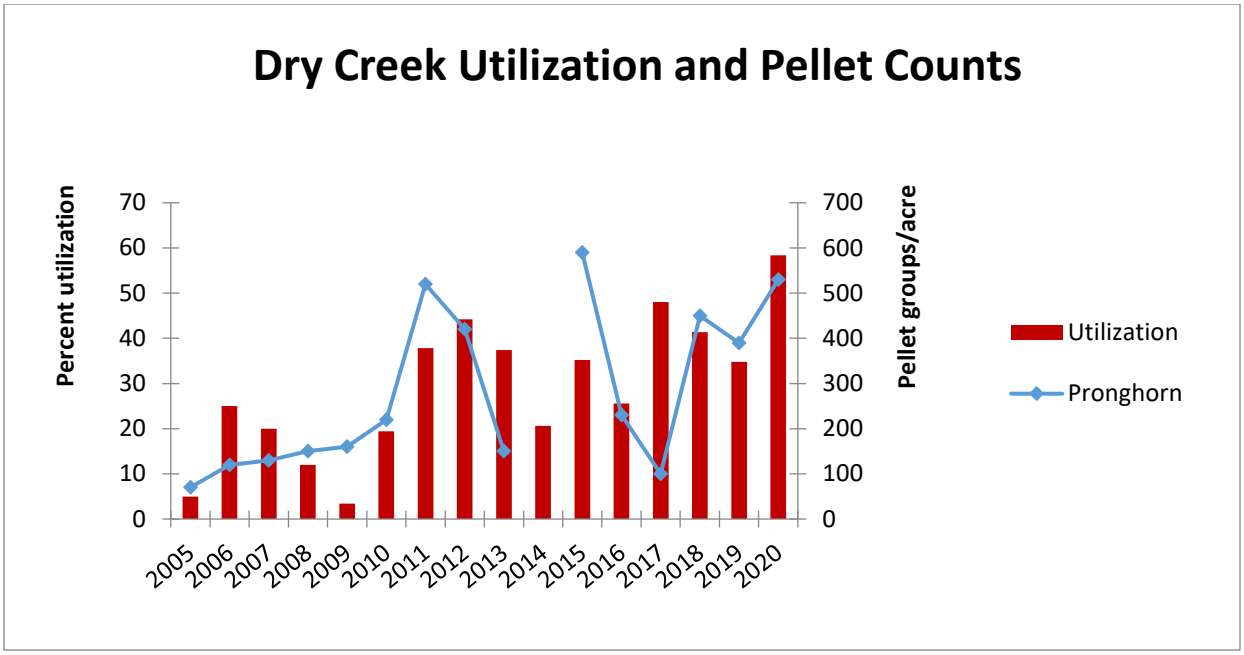


Figure 2

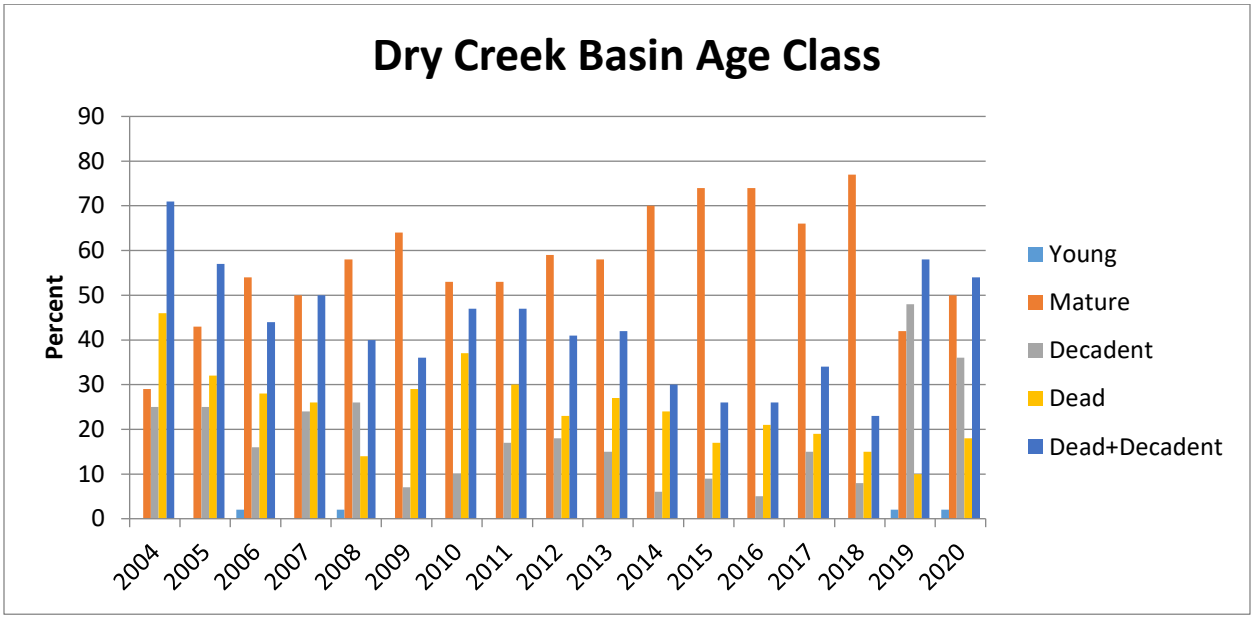


Figure 3

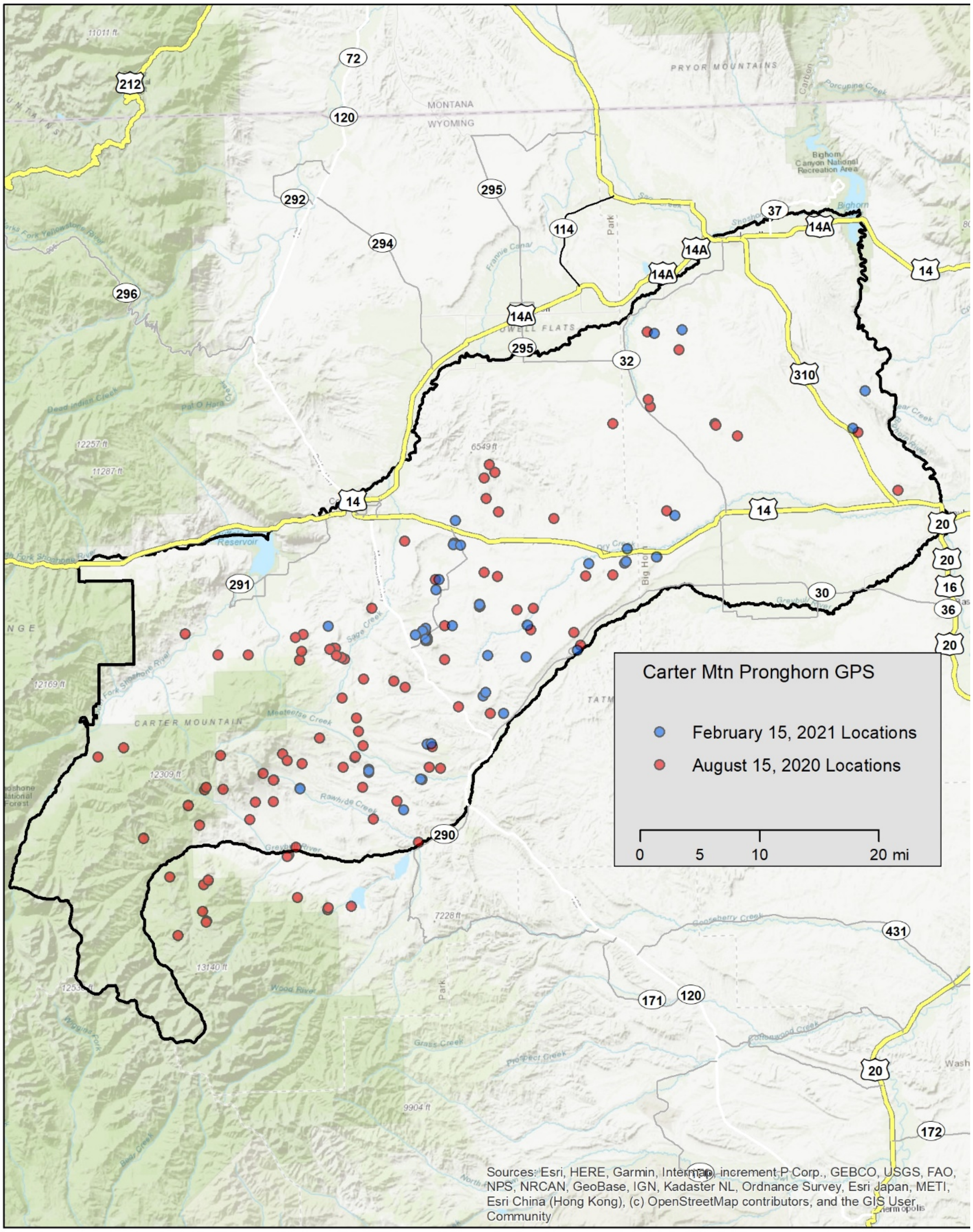
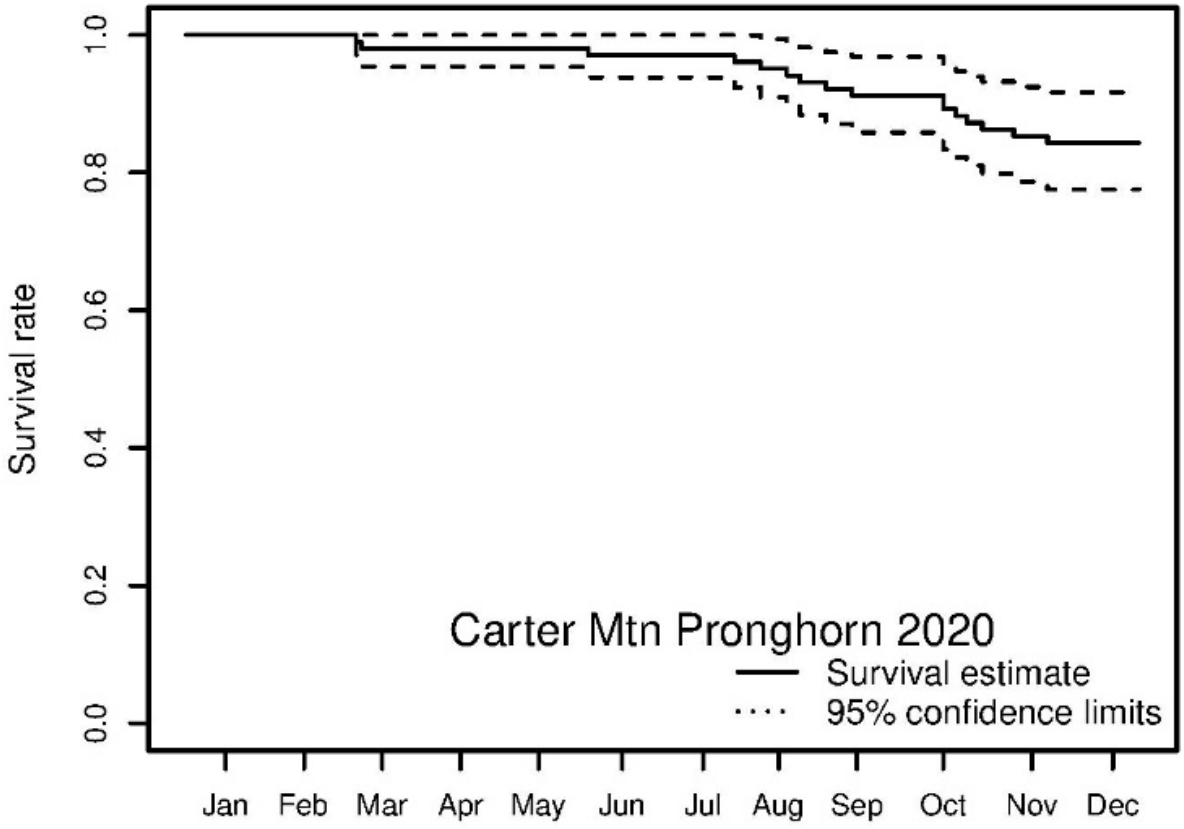

Carter Mtn Pronghorn GPS
February 15, 2021 Locations
August 15, 2020 Locations
0 5 10 20 mi
MONTANA
WYOMING
PRYOR MOUNTAINS
CARTER MOUNTAIN
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Figure 4


Survival rate
0.0
0.2
0.4
0.6
0.8
1.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Carter Mtn Pronghorn 2020
Survival estimate
95% confidence limits

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR207 - BADGER BASIN

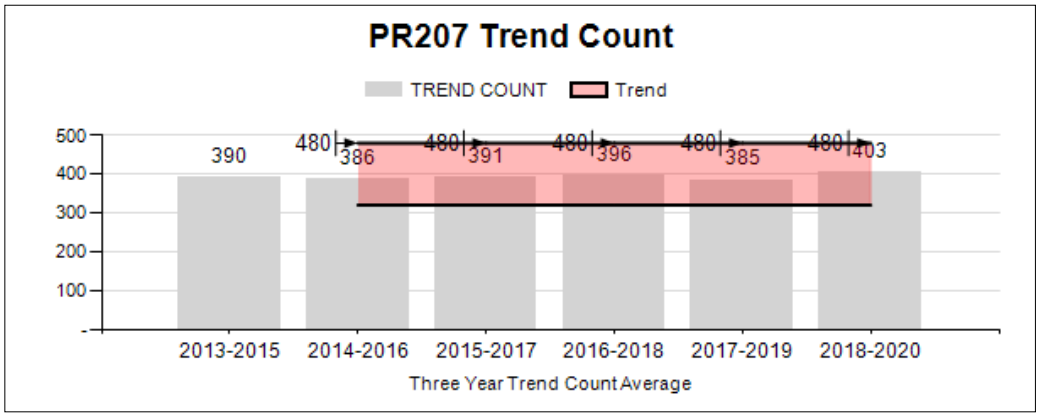
HUNT AREAS: 80

PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	385	460	425
Harvest:	89	85	185
Hunters:	93	88	190
Hunter Success:	96%	97%	97%
Active Licenses:	103	90	200
Active License Success	86%	94%	92%
Recreation Days:	349	295	500
Days Per Animal:	3.9	3.5	2.7
Males per 100 Females:	40	49	
Juveniles per 100 Females	32	34	
Trend Based Objective (± 20%)			400 (320 - 480)
Management Strategy:			Recreational
Percent population is above (+) or (-) objective:			15%
Number of years population has been + or - objective in recent trend:			5

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%
Juveniles (< 1 year old):	n/a%	n/a%
Total:	n/a%	n/a%
Proposed change in post-season population:	n/a%	n/a%



2021 Hunting Seasons
Badger Basin (PR207)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
80	1	Aug. 15	Sep. 19	Sep. 20	Oct. 31	100	Any antelope
80	6	Aug. 15	Sep. 19	Sep. 20	Oct. 31	100	Doe or fawn valid on irrigated land

2020 Hunter Satisfaction: 100% Satisfied, 0% Neutral, 0% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The increase in Type 1 and Type 6 licenses for the 2021 hunting season is due to the higher trend counts and because of high numbers of pronghorn congregating on irrigated land in the Heart Mountain area. We have seen an increase from a trend count of 320 in 2017 to 460 in 2020. Most of these increases have occurred on private irrigated lands. We have also fielded an increase in the number of complaints from landowners in the eastern portion of the area. The proposed increase and shift in the license restrictions for the Type 6 should decrease damage concerns and decrease overall population numbers to objective.

2.) Management Objective Review: We are not proposing any changes to the current trend count management objective for this herd. This is a small widely distributed pronghorn herd that is not a good candidate for other management objective options.

2020 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD207 - PAINTROCK

HUNT AREAS: 41, 46-47
PREPARED BY: SAM STEPHENS

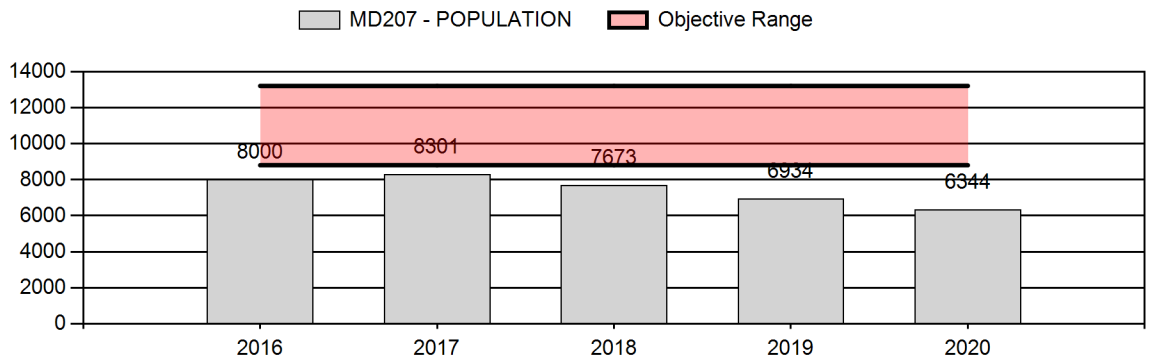
	2015 - 2019 Average	2020	2021 Proposed
Population:	7,982	6,344	6,340
Harvest:	712	602	635
Hunters:	1,344	1,298	1,200
Hunter Success:	53%	46%	53 %
Active Licenses:	1,419	1,369	1,350
Active License Success:	50%	44%	47 %
Recreation Days:	5,876	5,763	5,600
Days Per Animal:	8.3	9.6	8.8
Males per 100 Females	27	22	
Juveniles per 100 Females	64	61	

Population Objective (± 20%) :	11000 (8800 - 13200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-42.3%
Number of years population has been + or - objective in recent trend:	8
Model Date:	2/17/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	5%	5%
Males ≥ 1 year old:	37%	37%
Total:	9%	9%
Proposed change in post-season population:	-9%	-9%

Population Size - Postseason



2021 HUNTING SEASONS
PAINTROCK MULE DEER HERD (MD207)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
41	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Any deer
41	6	Sep.1	Sep. 30	Oct. 15	Nov. 15	150	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
46	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
47	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Any deer
47	6	Sep. 1	Sep. 30	Oct. 15	Nov. 15	100	Doe or fawn valid on or within one-half (1/2) mile of irrigated land

2021 Region R nonresident quota: 600 licenses

2020 Hunter Satisfaction: 59% Satisfied, 20% Neutral, 20% Dissatisfied

2021 Management Summary

1) Hunting Season Evaluation:

Deficient habitat, suppressed juvenile recruitment, and disease continue to contribute to the poor population performance seen in the Paintrock Mule Deer Herd. Fawn recruitment has declined in recent years following a year of high fawn abundance in 2015. All available data indicate that the Paintrock Mule Deer Herd is on a downward trajectory. Understanding which variables have the most influence over this herd are difficult when disease, nutrition, and abundance datasets are lacking. The best data available to managers is harvest and classification. Public concern regarding mule deer abundance and lack of mature bucks dating back to the early 1990's has resulted in conservative seasons that predominantly limited female harvest. General season limitations were created for Hunt Areas 41 and 47 in 2015 to limit hunters from taking an antlerless deer on a general license. Following that year's record low doe harvest, a subsequent general season was created to target antlerless deer within ½ mile of irrigated land. The 2016 harvest data showed a female harvest similar to what occurred prior to the 2015 change. Collectively when considering the past three management strategies: there has been little change in harvest where adult female segment of general season harvest has ranged from 10-24% (2013-19). Changes made to the general seasons in 2020 to "any deer" marginally increased the general season doe harvest rate but still fell within this range (17%). The impetus behind the doe harvest reduction in 2015 was to grow the segment of the deer herd living on public lands. The result of these management changes was increased harvest pressure on bucks and reduced hunter opportunity with no indication of a population increase. Poor population performance within this

herd can likely be tied to multiple variables, but markedly the amount of quality habitat and high chronic wasting disease (CWD) prevalence ostensibly have the greatest impact. Given that antlerless harvest appears to have little impact on abundance of this herd, the 2021 season will maintain the "any deer" general seasons to maintain some level of doe harvest and shift the harvest pressure away from younger bucks. This will also include maintaining the same limitations in Hunt Area 46 where we continue to restrict antlerless harvest in this portion of the herd unit. This is largely based on the understanding that deer found on National Forest during the season are in transition between summer and winter range where juveniles accompanied by adult females are learning their first seasonal movements.

2) Management Objective Review:

This herd is managed in accordance with a model-based population objective of 11,000 deer. The objective was set in 2013 and last reviewed in 2018. The objective is scheduled to be reviewed in 2023.

3) Chronic Wasting Disease:

Intensive chronic wasting disease sampling within the Paintrock Mule Deer Herd Unit is scheduled to occur during the 2021 hunting season. The 2018 to 2020 annual sample sizes ranged from 25-74 samples tested from adult male mule deer. Results from this sampling shows a CWD prevalence rate which has increased from 0 (2014) to 28% (2019) and averaged 16% (n=146) over the last three years.

2020 - JCR Evaluation Form

SPECIES: Mule Deer | PERIOD: 6/1/2020 - 5/31/2021

HERD: MD208 - SOUTHWEST BIGHORNS

HUNT AREAS: 35-37, 39-40, 164 | PREPARED BY: BART KROGER

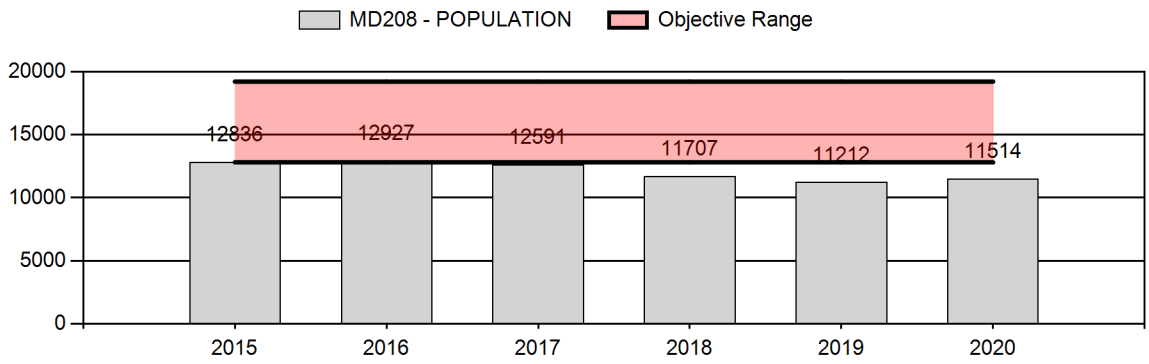
	2015 - 2019 Average	2020	2021 Proposed
Population:	12,255	11,514	11,624
Harvest:	1,282	834	620
Hunters:	2,043	1,841	1,500
Hunter Success:	63%	45%	41%
Active Licenses:	2,152	1,914	1,550
Active License Success:	60%	44%	40%
Recreation Days:	8,535	8,003	6,500
Days Per Animal:	6.7	9.6	10.5
Males per 100 Females	37	29	
Juveniles per 100 Females	64	61	

Population Objective (± 20%) :	16000 (12800 - 19200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-28.0%
Number of years population has been + or - objective in recent trend:	20
Model Date:	2/23/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	2%	2%
Males ≥ 1 year old:	25%	17%
Total:	7%	5%
Proposed change in post-season population:	-1%	-1%

Population Size - Postseason



2021 Hunting Seasons
Southwest Bighorns Mule Deer (MD208)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
35	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Any deer
36	1	Sep. 1	Sep. 30	Oct. 15	Oct. 31	350	Antlered mule deer or any white-tailed deer
36	8	Sep. 1	Sep. 30	Oct. 15	Oct. 31	25	Doe or fawn white-tailed deer
37	1	Sep. 1	Sep. 30	Oct. 15	Oct. 31	100	Antlered deer
37, 39	3	Sep. 1	Sep. 30	Nov. 1	Nov.30	25	Any white-tailed deer
37, 39	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	50	Doe or fawn white-tailed deer
39	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
40	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered deer valid on national forest; any deer off national forest
40	6	Sep. 1	Sep. 30	Oct. 15	Oct. 24	50	Doe or fawn valid off national forest
40	8	Sep. 1	Sep. 30	Oct. 1	Nov. 30	300	Doe or fawn white-tailed deer
164	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 10		Any deer
164	3	Sep. 1	Sep. 30	Oct. 1	Nov. 30	100	Any white-tailed deer; also valid in Area 125
164	6	Sep. 1	Sep. 30	Oct. 25	Nov. 15	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
164	7	Sep. 1	Sep. 30	Oct. 1	Oct. 10	50	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
164	8	Sep. 1	Sep. 30	Oct. 1	Dec. 15	150	Doe or fawn white-tailed deer; also valid in Area 125

2021 Region M nonresident quota: 600 licenses

2020 Hunter Satisfaction: 52% Satisfied, 20% Neutral, 28% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: This mule deer herd experienced a significant winter die-off in 2018/19, specifically in Hunt Areas 37, 39 and 164, along with very low fawn production in 2018 (52:100) and 2019 (54:100). Severe drought conditions persisted through 2020, as well as a slight EHD outbreak in pronghorn near Worland, which may have affected some localized deer. These variables, along with the presence of chronic wasting disease, have likely lead to the fewest deer and poorest hunting conditions in this herd unit in the last 40 years. The 2021 hunting season

structure will be significantly more conservative than previous years, and likely the most conservative ever. It's believed 60% of the mule deer in Hunt Areas 37 and 39 died during the late winter of 2018/19, with a more moderate die-off in other hunt areas. Overall, hunter satisfaction has declined from 72% in 2018 to 52% in 2020. Hunter success in 2020 (45%) was the lowest since 1996, whereas total buck harvest (n=665) was the lowest on record, along with hunter effort (9.6 days) being the highest on record. Although fawn ratios in 2020 were 61:100, fawn ratios the previous two years (52 and 54:100) were two of the lowest on record, which will likely further suppress population growth in the near future. Total number of deer classified in 2020 was 1,104, the lowest ever classified since 1984, and is roughly a 50% decline over the past 5 years. Because of these declines in mule deer numbers and significant declines in hunter harvest, the Region M quota will be reduced by 200 licenses, along with season lengths being reduced by 7 days in Hunt Areas 35 and 40. Type 1 quotas were reduced slightly in Areas 36 and 37, and Type 6 quotas were reduced in Areas 40 and 164. A Type 8 licenses was added to Hunt Areas 37/39 to address increased white-tailed deer, however the Type 8 in area 40 was reduced by 100 licenses due to landowner complaints of to many hunters and fewer white-tailed deer.

2.) Management Objective Review: The Southwest Bighorns Mule Deer herd unit objective was last reviewed in 2019, and no objective changes were warranted.

3.) Chronic Wasting Disease Monitoring & Management: This is a Tier 1 surveillance herd that was prioritized for CWD sampling in 2018. Prevalence estimates and sample sizes are presented below (Table 1). For this surveillance period, we were not obtain the sampling goal of 200 adult male mule deer but did achieve 187 samples, which was sufficient for sampling confidence. Very few samples were collected in Hunt Areas 35 and 39 (n=20). The highest prevalence was from Area 164 (45.7%) with the majority of positive animals along the west boundary. To date, no meaningful CWD management actions have occurred in this herd unit, except for increases in white-tailed deer harvest in the hopes the spread of CWD will be reduced.

Table 1. CWD prevalence for hunter-harvested mule deer in the Southwest Bighorns Deer Herd, 2018 - 2020.

Year(s)	Percent CWD-Positive and (*n*) – *Hunter Harvest Only*		
	Adult Males (CI = 95%)	Yearling Males	Adult Females
2018-2020	**18% (11-25%, n=187)**	11% (18)	15% (40)

2020 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD209 - BASIN

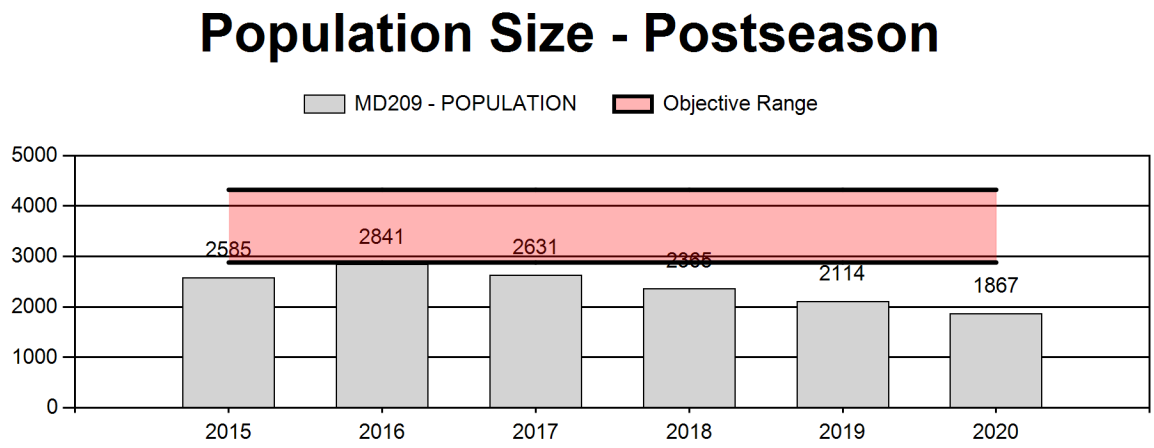
HUNT AREAS: 125, 127
PREPARED BY: BART KROGER

	2015 - 2019 Average	2020	2021 Proposed
Population:	2,507	1,867	1,390
Harvest:	133	77	75
Hunters:	283	248	200
Hunter Success:	47%	31%	38 %
Active Licenses:	288	248	200
Active License Success:	46%	31%	38 %
Recreation Days:	1,099	1,075	800
Days Per Animal:	8.3	14.0	10.7
Males per 100 Females	36	32	
Juveniles per 100 Females	62	62	

Population Objective (± 20%) :	3600 (2880 - 4320)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-48.1%
Number of years population has been + or - objective in recent trend:	13
Model Date:	2/23/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	21%	32%
Total:	4%	5%
Proposed change in post-season population:	-12%	-26%



2021 Hunting Seasons
Basin Mule Deer (MD209)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
125	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	75	Antlered deer
127	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered deer
127	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	25	Any white-tailed deer; also valid in Area 125
127	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	75	Doe or fawn white-tailed deer

2021 Region X nonresident quota: 200 licenses

2020 Hunter Satisfaction: 46% Satisfied, 22% Neutral, 32% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The Basin mule deer herd unit has mostly supported very conservative hunting seasons in recent years because of low deer numbers. Even under these conservative seasons, growth of this herd has been nonexistent, and is actually showing continuing long-term declines. A late winter die-off in 2018/19, along with severe drought conditions in 2020, has further suppressed this population. Fewer deer were observed in the herd unit in 2019 and 2020, compared to previous years. In 2020, only 370 mule deer were classified in the herd unit, a 61% decline compared to 950 classified in 2016. The 2020 fawn ratio was 62:100, an improvement over the previous two year fawn ratios of 53:100 and 44:100. Buck ratios remain above the recreational management at 32:100 for 2020. Hunter success dropped again in 2020 to an all-time low of 31%, with 2019 showing 38% success. Hunter effort increased to an all-time high of 14 days/harvest, a 64% increase compared to the previous 5-year average. Buck harvest in 2019 and 2020 were 72 and 77, respectively, the two lowest on record. Hunter satisfaction has dropped from 64% satisfied in 2018 to 46% satisfied in 2020. Because of suppressed deer numbers, poor harvest and declining hunter satisfaction the Type 1 license quota in area 125 will be reduced by 25 licensees, along with the Region X nonresident quota dropping by 100 licenses.

2.) Management Objective Review: The Basin Mule Deer herd unit objective was last reviewed in 2019, and no objective changes were warranted.

3.) Chronic Wasting Disease Monitoring & Management: This is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has not been prioritized for CWD surveillance because of very low harvest. However, CWD is a concern in this mule deer herd, and is likely contributing to long-term declines of deer in this herd. Between 2018 and 2020, 37 adult male mule deer samples were collected from hunter harvested deer, which resulted in a CWD prevalence of 35%.

2020 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD210 - GREYBULL RIVER

HUNT AREAS: 124, 165
PREPARED BY: SAM STEPHENS

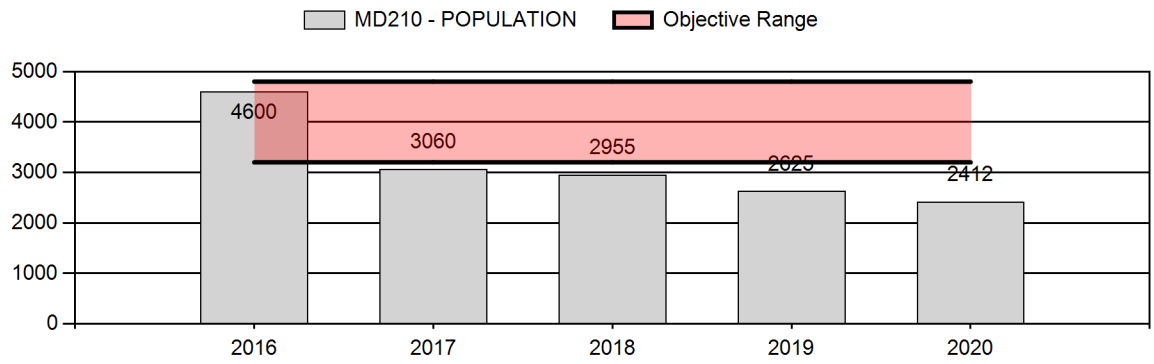
	2015 - 2019 Average	2020	2021 Proposed
Population:	3,568	2,412	3,000
Harvest:	490	302	250
Hunters:	865	710	600
Hunter Success:	57%	43%	42 %
Active Licenses:	987	789	700
Active License Success:	50%	38%	36 %
Recreation Days:	3,175	2,741	2,400
Days Per Animal:	6.5	9.1	9.6
Males per 100 Females	34	27	
Juveniles per 100 Females	77	42	

Population Objective (± 20%) :	4000 (3200 - 4800)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-39.7%
Number of years population has been + or - objective in recent trend:	4
Model Date:	02/08/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	8%	6%
Males ≥ 1 year old:	31%	30%
Total:	13%	11%
Proposed change in post-season population:	-13%	-11%

Population Size - Postseason



2021 HUNTING SEASONS

GREYBULL RIVER MULE DEER HERD (MD210)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
124	Gen	Sep. 1	Sep. 30	Nov. 1	Nov. 10		Any deer
124	6	Sep. 1	Sep. 30	Nov. 1	Nov. 30	100	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
165	1	Sep. 1	Sep. 30	Oct. 15	Oct. 31	125	Any deer
165	6			Sep. 1	Oct. 31	100	Doe or fawn valid on private land

2021 Region X nonresident quota: 200 licenses

2020 Hunter Satisfaction: 48% Satisfied, 21% Neutral, 32% Dissatisfied

2021 Management Summary

1) Hunting Season Evaluation:

Mule deer abundance and subsequent harvest have continued to decline in the Greybull River Herd. Suppressed fawn recruitment within the herd unit is similar to the patterns we are observing in neighboring herd units (MD207, MD321, MD208). Habitat degradation from invasive species (cheatgrass) is likely the primary driver behind long-term population decline for mule deer herds living in low elevation arid environments. Invasive plant species reduce environmental heterogeneity by dominating a landscape and increasing the risk and impact of wildfire. Additionally it's likely that given the high prevalence rate of chronic wasting disease (CWD) amongst Greybull River Mule Deer, the expected population growth from fawn recruitment could be off-set by CWD related mortality. The year 2020 saw a significant decline in mule deer harvest (-38%) from the 2015-19 average. This is likely an artifact of decreased mule deer abundance and mild weather which created poor hunting conditions. The 2021 season changes are intended to decrease deer harvest by decreasing the Region X non-resident quota and cutting the 124 Type 6 quota. Hunter satisfaction and dissatisfaction have collectively drifted by 10% in a negative direction from 2019 to 2020. Hunter success was 32% in 2020 and subsequent effort increased to 9.8 days/harvest. Additionally, standardized efforts to classify mule deer in the post-season period resulted in the lowest count of mule deer since the surveys began. This could be an artifact of poor survey conditions likely attributable to the lack of snow. However, it's also more likely that we are seeing the cumulative impacts from CWD as well as a pulse of Epizootic Hemorrhagic Disease (EHD) outbreak which was documented in Hunt Area 124 as well as neighboring herd units in the fall of 2020. EHD is known to predominantly impact younger ungulates with a more susceptible immune system, which could be why we saw a 44% decrease of the fawn ratio in 2020 (42:100) from the 2015-19 average (75:100).

2) Management Objective Review

This mule deer herd is managed in accordance with a model-based population estimate of 4,000 deer. The objective was set in 2016 and was reviewed in 2021. Managers found that despite significant decreases in abundance, managing for a population within 20% of 4,000 deer is still an achievable standard given the historical peaks in recruitment and abundance.

3) Chronic Wasting Disease

Intensive chronic wasting disease sampling within the Greybull River Mule Deer Herd Unit occurred in 2020 and is scheduled to continue in 2021. Annually the number of CWD samples collected from this herd unit from recent years (2014-2019) is limited and ranges from 4-25 samples collected from adult male mule deer. Results from this sampling shows a CWD prevalence rate which averages 39.5% (n=114) in adult males collected from the 2018-20 hunting seasons.

2020 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD211 - SHOSHONE RIVER

HUNT AREAS: 121-123
PREPARED BY: SAM STEPHENS

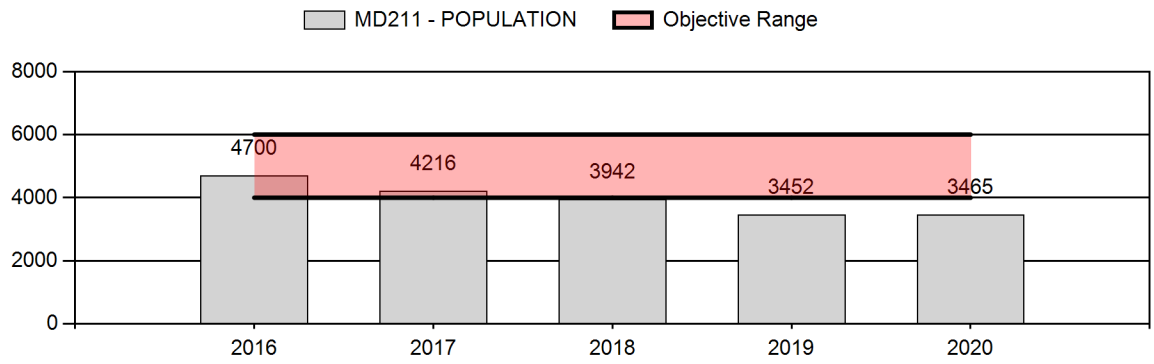
	2015 - 2019 Average	2020	2021 Proposed
Population:	3,262	3,465	4,000
Harvest:	684	578	600
Hunters:	1,500	1,361	1,200
Hunter Success:	46%	42%	50 %
Active Licenses:	1,592	1,448	1,300
Active License Success:	43%	40%	46 %
Recreation Days:	5,898	4,981	5,000
Days Per Animal:	8.6	8.6	8.3
Males per 100 Females	35	24	
Juveniles per 100 Females	83	56	

Population Objective (± 20%) :	5000 (4000 - 6000)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-30.7%
Number of years population has been + or - objective in recent trend:	5
Model Date:	03/03/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	10%	7%
Males ≥ 1 year old:	42%	40%
Total:	14%	13%
Proposed change in post-season population:	-14%	-13%

Population Size - Postseason



2021 HUNTING SEASONS

SHOSHONE RIVER MULE DEER HERD (MD211)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
121	Gen	Sep. 1	Sep. 30	Nov. 1	Nov. 10		Any deer on private land; antlered mule deer or any white-tailed deer off private land
121	Gen	Sep. 1	Sep. 30	Nov. 11	Nov. 30		Antlerless deer valid on private land
121	6	Sep.1	Sep. 30	Oct. 15	Nov. 30	100	Doe or fawn valid on private land
122	Gen	Sep. 1	Sep. 30	Nov. 1	Nov. 10		Any deer on private land; antlered mule deer or any white-tailed deer off private land
122	Gen	Sep. 1	Sep. 30	Nov. 11	Nov. 30		Antlerless deer valid on private land
122	6	Sep. 1	Sep. 30	Oct. 15	Nov. 30	100	Doe or fawn valid on private land
123	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
123	6	Sep. 1	Sep. 30	Oct. 15	Nov. 30	25	Doe or fawn valid on private land

2021 Region X nonresident quota: 200 licenses

2020 Hunter Satisfaction: 54% Satisfied, 24% Neutral, 22% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation:

Management of mule deer in the Shoshone River Herd Unit continue to be driven by crop damage concerns on private land. The majority of this herd unit is Bureau of Land Management administered land, bisected by riparian corridors and adjacent irrigated lands. The arid climate within the herd unit in the later summer limits plant production on native range and drives deer to irrigated private land. Landowner tolerance of deer and the crop damage is low in all three hunt areas. A November general hunting season is designed to address crop damage and prevent this herd from increasing rapidly during high production years. Relative to other neighboring mule deer herd units, the Shoshone River Mule Deer has demonstrated dramatic population

growth rates with fawn ratios ranging from 56-96 fawns per 100 does in the last ten years. It's unknown why this herd is more productive, but we infer that it likely has something to do with the abundance of heterogeneous irrigated land and an aggressive harvest management strategy which began in 2009. The 2021 season should see a further reduction to doe harvest in Hunt Areas 121 and 122 through a collective reduction in Type 6 licenses. These licenses were created to address crop damage which has been minimal in recent years. The cumulative reduction of 100 Type 6 licenses was re-allocated into the creation of Type 8 licenses to target white-tailed deer in these respective hunt areas. Reducing these quotas as well as the Region X nonresident quota is anticipated to alleviate public concern regarding hunter crowding and a general lack of deer.

2.) Management Objective Review:

This herd is managed in accordance with a model-based population objective of 5,000 deer. The objective was set in 2016 and reviewed in 2021. Despite recent model projections under the population objective range (2019-20) the historical classification and harvest data for this herd indicates the potential for a rapid increase in abundance. Managers reviewed the population objective of 5,000 deer and found it to be suitable given the vast amount of agricultural land encompassed within the herd unit and historical harvest ranging from 1546 (2011) to 619 (2018-20 avg) deer. The objective is scheduled to be reviewed again in 2026.

3.) Chronic Wasting Disease Monitoring & Management:

This is a Tier 2 surveillance herd that was prioritized for intensive chronic wasting disease sampling in the fall(s) of 2019 and 2020. Prevalence estimates and sample sizes are presented below (Table 1.). Our sampling objective outlined by the Wyoming Game and Fish Departments CWD Management Plan was met after the 2020 hunting season. Collectively n=216 hunter-harvested adult (2+) male mule deer were tested for CWD from 2018-20 hunting seasons. This resulted in a CWD prevalence of 31% amongst adult male mule deer within the Shoshone River Herd Unit.

Table 1. CWD prevalence for hunter-harvested mule deer in the Cheyenne River Mule Deer Herd, 2020 - 2029.

Year(s)	Percent CWD-Positive and (*n*) – *Hunter Harvest Only*		
	Adult Males (CI = 95%)	Yearling Males	Adult Females
2018-20	**31% (18-37%, n=216)**	11% (28)	9% (99)

2020 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD212 - OWL CREEK/MEETEETSE

HUNT AREAS: 116-120
PREPARED BY: BART KROGER

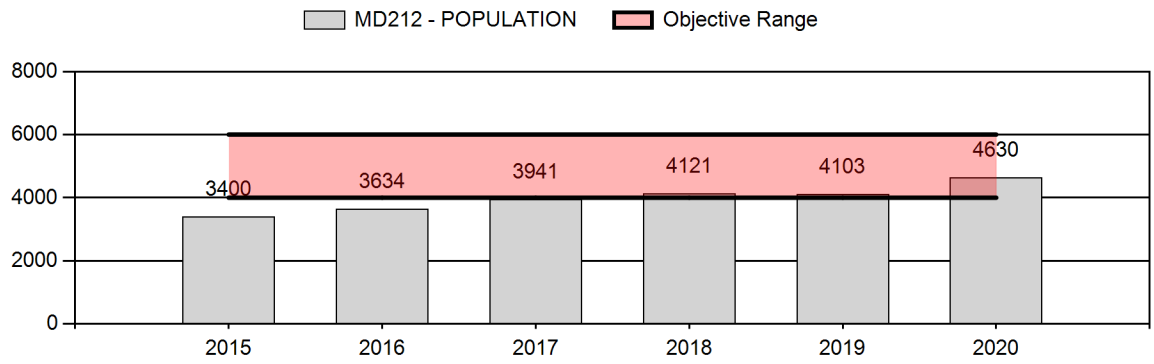
	2015 - 2019 Average	2020	2021 Proposed
Population:	3,840	4,630	4,896
Harvest:	235	221	220
Hunters:	308	318	300
Hunter Success:	76%	69%	73 %
Active Licenses:	324	335	320
Active License Success:	73%	66%	69 %
Recreation Days:	1,355	1,339	1,300
Days Per Animal:	5.8	6.1	5.9
Males per 100 Females	37	35	
Juveniles per 100 Females	71	78	

Population Objective (± 20%) :	5000 (4000 - 6000)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-7.4%
Number of years population has been + or - objective in recent trend:	4
Model Date:	2/23/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	1%	1%
Males ≥ 1 year old:	16%	14%
Total:	5%	4%
Proposed change in post-season population:	+11%	+6%

Population Size - Postseason



2021 Hunting Seasons
Owl Creek/Meeteetse Mule Deer (MD212)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
116	1	Sep. 1	Sep. 30	Oct. 15	Oct. 31	75	Antlered mule deer or any white-tailed deer
116, 117	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	100	Any white-tailed deer
116	6	Sep. 1	Sep. 30	Oct. 15	Nov. 30	50	Doe or fawn valid on private land
116	7			Sep. 1	Oct. 14	75	Doe or fawn white-tailed deer valid on private land in the Wood River drainage
116, 117, 118	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	150	Doe or fawn white-tailed deer
117	1	Sep. 1	Sep. 14	Sep. 15	Oct. 15	50	Antlered mule deer or any white-tailed deer
118	1	Sep. 1	Sep. 30	Oct. 15	Oct. 31	25	Antlered deer
118	1	Sep. 1	Sep. 30	Nov. 1	Nov. 30		Any white-tailed deer
119	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	50	Antlered deer
119	2	Sep. 1	Sep. 30	Oct. 1	Oct. 15	75	Antlered deer
119, 120	3	Sep. 1	Sep. 30	Oct. 1	Nov. 30	100	Any white-tailed deer
119	6			Sep. 1	Nov. 15	25	Doe or fawn valid on irrigated land
120	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	75	Antlered deer
120	8			Sep. 1	Dec. 15	200	Doe or fawn white-tailed deer

2020 Hunter Satisfaction: 74% Satisfied, 12% Neutral, 14% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 hunting season structure will remain fairly conservative in order to promote herd growth. Minimal female harvest in this herd has been the norm in recent years, while Type 1 license quotas appear to be adequate for maintaining higher buck ratios and quality. The population is currently within objective levels, despite conservative hunting seasons the past 10 years. Hunter satisfaction increased in 2020 to 74%, compared to 68% in 2019. Hunter harvest, success and effort in 2020 declined slightly from 2019 figures, but not significant enough to warrant season changes. Both the 2020 fawn (78:100) and buck (35:100) ratios increased over 2019 figures. Since this mule deer herd has remained below or at the lower limit of objective levels, mostly conservative seasons will again be implemented. The only change

for the 2021 hunting season is a reduction of 25 Type 6 licenses in Hunt Area 119, to accommodate one landowner's concern of deer on his hayfield. All current Type 1 license quotas will remain unchanged to allow for higher buck harvest opportunity and ratios. All white-tailed deer seasons appear adequate at this time.

2.) Management Objective Review: The Owl Creek/Meeteetse Mule Deer herd unit objective was last reviewed in 2019, with no objective changes being made.

3.) Mule Deer Initiative Habitat Information:

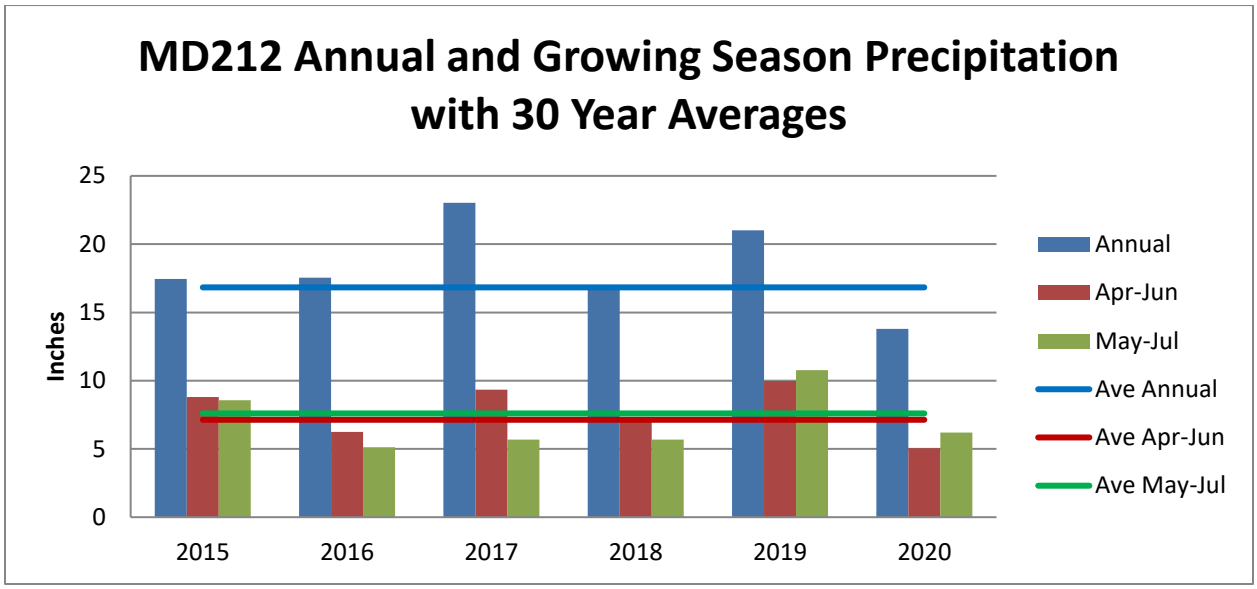
Precipitation
Annual precipitation within the herd unit from October 2019 thru September 2020 was 82% of the 30-year average. Growing season precipitation (April thru June 2020) within winter ranges was 71% of average. Growing season precipitation (May - July 2017) within spring/summer/fall ranges was 82% of average. The annual precipitation and the growing season precipitation on winter ranges were the lowest since 2012.

Winter Severity
The 2019-2020 winter was slightly more severe than the long-term average. Data from the Sunshine 3 NE climate station (10 miles southwest of Meeteetse) showed the average December-March temperature was .58 degrees lower than average, and total inches of snowfall in December-March was 108% of average.

Habitat
The annual precipitation in 2020 were the lowest since 2012 after being at or above average for the previous six years. The Department conducted seven rapid habitat assessments of aspen communities and seven in rangelands within the herd unit in 2020. All aspen communities were in advanced stages of succession and at high risk of replacement by conifers. Over 350 acres of aspen were mechanically treated on Forest Service, BLM, state and private land in 2019 and 2020 by the Department in cooperation with partners. Additionally, over 1,200 acres of conifer encroached sagebrush/grasslands on mule deer summer range were treated with prescribed fire by BLM. More treatments are planned for 2021. The Department translocated 20 beavers into three steams within the herd unit in 2019 and 2020 for the purpose of enhancing riparian habitat. Eight dams associated with three beaver colonies were constructed. Utilization data was collected on one permanent sagebrush transect in the herd unit in 2020. Utilization continues to be very low on sagebrush in this herd unit, indicating that forage quantity on winter range may not be a limiting factor.

4.) Chronic Wasting Disease Monitoring & Management: This is a Tier 3 surveillance herd for chronic wasting disease (CWD). To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has not been prioritized for CWD surveillance because of low harvest. However, CWD still remains a concern, and although prevalence is relatively low at this time, concerns for its increase and long-term effect of this mule deer herd need to be considered. Between 2018 and 2020, 46 adult male mule deer samples were tested from hunter harvested deer, which resulted in a CWD prevalence of 11%.

Weather



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The annual precipitation in 2020 were the lowest since 2012 after being at or above average for the previous six years. The Department conducted seven rapid habitat assessments of aspen communities and seven in rangelands within the herd unit in 2020. All aspen communities were in advanced stages of succession and at high risk of replacement by conifers. Over 350 acres of aspen were mechanically treated on Forest Service, BLM, state and private land in 2019 and 2020 by the Department in cooperation with partners. Additionally, over 1,200 acres of conifer encroached sagebrush/grasslands on mule deer summer range were treated with prescribed fire by BLM. More treatments are planned for 2021. The Department translocated 20 beavers into three steams within the herd unit in 2019 and 2020 for the purpose of enhancing riparian habitat. Eight dams associated with three beaver colonies

were constructed. Utilization data was collected on one permanent sagebrush transect in the herd unit in 2020. Utilization continues to be very low on sagebrush in this herd unit, indicating that forage quantity on winter range may not be a limiting factor.

2020 - JCR Evaluation Form

SPECIES: Mule Deer | PERIOD: 6/1/2020 - 5/31/2021

HERD: MD215 - UPPER SHOSHONE

HUNT AREAS: 110-115 | PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Population:	8,740	6,500	7,000
Harvest:	670	357	479
Hunters:	1,498	1,136	1,200
Hunter Success:	45%	31%	40%
Active Licenses:	1,520	1,143	1,225
Active License Success:	44%	31%	39 %
Recreation Days:	7,926	5,563	5,600
Days Per Animal:	11.8	15.6	11.7
Males per 100 Females	23	26	
Juveniles per 100 Females	57	57	

Population Objective (± 20%): 12000 (9600 - 14400)

Management Strategy: Recreational

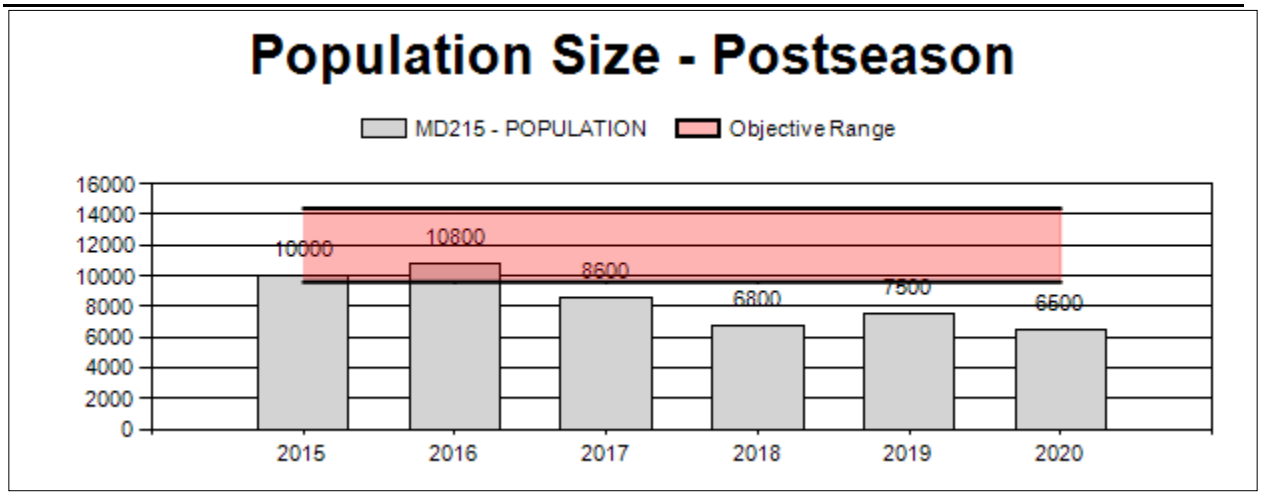
Percent population is above (+) or below (-) objective: -45.8%

Number of years population has been + or - objective in recent trend: 5

Model Date: 03/03/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	0.8%	0.7%
Males ≥ 1 year old:	16.3%	34%
Total:	4%	6%
Proposed change in post-season population:	6%	7%



2021 Hunting Seasons
Upper Shoshone Mule Deer (MD215)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
110	Gen	Sep. 1	Sep. 30	Oct. 15	Nov. 3		Antlered mule deer or any white-tailed deer
110, 111	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	25	Antlered mule deer or any white-tailed deer
110, 111	8	Sep. 1	Sep. 30	Oct. 15	Dec. 31	100	Doe or fawn white-tailed deer
111	Gen	Sep. 1	Sep. 30	Oct. 15	Nov. 3		Antlered mule deer or any white-tailed deer
112	Gen	Sep. 1	Sep. 30	Oct. 15	Nov. 3		Antlered mule deer or any white-tailed deer
112, 113, 114	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	25	Antlered mule deer or any white-tailed deer
112, 113	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	35	Any white-tailed deer
112, 113	8	Sep. 1	Sep. 30	Oct. 15	Dec. 31	175	Doe or fawn white-tailed deer
113	Gen	Sep. 1	Sep. 30	Oct. 15	Nov. 3		Antlered mule deer or any white-tailed deer
113	7	Sep. 1	Sep. 14	Sep. 15	Nov. 15	75	Doe or fawn valid on private land north and east of Carter Creek
114	Gen	Sep. 1	Sep. 30	Oct. 15	Nov. 3		Antlered mule deer or any white-tailed deer
115	Gen	Sep. 1	Sep. 9	Sep. 10	Oct. 22		Antlered mule deer or any white-tailed deer

2021 Region F nonresident quota: 550 licenses

2020 Hunter Satisfaction: 52% Satisfied, 23% Neutral, 25% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: We are removing the four-point restriction from the entire herd unit and increasing the Hunt Area 113 Type 7 licenses in the South Fork portion of the herd unit. The 2020 hunting season showed a slightly lower harvest compared to 2019 and lower compared to the previous 10 years (previous 10 year average = 729). The lower harvest over the last three seasons, higher fawn ratios and less severe winters has allowed the buck ratio to increase from a previous 3-year average of 20:100 does to 26:100 does. The higher buck ratios are going to allow us to remove the restriction to allow harvest to be distributed across more age classes thus giving the opportunity for more bucks to make it into older age classes. In order to address the population numbers below objective in the Upper Shoshone herd we have eliminated most doe/ fawn licenses.

Production within the herd should increase with higher fawn ratios in 2020 in conjunction with a relatively mild winter will help the population increase over the next year. The Hunt Area 113 Type 7 licenses in the South Fork portion of the herd unit was created to focus harvest on a growing number of deer in the suburban area of the South Fork called the Irma Flats Area. Based on information received from an extensive survey of residents in the area we are proposing to increase the license availability as well as increase the length of the season to encourage increased harvest in the area (Appendix A).

2.) Chronic Wasting Disease Monitoring & Management: This is a Tier 2 surveillance herd that was prioritized for CWD sampling from 2020 – 2021. Prevalence estimates and sample sizes are presented below (Table1). Sample distribution was throughout the herd unit based on known mule deer distribution and harvest. Within this herd unit, the majority of positive animals came from the southern part of the herd unit in HA113.

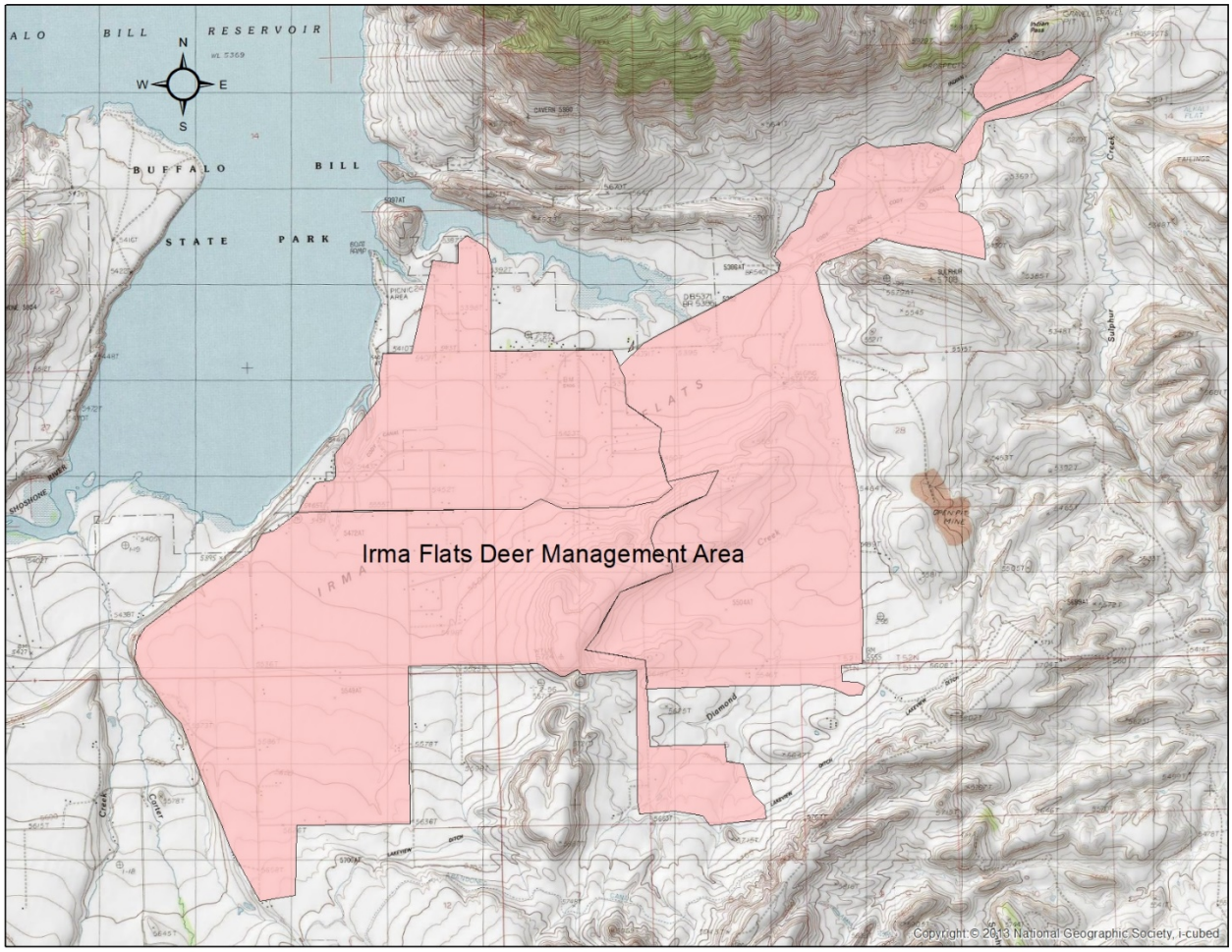
Table 1. CWD prevalence for hunter-harvested mule deer in the Upper Shoshone Mule Deer Herd, 2018 - 2020.

Year(s)	Percent CWD-Positive and (*n*) – *Hunter Harvest Only*		
	Adult Males	Yearling Males	Adult Females
2018-2020	**2.4% (208)**	0% (5)	0% (66)

3.) Irma Flats Suburban Deer Management Survey and Action: We have been tracking deer numbers in the Irma Flats Area southwest of Cody. We have seen an increase in deer/vehicle collisions (2010-2014 average 9, 2015-2020 average 24), deer conflicts, the number of dead or dying deer on private property and an increase in the number of chronic wasting disease positive deer in the area. This area has become problematic due to the difficulty in finding areas to harvest deer safely. Because of the suburban nature of the area we created and distributed a survey to residents and landowners in the area (n = 753). We received 207 responses to the survey. Based on that survey the desirable management options are to increase the Hunt Area 113 Type 7 licenses and to extend the season associated with that season (Appendix A).

Appendix A. Irma Flats suburban deer management survey.

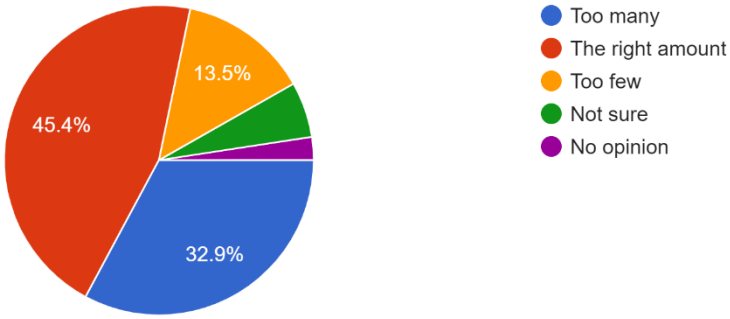
Map of the survey area



Questions and a summary of all answers.

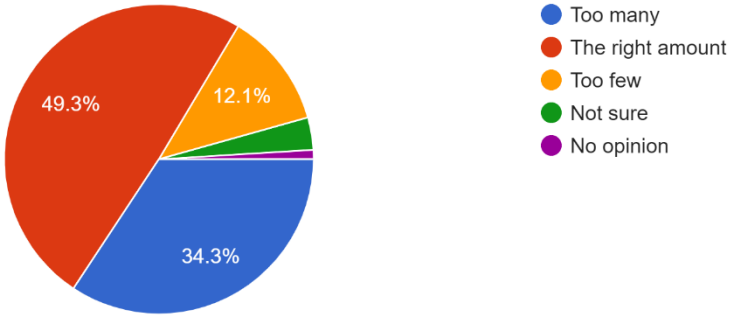
In relation to the number of deer in or around the Irma Flats Area, do you believe there are:

207 responses



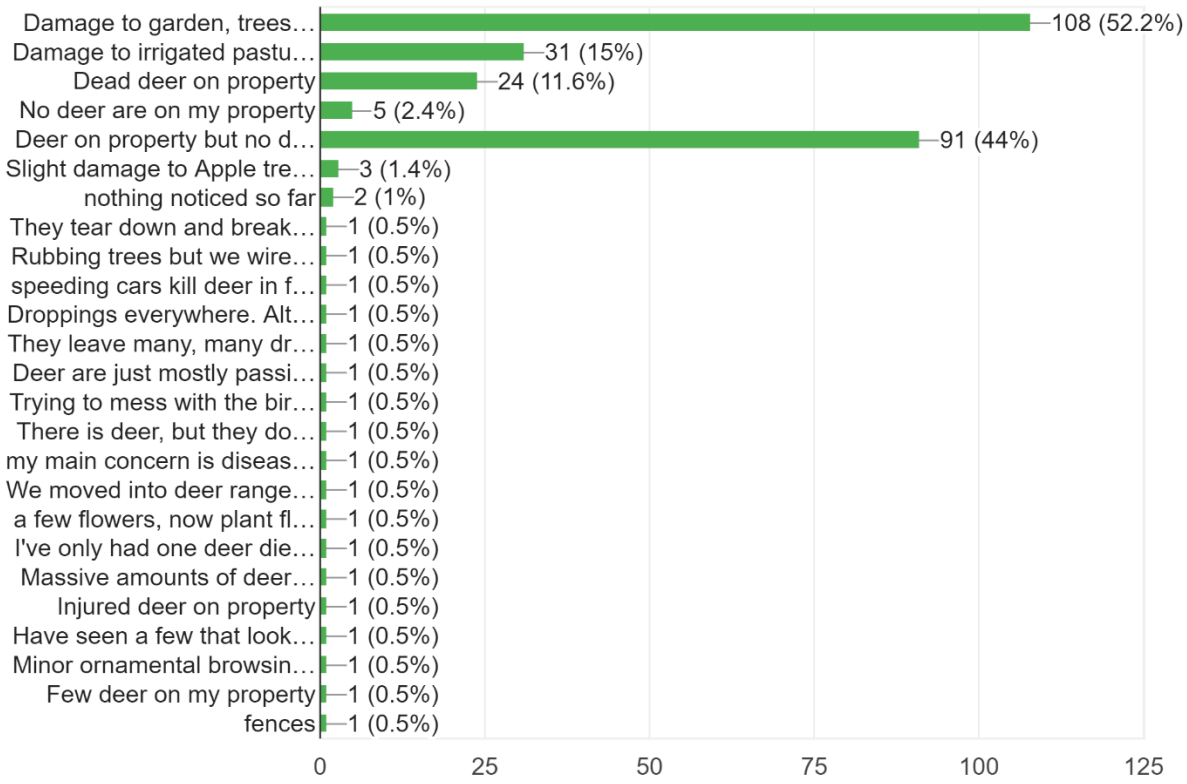
In relation to the number of deer on or around your property, do you believe there are:

207 responses



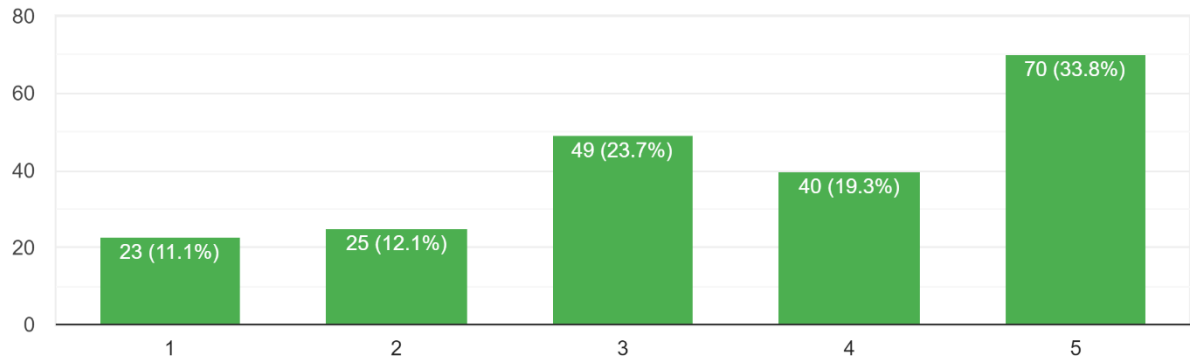
Are you experiencing any of the following deer use activities on your property? (check all that apply)

207 responses

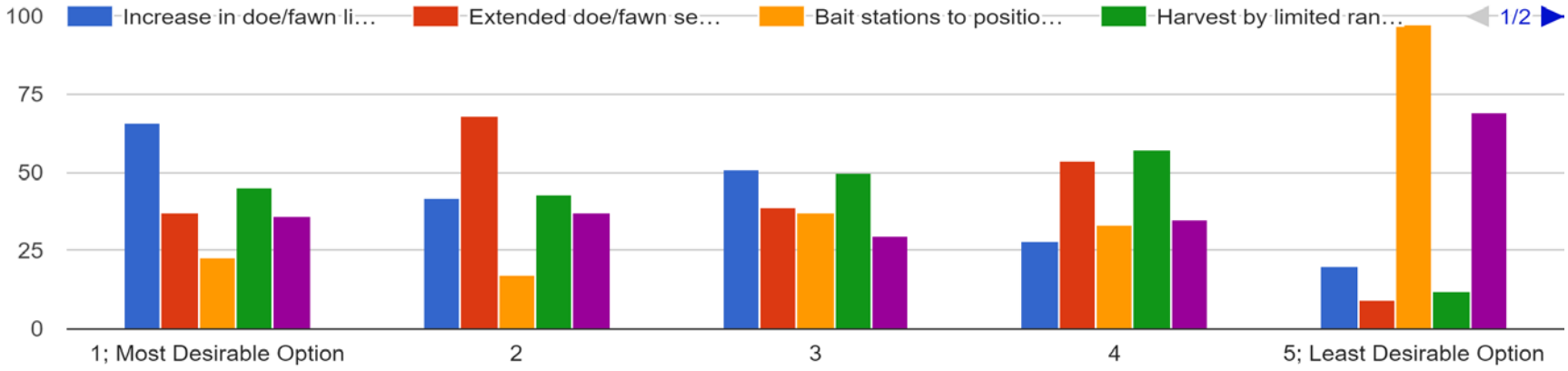


Chronic wasting disease (CWD) is a 100% fatal disease in mule deer, white-tailed deer, elk, and moose. On a scale of 1 to 5, how concerned are yo... CWD within the deer herd in the Irma Flats Area?

207 responses



The WGFD would like your input on how best to decrease the number of deer in the Irma Flats Area. Please rank each of the following management options with 1 being t...oice per row and column, every row must have a choice)



* This question included the choices:
Increase in doe/fawn licenses specific to the Irma Flats Area (Hunt Area 113 type 7 license)- Blue Bar
Extended doe/fawn season length for licenses specific to the Irma Flats Area (Hunt Area 113 type 7 license)- Red Bar
Bait Stations to position deer into a safe area for hunters to harvest- Orange Bar
Harvest by limited range weapons (i.e. archery, muzzle loader, handgun, shotgun)- Green Bar
Increase hunting access on private land- Purple Bar

We also asked for other suggestions for decreasing deer numbers in the Irma Flats Area. Below are all the responses we received:

Allow property owners to have an extended hunt for their family

Why cannot these deer be moved to more remote areas where deer population are low IE. The upper north fork

Establish an extended archery or limited range (pistol, muzzleloader, shotgun) season with replacement tags for successful hunters. Or, establish a separate “suburban hunting zone” for the Irma Flats area similar to what many states have done in urban/suburban areas that are overpopulated w whitetail deer. With a special designated zone G&F could allow/issue multiple doe/fawn tags for use within that zone only and thus avoid impacting the deer herd within the bordering hunt unit.

None

Reduce speed on South Fork Rd in described area. People drive well over the designated 55 mph limit. Have designated fine paid to WGFD

Possibly Special season for disabled hunters (late season) and/or Youth special season permits (late season).

Tell residents to stop feeding deer

Allow at least 1 deer to be harvested by a landowner on his own land. This would partially recompense the landowner for damages and for feeding the deer.

They are too friendly, not afraid of anyone. Tame enough to stand on my back step and look in the door or walk along side of my sliding glass door.

Remove four points or better requirements for a few years

The deer population does not bother me.

Guaranteed landowner tags

The deer herd does not to be reduced.

Mule deer are seeing declines throughout the western U.S. Why would the WYGF euthanize such a resource that can be relocated with the volunteer help of citizens to bolster mule deer numbers in areas of depletion. Your options make no sense if you’re truly concerned with conservation and wildlife protection.

The removal of russian olives on State land has reduced the cover and forage forcing deer into private property with lots of food rewards and cover. Removal of Russian olives made sense but so would replanting of natives after removal. Deer, chukars etc don't use the area very much due to lack of forage. Old ditches through the area provide runoff which supported the russian olives.

Educate homeowners that deer are not pets, enforce no feeding of corn and bird seed in residential neighborhoods. Look to habitat changes.

let the land owners hunt their own property as an option.

Sterilize bucks?

The feeding of all game animals, including unintentional feeding should be prohibited. Much of my problem with deer is specificly due to several neighbors who put corn out for the deer. They think they are helping the deer, but as we know they aren't.

make it illegal to feed deer.

Young females is always how to reduce a population

limit the numbers

too many people not enough deer

have more hunting tags available for this area

I personally don't think there are too many.

Mule deer numbers are already low and I don’t understand why you want to remove the ones we do have!

Not that much of an issue IMO, always have deer on my property

Why don't you put water stations on and around cedar mountain to disperse the deer heard from the hwy? Cedar mountain is a wasteland without water. Our family has been 800 yards from cedar mt since the 40s and have never seen any game on that mountain because of the limited water.

I think it will self regulate, no matter what. Including drawing in more bears, wolves and mountain lions. I can't believe we don't have more lions here in the subdivision than we do in the soulder seasons since this is where the deer hang.

Allow property owners permits for there property

Hunts

I believe that removal of readily available food sources like hay bales stored on front lawn areas will go a long way toward controlling mule deer populations. My particular property is at the crossroads of deer movements to my neighbors hay piles. I am collecting 2 eight gallon trash bags of deer poop every 2 weeks from my front and side yards. I have photos to support this info. Like with any spwcies, remove the food sources and you control the populations.

I don’t want the deer reduced, I love mule deer and I love hunting them. Some cold nights in the past I have had 20 deer at my hay stack. That number is greatly reduced right now. Mule deer are on decline everywhere so I don’t support reducing numbers anywhere. Let them alone.

No need to reduce unless sick

No. Maybe section off an area for deer to eat and rest away from road and homes

Get people living way out on Southfork to slow down on their way to town.

private property hunting access would help, harvesting doe and fawn with extended seasons would also help and harvesting doe and fawn via G&F program to cull the huge numbers that exist in an unhealthy way

The number of deer do not need reduced.

Archery only area,

PZP use on the does. Safe birth control by use of vaccine. Works well on the wild horses.

Don't try to make pets of the wildlife.

Such a sad situation as I have lived here 21 years and our deer herd is a fraction of what it was back then.

Cite residents who feeding deer

give land owners the option to take them with land owner tags on parcels 40 acres or more.

Instead of lethal removal, trap and relocate

I do not see the need to reduce the numbers at all.

I don't have a problem

Cars kill considerble amounts, why increase hunting?

There are a fair amount of deer in the Callen Dr and Patriot Dr area, but they do not constitute a problem in the neighborhood. Most of us like having them around. There is minor damage to trees and plants, but that is the home owner issues and can be fixed. I don't think there is a real problem at this time with the deer. r and Patroit Dr area, however, they do not constitute

Reduce numbers over all

I think a healthy herd is best for the animal but I do want to see the herds killed off because property owners are worried about their flowers/tress. We live outside of town and need to realize we are invading their habitat.

Leave them alone

Reduce the population of grizzly bears and wolves that are driving the deer out into populated areas

Make it easier for landowners to harvest the deer on their property.

2nd license for land owners

To many people are privately feeding the deer. Just one time of feeding, is all it takes! Then they come back every day all winter long! Make it a fine if your caught feeding the deer. Do like they in town once a year until the population drops.

Really? Stop giving out Doe Permits, the deer are gone!

Allowing property owners to havrvest more than one animal on there property depending on area deponds on weapons that will be allowed to harvest game.

Stop land owners from feeding the deer.

Give landowners with more than an acre a tag or two.

Increased landowner tags for limited range weapons

Better access

bow hunting only

ight not be a need to reduce deer numbers - drivers need to slow down and watch for deer

Initiate discussions with neighborhoods and subdivisions with restrictions/HOAs prohibiting hunting. I think you will find support for a special hunt or 2. On our street (Patriot Dr.) there have been as many as 50 deer taking refuge (and eating) during hunting season.

The Irma flats area is basically one big subdivision built on critical mule deer winter range. General season and antlerless hunting is out of control. Mule deer in the past would migrate down the Southfork and the Northfork and could be hunted this is not the case anymore. when the deer migrate into the valley its like a shooting gallery and they run straight to private lands where no mule deer hunting is alowed

There aren't many if any other options. Urban wildlife conflicts is one of the most challenging to solve is one of the most challenging

We would definitely prefer more landowner tags as we are the ones sustaining the damage on our property and would like to be part of the solution. We have 4 acres and daily have more than 20 deer on our property. They have ruined fences, irrigation, trees, and other plants.

I think wildlife fertility control could work well, offering a more humane way to reduce populations. Neutering programs for domestic pets work very well to reduce unwanted populations.

People need to stop feeding them

Reduction isn't really necessary.

Unfortunately, most of the deer cross at the most dangerous part of the Bartlett Lane curve. I've watched people not even slow down after they run over a deer. I've saw a lady run over 4 deer that were 50 yards apart. The problem is not the deer. Put a damn fence around your precious plants if you hate deer. The problem is losers who come around the curve doing 65. Maybe you could

grow a pear and stand up to the insurance companies and install high fencing to corral the crossing to a designated stretch where the speed is reduced to like 45. Every year, there are at least 2 dozen deer killed right around Bartlett Lane.

Early season is necessary to target non migratory deer

ban deer feeding, youth hunters with mentors welcome

Trap and relocate to low deer numbers area.

Enforce the no feeding rules if possible. There are homeowners who are regularly feeding the deer in this area.

They are eating everything and have caused a ton of damage to our property this year.

Yes round them up and haul them at least 50 miles up un the mountains.

I don't think there are enough, I would have answered least desired on all population management if your program would have let me

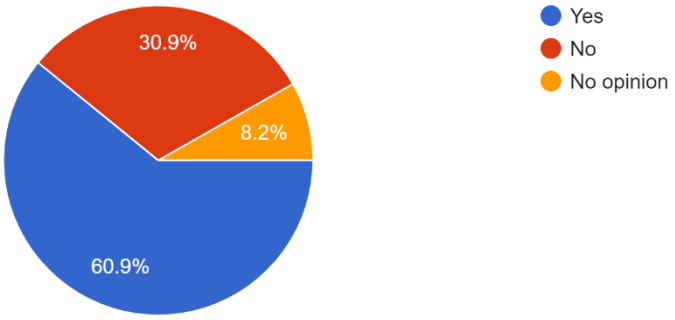
Have people drive the speed limit on Southfork Rd and slow down during night and wintet conditions and there would be a lot less deer involved incidents.

I was not aware that we had an excessive deer problem. Several people feed them so education may be needed if the numbers are so high that remark is necessary.

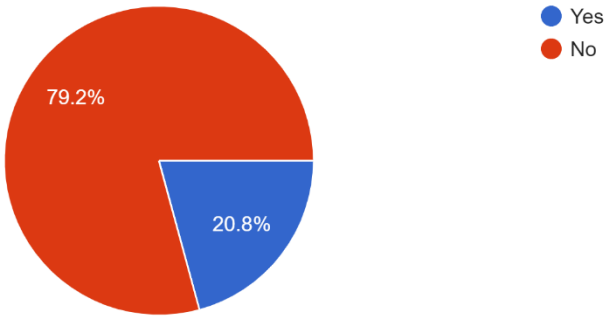
Allow people in this area to harvest more does.

extend archery and rifle seasons

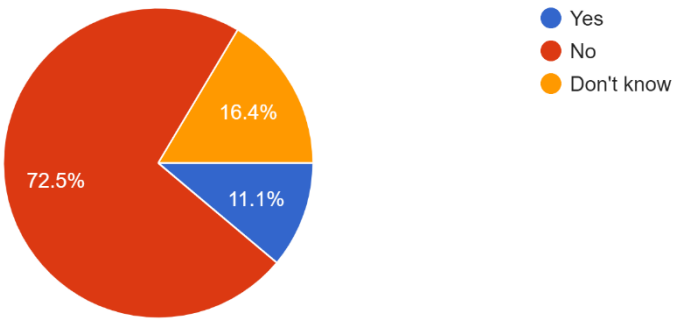
In the event none of the options listed above are supported or successful, would you support lethal removal of deer and associated donations of the meat to needy families by WGFD officials?
207 responses



Have you harvested or have you allowed access to harvest a deer on your property?
207 responses



The WGFD has many options for helping landowners provide hunting access onto their property. Some of these include: Controlled access points, l... in the management of deer in the Irma Flats Area?
207 responses



If you have any additional comments related to the Irma Flats Area deer management issue feel free to leave them here.

If chronic wasting disease is contagious for pets, we would be more concerned about it, as our dog rolls in/eats deer poop whenever the opportunity arises

My property is 1 acre with too many houses around for hunting

Some of the hunters we allowed on our property, are not following safe hunting practices. I am more interested in archery hunters having access and a later season.

Deer crossing warning sign near entrance to Bartlett Lane from the highway.

I have between 12-30 mule deer on my property and in my 4 acre haylot everyday! The number has grown substantially over the last 2-3 years. I enjoy observing the deer but I am also an avid Hunter and believe that, like any wildlife population, their numbers need to be controlled. I know that many eastern and mid-western states have establish designated urban/suburban archery only deer hunting zones in order to control whitetail deer populations. Due to the nature of the area in question (many small acreage private land plots) I believe that applying those same ideas/ regulations (multiple doe/fawn tags and extended seasons) to the Irma Flats area would be a very “good fit” and help alleviate the over abundant mule deer population in this specific area. I would be happy to discuss this idea further w G&F if you desire? Tim Barry, 75 Marquette Dr., (860) 480-2050.

My property is too small for hunting and too close to neighbors.

I believe CWD has become a problem in this area and I think we need to do something about it. That being said I am not sure what the right answer is or if there is just ONE right answer. I am more that willing to help in any way I can

Not sure this survey applies to me since I am a resident of the Lakeview subdivision. We have a herd of about 15 deer (mostly does) that wander about the subdivision.

It's good that Game and Fish recognizes the problem. Road kills and near-misses are way too common. It seems much worse than it was 30 or 40 years ago. I don't personally know of any human tragedies, but have experienced more than $15,000 in total vehicle damages over the years.

My property is not situated for hunting due to the closeness of all neightbors.

concerned about people in the Irma Flats area feeding deer in the winter. Should WGFD be more aggressive in citing violators?

Reduce the speed limit at the Southfork Highway curve at the intersection of Bartlett to 45; not just for the deer, for human safety. Have nearly been rear ended multiple times making a left onto Bartlett from people driving to fast.

CWD in the herd that frequents our property is very concerning. If possible I would love to hear from a Game and Fish representative. Thanks - Cale Ferrell 307-277-6752

Reclamation of public lands to provide food and cover for deer, and other game species beyond the removal of russian olives. Enforce and educate regarding problems of feeding deer

I have less deer on my property than than 2 years ago/don't understand the need to kill them off. Several of the deer on my land did not make it though the extreme cold weather. 2 years ago I had 25-30 deer on my property/now I have less than 10. The deer are near my house every day, they eat my horse hay and drink out of my stock tanks. I am 70 years old and would welcome the ability to hunt a (1) deer on my property as I could be selective as which one to shoot. I am a black powder shooter and would use a muzzleloader or black powder cartridge gun to hunt with. The reason I live here is because it is a rural area; if people are concerned with the deer eating eating their flowers and shrubs they can take their own corrective measures. I enjoy seeing the wildlife. I would oppose a mass hunt to eliminate the deer.

Thanks for asking. If I misunderstood anything and can help, let me know at tcall@wyoming.com. (Terry Call, 27 Mountain View Dr.)

Didn't know there were too many deer on the Flats? Have watched our "winter herd" dwindle markedly over the last few years. If CWD is now a problem, I understand major reduction is necessary, but deer on Panorama seem to be healthy with good fawn production. H

We live in a subdivision, I’m sure it would not be safe to harvest deer, I would like to see the numbers reduced dramatically. There have been up to 30 deer on our lawn through the night. They have and continue to destroy our trees and garden. It’s very discouraging to invest money into landscaping just for the deer to destroy.

Deer pose a significant traffic hazard on and around South Fork Road.

I am willing to help and work with WGFD let me know

do your job need to come hear take care of the problem

I have been aware of deer in the area but did not think it was that large a problem. There has been some damage to property but it has been minimized with fences and protection around the trees on the property. I have always tried to watch for deer and other wildlife and adjust my speed accordingly driving on Southfork Road.

There are way too many deer!

To many houses for long range firearms.

My property is too small and has other residents in close by to allow for safe hunting otherwise I would be willing to do so.

would be more in favor of allowing hunters to harvest the deer but what needs to be done needs to be done

In my opinion people that move to more rural areas need to accept the fact native animals are there.

If they don't want animals around move to town.

I think our mule deer herd is in bad shape already! We are bombarded during rifle season with road hunters! If they are no areas for the deer to hang out in during the firearms season we won't have any left.

Not that much of an issue to me and I probably have deer in my yard as much as anyone because of the cover and isolation

Thanks for your efforts, hang in there, don't weaken.

One of my neighbors feeds the deer

Too many deer!! In the mid to late 90s I counted fewer than 15 deer on my property. Now I often see 20-30 on property. In 2020 I counted 145 deer at one time on pastures between Bartlett Lane and the Southfork Rd. (Hwy 291). I have pictures of damage caused by deer on my property.

Flashing signs (like those in Wapiti) or better deer warning signage on Southfork Rd would be a big help.

Thank you for asking for property owner input. I appreciate it.

I used to only have mule deer on my place now it is unusual to see them here maybe 2or3 times per year whitetails are usually here until they get shot at, I allow people to hunt here but the short season on them means only a few are killed here. I think a longer season on WT would allow a better harvest

This is a residential neighborhood and hunting could present an extremely high danger situation for residents. However, if properly communicated, and proper local notification, this measure could be successful.

Speed limit should be reduced which would reduce collisions with cars and deers

Numbers are not that bad except at a few crossing areas. People are just in too big of a hurry and are poor drivers

To congested, Archery only

Haven't herd any problems related to deer. Most residents here seem to love their presence.

An awful lot of deer in a small area.

The vehicles are doing such a great job of decimating the herd that the herd is probably going to all die anyway.

Residents are choosing flowers over deer. We would rather continue driving slowly and carefully than to get rid of the deer.

Additionally we need access to private land SF river frontage to kill off our increasing numbers of WT does and Antelope on SF.

They are hurting our mule deer herd.

i moved here from Lower south fork and we don't have a deer population problem in irma flats/diamond basin. We have a landowner problem here. people plant things the deer like. i had in excess of 25-50 deer daily on my 17 acres down on lower southfork. i dont ever see more than 25 in the 4 40 acre land parcels i can see.

I would strongly encourage other humane options. Lethal removal is not the only tool available.

Doesn't seem to be more than usual, seems they are gathering more this time on Marquette and some wander on Rangeview, Poplar and Irma Flats but don't stay there long. Don't see many this year up the SF even in the campground areas.

This is a real problem as we have had as many as fifteen deer at any given time. Also I have heard that there are those in our area who feed them daily which make them congregate on Cedar Mt Dr & Mountain View off Bartlett Lane.

thanks for asking

Your questions are built to arrive at a predetermined result. Therefore, the survey is invalid.

I will never allow any hunter on my property. The idea of people randomly shooting in these housing developments is absurd.

You didn't specified the number of deer in the area and you didn't specify the number that the land can support. You didn't mention the number of licenses already issued in this area so how can we determine how many are to be needed or added?

The local deer population doesn't have an impact on much of anything as I can tell and I've been around here for the better part of thirty years. Horses and/or cattle are far and away more detrimental to the grass. Go take a look at the land the Forest Service animals are grazed on at the end of Cedar Mountain Dr. It's an overgrazed disaster. We in this neighborhood are going to have a nasty weed infestation because of this overgrazing.

You really need to rethink the questions and format.

Very residential area, remove all hunting in this area to a,more safe location.
It is nice to see the fawns in the spring. Pairs in the fall. Remove only younger animals. LeAve the best animals for breeding. Call me. 307 578 7901. Thanks for your good work.

Deer collision with vehicles-teach people how to respond better when deer come on highway

I live on 40 acres bordering Road 6RT. I count the number of deer in the pastures every day from December through March and am seeing a definite increase in the nonmigratory mule deer population over the past 4 years. Mainly, the deer just make a nuisance of themselves by browsing on any shrubs, flowers, and trees they can get to, but the bucks rubbing during the rut can cause major damage. I now have more money invested in fencing material than I do in trees/shrubs. I can say for a fact that if bonus doe/fawn tags are made available for purchase, I will buy several. I also have been opening the property to Polestar Outdoors and several local youth for hunting access in archery and rifle season. Thank you for recognizing that there is a problem.

Dear deterant on corner of Bartlett lane southfork rd as we call it road kill corner

Give each property owner a couple archery tags if they hunt, and a drop off address to take the deer.

Or have a fish and game officer shoot a few in the middle of the night until the numbers are way down.

It appears herd numbers are declining for both deer and elk. Maybe look at reducing the doe and cow permits. Reduce the number of out-of-state tags. Management appears to be seriously lacking in our area! Also very disappointed the Game and Fish gave the bid for the new office to an out of town company (out of state) instead of Groathouse Construction who would have hired local people.

Very poor decesion!

Again, it would help if the land owners would not feed the deer. I am not sure how many are doing that but know of one on Scenic View Drive that does.

I'm willing to tolerate some damage for the enjoyment of having deer in my yard.

The reason I said no to access on my property is because I only have 5 acres.

I have lived in the Irma Flat area for 28 years and I spend a lot of time looking for deer besides 25-28 years ago. I believe the deer numbers to be way down. The number of new houses and people have tripled. Give the Deer less space to winter.

I feel the diamond basin herd has been hit hard because of the BLM land across from the private property when these deer leave the private property it becomes a shooting gallery I have lived in diamond basin for 36 years our deer herd has depleted greatly here I believe if anything the deer are going west out of diamond basin to avoid the hunting pressure from the BLM that surrounds the diamond basin drainage . An example of this was the four barely league 5 point bucks that lived

in diamond basin all thru the summer were shot in the first two days of season traveling back and forth from private to the BLM I feel diamond basin should be left out of the Irma flats management area feel free to contact me for any other questions Jim Baker 307-272-2332

Good to see G & F responding to this serious problem. Property damage keeps increasing costing us more and more.

Hunting on the South Fork has already turned into a circus, lets be careful not to make it worse.

This is a tough problem to solve. I wish you success.

We feel this immediate area where we reside is too crowded with people owning 2 acres each and too much livestock to be safely hunted by individual hunters. We feel WGFD could do it more safely.

I would like to be involved as this strategy is developed especially when it comes to the number or percentage of deer being considered for removal.

Why not prevent overpopulation instead of treating overpopulation? This could be done through wildlife fertility control. I understand the key to success here is to understand reproductive strategies of targeted species. The Wildlife Society wrote a Wildlife Fertility Control technical paper in 2002 which could be good information. Since then, there will likely be more current technology available to wildlife specialists. I believe this approach could be a long term solution--integrated with conventional hunting activities of course.

One of the sad realities of overpopulation is, as aforementioned in this survey, the high number of deer/vehicle collisions. I find that people are speeding on South Fork Highway and don't adhere to the 55 speed limit, as well as they don't slow down on the major highway curves, where deer often cross, such as where the highway intersects at Douglas Drive and Bartlett Lane for example.
Because of the human safety issue especially, I would recommend additional signage with flashing lights to indicate where the high impact zones are. The other day I driving on the South Fork/Bartlett Lane curve and as I always slow down to about 45, I avoided hitting a herd of deer by applying ABS brakes to come to an almost complete stop to avoid hitting them. And this was in the daytime, well before twilight! I would really like to see flashing lights at high impact zones such as these curves, to urge drivers to slow down to recommended speeds and closely watch for wildlife. I think this could effectively alert and remind people to slow down and watch out. I know I always take special notice when I see flashing lights. (These can even be solar operated for cost effectiveness).

Thank you for giving us the opportunity to weight in on this problem!

The biggest problem is deer vehicle collisions after dark on the SF hwy.

Thank you for giving us an opportunity to voice our opinion.

Deer number reduction is unnecessary at this time

High powered rifles are dangerous in high density areas.

We all know that increased doe/Fawn licenses will reduce the herd and damage
done. And we also know that a controlled under or overpass will stop all deer/car incidents. Hopefully you will at least restrict them to a controlled area crossing. Too bad it took you only 10 years to address the car/deer problem.

Thanks for considering this as an option for herd management
would welcome hunters in a controlled hunt

Over the past 34 years, the deer population has exploded. The herds need to be reduced.

Generally, I have seen a drastic reduction in deer numbers on my property or on the fields adjoining my place over the past few years. Deer numbers seem to be dropping so I'm confused about the notion of taking more deer to reduce their numbers. I have had 3 lion kills on my property over the past couple years. I used to have 30-40 deer in winter on and around my property. Now they are down to 8-12 head.

Reduce licenses, I think our deer herds are nowhere near what they used to be

I am concerned about hunting deer off of Sunburst. The houses are so close together.

The problem is not to many deer. It inattentive drivers going way to fast. Those deer have always crossed the highway, grass is always greener on the other side. I have lived here for 39 years, population is down alot from the past. I think there is just more traffic. How about lower speed limits at night?

Thank you for addressing this problem.

2020 - JCR Evaluation Form

SPECIES: Mule Deer | PERIOD: 6/1/2020 - 5/31/2021

HERD: MD216 - CLARKS FORK

HUNT AREAS: 105-106, 109 | PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Population:	3,380	2,800	2,700
Harvest:	404	170	180
Hunters:	932	601	600
Hunter Success:	43%	28%	30 %
Active Licenses:	968	601	600
Active License Success:	42%	28%	30 %
Recreation Days:	4,840	3,026	3,300
Days Per Animal:	12.0	17.8	18.3
Males per 100 Females	28	26	
Juveniles per 100 Females	56	53	

Population Objective (± 20%): 5000 (4000 - 6000)

Management Strategy: Recreational

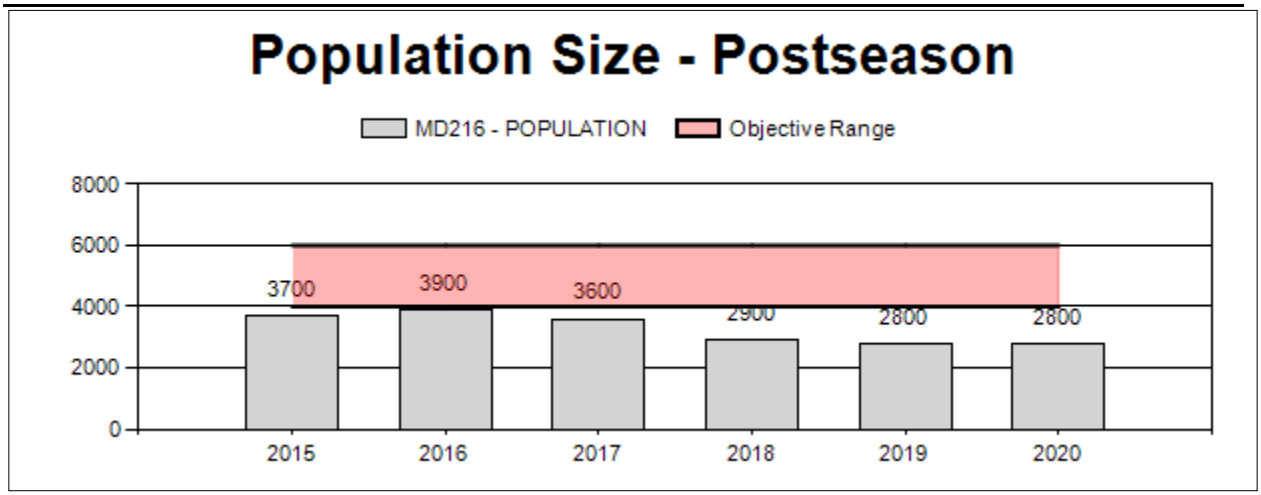
Percent population is above (+) or below (-) objective: -44%

Number of years population has been + or - objective in recent trend: 5

Model Date: 03/02/2021

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	38%	33%
Total:	6%	6%
Proposed change in post-season population:	1%	1%



2021 Hunting Seasons
Clark's Fork Mule Deer (MD216)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
105	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 24		Antlered mule deer or any white-tailed deer valid on national forest
105	Gen	Sep. 1	Sep. 30	Nov. 1	Nov. 5		Antlered mule deer or any white-tailed deer valid off national forest
105	Gen	Sep. 1	Sep. 30	Nov. 6	Nov. 17		Antlerless deer valid on private land
105, 106, 109	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	25	Any deer
106	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 24		Antlered mule deer or any white-tailed deer
109	8	Sep. 1	Sep. 30	Nov. 1	Nov. 15	25	Doe or fawn white-tailed deer

2021 Region F nonresident quota: 550 licenses

2020 Hunter Satisfaction: 50% Satisfied, 26% Neutral, 24% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: There are no major season changes occurring for the 2021 season in order to allow for continued increases to population size (low to no doe harvest), buck numbers and buck age classes. Unfortunately, due to poor fawn production from the last 5 years, population estimates still show the population at half the objective and indicate it may take several years to recover from the low population level we are experiencing. Due to large numbers of white-tailed deer congregating in river bottoms of Hunt Area 109 we created a new Type 8 license to allow for harvest of these deer.

2.) Chronic Wasting Disease Management: This was originally classified as a Tier 2 surveillance herd, and was prioritized for CWD sampling beginning in 2019. However, due to low harvest and the fact that we cannot realistically achieve sample goals in a three year period we have reclassified this herd unit to Tier 3.To date, we have collected 69 samples during this focal period.

2020 - JCR Evaluation Form

SPECIES: White tailed Deer | PERIOD: 6/1/2020 - 5/31/2021

HERD: WD201 - BIGHORN BASIN

HUNT AREAS: 35, 37, 39-41, 46-47, 50-53, 105-106, 109-125, 127, 164-165 | PREPARED BY: SAM STEPHENS

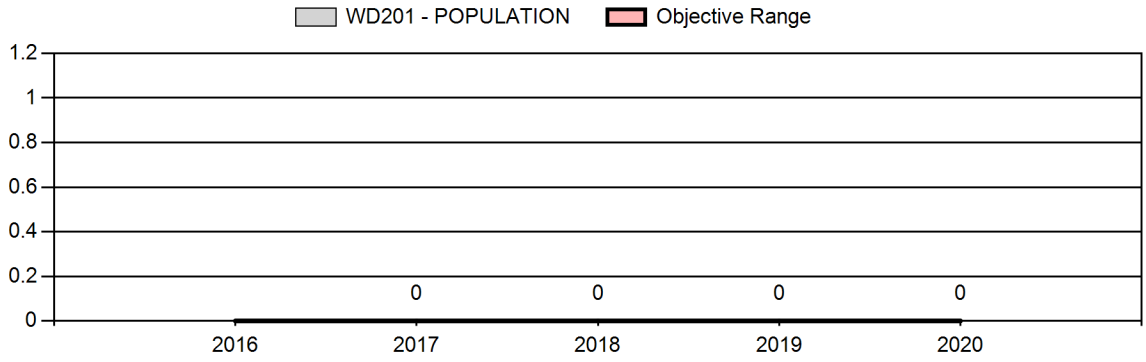
	2015 - 2019 Average	2020	2021 Proposed
Population:	0	N/A	N/A
Harvest:	2,235	3,003	3,000
Hunters:	4,399	5,150	5,300
Hunter Success:	51%	58%	57 %
Active Licenses:	5,372	6,473	6,600
Active License Success:	42%	46%	45 %
Recreation Days:	18,802	25,984	27,000
Days Per Animal:	8.4	8.7	9
Males per 100 Females	38	29	
Juveniles per 100 Females	72	62	

Population Objective (± 20%) :	0 (0 - 0)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	0
Model Date:	None

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Total:	0%	0%
Proposed change in post-season population:	0%	0%

Population Size - Postseason



2021 HUNTING SEASONS

BIGHORN BASIN WHITE-TAILED DEER HERD (WD201)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
36	8	Sep. 1	Sep. 30	Oct. 15	Oct. 31	25	Doe or fawn white-tailed deer
37,39	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	25	Any white-tailed deer
37,39	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	50	Doe or fawn white-tailed deer
40	8	Sep. 1	Sep. 30	Oct. 1	Nov. 30	300	Doe or fawn white-tailed deer
41	3	Sep. 1	Sep. 30	Oct. 15	Nov. 30	150	Any white-tailed deer
41	8	Sep. 1	Sep. 30	Oct. 15	Dec. 15	250	Doe or fawn white-tailed deer
47,51,52	3	Sep.1	Sep. 30	Oct. 15	Nov. 30	100	Any white-tailed deer
47	8	Sep. 1	Sep. 30	Oct. 15	Dec. 15	150	Doe or fawn white-tailed deer
51	8	Sep. 1	Sep. 30	Oct. 15	Dec. 15	150	Doe or fawn white-tailed deer
110, 111	8	Sep. 1	Sep. 30	Oct. 15	Dec. 31	100	Doe or fawn white-tailed deer
112, 113	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	35	Any white-tailed deer
112, 113	8	Sep. 1	Sep. 30	Oct. 15	Dec. 31	175	Doe or fawn white-tailed deer
116, 117	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	100	Any white-tailed deer
116, 117, 118	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	150	Doe or fawn white-tailed deer
119, 120	3	Sep. 1	Sep. 30	Oct. 1	Nov. 30	100	Any white-tailed deer
120	8			Sep. 1	Dec. 15	200	Doe or fawn white-tailed deer
121	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	50	Any white-tailed deer
121	8	Sep. 1	Sep. 30	Nov. 1	Nov. 30	50	Doe or fawn white-tailed deer
122	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	75	Any white-tailed deer

122	8	Sep. 1	Sep. 30	Nov. 1	Nov. 30	50	Doe or fawn white-tailed deer
124	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	150	Any white-tailed deer
124	8	Sep. 1	Sep. 30	Nov. 1	Nov. 30	250	Doe or fawn white-tailed deer
127	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	25	Any white-tailed deer; also valid in Area 125
127	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30	75	Doe or fawn white-tailed deer
164	3	Sep. 1	Sep. 30	Oct. 1	Nov. 30	100	Any white-tailed deer, also valid in Area 125
164	8	Sep. 1	Sep. 30	Oct. 1	Dec. 15	150	Doe or fawn white-tailed deer, also valid in Area 125
165	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	75	Any white-tailed deer
165	8	Sep. 1	Sep. 30	Nov. 1	Nov. 30	200	Doe or fawn white-tailed deer

2020 Hunter Satisfaction: 62% Satisfied, 19% Neutral, 18% Dissatisfied

Management Summary

1.) Hunting Season Evaluation:

White-tailed deer in the Bighorn Basin are managed as one herd unit consisting of 33 hunt areas under recreational management. Hunting seasons for white-tailed deer are typically set in conjunction with mule deer hunting seasons by hunt area. Hunting opportunity exists for licenses exclusive for white-tailed bucks such as Type 3 licenses and white-tailed does or fawns with Type 8 licenses. Significant epizootic hemorrhagic disease outbreaks occurred in 2001, 2007, 2011, and 2012 severely reducing white-tailed deer abundance in parts of the Basin. Estimating the percent of the white-tailed deer population affected by disease mortality was never attempted, because no population estimate exists. Despite sporadic outbreaks in certain hunt areas in 2020, the population appears to be stable and white-tailed deer are still expanding their range throughout the Bighorn Basin. White-tailed deer hunting seasons are set to address landowner concerns and provide a late season opportunity to pursue bucks during the rut. White-tailed deer specific licenses (Types 3 & 8) are needed to obtain adequate harvest. Increases to buck and doe licenses for the 2021 season are warranted in particular hunt areas based on an abundance of deer and chronic wasting disease concerns.

2.) Chronic Wasting Disease:

Chronic wasting disease is sampled opportunistically and monitored according to the mule deer herd unit the hunt area exists in. Prevalence rates for adult male white-tailed deer in the Bighorn Basin have ranged from 11% in 2016 (n=35) to 28% in 2019 (n=157). When combined the collective prevalence rate for the Bighorn Basin White-tailed Deer Herd Unit in 2020 was 38%

(n=183) in adult male white-tailed deer. Total prevalence amongst all deer tested in 2020 was 31% (n=313).

2020 - JCR Evaluation Form

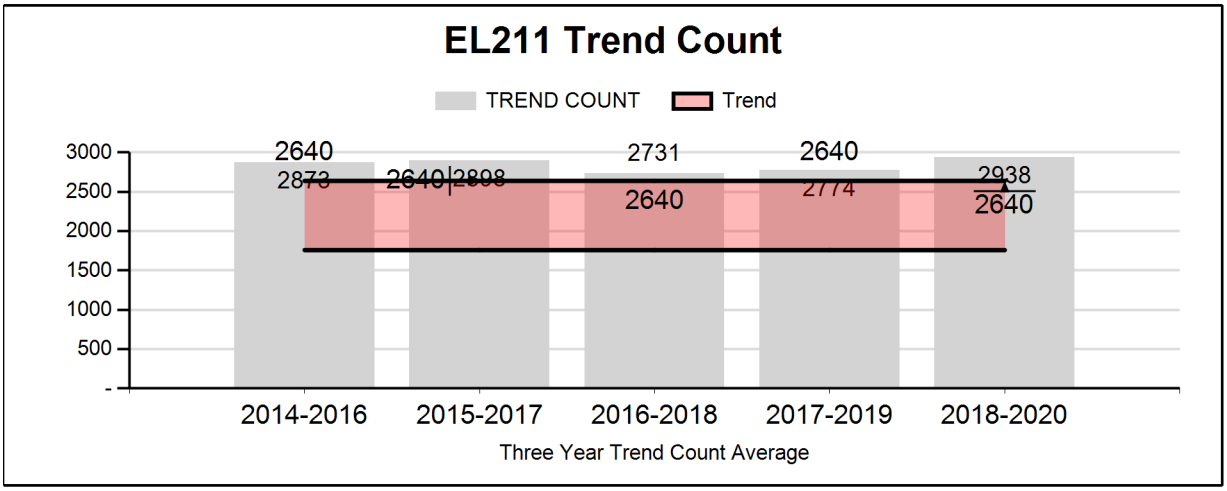
SPECIES: Elk
PERIOD: 6/1/2020 - 5/31/2021
HERD: EL211 - MEDICINE LODGE
HUNT AREAS: 41, 45
PREPARED BY: SAM STEPHENS

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	2,859	3,212	3,000
Harvest:	802	800	1,000
Hunters:	1,956	2,018	2,000
Hunter Success:	41%	40%	50 %
Active Licenses:	2,021	2,094	2,100
Active License Success	40%	38%	48 %
Recreation Days:	14,356	14,430	14,500
Days Per Animal:	17.9	18.0	14.5
Males per 100 Females:	30	21	
Juveniles per 100 Females	48	28	

Trend Based Objective (± 20%)	2,200 (1760 - 2640)
Management Strategy:	Recreational
Percent population is above (+) or (-) objective:	46%
Number of years population has been + or - objective in recent trend:	6

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

	JCR Year	Proposed
Females ≥ 1 year old:	13%	16%
Males ≥ 1 year old:	9%	12%
Juveniles (< 1 year old):	10%	10%



2021 HUNTING SEASONS

MEDICINE LODGE ELK HERD (EL211)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
41	1	Sep. 15	Sep. 30	Oct. 15	Nov. 4	375	Any elk
41	4	Sep. 15	Sep. 30	Oct. 1	Oct. 10	450	Antlerless elk
41	4			Oct. 15	Nov. 30		Antlerless elk
41	6			Nov. 15	Dec. 21	300	Cow or calf
41	9			Sep. 1	Sep. 30	125	Any elk, archery only
45	1	Sep. 15	Sep. 30	Oct. 15	Nov. 4	350	Any elk
45	4	Sep. 15	Sep. 30	Oct. 15	Nov. 30	150	Antlerless elk
45	5	Sep. 15	Sep. 30	Oct. 1	Oct. 10	200	Antlerless elk
45	5			Nov. 5	Nov. 30		Antlerless elk
45	6			Aug. 15	Nov. 30	225	Cow or calf valid off national forest
45	9			Sep. 1	Sep. 30	150	Any elk, archery only

2020 Hunter Satisfaction: 60% Satisfied, 16% Neutral, 25% Dissatisfied

2021 Management Summary

1) Hunting Season Evaluation:

High calf recruitment and insufficient female harvest continues to yield an elk herd which is over-objective. Classification and trend flights continue to show an over-abundance of elk in the herd unit (3,212). Access due to land ownership and topographical constraints limits the cow harvest necessary to curb population growth. This problem is especially pronounced in Hunt Area 41 where a ceiling on hunter numbers is developing. Data from 2018-20 indicates that in spite of increased license quotas, harvest has remained stagnant or declined. The prevailing concern amongst hunters is that the area has become over-crowded with hunters which is therefore driving elk into more inaccessible locales. Our continued efforts to increase cow harvest improved moderately from 2019 to 2020 (+27%) though persistent mild weather suppressed what would have likely been a marked increase. Early cow seasons implemented with the Hunt Area 41 and 45 Type 4 and 5 licenses, respectively distributed temporal hunting pressure by giving hunters a ten day window to harvest antlerless elk prior to the Type 1 seasons. This attempt was successful in that it increased harvest success for the Hunt Area 41 Type 4 (+18%) and the Hunt Area 45 Type 5 (+15%) from 2019 to 2020. In lieu of the abnormally warm and dry 2020 elk season, 2021 will see the maintenance of the current season structure in anticipation of increased cow harvest in the event of more typical autumn weather. Additionally a modest decrease to the Hunt Area 41 Type 6 quota was justified despite unsuccessful increases

to this license type in recent years, the result being decreased harvest and increased complaints due to crowding.

2) Management Objective Review:
The Medicine Lodge Elk Herd is managed with a three-year running trend count average of 2,200 elk. Trend counts are a rudimentary means of tracking population growth through raw counting of the known minimum number of individuals. Currently the three-year average is 2,938 elk. This sits 34% above the current objective and marks the 6th consecutive year that the herd has exceeded the objective. Despite difficulty to maintain this highly prolific elk herd at objective, efforts to decrease the known minimum elk abundance to a range within 20% of the current objective (1760-2640) would be sustainable given the interspecific pressures to the ecosystem from elk and other ungulates. In 2021 local elk managers reviewed the trend-based objective and determined 2,200 an adequate objective given all available harvest, habitat, and abundance data. The objective is scheduled to be reviewed again in 2026.

3) Chronic Wasting Disease:
The 2021 hunting season will see increased surveillance of CWD in accordance with the statewide CWD management plan. CWD was first detected in the herd unit in 2020. This positive was collected from an adult male harvested in Hunt Area 45. Efforts to collect 200 samples will include a three-year total of any adult (male or female) elk harvested within the herd unit.

2020 - JCR Evaluation Form

SPECIES: Elk
HERD: EL214 - GOOSEBERRY
HUNT AREAS: 62-64

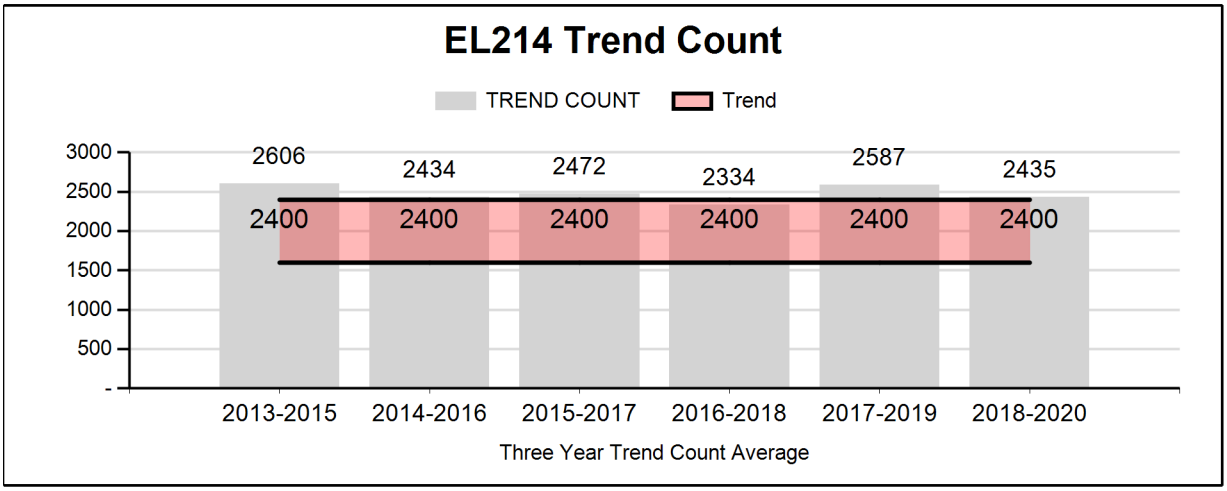
PERIOD: 6/1/2020 - 5/31/2021
PREPARED BY: BART KROGER

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	2,516	2,140	2,500
Harvest:	669	666	600
Hunters:	1,301	1,202	1,100
Hunter Success:	51%	55%	55 %
Active Licenses:	1,341	1,236	1,200
Active License Success	50%	54%	50 %
Recreation Days:	8,034	8,142	8,000
Days Per Animal:	12.0	12.2	13.3
Males per 100 Females:	24	33	
Juveniles per 100 Females	20	19	

Trend Based Objective (± 20%)	2,000 (1600 - 2400)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	7%
Number of years population has been + or - objective in recent trend:	10

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%
Juveniles (< 1 year old):	n/a%	n/a%



2021 Hunting Seasons
Gooseberry Elk (EL214)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
62	1	Sep. 1	Sep. 30	Oct. 1	Oct. 21	125	Any elk
62	4	Sep. 1	Sep. 30	Oct. 1	Oct. 21	75	Antlerless elk
62, 63	5	Sep. 1	Sep. 30	Oct. 22	Dec. 21	150	Antlerless elk
63, 64	1	Sep. 1	Sep. 30	Oct. 1	Oct. 21	200	Any elk
63	2	Sep. 1	Sep. 30	Oct. 1	Oct. 21	25	Any elk valid within the Washakie Wilderness; also valid in that portion of Area 64 within the Washakie Wilderness
63	4	Sep. 1	Sep. 30	Oct. 1	Dec. 21	100	Antlerless elk
63	6	Sep. 1	Sep. 30				Cow or calf valid in the entire area
63	6			Aug.15	Oct. 31	100	Cow or calf valid off national forest north of Gooseberry Creek
63	6			Nov. 1	Dec. 21		Cow or calf valid off national forest
64	2	Sep. 1	Sep. 30	Nov. 1	Nov. 15	75	Any elk, also valid in Area 63
64	6			Sep. 1	Nov. 14	200	Cow or calf valid in that portion of the Cottonwood Creek Drainage downstream of and including the 21-Creek Drainage, also valid within the Grass Creek Drainage downstream of the Grass Creek/Little Grass Creek confluence
64	6	Sep. 1	Sep. 30	Nov.15	Dec. 21		Cow or calf valid in the entire area
64	7	Sep. 1	Sep. 30	Oct. 15	Dec. 21	300	Cow or calf valid south of and including the Cottonwood Creek Drainage

2019 Hunter Satisfaction: 69% Satisfied, 15% Neutral, 16% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 hunting season structure is again fairly liberal in order to continue reducing herd numbers. The current 3-year average winter trend count is 2,435 elk, or about 21% over the winter count goal of 2,000 elk. Numerous cow/calf licenses with long season lengths continue to be offered in each hunt area to maximize harvest and promote hunter opportunity. Type 1 and 2 license quotas have stayed consistent over the past years to allow for a quality hunting experience and to maintain bull quality and quantity. Hunter satisfaction did decrease slightly in 2020 (69%) compared to 73% in 2019. Overall hunter success was 55% and hunter effort was 12 days/harvest, which was mostly similar to previous years. Calf ratios have remained below 20:100 cows in recent years, with the previous 3-year average of 17:100. Bull quality still appears favorable with >95% of the male harvest being branched antlered bulls. The only changes for the 2021 season is a reduction of 100 Type 4 licenses in Area 63. This change was in response to the LU Ranch expressing concerns regarding road and hunter camp impacts within the Grass Creek and Enos Creek drainages. The LU Ranch supports most of the Absaroka HMA, so this change was made to accommodate their concerns. Both the Area 64 Type 1 and 2 hunter success in 2020 exceeded the 60% threshold limit. However, the Gooseberry elk herd is being managed under Special Management Criteria, which hunters continue to voice concerns desiring to have a quality hunting experience along with the opportunity of harvesting a quality bull in this herd unit. Although hunter success for these two license types did exceed 60% in 2020, the previous 5-year average was 51% success for the Type 1 and 50% for the Type 2. Brucellosis is present in this herd, and measures to reduce elk/cattle interaction have and will continue. The 2016-2020 seropositive brucellosis prevalence was 25%, compared to 15% from 2011-2015.

2.) Management Objective Review: The Gooseberry elk herd unit objective was last reviewed in 2017, with no objective changes being made.

4,) **Chronic Wasting Disease Management:** This is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has not been prioritized for CWD surveillance because of availability of samples from back country hunters. However, between 2018 and 2020, 42 adult elk were sampled in the herd unit, with no CWD positives.

2020 - JCR Evaluation Form

SPECIES: Elk | PERIOD: 6/1/2020 - 5/31/2021

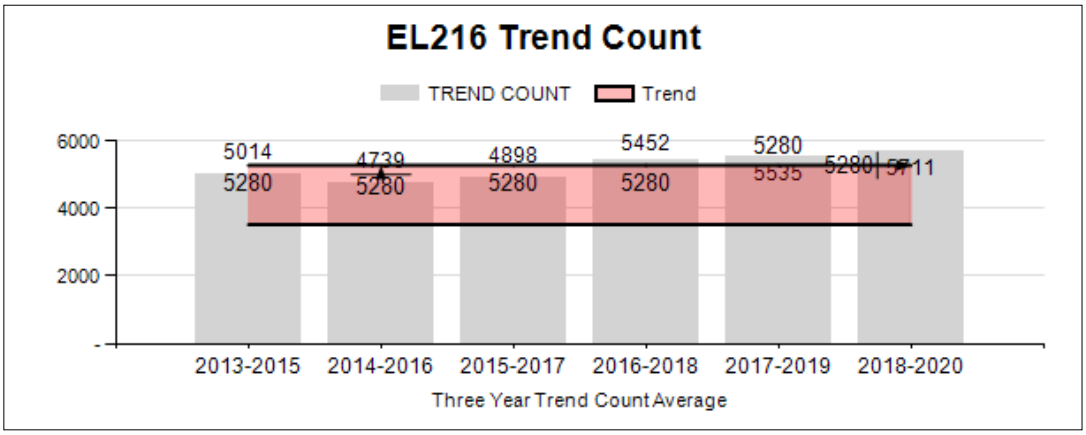
HERD: EL216 - CODY

HUNT AREAS: 55-56, 58-61, 66 | PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	5,143	6,113	5,700
Harvest:	1,328	1,033	1,200
Hunters:	3,062	2,596	2,500
Hunter Success:	43%	40%	48 %
Active Licenses:	3,238	2,726	2,700
Active License Success	41%	38%	44 %
Recreation Days:	20,789	19,055	20,000
Days Per Animal:	15.7	18.4	16.7
Males per 100 Females:	40	48	
Juveniles per 100 Females	21	19	
Trend Based Objective (± 20%)			4,400 (3520 - 5280)
Management Strategy:			Special
Percent population is above (+) or (-) objective:			39%
Number of years population has been + or - objective in recent trend:			5

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%
Juveniles (< 1 year old):	n/a%	n/a%
Total:	n/a%	n/a%
Proposed change in post-season population:	n/a%	n/a%



2021 Hunting Seasons
Cody Elk (EL216)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
55	1	Sep. 1	Sep. 30	Oct. 1	Oct. 31	50	Any elk
55	9			Sep. 1	Sep. 30	25	Any elk, archery only
56	Gen	Sep. 1	Sep. 30				Any elk
56	Gen			Oct. 1	Oct. 21		Antlered elk
56	1	Sep. 1	Sep. 30	Nov. 1	Dec. 7	10	Any elk
56	5	Sep. 1	Sep. 30	Oct. 1	Dec. 21	50	Antlerless elk valid off national forest
56	6	Sep. 1	Sep. 30	Oct. 1	Dec. 21	100	Cow or calf
56	7	Sep. 1	Sep. 30	Oct. 1	Dec. 21	50	Antlerless elk valid off national forest
56	9			Sep. 1	Sep. 30	30	Any elk, archery only
58	1	Sep. 1	Sep. 30	Oct. 1	Nov. 30	35	Any elk
58	6	Sep. 1	Sep. 30	Oct. 1	Dec. 21	75	Cow or calf
59	Gen	Sep. 1	Sep. 30				Any elk
59	Gen			Oct. 1	Oct. 21		Antlered elk
59	1	Sep. 1	Sep. 30	Nov. 1	Nov. 15	10	Any elk
59	6	Sep. 1	Sep. 30	Oct. 1	Dec. 21	125	Cow or calf
59	7	Sep. 1	Sep. 30				Cow or calf valid in the entire area
59	7			Oct. 1	Nov. 15	50	Cow or calf valid within the Washakie Wilderness
59	9			Sep. 1	Sep. 30	25	Any elk, archery only
60	Gen	Sep. 1	Sep. 19				Any elk
60	Gen			Sep. 20	Oct. 22		Antlered elk
60	9			Sep. 1	Sep. 30	20	Any elk, archery only
61	1	Sep. 1	Sep. 30				Any elk valid in the entire area, also valid in that portion of Area 62 within the Washakie Wilderness south of Avalanche Creek
61	1			Oct. 1	Oct. 31	150	Any elk valid within the Washakie Wilderness, also valid in that portion of Area 62 within the Washakie Wilderness south of Avalanche Creek

61	2	Sep. 1	Sep. 30	Oct. 7	Nov. 15	50	Any elk
61	4	Sep. 1	Sep. 30	Oct. 15	Dec. 21	200	Antlerless elk
61	6			Nov. 1	Nov. 14	400	Cow or calf valid within the Washakie Wilderness
61	6	Sep. 1	Sep. 30	Nov. 15	Dec. 21		Cow or calf valid in the entire area
61	7			Sep. 1	Dec. 21	500	Cow or calf valid on or within one-half (1/2) mile of irrigated land or north of and including the Rawhide Creek Drainage
66	Gen			Aug. 15	Dec. 21		Any elk
66	6			Aug. 15	Jan. 15	100	Cow or calf

2020 Hunter Satisfaction: 61% Satisfied, 21% Neutral, 18% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: We are trying to address elk causing damage in some areas as well as elk that are over the trend count objective in Hunt Area 61 with the 2021 season structures and license allocations. Three year average trend count numbers have been decreasing since 2015 in the HA55-56 (2015 3-year trend count, 1296; 2020 3-year trend count, 860) and HA58-58 (2015 3-year trend count, 1467; 2020 3-year trend count, 848) count blocks but have shown exceptional growth in the HA61 count block (2015 3-year trend count, 2043; 2020 3-year trend count, 3,997). In Hunt Area 56 we have several groups of elk that are causing damage on private lands. We are shifting licenses out of a full price Type 5 license that does not typically have much interest from hunters to a reduced price Type 7 in order to encourage harvest off forested land and on elk that are causing damage. In Hunt Area 59 we are increasing the Type 7 licenses and lengthening the season to allow for more harvest on cow elk that winter in Hunt Area 61. Trend counts for Hunt Area 61 are over objective and license numbers and dates are being adjusted to allow for higher harvest on these elk. The shifting of dates, licenses and increase in licenses should decrease total number of elk in the herd.

2.) Chronic Wasting Disease Monitoring & Management: This is a Tier 2 surveillance herd that was prioritized for CWD sampling from 2020 – 2021. Prevalence estimates and sample sizes are presented below (Table1). Sample distribution was focused mainly in hunt areas 66 and 61. Within this herd unit, all of positive animals came from Hunt Area 66 (n = 4). Hunt Area 66 is currently managed under a zero elk objective and has some of the most liberal elk hunting seasons in the state.

Table 1. CWD prevalence for hunter-harvested elk in the Cody Elk Herd, 2018 - 2020.

Year(s)	Percent CWD-Positive and (*n*) – *Hunter Harvest Only*
	All Adult Elk (CI = 95%)
2018-2020	**2.2% (0.6-7.8%, n=183)**

2020 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2020 - 5/31/2021

HERD: EL217 - CLARKS FORK

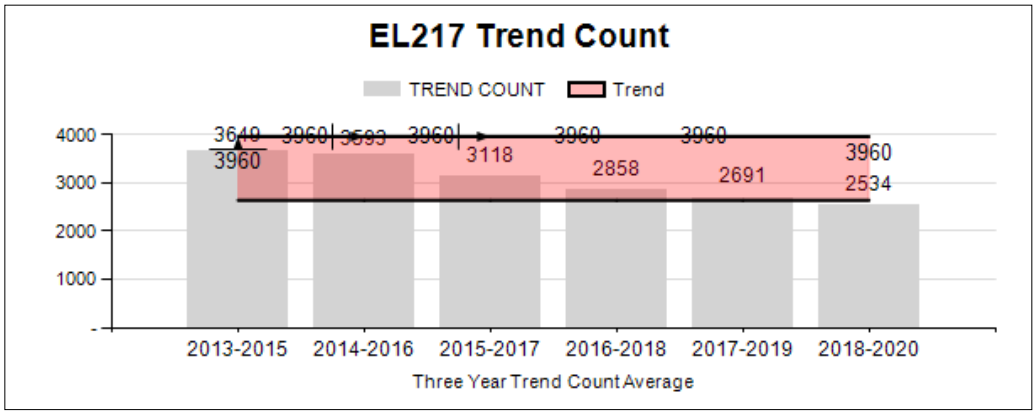
HUNT AREAS: 51, 53-54

PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	2,959	2,162	2,200
Harvest:	438	455	450
Hunters:	948	898	900
Hunter Success:	46%	51%	50 %
Active Licenses:	994	941	945
Active License Success	44%	48%	48 %
Recreation Days:	6,886	6,538	6,800
Days Per Animal:	15.7	14.4	15.1
Males per 100 Females:	24	16	
Juveniles per 100 Females	18	22	
Trend Based Objective (± 20%)			3,300 (2640 - 3960)
Management Strategy:			Special
Percent population is above (+) or (-) objective:			-34.5%
Number of years population has been + or - objective in recent trend:			5

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%
Juveniles (< 1 year old):	n/a%	n/a%
Total:	n/a%	n/a%
Proposed change in post-season population:	n/a%	n/a%



2021 Hunting Seasons
Clark's Fork Elk (EL217)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
51	1			Oct. 1	Oct. 31	100	Any elk south and west of the Clarks Fork River
51	2			Oct. 1	Oct. 31	40	Any elk north and east of the Clarks Fork River
51	4			Nov. 16	Dec. 15	100	Antlerless elk
51	9			Sep. 1	Sep. 30	70	Any elk, archery only
53	1			Oct. 1	Oct. 31	10	Any elk
53	2			Nov. 1	Nov. 30	35	Any elk valid in the North Fork Shoshone River Drainage
53	4			Oct. 1	Dec. 15	25	Antlerless elk
53	6			Oct. 15	Dec. 21	75	Cow or calf valid in the North Fork Shoshone River Drainage
53	7			Sep. 1	Dec. 21	25	Cow or calf valid on private land
53	9			Sep. 1	Sep. 30	10	Any elk, archery only
54	1			Oct. 1	Nov. 30	50	Any elk valid south of the Clarks Fork River
54	2			Oct. 1	Oct. 31	25	Any elk valid north of the Clarks Fork River
54	6			Sep. 1	Sep. 30	150	Cow or calf valid on private land
54	6			Oct. 1	Oct. 31		Cow or calf valid in the entire area
54	7			Nov. 1	Nov. 24	300	Cow or calf
54	7			Nov. 25	Dec. 21		Cow or calf valid east of Wyoming Highway 120
54	9			Sep. 1	Sep. 30	35	Any elk, archery only

2020 Hunter Satisfaction: 63% Satisfied, 20% Neutral, 17% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: We will have a slight decreases in cow licenses in Hunt Areas 51 and 53 because of a decrease in the 3-year average trend count data in those Hunt Areas. Three year average trend count numbers have been decreasing since 2016 in the HA51 (2016 3-year trend count, 1,337; 2020 3-year trend count, 865), HA53 (2016 3-year trend count, 586; 2020 3-year trend count, 389) and the HA54 (2016 3-year trend count, 1,670; 2020 3-year trend count, 1,280) count blocks. Hunt Areas 51 and 53 have been below objective during these same years whereas Hunt Area 54 has been above the objective of 900 during the same time period. Currently there are no damage concerns with the elk in Hunt Area 51 and minor concerns for the elk that are available for harvest during the season in Hunt Area 53. Calf ratios in these areas have historically been low with the last 5-year average at 19:100 cows. Hunt Area 54 is an area that we have had issues with private land damage and issues with access to harvest elk. This continues to be a concern and was addressed with a restructuring of season dates and license numbers in 2020 and this structure will continue in 2021.

2.) Chronic Wasting Disease Monitoring & Management: This is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has not been prioritized for CWD surveillance because of low harvest and difficulty in obtaining samples.

2020 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2020 - 5/31/2021

HERD: MO201 - ABSAROKA

HUNT AREAS: 8-9, 11

PREPARED BY: BART KROGER

	2015 - 2019 Average	2020	2021 Proposed
Population:	0	N/A	N/A
Harvest:	9	9	8
Hunters:	9	9	8
Hunter Success:	100%	100%	100 %
Active Licenses:	9	9	8
Active License Success:	100%	100%	100 %
Recreation Days:	76	68	65
Days Per Animal:	8.4	7.6	8.1

Limited Opportunity Objective:

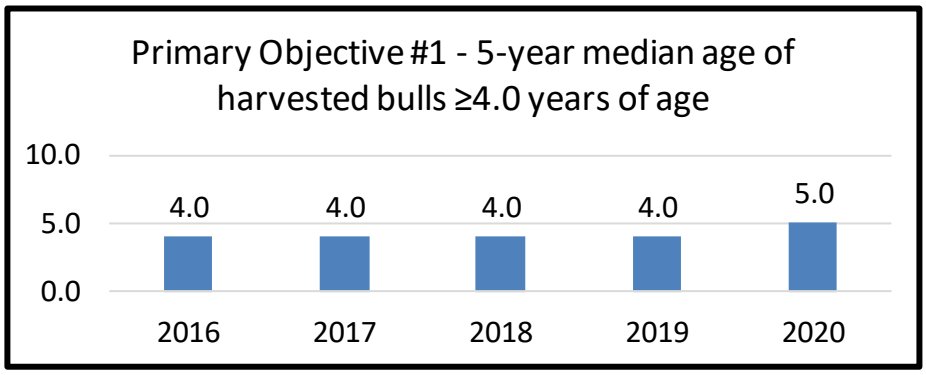
5-year median age of ≥ 4.0 years for harvested moose

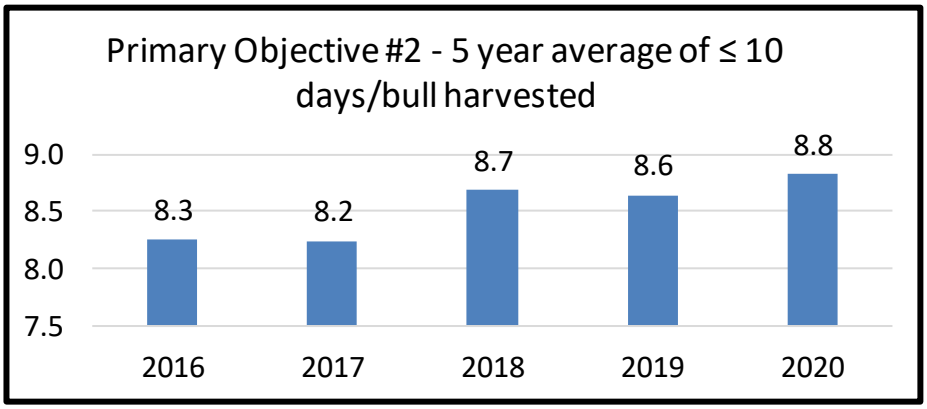
5-year average of <= 10 days/animal to harvest

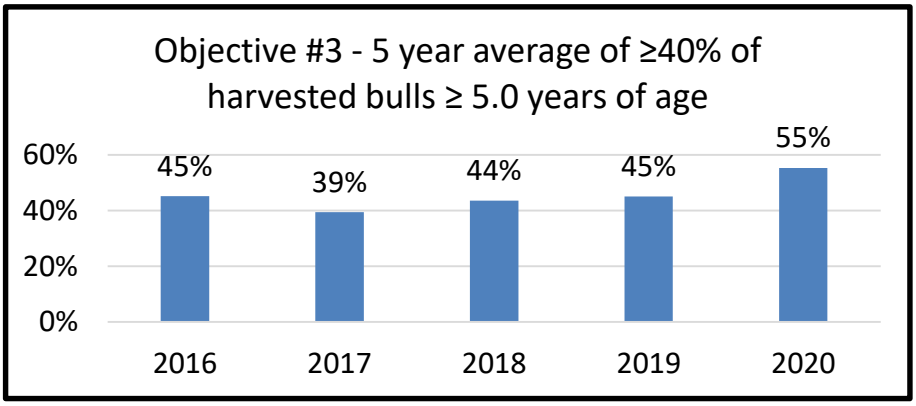
Secondary Objective:

5-year average of 40% of harvested moose are ≥ 5 years of age

Management Strategy: Special






Objective #3 - 5 year average of ≥40% of harvested bulls ≥ 5.0 years of age
60%
40%
20%
0%
45%
39%
44%
45%
55%
2016
2017
2018
2019
2020

2021 Hunting Seasons
Absaroka Moose (MO201)

Hunt Area	License Type	Special Archery Dates		Regular Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
8							Closed
9	1	Sep. 1	Sep. 30	Oct. 1	Oct. 31	3	Antlered moose (2 residents; 1 nonresident)
11	1	Sep. 1	Sep. 9	Sep. 10	Nov. 10	5	Antlered moose

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 hunting season for the Absaroka moose herd is unchanged from 2020. Prior to the 2019 season, a quota of 5 licenses was issued for both hunt areas 9 and 11, with area 8 being closed since 2006. However, in 2019 the Hunt Area 9 quota was reduced to 3 licenses, despite all herd management objectives were being met or exceeded. Moose numbers in this herd unit are considered at low densities, but enough moose do exist to support a viable population and limited bull harvest. Since 2015, annual winter aerial trend counts have been conducted in Hunt Area 9, with roughly 27 moose on average being observed. However, trail camera pictures taken during 2020 captured at least 59 different moose, including 16 cows, 10 calves and 33 bulls. Based on these and past camera data, it appears there are more moose in this hunt area than previously thought. In fact, in recent years it appears moose numbers have increased slightly, along with more calves being observed in the area. In Area 11, 57 moose were recorded and entered into WGFD's wildlife observation system. Of these, 21 were identified as adult bulls. In 2020, 9 bull moose were harvested, including 3 from Hunt Area 9 and 6 from Hunt Area 11, for a hunter success of 100%. The 2020 5-year median age of harvested bulls is 5.0 years, up from 4.0 in 2019. Average antler spread from harvested bulls was 41 inches. Currently all four management objectives for this moose herd are being met for 2020.

2. Management Objective Review: The Absaroka moose herd unit objective was last reviewed in 2018.

3.) Additional effort needs to be placed on reminding hunters to submit tooth samples from harvested bulls.

4.) Since March of 2020, a total of 31 moose, including 15 bulls and 16 cows have been radio collared as part of the Meeteetse Moose Project. Data will be collected to determine survival, movement patterns, habitat selection, forage preference and hunter vulnerability. As of March 2021 only one collared cow had died.

2020 - JCR Evaluation Form

SPECIES: Bighorn Sheep
PERIOD: 6/1/2020 - 5/31/2021

HERD: BS200 - ABSAROKA

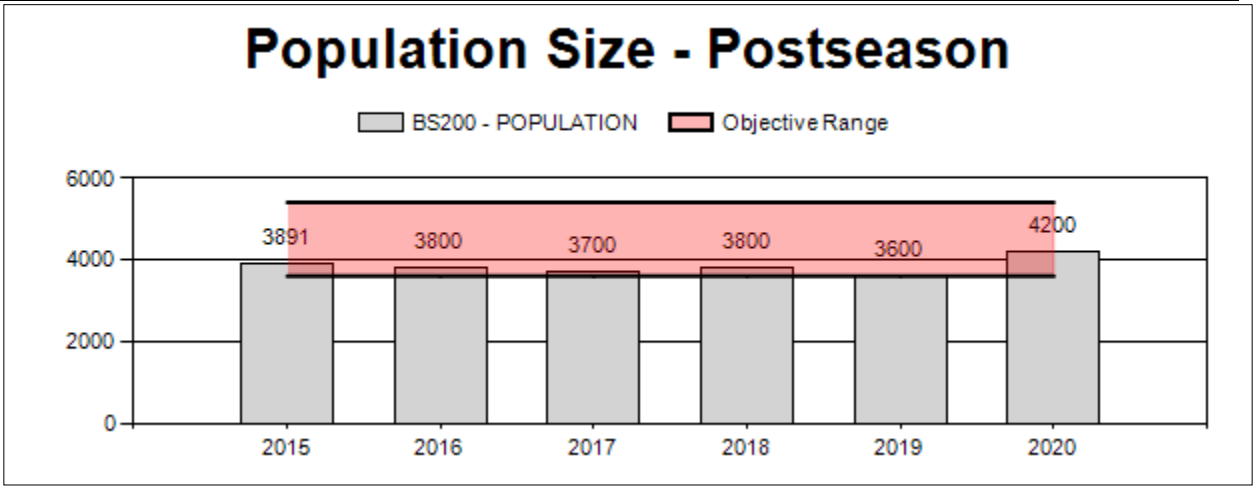
HUNT AREAS: 1-5, 22, 999
PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Population:	3,758	4,200	4,100
Harvest:	117	97	100
Hunters:	147	126	125
Hunter Success:	80%	77%	80%
Active Licenses:	147	126	125
Active License Success:	80%	77%	80%
Recreation Days:	1,264	1,038	1,025
Days Per Animal:	10.8	10.7	10.2
Males per 100 Females	37	34	
Juveniles per 100 Females	28	40	

Population Objective (± 20%) :	4500 (3600 - 5400)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-6.7%
Number of years population has been + or - objective in recent trend:	1
Model Date:	03/04/2021

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%



2021 Hunting Seasons
Absaroka Bighorn Sheep (BS200)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
1	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	12	Any ram
2	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	20	Any ram
3	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	32	Any ram
4	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	24	Any ram
5	1			Aug. 1	Aug. 31	32	Any sheep valid within the Owl Creek drainage
5	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31		Any ram valid in the entire area
22	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	4	Any Ram
22	1			Oct. 1	Oct. 31		Any Ram, also valid in Area 5.

2021 Management Summary

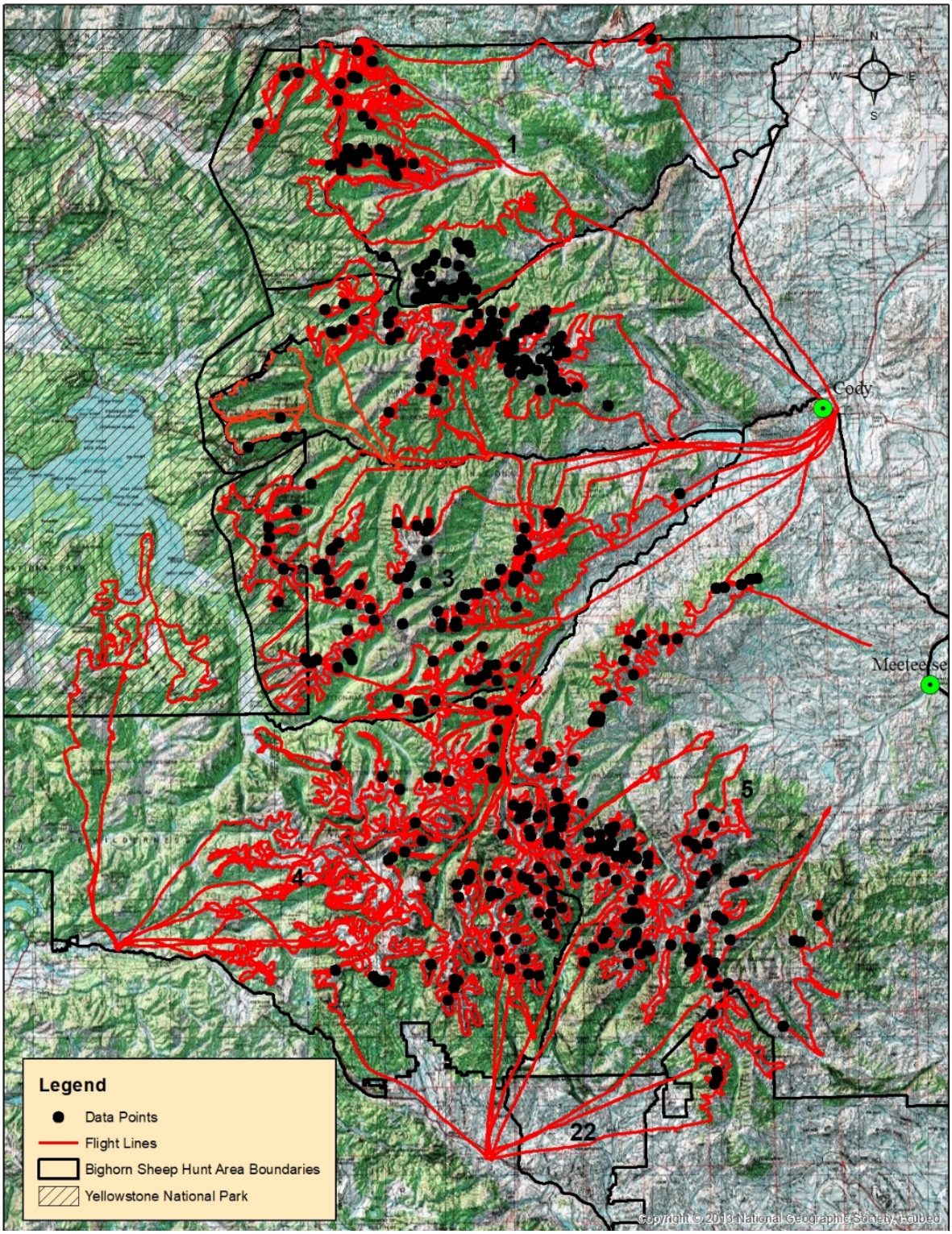
1.) Hunting Season Evaluation: The 2021 hunting seasons will allow us to continue to increase the ram population within the herd unit through lower harvest in all hunt areas. Based on 2020 harvest success, days to harvest and average age of harvest, license numbers in each of the hunt areas are at a level that should allow for higher success hunts and good age class of rams harvested in 2021. Recent intensive flights showed an overall lamb ratio of 40:100 ewes, which is significantly higher than the 10-year average of 27:100 ewes. The total number of adult rams counted during the winter was 595. With the total number of licenses offered within this herd unit at 128, we can estimate an overall harvest of about ~20% of the known rams in the population which should allow for continued growth in the ram portion of the population. An early season, restricted area hunt is being added to Hunt Area 5 Type 1 license in order to allow harvest in an area where there is potential overlap between domestic and wild sheep.

2.) Intensive Data Collection: In the summer and winter of 2020, an effort to intensively fly the entire herd unit was completed. There were a total of 3,114 and 3,216 sheep seen in summer and winter respectively. Based on those counts, the number of rams available in each hunt area is at a level to allow good opportunity for license holders in 2021. The summer flight data and analysis yielded an independent population estimate of 4,750 (95% CI = 4,259-5,261) sheep for the entire herd unit (Appendix A).

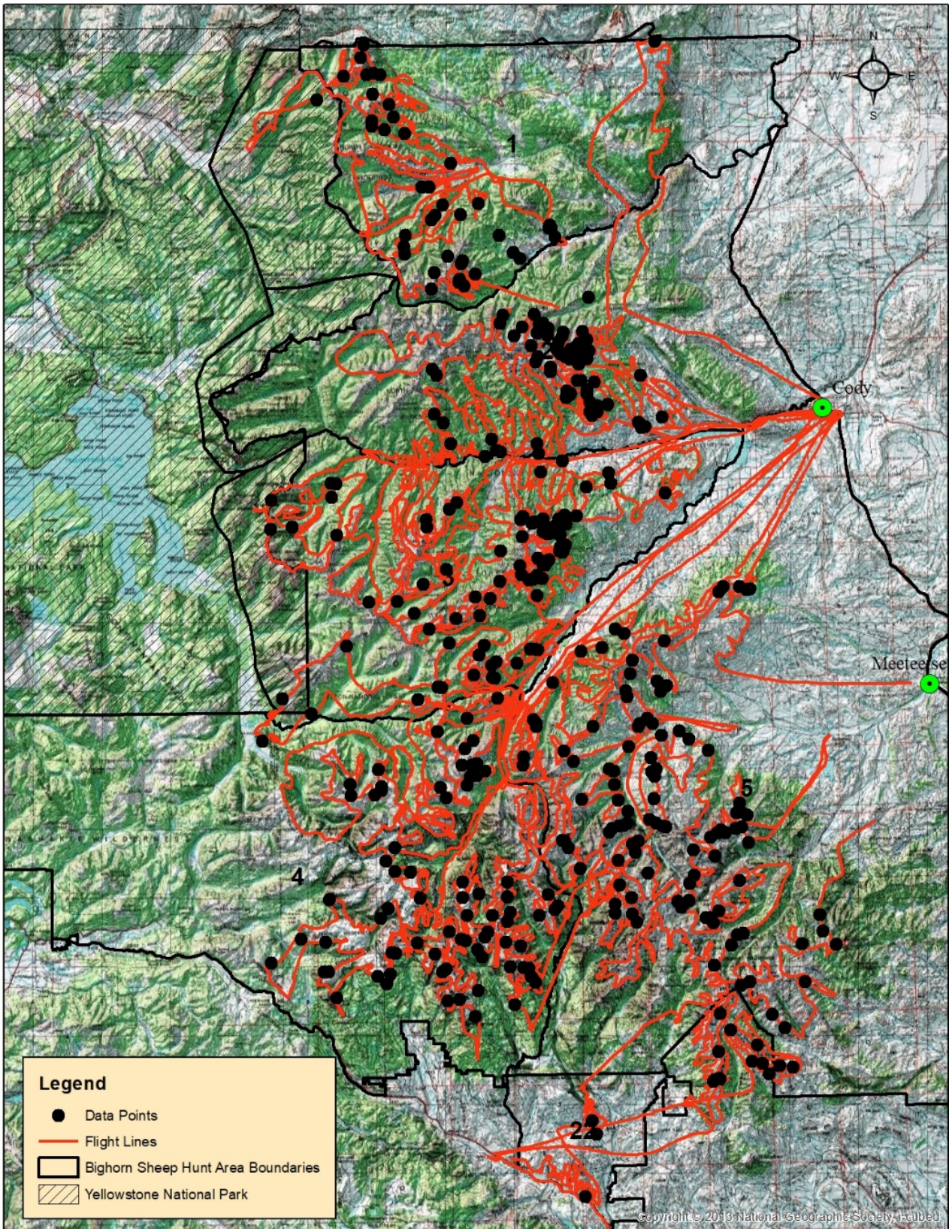
Appendix A. Data associated with the 2020 intensive flights for the Absaroka Bighorn Sheep Herd.

Figure 1. 2020 Absaroka Bighorn Sheep Herd intensive flight lines and location data.

Summer



Winter


N
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Legend
Data Points
Flight Lines
Bighorn Sheep Hunt Area Boundaries
Yellowstone National Park
Copyright © 2013 National Geographic Society, i-cubed

Table 1. 2020 Absaroka Bighorn Sheep Herd intensive summarized flight data and ratio of licenses to known available rams.

	Summer Data					Winter Data						Licence to Ram Ratios		
Hunt Area	Total Counted	Lamb Ratio	<3/4 Ram Ratio	>3/4 Ram Ratio	Total >3/4 Rams Counted	Total Counted	Lamb Ratio	<3/4 Ram Ratio	>3/4 Ram Ratio	Total >3/4 Rams Counted	Change in Lamb ratio	2021 Licenses available	Ratio of licenses to known >3/4 rams	Ratio of licenses to known adult rams
1	425	46	26	7	17	269	36	18	22	38	-10	12	32	23
2	492	64	23	17	41	504	37	15	21	57	-27	20	35	18
3*	618	54	16	18	58	705	40	14	14	57	-14	32	56	27
4	543	45	12	10	33	572	45	19	17	53	0	24	45	21
5	867	44	19	21	98	992	39	15	18	106	-5	32	29	16
22						17	0	35	18	3	n/a			
Wind River Reservation	30	0			19	157	24	6	4	5	n/a			
Yellowstone NP	139	41	25	17	13									
All Areas	3114	49	19	15	279	3216	37	17	16	319	-11	120	38	20
* Winter data includes Yellowstone National Park numbers														

Appendix B. SpeedGoat consulting sightability analysis and report for the 2020 Absaroka Bighorn sheep intensive summer flight.

Absaroka Bighorn Sheep Abundance Estimation

Paul M. Lukacs, J. Josh Nowak
SpeedGoat
September 14, 2020

Overview

Wyoming Department of Game and Fish conducted aerial sightability surveys of bighorn sheep in the Absaroka population. Flights were between July 27, 2020 and July 31, 2020. Tony Mong provided the survey data to SpeedGoat for analysis.

Summary Statistics

The aerial surveys covered nearly 4,350 miles of flight distance. During the flights, biologists detected 3,114 sheep.

Table 1. Counts of groups of sheep and classification of sheep in the Absaroka sheep survey July 2020.

Segment	Count
Groups detected	470
Sheep detected	3114
Ewes detected	1670
Lambs detected	820
Class I rams detected	317
Class II rams detected	279
Unknown rams detected	28

Sightability analysis

We used the sightability model presented in Bodie et al. (1995) to estimate detection probability for groups of sheep. The sightability model includes terms for activity and habitat as binary indicators. The model form is:

$$logit(p) = 0.7149 - 1.433x_1 + 1.541x_2,$$

where x_1 is activity (0 = moving, 1= not moving) and x_2 is habitat (0=flats/open slopes, 1=canyon) and p is probability of detection. There are three components of variance in a sightability estimate: 1) model uncertainty, 2) group count, and 3) sampling. Bodie et al. (1995) do not present any of the components describing uncertainty of the model (variance, covariance, standard error, etc.). Therefore, the model-based uncertainty of the parameters of the sightability model have been lost. The survey covered the entire study area; therefore, the sampling uncertainty is zero. Group count variation is the only component remaining. To estimate precision of bighorn sheep abundance, we bootstrapped on groups of bighorn sheep. A bootstrap analysis resamples the observed data with replacement to produce a distribution of likely potential samples. We constructed confidence intervals from the 2.5% and 97.5% quantiles of estimates from the resampled data.

Some observed data were missing covariate values. For those observations, we used the midpoint

between the two categories as the linear predictor for detection probability (e.g., missing covariate coded as 0.5).

Results

The average detection probability across all groups of sheep was 0.74 and ranged from 0.33 to 0.91 depending on the covariates recorded for the group. We estimated abundance for the entire population and by hunt area.

Table 2. Estimated abundance of bighorn sheep by population segment in the Absaroka Bighorn Sheep herd during July 2020.

			95% Confidence Interval	
Segment	Estimate	SE	Lower	Upper
Total	4750	265	4259	5261
Ewes	2567	191	2216	2953
Lambs	1248	92	1075	1436
All rams	934	115	723	1172
Class I	476	64	363	604
Class II	392	49	302	488

Table 3. Estimated abundance of bighorn sheep by population segment for each surveyed area in the Absaroka Bighorn Sheep herd during July 2020.

				95% Confidence Interval	
Hunt Area	Segment	Estimate	SE	Lower	Upper
1	Total	582	51	492	689
1	Ewes	309	31	249	368
1	Lambs	141	20	103	181
1	All rams	132	43	60	230
1	Class I	106	39	42	189
1	Class II	26	10	9	47
2	Total	727	67	604	862
2	Ewes	340	39	268	419
2	Lambs	216	26	168	269
2	All rams	171	50	83	274
2	Class I	98	28	47	159
2	Class II	72	23	35	119
3	Total	1090	153	815	1403
3	Ewes	600	102	419	808
3	Lambs	325	58	218	441
3	All rams	165	38	95	239
3	Class I	82	22	43	127
3	Class II	83	22	45	128

4	Total	880	157	642	1236
4	Ewes	547	127	360	831
4	Lambs	233	38	171	309
4	All rams	101	36	39	183
4	Class I	48	18	18	86
4	Class II	43	18	12	84
5	Total	1177	107	986	1400
5	Ewes	618	67	496	760
5	Lambs	267	39	198	351
5	All rams	291	69	172	440
5	Class I	110	23	68	159
5	Class II	127	26	80	179
991	Total	108	50	32	216
991	Ewes	70	30	21	134
991	Lambs	36	21	8	82
991	All rams	1	1	0	4
991	Class I	1	1	0	4
991	Class II	0	0	0	0
992	Total	70	13	47	97
992	Ewes	28	11	9	51
992	Lambs	6	6	0	18
992	All rams	36	18	6	73
992	Class I	24	13	3	50
992	Class II	12	6	3	23
993	Total	83	37	30	166
993	Ewes	50	30	6	114
993	Lambs	25	11	6	47
993	All rams	9	6	0	21
993	Class I	1	1	0	4
993	Class II	7	5	0	19
WR Res	Total	33	10	15	54
WR Res	Ewes	6	3	0	12
WR Res	Lambs	0	0	0	0
WR Res	All rams	28	12	6	52
WR Res	Class I	6	3	1	12
WR Res	Class II	21	10	3	43

991 = Yellowstone National Park areas associated with Hunt Area 1
992 = Yellowstone National Park areas associated with Hunt Area 2
993 = Yellowstone National Park areas associated with Hunt Area 3
WR Res = Wind River Reservation

Literature Cited

Bodie, W. L., E. O. Garton, E. R. Taylor, and M. McCoy. 1995. A sightability model for bighorn sheep in canyon habitats. Journal of Wildlife Management 59: 832-840.

2020 - JCR Evaluation Form

SPECIES: Bighorn Sheep
HERD: BS212 - DEVIL'S CANYON
HUNT AREAS: 12

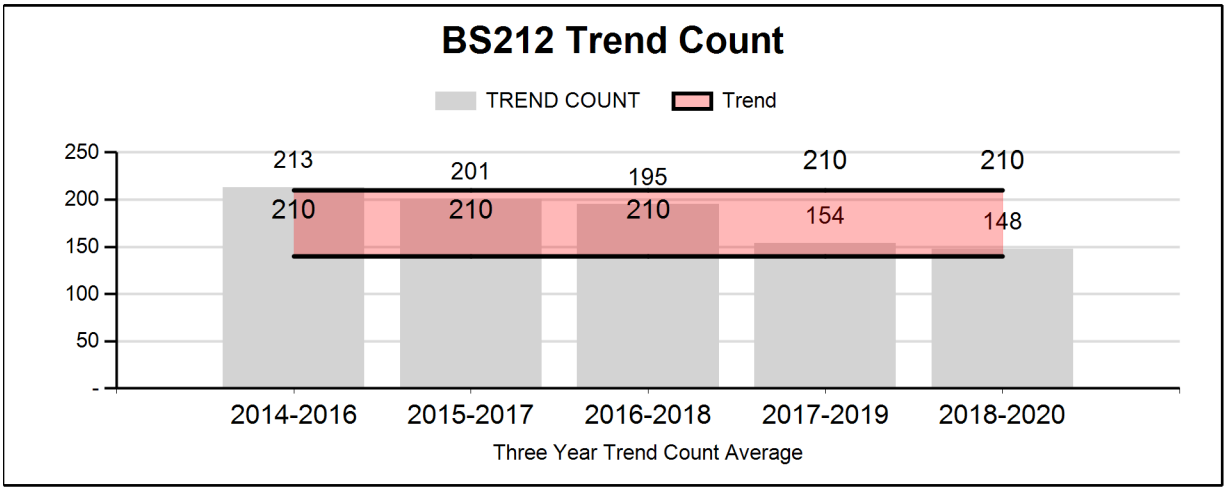
PERIOD: 6/1/2020 - 5/31/2021
PREPARED BY: SAM STEPHENS

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	178	158	180
Harvest:	5	7	6
Hunters:	5	7	6
Hunter Success:	100%	100%	100%
Active Licenses:	5	7	6
Active License Success	100%	100%	100%
Recreation Days:	40	37	30
Days Per Animal:	8	5.3	5
Males per 100 Females:	66	38	
Juveniles per 100 Females	46	43	

Trend Based Objective (± 20%)	175 (140 - 210)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	-9.7%
Number of years population has been + or - objective in recent trend:	3

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	7%	6%
Juveniles (< 1 year old):	0%	0%



2021 HUNTING SEASONS
DEVILS CANYON BIGHORN SHEEP HERD (BS212)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
12	1	Aug. 1	Aug. 14	Aug. 15	Oct. 15	6	Any ram

2021 Management Summary

1.) **Hunting Season Evaluation:**
In 2020 we continued a conservative management approach by allocating 6 licenses for the harvest of any ram in Hunt Area 12. With a success rate of 100% we saw a harvest of 7 adult rams which ranged from 8-11 years old and averaged 9 y.o. Our 2021 proposal is to maintain this conservative management by allocating 6 any ram licenses, as all field data indicates the population is stable and within 20% of the trend objective.

2.) **Devils Canyon Bighorn Sheep Movement Analysis:**
With disease sampling funding secured through the Wyoming chapter of the Wild Sheep Foundation, additional funding was opportunistically granted by the organization ($12,450) and the Wyoming Governors Big Game License Coalition ($15,000) in 2019 to purchase GPS collars (n=30) to monitor habitat use, seasonal movement, and annual recruitment rates of Devils Canyon bighorn sheep. Amongst three capture efforts (November 2019, March 2020, and December 2020) we have maintained a sample size 10 adult males (1-7 y.o) and 20 adult females fitted with GPS collars. Collars are collecting locations every six hours and transmitting data remotely every two days. Three (n=3) mortalities were detected in 2020 and were attributed to *Mannheimia haemolytica* (n=1) and predation (n=2). Collars have been used to estimate survival rates for independent sex and age cohorts. Measured adult female winter survival in 2019 and for the 2020 biological year were *1.0* and *0.85* respectively. Measured adult male winter survival in 2019 and for the 2020 biological year were *0.9* and *0.8* respectively. Additionally collared individuals were used to efficiently locate groups of sheep and conduct three separate classification surveys outside of our standardized July effort. These surveys included a post-winter, late spring, and winter classification which was helpful in understanding lamb survival through the biological year. In December 2019 and January 2021 we had the ability to fly a portion of the herd and obtain winter classification data. The lamb ratio observed during winter flights was analogous to the ratio attained from the summer flight, indicating little mortality from late summer through autumn. Annual summer and winter flights should be repeated in this fashion for another year to determine the value of using mid-summer lamb ratios to project population growth. Additionally, collared females were used to conduct post-winter classifications to estimate juvenile winter survival for 2019 (*0.78*) and 2020 (*0.66*). The collars are expected to collect data for a minimum of 3.5 years, and should give us some ecological insight into the future of the Devils Canyon herd as it relates to appropriate management goals.

2020 - JCR Evaluation Form

SPECIES: Mountain Goat
PERIOD: 6/1/2020 - 5/31/2021

HERD: MG201 - BEARTOOTH

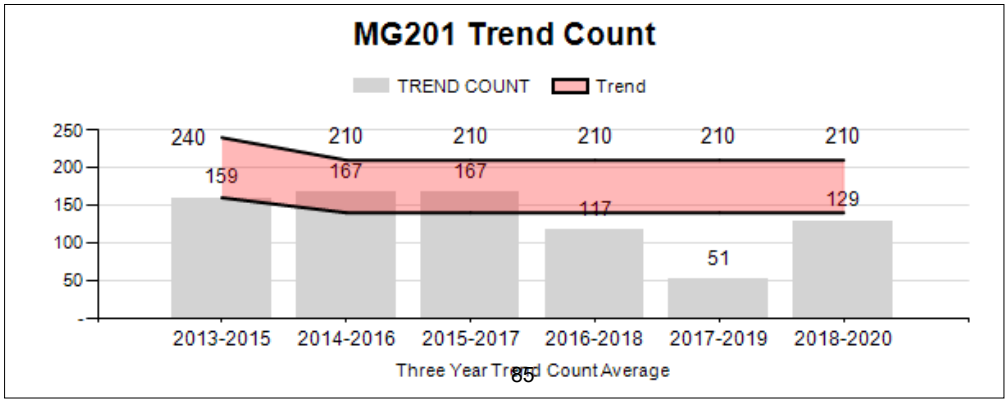
HUNT AREAS: 1, 3, 5, 514, 999
PREPARED BY: TONY MONG

	2015 - 2019 Average	2020	2021 Proposed
Trend Count:	218	236	210
Harvest:	27	38	42
Hunters:	31	53	50
Hunter Success:	87%	72%	84%
Active Licenses:	31	53	50
Active License Success	87%	72%	84%
Recreation Days:	189	326	400
Days Per Animal:	7	8.6	9.5
Males per 100 Females:	0	0	
Juveniles per 100 Females	39	41	

Trend Based Objective (± 20%)	175 (140 - 210)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	35%
Number of years population has been + or - objective in recent trend:	5

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%
Juveniles (< 1 year old):	n/a%	n/a%
Total:	n/a%	n/a%
Proposed change in post-season population:	n/a%	n/a%



2021 Proposed Hunting Seasons
Beartooth Herd (MG201)

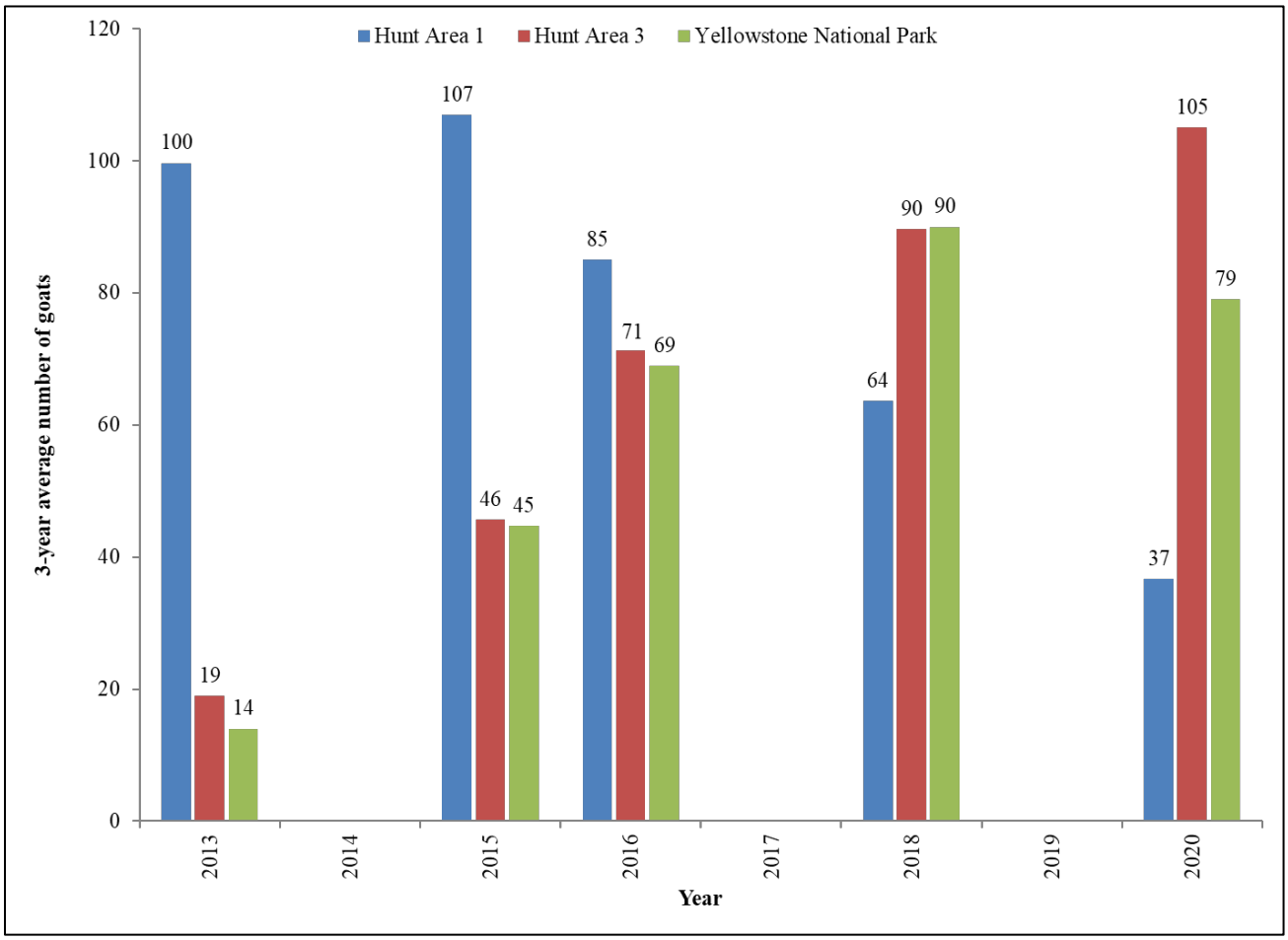
Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
1	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	8	Any mountain goat
3	1	Aug. 15	Aug. 31	Sep. 1	Oct. 31	28	Any mountain goat
3	2	Aug. 15	Aug. 31	Sep. 1	Oct. 31	12	Any mountain goat valid in the North Fork Shoshone River Drainage
5	A	Aug. 15	Aug. 31	Sep. 1	Oct. 31	4	Any mountain goat

2020 Management Summary

1.) Hunting Season Evaluation: Our objective for the 2021 hunting seasons are to reduce mountain goat numbers in Hunt Area 3 and maintain or grow numbers of goats in Hunt Area 1. The trend count from 2020 showed a relatively flat trend for all areas combined, however if you break the flight down into the different survey areas (Hunt Area 1, Hunt Area 3 and Yellowstone NP) it is clear despite declines in Hunt Area 1 (Appendix A; 2015 3-year trend count, 107; 2020 3-year trend count, 37) that Hunt Area 3 (2015 3-year trend count, 46; 2020 3-year trend count, 105) and YNP (2015 3-year trend count, 45; 2020 3-year trend count, 79) have increased over the last 5 years. We are concerned that numbers of goats have increased in Hunt Area 3, especially in the North Fork drainage (North Fork drainage 2018 trend count, 35; 2020 trend count, 58; Appendix B). In order to facilitate higher harvest in the North Fork drainage of Hunt Area 3 we are proposing to open the Type 2 license on September 1 and restrict hunters to only the North Fork Drainage with this license type. Because of the high numbers of goats in the main portion of Hunt Area 3 (Hunt Area 3 outside of North Fork drainage, 2020 trend count, 81) we are proposing to move more licenses into the Type 1 license, however total number of licenses for the entire herd unit will remain the same. After extensive flights in the Hunt Area 5A area during the summer and winter of 2020 only one mountain goat was observed. We believe the number of mountain goats in this area is extremely low and warrants a decrease in licenses.

2.) Management Objective Review: The 3-year average mid-summer trend count objective of 175 was set in 2016 and we are not proposing any changes to this objective for 2021. Unfortunately due to a change in district biologist and wildlife management coordinator during the 2017-2018 time frame there was confusion on the change from post-season population estimate to the current mid-summer trend count objective. Data reporting type has been changed and data has been updated to reflect the change in the objective in 2016. The trend count data for this herd is collected every other year so the 3-year average trend data typically encompasses data collected over a 5-6 year period.

Appendix A. 3-year average trend count data figure for each of the survey areas in the Beartooth Mountain Goat herd unit. Only years that are surveyed are depicted below, there were no surveys in 2014, 2017 or 2019.



Appendix B. Beartooth Moutain Goat herd summer of 2020 flight data.