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ACKNOWLEDGEMENT

The field data contained in these reports are the result of the combined efforts of Sheridan Region Wildlife Division personnel, including District Wildlife Biologists, District Game Wardens, AccessYes Game Warden, Habitat Biologist, Wildlife Specialist, Wildlife Technician, Wildlife Management Coordinator, Regional Supervisor, and other Department personnel. The Science Research and Analytic Support Unit provided assistance with survey design and analysis. The authors appreciate all those who assisted with survey design, data collection and analysis.

2023 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2023 - 5/31/2024

HERD: PR309 - PUMPKIN BUTTES

HUNT AREAS: 23

PREPARED BY: ERIKA PECKHAM

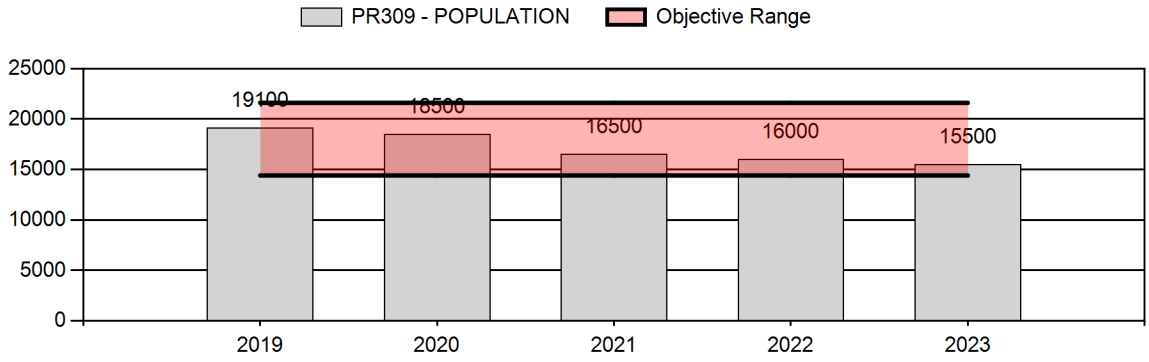
	2018 - 2022 Average	2023	2024 Proposed
Population:	18,020	15,500	14,600
Harvest:	2,422	1,906	2,352
Hunters:	2,587	1,505	2,000
Hunter Success:	94%	127%	118 %
Active Licenses:	2,756	2,113	2,500
Active License Success:	88%	90%	94 %
Recreation Days:	7,564	5,776	7,000
Days Per Animal:	3.1	3.0	3.0
Males per 100 Females	48	51	
Juveniles per 100 Females	77	94	

Population Objective (± 20%) :	18000 (14400 - 21600)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-13.9%
Number of years population has been + or - objective in recent trend:	1
Model Date:	2/7/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	9%	7%
Males ≥ 1 year old:	26%	32%
Proposed change in post-season population:	2%	-6%

Population Size - Postseason



2024 HUNTING SEASONS

PUMPKIN BUTTES PRONGHORN HERD (PR309)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
23	1	Aug. 15	Sept. 30	Oct. 1	Oct. 31	550	Any antelope
23	2	Aug. 15	Sept. 30	Oct. 1	Oct. 31	1,500	Any antelope valid on private land
23	6	Aug. 15	Sept. 30	Oct. 1	Oct. 31	300	Doe or fawn
23	7	Aug. 15	Sept. 30	Oct. 1	Oct. 31	700	Doe or fawn valid on private land

2023 Hunter Satisfaction: 93% Satisfied, 2% Neutral, 5% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: License issuance was designed to address a population below objective but trending upwards. The model indicates this herd has been increasing since 2020, although field observations indicate this increase didn't start until 2022. The most recent decline can be explained by the harsh winter of 2018-2019 and drought conditions in 2020-2021. In addition to unfavorable environmental conditions, we documented an outbreak of Epizootic Hemorrhagic Disease (EHD) and Bluetongue Virus (BTV) in 2021. Although the adverse climatic conditions and disease occurred a few years prior, the effects of these were still being noticed in subsequent years (2020-2022). The 2023 growing season resulted in favorable rangeland conditions with good forage production and residual cover going into the 2023-2024 winter. Additionally, the 2023-2024 winter was mild and resulted in above average survival, both factors which have contributed to an upwards trend in the population.

As this is a predominantly private land herd, landowner desires are also considered. Around 66% of the respondents felt that antelope numbers were where they liked them, and the remainder were split between too few and too many.

The addition of Type 2, 6 and 7 licenses is within the bounds of what this herd can support. Harvest success on the Type 2, 6 and 7 licenses were 95%, 77% and 96% respectively. Comments from public land hunters, in the field and on the harvest survey, improved from the preceding two years. Negative comments are typically centered on public land hunts and the limited degree of access. It is estimated that the percentage of buck harvest over the preceding three years is 27% of the total bucks. With this license issuance, the herd is predicted to be 14% below objective, with 32% of the mature bucks being harvested.

2.) Population Modeling: The 2024 postseason population estimate from the model was approximately 14,600 pronghorn. The Pop-R Integrated Population Model (IPM) abundance estimate has fluctuated little, while ground observations over the years suggest otherwise. Overall

harvest success on active licenses increased substantially in 2023 from 78% in 2022 to 90% in 2023. The majority of the increase in harvest success was realized on the Type 2 and Type 7 licenses. These tags are valid only on private lands and are predominantly an outfitted or trespass fee hunt and typically experience high harvest success. In the preceding three years, the harvest success had dropped below 90%, indicating pronghorn were harder to come by, even with corresponding license decreases.

In June of 2023, a line transect survey was flown. This independent abundance estimate was 18,400 pronghorn (CI 13,550-25,270) at the end of bio-year 2022, which is higher than the IPM, but still a reasonable estimate.

With an increase in Type 2, Type 6 and Type 7 licenses, the population is estimated to decrease by 300 animals. The model is considered a fair model, (convergence unlikely and proportion of .66).

2023 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2023 - 5/31/2024

HERD: PR318 - CRAZY WOMAN

HUNT AREAS: 22, 113

PREPARED BY: ZACH TURNBULL

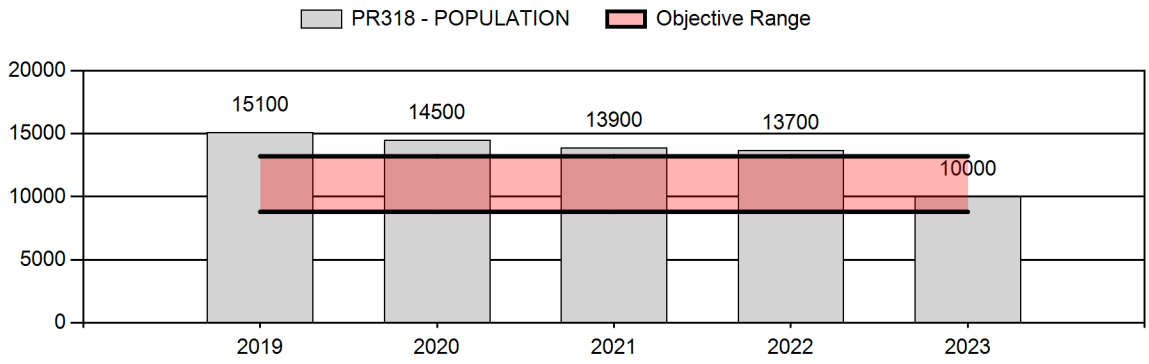
	2018 - 2022 Average	2023	2024 Proposed
Population:	14,660	10,000	10,500
Harvest:	1,410	887	810
Hunters:	1,657	975	1,150
Hunter Success:	85%	91%	70%
Active Licenses:	1,787	1,218	920
Active License Success:	79%	73%	88 %
Recreation Days:	5,894	4,873	4,100
Days Per Animal:	4.2	5.5	5.1
Males per 100 Females	54	37	
Juveniles per 100 Females	70	76	

Population Objective (± 20%) :	11000 (8800 - 13200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-9.1%
Number of years population has been + or - objective in recent trend:	18
Model Date:	2/9/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	4%	4%
Males ≥ 1 year old:	16%	26%
Proposed change in post-season population:	0%	-9%

Population Size - Postseason



2024 Hunting Seasons
Crazy Woman Pronghorn Herd Unit (PR318)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
22	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	700	Any antelope
22	6			Sep. 1	Sep. 30	225	Doe or fawn valid on private land north of Crazy Woman Creek
22	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31		Doe or fawn valid in the entire area
113	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	100	Any antelope
113	2	Aug. 15	Sep. 30	Oct. 11	Oct. 31	100	Any antelope
113	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	25	Doe or fawn

2023 Hunter Satisfaction: 62% Satisfied, 20% Neutral, 18% Dissatisfied

2023 Landowner Satisfaction: 13% Satisfied, 69% Neutral, 18% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: Hunter satisfaction in 2023 was down slightly from the previous year. Fawn ratios in 2023 (76:100) remained similar to the 5-year average (72:100). Some hunter crowding is expected on the limited public lands. Land ownership and access limits harvest opportunity in this herd unit. The herd is still suffering impacts of severe drought conditions in 2020-2021, and disease events (epizootic hemorrhagic and bluetongue virus) in 2021-2022. Some mortality and sickness was observed during summer and fall of 2023. Unfortunately, the cause and severity of these mortalities are unknown. Landowners generally indicated numbers were at or below desired levels, and expressed concerns about drought and disease. Significant license reductions in 2022 appeared to alleviate some hunter crowding, and appeared to have a positive correlation on hunter success, although success by active license and days per harvest again worsened in 2023 (Table 1).

Based on these trends, opportunity was reduced in the unit, particularly in HA 113. This hunt area has seen marked declines in harvest metrics, particularly over the last three years. Type 6 license success ranged from 41%-60% success over the previous three years. Type 1 and 2 license success ranged from 54%-78% during the same period, marking a noted decline in success. Landowners in the area are particularly concerned with population numbers. Hunt area 113 was also likely impacted by winter severity in 2022-2023.

Doe/fawn license allocations were also slightly reduced for HA 22 due to worsening harvest metrics and a population that likely remains under objective. Many landowners in the hunt area have curtailed doe hunting due to population concerns. The estimated percentage of buck harvest over the preceding three-year period was 29% of the total bucks. With this license issuance, 26% of the mature bucks are predicted to be harvested in 2024.

Table 1. PR 318 Harvest Summary 2014-2023.

	HUNTERS			SUCCESS			
Year	Resident Hunters	NRes. Hunters	Total Harvest	Hunters	Active Licenses	Hunter Days	Days / Harvest
2014	399	1,581	1,835	93%	84%	6,862	3.7
2015	298	1,687	1,801	91%	86%	6,834	3.8
2016	216	1,699	1,639	86%	80%	6,730	4.1
2017	245	1,521	1,677	95%	86%	5,876	3.5
2018	189	1,650	1,797	98%	89%	5,746	3.2
2019	162	1,640	1,551	86%	80%	6,055	3.9
2020	149	1,554	1,483	87%	81%	6,141	4.1
2021	203	1,557	1,275	72%	68%	7,196	5.6
2022	270	909	946	80%	75%	4,333	4.6
2023	269	706	887	91%	73%	4,873	5.5

2.) Management Objective Review: The Crazy Woman herd is managed as a recreational herd with a postseason population objective of 11,000 pronghorn. After analyzing populations models, line transects, harvest statistics and consulting constituents, we feel that maintaining the current management framework and objective is appropriate, allowing adequate flexibility to balance hunter satisfaction, hunter success, landowner satisfaction and biologically suitable numbers on the landscape.

3.) Line Transect Survey: Line transects estimates for the herd have varied greatly. We conducted line transect (LT) surveys in 2020 and 2022. Surveys were completed using a Husky Aviat supplied by Flightline LFS, Inc and one observer. An LT survey was conducted in 2022, partly to assess the impacts of EHD and BTV, as field observation indicated significant loss. Using a new Pooled Hierarchical model to analyze results the survey produced an estimate of 9,120 pronghorn, far below previous estimates (Figure 2). Unlike many traditional models, the pooled model uses other similar line transect flights to inform the model. While this estimate is a stark contrast to previous models, it seems to reasonably represent the population and collaborate field observations. Traditional single herd analysis produced an estimate of 14,000.

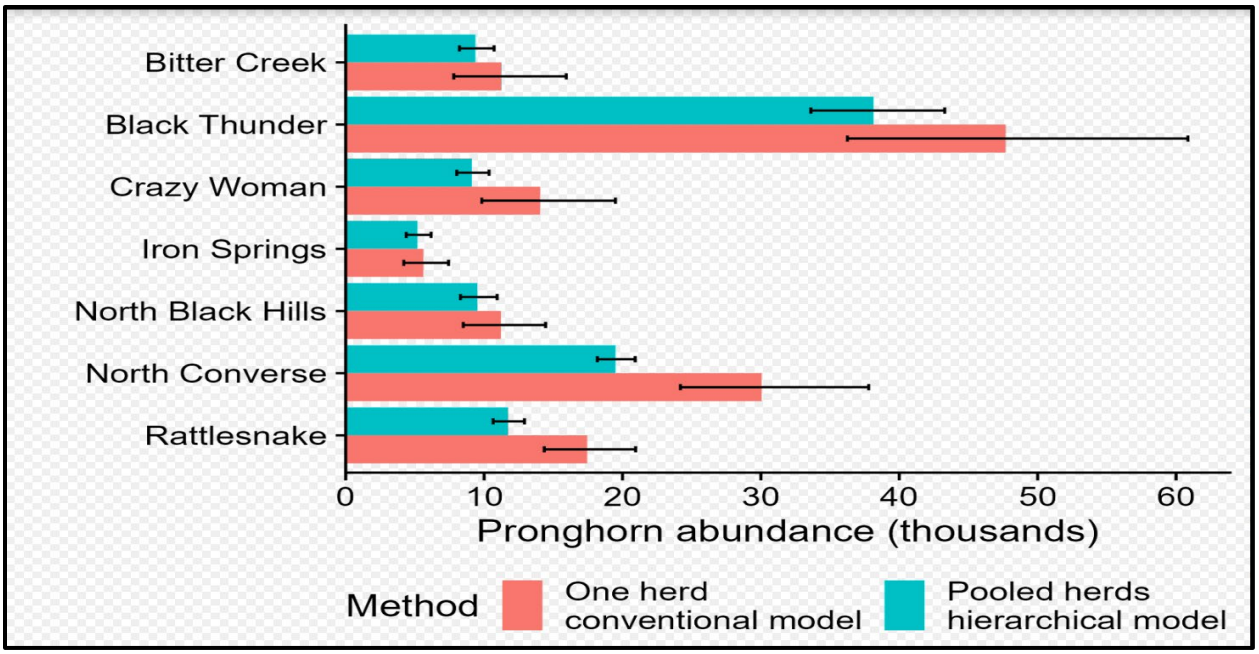


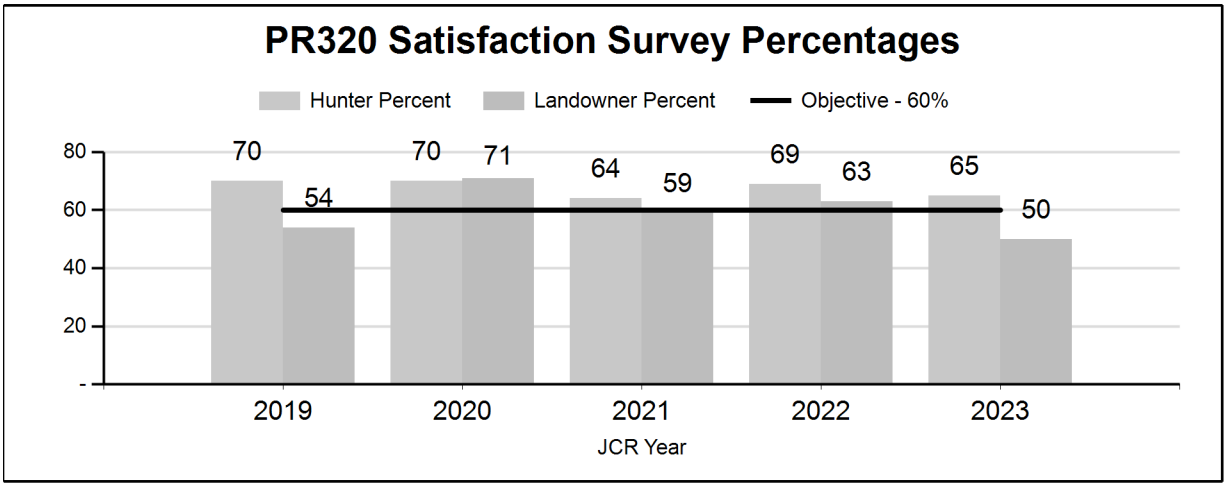
Figure 2. Comparison of single herd analysis and pooled hierarchical modeling 2022.

2023 - JCR Evaluation Form

SPECIES: Pronghorn
HERD: PR320 - HAZELTON
HUNT AREAS: 20, 102

PERIOD: 6/1/2023 - 5/31/2024
PREPARED BY: ZACH TURNBULL

	2018 - 2022 Average	2023	2024 Proposed
Hunter Satisfaction Percent	71%	65%	65%
Landowner Satisfaction Percent	62%	50%	65%
Harvest:	1,000	657	580
Hunters:	1,301	794	713
Hunter Success:	77%	83%	81 %
Active Licenses:	1,429	1,138	920
Active License Success:	70%	58%	63 %
Recreation Days:	5,306	4,313	4,000
Days Per Animal:	5.3	6.6	6.9
Males per 100 Females:	65	52	
Juveniles per 100 Females	74	62	
Satisfaction Based Objective			60%
Management Strategy:			Private Land
Percent population is above (+) or (-) objective:			-2%
Number of years population has been + or - objective in recent trend:			2



2024 Hunting Seasons
Hazelton Pronghorn Herd Unit (PR320)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
20	1	Aug. 15	Oct. 14	Oct. 15	Nov. 15	350	Any antelope
20	6	Aug. 15	Oct. 14	Oct. 15	Nov. 15	150	Doe or fawn
102	1	Aug. 15	Oct. 14	Oct. 15	Nov. 15	350	Any antelope
102	6			Sep. 1	Sep. 30	300	Doe or fawn valid on private land
102	6	Aug. 15	Oct. 14	Oct. 15	Nov. 15		Doe or fawn valid in the entire area

2023 Hunter Satisfaction: 65% Satisfied, 19% Neutral, 16% Dissatisfied
2023 Landowner Satisfaction: 7% Above, 50% At, 43% Below Desired Levels

2024 Management Summary

1.) Hunting Season Evaluation: Pronghorn harvest in 2023 largely mirrored that of the previous two years, with high days/harvest (6.6) and low harvest success (58% of active licenses) for the herd unit (Table 1). The impacts of the 2020-2021 drought combined with the appearance of bluetongue virus (BTV) and epizootic hemorrhagic disease (EHD) in 2021 and 2022 likely contributed to these statistics. Fawn production decreased in 2023 (62:100) following an uptick in 2022 (81:100). The estimated percentage of buck harvest over the preceding three-year period was 16% of the total bucks. With this license issuance, 13% of the mature bucks are predicted to be harvested in 2024. Harvest, including buck harvest, is limited by access to private lands. The majority of landowners felt that numbers were at (50%), or below (43%) desired levels.

2.) Management Objective Review: The Hazelton herd is managed for hunter and landowner satisfaction (60% or above) and private land strategies. Landowner satisfaction was reported at 50% for the 2023 season. After analyzing harvest statistics and consulting constituents, managers felt that a slight reduction in harvest was appropriate. Hunt Area 102 is the only hunt area in the Buffalo District that did not receive quota reductions in 2022. Harvest metrics in HA 102 deteriorated to the worst on record. Harvest metrics in HA 20 improved slightly, but success and days per harvest remained poor. Fawn production varied greatly over the last decade, but was poor in 2023 across the herd unit. Managers felt a slight reduction to harvest, particularly doe harvest, would help the population reach desired levels while maintaining biologically suitable numbers on the landscape and continuing to provide licenses to address any potential damage.

Table 1. PR320 Harvest statistics 2014-2023.

	HUNTERS			SUCCESS			
Year	**Res. Hunters**	**NRes. Hunters**	**Total Harvest**	**Hntrs**	**Active Licenses**	**Hunter Days**	**Days / Harvest**
2014	521	1,391	1,627	85%	77%	8,067	5
2015	344	1,189	1,228	80%	71%	6,971	5.7
2016	252	1,086	1,071	80%	72%	5,064	4.7
2017	243	1,119	1,262	93%	82%	4,861	3.9
2018	211	1,153	1,205	88%	81%	5,291	4.4
2019	174	1,171	1,094	81%	73%	4,996	4.6
2020	172	1,186	1,011	74%	68%	5,695	5.6
2021	192	1,200	948	68%	63%	5,883	6.2
2022	192	854	744	71%	64%	4,665	6.3
2023	184	610	657	83%	58%	4,313	6.6

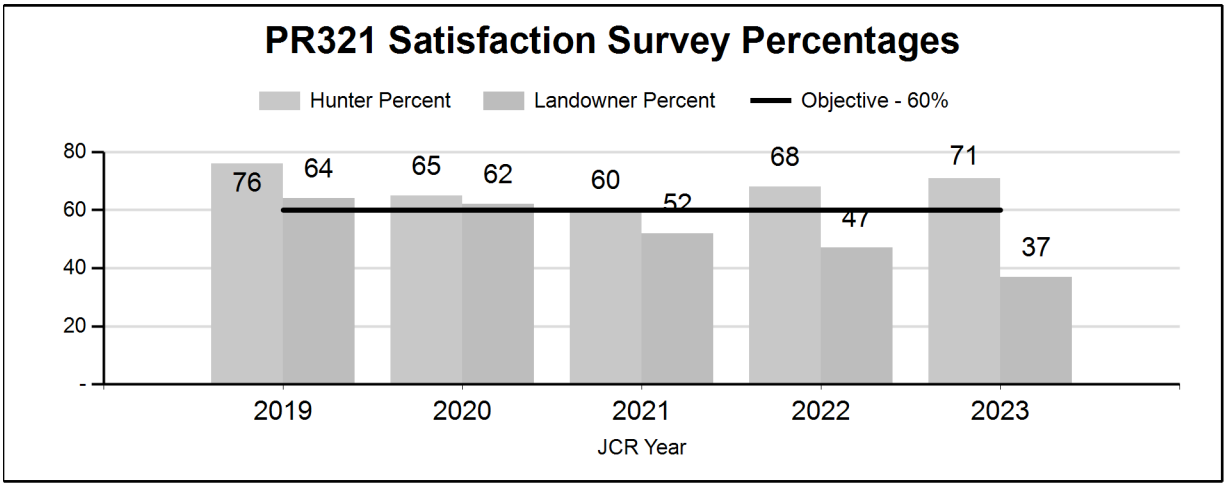
3.) Landowner Survey: The annual landowner survey was mailed out January 4th with a February 1 deadline for return. Thirty (n=30) landowners in the herd unit responded. Landowner satisfaction was acceptable, with 50% reporting populations at desired levels and a preference for similar season structure (73%). Over one quarter of landowners (27%) felt that licenses should be reduced, and 43% felt that numbers were below desired levels. This input, along with hunter metrics largely contributed to the small reduction in opportunity for 2024.

2023 - JCR Evaluation Form

SPECIES: Pronghorn
HERD: PR321 - LEITER
HUNT AREAS: 10, 15-16

PERIOD: 6/1/2023 - 5/31/2024
PREPARED BY: ERIC MAICHAK

	2018 - 2022 Average	2023	2024 Proposed
Hunter Satisfaction Percent	71%	71%	72%
Landowner Satisfaction Percent	54%	37%	50%
Harvest:	1,497	719	650
Hunters:	2,039	815	850
Hunter Success:	73%	88%	76 %
Active Licenses:	2,192	1,000	750
Active License Success:	68%	72%	87 %
Recreation Days:	7,085	3,741	3,250
Days Per Animal:	4.7	5.2	5
Males per 100 Females:	46	38	
Juveniles per 100 Females	63	49	
Satisfaction Based Objective			60%
Management Strategy:			Private Land
Percent population is above (+) or (-) objective:			-6%
Number of years population has been + or - objective in recent trend:			3



2024 HUNTING SEASONS
LEITER PRONGHORN HERD (PR321)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
10	1	Aug. 15	Sep. 30	Oct. 1	Oct. 14	150	Any antelope
	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	150	Doe or fawn
15	1	Aug. 15	Sep. 30	Oct. 1	Oct. 14	350	Any antelope
	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	150	Doe or fawn
16	1	Aug. 15	Sep. 30	Oct. 1	Oct. 14	200	Any antelope
	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	50	Doe or fawn

2023 Hunter Satisfaction Estimate: 71% (very satisfied + satisfied)
2023 Landowner Satisfaction Estimate: Population at preferred level: 37%; Same seasons, 39%

2024 Management Summary

1.) Hunting Season Evaluation: This herd unit is predominantly private land, with very limited accessible public lands supporting pronghorn. Hunting season strategies are informed primarily by survey responses and comments from landowners and hunters, classification ratios, population model and adult buck harvest estimates. Weather, disease, and habitat data are considered as available.

The 2023-24 annual landowner survey results suggest landowners felt pronghorn numbers were below (n=19; 54%), at (n=13; 37%), or above (n=3; 5%) desired levels. Relative to 2022, landowners felt seasons should be set with similar (n=15; 45%), less (n=13; 39%), or more (n=5; 15%) opportunities, with greater support for similar seasons in Hunt Area 16 (73%) and Hunt Area 10 (67%) than Hunt Area 15 (53%).

Hunter comments (n=37) mostly regarded access issues, a few suggested lower populations than prior years, yet satisfaction was 71%, up from 68% and 60% in 2022 and 2021, respectively. Days hunted per animal harvested for Type 1 and 6 licenses was 4.4 and 8.1, respectively, compared to 4.6 and 6.9 days/harvested animal for same license types in 2022.

Production and recruitment, measured by observed classifications ratios, have lagged since 2014. We observed 39 bucks:100 does, and 49 fawns:100 does, ratios not seen in 10-15 years. These ratios are well below previous 5-year averages, and likely result from the hard winter of 2022-23 as this population also struggled to recover from epizootic hemorrhagic disease virus (EHDV) and bluetongue virus (BTV) in 2021. Excellent growing season moisture during the summer of 2023 likely improved range conditions, and combined with a mild winter in 2023-24 likely improved recruitment in 2024.

Buck and fawn ratios are down from previous 5-year averages, days/harvest of doe/fawn are up, and landowners support slightly more restrictive seasons. To improve ratios and landowner satisfaction while reducing effort for doe:fawn licenses, we reduced Type 1 tags by 50 in each hunt area, and reduced Type 6 tags by 50 in Hunt Areas 10 and 15. These reductions, along with

improved range conditions and a mild winter in 2024, should help the population recover toward the new herd objective.

2.) Management Objective Review: Given the large proportion of private land in this herd, a primary management objective of ≥ 60% landowner and hunter satisfaction, and secondary objective of ≥ 30 bucks:100 does, were established in 2014 after creating the Leiter Herd Unit by merging the Clearmont (PR308) and Ucross Herd Units (PR353). Previously, these separate herd units were managed on postseason population objectives of 3,000 (Clearmont) and 2,500 (Ucross) pronghorn. Based on comparison of historic peaks in satisfaction with associated population estimates, combined with current modeling and survey techniques, we propose a new population objective of 15,000 pronghorn (Appendix A).

3.) Population Modeling: The 2023 integrated population model (IPM) estimated a postseason population of 16,869 pronghorn (95% CI = 13,303-20,667). Estimated harvest of bucks >1 year old relative to total population based on the IPM was 0.13 in 2023, down from 2022 (0.16), with a 3-yr average of 0.19, and predicted at 0.16 in 2024. The model performed best (Rhat proportion = 1) with date range 2015-2024; effort = licenses; effort prediction method = linear; reproduction = constant; adult and juvenile survival = time varying; burnin = 50,000; iterations = 30,500; and thinning rate = 1.

In 2023, based on a line-transect survey where we flew nearly 3,000 km over 3 days, counting about 300 groups of pronghorn, we estimated the population of 15,959 (95% CI = 12,074-19,843).

2023 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2023 - 5/31/2024

HERD: PR339 - NORTH BLACK HILLS

HUNT AREAS: 1-3, 18-19

PREPARED BY: ERIKA PECKHAM

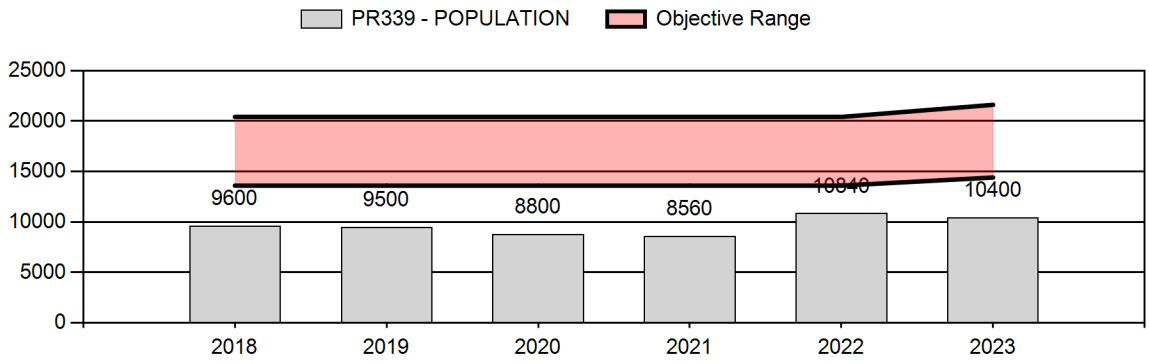
	2018 - 2022 Average	2023	2024 Proposed
Population:	9,460	10,400	13,200
Harvest:	1,195	877	1,012
Hunters:	1,363	902	1,000
Hunter Success:	88%	97%	101 %
Active Licenses:	1,533	1,016	1,150
Active License Success:	78%	86%	88 %
Recreation Days:	4,592	3,143	3,500
Days Per Animal:	3.8	3.6	3.5
Males per 100 Females	41	42	
Juveniles per 100 Females	69	62	

Population Objective (± 20%) :	18000 (14400 - 21600)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-42.2%
Number of years population has been + or - objective in recent trend:	3
Model Date:	2/12/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	5%	3%
Males ≥ 1 year old:	30%	30%
Proposed change in post-season population:	1%	7%

Population Size - Postseason



2024 HUNTING SEASONS

NORTH BLACK HILLS PRONGHORN HERD (PR339)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
1	1	Aug. 15	Sept. 30	Oct. 1	Nov.20	300	Any antelope
1	6	Aug. 15	Sept. 30	Oct. 1	Nov.20	75	Doe or fawn
2	1	Aug. 15	Sept. 30	Oct. 1	Nov.20	150	Any antelope
3	1	Aug. 15	Sept. 30	Oct. 1	Nov.20	225	Any antelope
3	6	Aug. 15	Sept. 30	Oct. 1	Nov.20	25	Doe or fawn
18	1	Aug. 15	Sept. 30	Oct. 1	Oct. 20	175	Any antelope
18	6	Aug. 15	Sept. 30	Oct. 1	Oct. 20	25	Doe or fawn
18	7	Aug. 15	Sept. 30	Oct. 1	Oct. 20	25	Doe or fawn valid private land
19	1	Aug. 15	Sept. 30	Oct. 1	Oct. 20	250	Any antelope
19	7	Aug. 15	Sept. 30	Oct. 1	Oct. 20	50	Doe or fawn valid private land

2023 Hunter Satisfaction: 79% Satisfied, 12% Neutral, 9% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: The North Black Hills Pronghorn Herd Unit is predominantly private land or inaccessible public land, with the exception of Hunt Area 18, and to some degree, Hunt Area 1. This herd has been trending downward the past four years due to harsh winters and drought conditions that were experienced in this timeframe. In addition to unfavorable environmental conditions, there was an outbreak of Epizootic Hemorrhagic Disease (EHD) and Bluetongue Virus (BTV) in 2021. The growing season of 2023 resulted in optimal rangeland conditions with widespread forage followed by a mild winter. Currently, the herd is trending upwards.

Type 1 licenses were increased in Hunt Areas 1, 3 and 19. Harvest success in these three areas were 89-95%. When looking at harvest success and fawn ratios, these areas appear to be more stable than the others. Hunt Area 18 appears to be stabilizing after a few years of decreased license issuance and poor success rates. Although this area provides public access, the harvest success and days per harvest does not yet warrant an increase. Hunt Area 2 has fairly low success for pronghorn (75%). The observed fawn ratios from 2023 classification surveys resulted in 36 fawns

per 100 does. As this herd is modeling below objective, there was minimal change to doe/fawn license issuance. The exception to this was Hunt Area 19 which had an overall harvest success rate of 98%. As such, we added 25 Type 6 licenses.

As this is a private land herd, landowner surveys are also considered. Sixty-two percent of respondents felt there were the right amount of pronghorn, while 31% felt that they were above where they would like to see them. It is estimated that the percentage of buck harvest over the preceding three-year period was 30% of the total bucks. With this license issuance, the herd is predicted to be 39% below objective, with 30% of the mature bucks being harvested.

2.) Population Modeling: The 2023 postseason estimate from the IPM was approximately 10,400 (CL=9,188-11,814) pronghorn. Both field observations and the model indicate that this herd is in a slow but upward trend, although still well below the objective of 17,000 pronghorn.

2023 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2023 - 5/31/2024

HERD: PR351 - GILLETTE

HUNT AREAS: 17

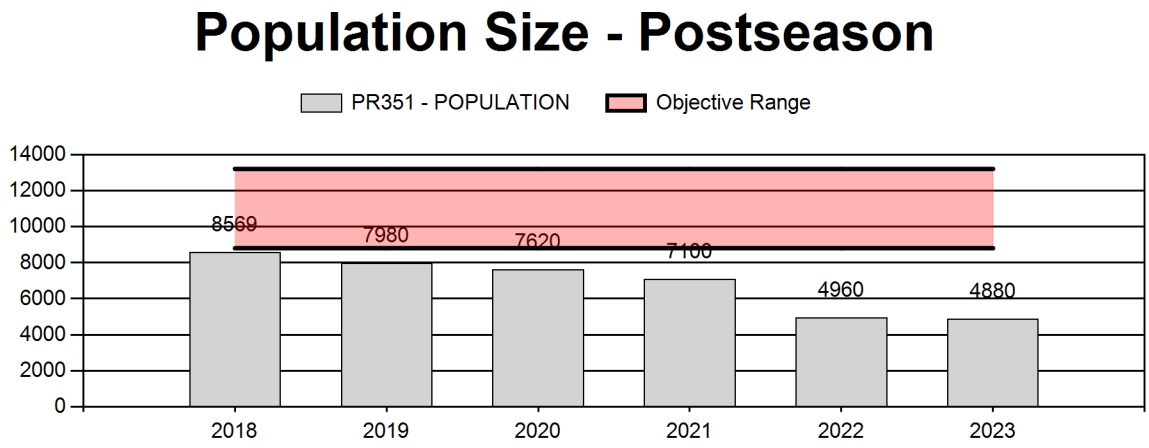
PREPARED BY: ERIKA PECKHAM

	2018 - 2022 Average	2023	2024 Proposed
Population:	7,246	4,880	5,270
Harvest:	855	332	332
Hunters:	1,064	426	425
Hunter Success:	80%	78%	78 %
Active Licenses:	1,109	454	450
Active License Success:	77%	73%	74 %
Recreation Days:	3,434	1,578	1,600
Days Per Animal:	4.0	4.8	4.8
Males per 100 Females	41	42	
Juveniles per 100 Females	50	74	

Population Objective (± 20%) :	11000 (8800 - 13200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-55.6%
Number of years population has been + or - objective in recent trend:	4
Model Date:	2/7/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	.05%	1%
Males ≥ 1 year old:	40%	50%
Proposed change in post-season population:	4%	8%



2024 HUNTING SEASONS

GILLETTE PRONGHORN HERD (PR351)

Hunt Area	Type	Archery Dates		Dates of Seasons		Quota	Limitations
		Opens	Closes	Opens	Closes		
17	1	Aug.15	Sep. 30	Oct. 1	Oct. 20	500	Any antelope
17	6	Aug.15	Sep. 30	Oct. 1	Oct. 20	25	Doe or fawn

2023 Hunter Satisfaction: 92% Satisfied, 4% Neutral, 4% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: The 2024 season structure was designed to address a population that has declined the last several years and allows for a predicted slight increase in the population. This herd has been in a decline since 2017, according to the model, which aligns with field observations. This more recent decline can be explained by the harsh winter of 2018-2019 and drought conditions in 2020-2021. Consequently, observed fawn ratios in this herd have been exceptionally low in the preceding five-year period, averaging only 50:100.

In addition to unfavorable environmental conditions, the late summer and early fall of 2021 experienced a severe outbreak of Epizootic Hemorrhagic Disease (EHD) and Bluetongue Virus (BTV). Although these diseases naturally cycle through populations every 8 to 10 years, 2021 was severe and had a negative, population-level effect. Though the severe weather and disease were not experienced in the most recent reporting year, this herd is still recovering from these events. Above average precipitation during the growing season of 2023 resulted in favorable rangeland conditions with plentiful forage going into the 2023-24 winter.

Comments from both hunters and landowners continued to express concern with the numbers of pronghorn. As this herd is predominantly private land, landowner desires are considered. Fifty-one percent of respondents (n=18) feel that the antelope are below desired levels while 42% feel they are at desired levels. Although this is improved from 2023, the overall perception is that there were less antelope than desired. It is estimated the percentage of buck harvest over the preceding three-year period is 49% of the total bucks. With this license issuance, the herd is predicted to be 56% below objective, with 54% of the mature bucks being harvested.

2.) Population Modeling: The 2023 postseason population estimate for this herd unit was approximately 4,900 using the PopR IPM (CL=4,202-5,602).

Since 2017, harvest success has decreased every year on the Type 1 licenses. Harvest success in

2023 was the lowest in many years, at 74%. Also concerning is that beginning in 2020, licenses have been reduced every year to date. Even with these reductions, harvest rates have continued to decline, suggesting that animals are getting harder to find.

Viewing the observed fawn ratios also illustrates why this herd is likely modeling in such a downward trajectory. Although we observed 74 fawns:100 does in 2023, the preceding five-year average of 50:100 is a sustained low level of fawn production that negatively influenced this population. This herd will require several years of continued improved fawn production to allow this population to increase towards the objective.

2023 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2023 - 5/31/2024

HERD: PR352 - MIDDLE FORK

HUNT AREAS: 21

PREPARED BY: ZACH TURNBULL

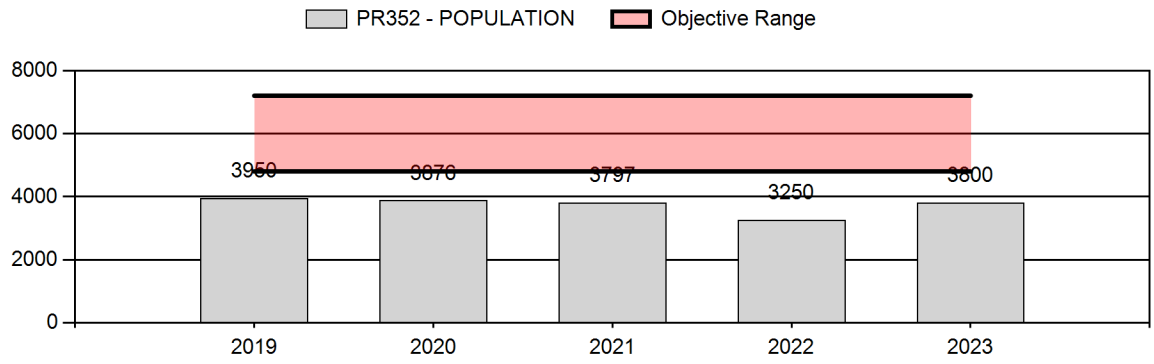
	2018 - 2022 Average	2023	2024 Proposed
Population:	3,891	3,800	3,700
Harvest:	489	282	228
Hunters:	654	311	280
Hunter Success:	75%	91%	81%
Active Licenses:	713	394	340
Active License Success:	69%	72%	67%
Recreation Days:	2,364	1,431	1,300
Days Per Animal:	4.8	5.1	5.7
Males per 100 Females	44	36	
Juveniles per 100 Females	69	54	

Population Objective (± 20%) :	6000 (4800 - 7200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-36.7%
Number of years population has been + or - objective in recent trend:	10
Model Date:	2/9/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	6%	8%
Males ≥ 1 year old:	20%	23%
Proposed change in post-season population:	23%	37%

Population Size - Postseason



2024 Hunting Seasons

Middle Fork Pronghorn Herd Unit (PR352)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
21	1	Aug. 15	Oct. 14	Oct. 15	Oct. 31	400	Any antelope
21	6	Aug. 15	Oct. 14	Oct. 15	Oct. 31	50	Doe or fawn

2023 Hunter Satisfaction: 59% Satisfied, 21% Neutral, 20% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: The current season structure is intended to move the population towards objective (6,000) and increase hunter satisfaction, while minimizing damage and limiting hunter crowding on public lands. Due to limited public lands available, some hunter crowding is expected. Starting in 2020, harvest statistics began to deteriorate. To address these concerns and a downward trending population, licenses were reduced in 2022. More favorable conditions, and fewer hunters contributed to improved satisfaction and hunter success in 2023 (Figure 1).

Type 6 licenses were reduced slightly in 2024 due to continued population concerns, and stagnant hunter harvest metrics. This reduction is intended to move the population towards objective while still providing opportunity and the ability to address damage concerns. The estimated percentage of buck harvest over the preceding three-year period was 23% of the total bucks. With this license issuance, 23% of the mature bucks are predicted to be harvested in 2024. Fawn production in 2023 appeared to drop considerably (54:100 does in 2023), following the previous year's increase (83:100 does 2023). Most landowners (87%) felt that pronghorn were at desired levels, and 13% felt numbers were lower than desired.

Table 1. PR 352 Harvest Summary 2013-2022.

	HUNTERS			SUCCESS			
Year	Resident Hunters	NResident Hunters	Total	Hunters	Active License	Hunter Days	Days / Harvest
2014	145	765	776	0.85	0.76	5061	6.5
2015	45	520	520	0.92	0.81	2661	5.1
2016	62	532	504	0.85	0.78	1988	3.9
2017	115	517	584	0.92	0.83	1900	3.3
2018	97	649	705	0.95	0.85	2600	3.7
2019	123	648	575	0.75	0.68	2293	4
2020	117	614	493	0.67	0.62	2763	5.6
2021	146	471	380	0.62	0.56	2807	7.4
2022	155	250	294	0.73	0.69	1359	4.6
2023	175	136	282	0.91	0.72	1431	5.1

2.) Management Objective Review: The herd is managed as a recreational herd with an objective of 6,000 pronghorn. Population models indicate that the herd remained near objective for over a decade. Similar to other herd units in the area, this herd has recently been affected by drought and disease, causing depressed numbers. Fawn production varied greatly over the last decade. Reduced harvest is intended to move the population towards the objective and improve hunter satisfaction while maintaining biologically suitable numbers on the landscape.

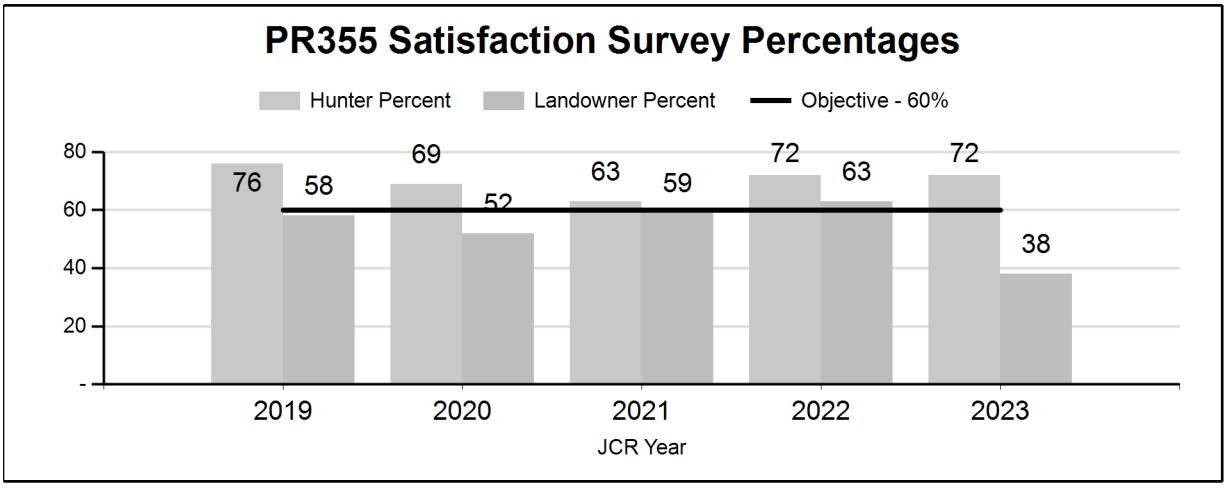
3.) Line Transect Survey: A line transect survey is scheduled for spring 2024.

2023 - JCR Evaluation Form

SPECIES: Pronghorn
HERD: PR355 - BECKTON
HUNT AREAS: 109

PERIOD: 6/1/2023 - 5/31/2024
PREPARED BY: ERIC MAICHAK

	2018 - 2022 Average	2023	2024 Proposed
Hunter Satisfaction Percent	73%	72%	72%
Landowner Satisfaction Percent	54%	38%	50%
Harvest:	349	215	225
Hunters:	492	299	300
Hunter Success:	71%	72%	75 %
Active Licenses:	556	366	350
Active License Success:	63%	59%	64 %
Recreation Days:	1,942	1,359	1,300
Days Per Animal:	5.6	6.3	5.8
Males per 100 Females:	30	28	
Juveniles per 100 Females	63	30	
Satisfaction Based Objective			60%
Management Strategy:			Private Land
Percent population is above (+) or (-) objective:			-5%
Number of years population has been + or - objective in recent trend:			3



2024 HUNTING SEASONS
BECKTON PRONGHORN HERD (PR 355)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
109	1	Aug. 15	Sep. 30	Oct. 1	Nov. 30	250	Any antelope
	6	Aug. 15	Sep. 30	Oct. 1	Nov. 30	150	Doe or fawn

2023 Hunter Satisfaction Estimate: 72% (very satisfied + satisfied)
2023 Landowner Satisfaction Estimate: Population at preferred level, 35%; Similar season, 47%

2024 Management Summary

1.) Hunting Season Evaluation: This herd unit is predominantly private land, with very limited public land access to areas that support pronghorn. Hunting season strategies are informed by survey responses and comments from landowners and hunters; classification ratios; and harvest estimates. Weather, disease, and habitat data are incorporated as available.

The 2023-24 annual landowner survey results suggest landowners felt pronghorn numbers were above (n=7; 44%), near (n=6; 38%), or below (n=3; 19%) preferred levels. Landowners felt seasons should be set for more (n=6; 35%), similar (n=8; 47%), or less opportunities (n=3; 18%). Relative to 2022, results tended more toward populations above preferred levels and more harvest opportunities.

Hunter satisfaction (very satisfied + satisfied) was 72%, identical to 2022. Effort increased in 2023 compared to 2022, as days hunted per animal harvested was 5.4 and 8.2 for Type 1 and 6 licenses, respectively, in 2023 versus 5.2 and 7.5 in 2022. Success for Type 1 decreased (64% 2023; 78% 2022), and remained unchanged for Type 6 licenses (50%). Hunter comments (n=10) generally reflected lower numbers of pronghorn compared to previous years.

We observed 28 bucks:100 does and 30 fawns:100 does during preseason August classification surveys, lower than previous 5-year averages of 31 bucks:100 does and 57 fawns:100 does.

The winter of 2022-23 was above average, with some reports and observations of winter kill primarily near rural residential areas just south of Sheridan. This herd unit received above average precipitation during the 2023 growing season. The 2023-24 winter of 2023-24 was much more mild than the winter of 2022-23 and should improve survival.

To balance landowner preferences, hunter satisfaction, and ensuing mild winter with suppressed buck and fawn ratios, we reduced Type 1 and 6 tags for the 2024 season to improve classification ratios and hunter effort while helping population trend toward a new population objective. Based on several written public comments submitted at regional season setting meetings, the Wyoming Game and Fish Commission voted to move the regular rifle season opening date from September 15 to October 1, extending the archery season closing date from September 14 to September 30.

2.) Management Objective Review: Given the large proportion of private land in this herd, the management objective of ≥ 60% landowner and hunter satisfaction was established in 2014, replacing the population objective of 100 animals established in 1983. Based on comparison of historic peaks in satisfaction with associated population estimates, combined with current modeling and survey techniques, we propose a new population objective of 1,500 pronghorn (Appendix A).

3.) Population Modeling: The 2023 postseason integrated population model (IPM) estimated 917 pronghorn (95% CI = 470-1,363) compared to 944 in 2022. Estimated harvest of bucks >1 year old relative to total population based on the IPM was 0.59 in 2023, up from 2022 (0.60), with a 3-year average of 0.64, and predicted at 0.55 in 2024. Model performed well (Rhat proportion = 0.98) with date range 2011-2024; reproduction = constant; adult and juvenile survival = time varying; effort = days/harvest; effort prediction method = linear; burnin = 50,000; iterations = 30,500; and thinning rate = 1.

2023 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2023 - 5/31/2024

HERD: MD319 - POWDER RIVER

HUNT AREAS: 17-18, 23, 26

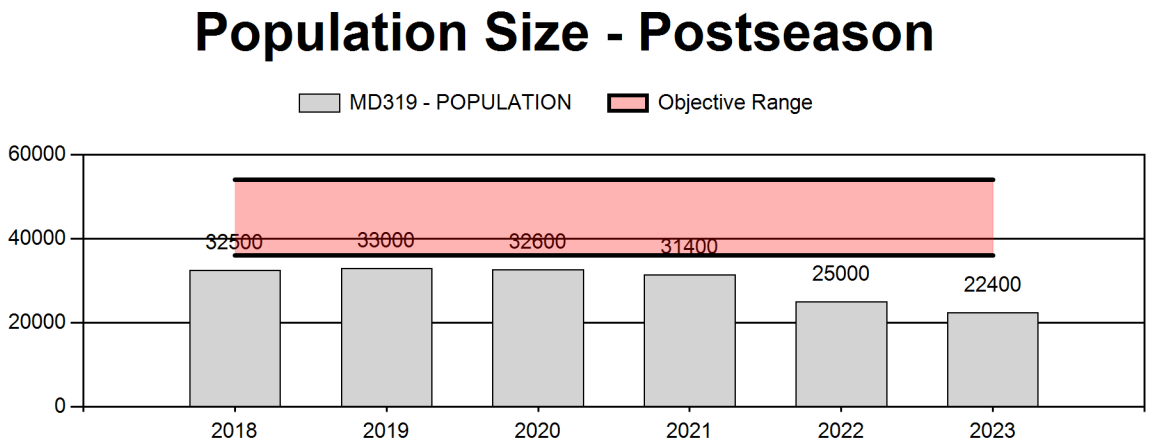
PREPARED BY: ERIKA PECKHAM

	2018 - 2022 Average	2023	2024 Proposed
Population:	30,900	22,400	19,400
Harvest:	2,528	1,541	1,433
Hunters:	4,062	3,089	3,090
Hunter Success:	62%	50%	46 %
Active Licenses:	4,207	3,157	3,000
Active License Success:	60%	49%	48 %
Recreation Days:	16,652	12,941	13,000
Days Per Animal:	6.6	8.4	9.1
Males per 100 Females	42	51	
Juveniles per 100 Females	59	85	

Population Objective (± 20%) :	45000 (36000 - 54000)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-50.2%
Number of years population has been + or - objective in recent trend:	10
Model Date:	2/14/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	1%	0%
Males ≥ 1 year old:	21%	20%
Proposed change in post-season population:	1.02%	-13%



2024 HUNTING SEASONS

POWDER RIVER MULE DEER HERD (MD319)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
17	Gen	Sep.1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
18	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
23	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
23, 26	7			Sep.1	Dec. 15	25	Doe or fawn valid on private land
26	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer

2024 Region C nonresident quota: 2,000

2023 Hunter Satisfaction: 52% Satisfied, 23% Neutral, 25% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: All hunt areas within this herd unit are general season areas. Habitat types in Hunt Areas 23 and 26 differ from Hunt Areas 17 and 18 with larger agricultural fields and wider riparian bottoms. Observed fawn ratios are consistently higher in Hunt Areas 23 and 26than Areas 17 and 18, resulting in different management strategies.

As this herd unit is a general area, available management tools are doe/fawn licenses, non-resident regional quota and season length. With reduced Type 7 licenses in Hunt Areas 23 and 26, reduction of the Region C non-resident quota and shortening of season length in Hunt Areas 17 and 18, success of active hunters was the same as 2023 (49%), the lowest success rate over 20 years.

Observed fawn ratios in 2023 for all hunt areas were markedly improved over the preceding five year average (85:100 versus 60:100). Prolonged suppressed fawn ratios will require ideal environmental conditions and time for deer numbers to rebound.

This herd has been well below objective for many years. This is due to various factors, including land use change, climatic conditions and disease. Since 2020, harvest success has steadily dropped. In 2020, harvest success dropped 11% points, to 57%, from a preceding 5-year average of 68%. The 2021 harvest success remained comparatively low at 58% while the 2022 harvest success dropped even further to 49% success, the same as 2023.

A landowner survey is mailed out annually to gauge sentiments on deer numbers. Herd wide responses (n=120) indicate that 61% of respondents feel deer numbers are below where they would like to see them. Of 67 landowners responding to surveys in HA 23 and 26, 52% suggest populations are below desired levels with 40% indicating they are satisfied with deer numbers. In Hunt Areas 17 and 18, 72% of participants feel deer numbers are below desired levels, with 26% indicating satisfaction with current numbers. Some respondents had written comments suggesting that deer hunt areas be managed as limited quota areas.

The population is predicted to remain 44% below objective with current license issuance.

2.) Herd Objective Review: The Powder River mule deer herd unit is located in north central Wyoming entirely within the Sheridan Region. The herd is managed as a private lands herd with a management objective of 45,000 mule deer postseason. The Integrated Population Model (IPM) estimates the population at around 22,350 deer. Many elements contributed to this decline and are limiting its ability to increase towards objective. Recent research within this herd unit indicates high levels of adult female mortality attributed to disease, malnutrition and highway collisions. Although drought, harsh winters and resulting habitat conditions have affected deer numbers, it seems that this herd has been on a long, slow downward trend.

While managers feel an adjustment in the population objective is warranted, they want to gather more data and public input before proposing changes. Managers will review information and will make a recommendation in 2024..

3.) Population Modeling: The 2023 postseason population estimate from the PopR IPM was around 22,350 (CL=19,743-25,453). In January of 2024 a sightability survey was conducted in this herd unit., providing an independent population estimate that does not rely solely on our classification or harvest data. The estimate was 49,532 deer (CL=37,108-61,955). This estimate is likely higher than what is actually on the landscape for various reasons.

The sightability survey is a new Department technique. In designing the survey, a grid is overlaid on the herd unit. Using information from previous flights and ground classification surveys, each cell is designated as high or low density. Cells that fall over housing developments, cities or towns and other developed areas are removed from the survey. There is no way to survey the herd in its entirety and stay within budget constraints, so randomly selected cells are chosen to fly. The Powder River mule deer herd is one of the larger herds in the state and much of it has not been surveyed so there is no deer density information for much of the area. After conducting the survey it was found that many of the cells that were surveyed as low density were actually high density. This discrepancy contributed to an artificially inflated population estimate. As more surveys are flown, the designation of these cells will be updated as further information is collected, improving the accuracy of the estimate.

4.) CWD: This is a Tier 1 surveillance herd, last targeted in 2019. From 2021-2023, prevalence of CWD from hunter-harvested mule deer was 22% (n=244) in adult males and 7% (n=31) in adult females. The 3-year average in adult males increased by 3%. This herd is scheduled for CWD sampling in 2024.

We have not specifically structured hunting seasons to address CWD in this herd. However, Type 7 licenses in Areas 23 and 26, and liberalized white-tail deer seasons strategies may help address CWD by reducing deer densities and environmental contamination with prions in hotspots.

2023 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2023 - 5/31/2024

HERD: MD320 - PUMPKIN BUTTES

HUNT AREAS: 19, 29, 31

PREPARED BY: ZACH TURNBULL

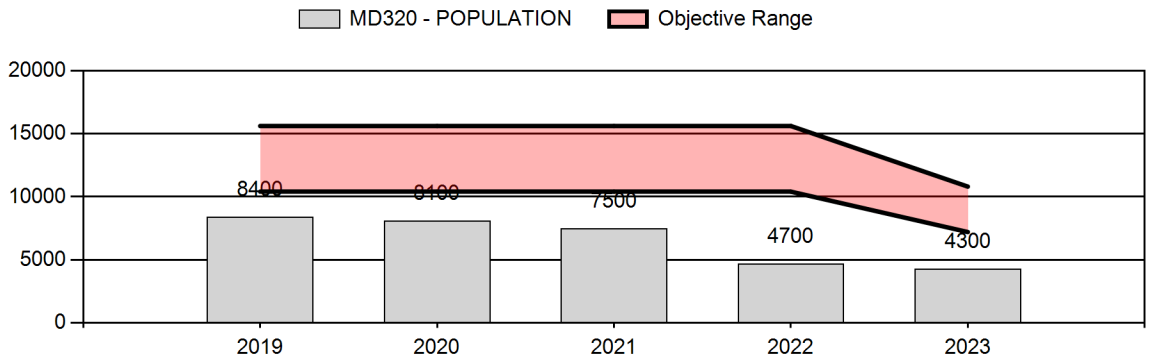
	2018 - 2022 Average	2023	2024 Proposed
Population:	7,470	4,300	4,400
Harvest:	538	424	400
Hunters:	967	853	800
Hunter Success:	56%	50%	50 %
Active Licenses:	982	853	800
Active License Success:	55%	50%	50 %
Recreation Days:	3,768	3,670	3,500
Days Per Animal:	7.0	8.7	8.8
Males per 100 Females	41	21	
Juveniles per 100 Females	56	61	

Population Objective (± 20%) :	9000 (7200 - 10800)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-52.2%
Number of years population has been + or - objective in recent trend:	0
Model Date:	02/14/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	2%	0%
Males ≥ 1 year old:	27%	32%
Proposed change in post-season population:	-11%	2%

Population Size - Postseason



2024 Hunting Seasons

Pumpkin Buttes Mule Deer Herd Unit (MD320)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
19	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
29	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
31	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 10		Antlered mule deer or any white-tailed deer

2024 Region C nonresident quota: 2,000

2023 Hunter Satisfaction: 53% Satisfied, 28% Neutral, 19% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: Current models and population metrics show a population that decreased significantly and then stabilized. The 2023 season had slightly better harvest than the previous year (n=424; Fig. 1) but far below the previous 10-year average (n=570). Fawn ratios (61:100) improved slightly from the previous two years, but still below the desired level (~67:100) required for a stable population. Stagnant growth likely remains an artifact of drought, disease and ongoing habitat concerns. Epizootic hemorrhagic disease (EHD) was observed and verified for three consecutive years (2020-2022) in the unit and had population level impacts.

Season structure and license issuance were unchanged in 2024, largely reflecting stabilizing trends and improved herd metrics.

2.) Management Objective Review: A herd unit management review was conducted for Pumpkin Buttes in 2023. This review noted many concerns including drought, poor range health, disease, and malnutrition. While there was significant desire to increase deer numbers, the landscape and habitat cannot support historical numbers. Adding additional deer to the landscape may only worsen conditions, contributing to further habitat degradation and decreased herd fitness. For those reasons, the objective was reduced to 9,000. Ultimately, the goal is to improve habitat conditions to support a healthy and more abundant population. If, and when, those conditions occur the objective and management status will be reviewed.

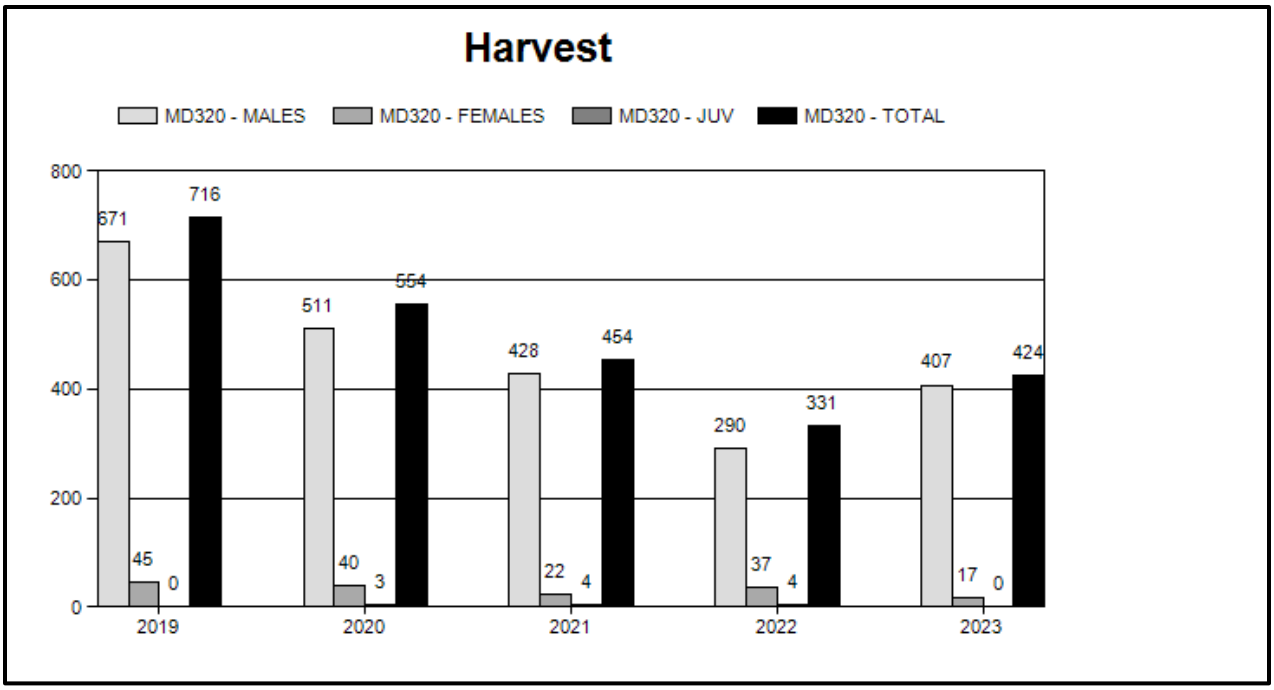


Figure 1. MD 322 harvest 2014-2023.

3.) Chronic Wasting Disease Management: This is a Tier 2 surveillance herd and scheduled for targeted CWD sampling in 2024. During the last focal period (2019-2021) we collected 136 samples, with prevalence reported at 14% (CI 7.5-21%) of samples. CWD prevalence remains a concern in the herd unit.

4.) Research: Field research in the Pumpkin Buttes (PB) and Powder River (PR) herd units ended late in 2022. When analyzed as a whole (PB and PR) 57% of collared adult females died over the three year project (Figure 2). Of those mortalities, over half were caused by disease or vehicle strikes. Annual survival of adult females ranged from a low of 66% to a high of 79%. Of note; 76% of documented vehicle collisions, and 100% of EHD mortality occurred along I-90 (Figure 3). Both mortality sources appear highly related to landscape and features. If these results are representative of the unit as a whole, it may explain the sharp population declines observed in models.

Results also indicated an avoidance of disturbance and development in the study area. Delineated home ranges contained less disturbance than that present on the landscape. Deer in the project area were largely non-migratory, with only one deer out of 62 showing migratory behavior.

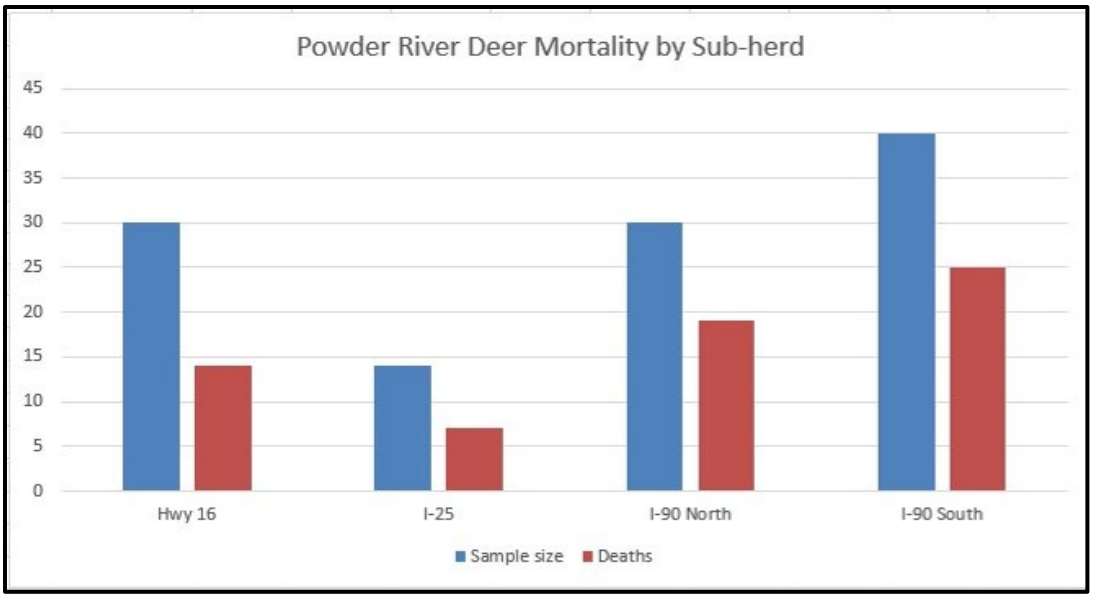


Figure 2. Mortality by Study Area 2020-2022.

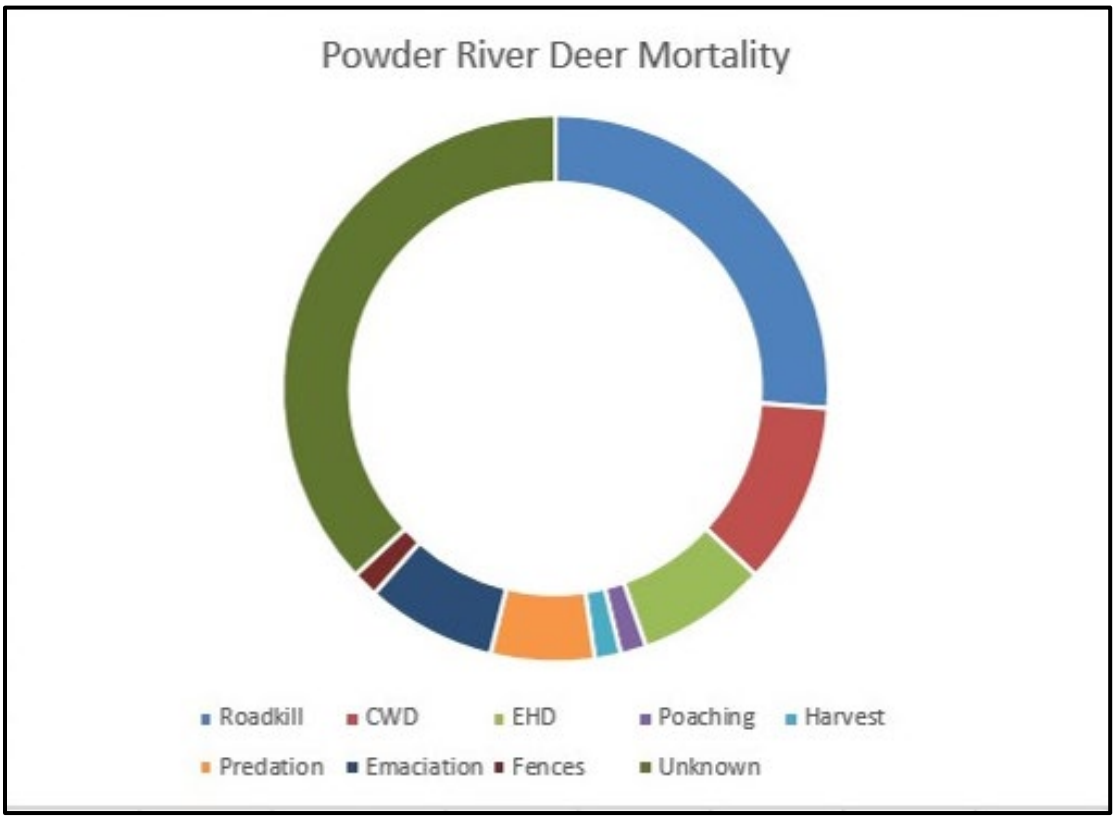


Figure 3. Cause Specific Mortality 2020-2022.

2023 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2023 - 5/31/2024

HERD: MD321 - NORTH BIGHORN

HUNT AREAS: 24-25, 27-28, 50-53
PREPARED BY: ERIC MAICHAK

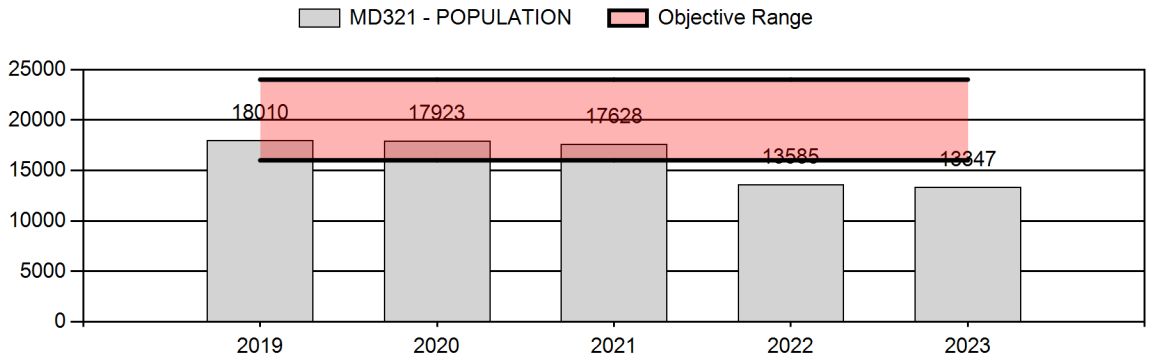
	2018 - 2022 Average	2023	2024 Proposed
Population:	17,237	13,347	13,790
Harvest:	1,011	949	875
Hunters:	2,799	2,642	2,450
Hunter Success:	36%	36%	36%
Active Licenses:	2,903	2,741	2,550
Active License Success:	35%	35%	34%
Recreation Days:	14,267	12,962	12,000
Days Per Animal:	14.1	13.7	13.7
Males per 100 Females	28	25	
Juveniles per 100 Females	64	70	

Population Objective (± 20%) :	20000 (16000 - 24000)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-33.3%
Number of years population has been + or - objective in recent trend:	2
Model Date:	02/28/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	2%	1%
Males ≥ 1 year old:	29%	28%
Proposed change in post-season population:	-1%	1%

Population Size - Postseason



2024 HUNTING SEASONS
NORTH BIGHORN MULE DEER HERD (MD321)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
24	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
24	7			Sep. 1	Dec. 15	25	Doe or fawn valid on private land
25	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
27	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
28	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
50	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
51	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
51	Gen			Oct. 25	Oct. 31		Antlered mule deer or any white-tailed deer valid on or within one-half (1/2) mile of irrigated land
51	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
52	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
52	Gen			Oct. 25	Oct. 31		Antlered mule deer or any white-tailed deer valid on or within one-half (1/2) mile of irrigated land

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
52	6	Sep.1	Sep. 30	Oct. 15	Nov. 30	25	Doe or fawn valid on or within one-half (1/2) mile of irrigated land
53	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer

Nonresident Region R Quota: 500
Nonresident Region Y Quota: 1,200

2023 Hunter Satisfaction: 51% Satisfied; 21% Neutral; 28% Dissatisfied
2023 Postseason Population Objective: 20,000
2023 Postseason Population Estimate: 13,347

2024 Management Summary

1.) Hunting Season Evaluation: This herd unit includes public and private lands spanning two regions and the northern Bighorn Mountains. Hunting season strategies are informed by classification ratios, survey responses and comments from landowners and hunters, and modeled population estimates. Weather, disease, habitat, and cause-specific mortality data are considered as available. Hunting seasons have generally been conservative (i.e., 10-15 days) and geared toward antlered mule deer, with limited doe harvest (i.e., primarily private lands), and recent emphasis to address CWD.

In 2023, we observed 70 fawns:100 does during postseason classification surveys, up from 2022 (65:100) and above the desired 66:100 ratio needed to sustain or grow a population. The 2023 fawn:doe ratio may have been biased high by observations in Hunt Area 24 of 116 fawns:100 does. While not impossible, this high ratio is unusual/unlikely and potentially from misidentification of yearlings as fawns. Responses from the 2023 annual landowner survey for Hunt Area 24 (n=41) suggest 29% of landowners felt mule deer populations were below desired levels, an improvement from 58% in 2022, while 29% said populations were above preferred level versus 10% in 2022. Long-term data suggest improved ratios of fawns:100 does particularly following years of elevated precipitation, such as in 2023. We observed 25 bucks:100 does, down from 2022 and the previous 5-year average of 28 bucks:100 does. The decline was primarily from fewer yearling males classified (9:100 does). The observed ratio was within the preferred range of 20-30 bucks:100 does for this recreational management.

Hunter satisfaction, determined by responses on harvest surveys, decreased slightly from 55% in 2022 (n=693) to 51% in 2023 (n=578) at the herd unit level. Satisfaction was highest in Hunt Areas 50 (62%), 51 (55%), and 24 (55%).

Of 41 landowners in Hunt Area 24, 55% preferred similar seasons to 2023. Long-term models suggest degradation of habitat conditions, particularly in winter range areas, largely from periodic drought and invasive annual grasses. Despite the relatively long winter of 2022-23, the 2023

growing season precipitation was exceptional, resulting in exceptional forage production. The 2023-24 winter was mild, which should improve ratios of fawns:100 does in 2024. Due to public concern with mule deer doe harvest, we reduced Area 24 Type 7 licenses from 200 to 25, which still allows some harvest on private lands where desired.

A steady decline in hunter satisfaction substantiates comments and concerns about hunter crowding on public lands. Game and fish personnel infer that this is likely due to the decline of resident deer that historically drew hunters to agricultural areas. When compared to the 2017-18 average, ground classification surveys conducted in 2021 and 2022 indicate a reduction of 39% in HA 52 and 92% in HA 52 of mule deer counted on agricultural lands. It's suspected that due to the non-migratory nature of these deer, CWD is likely a contributing cause of this decline. This has led to a concentration of hunters at higher elevations where the migratory segment of the herd is faring better.

The nonresident Region R quota was last reduced in 2018 and set at 600. A reduction of 100 Region R licenses was implemented to improve hunter satisfaction and perceived crowding on public lands. No change was implemented in the Region Y nonresident quota.

2.) Management Objective Review: We reduced the population objective from 20,000 to 15,000 mule deer postseason, while maintaining recreational management strategies, for the next five years (Appendix A).

3.) Population Modeling: Utilizing a PopR integrated population model, our 2023 postseason population estimate corrected with sightability and survival was estimated at 13,347 mule deer (95% CI = 11,946-14,481). This model performed best (Rhat proportion = 0.66) with date range 2000-2024, Effort = Days/Harvest (linear), Reproduction = Constant, Adult and Juvenile Survival = Time Varying, Burnin = 50,000, Iterations = 30,500, and Thinning Rate = 1.

4.) Chronic Wasting Disease Monitoring & Management: This is a Tier 2 surveillance herd next scheduled for priority CWD sampling in 2025. Hunter-harvested adult (≥ 2 years old) male mule deer from 2021-2023 suggest prevalence was 18% (n=245, Table 1.). Population declines may occur in mule deer when prevalence reaches high levels. From 2021-2023, we documented CWD positive mule deer in all hunt areas except Hunt Areas 25, 52, and 53. Samples from Hunt Areas 24, 51, and 53 accounted for 64 % (n=157) of total samples.

Table 1. CWD prevalence from hunter harvested male mule deer in the North Bighorn Herd Unit, 2021-2023.

		2021-2023			95% Confidence Interval	
Herd Unit	Species	# Tested	# Pos	Prev	Lower	Upper
North Bighorn	Ad M MD	245	44	18%	11.2%	23.3%

In Hunt Areas 51 and 52, we extended seasons in 2022 as part of a broader effort in non-resident Deer Region R to address CWD hotspots within the Bear, Beaver and Shell Creek drainages. These seasons were maintained through 2024. Maintaining Hunt Area 24 Type 7 licenses may help address CWD by controlling deer densities where overlap occurs with hotspots of white-tailed deer (Figure 1).

5.) Research: A three-year study through the University of Wyoming on mule deer seasonal movement and habitat use ended in 2023. Preliminary results suggest mule deer migrate in response

to snowfall more so than elk and moose, and female mule deer fawns may have greater fidelity to migration routes of their mothers than male fawns. Nineteen collars are still deployed and will drop in March 2025.

The second of a five-year study continued in the North Bighorns Herd Unit. As part of the state-wide focal herd project, this is one of five herds targeted to better understand factors influencing mule deer populations, seasonal habitat use, and survival.

Year one survival was 70% and 60% in adult females and males, respectively. Survival in juveniles (corrected with adult survival) was 60%. Causes of mortality, when determined, included malnutrition, CWD (all from HA27), predation, and hunter harvest, primarily of adult males. Seasonal travel routes between summer and winter ranges appear similar among animals between this and the previous 3-year study, with migration highest among animals wintering on the west slope of the herd unit (>75%), and less along the east slope of the herd unit (25%-50%). Ninety-nine collars were deployed on fawns and 36 collars redeployed on adults in January 2024.

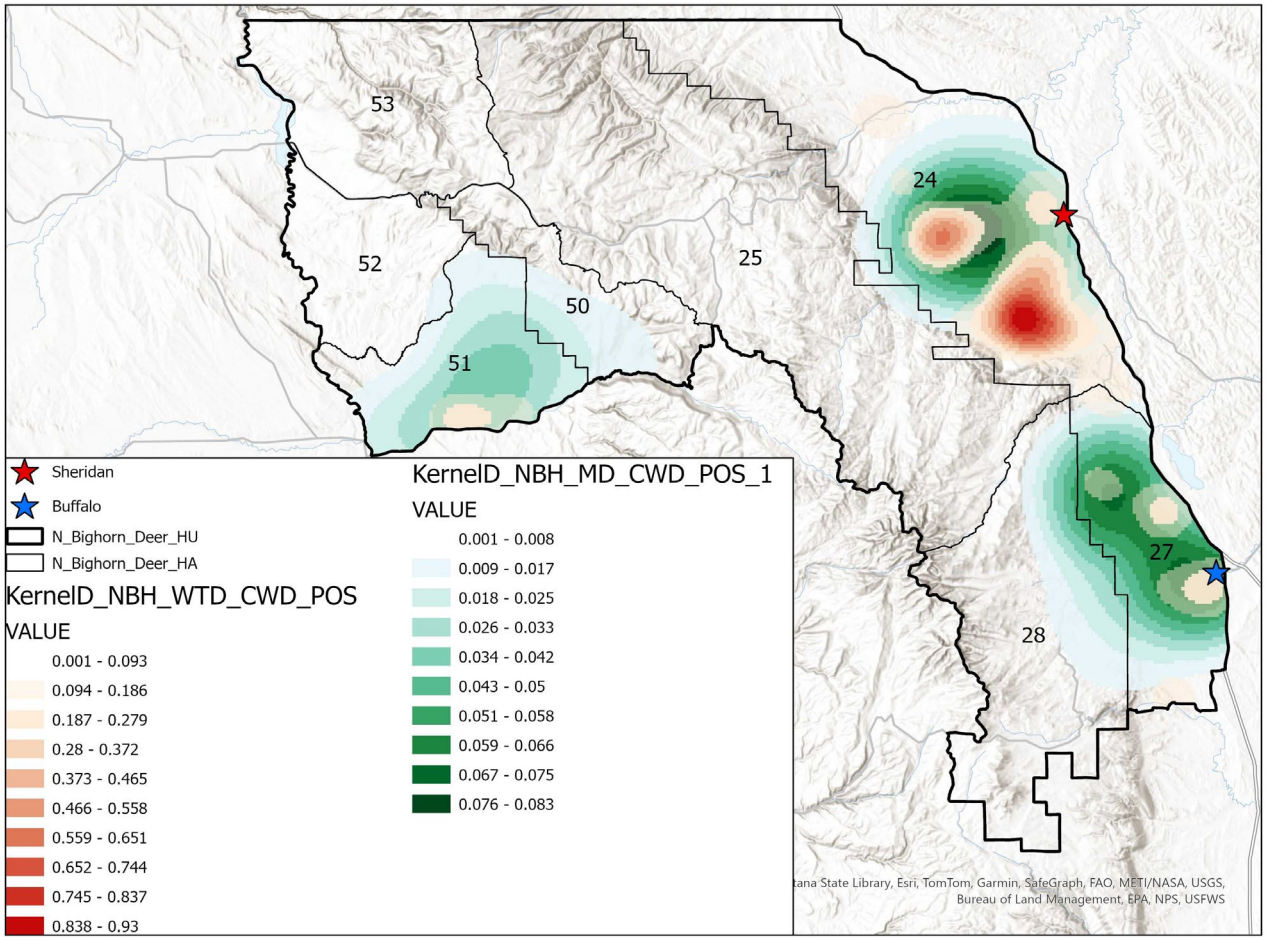


Figure 1. Hotspots of CWD in mule deer (green, n=86/433) and white-tailed deer (red, n=206/791) based on kernel density of positive samples, North Bighorn Mule Deer Herd Unit, 2021-2023. Darker colors represent higher density per square kilometer.

2023 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2023 - 5/31/2024

HERD: MD322 - UPPER POWDER RIVER

HUNT AREAS: 30, 32-33, 163, 169
PREPARED BY: ZACH TURNBULL

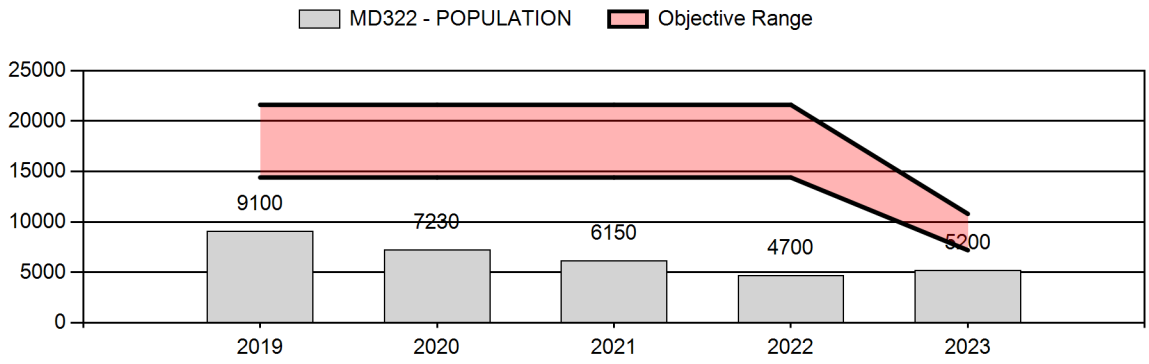
	2018 - 2022 Average	2023	2024 Proposed
Population:	7,322	5,200	5,200
Harvest:	538	518	500
Hunters:	1,155	1,079	1,000
Hunter Success:	47%	48%	50 %
Active Licenses:	1,159	1,079	1,000
Active License Success:	46%	48%	50 %
Recreation Days:	5,158	4,922	4,800
Days Per Animal:	9.6	9.5	9.6
Males per 100 Females	29	34	
Juveniles per 100 Females	57	68	

Population Objective (± 20%) :	9000 (7200 - 10800)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-42.2%
Number of years population has been + or - objective in recent trend:	18
Model Date:	02/14/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	2%	0%
Males ≥ 1 year old:	25%	33%
Proposed change in post-season population:	13%	0%

Population Size - Postseason



2024 Hunting Seasons

Upper Powder River Mule Deer Herd Unit (MD322)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
30	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
32	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
33	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
163	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 21		Antlered mule deer or any white-tailed deer
169	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 21		Antlered mule deer or any white-tailed deer

2024 Region Y nonresident quota: 1,200 licenses

2023 Hunter Satisfaction: 59% Satisfied, 22% Neutral, 19% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: This herd has been below the population objective for more than a decade. The buck/doe ratio (34 bucks: 100 does) and fawn/doe ratio (68 fawns: 100 does) improved significantly from previous years. The nonresident Region Y quota was reduced in 2022 and all general license type limitations were standardized (i.e., antlered mule deer, any white-tailed deer). Reported harvest numbers in 2023 actually increased slightly, possibly reflecting increased resident participation in the hunt (Figure 1). As noted by previous research in the herd unit, herd health and disease remain major concerns for managers.

2.) Management Objective Review: A herd unit management review was conducted in 2023. This review noted many concerns including drought, poor range health, disease, malnutrition, and predation. While there was significant desire to increase deer numbers, the landscape and habitat cannot support historical numbers. Adding additional deer to the landscape may only worsen conditions, contributing to further habitat degradation and decreased herd fitness. For those reasons, the objective was reduced to 9,000 and herd status was changed to “recreational”. Ultimately, the goal is to improve habitat conditions to support a healthy and more abundant population. If, and when, those conditions occur the objective and management status will be reviewed again.

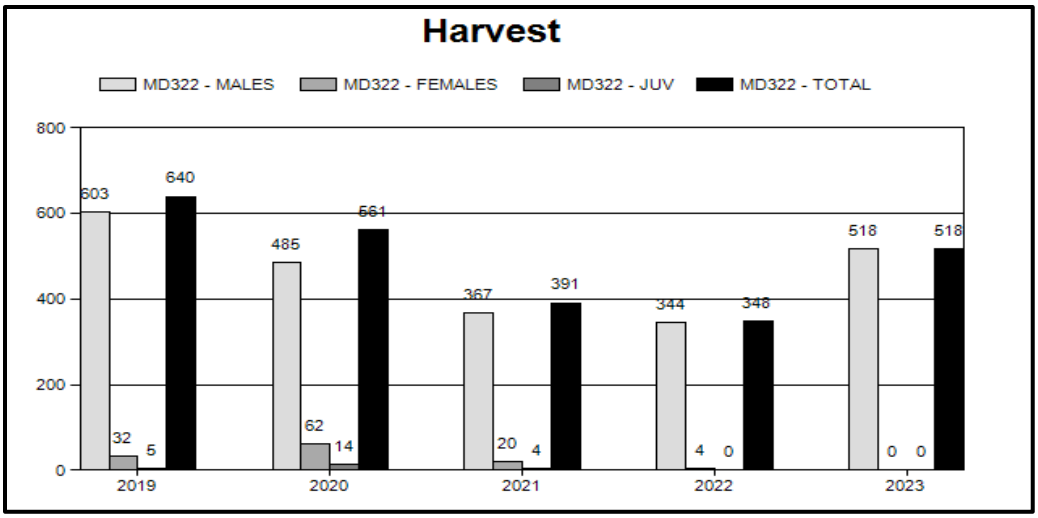


Figure 1. MD322 harvest 2019-2023

3.) Chronic Wasting Disease Management: We collected 224 samples from 2020-2021 (Table 1). Prevalence during this period was reported at 18.8% (CI 11.6-24.5%). This level of CWD prevalence may be contributing to population level impacts on survival.

Table 1. Upper Powder River CWD Statistics 2020-2021.

		2020-2021 Total			95% Confidence Interval	
Herd Unit	**Species**	**Tested**	**# Pos**	**Prev**	**Lower**	**Upper**
UPR	Ad M MD	224	42	18.8%	11.6%	24.5%

4.) Weather: Precipitation (extrapolated from PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu, created 4 Feb 2004) from October 2022 through September 2023 (water year) was above the 30 year average. Precipitation during the growing season (April through June) was also above the 30 year average (Figure 1). Winter temperatures in 2023-2024 were similar to the 30 year average (28.4°F), with the temperatures averaging 28.97°F during the months of November through February as recorded in Kaycee. Moisture accumulation recorded in Kaycee during this time period was 0.74 inches of precipitation (30-year average = 2.09 inches) and 11.5 inches of snow accumulation (30-year average = 30.6 inches). The snow water equivalent measured at Powder River Pass, Beartrap Meadow, Middle Powder, and Grave Springs Snotel sites recorded February 14th, 2024 was 57%, 59%, 55%, and 48% of the official mean for those respective sites. The winter of 2023-2024 so far has seen average temperatures and less snow accumulation than past winters. Spring/summer conditions in 2023 were favorable for vegetation production in the Upper Powder River mule deer herd unit, so it is assumed that mule deer went into winter in better condition than average. Current mild winter conditions are likely to have minimal effect on winter

survival unless conditions change drastically late winter/early spring. Current snow water equivalent on mule deer spring/summer/fall range suggests possibly a decline in productive spring forage conditions if current dry weather prevails. All winter precipitation, snowfall accumulation, and temperature data was acquired from the Kaycee NWS COOP Station 485055-5 Lat/Lon 43° 43'/106° 38'.

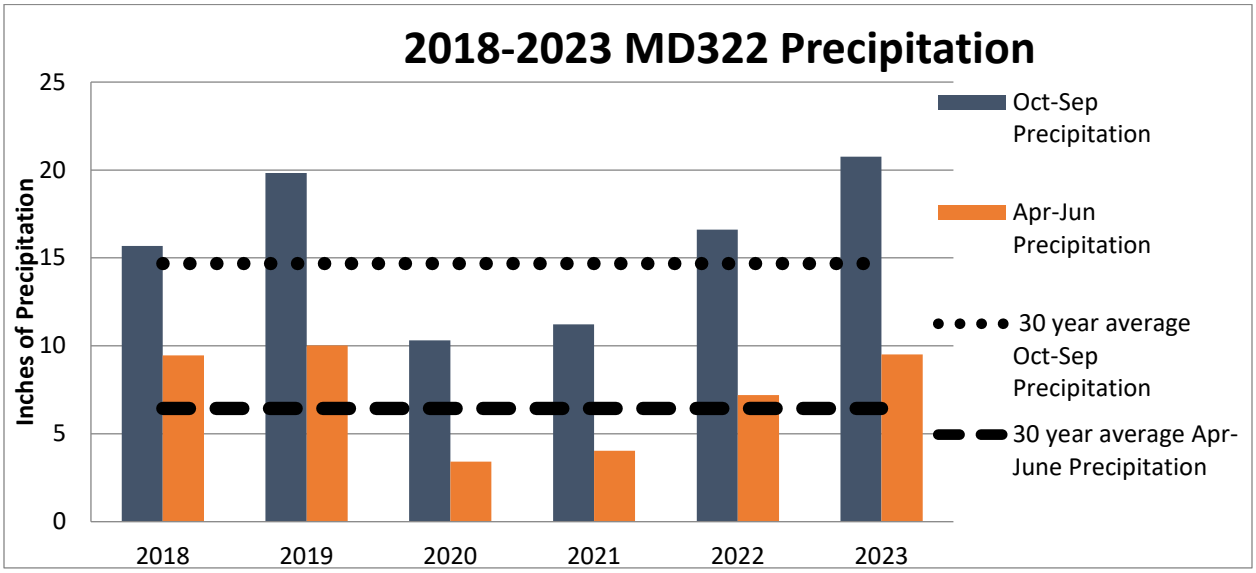


Figure 2. UPR Precipitation Data 2018-2023

5.) Habitat: A number of mule deer habitat improvement projects were completed. Invasive annual grass treatments occurred on high priority mule deer habitats in Outlaw Cave (702 acres, 2016) and lower Middle and North Fork of Crazy Woman Creek (9,022 acres as of 2023). Also, 40 curl-leaf mountain mahogany plants were planted east of Outlaw Cave as part of a test to see if nursery grown curl-leaf mountain mahogany plants can become successfully established in the Middle Fork Powder River area. An additional 30 curl-leaf mahogany plants were planted on the Buckingham Ranch in crucial mule deer winter range just north of the Middle Fork Powder River. Another project took place on the Schiermiester Ranch. Antelope Draw is a mesic draw that is being choked out by decadent silver sagebrush stands. During the winter of 2015, 14 acres of thick decadent Silver sagebrush stands were Dixie harrowed. Following harrowing, the area was planted with a mixture of native grasses and forbs. The Schiermiester Ranch also planted a total of ten deciduous browse trees in mesic draws in different locations on the ranch. Since 2016, a total of 2,743 acres of curl-leaf mountain mahogany have been treated for conifer encroachment to reduce fuel loading to protect crucial mule deer winter range in these important deer habitat stands in Poker Creek, Slip Road, Gardner Mountain, and EK Mountain. In 2021 conifer removal occurred on another 857 acres of curl-leaf mountain mahogany on EK Mountain. Another 349 acres of conifer removal in curl-leaf mountain mahogany occurred in 2023 on Beaver Creek slope. Since 2018, 218 acres of conifer removal took place in aspen stands in the upper Middle Fork Crazy Woman drainage. In 2021 an

additional 4 acres of conifer removal took place in aspen stands in the upper Poison Creek drainage. In 2023, WGFD contracted 596 acres of conifer removal in aspen stands in the southern Bighorn National Forest. Many of the migratory deer in the Upper Powder River mule deer herd summer in this area. In 2020, WGFD installed 10 Beaver Dam Analog (BDA) complexes on the upper portions of Middle Fork Crazy Woman Creek to improve riparian habitat and restore hydrological function. Another 30 BDA's were installed in the North Fork of the Powder River in 2023. In 2021, 700 native deciduous woody riparian trees and shrubs were planted on the North Fork of Crazy Woman Creek and Beartrap Meadows to provide a seed source for future deciduous woody riparian plants in efforts to restore habitat diversity for mule deer. In 2023, WGFD assisted the USFS in replacing four miles of woven wire to a wildlife friendly fence along a documented mule deer seasonal migration route along Doyle Creek. For more detailed information about these projects, please refer to the WGFD's Strategic Habitat Plan annual reports.

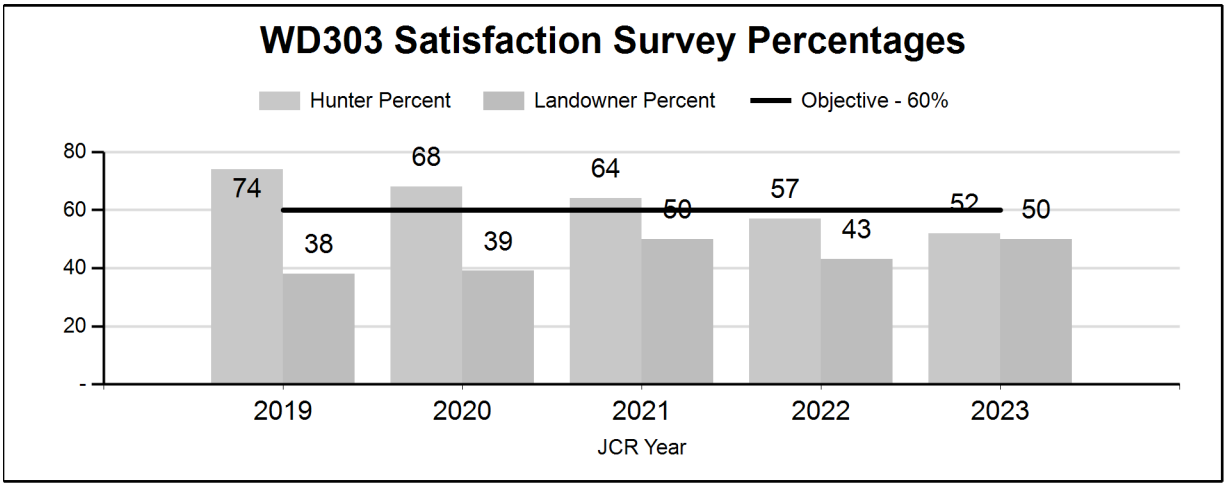
In 2020, 2021, and 2022 40 rapid habitat assessments were completed in the Upper Powder River mule deer herd unit. For details regarding results of the Rapid Habitat Assessments, see the Upper Powder River Mule Deer Herd Habitat Objective Review Rapid Habitat Assessments Report.

2023 - JCR Evaluation Form

SPECIES: White tailed Deer
PERIOD: 6/1/2023 - 5/31/2024
HERD: WD303 - POWDER RIVER
HUNT AREAS: 17-19, 23-33, 163, 169
PREPARED BY: ERIC MAICHAK

	2018 - 2022 Average	2023	2024 Proposed
Hunter Satisfaction Percent	68%	52%	60%
Landowner Satisfaction Percent	43%	50%	60%
Harvest:	5,628	3,505	3,800
Hunters:	7,947	5,171	5,500
Hunter Success:	71%	68%	69%
Active Licenses:	9,105	6,912	7,200
Active License Success:	62%	51%	53 %
Recreation Days:	36,473	26,696	27,200
Days Per Animal:	6.5	7.6	7.2
Males per 100 Females:	38	32	
Juveniles per 100 Females	68	55	

Satisfaction Based Objective	60%
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	-9%
Number of years population has been + or - objective in recent trend:	2



2024 HUNTING SEASONS
POWDER RIVER WHITE-TAILED DEER HERD (WD303)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
17	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
17	Gen			Nov. 1	Nov. 30		Any white-tailed deer
17	8	Sep. 1	Sep. 30	Oct. 1	Nov. 30	250	Doe or fawn white-tailed deer
18	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
18	8	Sep. 1	Sep. 30	Oct. 1	Nov. 15	200	Doe or fawn white-tailed deer valid on private land
19	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
19	Gen			Nov. 1	Nov. 15		Any white-tailed deer
19	8	Sep. 1	Sep. 30	Oct. 1	Nov. 15	75	Doe or fawn white-tailed deer
23	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
23	Gen			Nov. 1	Nov. 30		Any white-tailed deer
23, 26	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30	500	Any white-tailed deer
23, 26	7			Sep. 1	Dec. 15	25	Doe or fawn valid on private land
23, 26	8			Sep. 1	Dec. 15	1000	Doe or fawn white-tailed deer valid on private land
24	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
24	Gen			Nov. 1	Nov. 30		Any white-tailed deer
24	3			Oct. 15	Oct. 31	500	Any white-tailed deer valid on private land
24	3	Sep. 1	Sep. 30	Nov. 1	Nov. 30		Any white-tailed deer valid in the entire area
24	7			Sep. 1	Dec. 15	25	Doe or fawn valid on private land
24	8			Sep. 1	Dec. 15	3000	Doe or fawn white-tailed deer valid on private land

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
25	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
26	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
26	Gen			Nov. 1	Nov. 30		Any white-tailed deer
27	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
27	Gen			Nov. 1	Nov. 30		Any white-tailed deer
27	8			Sep. 1	Sep. 30	1,200	Doe or fawn white-tailed deer valid on private land
27	8	Sep. 1	Sep. 30	Oct. 15	Nov. 30		Doe or fawn white-tailed deer valid in the entire area; also valid in Area 28
27	8			Dec. 1	Dec. 31		Doe or fawn white-tailed deer
28	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer or any white-tailed deer
28	Gen			Oct. 25	Nov. 30		Any white-tailed deer
29	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer or any white-tailed deer
29	Gen			Nov. 1	Nov. 30		Any white-tailed deer
29	Gen			Dec. 1	Dec. 31		Antlerless white-tailed deer
29, 31	8			Sep. 1	Sep. 30	700	Doe or fawn white-tailed deer valid on private land
29, 31	8	Sep. 1	Sep. 30	Oct. 1	Dec. 31		Doe or fawn white-tailed deer valid in the entire area
30	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
30	Gen			Nov. 1	Nov. 30		Any white-tailed deer
30	Gen			Dec. 1	Dec. 31		Antlerless white-tailed deer

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
30, 32, 33, 163, 169	8			Sep. 1	Sep. 30	1000	Doe or fawn white-tailed deer valid on private land
30, 32, 33, 163, 169	8	Sep. 1	Sep. 30	Oct. 15	Dec. 31		Doe or fawn white-tailed deer valid in the entire area
31	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 10		Antlered mule deer or any white-tailed deer
32	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
32	Gen			Nov. 1	Nov. 15		Any white-tailed deer
33	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 31		Antlered mule deer or any white-tailed deer
33	Gen			Nov. 1	Nov. 15		Any white-tailed deer
33	Gen			Nov. 16	Dec. 31		Antlerless white-tailed deer
163	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 21		Antlered mule deer or any white-tailed deer
163	Gen			Nov. 1	Nov. 15		Any white-tailed deer
169	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 21		Antlered mule deer or any white-tailed deer
169	Gen			Nov. 1	Nov. 15		Any white-tailed deer

Nonresident Region C Quota: 2,000
Nonresident Region Y Quota: 1,200

2023 Hunter Satisfaction: 52% Satisfied; 22% Neutral; 26% Dissatisfied
2023 Landowner Satisfaction: 50% Satisfied; 19% Above Desired; 31% Below Desired

2024 Management Summary

1.) Hunting Season Evaluation: We manage this white-tailed deer herd based on hunter and landowner satisfaction. Hunting seasons are liberalized in most hunt areas in an effort to reduce nuisance complaints, deer-vehicle collisions, competition with mule deer, and more recently, CWD. Hunter satisfaction has declined since 2018. In 2023, hunter satisfaction, total hunters, and harvest of bucks and does were at a 5-year low, corresponding to a significant decline in the population. Comments from hunters and landowners suggest reduced deer numbers and concern over recent EHD/Bluetongue outbreaks and severity of the 2022-23 winter. In spite of declining population numbers, landowner survey responses (n=121) indicated white-tailed deer populations were at (50%) to above (19%) desired levels. Landowners suggested providing similar (55%) to

more (17%) hunting season opportunities relative to 2022. Varying levels of access to private land where most white-tailed deer reside, and refuges provided by rural subdivisions, complicate white-tailed deer management.

We changed the Hunt Area 24, Type 3 license by adding an October 15-October 31 regular season valid only on private land. This change was made based on feedback from a landowner and their desire to increase season length to increase opportunity.

Hunt Area 23, 26 Type 7 and Hunt Area 24 Type 7 licenses were reduced from 300 and 200 licenses, respectively, to 25 licenses each due to public concern about mule deer doe harvest. There are sufficient Type 8 licenses available in each hunt area to address desired white-tailed deer harvest.

2.) Management Objective Review: We conducted an internal herd unit review and determined the current management objective of a Hunter and Landowner satisfaction at 60% or above is currently the best metric for this herd unit. During the subsequent 5-year period, managers will continue to evaluate new methods to reliably estimate this population in an effort to develop a population based objective.

3.) Chronic Wasting Disease Monitoring & Management: This herd overlaps several Tier 1 and 2 surveillance mule deer herds where sampling of white-tailed deer occurs opportunistically. From 2021-2023, region-wide prevalence was higher in white-tailed deer adult males (31.5%, n=425) than adult females (18.3%, n=311, Table 1), and higher than mule deer adult males (21.7%, n=517) and females (10.7%, n=75). This is a pattern similar to other non-migratory white-tailed populations.

Table 1. CWD prevalence of hunter-harvested white-tailed deer in Powder River Herd Unit, 2021-2023.

White-tailed Deer Herd	Percent CWD-Positive and (*n; LCI, UCI*) – *Hunter Harvest Only*	
	Adult Males	**Adult Females**
Powder River	32% (425; 20%, 36%)	18% (311; 12%, 23%)

CWD prevalence across this herd unit is significantly influenced by samples collected from white-tailed deer in the western portion of the herd unit along the face of the Bighorn Mountains. From 2021 to 2023, Hunt Areas 24 and 27 accounted for 75% of all samples collected (Figure 1). Sampling effort is not uniform across these hunt areas. Due to this bias in sampling effort, managers should use caution extrapolating CWD prevalence across the herd unit.

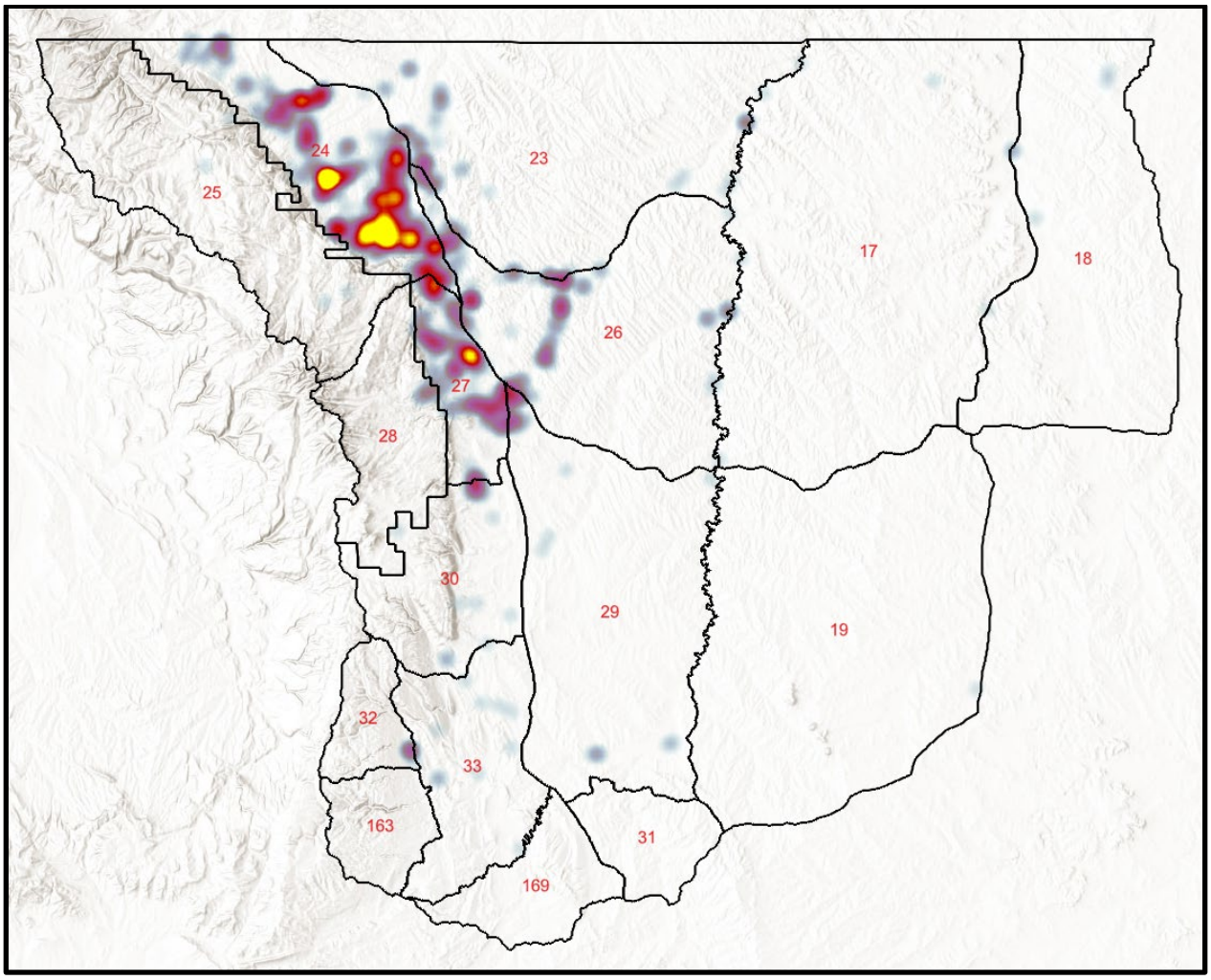


Figure 1. CWD sampling effort in Powder River White-tailed Deer Herd Unit, 2021-2023. Yellow indicates the highest sampling density.

While we have not implemented specific management actions to address CWD, we continue to encourage landowners to reduce deer densities primarily through increased harvest. These recommendations have historically been to control deer numbers, address nuisance and damage complaints, and reduce browsing pressure on shrub communities. Reducing density of white-tailed deer and mule deer may also aid in limiting CWD prevalence and spread.

2023 - JCR Evaluation Form

SPECIES: Elk
HERD: EL320 - FORTIFICATION
HUNT AREAS: 2

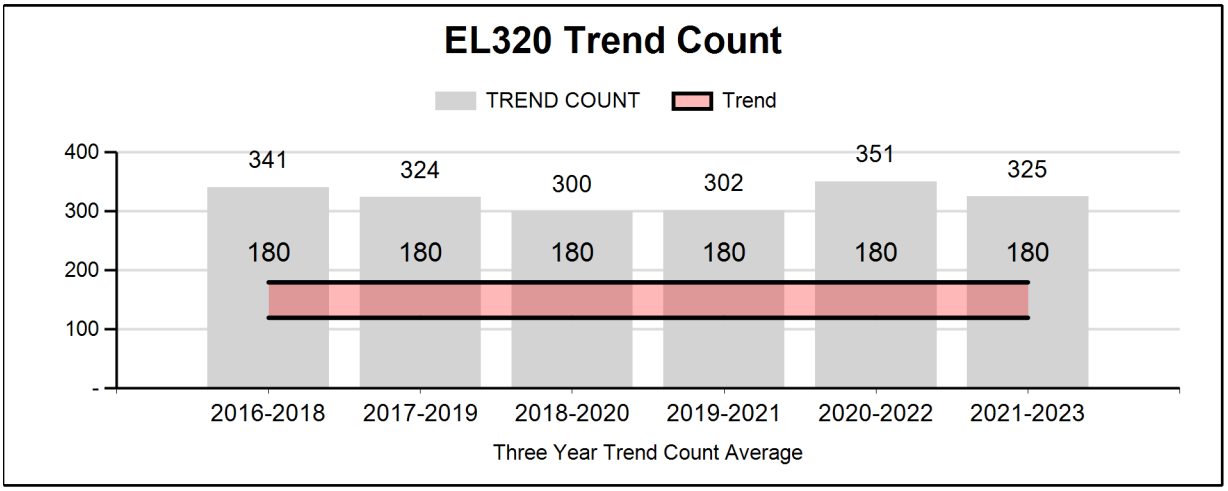
PERIOD: 6/1/2023 - 5/31/2024
PREPARED BY: ERIKA PECKHAM

	2018 - 2022 Average	2023	2024 Proposed
Trend Count:	338	185	250
Harvest:	111	236	275
Hunters:	185	414	460
Hunter Success:	60%	57%	60%
Active Licenses:	195	445	500
Active License Success	57%	53%	55%
Recreation Days:	776	1,739	2,000
Days Per Animal:	7.0	7.4	7.3
Males per 100 Females:	37	0	
Juveniles per 100 Females	54	0	

Trend Based Objective (± 20%)	150 (120 - 180)
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	23%
Number of years population has been + or - objective in recent trend:	8

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

	JCR Year	Proposed
Females ≥ 1 year old:	31%	35%
Males ≥ 1 year old:	31%	30%
Juveniles (< 1 year old):	1%	10%



2024 HUNTING SEASONS
FORTIFICATION ELK HERD (EL320)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
2	Gen	Sep. 20	Sep. 30	Oct. 1	Oct. 20		Any Elk
2	Gen			Oct. 21	Nov. 15		Antlerless elk
2	6			Oct. 1	Dec. 15	200	Cow or calf

2024 Region E nonresident quota: 600

2023 Hunter Satisfaction: 64% Satisfied, 17% Neutral, 19% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: This was the second year of a general season structure. In preceding years, we alternated between some combination of Type 1, Type 4 and Type 6, limited quota licenses, and around 10 days in season length. All factors considered, it was the most logical option to transition to a general license strategy. During the first year of a general season structure there were several private landowners enrolled in the Department's Access Yes program. These landowners opted not to renew their access agreement, making 2023 the first year in several with no formal public access to private land.

This elk herd has been over the management objective for several years. Elk are frequently observed south of I-90 and west of the Powder River, indicating they have exceeded the carrying capacity within Hunt Area 2, and are expanding into the adjacent Hunt Area 129. Several landowners have complained about too many elk and limited licenses availability to address the situation via harvest.

The majority of the elk habitat is either on private land, or inaccessible public land. There is one legal access point to Bureau of Land Management (BLM) land allowing public land access. At the December 2021 landowner meeting, it was made clear and agreed upon by those present that if a general season were implemented it would be for a minimum of 3-5 years. Large changes to seasons on an annual basis are confusing to hunters and do not allow sufficient time to assess if a new management strategy is successful.

The five-year average of hunter success was 61%. This year saw harvest success increase from 45% to 53%. This indicates that although there is limited public access people are finding ways to access the elk. Although overall harvest success has dropped since adopting the general season structure, it is important to note that elk harvest has substantially increased. It is estimated that in 2023 there were 236 total elk harvested, more than double the highest previous harvest. Although non-resident success is higher than resident success, it is estimated that residents harvested 53% of the elk (N=126). There is no way to know from the harvest results how many elk were harvested on the HA 129, Type 6 license, numerous landowner coupons have been returned in an area that was experiencing high densities of elk and corresponding degradation of rangeland habitat as a direct result.

This herd has a trend count management objective of 150 elk. The 3-year average is 325 elk classified. With changes to aircraft providers, the Department has been limited in their ability to conduct aerial surveys in recent years. A fixed-wing flight was conducted in February of 2024 and

185 elk were observed. Although fixed-wing flights can be sufficient to detect elk, it is much more effective with cold temperatures and good snow cover, both lacking this year. Even with poor conditions, the survey detected more elk than the objective.

In elk herds consistently over objective, the Department is implementing liberal harvest strategies. Even in areas of tightly controlled access it is important to ensure that there are sufficient license types, number and season lengths to allow elk harvest for those desiring decreased numbers. This is of particular importance concerning cows, as they drive the increase or decrease of the herd. The addition of a month on the Type 6 license will put this in line with Hunt Area 129 dates and allow flexibility on adjacent land where elk may cross the boundary daily. In 2023 there were 115 first choice applicants for the Type 6 license. Assuming similar interest as 2023, the addition of 100 Type 6 licenses should be enough to support the demand.

2.) Public Access: From 2019 to 2022, portions of this hunt area have been enrolled in the Access Yes program. The program has been well received by hunters and landowners alike. The 2023 hunting season did not have formal public access to private land. Even so, the overall harvest increased and the total number of elk harvested was the highest harvest in this herd unit on record.

Although public access to the Fortification Creek Wilderness Study Area is difficult due to terrain and distance, it is not impossible. For any resident holding a general elk license, there is an opportunity to walk into the large tract of contiguous public land that contains elk.

2023 - JCR Evaluation Form

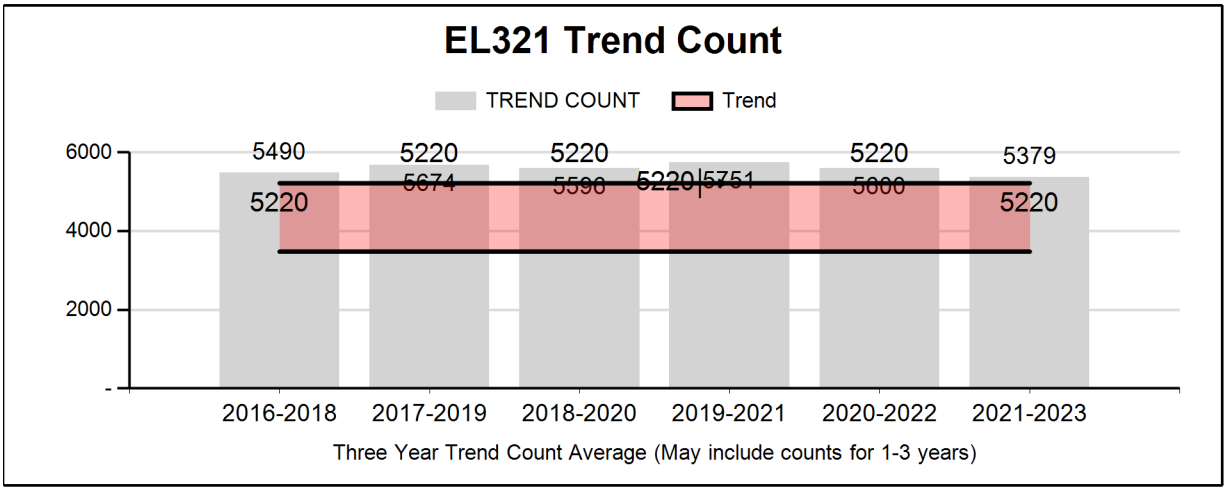
SPECIES: Elk
PERIOD: 6/1/2023 - 5/31/2024
HERD: EL321 - NORTH BIGHORN
HUNT AREAS: 35-40
PREPARED BY: ERIC MAICHAK

	2018 - 2022 Average	2023	2024 Proposed
Trend Count:	5,595	4,952	5,000
Harvest:	1,565	1,640	1,700
Hunters:	5,049	4,520	4,750
Hunter Success:	31%	36%	36%
Active Licenses:	5,284	5,031	5,100
Active License Success	30%	33%	33%
Recreation Days:	37,184	36,512	37,000
Days Per Animal:	23.8	22.3	21.8
Males per 100 Females:	28	17	
Juveniles per 100 Females	28	29	

Trend Based Objective (± 20%)	4,350 (3480 - 5220)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	14%
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:	22%	25%
Males ≥ 1 year old:	28%	28%
Juveniles (< 1 year old):	5%	10%



2024 HUNTING SEASONS
NORTH BIGHORN ELK HERD (EL321)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
35	1	Sep. 15	Sep. 30	Oct. 10	Nov. 5	150	Any elk
35	1			Nov. 15	Dec. 31		Antlerless elk
35	4	Sep. 15	Sep. 30	Oct. 10	Nov. 5	175	Antlerless elk
35	4			Nov. 15	Dec. 31		Antlerless elk
35	6			Aug. 15	Oct. 9	425	Cow or calf elk valid on private land
35	6	Sep. 15	Sep. 30	Oct. 10	Nov. 5		Cow or calf elk valid off national forest
35	6			Nov. 15	Dec. 31		Cow or calf elk valid off national forest
35	9			Sep. 1	Sep. 30	75	Any elk, archery only
36	Gen	Sep. 15	Sep. 30	Oct. 10	Nov. 5		Antlered elk valid on national forest; any elk valid off national forest
36	4	Sep. 15	Sep. 30	Oct. 10	Nov. 5	300	Antlerless elk
36	4			Nov. 15	Dec. 31		Antlerless elk
36	6			Oct. 1	Oct. 9	250	Cow or calf valid off national forest north of Rock Creek
36	6	Sep. 15	Sep. 30	Oct. 10	Nov. 5		Cow or calf valid in the entire area
36	9			Sep. 1	Sep. 30	75	Any elk, archery only
37	Gen	Sep. 15	Sep. 30	Oct. 10	Nov. 5		Any elk
37	Gen			Nov. 6	Nov. 15		Antlerless elk
37	6			Sep. 1	Sep. 30	500	Cow or calf valid on private land
37	6	Sep. 15	Sep. 30	Oct. 1	Dec. 31		Cow or calf valid in the entire area
37	9			Sep. 1	Sep. 30	150	Any elk, archery only
38	1			Oct. 10	Oct. 31	400	Any elk
38	1			Nov. 1	Nov. 15		Antlerless elk
38	4			Oct. 1	Nov. 15	550	Antlerless elk

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
38	6			Sep. 15	Dec. 31	75	Cow or calf valid off national forest and off the Wyoming Game and Fish Commission's Amsden Creek and Kerns Wildlife Habitat Management Areas
38	9			Sep. 1	Sep. 30	250	Any elk, archery only
39	1			Oct. 10	Nov. 4	200	Any elk
39	1			Nov. 5	Nov. 30		Antlerless elk
39	4			Oct. 1	Nov. 30	150	Antlerless elk
39	6	Sep. 1	Sep. 30	Nov. 5	Nov. 30	75	Cow or calf
39	9	Sep. 1	Sep. 30			100	Any elk, archery only
40	1			Oct. 15	Nov. 4	225	Any elk
40	4			Oct. 15	Nov. 30	125	Antlerless elk
40	6			Sep. 1	Nov. 4	125	Cow or calf valid off national forest
40	6			Nov. 5	Nov. 30		Cow or calf valid in the entire area
40	9			Sep. 1	Sep. 30	100	Any elk, archery only

2024 Nonresident Region W Quota: 2,775

2023 Population Trend Objective: 4,350
2023 Trend Count: 4,952

2024 Management Summary

1.) Hunting Season Evaluation: The current management objective is a mid-winter trend count of 4,350 elk (± 20%) and an overall management strategy of trophy management, with recreational management in Hunt Areas 36 and 37. We have also established hunt area trend count sub-objectives: HA 35=400; HA 36=800; HA 37=800; HA 38=1,000; HA 39=500; and HA 40=850. Our 2023 mid-winter trend count was 4,952 elk, down from 2022 (n=5,124). Although total count was within objective and counts across the herd unit were lowest since 2016, extremely light snow conditions resulted in lower than expected counts on the east side of Bighorn Mountains, likely due to elk remaining at higher elevations. There was also possible interchanging among hunt areas or with Garvin Basin, Montana as the count was well over the sub-objective in Hunt Area 39 (n=1,847) and lower than previously in Hunt Area 38 (n=747).

Managers have implemented a variety of season strategies designed to increase elk harvest over the past two decades. Managers continue to engage landowners in an effort to secure access and

develop strategies to increase elk harvest on private lands, especially on the eastern side of the Bighorn Mountains. In 2023, modest snowfall, adequate accessibility on public lands and continued expanded harvest opportunities were met with slightly increased harvest (n=1,640) relative to 2022 (n=1,561) and 2021 (n=1,405). Hunter satisfaction for the herd unit was slightly lower in 2023 (57%) than in 2022 (59%), and was highest in Hunt Areas 38 (80%) and 39 (68%). Landowner survey responses (n=21, HA 35-38) suggested populations at (52%) or above (43%) desired levels. Landowner survey responses (n=15, HA 37 and 38) suggested season strategies with similar (47%) to more opportunities (47%) than 2023.

In 2023, we prescribed a "break" in cow hunting on forest in Hunt Areas 35 and 36 from November 6-14, expanding this to HA 35 - Type 6 licenses for 2024. This break is intended to let elk settle and redistribute to areas with access and opportunity. We retained an "any elk" limitation for the general license off forest in HA 36 for 2024. This will allow general season hunters to harvest antlerless elk, primarily in the northern end of the unit. This change is intended to increase harvest opportunity while not increasing crowding.

With limited negative feedback, we maintained the October 10 regular season start date in Hunt Areas 37-39 to continue to provide additional opportunity for recreation and harvest. With populations continuing to exceed trend objectives in Hunt Area 37, and support from willing landowners for increased harvest, we expanded the Type 6 season from September 1 to September 30 on private lands to target elk off national forest and attempt to move elk back onto forest. We also expanded the general license from October 31 to November 5 to provide additional harvest opportunities and align with the closing date in Hunt Area 36. With support of several large landowners and associated outfitters in Hunt Area 38, we added a Type 6 license valid off national forest as well as Amsden Creek and Kerns Wildlife Habitat Management Areas to address elk damage issues primarily associated with Columbus Peak elk.

In Hunt Area 39, we maintained the Type 6 with archery only limitation to maintain additional antlerless harvest during the archery season.

Significant cow harvest from 2021-23 has resulted in fewer elk wintering in Hunt Area 40. Since 2022 the number of elk counted during winter trend flights has been below the sub-objective (650). Therefore, we removed the Type 1 antlerless extension and Type 5 license to reduce cow/calf harvest in Hunt Area 40. A slight increase to the Type 6 licenses was implemented to target elk that are frequent corn fields along Shell Creek.

2.) Management Objective Review: The herd unit objective was reviewed and discussed in 2021. The next herd unit objective review is scheduled for 2026.

3.) Chronic Wasting Disease Monitoring & Management: This is a Tier 2 surveillance herd next scheduled for targeted sampling in 2025. Passive sampling of hunter-harvested adult elk during 2021-2023 seasons suggest 9.6% prevalence (n=209), a decrease from 2020-2022 of 13.5% prevalence (n=230). From 2021-2023, nearly 50% of samples were from Hunt Area 37, with hotspots in Hunt Areas 35-37 (Figure 1). A likely reason for these hotspots in elk is environmental contamination with prions from non-migratory white-tailed deer and mule deer with relatively high prevalence (33% WTD, 18% MD) overlapping non-migratory elk.

Although we have not implemented any CWD management actions specific for elk in this herd

unit, efforts to maximize harvest may help keep CWD prevalence lower in elk than overlapping mule deer populations.

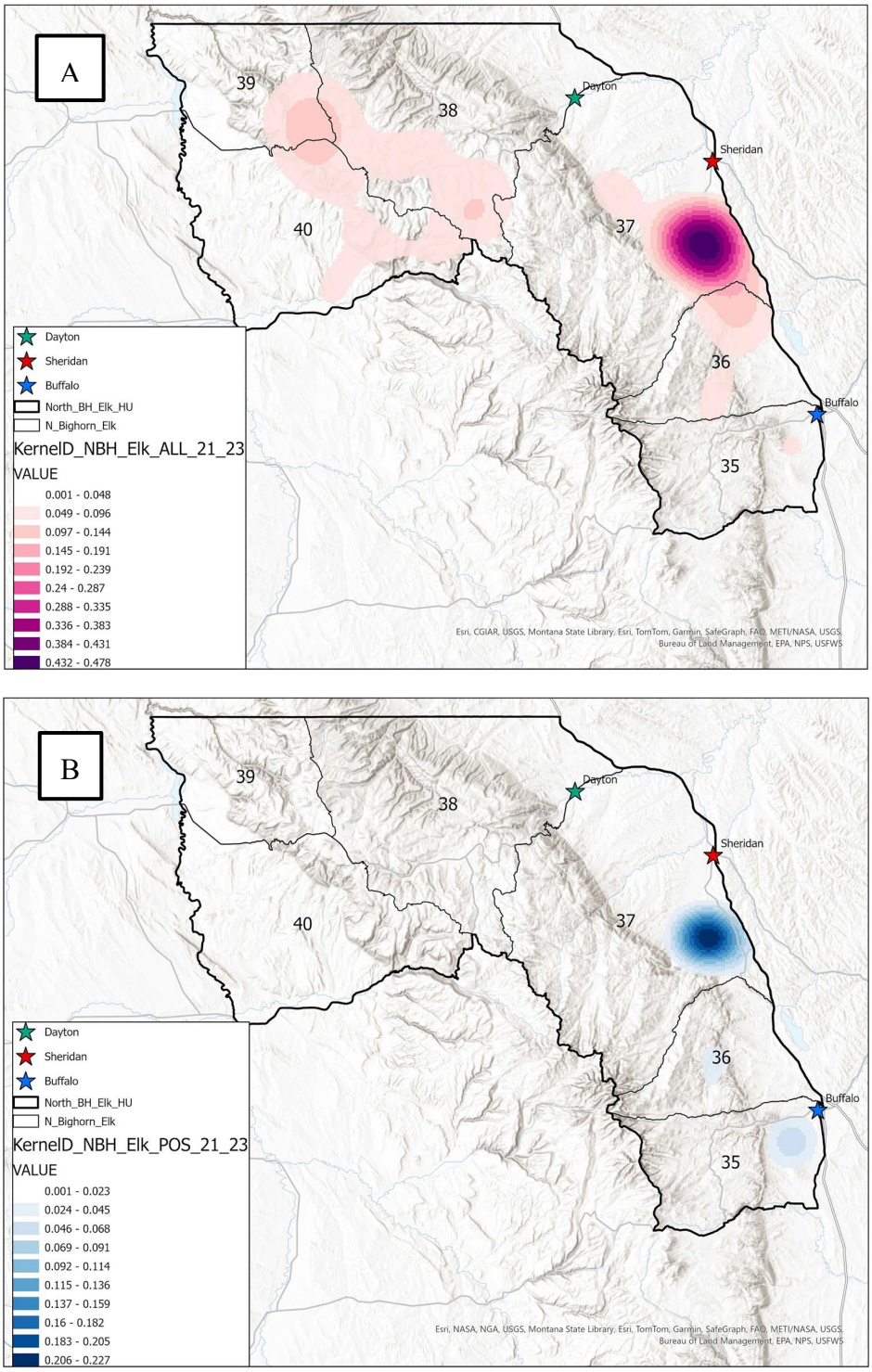


Figure 1. Density of CWD samples (A) and CWD-positive samples (B) from adult elk, North Bighorns Elk Herd Unit, 2021-2023. Darker colors indicate greater density.

2023 - JCR Evaluation Form

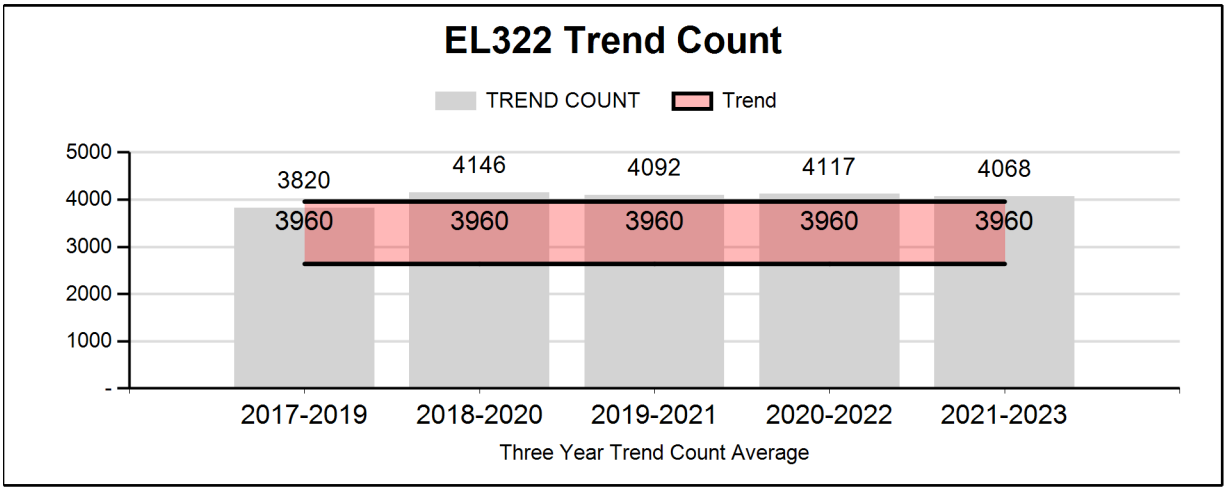
SPECIES: Elk
PERIOD: 6/1/2023 - 5/31/2024
HERD: EL322 - SOUTH BIGHORN
HUNT AREAS: 33-34, 47-49, 120
PREPARED BY: ZACH TURNBULL

	2018 - 2022 Average	2023	2024 Proposed
Trend Count:	4,175	3,764	4,100
Harvest:	1,646	1,569	1,700
Hunters:	3,909	3,299	3,350
Hunter Success:	42%	48%	51 %
Active Licenses:	4,031	4,039	4,100
Active License Success	41%	39%	41 %
Recreation Days:	28,192	29,153	30,000
Days Per Animal:	17.1	18.6	17.6
Males per 100 Females:	33	37	
Juveniles per 100 Females	28	26	

Trend Based Objective (± 20%)	3,300 (2640 - 3960)
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	14%
Number of years population has been + or - objective in recent trend:	23

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

	JCR Year	Proposed
Females ≥ 1 year old:	na%	na%
Males ≥ 1 year old:	na%	na%
Juveniles (< 1 year old):	na%	na%



2024 Hunting Seasons

South Bighorn Elk Herd Unit (EL322)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
33	1	Sep. 1	Sep. 30	Oct. 9	Oct. 31	200	Any elk
33	1			Nov. 7	Dec. 31		Antlerless elk
33	4			Aug. 15	Sep. 30	150	Antlerless elk valid on private land east of Buffalo Creek and the Bar C Road (B.L.M. Road 6214)
33	4	Sep. 1	Sep. 30	Oct. 9	Oct. 31		Antlerless elk valid in the entire area
33	4			Nov. 7	Dec. 31		Antlerless elk
33	6	Sep. 1	Sep. 30	Nov. 7	Dec. 31	300	Cow or calf
34	1	Sep. 1	Sep. 30	Oct. 9	Nov. 15	800	Any elk
34	1			Nov. 16	Dec. 31		Antlerless elk
34	6			Aug. 15	Oct. 8	700	Cow or calf valid on private land on or within one (1) mile of irrigated land.
34	6	Sep. 1	Sep. 30	Oct. 9	Dec. 31		Cow or calf valid off national forest
47	1	Sep. 1	Sep. 30	Oct. 9	Oct. 31	150	Any elk
47	1			Nov. 1	Nov. 30		Antlerless elk
47	6	Sep. 1	Sep. 30	Oct. 9	Nov. 30	50	Cow or calf
48	1	Sep. 1	Sep. 30	Oct. 9	Oct. 31	400	Any elk
48	1			Nov. 7	Dec. 15		Antlerless elk
48	4	Sep. 1	Sep. 30	Oct. 9	Oct. 31	125	Antlerless elk
48	4			Nov. 7	Dec. 15		Antlerless elk
48	6	Sep. 1	Sep. 30	Oct. 9	Oct. 31	600	Cow or calf
48	6			Nov. 7	Nov. 30		Cow or calf
48	7	Sep. 1	Sep. 30	Nov. 7	Dec. 15	300	Cow or calf
49	1	Sep. 1	Sep. 30	Oct. 9	Oct. 31	350	Any elk
49	1			Nov. 7	Dec. 21		Antlerless elk
49	4	Sep. 1	Sep. 14	Sep. 15	Oct. 31	100	Antlerless elk
49	4			Nov. 7	Dec. 21		Antlerless elk
49	6	Sep. 1	Sep. 30	Oct. 9	Oct. 31	350	Cow or calf
49	7	Sep. 1	Sep. 30	Nov. 7	Dec. 21	500	Cow or calf
120	1	Sep. 1	Sep. 30	Oct. 9	Oct. 31	175	Any elk
120	1			Nov. 1	Dec. 15		Antlerless elk
120	4	Sep. 1	Sep. 30	Oct. 9	Dec. 15	125	Antlerless elk
120	6	Sep. 1	Sep. 30	Oct. 9	Dec. 15	125	Cow or calf

2023 Hunter Satisfaction: 62% Satisfied, 20% Neutral, 18% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: This herd remained above trend count objectives in spite of interchange between many hunt areas and some herd units. While low winter range fidelity complicates hunt area trend data, most hunt areas remain over objective: HA 33(n=316; 1,100 sub-objective); HA 34 (n=1,982; 1,000 sub-objective); HA 47 (n=0; 200 sub-objective); HA 48 (n=428; 400 sub-objective); HA 49 (n=1,038; 300 sub-objective); HA 120 (n=69; 300 sub-objective). The open winter of 2023-24 contributed to low winter range fidelity with many observations of elk at higher elevation, and trailing between hunt areas noted in many instances.

Harvest statistics, including hunter satisfaction (62%) and hunter success (48%) were slightly improved from previous years. Effort per harvest remained high (18.6 days per harvest) but again, was a slight improvement from previous years. Harvest continues to be complicated by land access and ownership, with large numbers of elk residing on properties with restricted access. Ample cow/calf and antlerless licenses opportunity exists under the current structure, with many licenses available late in the season.

Rest dates were incorporated into HA 33 seasons in 2023. Due to a mild fall and low harvest the change did not appear to have much impact. Given the right circumstances a break could still be impactful.

The 2024 hunting season structure in HA 48 and HA 49 is liberal with numerous Type 1, 4, 6 and 7 licenses designed to reduce elk numbers. Total number of elk counted on winter trend flights was 1,466 elk for HA 47, HA 48, and HA 49. The 3-year average count is 1,409 for these areas combined, which is 56% above the sub-objective of 900 elk. In 2023, a Type 7 tag was added to HAs 48 and 49 to distribute hunters better, with the intent to increase opportunity. Hunting season changes for 2024 were to shorten the HA 48 Type 6 license season to reduce overcrowding and pressure with season overlap with HA 48 type 7 license.

Elk HA 120 hunters had great success in 2023. Type 4 and 6 licenses were added to increase harvest on over-objective elk numbers. Even with high success on the Type 1 (78%) an increase is not warranted as Type 1 licenses were increased in 2022 and 2023. There are many complaints about overcrowding of hunters in the area.

2.) Management Objective Review: Next herd review in 2027.

3.) Chronic Wasting Disease Management: This was a Tier 2 surveillance herd in 2022 and and was slated to be a target herd in 2023, adequate samples in 2022 curtailed this effort. CWD was detected in all Southern Bighorn hunt areas in 2022 except HA 120. Prevalence for the entire unit rose to 5.3% (Table 1). Some hunt areas saw a significant increase in prevalence and are cause for concern. A shift in herd behavior may be contributing to the rise in prevalence, with large sedentary herds occupying areas for extended periods.

Table 1. South Bighorn elk CWD sampling 2020-2022.

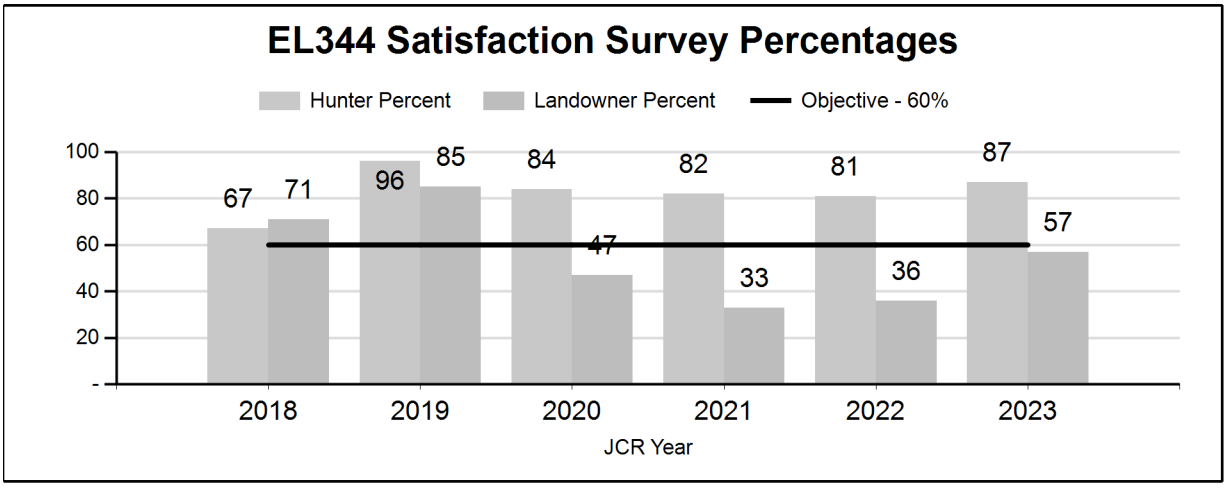
	2020-2022		
HA/HU	**Tested**	**# Pos**	**Prev**
33	26	1	3.8%
34	53	7	13.2%
47	8	1	12.5%
48	47	1	2.1%
49	47	1	2.1%
120	26	0	0.0%
South Bighorn 322 2022 Survey Tier 2	207	11	5.3%

2023 - JCR Evaluation Form

SPECIES: Elk
PERIOD: 6/1/2023 - 5/31/2024
HERD: EL344 - ROCHELLE HILLS
HUNT AREAS: 113, 123
PREPARED BY: ERIKA PECKHAM

	2018 - 2022 Average	2023	2024 Proposed
Hunter Satisfaction Percent	82%	87%	60%
Landowner Satisfaction Percent	56%	57%	60%
Harvest:	152	360	400
Hunters:	200	446	500
Hunter Success:	76%	81%	80 %
Active Licenses:	211	485	525
Active License Success:	72%	74%	76 %
Recreation Days:	991	2,501	2,800
Days Per Animal:	6.5	6.9	7
Males per 100 Females:	28	0	
Juveniles per 100 Females	32	0	

Satisfaction Based Objective	60%
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	12%
Number of years population has been + or - objective in recent trend:	2



2024 HUNTING SEASONS
ROCHELLE HILLS ELK HERD (EL344)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
113	3	Sep. 1	Sep. 30	Nov. 5	Nov. 30	150	Spike or antlerless elk
123	Gen			Sep. 1	Nov. 30		Any elk valid in the Raven Creek drainage
123	2			Sept. 1	Nov. 30	50	Antlered elk five (5) points or less on either antler or antlerless elk
123	4			Sep. 1	Nov. 30	75	Antlerless elk
123	6			Sep. 1	Nov. 30	75	Cow or calf
123	8			Sep. 1	Jan. 31	Unlimited	Cow or calf valid on private land

2024 Region E nonresident quota: 600

2023 Hunter Satisfaction: 87% Satisfied, 10% Neutral, 3% Dissatisfied

2024 Management Summary

1.) Hunting Season Evaluation: Hunt Area 123 is a predominantly private access hunt. The season structure is coordinated on an annual basis with participating landowners. Elk numbers in this hunt area remain high and landowner satisfaction is typically high. Although landowners indicated that they were overall satisfied there was still concern about elk numbers from some people. In 2023, a Type 2 license was kept for a second year with an antler point restriction (APR). This APR was designed to harvest younger age class and smaller bulls, bringing the bull ratio down. The harvest survey indicated 89% success on the Type 2 licenses, with an estimated 40 bulls harvested. During the landowner meeting, it was decided to keep this license type for another year, to continue to target these bulls. The Type 1 license was removed for 2024. This license type has historically been available on a three-year rotation.

Although there is no numeric objective in this herd, a trend count is typically flown annually. Due to changes with aircraft vendors these flights were not conducted in 2023/2024. The 2022 postseason flight resulted in spotting a large group of elk estimated at 500-600 animals in hunt area 123. This group is typically in the same area and was initially noted around 10 years ago, with around 75 elk. Each subsequent survey has resulted in an increase in elk numbers. During a winter sage-grouse survey in February of 2023, this same group was noted with an estimated 700 elk. This information has been provided at the landowner meetings, with cautionary statements being made by personnel about the ability of elk to increase exponentially in this habitat type and area of the state.

In elk herds consistently over objective, the Department is implementing more liberal harvest strategies. Even in areas of tightly controlled access it is important to ensure that there are sufficient license types, numbers and season lengths allowing for elk harvest for those desiring to decrease numbers. This is of particular importance concerning cows, as they drive the increase or decrease of the herd. The new Type 8 license gives the most flexibility to private landowners wishing to target cows and calves. This long season is designed to maximize harvest of antlerless elk on private land.

The majority of dissatisfied landowners reside within Hunt Area 113 and there is overall concern that there are too many elk in this hunt area. This has been a concern that has grown gradually over the last few years.

The Area 113 Type 1 license had 92% success, indicating that bulls were plentiful. The Type 3 license gave flexibility in targeting both antlerless and yearling elk. The 74% harvest success of this license type should have helped curb the continued growth of this herd. These licenses were available to continue to allow harvest flexibility with the ability to target young males and females. The continued issuance of these licenses will allow private landowners to manage elk and will provide the hunting public opportunity on the public lands in this hunt area.

2.) Herd Unit Objective: The herd objective needs to be updated for this herd unit. As there is no longer an option for a satisfaction based objective, a trend count objective will be developed and implemented. Adequate surveys need to be conducted to evaluate the current population and consultation with stakeholders need to occur first.

2023 - JCR Evaluation Form

SPECIES: Moose
HERD: MO313 - BIGHORN
HUNT AREAS: 1, 34, 42

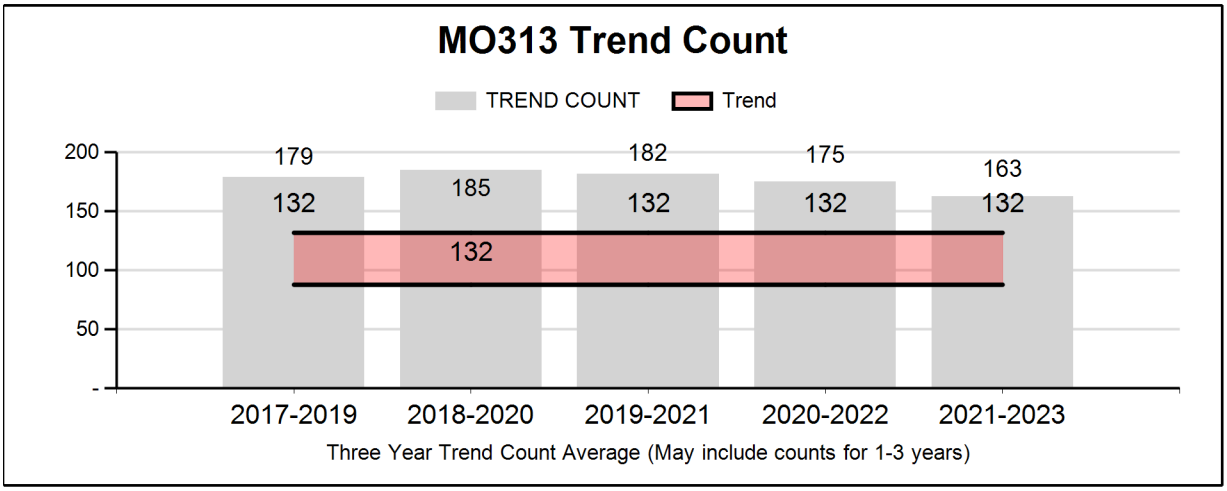
PERIOD: 6/1/2023 - 5/31/2024
PREPARED BY: ERIC MAICHAK

	2018 - 2022 Average	2023	2024 Proposed
Trend Count:	182	131	150
Harvest:	27	36	28
Hunters:	29	38	30
Hunter Success:	93%	95%	93%
Active Licenses:	29	38	29
Active License Success	93%	95%	97%
Recreation Days:	290	302	300
Days Per Animal:	10.7	8.4	10.7
Males per 100 Females:	80	65	
Juveniles per 100 Females	56	29	

Trend Based Objective (± 20%)	110 (88 - 132)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	19%
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:	18%	16%
Males ≥ 1 year old:	35%	35%
Juveniles (< 1 year old):	0%	0%



2024 HUNTING SEASONS
BIGHORN MOOSE HERD (MO313)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
1	1	Sep. 1	Sep. 30	Oct. 1	Oct. 31	8	Any moose, except cow moose with calf at side (7 residents, 1 nonresident)
1	4	Sep. 1	Sep. 30	Oct. 1	Oct. 31	6	Antlerless moose, except cow moose with calf at side (6 residents)
34	1	Sep. 1	Sep. 30	Oct. 1	Oct. 31	5	Any moose, except cow moose with calf at side (4 residents, 1 nonresident)
34	4	Sep. 1	Sep. 30	Oct. 1	Oct. 31	2	Antlerless moose, except cow moose with calf at side (2 residents)
42	1	Sep. 1	Sep. 30	Oct. 1	Oct. 31	7	Any moose, except cow moose with calf at side (7 residents)
42	4	Sep. 1	Sep. 30	Oct. 1	Oct. 31	2	Antlerless moose, except cow moose with calf at side (1 resident, 1 nonresident)

2024 Management Summary

1.) Hunting Season Evaluation: We manage this herd on a trend count objective of 110 moose (± 20%) based on a 3-year running average. We have also established sub-objectives for each hunt area to represent desired distribution of moose (Area 1 = 50; Area 34 = 30; Area 42 = 30). Habitat, weather, disease, and cause-specific mortality data are considered as available. In 2023, we observed 131 moose (Area 1 = 66; Area 34 = 33; Area 42 = 32), and a 3-year running average of 163 moose (Area 1 = 77; Area 34 = 33; Area 42 = 53). Over the past five years, we have observed more moose in each hunt area than desired. In 2023 we observed preseason ratios of 35 calves:100 cows (Area 1) and 15 calves:100 cows (Area 42), and a postseason ratio of 29 calves:100 cows (Area 34). Ratios of calves:100 cows were lower in Areas 34 and 42 than prior years.

Use of willows, based on live-dead index of leaders associated with marked plants, has trended downward since monitoring began in 2012. Negative indices denote excessive browsing and reduced overall plant cover and structure. Monitoring in the South Tongue watershed from 2012-2023 suggests steady decline of positive growth indices, with indices becoming negative for planeleaf willow in 2016, and Geyer's willow in 2023. Continued negative indices suggest long-term degradation of existing willow communities. Ongoing projects to rehabilitate willow communities include installation of beaver dam analogs, translocation of beavers, and conifer removal treatments to aspen and riparian communities in segments of the herd unit.

All Wyoming moose herds are managed for a high bull to cow ratio (i.e. 50-70 bulls:100 cows), preferably with a diverse age structure. Observed ratios of bulls:100 cows from 2021-2023 are relatively stable among all hunt areas, with 107 bulls:100 cows (Area 42), 75 bulls:100 cows (Area 34), and 38 bulls:100 cows (Area 1). To maintain adequate age structure and hunt quality, this herd also has established preferred harvest metrics of males, including 40% of harvested males greater than 5 years old, and a median age $\geq$ 4 years old for harvested bulls. From 2021-2023, 75% of hunter-harvested bulls (n=52) were greater than 5 years old, and median age = 6. Three-year averages of age were 6.6 (Area 42, n=22), 5.9 (Area 1, n=15), and 5.7 (Area 34, n=15) suggesting an adequate age structure in this population. Harvest success of active Type 1 licenses was 100% for all hunt areas, and 88% for Type 4 licenses with unsuccessful active license holders in Hunt Areas 34 and 42. Days per harvest of Type 4 licenses was 3.5, 8.5, and 7.2 for Hunt Areas 1, 34, and 42, respectively.

In response to trend count exceeding yet approaching objective, diminished calf:cow ratios, higher days/harvest of Type 4 licenses in Hunt Areas 34 and 42 than Hunt Area 1, and modest conditions, availability, and high use of willow habitat, we decreased Type 4 licenses in Area 34 and 42 to help balance population growth with available habitat. Managers are confident this limited female harvest is appropriate, desired and sustainable to keep moose populations at acceptable levels. We removed a Type 1 license from Area 34 and added it to Area 1 as counts tend to be greater in Area 1 than Area 34. Licenses allocated to residents and non-residents was made based on the 90:10 allocation of moose licenses to residents:non-residents,

2.) Management Objective Review: This herd is scheduled for its next 5-year herd unit review in 2025.

3) Research: We initiated a research project in 2017 investigating moose movements and seasonal habitat use. Collars have been retrieved and GPS data downloaded, with a master's thesis awaiting completion. These GPS data, in conjunction with WOS data, are being used to update moose seasonal ranges in 2024.

The University of Wyoming initiated a research project in January 2020 looking at the use of fecal DNA for a modified mark/recapture density abundance technique. Fecal samples were collected in 2020 and 2021. Analysis to identify individual animals is currently occurring. Results of this study may inform managers how current survey techniques and management objectives relate to an independent population estimate.