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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.

2024 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2024 - 5/31/2025

HERD: PR309 - PUMPKIN BUTTES

HUNT AREAS: 23

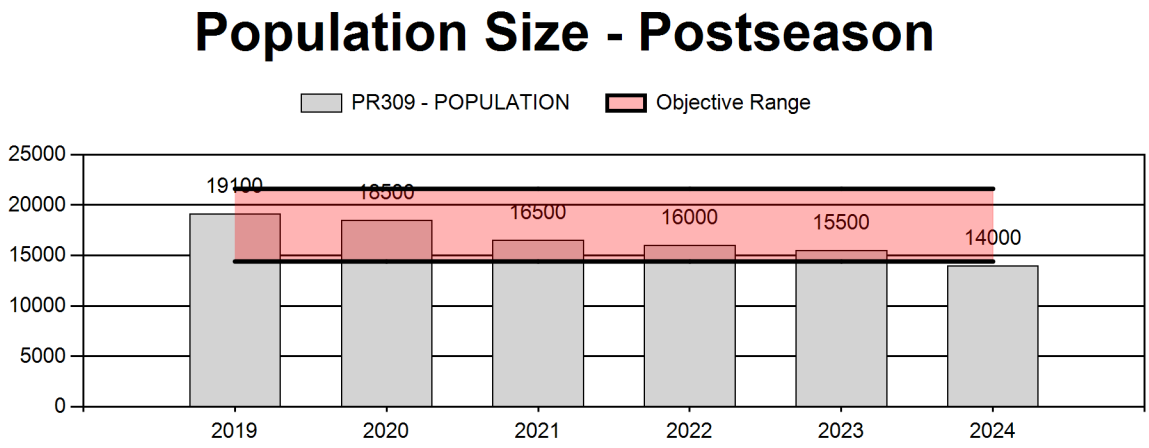
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Population:	17,120	14,000	13,200
Harvest:	2,289	1,997	1,996
Hunters:	2,361	1,908	1,900
Hunter Success:	97%	105%	105%
Active Licenses:	2,620	2,405	2,200
Active License Success:	87%	83%	91%
Recreation Days:	7,241	7,319	7,500
Days Per Animal:	3.2	3.7	3.8
Males per 100 Females	50	63	
Juveniles per 100 Females	79	79	

Population Objective (± 20%) :	18000 (14400 - 21600)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-22.2%
Number of years population has been + or - objective in recent trend:	5
Model Date:	2/21/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	7%	1%
Males ≥ 1 year old:	32%	28%
Proposed change in post-season population:	-6%	-6%



2025 HUNTING SEASONS
PUMPKIN BUTTES PRONGHORN (PR309)

Hunt		Archery Dates		Season Dates			
Area	Type	Opens	Closes	Opens	Closes	Quota	Limitations
23	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	550	Any Antelope
23	2	Aug. 15	Sep. 30	Oct. 1	Oct. 31	1500	Any antelope valid on private land
23	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	300	Doe or fawn
23	7	Aug. 15	Sep. 30	Oct. 1	Oct. 31	700	Doe or fawn valid on private land

2024 Hunter Satisfaction: 81% Satisfied, 13% Neutral, 6% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

The 2025 license issuance was designed to address a population below objective. The model indicates that this herd has been in a slowly declining trend since 2018. This decline can be explained by the relatively harsh winter of 2018-2019 followed by drought conditions. In addition to unfavorable rangeland conditions, the late summer and early fall of 2021 saw a severe outbreak of Epizootic Hemorrhagic Disease (EHD) and Blue Tongue Virus (BTV). Although the adverse climactic conditions and disease occurred a few years prior, the effects of these were still being noticed in subsequent years. The growing season of 2024 resulted in rangeland conditions with poor forage production and residual cover going into the winter of 2024-2025. According to the Palmer Drought Index half of the months of 2024 experienced either moderate or severe drought conditions. The winter of 2024-2025 was moderate.

As this is a predominately private land herd, landowner desires are also considered. Around 60% of the respondents felt that antelope numbers were where they liked them, and the 40% felt that they were low. In pronghorn surveys, it is not uncommon for one person to feel there are too few pronghorn, and a neighboring person to feel that there are too many. Although habitat and pronghorn densities can vary, it seems that responses are influenced by the value of pronghorn to the respondent.

Comments from public land hunters both in the field and on the harvest survey were overall negative regarding the number of animals seen. Negative comments are typically centered on public land hunts and the limited degree of access to public lands, however this year there were numerous comments regarding the lack of animals even on private land.

Observed fawn ratios have varied over the last several years but are typically within the range of 70-90 fawns per 100 does with a preceding 5-year average of 85:100. In 2024, we observed 79 fawns per 100 does. Production continuing at this rate should result in an increasing population.

It is estimated that the percentage of buck harvest over the preceding three-year period is 28% of the total bucks. With this license issuance, the herd is predicted to be 22% below objective, with 28% of the mature bucks being harvested.

Management Objective Review

This herd is managed with a post-season population objective of 18,000 pronghorn and a private lands management strategy. The management objective for this herd was reviewed in 2025. After consideration of available data and long-term habitat conditions, managers felt that the population objective and management strategy did not warrant changing. Although the herd is currently estimated to be 22% below objective, with favorable environmental conditions, it is feasible the population will be within the acceptable range in the next few years.

The next herd unit management review will be conducted in 2029.

Population Modeling

The 2025 postseason population estimate for this herd unit from the model was approximately 13,200 pronghorn. The IPM illustrates a slow decline over time, while ground observations over the years suggest a population that ebbs and flows, but is certainly lower than what it was 15 years ago. Overall harvest success on active licenses decreased from 90% in 2023 to 83% in 2024. The Type 1 and Type 6 license success remained about the same with both types around 75% success. These tags are utilized on public lands and typically experience a lower success rate than the Type 2 and Type 7 licenses, which are valid on private lands only. Type 2 license success was around 88% which is in line with the preceding 5-year average of 89%.

In June of 2023, a line transect was flown in this herd unit for the 2022 biological year. This independent abundance estimate was 18,400 pronghorn (CI 13,550-25,270), which is higher than the IPM estimate, but still considered reasonable.

With no changes to license issues, the population is estimated to decrease slightly. This model is considered a good model (convergence likely and proportion of 1).

2024 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2024 - 5/31/2025

HERD: PR318 - CRAZY WOMAN

HUNT AREAS: 22, 113

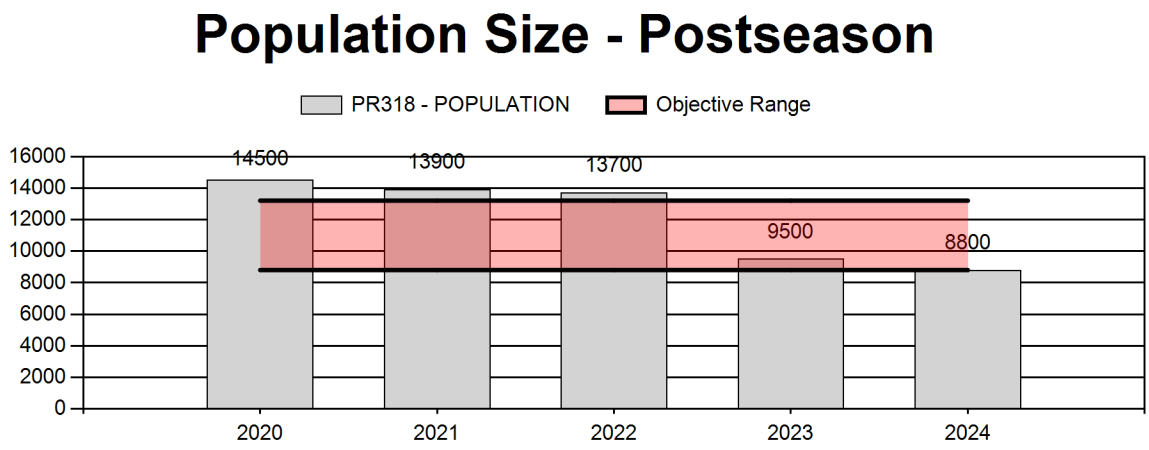
PREPARED BY: ZACH TURNBULL

	2019 - 2023 Average	2024	2025 Proposed
Population:	13,340	8,800	8,400
Harvest:	1,228	706	580
Hunters:	1,484	812	925
Hunter Success:	83%	87%	63 %
Active Licenses:	1,626	966	830
Active License Success:	76%	73%	70 %
Recreation Days:	5,720	4,026	3,300
Days Per Animal:	4.7	5.7	5.7
Males per 100 Females	53	63	
Juveniles per 100 Females	72	86	

Population Objective (± 20%) :	11000 (8800 - 13200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-20%
Number of years population has been + or - objective in recent trend:	5
Model Date:	02/27/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	4%	5%
Males ≥ 1 year old:	26%	25%
Proposed change in post-season population:	-9%	5%



2025 Hunting Seasons
Crazy Woman Pronghorn (PR318)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
22	1	Aug. 15	Sep. 30	Oct. 1	Oct. 31	600	Any antelope
22	6			Sep. 1	Sep. 30	150	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	75	Any antelope
113	2	Aug. 15	Sep. 30	Oct. 11	Oct. 31	75	Any antelope
113	6	Aug. 15	Sep. 30	Oct. 1	Oct. 31	25	Doe or fawn

2024 Hunter Satisfaction: 73% Satisfied, 13% Neutral, 14% Dissatisfied
2024 Landowner Satisfaction: 15% Satisfied, 54% Neutral, 31% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

Hunter satisfaction in 2024 was similar to the previous year, despite lower success and high days/harvest. Fawn ratios in 2024 (86:100) improved from the 5-year average (72:100). Some hunter crowding is to be expected on the limited available public lands. Land ownership and access limits harvest opportunity in this herd unit. The herd is likely still suffering impacts of severe drought conditions in 2020 and 2021, and disease events (epizootic hemorrhagic and bluetongue virus) in 2021 and 2022. A large wildland fire impacted the unit in the summer of 2024, consuming nearly 175,000 acres of pronghorn habitat. Landowners generally indicated numbers were at or below desired levels, and expressed concerns about drought, disease and fire impacts. License reductions in 2022 and 2023 appeared to alleviate some hunter crowding with similar success compared to 2024 (Table 1).

Based on these trends, opportunity was reduced in the unit with a reduction in Type 1 and 2 any antelope licenses. The herd unit has seen marked declines in harvest metrics, particularly over the last five years. Type 6 license success in 2024 was 57% in HA 113 and 70% in HA 22. Type 1 and 2 license success ranged from 51% in HA 113 to 79% in HA 22. Some landowners in the area are particularly concerned with population numbers. With this license issuance, 22% of the mature bucks are predicted to be harvested in 2025.

Doe/fawn license (Type 6) allocations were slightly reduced across the hunt area 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. We maintained limited doe harvest for hunter opportunity and area specific population concerns. This level of doe harvest won't limit population growth across the herd unit.

Table 1. PR 318 Harvest Summary 2015-2024.

	HUNTERS			SUCCESS			
Year	Res Htrs	NRes Htrs	Total Htrs	Hntrs	Act Lic	Hntr Days	Days to Harv
2015	298	1,687	1,985	91%	86%	6,834	3.8
2016	216	1,699	1,915	86%	80%	6,730	4.1
2017	245	1,521	1,766	95%	86%	5,876	3.5
2018	189	1,650	1,839	98%	89%	5,746	3.2
2019	162	1,640	1,802	86%	80%	6,055	3.9
2020	149	1,554	1,703	87%	81%	6,141	4.1
2021	203	1,557	1,760	72%	68%	7,196	5.6
2022	270	909	1,179	80%	75%	4,333	4.6
2023	269	706	975	91%	73%	4,873	5.5
2024	275	537	812	87%	73%	4,026	5.7

Management Objective Review

The Crazy Woman herd is managed as a recreational herd with a post-season population objective of 11,000 pronghorn. The next herd unit review is scheduled for 2028.

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 1). 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 field observations. Traditional single herd analysis produced an estimate of 14,000 pronghorn.

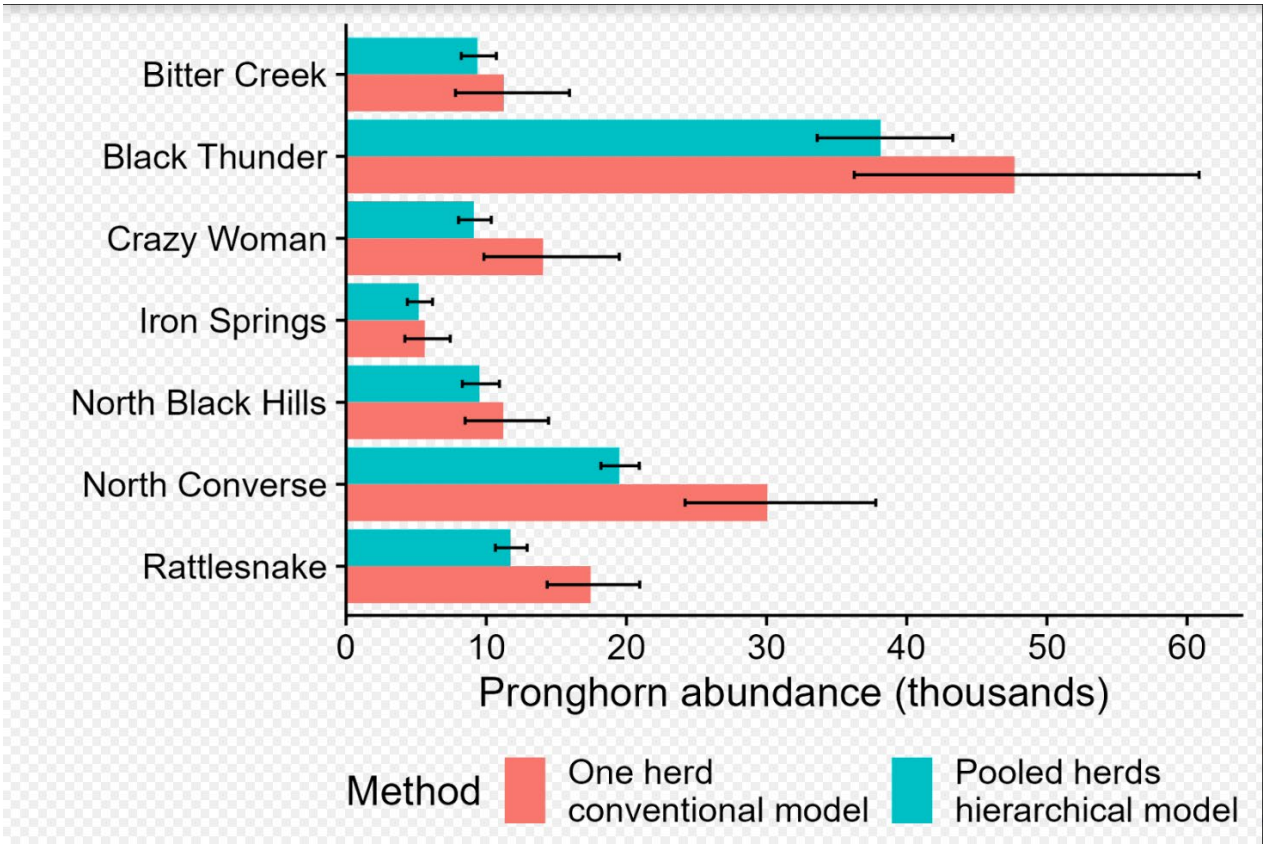


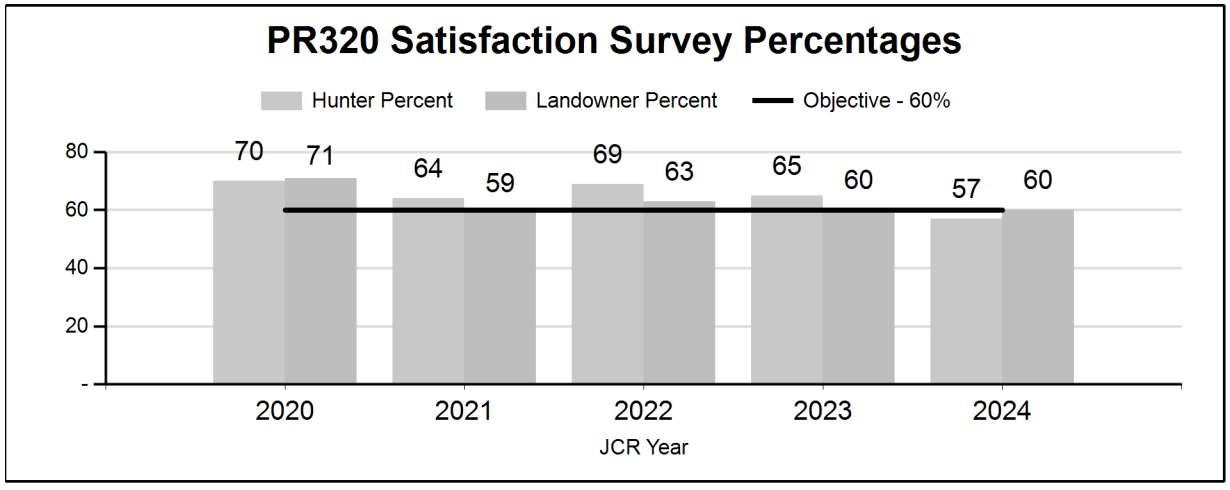
Figure 1. Comparison of single herd analysis and pooled hierarchical modeling 2022.

2024 - JCR Evaluation Form

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

PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ZACH TURNBULL

	2019 - 2023 Average	2024	2025 Proposed
Hunter Satisfaction Percent	68%	57%	70%
Landowner Satisfaction Percent	60%	57%	60%
Harvest:	891	545	500
Hunters:	1,187	779	800
Hunter Success:	75%	70%	62%
Active Licenses:	1,359	984	1,000
Active License Success:	66%	55%	50%
Recreation Days:	5,110	4,252	3,700
Days Per Animal:	5.7	7.8	7.4
Males per 100 Females:	62	56	
Juveniles per 100 Females	72	77	
Satisfaction Based Objective			83%
Management Strategy:			Private Land
Percent population is above (+) or (-) objective:			-26%
Number of years population has been + or - objective in recent trend:			4



2025 Hunting Seasons
Hazelton Pronghorn (PR320)

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
20	1	Aug. 15	Oct. 14	Oct. 15	Nov. 15	300	Any antelope
20	6	Aug. 15	Oct. 14	Oct. 15	Nov. 15	100	Doe or fawn
102	1	Aug. 15	Oct. 14	Oct. 15	Nov. 15	300	Any antelope
102	6			Sep. 1	Sep. 30	175	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

2024 Hunter Satisfaction: 57% Satisfied, 25% Neutral, 19% Dissatisfied
2024 Landowner Satisfaction: 4% Above, 57% At, 39% Below Desired Levels

2025 Management Summary

Hunting Season Evaluation

Pronghorn harvest in 2024 was poor, with high days/harvest (7.8) and low harvest success (55% 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 improved in 2024 (77:100) following a low in 2023 (62:100). Harvest is limited by access to private lands. The majority of landowners felt that numbers were at (57%), or below (39%) desired levels, which is slightly surprising when contrasted to field observation and hunter comments.

Licenses were reduced in HA 20 by 50 for both type 1 and type 6. This slight reduction follows significant reductions in previous years. In hunt area 102 type 1 licenses were reduced by 50, and doe licenses reduced by 125. These reductions were the first significant cuts to the hunt area in recent years. The herd is managed for satisfaction and lacks significant data on herd size and population numbers. This being said, using the best estimates, this license issuance will harvest an estimated 32% of adult males in 2025.

Management Objective Review

The Hazelton herd is managed for hunter and landowner satisfaction (60% or above), and private land strategies. The next herd unit objective review is scheduled for 2028.

Table 1. PR320 Harvest statistics 2015-2024.

Year	Res Htrs	NRes Htrs	Tot Harv	Hntrs	Act Lic	Hntr Days	Days to Harv
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
2024	260	519	545	70%	55%	4,252	7.8

Landowner Survey

The annual landowner survey had twenty-three (n=23) survey returns. Landowner satisfaction was acceptable. Most landowners (57%), felt that pronghorn were at desired levels, and 39 % felt numbers were lower than desired. This input, along with hunter metrics, hunter comments, and hunter interactions in the field largely contributed to the small reduction in opportunity for 2024.

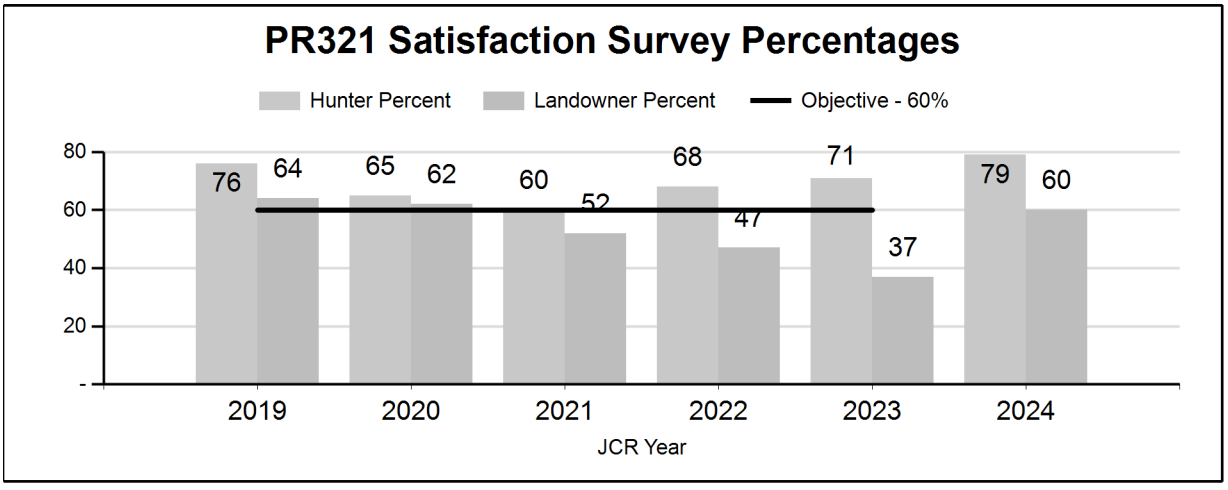
2024 - JCR Evaluation Form

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

PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ERIC MAICHAK

	2019 - 2023 Average	2024	2025 Proposed
Hunter Satisfaction Percent	68%	79%	75%
Landowner Satisfaction Percent	52%	60%	60%
Harvest:	1,237	617	617
Hunters:	1,725	760	760
Hunter Success:	72%	81%	81 %
Active Licenses:	1,871	866	866
Active License Success:	66%	71%	71 %
Recreation Days:	6,326	2,895	2,900
Days Per Animal:	5.1	4.7	4.7
Males per 100 Females:	43	31	
Juveniles per 100 Females	59	49	

Satisfaction Based Objective	60%
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	10%
Number of years population has been + or - objective in recent trend:	3



2025 HUNTING SEASONS
LEITER PRONGHORN (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

2024 Hunter Satisfaction Estimate: 79% Satisfied; 14% Neutral; 7% Dissatisfied
2024 Landowner Satisfaction Estimate: Population at preferred level: 61%; Same seasons, 75%

2025 Management Summary

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, comments from landowners and hunters, classification ratios, population model, and adult buck harvest estimates. Weather, disease, and habitat data are considered as available.

The 2024-25 annual landowner survey results suggest landowners felt pronghorn numbers were at (n=19; 61%), below (n=10; 32%), or above (n=2; 7%) preferred levels, an improvement over the previous two years as this population appears to be trending up. Of respondents, those from Area 15 indicated populations near preferred levels more than landowners from Areas 10 or 16. Relative to 2024, landowners felt 2025 seasons should be set with similar (n=21; 75%), more (n=4; 14%), or fewer (n=3; 11%) opportunities. Four of 18 landowners from Area 15 favored increased hunting season opportunities.

Among hunter comments (n=53), 45% were positive, some suggesting populations were improved from previous years. Negative comments (51%) mostly regarded lower populations than prior years and access issues. Satisfaction was 79%, up from 71% and 68% in 2023 and 2022, respectively. Days hunted per animal harvested for Type 1 licenses was 4.2 compared to 4.4 in 2023. Type 6 licenses improved to 5.6 from 8.1 days/harvested animal in 2023. Harvest success for active Type 1 licenses was 96%, 69%, and 72% for Hunt Areas 10, 15, and 16, respectively. Few does were harvested on Type 1 licenses. Success of Type 6 licenses was 71%, 53%, and 73% for Hunt Areas 10, 15, and 16, respectively.

Spring of 2024 saw limited precipitation, and summer was hot and dry. By September, three large wildfires burned several thousand acres of sagebrush in the northwest, northeast, and southern portions of the area. Several smaller wildfires burned additional acreage throughout the herd unit. Winter of 2024-25 started open and mild, with average snowfall and temperatures during January and February.

Production and recruitment, measured by observed classifications ratios, have declined since the last peak in 2014. We observed 31 bucks:100 does, and 49 fawns:100 does. These ratios are down from previous five year averages of 43 bucks:100 does, and 59 fawns:100 does. This population has continued to recover from drought, epizootic hemorrhagic disease virus (EHDV) and bluetongue virus (BTV) in 2021, and repeated wildfires burning winter habitat.

We made no changes to this season to maintain landowner and hunter satisfaction, and help the population recover to previous levels.

Management Objective Review

The Leiter Herd Unit was created in 2014 by merging the Clearmont (PR308) and Ucross (PR353) Herd Units. Given the large proportion of private land in this herd, a primary management objective of ≥ 60% landowner and hunter satisfaction, and a secondary objective of ≥ 30 bucks:100 does, were established. 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 13,000 pronghorn. This proposed objective revision will be presented during the July 2025 Commission meeting for approval.

Population Modeling

The 2024 integrated population model (IPM) adjusted with line-transect (LT) survey information (Appendix A) estimated a postseason population of 9,720 pronghorn (95% CI = 8,953-10,575). The estimated 2025 postseason population was 10,721. Estimated harvest of bucks >1 year old relative to total population based on the IPM was 0.18 in 2024, down from 2023 (0.21), with a three year average of 0.21, and predicted at 0.20 in 2025. The model performed well (Rhat proportion = 0.82) with date range 2007-2026; effort = licenses; effort prediction method = spline; reproduction = constant; adult and juvenile survival = time varying; burnin = 50,000; iterations = 30,500; and thinning rate = 1.

Line Transect Survey

In 2024, based on a line-transect survey where we flew nearly 2,500 km over three days, counting 374 groups of pronghorn, we estimated the end-of-biological year (i.e., May 2024) population of 9,084 (95% CI = 8,367-9861). This estimate was based on pooled analysis among all herds surveyed over this and the previous two years.

2024 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2024 - 5/31/2025

HERD: PR339 - NORTH BLACK HILLS

HUNT AREAS: 1-3, 18-19

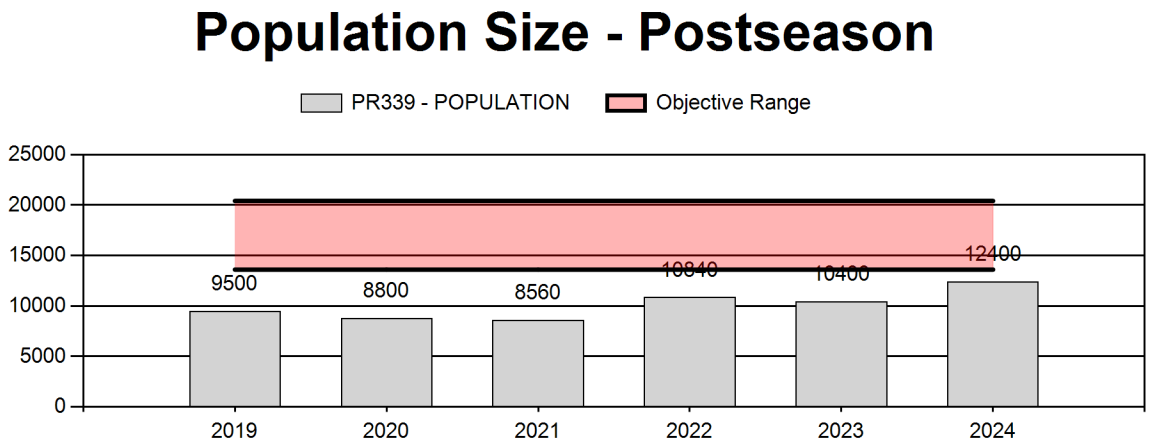
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Population:	9,620	12,400	12,400
Harvest:	1,094	990	1,000
Hunters:	1,240	1,028	1,050
Hunter Success:	88%	96%	95%
Active Licenses:	1,394	1,171	1,200
Active License Success:	78%	85%	83%
Recreation Days:	4,294	3,925	4,000
Days Per Animal:	3.9	4.0	4
Males per 100 Females	41	34	
Juveniles per 100 Females	66	72	

Population Objective (± 20%) :	17000 (13600 - 20400)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-27.1%
Number of years population has been + or - objective in recent trend:	5
Model Date:	2/19/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	3%	4%
Males ≥ 1 year old:	31%	31%
Proposed change in post-season population:	7%	10%



2025 HUNTING SEASONS
NORTH BLACK HILLS PRONGHORN (PR339)

Hunt		Archery Dates		Season Dates			
Area	Type	Opens	Closes	Opens	Closes	Quota	Limitations
1	1	Aug 15	Sep. 30	Oct. 1	Nov. 20	400	Any Antelope
1	6	Aug. 15	Sep. 30	Oct. 1	Nov. 20	75	Doe or fawn
2	1	Aug. 15	Sep. 30	Oct. 1	Nov. 20	150	Any antelope
3	1	Aug. 15	Sep. 30	Oct. 1	Nov. 20	225	Any antelope
3	6	Aug. 15	Sep. 30	Oct. 1	Nov. 20	25	Doe or fawn
18	1	Aug. 15	Sep. 30	Oct. 1	Oct. 20	250	Any antelope
18	6	Aug. 15	Sep. 30	Oct. 1	Oct. 20	25	Doe or fawn
18	7	Aug. 15	Sep. 30	Oct. 1	Oct. 20	25	Doe or fawn valid on private land
19	1	Aug. 15	Sep. 30	Oct. 1	Oct. 20	250	Any antelope
19	7	Aug. 15	Sep. 30	Oct. 1	Oct. 20	100	Doe or fawn valid on private land

2024 Hunter Satisfaction: 87% Satisfied, 9% Neutral, 4% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

The North Black Hills Herd Unit is predominantly private land access with the exception of Hunt Area 18, and to some degree, Hunt Area 1. This herd has been trending slightly upward the last few years after a marked decline. This decline can be explained by relatively harsh winters, drought conditions and epizootic hemorrhagic disease outbreak that were experienced the past few years. Although 2024 was considered a drought year, with six out of twelve months experiencing drought conditions according to the Palmer Drought Index, fawn production has been fair in some of the hunt areas and currently, the herd is trending upwards.

Type 1 licenses were increased in Hunt Areas 1 and 18. Harvest success in these areas were both around 90%. When looking at harvest success and fawn ratios, these areas appeared to be more stable than the others. Even with additional licenses available in Hunt Areas 1 and 18, harvest has remained around 90%. Hunt Area 2 has fairly low success for pronghorn (77%) and the observed fawn ratios from 2024 classification surveys resulted in 77 fawns per 100 does. This observation is much improved from the 2023 classification data that indicated a fawn ratio of

36:100. As this herd is modeling below objective, there was no change to doe/fawn license issuance with the exception of Hunt Area 19, which had a success rate of 98% on the Type 6 licenses and was increased by 50 licenses. Pronghorn are not evenly distributed across the herd unit. Hunt Areas 1, 18 and 19 are performing better while Hunt Area 2 and 3 continue to struggle. Although managers have thought that the hunt areas within this herd unit are not likely all part of the same population, this is how this herd has been managed. Oftentimes, population trends vary greatly from hunt area to hunt area within this herd unit, particularly when comparing 18 and 19 to areas 1, 2 and 3. With the inception of a collaring project in 2022, data has been coming in to support the idea that there is more than one population of pronghorn. Once this study is completed, data will be analyzed and utilized to better define population boundaries. Due to this disparity, sometimes there are harvest strategies implemented that do not align with the overall population objective, but are addressing issues in certain hunt areas.

As this is a private land herd, landowner surveys are also considered. Thirty-nine percent of landowners who responded to the survey felt that pronghorn numbers were below desired levels, with the remaining respondents split between too many or about the right number of pronghorn. The estimated percentage of buck harvest over the preceding three-year period was 31% of the total bucks. With this license issuance, the herd is predicted to be 27% below objective, with 31% of the mature bucks being harvested.

Management Objective Review

The management objective was internally reviewed in 2025. The postseason population objective of 17,000 (±20%) pronghorn and recreational management strategy was last brought for public review in 2020. The 2025 post-season population estimate is 12,400 pronghorn. This estimate is derived from the IPM and is considered a good model. Currently the model shows that this herd is within 27% below objective. This herd is in an increasing trend and with this continued trajectory getting within 20% of the objective should happen within the next couple years. After considering all other available information concerning the population, land access, weather and habitat data from the past five years, local managers believe the current population objective and management strategy were appropriate and were retained.

The next herd unit review will be in 2030.

Population Modeling

The 2024 postseason estimate from the IPM was approximately 11,273 (9,997-12,624) pronghorn and is considered a good model. Both field observations and the model indicate that this herd is in a slow but upward trend, although still below the objective of 17,000 pronghorn.

2024 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2024 - 5/31/2025

HERD: PR351 - GILLETTE

HUNT AREAS: 17

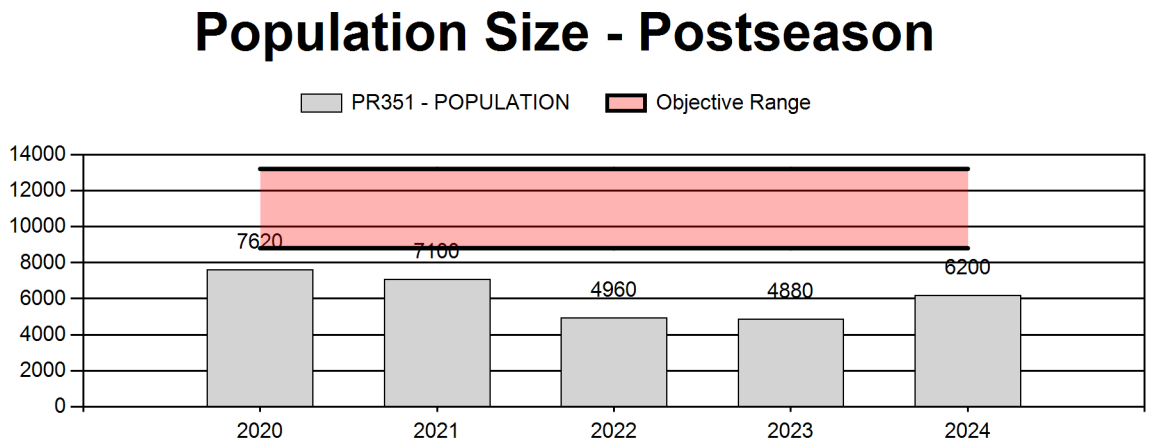
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Population:	6,508	6,200	6,500
Harvest:	705	367	350
Hunters:	905	456	450
Hunter Success:	78%	80%	78 %
Active Licenses:	940	473	470
Active License Success:	75%	78%	74 %
Recreation Days:	3,075	2,009	2,000
Days Per Animal:	4.4	5.5	5.7
Males per 100 Females	41	41	
Juveniles per 100 Females	51	57	

Population Objective (± 20%) :	11000 (8800 - 13200)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-43.6%
Number of years population has been + or - objective in recent trend:	4
Model Date:	2/15/2015

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

	JCR Year	Proposed
Females ≥ 1 year old:	1%	1%
Males ≥ 1 year old:	31%	31%
Proposed change in post-season population:	8%	5%



2025 HUNTING SEASONS
GILLETTE PRONGHORN (PR351)

Hunt		Archery Dates		Season Dates			
Area	Type	Opens	Closes	Opens	Closes	Quota	Limitations
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

2024 Hunter Satisfaction: 76% Satisfied, 13% Neutral, 11% Dissatisfied

Hunting Season Evaluation

The 2025 license issuance was designed to address a population that has declined the last several years and allows for a predicted slight increase in population. This herd has been in a decline since 2016, according to the model, which aligns with field observations. Declines in recent years coincide with harsh winters, droughty summers and disease outbreaks. The summer and fall of 2024 were very hot and dry, with six out of twelve months in 2024 experiencing drought of some level according to the Palmer Drought Index. In August, numerous wildfires occurred in portions of this herd unit. Although not all of these fires were in pronghorn habitat, many pronghorn were likely displaced. Between three major wildfires, we estimated approximately 85,000 acres burned in this herd unit.

In looking closer at data for this herd unit, considering all the factors, it is not surprising that the observed fawn ratios in this herd have been low in the preceding five-year period, averaging only 54:100. As this is a predominantly private lands herd with limited access, buck ratios are fairly high with the preceding 5-year average of 39 bucks per 100 does.

Comments from both hunters and landowners expressed concern with the numbers of pronghorn. As this is a predominantly private land herd, landowner desires are considered. Respondents were evenly split on the pronghorn being below where they would like and thinking numbers in 2024 were optimal (n=32). It is estimated the percentage of buck harvest over the preceding three-year period is 31% of the total bucks. We maintained a limited number of doe licenses to provide some recreational opportunity and allow landowners to address damage issues in some areas. With this license issuance, the herd is predicted to be 43% below objective, with 31% of the mature bucks being harvested.

Management Objective Review

This herd is managed by a post-season population objective of 11,000 and a recreational management strategy. The herd objective and management strategy were reviewed in 2025. Although the herd is below objective, it is predicted to be trending upwards and it does not necessitate a change. The next herd unit management review will be in 2030.

Population Modeling

The 2024 postseason population estimate for this herd unit was approximately 6,200 pronghorn using the PopR IPM (CL=5,220-7,234).

Since 2017, the harvest success has been decreasing, even with reduction of licenses throughout this time. Although the harvest success in 2024 was up slightly from 2023 to 78% from 73%, the days per harvest was reported as 5.5 days which is the highest on record for this herd. Declining harvest with reduced license issuance and increasing days per harvest all indicate that this herd is likely declining. The extensive fire season in 2024 may have influenced days per harvest.

Viewing the observed fawn ratios also illustrates why this herd is likely modeling in such a downward trajectory. With the exception of 2023 (observed fawn ratio of 74:100), since 2016 fawn ratios have been in the 40's to 50's, which does not support an increasing population.

2024 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2024 - 5/31/2025

HERD: PR352 - MIDDLE FORK

HUNT AREAS: 21

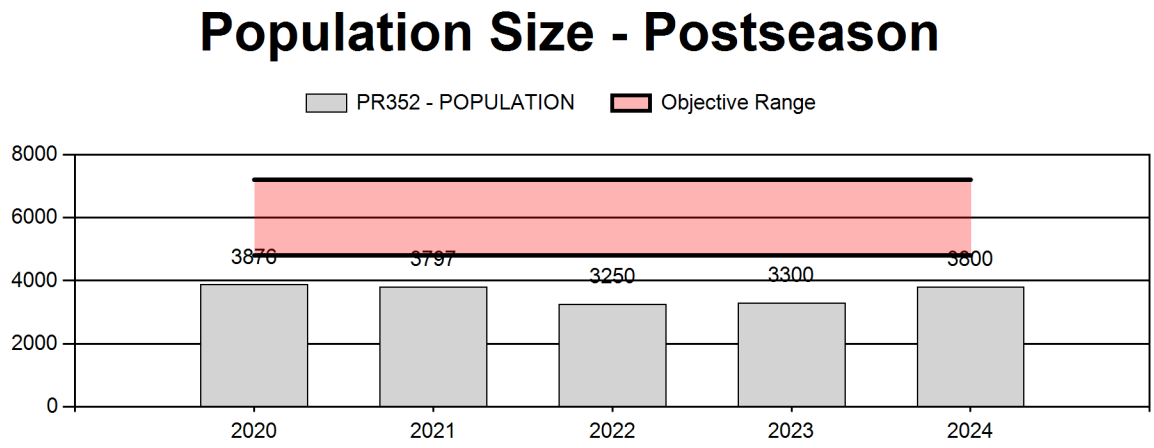
PREPARED BY: ZACH TURNBULL

	2019 - 2023 Average	2024	2025 Proposed
Population:	3,635	3,800	3,400
Harvest:	405	270	270
Hunters:	567	378	450
Hunter Success:	71%	71%	60%
Active Licenses:	627	406	380
Active License Success:	65%	67%	71 %
Recreation Days:	2,131	1,268	1,200
Days Per Animal:	5.3	4.7	4.4
Males per 100 Females	42	76	
Juveniles per 100 Females	66	90	

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:	13
Model Date:	2/8/2024

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

	JCR Year	Proposed
Females ≥ 1 year old:	8%	9%
Males ≥ 1 year old:	23%	25%
Proposed change in post-season population:	37%	1.01%



2025 Hunting Seasons
Middle Fork Pronghorn (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

2024 Hunter Satisfaction: 69% Satisfied, 15% Neutral, 17% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

The current season structure is intended to bring the population back to objective (6,000) and increase hunter satisfaction, while minimizing damage and limiting crowding on public lands. Some hunter crowding on public lands is expected due to the limited amount available for access. Starting in 2020, harvest statistics began to deteriorate. To address these concerns and a downward trending population, licenses were reduced in 2022. Harvest metrics and satisfaction improved or stabilized slightly in the past couple years. (Table 1).

Type 6 licenses were reduced slightly in 2024 due to continued population concerns, and stagnant hunter harvest metrics. This reduction was intended to bring the population back to objective while still providing limited recreational opportunity and the ability to address damage concerns. With this license issuance, 25% of the mature bucks are predicted to be harvested in 2025. Fawn production in 2024 appeared to increase significantly (90:100 does in 2024), which hopefully indicates a rebound in the population and more favorable habitat conditions, but may reflect classification biases. Most landowners (71%), felt that pronghorn were at desired levels, and 14% felt numbers were lower than desired.

Management Objective Review

The herd is managed as a recreational herd with an objective of 6,000 pronghorn. The herd is scheduled for population objective review in 2028.

Table 1. PR 352 Harvest Summary 2015-2024.

Year	Res Htrs	NRes Htrs	Total Htrs	Hntrs	Act Lic	Hntr Days	Days to Harv
2015	45	520	565	92%	81%	2,661	5.1
2016	62	532	594	85%	78%	1,988	3.9
2017	115	517	632	92%	83%	1,900	3.3
2018	97	649	746	95%	85%	2,600	3.7
2019	123	648	771	75%	68%	2,293	4
2020	117	614	731	67%	62%	2,763	5.6
2021	146	471	617	62%	56%	2,807	7.4
2022	155	250	405	73%	69%	1,359	4.6
2023	175	136	311	91%	72%	1,431	5.1
2024	284	94	378	71%	67%	1,268	4.7

Line Transect Survey

Line transects estimates for the herd have varied greatly. We conducted line transect (LT) surveys most recently in 2021 and 2024. Surveys were completed using a Husky Aviat supplied by Flightline LFS, Inc and one observer. Using a new pooled hierarchical model to analyze results the survey produced an estimate of 3,560 pronghorn (Figure 1). Unlike many traditional models, the pooled model uses other similar line transect flights to inform the model. This estimate seems to reasonably represent the population and field observations. Traditional single herd analysis produced an estimate of 7,100.

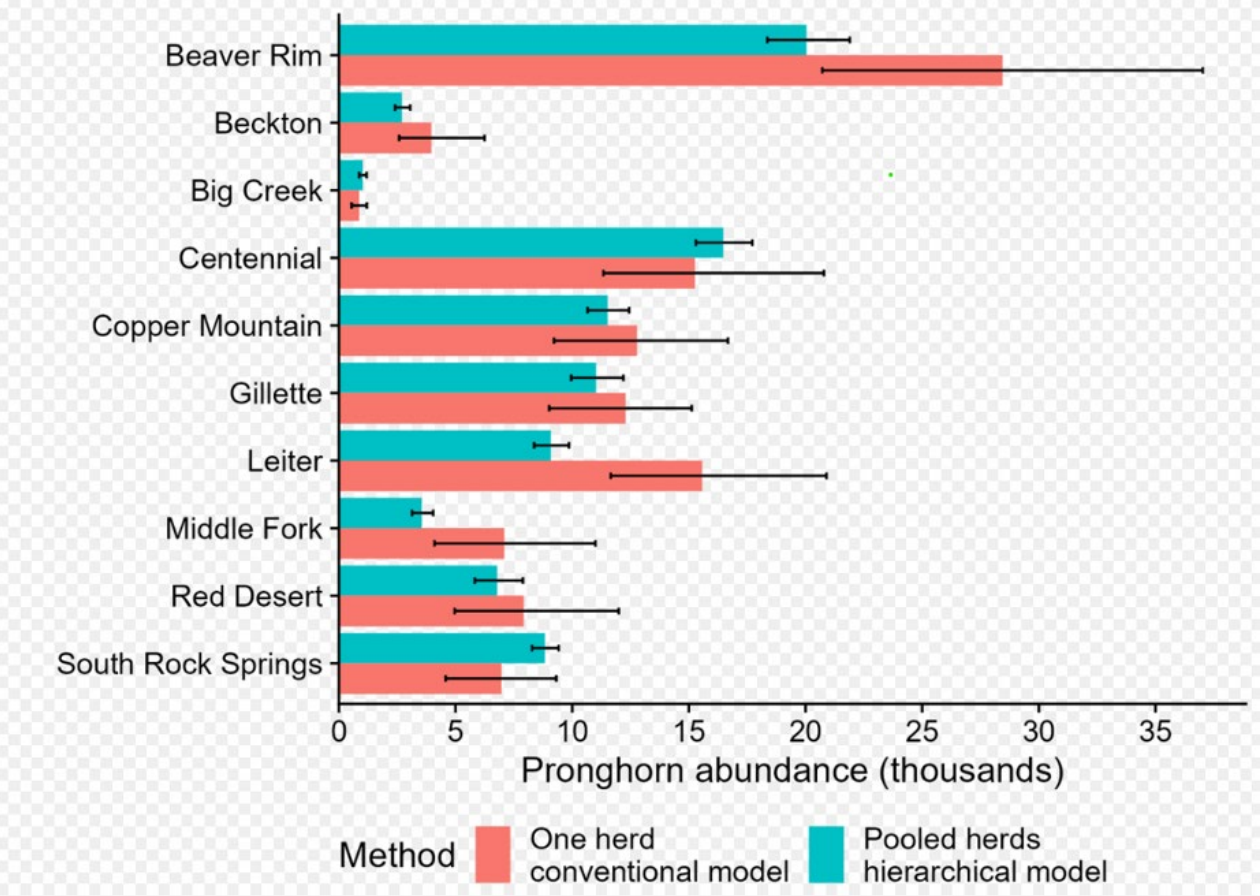


Figure 1. 2024 Pooled Line Transect Population Estimates.

2024 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2024 - 5/31/2025

HERD: PR355 - BECKTON

HUNT AREAS: 109
PREPARED BY: ERIC MAICHAK

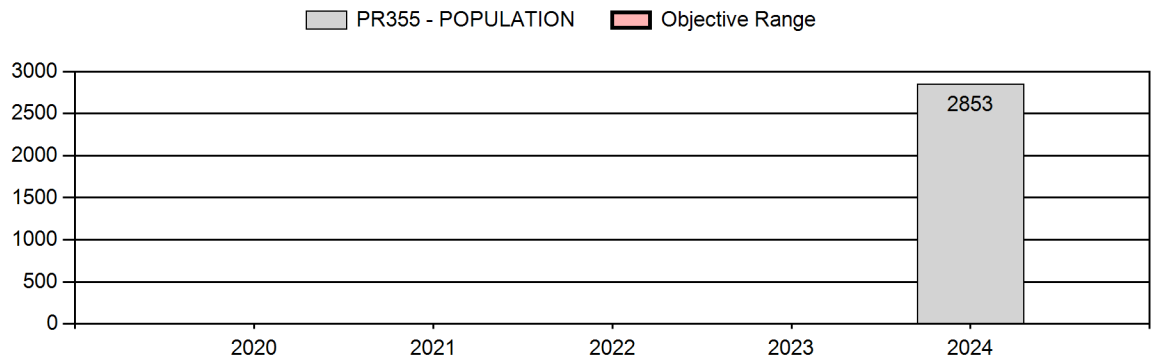
	2019 - 2023 Average	2024	2025 Proposed
Population:	0	2,853	3,000
Harvest:	314	135	175
Hunters:	447	220	250
Hunter Success:	70%	61%	70%
Active Licenses:	510	287	275
Active License Success:	62%	47%	64%
Recreation Days:	1,837	1,483	1,400
Days Per Animal:	5.9	11.0	8
Males per 100 Females	30	24	
Juveniles per 100 Females	59	72	

Population Objective (± 20%) :	1500 (1200 - 1800)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	90%
Number of years population has been + or - objective in recent trend:	1
Model Date:	02/05/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	3%	5%
Males ≥ 1 year old:	15%	10%
Proposed change in post-season population:	5%	5%

Population Size - Postseason



2025 HUNTING SEASONS
BECKTON PRONGHORN (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

2024 Hunter Satisfaction Estimate: 48% Satisfied; 24% Neutral; 28% Dissatisfied

2025 Management Summary

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, comments from landowners and hunters, classification ratios, population modeling, and harvest estimates. Weather, disease, and habitat data are incorporated as available.

The 2024-25 annual landowner survey results tended more toward populations slightly below preferred levels with similar harvest opportunities. Landowners felt pronghorn numbers were below (n=7; 39%), near (n=6; 33%), or above (n=5; 28%) preferred levels. Landowners felt seasons should be set for similar (n=11; 61%), more (n=5; 28%), or less (n=2; 11%) opportunities.

Hunter satisfaction (very satisfied + satisfied) was 49%, down from 72% in 2023. Effort increased for Type 1 licenses as days hunted per animal harvested was 9.6 in 2024 and 5.4 in 2023. Effort increased for Type 6 licenses as days hunted per animal harvested was 13.2 in 2024 versus 8.2 in 2023. Success decreased for Type 1 (64% 2023; 51% 2024) and Type 6 licenses (50% 2023; 42% 2024). This herd had reduced opportunity in 2024 resulting from a later regular season start date (i.e., September 15 to October 1), and road closures and restricted accessibility during much of October due to the Elk Fire. Hunter comments (n=34) generally reflected frustration with opening date change, lower numbers of pronghorn compared to previous years, difficult access, and effects of the fire.

We observed 24 bucks:100 does during preseason August classification surveys, lower than the previous 5-year average of 31:100 bucks. We observed 72 fawns:100 does during preseason August classification surveys, higher than the previous 5-year average of 57 fawns:100 does.

Summer of 2024 was hot and dry. The Elk Fire burned along the western boundary of the herd unit. The 2024-25 winter was characterized by a mild start through December and average snowfall and cold temperatures in much of January and February.

Given the shortened season, regular season hunters were forced to start in October. Compressing pronghorn hunters onto limited public lands likely increased competition during the first fifteen days of the season. Overlap with deer hunters from October 15 to 31 further increased crowding. These effects were exacerbated by Elk Fire road closures that further forced many individuals to hunt only the eastern and southern portions of Hunt Area 109. The end result was that many

pronghorn stayed on or rarely left private lands and were unavailable for harvest, even well into the season.

We made no changes to this season.

Management Objective Review

Herd unit objective was updated from 60% landowner and hunter satisfaction to a population objective of 1,500 pronghorn in 2024. The next scheduled review will be 2029.

Population Modeling

The 2024 postseason integrated population model (IPM) adjusted with line-transect (LT) survey information (Appendix A) estimated 2,855 pronghorn (95% CI = 2,455-3,287). The 2025 postseason population estimate was 3,226. Estimated harvest of bucks >1 year old relative to total population based on the IPM was 0.16 in 2024, down from 2023 (0.21), with a 3-year average of 0.20, and predicted at 0.23 in 2025. This model performed (Rhat proportion = 0.74) with date range 2012-2026; reproduction = constant; adult and juvenile survival = time varying; effort = recreation days; effort prediction method = spline; burnin = 50,000; iterations = 30,500; and thinning rate = 1.

Although our population estimate (2,853) exceeds the objective (1,500), our objective was developed prior to conducting an LT survey. The management objective will need to be reevaluated in light of the LT estimate and current population modeling.

Line Transect Survey

In 2024, we conducted an LT survey where we flew 921 km in one day, counting 121 groups of pronghorn. Following pooled analysis (combining data from all other herds flown this and the previous 2 years), we estimated an end-of-biological year (i.e., May 2024) population at 2,710 (95% CI = 2,405-3,054).

2024 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2024 - 5/31/2025

HERD: MD319 - POWDER RIVER

HUNT AREAS: 17-18, 23, 26

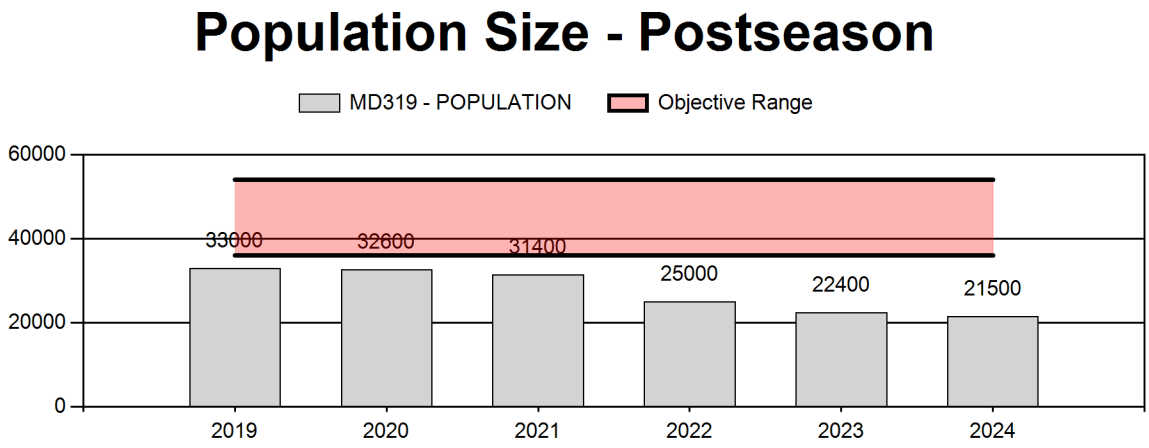
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Population:	28,880	21,500	19,900
Harvest:	2,271	1,686	1,600
Hunters:	3,865	3,103	3,000
Hunter Success:	59%	54%	53 %
Active Licenses:	3,995	3,119	3,000
Active License Success:	57%	54%	53 %
Recreation Days:	16,136	13,666	13,000
Days Per Animal:	7.1	8.1	8.1
Males per 100 Females	41	37	
Juveniles per 100 Females	61	45	

Population Objective (± 20%) :	45000 (36000 - 54000)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-52.2%
Number of years population has been + or - objective in recent trend:	10
Model Date:	2/20/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	2%
Males ≥ 1 year old:	20%	23%
Proposed change in post-season population:	-13%	-7%



2025 HUNTING SEASONS
POWDER RIVER MULE DEER (MD319)

Hunt		Archery Dates		Season Dates			
Area	Type	Opens	Closes	Opens	Closes	Quota	Limitations
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	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

2025 Region C nonresident quota: 1,800

2024 Hunter Satisfaction: 66% Satisfied, 19% Neutral, 15% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

All hunt areas within this herd unit are general season areas. Habitats in Hunt Areas 23 and 26 differ from Hunt Areas 17 and 18, with larger agricultural fields and wider riparian bottoms in the former. Fawn ratios in Hunt Areas 23 and 26 are consistently higher than Areas 17 and 18, resulting in slightly different management strategies.

As this herd unit is a general license unit, the management tools are doe/fawn license issuance, non-resident regional quota and season length. With reduced Type 7 license issuance in Hunt Areas 23 and 26 removed, reduction of the Region C non-resident quota and shortening of season length in Hunt Areas 17 and 18 over the last two years, the overall harvest success of active hunters rose to 54%, up from 49% in 2023. Estimated days per harvest decreased slightly from 8.4 in 2023 to 8.1 in 2024. Although success was up slightly, it was still low when compared to historic data (Table 1). Limited doe harvest was maintained in Hunt Area 23 primarily to address damage issues.

In 2024, nonresident hunters accounted for an estimated 31% of general license hunters in Region C, and harvested an estimated 37% of mule deer bucks. With reduced opportunity from wildfires and antler point restrictions in three hunt areas, we reduced the nonresident Region C quota.

The Palmer Drought Index indicated that six out of the 12 months in 2024 experienced some degree of drought conditions. In addition to drought, portions of this area experienced large-scale wildfires, with over an estimated 100,000 acres burned. Much of these fires occurred in suitable mule deer habitat. Many mule deer were at least temporarily displaced, and there are portions of these burned areas in which all residual vegetation was lost. Although grasses and forbs will come back in the next growing season with appropriate moisture, in areas of sagebrush it will be many years before there is noticeable recovery.

Observed fawn ratios in 2024 for all hunt areas were markedly decreased from 2023 with an overall observed ratio of 45:100 (Table 2). This is much lower than the preceding five-year average of 66:100. A fawn ratio of 45:100 is concerning, as this rate of production is not enough to maintain or grow a population. Buck ratios were variable through the hunt areas, with observations in Hunt Area 26 indicating a buck ratio of 78:100 and the remaining three ranging from 21-40:100.

Table 1. Harvest Summary

2020 - 2024 Harvest Summary

for Mule Deer Herd MD319 - POWDER RIVER

	HUNTERS					HARVEST									SUCCESS			
Year	Res Htrs	NRes Htrs	% NRes	Total Htrs	Act Lic	Ylg Male	Adult Male	Total Male	% Male	Fem	% Fem	Juv	% Juv	Tot Harv	Hntrs	Act Lic	Hntr Days	Days to Harv
2020	2,309	2,045	47%	4,354	4,555	0	2,028	2,028	77%	538	21%	52	2%	2,618	60%	57%	16,875	6.4
2021	1,819	2,105	54%	3,924	4,039	0	1,810	1,810	77%	519	22%	13	1%	2,342	60%	58%	17,365	7.4
2022	1,815	1,807	50%	3,622	3,754	0	1,446	1,446	79%	371	20%	19	1%	1,836	51%	49%	16,750	9.1
2023	1,659	1,430	46%	3,089	3,157	0	1,433	1,433	93%	91	6%	17	1%	1,541	50%	49%	12,941	8.4
2024	1,695	1,408	45%	3,103	3,119	0	1,665	1,665	99%	21	1%	0	0%	1,686	54%	54%	13,666	8.1

Table 2. Postseason Classification by Hunt Area

2020 - 2024 Postseason Classification by Hunt Area

for Mule Deer Herd MD319 - POWDER RIVER - Hunt Area ALL

			Males							Females		Juveniles				Males/100 Females			Young/100	
Year	Area	% Herd	# Ylg	# 2+ Cls 1	# 2+ Cls 2	# 2+ Cls 3	# 2+ Other	Total Male	% Male	#	% Fem	#	% Juv	Total	Class Obj	Ylg	Adult	Males	Female	Adult
2020	17	0%	82	190	72	0	0	344	20%	933	54%	461	27%	1,738	1,323	9	28	37	49	36
	18	0%	41	40	45	0	0	126	17%	403	53%	230	30%	759	1,323	10	21	31	57	43
	23	0%	81	115	28	1	0	225	22%	474	46%	327	32%	1,026	1,323	17	30	47	69	47
	26	0%	30	56	9	0	0	95	20%	234	50%	141	30%	470	1,323	13	28	41	60	43
2021	17	0%	39	275	148	5	0	467	25%	998	54%	372	20%	1,837	1,187	4	43	47	37	25
	18	0%	13	40	10	0	0	63	17%	202	56%	98	27%	363	1,187	6	25	31	49	37
	23	0%	68	237	84	1	0	390	23%	817	47%	526	30%	1,733	1,187	8	39	48	64	44
	26	0%	50	90	6	0	0	146	19%	388	51%	224	30%	758	1,187	13	25	38	58	42
2022	17	0%	50	145	62	1	0	258	17%	735	50%	483	33%	1,476	1,155	7	28	35	66	49
	18	0%	4	2	4	0	0	10	8%	80	67%	30	25%	120	1,155	5	8	12	38	33
	23	0%	47	67	43	4	0	161	23%	286	41%	254	36%	701	1,155	16	40	56	89	57
	26	0%	28	41	15	0	0	84	18%	222	49%	149	33%	455	1,155	13	25	38	67	49
2023	17	0%	16	29	30	3	0	78	25%	126	40%	110	35%	314	0	13	49	62	87	54
	18	0%	14	20	2	0	0	36	19%	82	43%	71	38%	189	0	17	27	44	87	60
	23	0%	21	20	35	2	0	78	22%	151	43%	122	35%	351	0	14	38	52	81	53
	26	0%	7	4	3	0	0	14	14%	44	45%	39	40%	97	0	16	16	32	89	67
2024	17	0%	9	17	18	1	0	45	23%	113	59%	35	18%	193	0	8	32	40	31	22
	18	0%	5	9	3	0	0	17	12%	80	56%	46	32%	143	0	6	15	21	58	47
	23	0%	1	6	3	0	0	10	16%	32	52%	19	31%	61	0	3	28	31	59	45
	26	0%	2	11	8	0	0	21	34%	27	44%	13	21%	61	0	7	70	78	48	27

This herd has been well below objective for many years due to various factors, including land use change, large scale wildfires, unfavorable climatic conditions and disease. Since 2020, harvest success has steadily declined (Table 1) corresponding to the decline in the population.

As this herd unit is primarily private land, a landowner survey is mailed out annually to gauge sentiments on the number of deer. Of landowners surveyed in the entire herd unit, 67% feel that the herd is below optimal numbers, with only 4% feeling that they are above (n=81) with not much disparity in any of the hunt areas. With lack of use and several landowners in Hunt Area 26 asking for reduced opportunities on mule deer, we omitted Hunt Area 26 from the Type 7 license. The population is predicted to remain 44% below objective with current license issuance.

Management 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 land herd with an objective of 45,000 mule deer. Integrated Population Modeling and indicates the population is well below the current objective with a preceding five-year average estimated to be around 26,500. Although there has been some variability with the IPM estimating slightly lower than the older spreadsheet model, this is not the key factor in being unable to attain 45,000 mule (±20%). Many elements likely 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, in recent years, affected deer numbers within this herd unit, it seems that this herd has been on a long, slow downward trend.

After careful consideration of all available data a post-season population objective of 30,000 mule deer was recommended, maintaining the private land management strategy (Appendix A). This recommendation will go before the Wyoming Game and Fish Commission for their consideration at the September 2025 meeting.

Chronic Wasting Disease Monitoring and Management

This herd was last targeted in 2024. From 2022-2024, prevalence of CWD from hunter-harvested mule deer was 26% (n=236) in adult males and 13% (n=16) in adult females. The 3-year average in adult males increased by 6%.

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

Population Modeling

The 2025 postseason population estimate for this herd unit from the PopR IPM was approximately 20,000 (13,004-25,128). This model is considered a fair model. Although various scenarios were run, there is very little external data to bolster this model.

Table 3. CWD prevalence from hunter harvested mule deer in the Powder River Mule Deer Herd 2020-2024.

Year(s)	Percent CWD-Positive and (n) – Hunter Harvest Only			Percent of Harvested Adult Males Samples
	Adult Males (CI = 95%)	Yearling Males	Adult Females	
2020	15% (n=103)	0% (n=0)	12% (n=33)	5%
2021	22% (n=144)	0% (n=2)	6% (n=18)	8%
2022	16% (n=50)	0% (n=0)	0% (n=7)	3%
2023	28% (n=50)	25% (n=4)	17% (n=6)	3%
2024	29% (n=136)	0% (n=4)	33% (n=3)	8%
2020-2024	22% (n=483)	10% (n=10)	10% (n=67)	6%

2024 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2024 - 5/31/2025

HERD: MD320 - PUMPKIN BUTTES

HUNT AREAS: 19, 29, 31

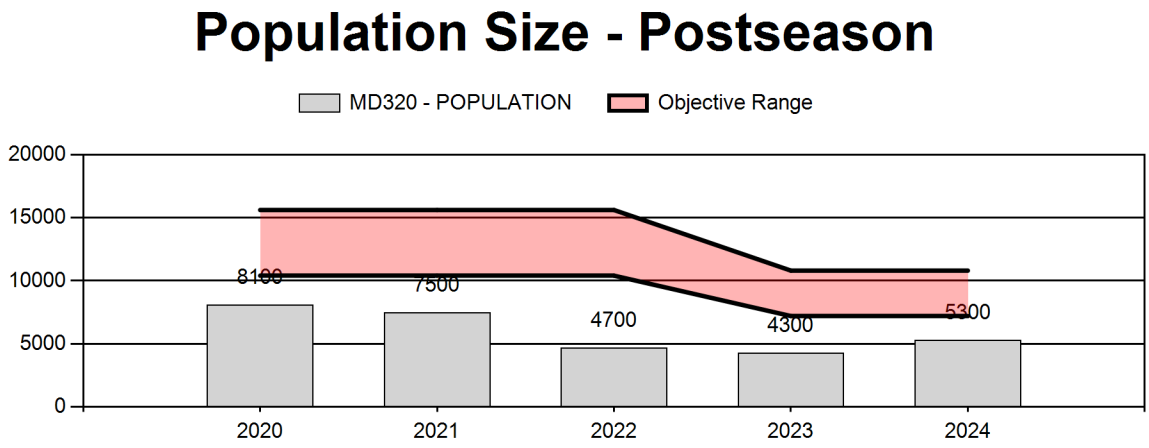
PREPARED BY: ZACH TURNBULL

	2019 - 2023 Average	2024	2025 Proposed
Population:	6,600	5,300	5,900
Harvest:	496	408	275
Hunters:	943	802	800
Hunter Success:	53%	51%	34%
Active Licenses:	954	802	750
Active License Success:	52%	51%	37%
Recreation Days:	3,777	3,698	3,000
Days Per Animal:	7.6	9.1	10.9
Males per 100 Females	39	46	
Juveniles per 100 Females	58	62	

Population Objective (± 20%) :	9000 (7200 - 10800)
Management Strategy:	Private Land
Percent population is above (+) or below (-) objective:	-41.1%
Number of years population has been + or - objective in recent trend:	2
Model Date:	2/19/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	32%	18%
Proposed change in post-season population:	2%	10%



2025 Hunting Seasons

Pumpkin Buttes Mule Deer (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 three (3) points or more on either antler or any white-tailed deer
29	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 14		Antlered mule deer three (3) points or more on either antler or any white-tailed deer
31	Gen	Sep. 1	Sep. 30	Oct. 1	Oct. 10		Antlered mule deer three (3) points or more on either antler or any white-tailed deer

2025 Region C nonresident quota: 1,800

2024 Hunter Satisfaction: 57% Satisfied, 26% Neutral, 17% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

Current models and population metrics show a population that decreased slightly over the last two decades. The 2024 season saw harvest similar to the previous five years, but far below the previous 10-year average (n=570). Fawn ratios (62:100) were slightly higher than the previous five years (~57:100). Composition sampling produced what appears to be exaggerated buck ratios, likely a result of sample size bias. 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.

Nearly 175,000 acres of mule deer habitat burned in a wildfire in the 2024 summer. A great deal of work was conducted to improve habitat conditions in the burn. Invasive control, sage brush seeding, water improvements and fence modification were all components of this work.

Antler point restrictions (3 point or better) were enacted for the 2025 season, and will be evaluated each year. The antler point restriction is not expected to exceed three years and is not viewed as a long term fix for population numbers or composition. This regulation is being imposed to provide a break to the younger cohort in the population following the fires and large scale habitat disturbance. While this regulation is not likely to produce dramatic increases in bucks or long term populations, it was designed to provide some relief to a young vulnerable portion of the population that has undergone extreme habitat disruption. The public and

landowners were very supportive of antler point restriction regulations.

In 2024, nonresident hunters accounted for an estimated 31% of general license hunters in Region C, and harvested an estimated 37% of mule deer bucks. With reduced opportunity from wildfires and antler point restrictions in three hunt areas, we reduced the nonresident Region C quota.

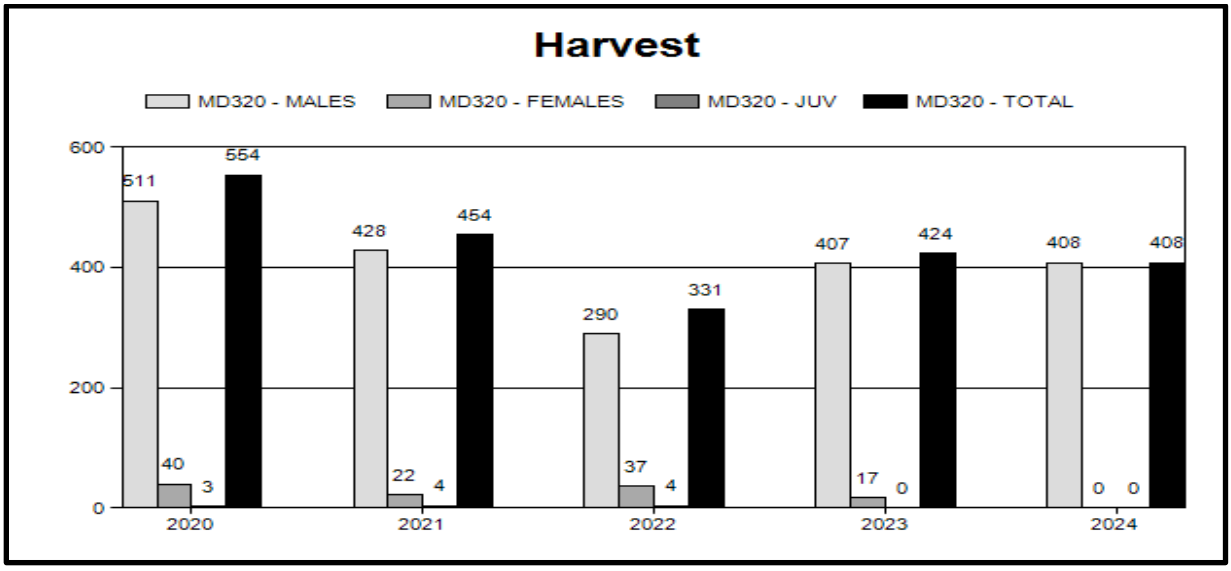


Figure 1. MD 320 harvest 2020-2024.

Management Objective Review

A herd unit management review was conducted for Pumpkin Buttes in 2023. The objective was reduced to 9,000. The next herd unit management review is scheduled for 2028.

Chronic Wasting Disease Monitoring and Management

Prevalence estimates, sample sizes, and percent of harvest sampled for CWD in the Pumpkin Buttes herd unit are presented below (Table 1).

Table 1. CWD prevalence for hunter-harvested mule deer in the Pumpkin Buttes Mule Deer Herd, 2020-2024.

Year(s)	Percent CWD-Positive and (n) - *Hunter Harvest Only*			Percent of Harvested Adult Males Sampled
	Adult males (CI = 95%)	Yearling Males	Adult Females	
2020	15% (n = 87)	0% (n = 6)	0% (n = 6)	17%
2021	11% (n = 45)	0% (n = 0)	0% (n = 6)	11%
2022	25% (n = 4)	0% (n = 0)	0% (n = 0)	1%
2023	0% (n = 3)	0% (n = 1)	0% (n = 0)	1%
2024	27% (n = 11)	0% (n = 0)	0% (n = 0)	4%
2020-2024	15% (n = 150)	0% (n = 7)	0% (n = 12)	14%

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 does died over the three year project (Figure 2). While biologists made an effort to investigate mortalities in a timely manner, the largest single cause of death determination was unknown. Of mortalities where the cause of death was determined, over half were caused by disease or vehicle strikes. Annual survival of adult does 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.

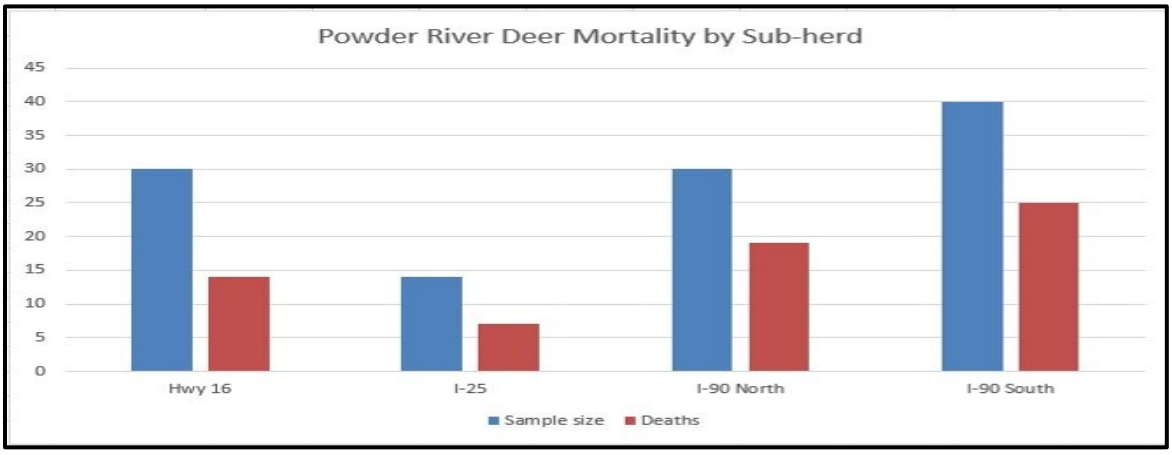


Figure 2. Mortality by Study Area 2020-2022.

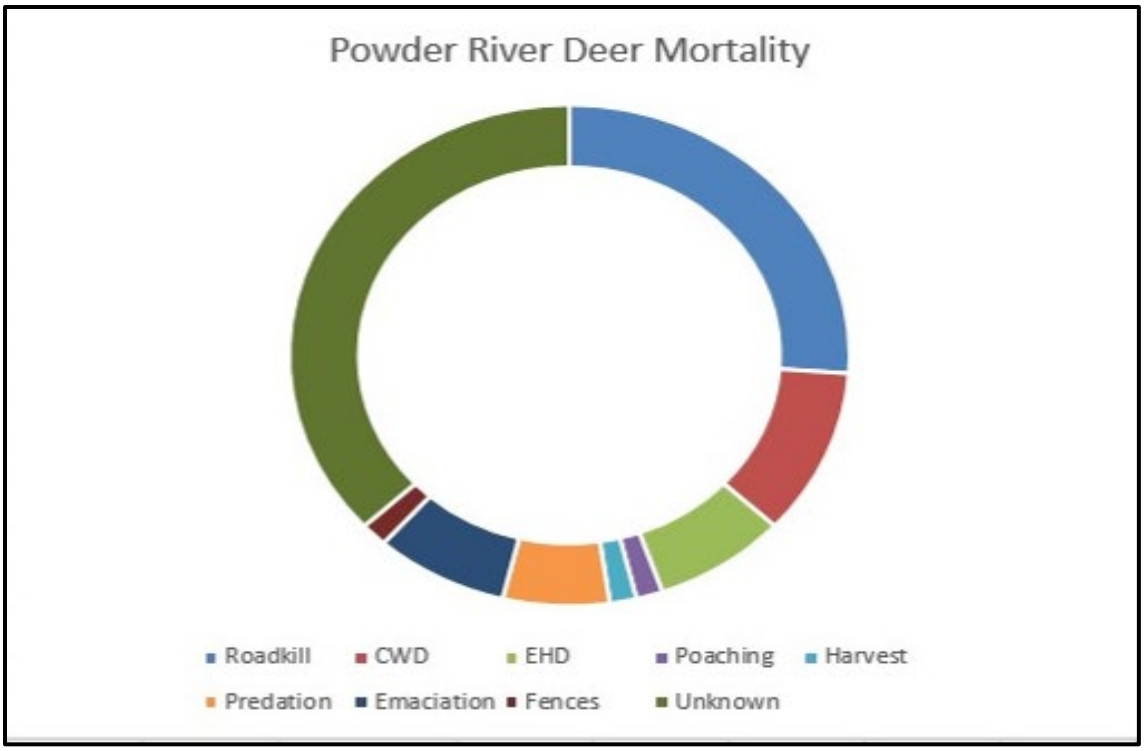


Figure 3. Cause Specific Mortality 2020-2022.

2024 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2024 - 5/31/2025

HERD: MD321 - NORTH BIGHORN

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

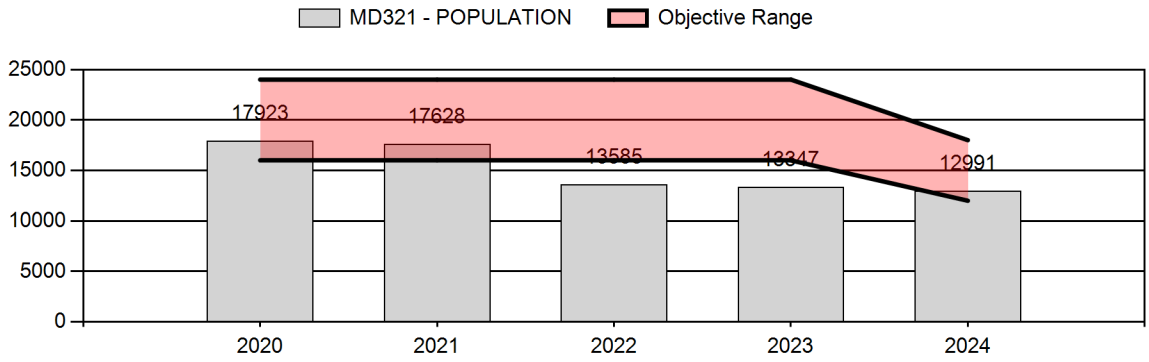
	2019 - 2023 Average	2024	2025 Proposed
Population:	16,099	12,991	13,740
Harvest:	970	784	637
Hunters:	2,754	2,377	2,377
Hunter Success:	35%	33%	27 %
Active Licenses:	2,851	2,447	2,447
Active License Success:	34%	32%	26 %
Recreation Days:	13,949	13,106	13,106
Days Per Animal:	14.4	16.7	20.6
Males per 100 Females	27	27	
Juveniles per 100 Females	64	70	

Population Objective (± 20%) :	15000 (12000 - 18000)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-13.4%
Number of years population has been + or - objective in recent trend:	1
Model Date:	02/20/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	1%	2%
Males ≥ 1 year old:	24%	25%
Proposed change in post-season population:	1%	6%

Population Size - Postseason



2025 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 three (3) points or more on either antler 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 three (3) points or more on either antler 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

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
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
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 three (3) points or more on either antler or any white-tailed deer

Nonresident Region R Quota: 500
Nonresident Region Y Quota: 1,000

2024 Hunter Satisfaction: 53% Satisfied; 26% Neutral; 22% Dissatisfied

2025 Management Summary

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, 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 2024, we observed 70 fawns:100 does during postseason classification survey. This is above the previous 5-year average (64:100) and above the desired 66:100 ratio needed to sustain or grow a population. We observed 27 bucks:100 does, up from 2023 and similar to the previous 5-year average of 27 bucks:100 does. The increase was primarily from more yearling males classified (12:100 does). The observed buck ratio was within the preferred range of 20-30 bucks:100 does for recreational management.

Hunter satisfaction, determined by responses on harvest surveys, increased slightly from 51% in 2023 to 53% in 2024 at the herd unit level. Satisfaction was highest in Hunt Areas 24 (62%), 53 (58%), and 51 (56%). Hunter comments from the harvest survey (n=270) addressed several concerns among all hunt areas, notably populations below expectations for numbers and/or quality of bucks. Several comments from Hunt Areas 25, 50, and 53 suggested implementing an antler point restriction (APR). Although attendance was low (6-12 people/meeting), many comments submitted at the mule deer engagement meetings in November further emphasized a desire for an APR.

Regarding mule deer, experiences from western states generally do not support improved buck ratios or quality following implementation of APR (Mule Deer Working Group 2013). Furthermore, data from Hunt Area 25 prior to and during implementation of APR show no difference in buck quality based on average maximum antler spread or average points per side. Regardless, the public continues to perceive that APR will improve buck numbers and quality. APR will likely have limited negative impact on population performance in the short term, may reduce buck harvest and will appease a vocal segment of hunters. Therefore, we implemented a 3-point or better APR in Hunt Areas 25, 50, and 53 for no more than three years. We will evaluate the APR in each hunt area annually.

Of 18 landowner responses in Hunt Area 24, 50% preferred similar seasons to 2024, while 39% wanted less opportunities, and 11% wanted more opportunities. Given request from some landowners for mule deer doe harvest, we maintained 25 Hunt Area 24 Type 7 licenses.

We reduced the nonresident quota in Region Y from 1,200 to 1,000. In 2024, nonresident hunters accounted for an estimated 24% of general license hunters in Region Y, and harvested an estimated 31% of mule deer bucks. Managers implemented this reduction as hunter satisfaction throughout the region has continued to decline, largely as deer numbers and quality have also declined. No changes were implemented in the Region R nonresident quotas.

Management Objective Review

Herd unit review was updated in 2024. The next herd unit review will be in 2029.

Chronic Wasting Disease Monitoring and Management

Sampling of hunter-harvested adult (≥ 2 years old) male mule deer from 2020-2024 suggest CWD prevalence was 17% (n=356, Table 1). Population level impacts may occur in mule deer when prevalence reaches high levels. During 2020-2024, we documented CWD-positive mule deer in all hunt areas.

In 2022, we extended doe seasons in Hunt Areas 51 and 52 as part of a broader effort in nonresident deer Region R to address CWD hotspots within the Bear, Beaver and Shell Creek drainages. These seasons were maintained through 2025. Maintaining Type 6 and 7 licenses may help address CWD by controlling deer densities in hotspots of CWD (Figure 1). Where we have implemented a 3-point or better APR, the APR will be lifted in a given hunt area if prevalence of CWD in adult male mule deer meets or exceeds 10% in that hunt area. This would occur to increase harvest across all ages of bucks, targeting the segment of population that tends to have the highest prevalence.

Population Modeling

Utilizing a PopR integrated population model, our 2024 postseason population estimate corrected with sightability, abundance, and survival was estimated at 12,991 mule deer (95% CI = 11,147-14,965), below the management objective of 15,000. The predicted 2025 postseason estimate was 13,740. This model performed best (Rhat proportion = 0.70) with date range 2003-2026; effort = licenses (linear); reproduction = constant; adult and juvenile survival = time varying; burnin = 50,000, iterations = 30,500; and thinning rate = 1.

Table 1. CWD prevalence from hunter harvested mule deer in the North Bighorn Herd Unit, 2020-2024.

Year(s)	Percent CWD-Positive and (n) – Hunter Harvest Only			Percent of Harvested Adult Males Sampled
	Adult Males (CI = 95%)	Yearling Males	Adult Females	
2020	11% (n=55)	7% (n=14)	3% (n=32)	8
2021	16% (n=109)	15% (n=13)	28% (n=25)	15
2022	20% (n=59)	0% (n=3)	13% (n=23)	7
2023	20% (n=77)	0% (n=4)	11% (n=27)	10
2024	56% (n=20)	0% (n=8)	8% (n=13)	3
2020-2024	17% (11%-22%, n=356)	7% (n=42)	13% (n=120)	10

Research

A three-year study through the University of Wyoming on mule deer seasonal movement and habitat use ended in 2023. Nineteen collars are still deployed and will drop in March 2025.

The third 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.

Survival in adult females was 74% (2022) and 78% (2023). Survival in adult males was 63% (2022 and 2023). Survival in juveniles (corrected with adult survival) was 55% (2022) and 60% (2023). Causes of mortality, when determined, included malnutrition, CWD (Hunt Areas 24 and 27), 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%). In mid-January 2025, GPS collars were deployed on 75 adult females (including six camera collars), 28 adult males, and 100 juveniles.

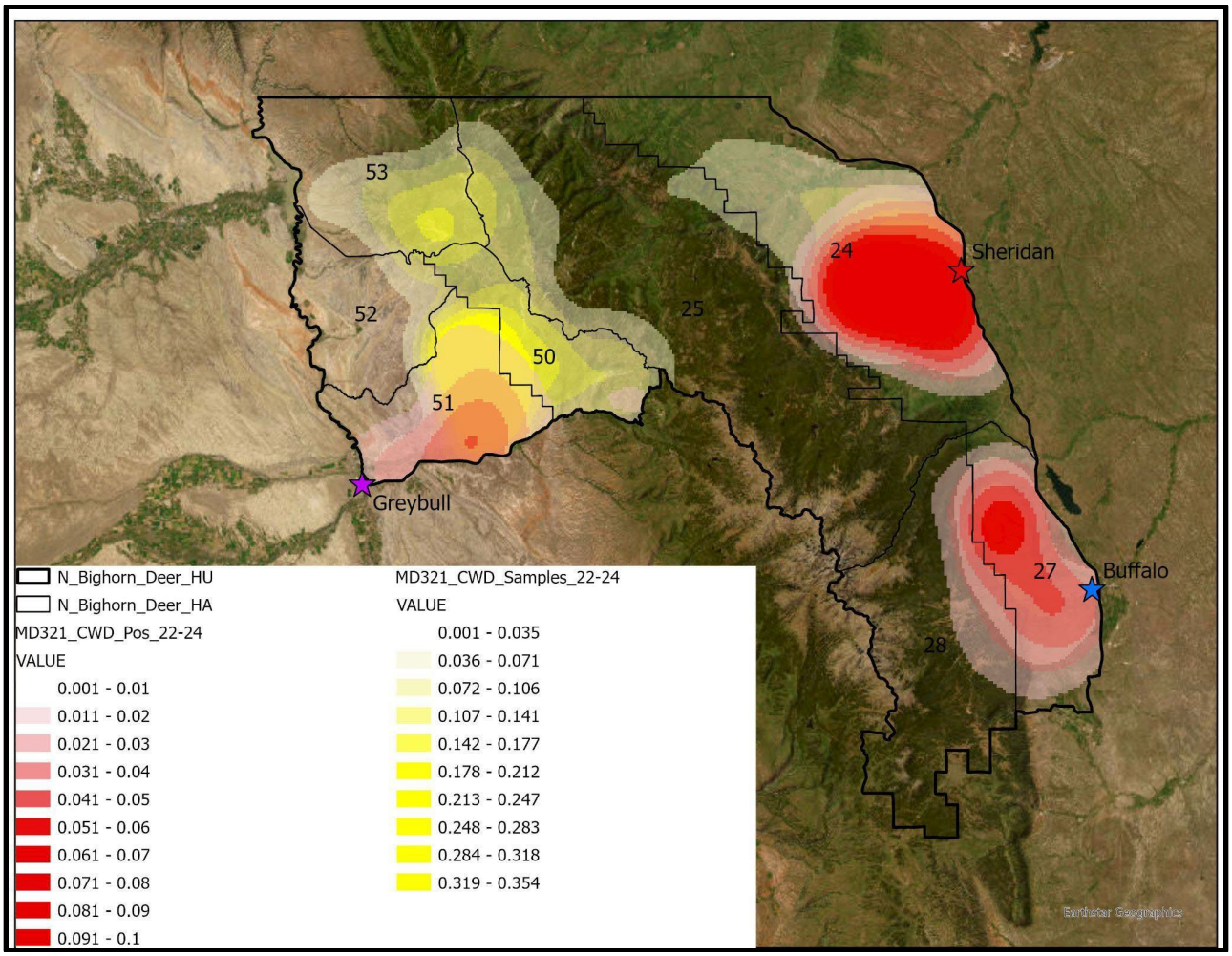


Figure 1. Hotspots of CWD (red) relative to all samples collected (yellow) in mule deer based on kernel density models, North Bighorn Mule Deer Herd Unit, 2022-2024. Darker colors represent higher density per square kilometer.

Literature Cited

Mule Deer Working Group. 2013. Understanding mule deer and antler point restrictions [Fact Sheet #6]. Western Association of Fish and Wildlife Agencies.

2024 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2024 - 5/31/2025

HERD: MD322 - UPPER POWDER RIVER

HUNT AREAS: 30, 32-33, 163, 169

PREPARED BY: ZACH TURNBULL

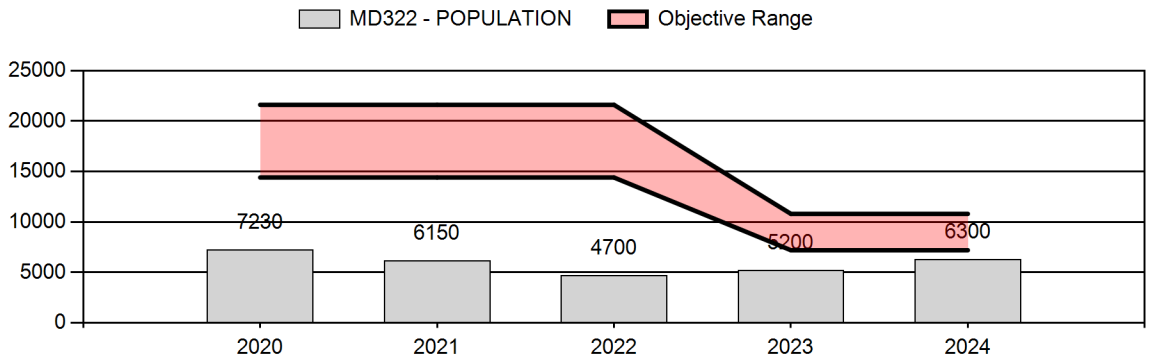
	2019 - 2023 Average	2024	2025 Proposed
Population:	6,476	6,300	7,700
Harvest:	492	493	460
Hunters:	1,105	1,095	1,100
Hunter Success:	45%	45%	42%
Active Licenses:	1,107	1,095	1,100
Active License Success:	44%	45%	42 %
Recreation Days:	5,074	5,380	5,380
Days Per Animal:	10.3	10.9	11.7
Males per 100 Females	26	34	
Juveniles per 100 Females	57	56	

Population Objective (± 20%) :	9000 (7200 - 10800)
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-30%
Number of years population has been + or - objective in recent trend:	2
Model Date:	02/17/2025

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

	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	33%	31%
Proposed change in post-season population:	0%	-3%

Population Size - Postseason



2025 Hunting Seasons

Upper Powder River Mule Deer (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. 21		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

2025 Region Y nonresident quota: 1,000

2024 Hunter Satisfaction: 52% Satisfied, 28% Neutral, 21% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

This herd has been below the population objective for more than a decade. The 2024 observed buck/doe ratio (34 bucks: 100 does) and fawn/doe ratio (56 fawns: 100 does) was similar to the past five years. The nonresident Region Y quota was reduced significantly in 2022 and all general license type bag limits were standardized (i.e., antlered mule deer, any white-tailed deer). Reported harvest in 2024 was slightly lower than 2023 but similar to the last five years (Figure 1). As noted by previous research in the herd unit, herd health and disease remain major concerns for managers.

An adjustment to the closing date of hunt area 32 was made for 2025. After careful analysis of collar data in the migratory portion of this herd, managers feel limiting harvest in hunt areas 32, 163 and 169 and directing more harvest to hunt areas 30 and 33 provides more protections for the migratory component of the herd, and focuses harvest in areas with more resident deer and higher CWD prevalence. Landowners and hunters supported this change.

In 2024, nonresident hunters accounted for an estimated 24% of general license hunters in Region Y, and harvested an estimated 31% of mule deer bucks. With landscape level wildfires and reduced

opportunity with an APR in Hunt Area 25, managers reduced the nonresident Region Y quota to limit increased pressure on bucks.

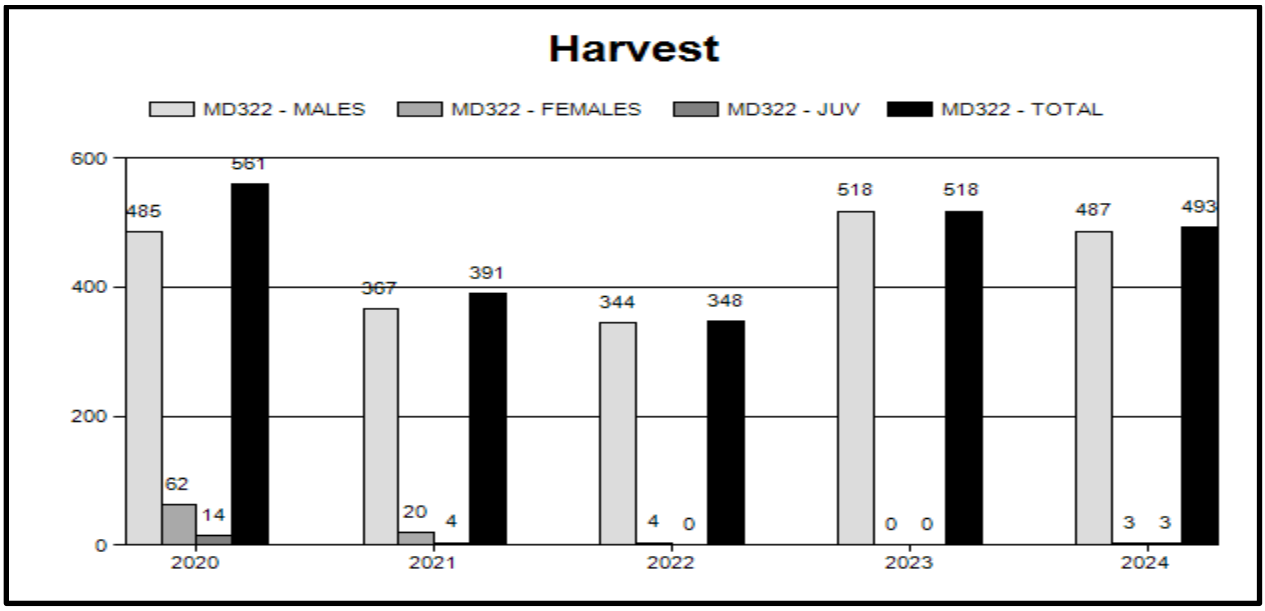


Figure 1. MD322 harvest 2020-2024

Management Objective Review

A herd unit management review was conducted in 2023. The objective was reduced to 9,000 animals and herd status was moved to recreational. The next herd unit management review is scheduled for 2028.

Chronic Wasting Disease Monitoring and Management

Prevalence estimates, sample sizes, and percent of harvest sampled for CWD in the Upper Powder River herd unit are presented below (Table 1). Prevalence in adult male mule deer, based on hunter harvest surveillance, was 19% from 2020-2024.

Table 1. Upper Powder River CWD Statistics 2020-2024.

Year(s)	Percent CWD-Positive and (n) - *Hunter Harvest Only*			Percent of Harvested Adult Males Sampled
	Adult males (CI = 95%)	Yearling Males	Adult Females	
2020	21% (n = 131)	0% (n = 8)	0% (n = 10)	27%
2021	16% (n = 77)	0% (n = 5)	0% (n = 9)	21%
2022	19% (n = 16)	0% (n = 0)	0% (n = 1)	5%
2023	30% (n = 20)	50% (n = 4)	0% (n = 0)	14%
2024	12% (n = 8)	16% (n = 6)	100% (n = 1)	2%
2020-2024	19% (n = 252)	13% (n = 23)	5% (n = 21)	11%

Weather

Precipitation (extrapolated from PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu, created 4 Feb 2004) from October 2023 through September 2024 (water year) was slightly below the 30 year average. Precipitation during the growing season (April through June) was also slightly below the 30 year average (Figure 2).

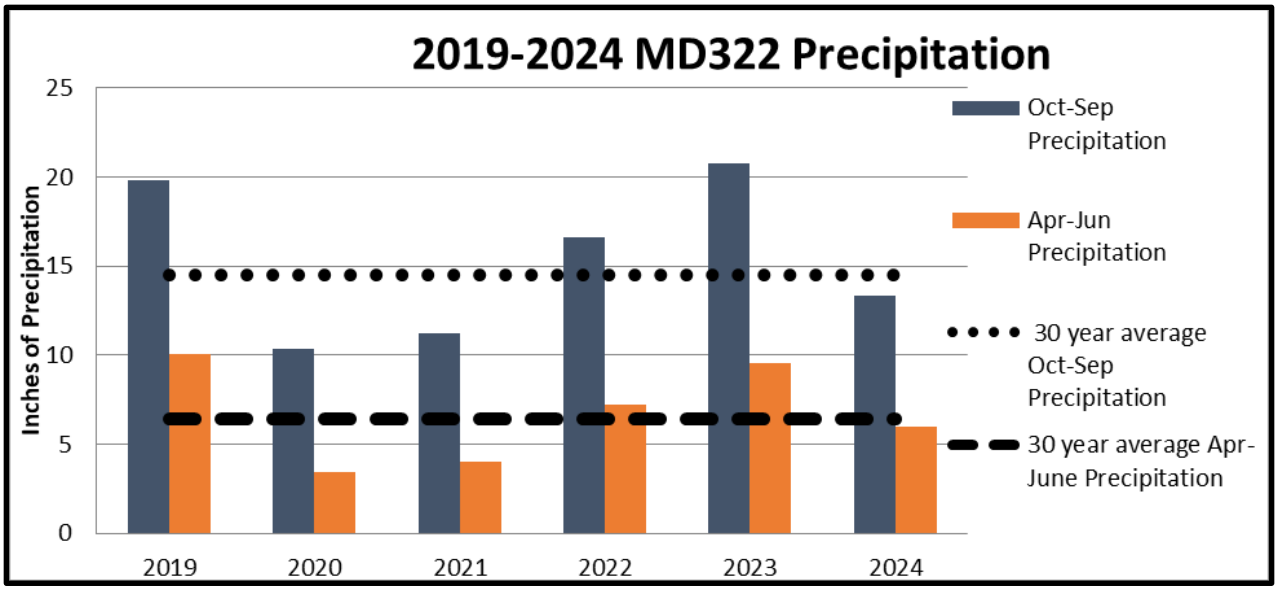


Figure 2. 2019-2024 Precipitation summary for Upper Powder River Mule Deer Herd Unit.

Winter temperatures, as recorded in Kaycee, WY, during 2024-2025 were below the 30 year average (27.1°F), with the temperatures averaging 28.3°F during the months of November through February. Moisture accumulation recorded in Kaycee during this time period was .72 inches of precipitation (30-year average is 1.96 inches) and 15 inches of snow accumulation (30-year average is 28.46 inches). The snow water equivalent measured at Powder River Pass, Beartrap Meadow, Middle Powder, and Grave Springs Snotel sites recorded March 25th, 2025 was 63%, 80%, 92%, and 99% of the official mean for those respective sites. The winter of 2024-2025 thus far has had below average temperatures and less snow accumulation in lower elevations and average snow accumulation at upper elevations.

Spring/Summer 2024 conditions were slightly below average, likely impacting vegetation production. It is assumed that mule deer went into winter in average to slightly lower body condition. Current winter conditions have been colder than normal, but also drier in the winter range and are likely to have minimal effect on winter survival. Current snow water equivalents on mule deer Spring, Summer, Fall range suggest productive spring forage conditions in the southern part of the herd unit, but lower productivity in the northern part of the herd unit. All winter precipitation, snowfall accumulation, and temperature data was acquired from the Kaycee NWS COOP Station 485055-5 Lat/Lon 43° 43'/106° 38'.

Habitat

A number of mule deer habitat improvement projects have been completed. Invasive annual grass treatments have 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 just north of the Middle Fork Powder River on the Buckingham Ranch on crucial mule deer winter range. Another project took place on the Schiermiester Ranch in Antelope Draw. Antelope Draw is a mesic draw 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. 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.

In 2024, significant habit projects related to the Upper Powder River mule deer herd included 227 acres of conifer removal in curl-leaf mountain mahogany on crucial mule deer winter range, and 36 BDA's installed on the Middle Fork of Crazy Woman and Poison Creek in spring, summer, fall range.

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.

For more detailed information about these projects, please refer to the WGFD's Strategic Habitat Plan annual reports.

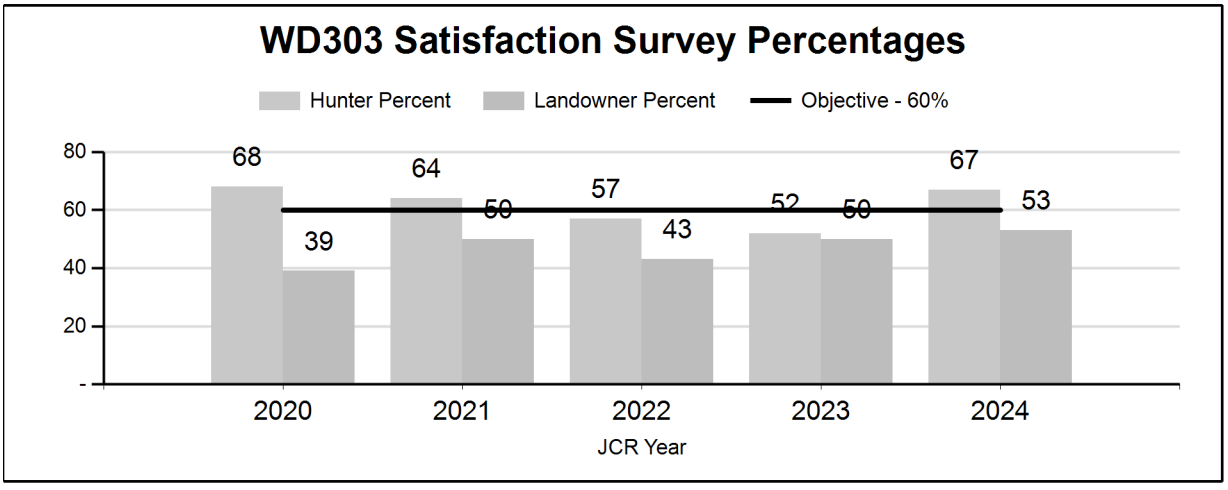
2024 - JCR Evaluation Form

SPECIES: White tailed Deer
HERD: WD303 - POWDER RIVER
HUNT AREAS: 17-19, 23-33, 163, 169

PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ERIC MAICHAK

	2019 - 2023 Average	2024	2025 Proposed
Hunter Satisfaction Percent	65%	67%	65%
Landowner Satisfaction Percent	44%	53%	60%
Harvest:	5,126	3,366	3,750
Hunters:	7,440	4,965	5,250
Hunter Success:	69%	68%	71 %
Active Licenses:	8,659	6,594	6,600
Active License Success:	59%	51%	57 %
Recreation Days:	34,875	30,782	30,500
Days Per Animal:	6.8	9.1	8.1
Males per 100 Females:	37	58	
Juveniles per 100 Females	66	83	

Satisfaction Based Objective	60%
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	0%
Number of years population has been + or - objective in recent trend:	1



2025 HUNTING SEASONS
POWDER RIVER WHITE-TAILED DEER (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 three (3) points or more on either antler 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	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

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
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
25	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 24		Antlered mule deer three (3) points or more on either antler 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 three (3) points or more on either antler 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

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
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
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 three (3) points or more on either antler or any white-tailed deer
32	Gen	Sep. 1	Sep. 30	Oct. 15	Oct. 21		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: 1,800
Nonresident Region Y Quota: 1,000

2024 Hunter Satisfaction: 66% Satisfied; 19% Neutral; 14% Dissatisfied

2024 Landowner Satisfaction: 57% Satisfied; 24% Above Desired; 19% Below Desired

2025 Management Summary

Hunting Season Evaluation

We manage this white-tailed deer herd based on hunter and landowner satisfaction. Opportunities for harvest are extensive in most hunt areas in an effort to reduce nuisance complaints, deer-vehicle collisions, competition with mule deer, and more recently, CWD. Hunter satisfaction declined from 2018 to 2023, yet improved in 2024. In 2024 harvest of bucks increased slightly over 2023, and several comments suggested improved populations. Landowner survey responses (n=96) indicated white-tailed deer populations were at (56%), above (24%), or below (19%) preferred levels. Landowners suggested providing similar (69%) to more (22%) hunting season opportunities relative to 2024. Varying levels of access to private land where most white-tailed deer reside, and refuges provided by rural subdivisions, complicate white-tailed deer management.

With lack of use and several landowners in Hunt Area 26 asking for reduced opportunities on mule deer, we omitted Hunt Area 26 from the Type 7 license. We maintained 25, Type 7 licenses in each of Hunt Areas 23 and 24 to address specific requests from landowners to harvest doe or fawn mule deer. There were 34 deer harvested on Type 7 licenses in 2024, split 68% (n=23) mule deer and 32% (n=11) white-tailed deer. There are sufficient Type 8 licenses available in each hunt area to address desired white-tailed deer doe or fawn harvest.

Management Objective Review

We conducted an internal herd unit review in 2024. The next herd unit review will be conducted in 2029. Managers continue to evaluate methods to effectively and efficiently estimate this population in an effort to develop a population based objective.

Chronic Wasting Disease Monitoring and Management

Sampling of this white-tailed deer herd occurs opportunistically with respect to overlapping targeted mule deer herds. From 2020-2024, region-wide prevalence was higher in white-tailed deer adult males (31%, n=718) than adult females (18%, n=568, Table 1), and higher than mule deer adult males (17%, n=356) and females (13%, n=120).

Hotspots of sampling and CWD-positive white-tailed deer tend to occur along the face of the Bighorn Mountains in Hunt Areas 24 and 27 (Figure 1). However, sampling effort is not uniform across this herd unit, as white-tailed populations and harvest tend to be higher in Hunt Areas 25 and 27 than other hunt areas in the herd unit. From 2020 to 2024, Hunt Areas 24 and 27 accounted for nearly 75% of all samples collected. Due to this bias in sampling effort, managers should use caution extrapolating CWD prevalence to other hunt areas across the herd unit.

Table 1. CWD prevalence of hunter-harvested white-tailed deer in Powder River Herd Unit, 2020-2024.

Year(s)	Percent CWD-Positive and (n) – Hunter Harvest Only			Percent of Harvested Adult Males Sampled
	Adult Males (CI = 95%)	Yearling Males	Adult Females	
2020	28% (n=222)	6% (n=16)	16% (n=204)	9%
2021	31% (n=223)	17% (n=18)	17% (n=203)	10%
2022	28% (n=116)	0% (n=7)	13% (n=62)	7%
2023	37% (n=86)	50% (n=10)	30 (n=46)	5%
2024	38% (n=71)	20% (n=15)	26% (n=53)	4%
2020-2024	31% (n=718)	18% (n=66)	18% (n=568)	7%

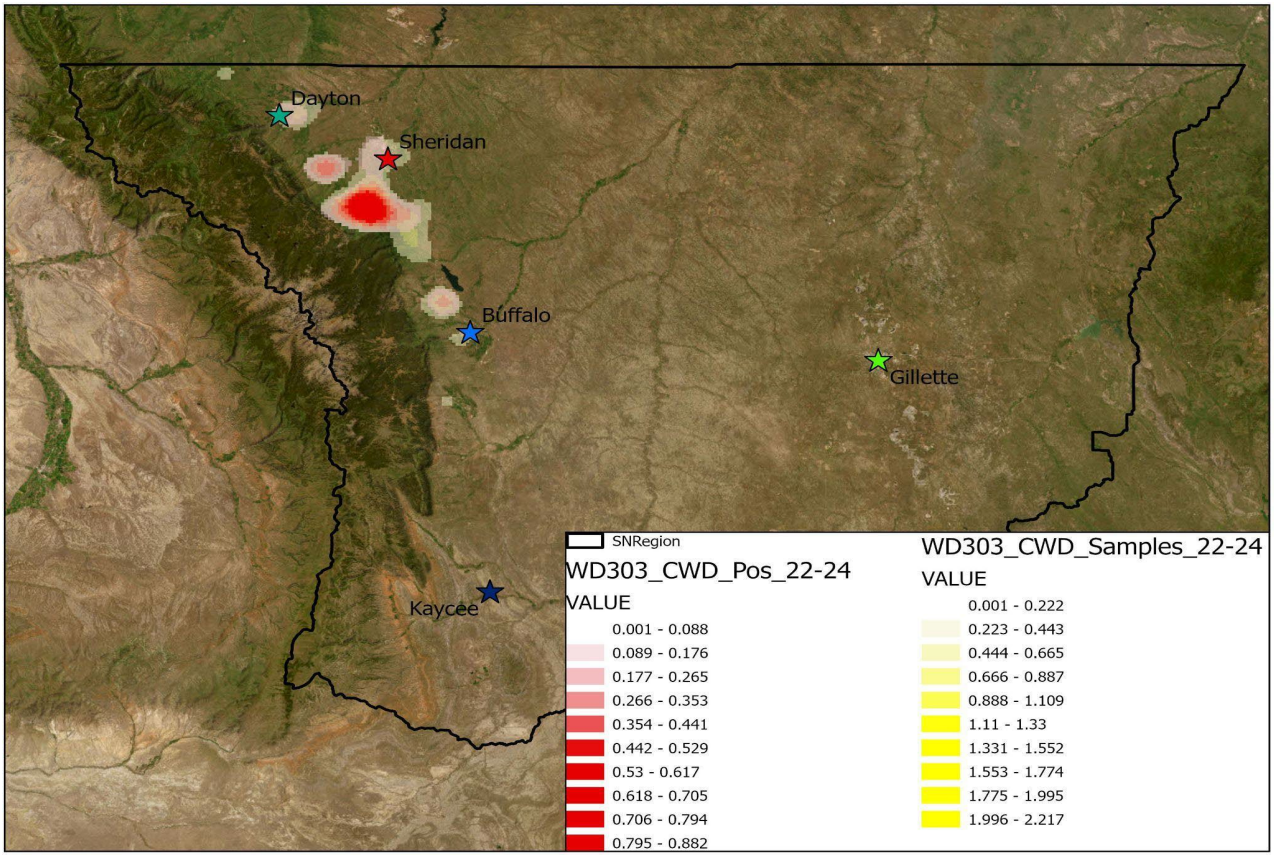


Figure 1. Hotspots of CWD (red) relative to all samples collected (yellow) in white-tailed deer based on kernel density models, North Bighorn Mule Deer Herd Unit, 2022-2024. Darker colors represent higher density per square kilometer.

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.

2024 - JCR Evaluation Form

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

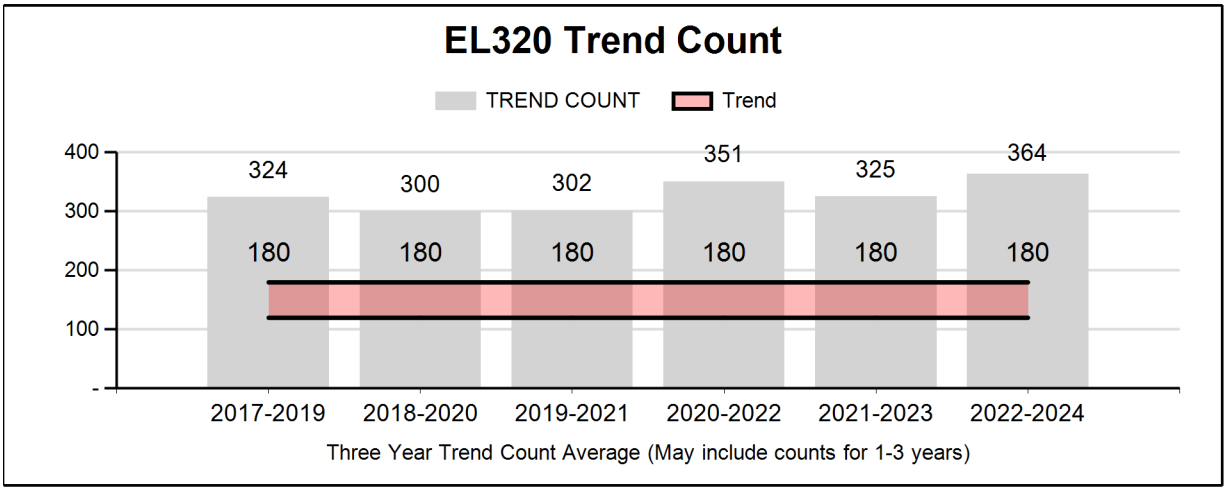
PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Trend Count:	300	501	400
Harvest:	140	185	200
Hunters:	239	385	400
Hunter Success:	59%	48%	50 %
Active Licenses:	253	416	425
Active License Success	55%	44%	47 %
Recreation Days:	1,022	2,000	2,000
Days Per Animal:	7.3	10.8	10
Males per 100 Females:	43	0	
Juveniles per 100 Females	53	0	

Trend Based Objective (± 20%)	150 (120 - 180)
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	234%
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:	35%	35%
Males ≥ 1 year old:	30%	30%
Juveniles (< 1 year old):	10%	10%



2025 HUNTING SEASONS
FORTIFICATION ELK (EL320)

Hunt		Archery Dates		Season Dates			
Area	Type	Opens	Closes	Opens	Closes	Quota	Limitations
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

Nonresident Region E Elk Quota: 1,000

2024 Hunter Satisfaction: 70% Satisfied, 11% Neutral, 19% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

This was the third year of a general season structure. In preceding years, this herd unit had alternated between some combination of Type 1, Type 4 and Type 6, limited quota licenses, and around 10 days in season length. During the first year of this general season structure there were several private landowners enrolled in the Department's Access Yes program. In subsequent years there has been no formal public access granted other than the limited legally accessible public land.

This elk herd is over the objective and has been for many years. Elk are frequently located south of I-90 and west of the Powder River, indicating that they are past carrying capacity within the boundary of Hunt Area 2, and expanding into the adjacent hunt area 129. In the past, complaints were received from some landowners stating that there were not enough licenses or time to be able to control elk on their property. Since the implementation of a general season structure, these complaints have ceased.

The majority of the elk habitat is either private land, or public land predominantly surrounded by private land. There is one legal access point to Bureau of Land Management land that allows public land hunters the opportunity to hunt elk in this herd unit. At the December 2021 meeting, it was made clear and agreed upon by those present that if a general season were implemented it would need to be for a minimum of 3-5 years. Large changes to seasons on an annual basis are both confusing to hunters and do not allow the time required to assess if a new management strategy is successful. Managers have evaluated and will continue to evaluate this season structure to assess whether it addresses the concerns of this herd being consistently over objective and landowner complaints.

The five-year average of hunter success was 56%. This year saw harvest success decrease from 53% to 44%. Decreased success was partly influenced by a large wildfire in the herd unit. Although public access is minimal, people are finding ways to get to the elk. Overall, harvest success has dropped since converting to the general season structure, however, it is important to note that the total number of harvested elk has substantially increased. It is estimated that in 2024

there were 185 total elk harvested from this herd unit, which is close to double the highest harvest recorded when this herd was operating under a limited quota season structure. Although non-resident success is higher than resident success, it is estimated that residents harvested 37% of the elk (N=69). There is no way to know from the harvest survey how many elk were harvested on the HA 129, Type 6 license valid in a portion of this herd unit, but numerous landowner coupons have been returned from an area that was experiencing high densities of elk.

This herd has a trend count objective of 150 elk. The 3-year average is 364 elk classified, well above the objective. The Department has been limited in their ability to conduct aerial surveys in recent years due to limited flight budgets and changes in aircraft vendors. A helicopter survey conducted in December of 2024 resulted in 501 elk detected, which is the highest number documented on a survey flight in this herd unit.

In elk herds that are 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 season lengths and license types to allow for harvest of elk for those who desire to decrease numbers. This is of particular importance concerning cows, as these are the individuals that drive the increase or decrease of the overall herd. The season length on the type 6 licenses is in line with the surrounding Hunt Area 129 dates and allows flexibility on land that is adjacent to 129 where elk may cross the boundary daily. Although the elk are over objective, season structure currently allows for flexibility to maximize elk harvest.

Management Objective Review

The postseason management objective is set at 150 elk. The next objective review is planned for 2026.

Chronic Wasting Disease

Elk are sampled for chronic wasting disease (CWD) opportunistically in this herd unit. Over the past five years (2020-2024) only 17 elk were samples, with none testing positive. We will continue to test as requested or when the opportunity presents.

2024 - JCR Evaluation Form

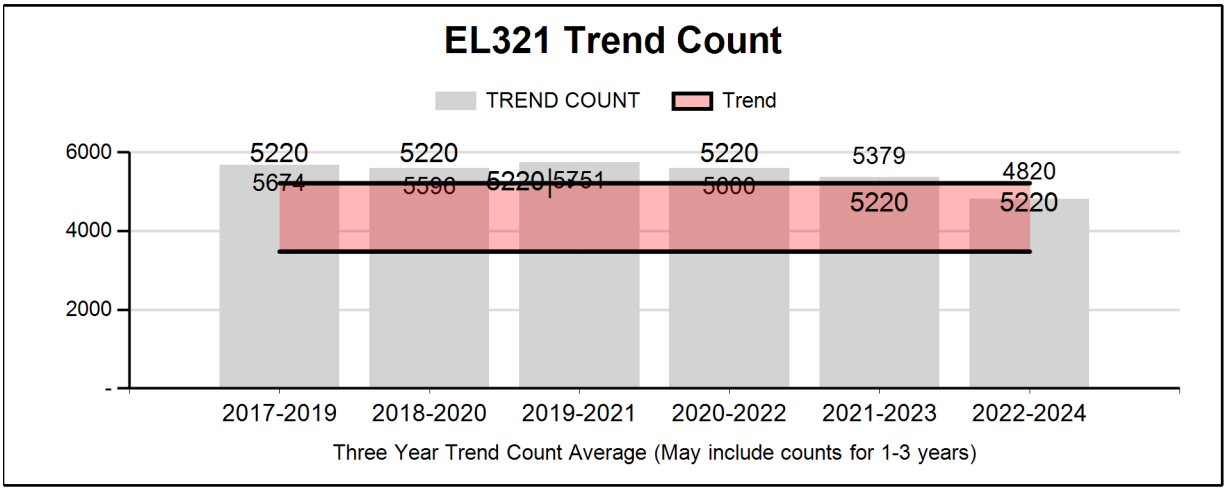
SPECIES: Elk
PERIOD: 6/1/2024 - 5/31/2025
HERD: EL321 - NORTH BIGHORN
HUNT AREAS: 35-40
PREPARED BY: ERIC MAICHAK

	2019 - 2023 Average	2024	2025 Proposed
Trend Count:	5,466	4,384	4,384
Harvest:	1,534	1,282	1,450
Hunters:	4,957	3,871	4,200
Hunter Success:	31%	33%	35%
Active Licenses:	5,243	4,253	4,750
Active License Success	29%	30%	31%
Recreation Days:	37,098	30,053	33,000
Days Per Animal:	24.2	23.4	22.8
Males per 100 Females:	25	28	
Juveniles per 100 Females	27	35	

Trend Based Objective (± 20%)	4,350 (3480 - 5220)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	1%
Number of years population has been + or - objective in recent trend:	5

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

	JCR Year	Proposed
Females ≥ 1 year old:	25%	25%
Males ≥ 1 year old:	28%	25%
Juveniles (< 1 year old):	10%	25%



2025 HUNTING SEASONS
NORTH BIGHORN ELK (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	100	Any elk
38	1			Nov. 1	Nov. 15		Antlerless elk
38	4			Oct. 1	Nov. 15	375	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	175	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	175	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	75	Any elk, archery only

2025 Nonresident Region W Quota: 2,775

2025 Management Summary

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 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 2024 mid-winter trend count was 4,384 elk, down from 2023 (n=4,952) and the lowest since 2016. Although our total count was within objective, the weather (i.e., snow/cold) that made for favorable observation conditions likely displaced elk from Hunt Area 39 into Garvin Basin, Montana. Hunt Area 39 had 520 elk observed in January 2025 vs. over 1,800 in 2024. We were also unable to fly higher elevations in Hunt Areas 37 and 38 due to wind.

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 2024, hot and dry summer and fall conditions saw the 98,351 acre Elk Fire

burn through the center of Hunt Areas 37 and 38. Several road and area closures in October limited access in these hunt areas. As closures expanded southward across Hunt Area 37, some hunters moved into Hunt Area 36. The 2024 harvest (n=1,282) was lower than 2023 (n=1,640) and lowest since 2013, particularly in Hunt Areas 37 and 38. Reported harvest success of 100% for the Type 1 license in Hunt Area 38 was atypical. This high level of success was likely influenced by a low number of usable harvest survey responses (n=12). Hunter comments reflected frustration over the fire and resulting access issues. Hunter satisfaction for the herd unit was lower in 2024 (51%) than 2023 (57%), and was highest in Hunt Areas 39 (72%) and 38 (66%). Landowner survey responses (n=26, HA 35-38) suggested populations at (54%) or above (42%) desired levels. These landowners favored season strategies with similar (69%) to more opportunities (27%) than 2024.

We made no changes to Hunt Areas 35-37, and 39. We maintained seasons in these hunt areas with extensive opportunities for harvest. We had positive support and commitment from several landowners for harvest of cow/calf elk on private lands. Given the relatively high number of license holders electing to hold over unused Hunt Area 38 Type 1 (281) and Type 4 (182) licenses resulting from effects of the Elk Fire, we reduced quotas of Type 1 licenses to 100 and Type 4 licenses to 375. This resulted in a similar number of hunters to 2024. Held over licenses purchased by individuals holding them reduced licenses available for the draw. Draw odds will decrease for Type 1 and Type 4 licenses in Hunt Area 38 this year.

Reductions to Type 1 and 9 licenses in Hunt Area 40 were intended to decrease bull harvest. The number of branch antlered bulls classified during standardized winter trend counts has decreased in recent years from 142 (2018-2022 average) to 93 (2023-24 average). The quota for Type 1 and Type 9 licenses were increased to 225 and 100 respectively, in 2017 as a direct result of increased bull observations. These changes were designed to return observed bull numbers to the previous level.

Management Objective Review

The herd unit objective was reviewed and discussed in 2021. The next herd unit objective review is scheduled for 2026.

Chronic Wasting Disease Monitoring and Management

This herd was targeted for sampling in 2019 and 2020. Sampling from 2020 to 2024 seasons suggests 9% prevalence (n=328). From 2020-2024, nearly 50% of samples were from Hunt Area 37, with hotspots in Hunt Areas 35-37. 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 (31% WTD; 17% MD) overlapping elk that are non-migratory.

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.

Table 1. CWD prevalence from hunter harvested elk in the North Bighorn Herd Unit, 2020-2024.

Year(s)	Percent CWD-Positive and (n) – Hunter Harvest Only All Adult Elk (CI = 95%)	Percent of Harvested Adult Elk Sampled
2020	4% (n=68)	5%
2021	8% (n=72)	6%
2022	10% (n=68)	5%
2023	10% (n=69)	5%
2024	13% (n=51)	4%
2020-2024	9% (n=328, CI = 5.7%-12.8%)	5%

2024 - JCR Evaluation Form

SPECIES: Elk
HERD: EL322 - SOUTH BIGHORN
HUNT AREAS: 33-34, 47-49, 120

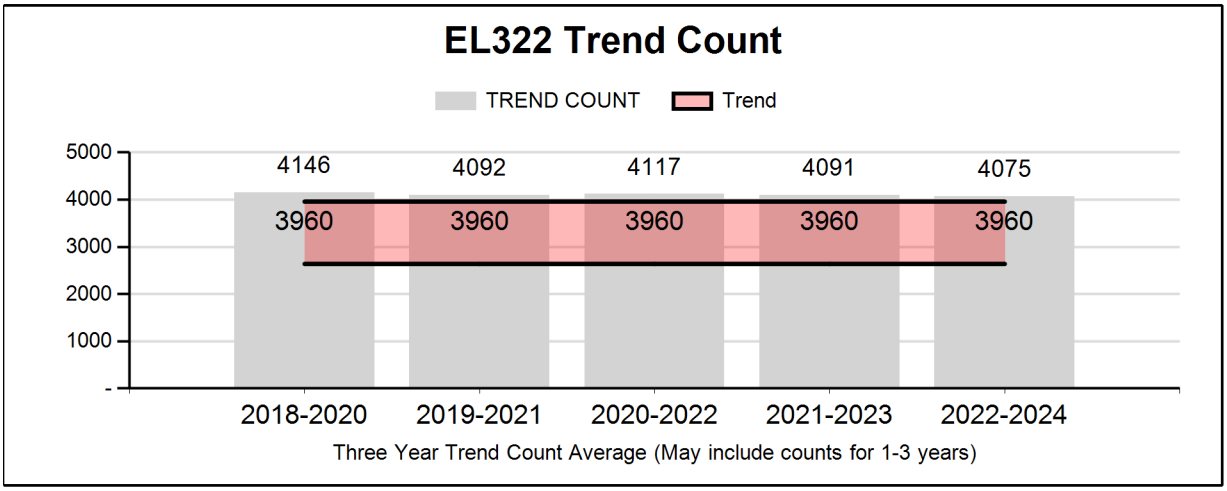
PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ZACH TURNBULL

	2019 - 2023 Average	2024	2025 Proposed
Trend Count:	3,964	4,682	4,000
Harvest:	1,603	1,806	2,000
Hunters:	3,788	3,950	4,000
Hunter Success:	42%	46%	50%
Active Licenses:	4,027	4,598	4,600
Active License Success	40%	39%	43%
Recreation Days:	28,506	36,669	36,700
Days Per Animal:	17.8	20.3	18.4
Males per 100 Females:	32	21	
Juveniles per 100 Females	28	58	

Trend Based Objective (± 20%)	3,300 (2640 - 3960)
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	42%
Number of years population has been + or - objective in recent trend:	7

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%



2025 Hunting Seasons

South Bighorn Elk (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	Dec. 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	Oct. 31	150	Antlerless elk
49	4			Nov. 7	Dec. 21		Antlerless elk
49	6	Sep. 1	Sep. 30	Oct. 9	Oct. 31	300	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

2024 Hunter Satisfaction: 56% Satisfied; 21% Neutral; 23% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

This herd remained above trend count objectives in spite of interchange between hunt areas and herd units. The three year trend count average for the herd is 4,075 elk. (3,300 objective), 23% over the management objective. While low winter range fidelity complicates hunt area trend data, most hunt areas remain over objective: HA 33(n=832; 1,100 sub-objective); HA 34 (n=1,718; 1,000 sub-objective); HA 47 (n=140; 200 sub-objective); HA 48 (n=914; 400 sub-objective); HA 49 (n=775; 300 sub-objective); HA 120 (n=303; 300 sub-objective).

Harvest statistics, including hunter satisfaction (56%) and hunter success (46%) were similar to previous years. Effort per harvest remains high (20.3 days per harvest). Harvest continues to be complicated by private land access, with large numbers of elk residing on properties with restricted access. Ample cow/calf and antlerless hunting opportunity exists under current season structures, with many licenses still available late in the season.

The 2025 hunting season structure in HA 48 and HA 49 was fairly liberal with numerous Type 1, 4, 6 and 7 licenses designed to continue reducing elk numbers. Total elk numbers counted on winter trend flights was 1,829 elk for HA 47, HA 48, and HA 49. The 3-year average count was 1,344 for HA 47, HA 48, and HA 49 combined, which is 49% above the sub-objective of 900 elk. Hunting season changes for 2025 are few, with slight alterations to license quotas and early cow seasons in hunt area 49.

Seasons remained the same in Hunt Areas 33 and 34. Success, and elk management, in both areas are highly influenced by private land ownership, distribution of elk, and access to those elk during

hunting seasons. Additional licenses or longer seasons are unlikely to contribute to a population reduction as access remains the biggest issue. Over 1,500 elk took up residence on low elevation private lands and remained, largely undisturbed for the entirety of the season. The Department continues to work with private land owners to provide access and some improvements are occurring. Without involvement from key landowners, elk management will continue to be problematic.

Elk HA 120 hunters had high success in 2024 (68%). Issuance remains the same, as it appears saturation of hunters on public lands was at capacity. The three year trend count average from 2022-2024 was 329 elk (300 objective).

Management Objective Review

The next herd unit management objective review is scheduled for 2027.

Chronic Wasting Disease Monitoring and Management

CWD statistics for the herd unit are listed below (Table 1). Prevalence has increased across the herd unit and is a significant 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 2020-2024.

Year(s)	Percent CWD-Positive and (n) - *Hunter Harvest Only* All Adult Elk (CI = 95%)	Percent of Harvested Adult Elk Sampled
2020	9.5% (n = 42)	2%
2021	5.3% (n = 38)	3%
2022	3.9% (n = 128)	9%
2023	11.1% (n = 27)	2%
2024	2.9% (n = 34)	2%
2020-2024	5.6% (n = 269)	3%

2024 - JCR Evaluation Form

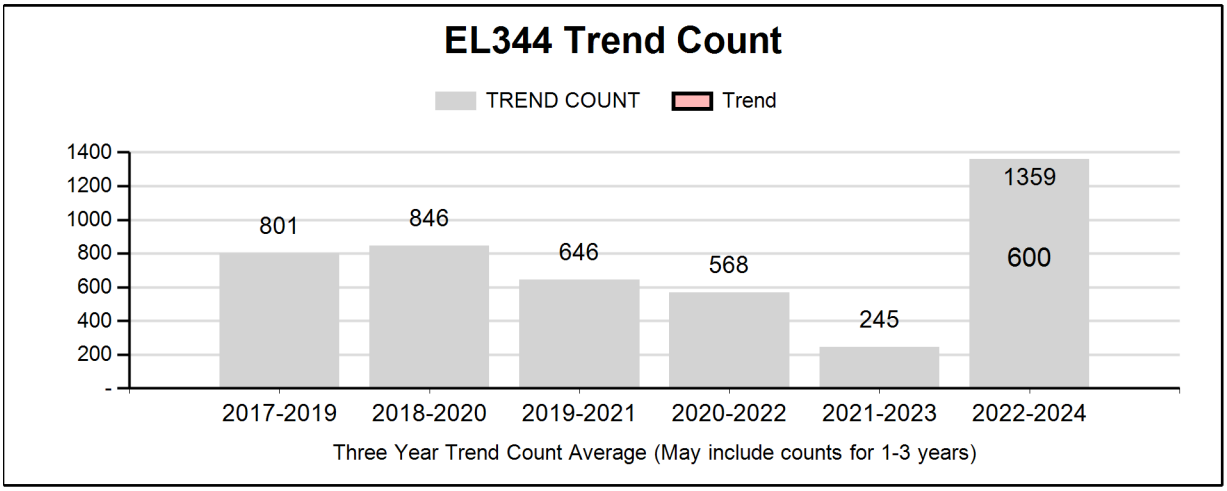
SPECIES: Elk
PERIOD: 6/1/2024 - 5/31/2025
HERD: EL344 - ROCHELLE HILLS
HUNT AREAS: 113, 123
PREPARED BY: ERIKA PECKHAM

	2019 - 2023 Average	2024	2025 Proposed
Trend Count:	646	1,359	1,100
Harvest:	209	415	500
Hunters:	272	479	550
Hunter Success:	77%	87%	91%
Active Licenses:	290	535	570
Active License Success	72%	78%	88%
Recreation Days:	1,432	2,023	2,075
Days Per Animal:	6.9	4.9	4.2
Males per 100 Females:	26	0	
Juveniles per 100 Females	24	0	

Trend Based Objective (± 20%)	500 (400 - 600)
Management Strategy:	Private Land
Percent population is above (+) or (-) objective:	172%
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:	10%	16%
Males ≥ 1 year old:	8%	10%
Juveniles (< 1 year old):	5%	5%



2025 HUNTING SEASONS
ROCHELLE HILLS ELK (EL344)

Hunt Area	Hunt Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
113	1	Sep. 1	Sep. 30	Nov. 5	Nov. 30	50	Any Elk
113	3	Sep. 1	Sep. 30	Nov. 5	Dec. 31	150	Spike or antlerless elk
113	8			Aug. 15	Jan. 31	Unlimited	Cow or calf valid on private land
123	1	Sep. 1	Sep. 14	Sep. 15	Oct. 20	150	Any elk
123	4	Sep. 1	Sep. 14	Sep. 15	Nov. 30	100	Antlerless elk
123	6			Sep. 15	Nov. 30	100	Cow or calf
123	8			Sep. 1	Jan. 31	Unlimited	Cow or calf valid on private land

2024 Hunter Satisfaction: 85% Satisfied, 10% Neutral, 5% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

Hunt Area 123 is predominantly a private access hunt. Elk numbers in this hunt area are high and continue to increase. Although overall, landowners indicated that they were satisfied there was still concern about the number of elk from some people. In 2024, a Type 2 license was retained for a third year with an antler point restriction (APR). This APR was designed to harvest younger age class and smaller bulls and to bring the bull ratio down. The harvest survey indicated 83% success on the Type 2 licenses, with an estimated 39 bulls harvested. The harvest survey indicated that 72 cow/calf elk were harvested utilizing the type 4 and type 6 licenses. In elk herds that are 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 season lengths and license types to allow for harvest of elk for those who desire to decrease numbers. This is of particular importance concerning cows, as these are the individuals that drive the increase or decrease of the overall herd. The addition of a new Type 8 license in Hunt Area 123 in 2024 was implemented to give the most flexibility to private landowners who wish to target cows and calves. The harvest survey indicated that there were 159 antlerless elk harvested on this Type 8 license.

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. In 2024 there were 150 Type 3 licenses available, resulting in an estimated 122 yearling males, cows and calves harvested with this license type. A Type 8 license was added for the 2025 season to address damage issues and reduce this population to desired levels. This license type will be evaluated for effectiveness.

Management Objective Review

The herd objective was reviewed in 2024. As there was a data gap for elk numbers, before the management objective will be updated, managers plan to conduct aerial surveys. The next review is scheduled for 2029 but may occur prior to then if sufficient data can be collected.

Population Management

There is no numeric objective in this herd, and as of 2024, this herd is managed by a trend count. With difficulties in having access to qualified aircraft vendors, there is a span from 2019-2021 with limited flight data. The overall number of elk counted on the 2024 trend survey was around 1,360 elk with ~6 hours of flight time spent surveying. The 2024 post-season flight resulted in spotting a large group of elk estimated at around 700 animals in hunt area 123. This group is typically in the same general location and was initially noted around 10 years ago. At that time, the group was around 75 elk. Each subsequent survey has resulted in seeing an increase in numbers in this gathering of 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.

The 2025 seasons were structured to both address a herd that is over objective and provide consistency in hunting seasons in subsequent years. As season setting timelines have changed internally, it is beneficial to have the same license types every year to alleviate confusion for non-residents and allow them the ability to apply for license types that are available in a given year.

During the 2024 season setting process it was stated by managers that Hunt Area 123 would be proposed as a General Season during the 2025 season setting process. Although the number of elk in Hunt Area 123 warrants a general season structure, after review of 2024 harvest data managers felt that the Type 8 licenses were addressing the targeted demographic of female elk, assisting in decreasing this herd. The number of Type 1 and Type 4 licenses will allow more flexibility for people to draw who have a place to hunt on private land. It is anticipated that these license types will be available each subsequent year.

In Hunt Area 113 managers feel that the number of elk warrant the availability of both Type 1 and Type 3 licenses on an annual basis. With concern over elk numbers in 113 the Type 8 will give private landowners a tool to harvest elk. The Type 3 license aimed to give flexibility in harvest in targeting both antlerless and yearling elk. The 87% harvest success of this license type should help curb the continued growth that this herd has experienced. 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.

2025 HUNTING SEASONS
HUNT AREA 129

Hunt Area	Type	Archery Dates		Season Dates		Quota	Limitations
		Opens	Closes	Opens	Closes		
129	Gen	Sep. 1	Sep. 14				Any elk valid off private land
129	Gen			Sep. 1	Sep. 14		Any elk valid on private land
129	Gen			Sep. 15	Oct. 31		Any elk valid in the entire area
129	Gen			Nov. 1	Nov. 30		Antlerless elk
129	6			Sep. 1	Dec. 15	850	Cow or calf; also valid in that portion of Area 2 within Johnson County
129	8			Sep. 1	Jan. 31	Unlimited	Cow or calf valid on private land

2025 Nonresident Region E Quota: 1,000

2024 Hunter Satisfaction Estimate: 69% Satisfied; 20% Neutral; 11% Dissatisfied

2025 Management Summary

Hunting Season Evaluation

Elk Hunt Area 129 is not part of a herd unit and has no current management objective. This hunt area was created in 2001 to address growing numbers of elk in a large area outside of established herd units.

The current management strategy is to maximize harvest opportunities, allowing landowners to maintain elk numbers at desired levels. 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 in this hunt area. The 2024 harvest in Hunt Area 129 (n=1,221) was higher than 2023 (n=655) and highest since at least 2008 when harvest was first recorded for this hunt area. Harvest success was 84% on the Type 8 license, 53% on the Type 6 license, and 45% on the General license. Landowner survey responses from Hunt Area 129 (n=32) suggested populations at (47%), above (28%) or below (25%) desired levels. These landowners suggested season strategies with similar (66%), more (19%) or less (15%) opportunities than 2024.

We made no changes to seasons in Hunt Area 129 for the 2025 season. Hunt Area 129 is part of the nonresident Region E. We increased the nonresident general license quota from 600 to 1,000, primarily in response to damage issues in the southern portion of Region E. There are limited accessible public lands in Hunt Area 129 that regularly support elk.

Management Objective Review

This hunt area is not within a herd unit and has no management objective. Due to the low density of elk scattered over a large area, there is no plan to develop a management objective in the foreseeable future.

Chronic Wasting Disease Monitoring and Management

Elk from Rest of State (i.e., Hunt Areas 126 & 129) are sampled opportunistically for CWD. CWD has been found in elk in both hunt areas. Prevalence in Hunt Area 129 from adult elk harvested during 2020 to 2024 was 5% with a small sample size (n=56; Table 1). To date we have not implemented specific management strategies to address CWD in elk. Maintaining or increasing harvest levels to reduce densities may help limit or reduce prevalence.

Population Management

Elk generally occur in small groups scattered across approximately 4.9 million acres. An aerial survey to assess population trends is expensive and problematic for several reasons. Managers have decided to utilize input from landowners, outfitters and other key stakeholders to estimate current elk populations and distribution. A survey of key stakeholders in December 2024 and January 2025 resulted in a postseason minimum population estimate of 5,300 elk in this hunt area.

Table 1. CWD prevalence from hunter harvested elk in Hunt Area 129, 2020-2024.

Year(s)	Percent CWD-Positive and (n) – Hunter Harvest Only All Adult Elk (CI = 95%)	Percent of Harvested Adult Elk Sampled
2020	0% (n=13)	3%
2021	1% (n=12)	2%
2022	2% (n=8)	1%
2023	0% (n=9)	1%
2024	0% (n=14)	1%
2020-2024	5% (n=56, CI = 1.1%-14.9%)	2%

2024 - JCR Evaluation Form

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

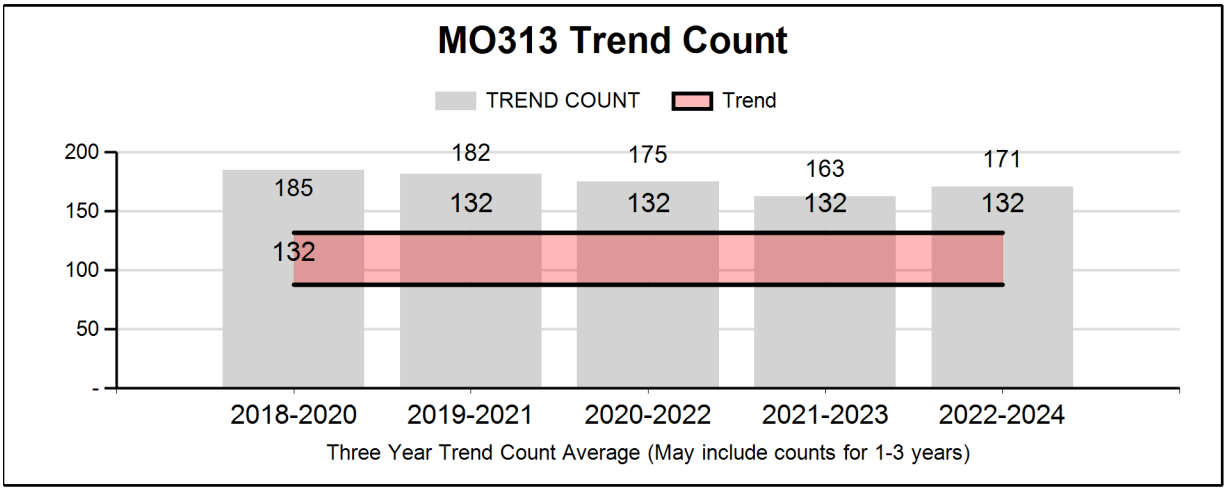
PERIOD: 6/1/2024 - 5/31/2025
PREPARED BY: ERIC MAICHAK

	2019 - 2023 Average	2024	2025 Proposed
Trend Count:	175	184	175
Harvest:	30	21	24
Hunters:	32	25	26
Hunter Success:	94%	84%	92%
Active Licenses:	32	25	26
Active License Success	94%	84%	92 %
Recreation Days:	308	161	180
Days Per Animal:	10.3	7.7	7.5
Males per 100 Females:	76	49	
Juveniles per 100 Females	48	55	

Trend Based Objective (± 20%)	110 (88 - 132)
Management Strategy:	Special
Percent population is above (+) or (-) objective:	67%
Number of years population has been + or - objective in recent trend:	5

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

	JCR Year	Proposed
Females ≥ 1 year old:	4%	5%
Males ≥ 1 year old:	12%	15%
Juveniles (< 1 year old):	0%	0%



2025 HUNTING SEASONS
BIGHORN MOOSE (MO313)

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

2024-25 Trend Objective: 110 Moose

2025 Management Summary

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 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 2024, we observed 184 moose (Area 1 = 126; Area

34 = 33; Area 42 = 25), and a 3-year running average of 174 moose (Area 1 = 94; Area 34 = 33; Area 42 = 47). Over the past five years, we have typically observed more moose in each hunt area than desired. In 2024 we observed preseason ratios of 61 calves:100 cows (Area 1) and 25 calves:100 cows (Area 42), and a postseason ratio of 29 calves:100 cows (Area 34). Ratio of calves:100 cows was lower in Areas 34 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 from aspen and riparian communities in segments of the herd unit. The 98,351 acre Elk Fire primarily burned the eastern side of Hunt Area 1, largely along the face of the mountains but also some areas above the face from Dry Fork ridge to Red Grade Road. This burn will likely stimulate new growth but will take several years of revegetation for moose to realize full benefits in riparian and conifer habitats.

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 2022-2024 were 83 bulls:100 cows (Area 42), 51 bulls:100 cows (Area 34), and 37 bulls:100 cows (Area 1). To maintain adequate age structure and hunt quality, this herd has established preferred harvest metrics of males, including 40% of harvested males greater than 5 years old, and a median age ≥ 4 years old for harvested bulls. From 2022-2024, 66% of hunter-harvested bulls with lab age (n=44) were greater than 5 years old, and median age was 5 years old. Three-year averages of age were 6.1 (Area 42, n=18), 5.1 (Area 1, n=13), and 5.1 (Area 34, n=13) suggesting an adequate age structure in this population. Harvest success of active Type 1 licenses was 94 % for all hunt areas (80% in Hunt Area 34), and 57 % for Type 4 licenses with unsuccessful active license holders in Hunt Areas 34 and 42. Days per harvest of Type 4 licenses was 1.0, 4.0, and 5.6 for Hunt Areas 1, 34, and 42, respectively. Due to the Elk Fire, two Hunt Area 42 Type 1 and four Hunt Area 1 Type 4 licenses were held over for the 2025 season.

Trend counts continue to exceed the objective. However, harvest success of Type 4 licenses has continued to decline in Hunt Areas 34 and 42, with higher days/harvest of Type 4 licenses in Hunt Areas 34 and 42 than Hunt Area 1. Therefore we decreased Type 4 licenses in Areas 34 and 42, and added two Type 4 licenses in Hunt Area 1, 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 1 and added it to Area 42 as bull ratios tend to be greater in Area 42 than Area 1.

Management Objective Review

This herd is scheduled for its next 5-year herd unit review in 2026.

Population Management

An integrated population model (IPM) has been constructed for moose herds in Wyoming. The

2024 IPM estimated a postseason population of 396 moose (95% CI = 253-587) in this herd. The 2025 postseason estimate was 424. Estimated harvest of males >1 year old relative to total population based on the IPM was 0.12 in 2024, slightly lower than 2023 (0.17), with a 3-yr average of 0.15, and predicted at 0.15 in 2025. The model performed well (Rhat proportion = 0.89) with date range 2000-2026; effort = recreation days; effort prediction method = spline; reproduction = constant; adult and juvenile survival = time varying; burnin = 50,000; iterations = 30,500; and thinning rate = 1.