WYOMING RANGE MULE DEER HERD

A CRITICAL REVIEW OF YEARLING BUCK HARVEST WITH EMPHASIS ON THE 3-POINT ANTLER POINT RESTRICTION (APR) 1991-2019

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INTRODUCTION

It has been widely recognized that implementing APRs has been fraught with real and perceived benefits by the hunting public and deer managers alike. The debate over the efficacy and benefits of APRs has been widely reported in western United States popular hunting literature, state wildlife agency white papers, professional journals, and more recently in a white paper published by the Wyoming Game and Fish Department entitled *A Critical Review of Mule Deer Antler Point Regulations and Their Application.*

Antler Point Restrictions (APRs) have been a component of mule deer management in the state of Wyoming for many years. In the Jackson and Pinedale Regions, APRs, notably the 4-point or better regulation, were limitations of the deer management program dating back to the 1970s, and were used in combination with general any and antlered only deer seasons. The last year the 4-point regulation was used in the Wyoming Range was in 1988.

HISTORY OF APRs IN THE WYOMING RANGE

In the Wyoming Range, APR hunt seasons had not been implemented in the northern hunt areas (Areas 144, 145) since the period from 1977-1988. During this period there was one year, 1985, when the entire mule deer hunting season was administered by a 4-point or better regulation. The remaining 11 years of mule deer hunting were administered by a combination of antlered and any deer, and 4-point APR seasons.

This is not the case in the southern hunt areas (Areas 134 and 135) of the herd unit. Through most of the 1980s, 1990s and 2000s, APRs were not a limitation in these areas. However, beginning in 2014, Area 134 adopted the 3-point or better regulation in response to hunter sentiment in southwest Wyoming. More recently, the Wyoming Game and Fish Commission directed the Department to implement a 3-point or better APR regulation in the Wyoming Range herd in April 2017 that would regulate the 2017 hunting season. The Commission acted on public input which requested a Department response to deer management following severe losses observed in the herd unit during the 2017 winter. The primary objective of the APR was to offer a degree of protection from hunter harvest for yearling bucks, which typically grow a spike or 2-points on each antler. The 2016 fawn cohort was the age class that was most impacted by the winter, and the surviving male individuals of this cohort would enter the 2017 hunt as yearlings. Concurrent with the adoption of the 3-point APR was a commitment to implement the APR for three consecutive hunting seasons from 2017 – 2019.

The Wyoming Range herd unit encompasses several areas where much of the hunting opportunity can be described as a “remote, road-less, and backcountry” hunting experience. These areas, notably Hunt Areas 143, 144, 145, and the northern portion of Area 135, offer the public the opportunity to hunt in areas away from extensive road systems that are typically found at lower elevation sagebrush habitats and the sagebrush/aspen interface. Only Area 134 and the southern portion of Area 135 may be considered areas within the herd unit where a network of roads exist that provide a relatively high degree of motorized access unlike the northern three areas previously described.

AN EVALUATION OF THE 3-POINT APR, 2017-2019

An evaluation was undertaken to evaluate the efficacy of whether the intent of the 3-point APR would achieve the desired objective of protecting yearling bucks (i.e. spikes and 2-point bucks) and result in substantial recruitment of yearlings into the 2+-year-old cohort over the 3-year APR period (2017-2019). An effective way to evaluate whether the 3-point APR would offer the desired protections to yearling bucks was to determine the extent of yearling bucks represented in the historical harvest when the 3-point APR was not administered (1991-2016).

Since yearling buck harvest is not surveyed during the annual hunter harvest survey, the only way to assess yearling buck harvest is to evaluate the percentage of yearling bucks examined during hunter harvest field checks. During the 26-year period from 1991-2016, the number and percentage of yearling bucks checked in the field annually in each hunt area were compiled and compared to total antlered harvest by hunt area (Appendix A). The percentage of yearling bucks reported represents the annual percentage of total antlered harvest for each respective hunt area.

During the report period, the annual percentage of yearling bucks checked in the field comprised 27%, 20%, 22%, 10%, and 20%, for Hunt Areas 134, 135, 143, 144, and 145, respectively, of the total hunt area's antlered harvest. These data are compelling and appear to describe why yearling bucks have, historically, comprised a minor and inconsequential percentage of the annual antlered harvest in those areas during the years (1991-2016) presented.

Secondly, hunters that pursue mule deer in the Wyoming Range, especially in those areas considered road-less and remote backcountry areas, are focused primarily on taking a buck older than a yearling (Appendix B). Moreover, because these areas are remote, difficult to access, and road-less, 80-90+% of all bucks harvested and subsequently field checked are typically 2+ years old (Appendix C).

The Wyoming Range herd produces buck: doe ratios that typically exceed 40 bucks: 100 does. Consequently, the preponderance of "trophy" class (≥ 24" antler width) bucks in the 2+-year old age classes provide little incentive for hunters to harvest yearlings. Hence, these are reasons of central importance why deer hunters have never been capable of, or interested in, over-exploiting the yearling buck cohort.

SUMMARY

The 3-point APR was implemented for the first time in the Wyoming Range mule deer herd in Area 134 in 2014, in Area 135 in 2015, and in Areas 143 (east slope Wyoming Range), Area 144 (Greys River), and 145 (Salt River) in 2017. Public sentiment following the severe winter losses observed in 2017 compelled the Wyoming Game and Fish Commission to adopt the 3-point or better APR in 2017. The 3-point restriction was in effect during the 3-year period from 2017-2019. The APR restriction was discontinued in 2020 in Areas 135, 143-145 for the following reasons:

a. The return to any antlered deer hunting in these areas is consistent with historical management of the herd where antlered deer hunting offers the hunting public more opportunity and less restrictions;
b. The 3-point regulation was originally designed to "protect" the few yearling bucks during the 2017 hunting season that survived as fawns through the 2016-17 winter;
c. Herd unit yearling buck numbers and ratios began to increase toward historical levels, as anticipated, one year following the 2016-17 winter because of high adult and fawn recruitment and over-winter survival;
d. Historical hunter harvest of antlered males over a 26-year period from 1991-2016 indicated that yearling bucks comprised a minor and inconsequential percentage (typically less than 27% in most hunt areas, and only 10% in the Greys River), of the antlered deer harvest checks;
e. Yearling bucks have, historically, never been over-exploited by hunter harvest (i.e. yearlings comprising $\geq 40\%$ of annual antlered harvest field checks);
f. Mule deer hunters have never been capable of, or interested in, over-exploiting the yearling buck cohort because of the high preponderance of trophy class, 4-point or better, 2+ year old bucks present in the population; and,
g. Deer management is designed to promote population growth by restricting the harvest of antlerless deer (i.e. the reproductive segment of the population).

These biological phenomena are compelling justifications why the 3-point APR, described herein as a regulation to protect yearling bucks, is unnecessary in the Wyoming Range herd. The 3-point APR did not promote population growth, increase buck numbers and ratios, or increase the percentage of "older" age class bucks.

Appendix A

A summary of field check hunter-harvested yearling bucks, Hunt Areas 134,135, 143-145, Wyoming Range deer herd, 1991 - 2016.

	Hunt Area 134		Hunt Area 135		Hunt Area 143		Hunt Area 144		Hunt Area 145	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Year	1	%	1	%	1	%	1	%	1	%
1991	12	33%	49	30%	34	28%	45	23%	0	0%
1992	0	0%	22	18%	9	11%	17	12%	0	0%
1993	1	5%	0	0%	2	5%	1	2%	0	0%
1994	9	56%	10	27%	1	5%	5	4%	NA	NA
1995	8	18%	19	14%	17	24%	23	11%	NA	NA
1996	1	7%	20	18%	7	18%	15	14%	NA	NA
1997	0	0%	13	18%	3	19%	3	5%	NA	NA
1998	2	8%	26	28%	2	10%	9	10%	1	100%
1999	42	59%	39	38%	7	32%	13	10%	0	0%
2000	25	36%	26	23%	22	45%	28	13%	3	60%
2001	21	24%	19	22%	15	31%	23	16%	1	100%
2002	3	16%	10	15%	0	0%	19	10%	0	0%
2003	13	17%	53	39%	2	17%	4	4%	2	40%
2004	6	9%	11	20%	0	0%	3	3%	0	0%
2005	7	29%	19	31%	7	33%	7	8%	6	46%
2006	17	29%	8	21%	10	33%	12	11%	2	18%
2007	4	11%	37	30%	9	33%	13	11%	5	33%
2008	8	21%	26	28%	4	13%	12	13%	1	6%
2009	2	100%	0	0%	5	29%	11	9%	0	0%
2010	4	16%	13	10%	10	27%	8	6%	1	9%
2011	0	0%	10	15%	1	5%	3	3%	0	0%
2012	18	72%	20	35%	4	18%	7	6%	0	0%
2013	1	50%	0	0%	4	44%	31	22%	4	22%
2014	NA	NA	1	17%	7	41%	18	15%	0	0%
2015	NA	NA	0	0%	NA	NA	0	0%	0	0%
2016	NA	NA	NA	NA	NA	NA	10	8%	0	0%
Total	**204**		**469**		**182**		**340**		**26**	

Annual	Hunt Area 134		Hunt Area 135		Hunt Area 143		Hunt Area 144		Hunt Area 145	
AVG	**9**	**27%**	**18**	**20%**	**8**	**22%**	**13**	**10%**	**1**	**20%**

Appendix B

2010 - 2019 Harvest Age Structure by Hunt Area

for Mule Deer Herd MD131 - WYOMING RANGE - Hunt Area ALL

		MALES											FEMALES							
Year	Area	Juv	1	% 1	2+ C1	2+ C2	2+ C3	2+ UC	% 2+	Total Aged	Unk	**Total Chkd**	Juv	1	% 1	2+	% 2+	Total Aged	Unk	Total Chkd
2010	134	0	4	16%	0	0	0	21	84%	25	1	**26**	0	0	0%	0	0%	0	0	0
	135	0	13	10%	0	0	0	120	90%	133	0	**133**	0	0	0%	0	0%	0	0	0
	143	0	10	27%	0	0	0	27	73%	37	0	**37**	1	1	7%	12	86%	14	0	14
	144	0	8	6%	0	0	0	132	94%	140	0	**140**	2	1	8%	9	75%	12	0	12
	145	0	1	9%	0	0	0	10	91%	11	0	**11**	0	0	0%	0	0%	0	0	0
2011	134	0	0	0%	0	0	0	5	100%	5	0	**5**	0	0	0%	0	0%	0	0	0
	135	0	10	15%	0	0	0	56	85%	66	0	**66**	0	0	0%	1	100%	1	0	1
	143	0	1	5%	0	0	0	20	95%	21	0	**21**	0	0	0%	0	0%	0	0	0
	144	0	3	3%	0	0	0	101	97%	104	0	**104**	0	1	100%	0	0%	1	0	1
	145	0	0	0%	0	0	0	3	100%	3	0	**3**	0	0	0%	1	100%	1	0	1
2012	134	0	18	72%	0	0	0	3	28%	25	14	**39**	0	0	0%	1	100%	1	1	2
	135	0	20	35%	0	0	0	19	65%	57	21	**78**	0	1	33%	2	67%	3	3	6
	143	0	4	18%	0	0	0	16	82%	22	0	**22**	0	0	0%	0	0%	0	0	0
	144	0	7	6%	0	0	0	101	94%	108	1	**109**	0	0	0%	1	100%	1	0	1
	145	0	0	0%	0	0	0	8	100%	8	0	**8**	0	0	0%	0	0%	0	0	0
2013	134	0	1	50%	0	0	0	1	50%	2	0	**2**	0	0	0%	0	0%	0	0	0
	135	0	0	0%	0	0	0	7	100%	7	0	**7**	0	0	0%	1	100%	1	0	1
	143	0	4	44%	0	0	0	5	56%	9	0	**9**	0	0	0%	0	0%	0	0	0
	144	1	31	22%	0	0	0	107	77%	139	5	**144**	0	0	0%	3	100%	3	0	3
	145	0	4	22%	0	0	0	14	78%	18	4	**22**	0	0	0%	1	100%	1	0	1
2014	135	0	1	17%	2	1	0	2	83%	6	0	**6**	0	0	0%	3	100%	3	0	3
	143	0	7	41%	4	5	1	0	59%	17	0	**17**	0	0	0%	0	0%	0	0	0
	144	0	18	15%	1	0	0	100	85%	119	0	**119**	0	0	0%	3	100%	3	0	3
	145	0	0	0%	0	0	0	7	100%	7	0	**7**	0	0	0%	0	0%	0	0	0
2015	135	0	0	0%	0	0	0	0	100%	4	0	**4**	0	0	0%	0	0%	0	0	0
	144	13	0	0%	0	0	0	3	86%	96	0	**96**	0	0	0%	3	100%	3	0	3
	145	0	0	0%	0	0	0	1	100%	12	0	**12**	0	0	0%	2	100%	2	0	2
2016	144	1	10	8%	0	0	0	107	91%	118	1	**119**	0	0	0%	2	100%	2	1	3
	145	0	0	0%	0	0	0	12	100%	12	1	**13**	0	0	0%	0	0%	0	0	0

Appendix B (cont.)

2010 - 2019 Harvest Age Structure by Hunt Area

for Mule Deer Herd MD131 - WYOMING RANGE - Hunt Area ALL

		MALES											FEMALES							
Year	Area	Juv	1	% 1	2+ C1	2+ C2	2+ C3	2+ UC	% 2+	Total Aged	Unk	Total Chkd	Juv	1	% 1	2+	% 2+	Total Aged	Unk	Total Chkd
				2017 - 2019: 3-POINT APR																
2017	134	0	5	11%	32	12	0	0	89%	45	0	**45**	0	0	0%	4	100%	4	1	5
	135	1	1	5%	8	9	3	0	91%	22	0	**22**	0	1	33%	2	67%	3	1	4
	143	0	0	0%	5	10	3	0	100%	19	0	**19**	0	0	0%	0	0%	0	0	0
	144	0	1	2%	7	24	7	0	98%	47	1	**48**	0	2	40%	3	60%	5	0	5
	145	0	0	0%	2	1	1	0	100%	6	0	**6**	0	0	0%	0	0%	0	0	0
2018	134	0	10	19%	27	16	0	0	81%	53	0	**53**	0	0	0%	1	100%	1	1	2
	135	2	17	17%	25	39	15	0	81%	98	0	**98**	0	0	0%	4	100%	4	0	4
	143	0	3	9%	5	20	6	0	91%	34	0	**34**	1	0	0%	1	50%	2	4	6
	144	0	3	7%	2	23	16	0	93%	44	0	**44**	0	0	0%	0	0%	0	2	2
	145	0	0	0%	0	2	0	0	100%	2	0	**2**	0	0	0%	0	0%	0	0	0
2019	134	0	3	15%	13	3	1	0	85%	20	1	**21**	0	0	0%	2	100%	2	2	4
	135	0	3	17%	9	4	2	0	83%	18	2	**20**	0	0	0%	1	100%	1	0	1
	143	0	6	21%	5	13	4	0	79%	28	7	**35**	0	0	0%	1	100%	1	0	1
	144	0	3	5%	14	25	18	0	95%	60	2	**62**	0	0	0%	1	100%	1	0	1
	145	0	1	8%	7	3	1	0	92%	12	0	**12**	0	0	0%	0	0%	0	0	0

2017 - 2019: 3-POINT APR (ANTLER POINT RESTRICTION)

1. PERCENTAGE OF YEARLING BUCKS HARVESTED DURING 3-POINT APR EXCEED # OF YEARLINGS HARVESTED DURING ANY BUCK HUNT IN SOME YEARS (2010 - 2016)

Appendix C

WYOMING RANGE MULE DEER HERD

	1989 - 1995 N=781 Heads Measured				1996 - 2001; N=914 Heads Measured				2012 - 2018; N=423 Heads Measured			
	7 Years				6 Years				7 Years			
Spread	No. Heads	Average	Range of	Heads Measuring	No.Heads	Average	Range of	Heads Measuring	No.Heads	Average	Range of	Heads Measuring
(inches)	Measured	Age	Ages	Less (%)	Measured	Age	Ages	Less (%)	Measured	Age	Ages	Less (%)
8	1	2	2	0	1	1	1	0	1	1	1	0
9	1	2	2	<1%	2	1	1	<1%	2	2	2	<1%
10	0	N/A	N/A	<1%	3	1	1	<1%	0	N/A	N/A	<1%
11	4	1	1 - 2	<1%	9	1	1 - 3	<1%	0	N/A	N/A	<1%
12	8	2	1 - 3	<1%	5	1	1	2%	6	2	2 - 3	<1%
13	13	2	1 - 3	2%	18	2	1 - 3	2%	0	N/A	N/A	2%
14	23	2	1 - 3	3%	16	2	1 - 6	3%	6	3	1 - 4	2%
15	42	2	1 - 4	6%	22	2	1 - 3	4%	5	3	2 - 4	3%
16	54	2	1 - 4	12%	37	3	1 - 6	7%	14	3	2 - 5	5%
17	53	3	2 - 5	19%	52	2	2 - 5	11%	10	3	2 - 4	8%
18	63	3	2 - 4	25%	51	3	2 - 5	17%	18	3	2 - 4	10%
19	43	3	2 - 6	33%	46	3	2 - 7	23%	18	3	2 - 5	15%
20	55	3	2 - 9	39%	51	3	2 - 6	28%	23	4	3 - 5	19%
21	53	3	2 - 7	46%	57	3	2 - 10	33%	24	4	3 - 6	24%
22	67	4	2 - 10	53%	82	4	2 - 9	40%	32	4	3 - 9	30%
23	55	4	3 - 8	61%	53	4	2 - 8	49%	49	5	3 - 8	37%
24	49	4	3 - 8	68%	86	4	2 - 9	54%	40	5	3 - 8	49%
25	51	4	3 - 10	75%	79	5	2 - 9	64%	43	5	3 - 9	59%
26	44	4	3 - 9	81%	55	5	3 - 9	73%	32	5	3 - 8	69%
27	40	4	3 - 9	87%	62	5	3 - 9	79%	27	6	4 - 9	76%
28	24	4	2 - 9	92%	42	5	3 - 9	86%	30	5	4 - 7	83%
29	14	4	3 - 6	95%	27	5	3 - 8	91%	21	6	3 - 10	90%
30	12	5	4 - 9	97%	20	5	3 - 8	94%	8	6	4 - 7	95%
31	6	5	4 - 6	98%	16	5	3 - 8	96%	7	5	4 - 6	97%
32	4	5	3 - 8	99%	11	4	3 - 7	98%	4	6	4 - 7	98%
33	0	N/A	N/A	N/A	5	6	5 - 8	99%	3	6	5 - 6	99%
34	0	N/A	N/A	N/A	2	4	4 - 5	99.30%	0	N/A	N/A	100.00%
35	2	6	5 - 7	99.70%	1	7	7	99.50%	0	N/A	N/A	100.00%
≥36	0	N/A	N/A	100%	3	6	5 - 6	99.70%	0	N/A	N/A	100.00%