

**MONTANA FISH, WILDLIFE & PARKS  
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

**Species: Antelope**  
**Region: 5**  
**Hunting District: 512**  
**Year: 2019**

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

The proposal is to decrease the number of 512-20 either sex antelope licenses from 75 to 50. This change in either sex licenses is outside the established quota range of 75-200.

**Change from:**

**Antelope License. Drawing only. Apply by June 1.**

**512-20: 75 licenses.**

- Sep 07 - Oct 11 - Either-sex Antelope. Archery Only Season.
- Oct 12 - Nov 10 - Either-sex Antelope.

**Change to:**

**Antelope License. Drawing only. Apply by June 1.**

**512-20: 50 licenses.**

- Sep 07 - Oct 11 - Either-sex Antelope. Archery Only Season.
- Oct 12 - Nov 10 - Either-sex Antelope.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The primary objective of the proposed change is to reduce hunting mortality to allow the population to increase back towards objective levels. Additionally, antelope hunting opportunity in 512 occurs primarily on private lands. Landowners are often reluctant to grant access when game numbers are low. This license reduction would reduce the number of antelope hunters in the field, helping to balance hunter numbers with available access.

License numbers are currently at the bottom of the quota range, the current quota (75 ES + 5DF) should result in a harvest of approximately 15% of the population. This level of harvest is too high to allow the population to grow considering the small population size and record low fawn recruitment. Based on the long term average harvest rate (0.49) (Table 3), the proposed reduction to 50 either sex licenses should result in a harvest of approximately 25 antelope, or 10% of the total population.

In 2018, only 24 antelope were harvested from the 75 ES licenses and 5 DF licenses. This was a record low harvest rate for the district. Antelope are highly visible and relatively easy to hunt. Even during periods of lower populations, harvest rates generally remain near average. It is likely that harvest in the coming year could be higher, near average. The reduction to 50 ES licenses will ensure harvest remains low during the population low, even if hunter success should increase back to near normal levels.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

Success will be measured using annual aerial surveys and telephone harvest surveys to monitor the populations response and harvest response to this regulation change.

4. **What is the current population’s status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

The management goal for this hunting district is 500-600 total antelope. The long-term average is 390 antelope.

The 2018 total coverage survey produced a population of 264 antelope, 32% below the long-term average. This was the lowest population level observed in this district since 1981. 2018 marked the lowest fawn: doe ratio ever observed in this district (Table 1). This population may have started to decline previous to 2018, but the decline was not detected during trend area surveys. The 2018 total coverage survey captured the decline. Based on the 2018 survey, either sex licenses were reduced from 100 to 75, the bottom of the quota range. Doe/fawn licenses were reduced from 25 to 5, the bottom of the quota range. The 2018 harvest was only 24 antelope (Table 2). This was the lowest harvest ever recorded in the district. The success rate on the 75 ES licenses was only 27%. The long-term average success rate is 49% (Table 3). This record low harvest and harvest rate confirm the aerial survey results of low population numbers in HD 512. This population decline is likely a result of the harsh winter of 2017/18. Extended periods of snow cover and cold in this area resulted in high overwinter mortality. The winter of 2018-19 was also severe. We anticipate low overwinter survival as well as continued poor fawn production in the spring of 2019. We expect to population to remain low in the coming year.

Table 1. Summary of recent total counts and trend area estimates of HD 512.

Year	Bucks	Does	Fawns	Total Antelope	Bucks/ 100 Does	Fawns/ 100 Does	Incre
Average	66	208	112	391	36	59	30
2018	53	171	40	264	31	23	15
<b>2017</b>	NA	NA	NA	465	37	64	32
<b>2016</b>	NA	NA	NA	479	42	54	NA
<b>2015</b>	82	268	132	480	49	67	28
<b>2014</b>	74	229	134	442	53	73	30
2013	73	266	130	469	27	49	28
<b>2012</b>	54	309	133	472	17	43	28
<b>2011</b>	81	300	133	493	27	44	27
<b>2010</b>	98	296	129	523	33	44	25
<b>2009</b>	100	298	131	526	34	44	25
2006	57	196	122	375	29	62	33
2002	71	238	139	448	30	58	31
1998	77	256	143	476	30	56	30
1994	111	331	126	568	34	38	20
1990	59	214	113	386	28	53	29
1986	42	169	97	308	25	57	31
1983	53	193	167	413	27	86	40
1981	44	126	89	259	35	71	34
1979	41	98	98	237	42	100	41
1977	23	86	55	164	27	64	34
1973	66	120	80	266	55	67	30
1971	32	102	65	199	31	64	33
1969	93	105	92	290	89	74	32

Figure 1. HD 512 Antelope Population and Hunter Harvest 1969-2018.

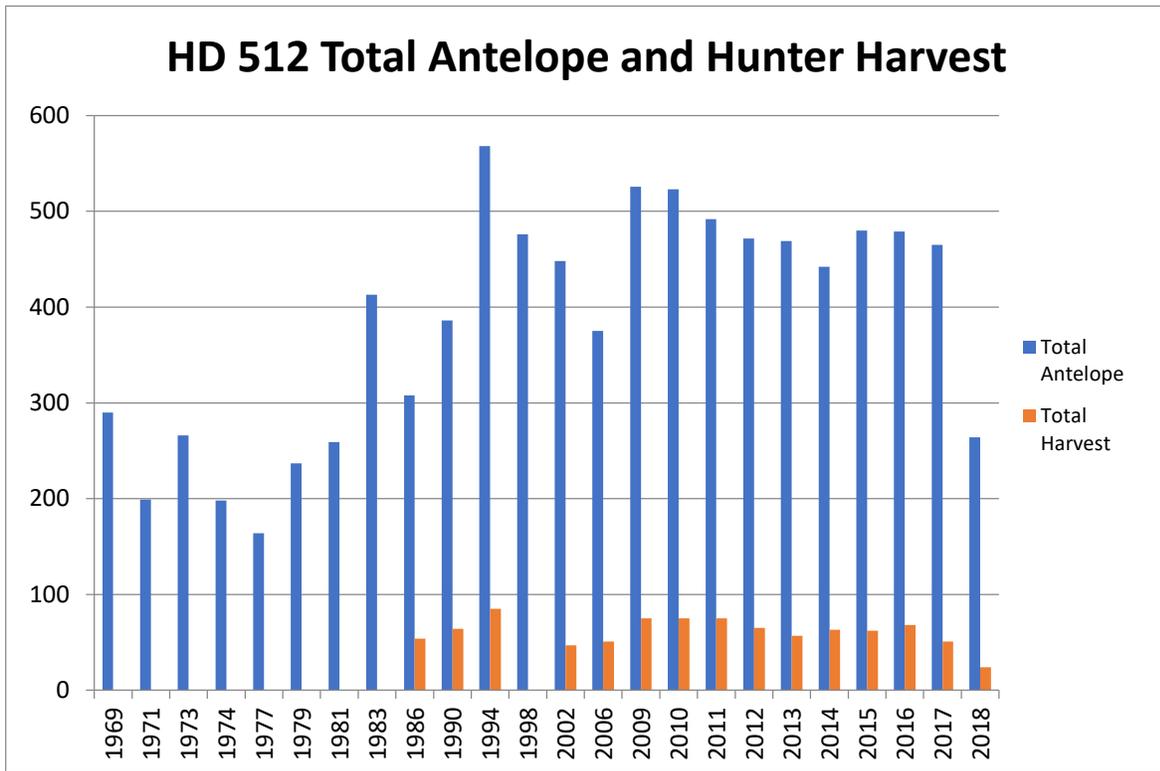


Table 2. Antelope license numbers and harvest data for HD 512, 1985-2018.

Year	License Type/Number	Hunters		Total Harvest	Ave Days Hunted	Effort	% Succ	Ant Pop. <sup>1</sup>
		Afield	Hunterdays					
1985	75 ES	60	108	42	1.80	2.57	71 <sup>2</sup>	
1986	100 ES	87	207	54	2.38	3.83	62	308
1987	100 ES	79	176	55	2.23	3.20	69	
1988	100 ES	79	144	52	1.82	2.77	66	
1989	100 ES	89	188	55	2.11	3.42	62	
1990	100 ES	88	247	64	2.81	3.86	73	386
1991	100 ES	90	206	60	2.29	3.43	64	
1992	100 ES	79	176	60	2.23	2.93	76	
1993	100 ES	83	154	62	1.86	2.48	74	
1994	150 ES	118	309	85	2.62	3.64	72	568
1995	150 ES	127	416	83	3.28	5.01	65	
1996	150 ES				2.83	4.57	62	
1997 <sup>3</sup>	150 ES				3.68	8.07	46	
1998 <sup>3</sup>	75 ES				2.22	3.89	57	476
1999 <sup>3</sup>	75 ES				2.98	3.97	75	
2000	75 ES	57	117	38	2.05	3.08	67	
2001 <sup>3</sup>	75 ES				3.37	5.83	58	
2002	75 ES	68	190	47	2.79	4.04	70	448
2003	75 ES	68 <sup>4</sup>	130	51	1.91	2.55	73	
2004	75 ES	83	196	51	2.4	3.84	61	
2005	75 ES	86	316	51	3.7	6.20	59	
2006	75 ES	70	266	51	3.8	5.23	73	375
2007	75 ES	95	350	57	3.7	6.14	60	
2008	75 ES	75	275	52	3.7	5.23	69	
2009	125 ES	110	411	75	3.7	5.48	68	526
2010	125 ES + 25 DF	123	440	75	3.6	5.87	61	523
2011	125 ES + 25 DF	135	476	75	3.5	6.35	56	493
2012	100 ES + 25 DF	107	407	65	3.8	6.26	61	472
2013	100 ES + 25 DF	NA	NA	57	NA	NA	NA	469
2014	100 ES + 25 DF	94	355	63	3.8	5.63	67	442
2015	100 ES + 25 DF	89	330	62	3.7	5.32	70	480
2016	100 ES + 25 DF	NA	NA	68	NA	NA	NA	479
2017	100 ES + 25 DF	NA	NA	51	NA	NA	NA	465
<b>2018</b>	<b>75 ES + 5 DF</b>	<b>53</b>	<b>182</b>	<b>24</b>	<b>3.4</b>	<b>7.58</b>	<b>45</b>	<b>264</b>
<b>2019</b>	<b>50 ES + 5 DF</b>							
	<b>(proposed)</b>							

Table 3. HD 512 Antelope license numbers, harvest, and harvest success rates 2004-2018.

HD	Buck Harv. (sumsum)	Doe Harv. (sumsum)	Fawn Harv. (sumsum)	Total Harv. (sumsum)	ES Permits Issued	ES Harvest	ES-Bucks Harvested	ES-Does Harvested	ES-Fawns Harvested	ES Harvest Rate	Buck Harvest Per ES License	Doe Harvest Per ES License	Fawn Harvest Per ES License
2004	32	18	0	50	75	43	27	14	0	0.57	0.36	0.19	0.00
2005	34	15	0	49	75	46	30	13	0	0.61	0.40	0.17	0.00
2006	38	13	0	51	75	41	31	10	0	0.55	0.41	0.13	0.00
2007	45	12	0	57	75	50	41	10	0	0.67	0.55	0.13	0.00
2008	35	17	0	52	75	39	28	11	0	0.52	0.37	0.15	0.00
2009	59	15	2	76	125	67	50	15	2	0.54	0.40	0.12	0.02
2010	57	17	1	75	125	59	52	6	1	0.47	0.42	0.05	0.01
2011	57	17	1	75	125	57	51	6	0	0.46	0.41	0.05	0.00
2012	43	21	2	65	100	48	37	11	0	0.48	0.37	0.11	0.00
2013	37	20	0	57	100	50	37	13	0	0.50	0.37	0.13	0.00
2014	42	18	3	63	100	46	37	5	3	0.46	0.37	0.05	0.03
2015	43	19	0	62	100	47	38	9	0	0.47	0.38	0.09	0.00
2016	45	22	1	68	100	51.7	41	9.5	1.2	0.52	0.41	0.10	0.01
2017	32	18	0	50	100	31	21	9	0	0.31	0.21	0.09	0.00
2018	14	10	0	24	75	20	12	8	0	0.27	0.16	0.11	0.00
Average	41	17	1	58	95	46.38	35.53	9.97	0.48	0.49	0.37	0.11	0.00

5. **Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

The winter of 2017-18 was unusually severe with colder than average temperatures and above average snowpack. Spring green up was also 2 weeks later than normal. These conditions combined to cause increased overwinter mortality of all age classes of antelope. In addition, adult does came through the winter in poor condition resulting in poor fawn production in the spring of 2018. The winter of 2018-19 was also severe. February brought record breaking cold temperatures and snowfall. Spring green up was delayed approximately two weeks. We anticipate poor overwinter survival for a second year in a row along with poor fawn production. We anticipate the population will remain low in the coming year.

A license reduction puts fewer hunters on the landscape during the population low, thus reducing complaints from hunters of a poor hunting experience and demonstrating FWP's capacity to detect and respond to changing antelope population levels. Maintaining higher license numbers during low populations keeps higher hunter numbers in the field. Many of these hunters will be unsuccessful, resulting in more complaints to FWP. This also creates tension between landowners and hunters. Landowners are far more willing to allow access when antelope numbers are abundant. When antelope numbers are low, landowners are less willing to grant access because they have very few, or no antelope on their land. Lower license numbers help to address this conflict and maintain hunter/landowner relations. That ultimately helps maintain FWP/landowner relationships.

6. **Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).**

Local FWP enforcement personnel have been consulted and support this license reduction. No landowners or sportsmens groups have been consulted and no comments have been received in support or opposition to this proposal.

Submitted by: **Justin Paugh**

Date: **4/29/19**

Approved:

\_\_\_\_\_   
Regional Supervisor / Date

Disapproved / Modified by:

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Name / Date

Reason for Modification: