



State of Nevada
Department of Wildlife
Game Division

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MEMORANDUM

April 15, 2020

To: Nevada Board of Wildlife Commissioners, County Advisory Boards to Manage Wildlife, and Interested Publics

From: Mike Scott, Administrator, Game Division

Title: **Commission Regulation 20-11, 2020 Big Game Quotas for the 2020-2021 Season – For Possible Action**

Description: The Commission will establish regulations for the numbers of tags to be issued to mule deer, pronghorn antelope, elk, Bighorn sheep, and mountain goats for the 2020-2021 seasons

Presenter: Wildlife Staff Specialists Cody Schroeder, Cody McKee, and Mike Cox

Summary:

Each year, the Game Division presents the proposed tag quotas for each species and Area, Unit, or Unit Group. In December 2017, the Game Division adopted internal guidelines for Big Game quota recommendations in Nevada. Biologists survey big game populations, analyze data, model populations, write status and trend reports for each species and provide quota recommendations for Interested Publics, County Advisory Board members, and Wildlife Commissioners to consider. Recommended quotas are intended to allow a safe number of big game animals to be removed from each population annually. By using a team approach to proposing recommended quotas, each biologist's data, models, and recommendations are scrutinized to ensure that they will allow the population numbers to fall within the guidelines at the completion of each season. In general, if those numbers end up above or below the male:female ratio objective, adjustments to the quotas will be made the following year to address that discrepancy. As per Commission Policy 24, we use the Demand-Success formula to distribute tags among the various weapons groups. Below is a brief explanation of how the management objectives, population status, and harvest metrics for each species resulted in the proposed quota recommendations for the 2020-2021 hunting seasons.

Antelope:

The Department is recommending 4,331 antelope tags for the 2020 season (3,136 horns-longer-than-ears, 1,195 horns-shorter-than-ears). This represents a decrease of 85 horns-longer-than-ears tags compared to the quotas approved by the Commission in 2019. The Department uses a management objective of 20-30

bucks per 100 does (including only bucks 2-years-of-age or greater) to guide quota recommendations. The Department is also recommending a decrease of 125 horns-shorter-than-ears tags compared to the 2019 approved quotas.

Desert bighorn sheep:

The Department's 2020 quota recommendation of 310 ram tags for desert bighorn rams represents a 4-tag increase over 2019. Desert bighorn ewe tags decreased overall to 111 compared to 122 tags in 2019. High densities of sheep, limited water, and potential disease issues continue to challenge the Department to find ways to reduce densities of sheep in several areas.

California bighorn sheep:

The Department is recommending 65 California bighorn ram tags which represents a 9-tag increase over the 2019 quota of 56 tags and 2 California bighorn ewe tags compared to 1 tag in 2019.

Rocky Mountain bighorn sheep:

The Department is recommending the same 6 tags in 3 open units in 2020 as in 2019, with the exception of 1 tag in the Unit 091 interstate hunt that Utah administers in 2020.

Mountain goat:

The Department is recommending 9 tags, a 1-tag increase in Mountain goat tags over the quota approved in 2019.

Elk:

The Department is recommending 5,210 total elk tags for 2020. This represents a 20% decrease from the 2019 approved quotas. Harvest objectives guiding bull quota recommendations are 25 – 35% of harvested bulls with at least a 50-inch main beam length. A total of 1,983 antlered elk tags are recommended compared to 2,005 approved in 2019. This modest reduction in tags for antlered elk is attributed to the influence of the demand-success formula on calculations for muzzleloader tags (i.e., low demand, high success). A total of 105 spike elk tags are being recommended, down from 280 approved in 2019. Finally, 3,002 antlerless elk tags are recommended compared to 4,160 approved in 2019. The Department closed antlerless elk management hunts for the 2020-2021 hunting season resulting in the noticeable reduction in recommended tags for antlerless elk.

All elk quotas are also driven by the Nevada Elk Species Management Plan (1997) as well as elk sub-plans corresponding to various herds. Recommendations vary from year-to-year depending on population status with respect to population objective, as well as harvest metrics. Currently, about 90% of elk herds are at or below population objectives, which has resulted in a 43% decrease in total elk tags since the 2018 season.

Mule Deer:

The Department is recommending a total of 17,606 total mule deer tags for the 2020 season, compared to 16,515 recommended in 2019. This total includes 13,175 buck tags for ALW, Muzzleloader, and Archery, compared to 12,346 recommended in 2019. A total of 3,321 Junior tags are recommended compared to 3,233 recommended in 2019. A total of 1,110 antlerless tags are recommended compared to 1,035 recommended in 2019. The Department uses a statewide post-season management objective of 30 bucks

per 100 does for Standard hunts and 35 bucks per 100 does in Alternative hunts. It is important to understand that this means that there would be 30/35 buck per 100 does left after the last season has concluded. For Non-Standard hunts (areas which are not surveyed for mule deer due to lower densities), the objective is to see success rates at 45% or greater. If approved this would be an increase of about 6% overall compared to the 2019-2020 season.

The statewide average post-season observed buck ratio for all surveyed areas in the fall of 2019 was 28 bucks per 100 does. Only a few areas had spring deer surveys conducted before the Covid-19 health crisis resulted in all helicopter surveys being cancelled. Many areas are above the targeted ratio of 30 bucks per 100 does with some well-above the targeted ratio, which helps to explain many of the increases in buck tags recommended for the 2020 deer season.

Recommendation:

The Department recommends that the Commission **VOTE TO ADOPT COMMISSION REGULATION 20-11, 2020 BIG GAME QUOTAS FOR THE 2020-2021 SEASON AS PRESENTED**

2020 BIG GAME QUOTA RECOMMENDATIONS COMMISSION REGULATION 20-11

The Board of Wildlife Commissioners under the authority of sections 501.181, 502.140, 502.250, 503.120 and 503.140 of the Nevada Revised Statutes, does hereby adopt the following regulation for the big game resource.

Note: The harvest limit is one and the hunting hours are one-half hour before sunrise to one-half hour after sunset for all big game hunts, unless otherwise specified.

Resident Antelope - Horns longer than ears Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011	Aug 22 - Sept 7	65	70
012 - 014	Aug 22 - Sept 7	150	150
015	Aug 22 - Sept 7	75	75
021, 022	Aug 22 - Sept 7	40	45
031	Aug 22 - Sept 7	130	130
032, 034	Aug 22 - Sept 7	70	85
033 Early	Aug 22 - Aug 28	30	35
033 Late	Aug 29 - Sept 7	30	35
035	Aug 22 - Sept 7	25	35
041, 042 Early	Aug 22 - Aug 28	55	70
041, 042 Late	Aug 29 - Sept 7	55	70
043 - 046	Aug 22 - Sept 7	110	70
051	Aug 22 - Sept 7	50	35
061, 062, 064, 071, 073	Aug 22 - Sept 7	120	140
065, 142, 144 ^A	Aug 22 - Sept 7	70	75
066	Aug 22 - Sept 7	35	35
067, 068	Aug 22 - Sept 7	100	120
072, 074, 075	Aug 22 - Sept 7	45	65
076, 077, 079, 081, 091	Aug 22 - Sept 7	35	50
078, 105 - 107, 121	Aug 22 - Sept 7	90	100
101 – 104, 108, 109, 144 ^B	Aug 22 - Sept 7	65	90
111 – 114	Aug 22 - Sept 7	100	120
115, 231, 242	Aug 22 - Sept 7	45	40
131, 145, 163, 164	Aug 22 - Sept 7	80	80
132 – 134, 245	Aug 22 - Sept 7	35	45
141, 143, 151 - 156	Aug 22 - Sept 7	230	250
161, 162	Aug 22 - Sept 7	45	45
171 - 173	Aug 22 - Sept 7	25	30
181 - 184	Aug 22 - Sept 7	40	55
202, 204	Oct 15 - Oct 30	10	7

203, 291	Aug 22 - Sept 7	8	8
205 - 208	Aug 22 - Sept 7	15	25
211 - 213	Aug 22 - Sept 7	8	8
221 – 223, 241	Aug 22 - Sept 7	45	40
251	Aug 22 - Sept 7	25	25
TOTAL		2,156	2,358

**Resident Antelope - Horns longer than ears
Muzzleloader Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011	Sept 25 - Oct 4	5	2
012-014	Sept 25 - Oct 4	10	8
015	Sept 25 - Oct 4	5	15
021 - 022	Sept 25 - Oct 4	5	4
033	Sept 25 - Oct 4	5	5
065, 142, 144 ^A	Sept 25 - Oct 4	4	7
078, 105 - 107, 121	Sept 25 - Oct 4	6	10
101 – 104, 108, 109, 144 ^B	Sept 25 - Oct 4	2	2
111 – 114	Sept 25 - Oct 4	5	10
115, 231, 242	Aug 15 - Aug 21	5	3
131, 145, 163, 164	Aug 15 - Aug 21	3	2
132 - 134, 245	Aug 15 - Aug 21	1	1
221 – 223, 241	Aug 15 - Aug 21	5	5
TOTAL		61	74

**Resident Antelope - Horns longer than ears
Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011	Aug 1 - Aug 21	15	15
012 - 014	Aug 1 - Aug 21	30	25
015	Aug 1 - Aug 21	20	20
021, 022	Aug 1 - Aug 21	5	3
031	Aug 1 - Aug 21	20	10
032, 034	Aug 1 - Aug 21	30	25
033	Aug 1 - Aug 21	7	7
035	Aug 1 - Aug 21	4	5
041, 042	Aug 1 - Aug 21	15	15
043 - 046	Aug 1 - Aug 21	40	20
051	Aug 1 - Aug 21	35	15
061, 062, 064, 071, 073	Aug 1 - Aug 21	60	40
065, 142, 144 ^A	Aug 1 - Aug 21	15	15

066	Aug 1 - Aug 21	10	10
067, 068	Aug 1 - Aug 21	55	35
072, 074, 075	Aug 1 - Aug 21	20	25
076, 077, 079, 081, 091	Aug 1 - Aug 21	25	25
078, 105 - 107, 121	Aug 1 - Aug 21	10	7
101 - 104, 108, 109, 144 ^B	Aug 1 - Aug 21	15	15
111 - 114	Aug 1 - Aug 21	20	15
115, 231, 242	Aug 1 - Aug 14	15	10
131, 145, 163, 164	Aug 1 - Aug 14	15	10
132 - 134, 245	Aug 1 - Aug 14	5	5
141, 143, 151 - 156	Aug 1 - Aug 21	80	60
161, 162	Aug 1 - Aug 21	10	4
171 - 173	Aug 1 - Aug 21	5	7
181 - 184	Aug 1 - Aug 21	10	15
203, 291	Aug 1 - Aug 21	2	2
205 - 208	Aug 1 - Aug 21	5	10
211 - 213	Aug 1 - Aug 21	1	1
221 - 223, 241	Aug 1 - Aug 14	15	8
251	Aug 1 - Aug 21	5	2
TOTAL		619	481

**Resident Antelope - Horns shorter than ears
Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
031	Sept 8 - Sept 24	40	65
032, 034	Sept 8 - Sept 24	30	25
035	Sept 8 - Sept 24	15	10
041, 042	Sept 8 - Sept 24	40	40
061, 062, 064, 071, 073	Sept 8 - Sept 24	170	170
065, 142, 144 ^A	Sept 8 - Sept 24	40	45
066	Sept 8 - Sept 24	15	15
067, 068	Sept 8 - Sept 24	90	130
072, 074, 075	Sept 8 - Sept 24	45	40
076, 077, 079, 081, 091	Sept 8 - Sept 24	20	15

078, 105 - 107, 121	Sept 8 - Sept 24	45	65
101 – 104, 108, 109, 144 ^B	Sept 8 - Sept 24	35	40
111 - 114	Sept 8 - Sept 24	60	60
114, 115, Baker Ranch ^C	Sept 10 - Sept 16	10	10
131, 145	Sept 8 - Sept 24	30	35
141, 143, 152, 154, 155	Sept 8 - Sept 24	290	290
151, 153, 156	Sept 8 - Sept 24	190	240
181 - 184	Sept 8 - Sept 24	30	25
TOTAL		1,195	1,320

**Nonresident Antelope - Horns longer than ears
Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011	Aug 22 - Sept 7	7	7
012 - 014	Aug 22 - Sept 7	15	15
015	Aug 22 - Sept 7	6	8
021, 022	Aug 22 - Sept 7	4	5
031	Aug 22 - Sept 7	15	15
032, 034	Aug 22 - Sept 7	8	10
033 Early	Aug 22 - Aug 28	4	4
033 Late	Aug 29 - Sept 7	4	4
035	Aug 22 - Sept 7	3	4
041, 042 Early	Aug 22 - Aug 28	6	8
041, 042 Late	Aug 29 - Sept 7	6	8
043 - 046	Aug 22 - Sept 7	15	7
051	Aug 22 - Sept 7	6	4
061, 062, 064, 071, 073	Aug 22 - Sept 7	15	15
065, 142, 144 ^A	Aug 22 - Sept 7	8	10
066	Aug 22 - Sept 7	4	4
067, 068	Aug 22 - Sept 7	10	15
072, 074, 075	Aug 22 - Sept 7	5	7
076, 077, 079, 081, 091	Aug 22 - Sept 7	4	6
078, 105 - 107, 121	Aug 22 - Sept 7	10	10
101 – 104, 108, 109, 144 ^B	Aug 22 - Sept 7	7	10
111 – 114	Aug 22 - Sept 7	10	15
115, 231, 242	Aug 22 - Sept 7	5	4
131, 145, 163, 164	Aug 22 - Sept 7	9	10
132 - 134, 245	Aug 22 - Sept 7	4	5
141, 143, 151 - 156	Aug 22 - Sept 7	25	25
161, 162	Aug 22 - Sept 7	5	5
171 - 173	Aug 22 - Sept 7	3	3
181 - 184	Aug 22 - Sept 7	4	6

202, 204	Oct 15 - Oct 30	1	1
205 - 208	Aug 22 - Sept 7	2	3
221 – 223, 241	Aug 22 - Sept 7	4	4
251	Aug 22 - Sept 7	3	3
TOTAL		237	260

Nonresident Antelope - Horns longer than ears**Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011	Aug 1 - Aug 21	2	2
012 - 014	Aug 1 - Aug 21	3	3
015	Aug 1 - Aug 21	2	2
021, 022	Aug 1 - Aug 21	1	1
031	Aug 1 - Aug 21	2	1
032, 034	Aug 1 - Aug 21	3	2
033	Aug 1 - Aug 21	1	1
035	Aug 1 - Aug 21	1	1
041, 042	Aug 1 - Aug 21	1	1
043 - 046	Aug 1 - Aug 21	4	2
051	Aug 1 - Aug 21	4	1
061, 062, 064, 071, 073	Aug 1 - Aug 21	6	4
065, 142, 144 ^A	Aug 1 - Aug 21	2	2
067, 068	Aug 1 - Aug 21	6	4
072, 074, 075	Aug 1 - Aug 21	2	3
078, 105 - 107, 121	Aug 1 - Aug 21	1	1
101 – 104, 108, 109, 144 ^B	Aug 1 - Aug 21	2	1
111 – 114	Aug 1 - Aug 14	2	2
115, 231, 242	Aug 1 - Aug 14	2	1
131, 145, 163, 164	Aug 1 - Aug 14	2	1
132 - 134, 245	Aug 1 - Aug 21	1	1
141, 143, 151 - 156	Aug 1 - Aug 21	9	6
161, 162	Aug 1 - Aug 21	1	1
171 - 173	Aug 1 - Aug 21	1	1
181 - 184	Aug 1 - Aug 21	1	2
205 - 208	Aug 1 - Aug 21	1	1
TOTAL		63	48

Resident**Nelson (Desert) Bighorn Sheep - Any Ram - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
044, 182	Nov 20 - Jan 1	17	17
045, 153 Early	Sept 15 - Oct 15	6	5
045, 153 Late	Nov 20 - Jan 1	3	3
131, 164	Nov 20 - Jan 1	3	3
132	Nov 20 - Jan 1	4	4
133, 245	Nov 20 - Jan 1	4	4
134, 251	Nov 20 - Jan 1	5	5
161 Early	Sept 15 - Oct 15	8	6
161 Late	Nov 20 - Jan 1	8	7
162, 163	Nov 20 - Jan 1	8	8
173 N	Sept 15 - Oct 20	3	4
173 S	Nov 20 - Jan 1	2	1
181	Nov 20 - Jan 1	17	18
183	Nov 20 - Jan 1	6	4
184	Sept 15 - Oct 15	5	4
202	Nov 20 - Jan 1	5	6
204	Oct 15 - Nov 15	2	2
205	Nov 20 - Jan 1	8	13
206, 208	Nov 20 - Jan 1	4	4
207	Oct 15 - Nov 15	3	5
211	Nov 20 - Jan 1	13	12
212 Early	Nov 15 - Dec 8	8	6
212 Late	Dec 9 - Jan 1	8	6
213 Early	Nov 15 - Dec 8	7	7
213 Late	Dec 9 - Jan 1	6	6
221, 223, 241	Nov 20 - Jan 1	4	4
241	Nov 20 - Jan 1	3	3
243	Nov 20 - Jan 1	5	5
244	Nov 20 - Jan 1	5	6
252	Nov 21 - Dec 13	4	4
253	Nov 20 - Jan 1	7	7
254	Nov 20 - Jan 1	3	3
261	Nov 20 - Jan 1	3	5
262	Nov 20 - Jan 1	4	4
263	Nov 20 - Jan 1	7	7
264, 265	Nov 20 - Jan 1	1	1
266	Nov 20 - Jan 1	1	1

267	Nov 20 - Jan 1	9	<i>8</i>
268	Nov 20 - Jan 1	28	<i>24</i>
242, 271	Nov 20 - Jan 1	8	<i>9</i>
272	Nov 20 - Jan 1	1	<i>1</i>
280	Dec 19 - Jan 3	5	<i>5</i>
281	Dec 19 - Jan 3	6	<i>6</i>
282	Dec 19 - Jan 3	4	<i>4</i>
283, 284	Nov 20 - Jan 1	4	<i>4</i>
286	Nov 20 - Jan 1	5	<i>5</i>
TOTAL		280	<i>276</i>

Nonresident**Nelson (Desert) Bighorn Sheep - Any Ram - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota	<i>2019 Quota</i>
044, 182	Nov 20 - Jan 1	3	<i>3</i>
045, 153	Nov 20 - Jan 1	1	<i>1</i>
161 Early	Sept 15 - Oct 15	1	<i>1</i>
161 Late	Nov 20 - Jan 1	1	<i>1</i>
162, 163	Nov 20 - Jan 1	1	<i>1</i>
173 N	Sept 15 - Oct 20	1	<i>1</i>
181	Nov 20 - Jan 1	2	<i>2</i>
183	Nov 20 - Jan 1	1	<i>1</i>
184	Sept 15 - Oct 15	1	<i>1</i>
205	Nov 20 - Jan 1	1	<i>1</i>
207	Oct 15 - Nov 15	1	<i>1</i>
211	Nov 20 - Jan 1	1	<i>1</i>
212 Early	Nov 15 - Dec 8	1	<i>1</i>
212 Late	Dec 9 - Jan 1	1	<i>1</i>
213 Early	Nov 15 - Dec 8	2	<i>2</i>
213 Late	Dec 9 - Jan 1	1	<i>1</i>
261	Nov 20 - Jan 1	1	<i>1</i>
262	Nov 20 - Jan 1	1	<i>1</i>
263	Nov 20 - Jan 1	1	<i>1</i>
267	Nov 20 - Jan 1	1	<i>1</i>
268	Nov 20 - Jan 1	4	<i>4</i>
271, 242	Nov 20 - Jan 1	1	<i>1</i>
283, 284	Nov 20 - Jan 1	1	<i>1</i>
TOTAL		30	<i>30</i>

Resident

Nelson (Desert) Bighorn Sheep - Any Ewe - Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota	<i>2019 Quota</i>
213	Oct 5 - Oct 25	28	<i>50</i>
268	Oct 5 - Oct 25	72	<i>60</i>
TOTAL		100	<i>110</i>

Nonresident

Nelson (Desert) Bighorn Sheep - Any Ewe - Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota	<i>2019 Quota</i>
213	Oct 5 - Oct 25	3	<i>5</i>
268	Oct 5 - Oct 25	8	<i>7</i>
TOTAL		11	<i>12</i>

Resident**California Bighorn Sheep - Any Ram - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota	2019 Quota
012	Sept 1 - Oct 31	4	3
014	Sept 1 - Oct 31	2	2
021, 022	Sept 1 - Oct 31	3	2
031	Sept 1 - Oct 31	6	6
032	Sept 1 - Oct 31	11	10
033	Sept 1 - Oct 31	3	3
034	Sept 1 - Oct 31	10	7
035	Sept 1 - Oct 31	8	6
041	Sept 1 - Oct 31	1	1
051	Sept 1 - Oct 31	2	2
066	Sept 1 - Oct 31	1	1
068	Sept 1 - Oct 31	8	7
TOTAL		59	50

Nonresident**California Bighorn Sheep - Any Ram - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota	2019 Quota
012	Sept 1 - Oct 31	1	1
032	Sept 1 - Oct 31	1	1
034	Sept 1 - Oct 31	1	1
035	Sept 1 - Oct 31	1	1
051	Sept 1 - Oct 31	1	1
068	Sept 1 - Oct 31	1	1
TOTAL		6	6

Resident**California Bighorn Sheep - Any Ewe - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota	2019 Quota
068	Nov 6 - Nov 30	2	1

Resident
Rocky Mountain Bighorn Sheep - Any Ram - Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota	<i>2019 Quota</i>
074	Sept 1 - Oct 31	1	<i>1</i>
114 Early	Sept 1 - Oct 31	2	<i>2</i>
114 Late	Dec 20 - Feb 20	1	<i>1</i>
115	Dec 20 - Feb 20	2	<i>2</i>
TOTAL		6	<i>7</i>

Resident
Mountain Goat - Any Goat - Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota	<i>2019 Quota</i>
101	Sept 1 - Oct 31	1	<i>1</i>
102	Sept 1 - Oct 31	7	<i>6</i>
103	Sept 1 - Oct 31	1	<i>1</i>
TOTAL		9	<i>8</i>

Resident
Elk - Antlered - Any Legal Weapon Depredation Hunt

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
101 - 103* Early	Aug 1 - Sep 30	50	50
101 - 103* Late	Oct 1 - Jan 5	50	50
144, 145* Early	Sept 1 - Sept 30	5	5
144, 145* Mid	Oct 1 - Oct 31	5	5
144, 145* Late	Nov 1 - Jan 5	5	5
251*	Aug 1 - Jan 5	5	5
TOTAL		120	120

Resident
Elk - Antlerless - Any Legal Weapon Depredation Hunt

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
081 ^A 1st*	Aug 1 - Aug 24	10	10
081 ^A 2nd*	Sept 17 - Sept 30	10	15
081 ^A 3rd*	Oct 1 - Oct 20	15	15
081 ^A 4th*	Dec 5 - Jan 5	15	15
101 - 103*	Aug 1 - Jan 5	150	150
121 ^B 1st*	Aug 1 - Aug 31	25	25
121 ^B 2nd*	Sept 1 - Sept 30	10	10
121 ^B 3rd*	Oct 1 - Jan 5	10	10
144, 145 1st*	Aug 1 - Aug 31	5	5
144, 145 2nd*	Sept 1 - Sept 30	5	5
144, 145 3rd*	Oct 1 - Jan 5	5	5
251*	Aug 1 - Jan 5	10	10
TOTAL		270	275

Resident
Elk - Antlered - Any Legal Weapon Hunt

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
051 Early	Sept 17 - Sept 30	3	10
051 Late	Nov 6 - Nov 28	3	7
061, 071 Early	Oct 5 - Oct 21	40	30
061, 071 Late	Oct 22 - Nov 5	50	40
062, 064, 066 - 068 Early	Oct 22 - Nov 5	20	35
062, 064, 066 - 068 Late	Nov 6 - Nov 20	15	30
065	Sept 17 - Sept 30	1	4
072, 073, 074 Early	Oct 22 - Nov 5	180	190
072, 073, 074 Late	Nov 6 - Nov 20	180	190
075 Early	Oct 22 - Nov 5	10	15
075 Late	Nov 6 - Nov 20	10	15
076, 077, 079, 081 Early	Nov 6 - Nov 20	55	60

076, 077, 079, 081 Late	Nov 21 - Dec 4	55	60
078, 105 - 107, 109 Early	Oct 22 - Nov 5	13	12
078, 105 - 107, 109 Late	Nov 6 - Nov 28	13	11
091*	Sept 12 - Oct 2	11	9
104, 108 ^A , 121	Nov 6 - Nov 20	65	50
108 ^B , 131, 132	Nov 6 - Nov 20	60	55
111 - 115 Early	Nov 6 - Nov 20	120	100
111 - 115 Late	Nov 21 - Dec 4	110	90
161 - 164, 171 - 173 Early	Sept 17 - Sept 30	7	8
161 - 164, 171 - 173 Mid	Nov 6 - Nov 20	35	40
161 - 164, 171 - 173 Late	Nov 21 - Dec 4	35	40
221 - 223 Early	Nov 6 - Nov 20	70	60
221 - 223 Late	Nov 21 - Dec 4	70	60
231 Early	Nov 6 - Nov 20	40	40
231 Late	Nov 21 - Dec 4	45	45
241, 242	Sept 17 - Sept 24	3	3
262	Sept 17 - Sept 30	3	3
TOTAL		1,322	1,312

**Resident
Elk - Antlered - Muzzleloader Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061,071	Sept 1 - Sept 16	20	20
062, 064, 066-068	Sept 1 - Sept 16	7	10
072, 073, 074	Sept 1 - Sept 16	55	70
075	Sept 1 - Sept 16	2	4
076, 077, 079, 081	Oct 22 - Nov 5	9	8
078, 105 - 107, 109	Oct 5 - Oct 22	9	6
104, 108 ^A , 121	Oct 22 - Nov 5	6	7
108 ^B , 131, 132	Oct 22 - Nov 5	10	6
111 - 115	Oct 22 - Nov 5	10	35
161 - 164, 171 - 173	Oct 22 - Nov 5	20	30
221 - 223	Oct 22 - Nov 5	7	8
231	Oct 22 - Nov 5	6	10
241, 242	Oct 22 - Nov 5	2	2
262	Oct 22 - Nov 5	1	1
TOTAL		164	217

**Resident
Elk - Antlered - Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071	Aug 16 - Aug 31	30	25
062, 064, 066 - 068	Aug 16 - Aug 31	4	15
072, 073, 074	Aug 16 - Aug 31	110	75

075	Aug 16 - Aug 31	2	3
076, 077, 079, 081	Aug 25 - Sept 16	20	30
078, 105 - 107, 109	Sept 1 - Sept 20	11	10
104, 108 ^A , 121	Aug 25 - Sept 16	10	10
108 ^B , 131, 132	Aug 25 - Sept 16	8	10
111 - 115	Aug 25 - Sept 16	35	35
161 - 164, 171 - 173	Aug 25 - Sept 16	20	20
221 - 223	Aug 25 - Sept 16	25	20
231	Aug 25 - Sept 16	20	20
241, 242	Aug 25 - Sept 16	2	2
262	Aug 25 - Sept 16	1	1
TOTAL		298	276

**Resident
Elk - Spike - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071 Early	Sept 17 - Oct 4	10	40
061, 071 Late	Nov 6 - Jan 5	10	50
062, 064, 066 - 068 Early	Sept 17 - Oct 4	5	25
062, 064, 066 - 068 Mid	Oct 5 - Oct 20	5	25
062, 064, 066 - 068 Late	Nov 21 - Jan 5	5	25
072, 073, 074 Early	Sept 17 - Oct 4	20	40
072, 073, 074 Late	Nov 21 - Jan 5	20	40
076, 077, 079, 081 Early	Oct 1 - Oct 20	10	15
076, 077, 079, 081 Late	Dec 5 - Jan 5	10	10
078, 105 - 107, 109	Sept 21 - Oct 4	10	10
TOTAL		105	280

**Resident
Elk - Antlerless - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
051 Early	Oct 1 - Oct 20	3	10
051 Late	Dec 5 - Jan 31	5	15
061, 071 Early	Sept 17 - Oct 4	310	275
061, 071 Late	Nov 6 - Jan 5	180	170
062, 064, 066 - 068 Early	Sept 17 - Oct 4	70	150
062, 064, 066 - 068 Late	Nov 21 - Jan 5	20	35
065	Oct 1 - Oct 20	2	10
072 - 074 Early	Sept 17 - Oct 4	140	140
072 - 075 Late	Nov 21 - Jan 5	120	130
075 Early	Sept 17 - Oct 4	6	10
076, 077, 079, 081 Early	Oct 1 - Oct 20	40	40
076, 077, 079, 081 Late	Dec 5 - Jan 5	20	20
078, 105 - 107, 109	Sept 21 - Oct 4	95	80

091 Early*	Aug 1 - Aug 31	5	5
091 Late*	Oct 3 - Nov 1	5	5
104, 108 ^A , 121 Early	Sept 25 - Oct 4	90	40
104, 108 ^A , 121 Late	Nov 21 - Jan 5	20	15
108 ^B , 131 132	Sept 25 - Oct 4	20	50
111, 112 Early	Sept 25 - Oct 4	85	75
111, 112 Late	Dec 5 - Jan 5	90	70
113 Early	Sept 25 - Oct 4	25	25
113 Late	Dec 5 - Jan 5	35	30
113 N ^C	Jan 6 - Jan 31	20	25
114, 115 Early	Sept 25 - Oct 4	55	30
114, 115 Late	Dec 5 - Jan 5	75	45
161 - 164 Early	Oct 1 - Oct 20	65	65
161 - 164 Late	Dec 5 - Jan 5	70	80
221 Early	Sept 25 - Oct 4	40	40
221 Late	Dec 5 - Jan 5	30	35
222, 223 Early	Sept 25 - Oct 4	50	55
222, 223 Late	Dec 5 - Jan 5	50	50
231 Early	Sept 25 - Oct 4	55	55
231 Late	Dec 5 - Jan 5	60	80
241, 242	Sept 25 - Oct 4	10	6
TOTAL		1,966	1,966

Resident**Elk - Antlerless - Any Legal Weapon Hunt - Wilderness Only**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
072 ^A	Sept 17 - Oct 4	20	55
162 ^B	Oct 1 - Oct 20	20	40
222 Early ^C	Sept 25 - Oct 4	10	15
222 Late ^C	Dec 5 - Jan 5	10	15
231 ^D	Sept 25 - Oct 4	35	25
TOTAL		95	150

Resident**Elk - Antlerless - Muzzleloader Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
072 - 074	Sept 1 - Sept 16	10	50
075	Sept 1 - Sept 16	3	5
076, 077, 079, 081	Sept 17 - Sept 30	15	10
078, 105 - 107, 109	Aug 16 - Aug 31	15	10
104, 108 ^A , 121	Sept 17 - Sept 24	10	10
108 ^B , 131, 132	Sept 17 - Sept 24	5	20
111, 112	Sept 17 - Sept 24	15	15
113	Sept 17 - Sept 24	10	10

114, 115	Sept 17 - Sept 24	10	15
161 – 164	Sept 1 - Sept 16	20	20
221 - 223	Sept 17 - Sept 24	25	25
231	Sept 17 - Sept 24	15	25
TOTAL		153	215

**Resident
Elk - Antlerless - Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071	Aug 1 - Aug 15	65	65
062, 064, 066 - 068	Aug 1 - Aug 15	20	40
072 - 074	Aug 1 - Aug 15	25	40
075	Aug 1 - Aug 15	1	5
076, 077, 079, 081	Aug 1 - Aug 24	6	15
078, 105 - 107, 109	Aug 1 - Aug 15	15	15
104, 108 ^A , 121	Aug 1 - Aug 24	8	10
108 ^B , 131, 132	Aug 1 - Aug 24	3	8
111, 112	Aug 1 - Aug 24	30	25
113	Aug 1 - Aug 24	40	20
114, 115	Aug 1 - Aug 24	30	25
161 – 164	Aug 1 - Aug 15	25	30
221 - 223	Aug 1 - Aug 24	45	45
231	Aug 1 - Aug 24	20	35
241, 242	Aug 1 - Aug 24	3	5
TOTAL		336	383

**Nonresident
Elk - Antlered - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071 Early	Oct 5 - Oct 21	5	4
061, 071 Late	Oct 22 - Nov 5	6	5
062, 064, 066 - 068 Early	Oct 22 - Nov 5	2	4
062, 064, 066 - 068 Late	Nov 6 - Nov 20	1	3
072, 073, 074 Early	Oct 22 - Nov 5	18	20
072, 073, 074 Late	Nov 6 - Nov 20	18	20
075 Early	Oct 22 - Nov 5	1	2
075 Late	Nov 6 - Nov 20	1	1
076, 077, 079, 081 Early	Nov 6 - Nov 20	6	8
076, 077, 079, 081 Late	Nov 21 - Dec 4	6	8
078, 105 - 107, 109 Early	Oct 22 - Nov 5	2	1
078, 105 - 107, 109 Late	Nov 6 - Nov 28	2	1
104, 108 ^A , 121	Nov 6 - Nov 20	8	7
108 ^B , 131, 132	Nov 6 - Nov 20	6	6
111 - 115 Early	Nov 6 - Nov 20	14	10

111 - 115 Late	Nov 21 - Dec 4	13	9
161 - 164, 171 - 173 Early	Sept 17 - Sept 30	1	1
161 - 164, 171 - 173 Mid	Nov 6 - Nov 20	4	5
161 - 164, 171 - 173 Late	Nov 21 - Dec 4	4	5
221 - 223 Early	Nov 6 - Nov 20	8	7
221 - 223 Late	Nov 21 - Dec 4	8	6
231 Early	Nov 6 - Nov 20	5	4
231 Late	Nov 21 - Dec 4	5	5
TOTAL		144	142

**Nonresident
Elk - Antlered - Muzzleloader Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071	Sept 1 - Sept 16	3	3
062, 064, 066-068	Sept 1 - Sept 16	1	1
072, 073, 074	Sept 1 - Sept 16	7	10
076, 077, 079, 081	Oct 22 - Nov 5	1	1
078, 105 - 107, 109	Oct 5 - Oct 21	1	1
104, 108 ^A , 121	Oct 22 - Nov 5	1	1
111 - 115	Oct 22 - Nov 5	2	4
161 - 164, 171 - 173	Oct 22 - Nov 5	2	3
221 - 223	Oct 22 - Nov 5	1	2
231	Oct 22 - Nov 5	1	1
TOTAL		20	27

**Nonresident
Elk - Antlered - Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
061, 071	Aug 16 - Aug 31	3	3
062, 064, 066 - 068	Aug 16 - Aug 31	1	2
072, 073, 074	Aug 16 - Aug 31	15	10
076, 077, 079, 081	Aug 25 - Sept 16	2	3
078, 105 - 107, 109	Sept 1 - Sept 20	1	1
104, 108 ^A , 121	Aug 25 - Sept 16	1	1
108 ^B , 131, 132	Aug 25 - Sept 16	1	1
111 - 115	Aug 25 - Sept 16	4	4
161 - 164, 171 - 173	Aug 25 - Sept 16	2	2
221 - 223	Aug 25 - Sept 16	3	2
231	Aug 25 - Sept 16	2	2
TOTAL		35	31

**Nonresident
Elk - Antlerless - Any Legal Weapon Hunt**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
061, 071 Early	Sept 17 - Oct 4	45	30
061, 071 Late	Nov 6 - Jan 5	25	15
062, 064, 066 - 068 Early	Sept 17 - Oct 4	10	25
062, 064, 066 - 068 Late	Nov 21 - Jan 31	3	6
072 - 074 Early	Sept 17 - Oct 4	15	15
072 - 075 Late	Nov 21 - Jan 5	15	15
104, 108 ^A , 121 Early	Sept 25 - Oct 4	10	4
104, 108 ^A , 121 Late	Nov 21 - Jan 5	2	2
108 ^B , 131, 132	Sept 25 - Oct 4	2	5
111, 112 Early	Sept 25 - Oct 4	9	8
111, 112 Late	Dec 5 - Jan 5	10	8
161 - 164 Early	Oct 1 - Oct 20	7	7
161 - 164 Late	Dec 5 - Jan 5	8	10
231 Early	Sept 25 - Oct 4	6	5
231 Late	Dec 5 - Jan 5	7	8
TOTAL		174	163

**Nonresident
Elk - Antlerless - Muzzleloader Hunt**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
072 - 074	Sept 1 - Sept 16	1	6
076, 077, 079, 081	Sept 17 - Sept 30	1	2
108 ^B , 131, 132	Sept 17 - Sept 24	1	2
TOTAL		3	10

**Nonresident
Elk - Antlerless - Archery Hunt**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
072 - 074	Aug 1 - Aug 15	3	5
076, 077, 079, 081	Aug 1 - Aug 24	1	2
108 ^B , 131, 132	Aug 1 - Aug 24	1	2
TOTAL		5	9

**Resident Junior
Mule Deer Antlered or Antlerless
Archery, Muzzleloader, or Any Legal Weapon Hunt 1107**

Unit Group	Weapon	2020 Season	2020 Quota Recommended	2019 Quota Approved
011 - 013	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	30	20
014	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	20	20
015	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Dec 11 - Jan 1	10	10
021	Archery Muzzleloader Any Legal Weapon	Dec 1 - Dec 10 Dec 11 - Dec 20 Dec 21 - Jan 1	15	15
022	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	15	20
031	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	75	70
032	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	100	85
033	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	10	8
034	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	10	10
035	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	45	35
041, 042	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	15	15
043 - 046	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	70	110
051	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 5	75	65
061, 062, 064, 066-068	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	450	375
065	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	20	25
071 - 079, 091	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	350	300
081	Archery Muzzleloader Any Legal Weapon	Nov 10 - Nov 20 Nov 21 - Dec 10 Dec 11 - Jan 1	30	20

101 - 109	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Sept 30 Oct 1 - Nov 2	450	450
111 - 113	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	160	150
114, 115	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	30	30
121	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	80	75
131 - 134	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Oct 31	170	150
141 - 145	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	200	180
151 - 156	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	70	75
161 - 164	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	140	140
171 - 173	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	140	140
181 - 184	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	60	65
192	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Nov 5 - Nov 30	15	20
194, 196	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Nov 5 - Nov 30	10	30
195	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	10	10
201, 204	Any Legal Weapon Muzzleloader Archery	Nov 5 - Nov 30 Dec 1 - Dec 15 Dec 16 - Jan 1	6	5
202, 205 - 208	Any Legal Weapon Muzzleloader Archery	Nov 5 - Nov 30 Dec 1 - Dec 15 Dec 16 - Jan 1	10	25
203*	Archery Any Legal Weapon	Aug 10 - Sept 9 Nov 5 - Nov 30	20	20
211 - 213	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 10 Nov 5 - Nov 30	20	20
221 - 223	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Oct 31	190	190
231	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Oct 31	85	85

241 - 245	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Oct 31	30	30
251 - 254	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Oct 5 - Nov 2	20	30
261 - 268	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Nov 5 - Nov 30	35	35
271, 272	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Nov 5 - Nov 30	10	15
291	Archery Muzzleloader Any Legal Weapon	Aug 10 - Sept 9 Sept 10 - Oct 4 Nov 5 - Nov 30	20	20
TOTAL			3,321	3,193

**Resident Mule Deer - Antlerless
Any Legal Weapon Hunt 1181**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
051	Oct 10 - Oct 31	30	30
061, 062, 064, 066-068 Early	Oct 10 - Oct 31	250	225
062, 067, 068 Late	Nov 6 - Nov 20	250	225
071-079, 091	Oct 10 - Oct 31	290	275
101, 102, 109	Oct 5 - Oct 20	240	225
114, 115 Early	Sept 17 - Sept 24	10	15
114, 115 Late	Dec 1 - Dec 15	40	40
TOTAL		1,110	1,035

**Resident Mule Deer Antlered
Any Legal Weapon Hunt 1331**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011 - 013	Oct 5 - Nov 5	85	50
014	Oct 5 - Nov 5	30	20
015	Dec 11 - Jan 1	50	35
021	Dec 21 - Jan 1	40	40
022	Oct 5 - Nov 2	50	35
031	Oct 5 - Nov 5	170	180
032	Oct 5 - Nov 5	95	130
033	Oct 5 - Nov 5	30	20
034	Oct 5 - Nov 5	30	30
035	Oct 5 - Nov 5	75	100
041, 042	Oct 5 - Nov 5	25	30
043 - 046 Early	Oct 5 - Oct 20	90	100
043 - 046 Late	Oct 21 - Nov 5	40	40
051	Oct 5 - Nov 5	190	180
061, 062, 064, 066-068 Early	Oct 5 - Oct 20	950	775
061, 062, 064, 066-068 Late	Oct 21 - Nov 5	120	95
065	Oct 5 - Nov 2	55	60
071 - 079, 091 Early	Oct 5 - Oct 20	850	550
071 - 079, 091 Late	Oct 21 - Nov 5	220	140
081	Dec 11 - Jan 1	60	55
101 - 109 Early	Oct 1 - Oct 16	700	700
101 - 109 Mid	Oct 17 - Oct 30	700	650
101 - 109 Late	Oct 31 - Nov 8	140	150
111 - 113 Early	Oct 5 - Oct 20	280	275
111 - 113 Late	Oct 21 - Nov 5	30	30
114, 115 Early	Oct 5 - Oct 20	60	45
114, 115 Late	Oct 21 - Nov 5	5	4
115	Dec 1 - Dec 15	5	5

121 Early	Oct 5 - Oct 20	160	120
121 Late	Oct 21 - Nov 5	15	15
131 - 134 Early	Oct 5 - Oct 20	325	300
131 - 134 Late	Oct 21 - Nov 5	35	35
141 - 145 Early	Oct 5 - Oct 20	240	300
141 - 145 Late	Oct 21 - Nov 5	25	35
151 - 156 Early	Oct 5 - Oct 20	130	160
151 - 156 Late	Oct 21 - Nov 5	9	15
161 - 164 Early	Oct 5 - Oct 20	350	350
161 - 164 Late	Oct 21 - Nov 5	45	50
171 - 173 Early	Oct 5 - Oct 20	375	375
171 - 173 Late	Oct 21 - Nov 5	105	130
181 - 184	Oct 5 - Nov 5	120	140
192	Nov 5 - Nov 30	40	35
194, 196	Nov 5 - Nov 30	80	70
195	Oct 5 - Nov 2	25	20
201, 204	Nov 5 - Nov 30	20	20
202, 205 - 208	Nov 5 - Nov 30	35	55
203*	Nov 5 - Nov 30	55	55
211 - 213	Nov 5 - Nov 30	50	50
221 - 223 Early	Oct 5 - Oct 16	250	250
221 - 223 Mid	Oct 17 - Oct 30	150	150
221 - 223 Late	Oct 31 - Nov 8	25	25
231	Oct 5 - Oct 31	150	150
241 - 245	Oct 5 - Oct 31	100	95
251 - 254	Oct 5 - Nov 2	30	40
261 - 268	Nov 5 - Nov 30	75	70
271, 272	Nov 5 - Nov 30	25	30
291	Nov 5 - Nov 30	45	50
TOTAL		8,264	7,714

**Resident Mule Deer Antlered
Muzzleloader Hunt Resident 1331**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011 - 013	Sept 10 - Oct 4	5	5
014	Sept 10 - Oct 4	5	5
015	Sept 10 - Oct 4	5	5
021	Dec 11 - Dec 20	5	5
022	Sept 10 - Oct 4	5	5
031	Sept 10 - Oct 4	10	15
032	Sept 10 - Oct 4	5	8
033	Sept 10 - Oct 4	5	5
034	Sept 10 - Oct 4	5	5
035	Sept 10 - Oct 4	5	15

041, 042	Sept 10 - Oct 4	10	10
043 - 046	Sept 10 - Oct 4	20	20
051	Sept 10 - Oct 4	15	10
061, 062, 064, 066 - 068	Sept 10 - Oct 4	90	75
065	Sept 10 - Oct 4	5	10
071 - 079, 091	Sept 10 - Oct 4	85	60
081	Nov 21 - Dec 10	20	15
101 - 109	Sept 10 - Sept 30	80	90
111 - 113	Sept 10 - Oct 4	10	25
114, 115	Nov 10 - Nov 30	15	20
121	Sept 10 - Oct 4	25	25
131 - 134	Sept 10 - Oct 4	45	35
141 - 145	Sept 10 - Oct 4	20	30
151 - 156	Sept 10 - Oct 4	10	10
161 - 164	Sept 10 - Oct 4	35	35
171 - 173	Sept 10 - Oct 4	70	85
181 - 184	Nov 10 - Nov 30	15	15
192	Sept 10 - Oct 4	5	15
194, 196	Sept 10 - Oct 4	5	5
195	Sept 10 - Oct 4	5	5
201, 204	Dec 1 - Dec 15	5	5
202, 205 - 208	Dec 1 - Dec 15	5	15
211 - 213	Sept 10 - Oct 10	8	8
221 - 223	Sept 10 - Oct 4	20	25
231	Sept 10 - Oct 4	25	25
241 - 245	Sept 10 - Oct 4	6	6
251 - 254	Sept 10 - Oct 4	5	5
261 - 268	Sept 10 - Oct 4	16	15
271, 272	Sept 10 - Oct 4	10	10
291	Sept 10 - Oct 4	5	5
TOTAL		745	787

**Resident Mule Deer Antlered
Archery Hunt 1331**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011 - 013	Aug 10 - Sept 9	25	15
014	Aug 10 - Sept 9	10	10
015	Aug 10 - Sept 9	5	10
021	Dec 1 - Dec 10	15	25
022	Aug 10 - Sept 9	15	10
031	Aug 10 - Sept 9	10	25
032	Aug 10 - Sept 9	90	130
033	Aug 10 - Sept 9	5	10
034	Aug 10 - Sept 9	5	10

CR 20-11, Recommended Big Game Quotas

035	Aug 10 - Sept 9	80	40
041, 042	Aug 10 - Sept 9	15	15
043 – 046	Aug 10 - Sept 9	60	70
051	Aug 10 - Sept 9	60	70
061, 062, 064, 066 - 068	Aug 10 - Sept 9	310	275
065	Aug 10 - Sept 9	10	25
071 – 079, 091 Early	Aug 10 - Sept 9	280	200
071 – 079, 091 Late	Nov 10 - Nov 20	30	20
081	Nov 10 - Nov 20	6	10
101 – 109 Early	Aug 10 - Sept 9	520	500
101 – 109 Late	Nov 10 - Nov 20	20	20
111 - 113	Aug 10 - Sept 9	30	30
114, 115	Aug 10 - Sept 9	70	60
121 Early	Aug 10 - Sept 9	30	45
121 Late	Nov 10 - Nov 20	6	10
131 - 134	Aug 10 - Sept 9	70	60
141 - 145	Aug 10 - Sept 9	250	225
151 - 156	Aug 10 - Sept 9	45	80
161 - 164	Aug 10 - Sept 9	140	160
171 - 173	Aug 10 - Sept 9	180	200
181 - 184	Aug 10 - Sept 9	60	55
192 Early	Aug 10 - Sept 9	10	25
192 Late	Dec 1 - Jan 1	15	20
194, 196 Early	Aug 10 - Sept 9	20	15
194, 196 Late	Dec 1 - Jan 1	25	15
195	Aug 10 - Sept 9	5	10
201, 202, 204 - 208 Early	Aug 10 - Sept 9	10	10
201, 204 Late	Dec 16 - Jan 1	10	10
202, 205 - 208 Late	Dec 16 - Jan 1	5	10
203 Early	Aug 10 - Sept 9	25	25
203 Late	Dec 16 - Jan 1	25	25
211 - 213	Aug 10 - Sept 9	15	15
221 - 223	Aug 10 - Sept 9	75	65
231	Aug 10 - Sept 9	45	45
241 - 245	Aug 10 - Sept 9	15	15
251 - 254	Aug 10 - Sept 9	8	10
261 - 268	Aug 10 - Sept 9	15	15
271, 272	Aug 10 - Sept 9	10	10
291	Aug 10 - Sept 9	15	10
TOTAL		2,800	2,765

**Nonresident Mule Deer Antlered
Any Legal Weapon Hunt 1332**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
011 - 013	Oct 5 - Nov 5	7	3
014	Oct 5 - Nov 5	2	2
015	Dec 11 - Jan 1	4	3
021	Dec 21 - Jan 1	3	3
022	Oct 5 - Nov 2	5	3
031	Oct 5 - Nov 5	15	10
032	Oct 5 - Nov 5	7	10
033	Oct 5 - Nov 5	2	2
034	Oct 5 - Nov 5	3	3
035	Oct 5 - Nov 5	4	8
041, 042	Oct 5 - Nov 2	3	3
043 - 046 Early	Oct 5 - Oct 20	6	8
043 - 046 Late	Oct 21 - Nov 5	3	3
051	Oct 5 - Nov 5	15	10
061, 062, 064, 066-068 Early	Oct 5 - Oct 20	75	50
061, 062, 064, 066-068 Late	Oct 21 - Nov 5	10	4
065	Oct 5 - Nov 2	5	4
071 - 079, 091 Early	Oct 5 - Oct 20	70	50
071 - 079, 091 Late	Oct 21 - Nov 5	20	15
081	Dec 11 - Jan 1	5	5
101 - 109 Early	Oct 5 - Oct 16	45	45
101 - 109 Mid	Oct 17 - Oct 30	45	45
101 - 109 Late	Oct 31 - Nov 8	9	10
111 - 113 Early	Oct 5 - Oct 20	20	10
111 - 113 Late	Oct 21 - Nov 5	2	2
114, 115 Early	Oct 5 - Oct 20	4	2
114, 115 Late	Oct 21 - Nov 5	2	2
115	Dec 1 - Dec 15	2	2
121 Early	Oct 5 - Oct 20	15	6
121 Late	Oct 21 - Nov 5	2	2
131 - 134 Early	Oct 5 - Oct 20	25	20
131 - 134 Late	Oct 21 - Nov 5	3	3
141 - 145 Early	Oct 5 - Oct 20	15	20
141 - 145 Late	Oct 21 - Nov 5	2	3
151 - 156 Early	Oct 5 - Oct 20	9	10
151 - 156 Late	Oct 21 - Nov 5	2	2
161 - 164 Early	Oct 5 - Oct 20	30	25
161 - 164 Late	Oct 21 - Nov 5	4	5
171 - 173 Early	Oct 5 - Oct 20	30	25
171 - 173 Late	Oct 21 - Nov 5	8	10
181 - 184	Oct 5 - Nov 5	9	10

192	Nov 5 - Nov 30	3	4
194, 196	Nov 5 - Nov 30	7	5
195	Oct 5 - Nov 2	2	2
201, 204	Nov 5 - Nov 30	2	2
202, 205 - 208	Nov 5 - Nov 30	2	4
203*	Nov 5 - Nov 30	4	4
211 - 213	Nov 5 - Nov 30	5	5
221 - 223 Early	Oct 5 - Oct 16	20	20
221 - 223 Mid	Oct 17 - Oct 30	10	10
221 - 223 Late	Oct 31 - Nov 8	2	2
231	Oct 5 - Oct 31	15	15
241 - 245	Oct 5 - Oct 31	10	10
251 - 254	Oct 5 - Nov 2	5	5
261 - 268	Nov 5 - Nov 30	5	5
271, 272	Nov 5 - Nov 30	2	2
291	Nov 5 - Nov 30	4	2
TOTAL		645	555

**Nonresident Mule Deer Antlered
Muzzleloader Hunt 1332**

Unit Group	2020 Season	2020 Quota Recommended	<i>2019 Quota Approved</i>
011 - 013	Sept 10 - Oct 4	2	2
014	Sept 10 - Oct 4	2	2
015	Sept 10 - Oct 4	2	2
021	Dec 11 - Dec 20	2	2
022	Sept 10 - Oct 4	2	2
031	Sept 10 - Oct 4	2	2
032	Sept 10 - Oct 4	2	2
033	Sept 10 - Oct 4	2	2
034	Sept 10 - Oct 4	2	2
035	Sept 10 - Oct 4	2	2
041, 042	Sept 10 - Oct 4	2	2
043 - 046	Sept 10 - Oct 4	2	2
051	Sept 10 - Oct 4	2	2
061, 062, 064, 066 - 068	Sept 10 - Oct 4	10	8
065	Sept 10 - Oct 4	2	2
071 - 079, 091	Sept 10 - Oct 4	9	5
081	Nov 21 - Dec 10	2	2
101 - 109	Sept 10 - Oct 4	9	8
111 - 113	Sept 10 - Oct 4	2	2
114, 115	Nov 10 - Nov 30	2	2
121	Sept 10 - Oct 4	2	3
131 - 134	Sept 10 - Oct 4	5	4
141 - 145	Sept 10 - Oct 4	2	3

151 - 156	Sept 10 - Oct 4	2	2
161 - 164	Sept 10 - Oct 4	4	4
171 - 173	Sept 10 - Oct 4	6	8
181 - 184	Nov 10 - Nov 30	2	2
192	Sept 10 - Oct 4	2	4
194, 196	Sept 10 - Oct 4	2	2
195	Sept 10 - Oct 4	2	2
201, 204	Dec 1 - Dec 15	2	2
202, 205 - 208	Dec 1 - Dec 15	2	6
211 - 213	Sept 10 - Oct 10	2	2
221 - 223	Sept 10 - Oct 4	2	2
231	Sept 10 - Oct 4	2	2
241 - 245	Sept 10 - Oct 4	2	2
251 - 254	Sept 10 - Oct 4	2	2
261 - 268	Sept 10 - Oct 4	2	2
271, 272	Sept 10 - Oct 4	2	2
291	Sept 10 - Oct 4	2	2
TOTAL		111	113

**Nonresident Mule Deer Antlered
Archery Hunt 1332**

Unit Group	2020 Season	2020 Quota Recommended	2019 Quota Approved
011 – 013	Aug 10 - Sept 9	3	2
014	Aug 10 - Sept 9	2	2
015	Aug 10 - Sept 9	2	2
021	Dec 1 - Dec 10	2	3
022	Aug 10 - Sept 9	2	2
031	Aug 10 - Sept 9	2	2
032	Aug 10 - Sept 9	7	15
033	Aug 10 - Sept 9	2	2
034	Aug 10 - Sept 9	2	2
035	Aug 10 - Sept 9	9	4
041, 042	Aug 10 - Sept 9	2	2
043 – 046	Aug 10 - Sept 9	6	7
051	Aug 10 - Sept 9	6	8
061, 062, 064, 066 - 068	Aug 10 - Sept 9	35	30
065	Aug 10 - Sept 9	2	3
071 – 079, 091 Early	Aug 10 - Sept 9	30	20
071 – 079, 091 Late	Nov 10 - Nov 20	3	2
081	Nov 10 - Nov 20	2	2
101 – 109 Early	Aug 10 - Sept 9	60	50
101 – 109 Late	Nov 10 - Nov 20	2	2
111 - 113	Aug 10 - Sept 9	4	4
114, 115	Aug 10 - Sept 9	8	7

CR 20-11, Recommended Big Game Quotas

121 Early	Aug 10 - Sept 9	6	5
121 Late	Nov 10 - Nov 20	2	2
131 - 134	Aug 10 - Sept 9	8	7
141 - 145	Aug 10 - Sept 9	30	25
151 - 156	Aug 10 - Sept 9	5	10
161 - 164	Aug 10 - Sept 9	15	20
171 - 173	Aug 10 - Sept 9	20	20
181 - 184	Aug 10 - Sept 9	6	6
192 Early	Aug 10 - Sept 9	2	5
192 Late	Dec 1 - Jan 1	2	3
194, 196 Early	Aug 10 - Sept 9	2	3
194, 196 Late	Dec 1 - Jan 1	3	3
195	Aug 10 - Sept 9	2	2
201, 202, 204 - 208 Early	Aug 10 - Sept 9	2	2
201, 204 Late	Dec 16 - Jan 1	2	2
202, 205 - 208 Late	Dec 16 - Jan 1	2	2
203 Early	Aug 10 - Sept 9	3	3
203 Late	Dec 16 - Jan 1	3	3
211 - 213	Aug 10 - Sept 9	2	2
221 - 223	Aug 10 - Sept 9	8	7
231	Aug 10 - Sept 9	5	5
241 - 245	Aug 10 - Sept 9	2	2
251 - 254	Aug 10 - Sept 9	2	2
261 - 268	Aug 10 - Sept 9	2	2
271, 272	Aug 10 - Sept 9	2	2
291	Aug 10 - Sept 9	2	2
TOTAL		333	320

**Resident and Nonresident Mule Deer and Antelope
Landowner Compensation Tags**

% of Total 2020 Deer and Antelope Quotas for Landowner Compensation Tags	<u>2.5%</u>
TOTAL # OF DEER AND ANTELOPE LANDOWNER COMPENSATION TAGS	<u>549</u>
Total # of 2020 Mule Deer and Pronghorn Tags	<u>21,975</u>

Mule Deer Quota Recommendation Form

Unit Group: 011-013

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn		Post Season	Pre Season	
2017-18	92	236	137	465	199	75	274	39	58	38	33	47	1,300
2018-19	62	183	80	325	445	147	592	34	44	33	34	45	1,200
2019-20				0	262	96	358	--	--	37	37	47	1,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	11%		100%	41%		64%		47%	3	25%	0%	60%
2018	15%		0%	48%		54%		50%	0	100%	0%	50%
2019	7%		67%	66%				50%	2	67%	0%	45%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	15	2	2	2	60	6			10	2		20	1	0
2019	15	2	2	2	50	3						20	3	5
2020	25	3	5	2	85	7						30		
Tag Trend	Stable	Stable	Stable	Stable	Stable	Stable	=	=	=	=	=	stable	stable	INC

Quota Rationale

The Recommended 2020 quota for this unit group is expected to increase. A less conservative post-season buck ratio is being used in the computation process this year which will increase the number of tags being recommended. Fawn recruitment of 37 fawns per 100 Adults will allow the herd to continue on an upward trend. Hunter success rates also climbed in 2019 to 66%.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 033

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18	92	236	137	465	199	75	274	39	58	38	33	47	450
2018-19	82	236	108	426	11	4	15	35	46	36	37	45	400
2019-20				0	0	0	0	--	--	36	37	47	400

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	50%		20%	50%		64%		45%	0	50%	N/A	100%
2018	25%		43%	44%		90%		45%	0	57%	N/A	57%
2019	10%		0%	48%				40%	0	100%	N/A	57%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	2	2	5	2	17	2			8	2		15	1 / 1	0
2019	2	2	2	2	20	2			N/A	N/A	N/A	8	1	0
2020	5	2	5	2	30	2			N/A	N/A	N/A	10		0
Tag Trend	INC	=	INC	=	INC	=	=	=	=	=	=	INC	DEC	=

Quota Rationale

The Sheldon unit 033 is part of a larger unit group with units 011-013. The average fawn recruitment used in the modeling process this year was 37 fawns per 100 Adults and should result in increased numbers of tags for this unit group, including a few more tags for unit 033.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 014

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18	33	108	55	196	107	44	151	31	51	41	32	46	900
2018-19	33	88	40	161	69	25	94	38	45	36	38	49	600
2019-20				0	79	24	103	--	--	30	41	49	550

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	17%		43%	26%		71%		18%	0	67%	N/A	40%
2018	0%		29%	19%		50%		27%	0	0%	100%	58%
2019	11%		14%	40%				28%	1	100%	N/A	37%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		NDOW Recommendation		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	5	2	5	2	35	2			10	2		20	1 / 1	1
2019	8	2	4	2	20	2	30	2				20	2	0
2020	10	2	5	2	30	2						20	1	
Tag Trend	INC	=	INC	=	INC	=	DEC	DEC	=	=	=	=	DEC	=

Quota Rationale

The 2020 recommended quota is expected to be similar to the 2019 recommendation. In 2019, Washoe County CAB recommended a 10 tag decrease in the ALW hunt lowering it from 30 to 20 with Commission approval. Continue to be conservative in this hunt unit and the fawn ratio for 014 was 30 fawns per Adults in the spring of 2019. Pop est for this herd shows a continued decline due to average fawn ratios and depressed overall numbers of deer. A conservative approach is taken due to both harvest and success rates continuing to be well below the long-term averages for this herd. Hunters report seeing fewer deer and report struggling to locate mature deer.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 015

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18				0	216	90	306	--	--	42	41	50	260
2018-19				0	204	65	269	--	--	32	42	52	240
2019-20				0	79	27	106	--	--	4	43	51	230

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	17%		80%			34%		58%	2	0%	0%	78%
2018	50%		33%			29%		65%	1	100%	100%	56%
2019	22%		17%			29%		57%	0	100%	0%	50%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	6	2	2	2	33	2						9	1	2
2019	5	2	3	2	35	3						10	1	1
2020	5	2	5	2	50	4						10		
Tag Trend	=	=	INC	=	INC	INC	=	=	=	=	=	=	DEC	DEC

Quota Rationale

Quotas for this hunt unit are expected to increase as success rates have dropped in this interstate deer unit over the past few years. The number of interstate deer moving to Nevada's winter ranges is highly dependent upon the severity of the winter. This can have an affect on success rates for hunters.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 021

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18				0	314	136	450			43	30	47	465
2018-19				0	260	87	347			33	33	46	445
2019-20				0	143	58	201			41	33	47	490

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	24%		50%			77%		44%	2	100%	N/A	86%
2018	17%		50%			79%		62%	3	100%	N/A	67%
2019	13%		43%			69%		62%	0	100%	N/A	60%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	30	2	2	2	40	4						15	1	0
2019	25	3	2	2	40	3						20	1	0
2020	15	2	5	2	40	3						15	1	
Tag Trend	DEC	DEC	INC	=	=	=	=	=	=	=	=	DEC	=	=

Quota Rationale

This interstate deer herd continues to have good success and provide quality hunting. Fawn/Adult ratio was average this year. Similar quotas to the 2019 season will be recommended for 2020.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 022

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn		F:Ad	Post Season	
2017-18				0	48	17	65	--	--	35	32	45	650
2018-19				0	68	20	88	--	--	29	28	40	550
2019-20				0	71	24	95	--	--	34	31	44	570

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	21%		50%	39%				42%	0	50%	N/A	67%
2018	21%		0%	54%				32%	0	50%	N/A	54%
2019	25%		43%	52%				59%	0	N/A	100%	53%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		NDOW Recommendation		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	13	2	2	2	50	4						24	2	0
2019	5	2	2	2	35	3	35					20	1	1 NR
2020	15	2	5	2	50	5						15	1	
Tag Trend	INC	=	INC	=	INC	INC	DEC	=	=	=	=	DEC	=	DEC

Quota Rationale

Despite, substantial wildfires destroying considerable amount of deer habitat in hunt unit 022, hunters continue to have good success the past two years. Average fawn recruitment should result in similar quotas being recommended for this hunt unit in 2020.

Reporting Biologist: Hampson

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 031

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad		F:Ad	Post	
2017-2018	48	156	96	300	330	163	493	31	62	47	49	29	46	2,239
2018-2019	51	171	75	297	618	217	835	30	44	34	35	32	44	2,214
2019-2020	25	126	73	224	798	254	1,052	20	58	48	32	30	42	2,144

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	29%		56%	55%				46%	2	50%	50%	66%
2018	16%		53%	57%				38%	3	57%	92%	67%
2019	28%		43%	55%				45%	0	71%	81%	75%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	20	2	15	2	170	15						65	7	13
2019	25	2	15	2	180	8						70	8	16
2020	10	2	10	2	170	15						75	6	
Tag Trend	DEC	=	DEC	=	=	=	=	=	=	=	=	INC	=	DEC

Quota Rationale

Overall we are seeing a slight decrease in the recommendations this year. This unit is still recovering from a fire that removed much of the vegetation in this unit. With the last few winters winter loss was a bit higher then what has been seen in this unit.

Reporting Biologist: Partee

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 032

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Post	Pre	
2017-2017	34	110	44	188	125	55	180	31	40	31	44	33	46	1,132
2018-2019	13	70	35	118	233	71	304	19	50	42	30	34	46	1,154
2019-2020	14	64	31	109	63	24	87	22	48	40	38	37	48	1,128

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	5%		11%	31%				41%	11	40%	67%	45%
2018	6%		29%	22%				29%	11	50%	67%	38%
2019	1%		20%	23%				26%	11	N/A	62%	41%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	86	10	5	2	132	10						75	4	
2019	130	15	8	2	130	10						85	5	8
2020	90	7	5	2	95	7						100	3	
Tag Trend	INC	DEC	DEC	=	DEC	DEC	=	=	=	=	=	INC	DEC	DEC

Quota Rationale

Low success on rifle last year will impact tag quotas. Used statewide average success rate for rifle which will reduce tag numbers. Quota recommendation is based on post-season target ratio of 30 bucks: 100 does. This unit is modeled with 034. Spring survey was low in this unit. Seeing a population drop for this year.

Reporting Biologist: Partee

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 034

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Post seas	Pre seas	
2017-2017	34	110	44	188	125	55	180	31	40	31	44	33	46	283
2018-2019	13	70	35	118	233	71	304	19	50	42	30	34	46	289
2019-2020	14	64	31	109	63	24	87	22	48	40	38	37	48	282

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	0%		0%	33%				68%	0	N/A	71%	90%
2018	33%		50%	42%				32%	0	N/A	86%	70%
2019	10%		33%	30%				50%	3	100%	57%	70%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	5	2	2	2	24	2						10	1	7
2019	10	2	5	2	30	3						10	1	7
2020	5	2	5	2	30	3						10	1	
Tag Trend	DEC	=	INC	=	INC	INC	=	=	=	=	=	=	INC	DEC

Quota Rationale

Low success in 2019. Used statewide average success rate for rifle which dropped recommended tags. Quota recommendation is based on post-season target ratio of 30 bucks: 100 does. This unit is modeled with 032

Reporting Biologist: Partee

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 035

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-18	32	95	58	185	214	86	300	34	61	46	40	31	46	872
2018-19	37	98	54	189	79	24	103	38	55	40	30	33	45	837
2019-2020	24	77	43	144	140	40	180	31	56	43	29	31	43	786

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	6%		42%	40%				25%	2	100%	63%	63%
2018	13%		16%	34%				29%	7	100%	33%	64%
2019	9%		41%	38%				43%	10	67%	100%	60%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	40	5	15	2	110	10						45	3	
2019	40 (100)	4 (10)	15 (20)	2	100 (130)	8 (10)						35	4	3
2020	80	9	5	2	75	4						45	4	
Tag Trend	INC	INC	DEC	=	INC	DEC	=	=	=	=	=	INC	INC	DEC

Quota Rationale

Population has been adjusted to be more in line of actual numbers. Saw a drop in population which will help adjust tag numbers. Targeting 29 for post-hunt buck ratio. With the low archery success tag went high so adjusted using the statewide average for archery.

Reporting Biologist: Partee

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 051

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad		F:Ad	Post	
2017-2018	131	400	171	702	298	116	414	33	43	32	39	35	47	2,613
2018-2019	76	302	146	524	280	73	353	25	48	39	26	30	40	2,324
2019-2020	50	123	61	234	406	141	547	41	50	35	35	30	43	2,326

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	10%		36%	38%				41%	22	85%	73%	53%
2018	22%		68%	43%				46%	33	90%	100%	63%
2019	19%		8%	46%				46%	27	82%	67%	59%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	110	10	25	3	275	20					30	130	10	
2019	70	8	10	2	180	10					30	65	11	15
2020	60	6	15	2	190	15					30	75	7	
Tag Trend	DEC	DEC	DEC	DEC	DEC	INC	=	=	=	=	=	DEC	DEC	DEC

Quota Rationale

Population has remained somewhat stable. Low rifle success has increased tags tremendously. Went with the statewide average for rifle to bring those tags back in line of where they should be. Targeting a post hunt ratio objective of 30

Reporting Biologist: Partee

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 041, 042

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Post Hunt Buck Ratio Obj.	Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn		F:Ad	Post Season		
2017-18				0			0	--	--	--				750
2018-19				0			0	--	--	--				750
2019-20				0			0	--	--	--				700

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	25%		40%	33%				37%	2	100%	0%	40%
2018	0%		50%	43%				18%	1		100%	57%
2019	9%		25%	34%				23%	2	100%	no tags	53%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	15	2	5	2	30	3						15	1	2
2019	15	2	10	2	30	3						15	1	0
2020	15	2	10	2	25	3						15	1	
Tag Trend	=	=	INC	=	DEC	=	=	=	=	=	=	=	=	DEC

Quota Rationale

This herd is not surveyed or modeled. NDOW Hunt Guidelines state that this unit group is to have a Resident ALW success rate of greater or equal to 45%. Last year was 34% with 3 year average of 37%. For 2020 recommend Resident ALW quota of 25 to attempt to meet NDOW harvest guidelines. All other hunts recommend 2019 quotas including Non-Resident ALW hunt.

Reporting Biologist: Neill

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 043-046

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn		F:Ad	Post Season	
2017-18	82	351	136	569	437	132	569	23	39	30	30	43	2,300
2018-19	No Surveys				340	109	449			32	28	40	1,967
2019-20	14	55	14	83	230	59	289	25	25	26	28	38	1,779

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	9%		57%	35%		43%		31%	26	43%	N/A	52%
2018	17%		30%	42%		53%		29%	14	50%		59%
2019	7%		32%	31%		44%		39%	9	50%	0%	51%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1331		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	85	10	10	2	140	8			55	4	0	110	7/3	0
2019	70	7	20	2	100	8			40	3	0	110	4/2	1
2020	60	6	20	2	90	6			40	3		70	4	
Tag Trend	DEC	DEC	=	=	DEC	DEC	=	=	=	=	=	DEC	DEC	DEC

Quota Rationale

Continued declining population trend, since 2013. Declining survey sample size. Poor recruitment rates from 2013 to current (2013-current avg. is 30 fawns: 100 adults). Overall, poor winter range conditions persisting, continued habitat conversion from sage/forbs/bunch grass to annual grasslands from yearly wildfires. Also, possibly high predation rates. NDOW Harvest Guidelines suggest this unit group to be managed at a post-season buck ratio of 30. Recommend Hunt 1331 split to be 70% Early & 30% Late. Recommend increase Resident Muzzleloader tags to 20 to provide opportunity. Also, 2019 junior hunt 1107 first choice apps were 74.

Reporting Biologist: Neill

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 181-184

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18				0			0	--	--		33	46	1,244
2018-19	60	196	69	325	72	20	92	31	35	28	33	48	1,282
2019-20				0	65	21	86	--	--	32			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	2%		73%	32%				35%	4	33%	N/A	39%
2018	13%		36%	42%				42%	2			45%
2019	4%		53%	41%				57%				54%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	40	4	15	2	180	15						80	4	
2019	55	6	15	2	135	9						65	6	
2020	60	6	15	2	120	9						60	4	
Tag Trend	INC	INC	=	=	DEC	DEC	=	=	=	=	=	DEC	=	=

Quota Rationale

Used a post-season buck ratio objective of 30. Increased archery tags due to low success. Used 11% success rate to match demand of 56 applicants from 2018.

Reporting Biologist: Salisbury

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 192

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept) Res.
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Post season	Pre season	
2017-18	15	63	24	102	88	27	115	24	38	31	31	37	52	589
2018-19	30	80	31	141	230	72	302	38	39	28	31	33	49	537
2019-20	43	144	50	237	84	20	104	30	35	27	24	35	43	518

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	36%	14%	28%	73%				79%	2	N/A	N/A	67%
2018	20%	30%	7%	50%				74%	1	0%	N/A	72%
2019	23%	33%	32%	46%				33%	1	100%	N/A	85%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Early Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late Archery Hunt 1341		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	15	2	10	2	35	4			20	2	0	20	0	0
2019	25	5	15	4	35	4			20	3	0	20	0	0
2020	10	2	5	2	40	3			15	2		15	1	
Tag Trend	INC	INC	INC	INC	=	=	=	=	=	INC	=	=	=	=

Quota Rationale

Used actual harvest percentage from 2017 in the array for rifle and archery. This population has remained fairly stable over the last several years. Changes in quotas are due mostly to demand/success formulas.

Reporting Biologist: Lackey

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 194, 196

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept) Res.
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Post season	Pre season	
2017-18	73	198	112	383	436	197	633	37	57	41	45	33	49	1,211
2018-19	88	215	92	395	649	153	802	41	43	30	24	36	46	1,105
2019-20	95	374	115	584	315	57	372	25	31	25	18	37	44	988

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	44%	71%	50%	72%				73%	0	100%	N/A	72%
2018	8%	57%	33%	88%				65%	1	100%	N/A	96%
2019	31%	67%	43%	78%				58%	0	100%	N/A	86%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Early Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late Archery Hunt 1341		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	15	2	4	2	60	5			15	2		25	2	0
2019	15	3	5	2	70	5			15	3		30	2	0
2020	20	2	5	2	80	7			25	3		10	2	
Tag Trend	=	INC	INC	=	INC	=	=	=	=	INC	=	INC	=	=

Quota Rationale

This population has remained fairly stable over the last several years. Changes in quotas are due mostly to demand/success formulas.

Reporting Biologist: Lackey

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 195

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Post season	Pre season	
2017-18				0			0	--	--	--	--			500
2018-19				0			0	--	--	--	--			500
2019-20														500

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	80%		75%	45%				60%	1	N/A	N/A	57%
2018	67%		100%	61%				43%	1	N/A	N/A	67%
2019	36%		43%	48%				35%	0	N/A	N/A	60%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	4	2	2	2	20	2						7	0	0
2019	10	2	5	2	20	2						10	0	0
2020	5	2	5	2	25	2						10		
Tag Trend	INC	=	INC	=	=	=	=	=	=	=	=	INC	=	=

Quota Rationale

This unit is not surveyed and there is no modeled population estimate. The rule of 17 is used to estimate population size. Very little migration in or out of this unit has occurred in the past 15 years due to increased highway traffic on US 395 and development near Duck Hill in north Carson City.

Reporting Biologist: Lackey

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 201,204

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18				0	236	47	283	--	--	20	18	29	531
2018-19	87	479	121	687				18	25		16	25	569
2019-20				0			0	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	0%	8%	67%	58%				33%	1	N/A	N/A	85%
2018	14%	10%	50%	65%				32%				
2019	13%	11%	50%	58%				27%	0			83%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late Archery Hunt 1341		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	8	2	2	2	20	2			10	2		6		
2019	7	2	2	2	20	2			10	2		6		
2020	10	2	5	2	20	2			10	2		6		
Tag Trend	INC	=	INC	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Reporting Biologist: Salisbury

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 202,205,206

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18				0	236	47	283	--	--	20	17	31	435
2018-19	87	479	121	687				18	25		18	27	463
2019-20				0			0	--	--				

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017		11%	67%	50%				29%	1	50%	N/A	50%
2018		100%	71%	56%				40%	2			47%
2019		11%	27%	58%				32%				57%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late Archery Hunt 1341		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	6	3	10	2	55	6						20	1	0
2019	7	2	3	2	50	4						25	2	
2020	5	2	5	2	35	2						10	2	
Tag Trend	DEC	DEC	DEC	=	DEC	DEC	=	=	=	=	=	DEC	INC	=

Quota Rationale

Reporting Biologist: Salisbury

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 203

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)		Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	Post Season	Pre Season	
2017-18	--	--	--	0	--	--	0	--	--	--			501
2018-18													500
2019-2020	--	--	--	0	--	--	0	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	9%	5%		45%				33%	0	0%	N/A	40%
2018	30%	15%		55%				36%				74%
2019	8%	4%		42%				52%				58%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late Archery Hunt 1341		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018	20	3			50	4			20	2		20	2	0
2019	25	3			55	4			25	3		20	2	
2020	25	3			55	4			25	3		20	2	
Tag Trend	INC	=	=	=	INC	=	=	=	INC	INC	=	=	=	=

Quota Rationale

Reporting Biologist: Salisbury

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 291

Date Prepared: 2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad		F:Ad	Post season	
2017-18				0			0	--	--	--	--			600
2018-19														600
2019-20														600

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)	Junior Hunt Success (%)
	E	L		E	M	L						
2017	11%		50%	61%				40%	2	100%	N/A	85%
2018	0%		50%	81%				38%	1	100%	N/A	89%
2019	27%		29%	68%				33%	0	0%	N/A	70%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR				
2018	8	2	2	2	55	3						20	2	0
2019	10	2	5	2	50	2						20	2	0
2020	15	2	5	2	45	4						20	1	
Tag Trend	INC	=	INC	=	DEC	DEC	=	=	=	=	=	=	=	=

Quota Rationale

This unit is not surveyed and there is no modeled population estimate. The rule of 17 is used to estimate population size. Very little migration in or out of this unit.

Reporting Biologist: Lackey

Supervisor: Scott

Mule Deer Quota Recommendation Form

Unit Group: 061, 062, 064, 066-068

Date Prepared: 4/2/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0	2,875	1,022	3,897	--	--	--	36	34	47	9,100
2018-2019	453	1,299	931	2,683	4,194	1,194	5,388	35	72	53	28	35	46	8,600
2019-2020	330	942	648	1,920			0	35	69	51	39	36	51	9,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	16%	n/a	40%	47%	n/a	55%	2.9	42	496	44%	63%
2018-2019	20%	n/a	45%	53%	n/a	61%	3.1	40	389	59%	75%
2019-2020	16%	n/a	31%	35%		52%	3.4	41	250	50%	43%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	275	30	70	8	800	60	n/a	n/a	140	15	700	400		7
2019-2020	275	30	75	8	775	50	n/a	n/a	95	4	450	375		8
2020-2021	310	35	90	10	950	75	n/a	n/a	120	10	500	450		6
Tag Trend	INC	INC	INC	INC	INC	INC	=	=	INC	INC	INC	INC	=	DEC

Quota Rationale

This population is managed to maintain a level of btm ~8,000-9,000 adult mule deer in order to stay within the ability of compromised winter range to support them. This quota recommendation is designed to maintain the female component of the population near current level, while reducing the post season buck ratio to within harvest objective levels. In addition, this buck quota recommendation is based on reaching a post season buck ratio in 2020 mid way between where it currently is, and the ultimate targeted ratio of ~32 bucks:100 does. In lieu of increasing the quota enough to reach objective in a single year, the current quota recommendation represents a more tempered, step down approach to reaching objective over two years.

Reporting Biologist: Allen

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 065 Alternative Unit

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	72	229	105	406			0	31	46	35	--	43	56	800
2018-2019	82	231	118	431			0	35	51	38	--	42	55	800
2019-2020	n/a	n/a	n/a	0			0	#####	#####	#####	--	n/a	n/a	800

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	33%		25%	57%				66%	1	0%	100%
2018-2019	7%		60%	75%				65%	0	50%	n/a
2019-2020	30%		56%	64%				49%	0	100%	n/a

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	15	2	5	2	65	5						20		
2019-2020	25	3	10	2	60	4						25		
2020-2021	10	2	5	2	55	5						20		1
Tag Trend	DEC	DEC	DEC	=	DEC	INC	=	=	=	=	=	DEC	=	INC

Quota Rationale

This unit is not typically surveyed on an annual basis due to a relatively small population size and challenges obtaining a statistically valid sample size during spring surveys. Given the unit is currently managed as an alternative unit within the Eastern Region, harvest metrics such as hunter success and percentage of bucks harvested supporting four-points or better will be used to adjust recommended quotas.

This deer herd has been relatively static over the past decade. Recommended quotas are based on a 10-year average.

Reporting Biologist: Jeffress

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 071-079, 091

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	892	3,373	1,180	5,445	1,288	349	1,637	26	35	28	27	28	38	8,500
2018-2019	688	1,987	788	3,463	3,405	693	4,098	35	40	29	20	40	48	11,300
2019-2020	226	808	406	1,440	975	335	1,310	28	50	39	34	37	49	11,400

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	28%	25%	38%	75%		92%		54%	117	60%	0%
2018-2019	33%	57%	61%	68%		88%		57%	83	87%	67%
2019-2020	21%	45%	37%	53%		78%		61%	195	78%	75%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	120,15	15	30	4	350	30			90	7	125	180		
2019-2020	200,20	20,2	60	5	550	50			140	15	275	300		
2020-2021	280,30	30,3	85	9	850	70			220	20	290	350	30	3
Tag Trend	INC	INC	INC	INC	INC	INC	=	=	INC	INC	INC	INC	INC	INC

Quota Rationale

Statewide harvest success was down in 2019 due to challenges presented by weather and animal distribution. Area 7 saw the same reduction in harvest success which resulted in a higher post season buck ratio than anticipated. Due to the inflated post season buck ratio and comparatively strong recruitment rates, a buck quota increase is necessary in order to bring this herd to within harvest objective. Antlerless harvest is recommended to increase slightly due to an increase in the population estimate and an attempt to keep this deer herd within the confines of critical seasonal habitats.

Reporting Biologist: Huebner

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 081

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0	126	42	168	--	--	--	33			
2018-2019				0			0	--	--	--	--			
2019-2020				0			0	--	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	50%		80%	86%				88%	1	100%	
2018-2019	33%		70%	78%				87%		100%	100%
2019-2020	67%		58%	61%				84%		100%	

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2019-2020	3	2	10	2	40	3						15		
2019-2020	10	2	15	2	55	5						20		
2020-2021	6	2	20	2	60	5						30		2
Tag Trend	DEC	=	INC	=	INC	=	=	=	=	=	=	INC	=	INC

Quota Rationale

Archery success went up in 2019, so the result is a few less tags offered in 2020. The muzzleloader and ALW success was down. The heavy snow loads during the later seasons likely contributed to the lower success rates. This coupled with stable 4 pt or better in the harvest remaining stable will allow a slight tags increase for the muzzleloader and ALW season. Unit 081 is managed as an alternative hunt. The metrics are hunter success rates between 45-55% and the percentage of 4pts or better in the harvest between 50-75%. Unit 081 is currently above both of these metrics justifying the increase in quotas.

Reporting Biologist: Huebner

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 101-109

Date Prepared: _____

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	366	973	471	1,810	3,251	1,150	4,401	38	48	35	35	36	48	14,800
2018-2019	438	1,180	515	2,133	4,930	1,034	5,964	37	44	32	21	37	45	14,200
2019-2020	278	859	351	1,488			0	32	41	31	--	37	45	13,700

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	15%	22%	38%	37%	41%	59%		37%	131	66%	83%
2018-2019	20%	24%	37%	42%	40%	63%		34%	113	60%	
2019-2020	11%	9%	20%	22%	21%	53%		35%	154	42%	72%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	500,20	50,2	110	14	800	70	700	65	160	15	125	375	38	
2019-2020	500,20	50, 2	90	8	700	45	650	45	150	10	225	450	69	29
2020-2021	520, 20	60, 2	80	9	700	45	700	45	140	9	240	450	63	19
Tag Trend	INC	INC	DEC	INC	=	=	INC	=	DEC	DEC	INC	=	DEC	DEC

Quota Rationale

Statewide harvest success was down in 2019 due to challenges presented by weather and animal distribution. Area 10 saw the same reduction in harvest success which resulted in a higher post season buck ratio than anticipated. The winter of 2019-2020 was very mild which should lead to above average overwinter survival. Quota recommendations are very similar to last year and should allow post season buck ratios to be brought back to within objective.

Reporting Biologist: Roberts

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 111-113

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	442	1,365	595	2,402	1,806	546	2,352	32	44	33	30	35	46	5,000
2018-2019				0	2,066	442	2,508	--	--	--	21	32	40	4,500
2019-2020	325	1,153	403	1,881	1,709	367	2,076	28	35	27	21	32	40	4,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	30%	NA	63%	51%	NA	65%	NA	34%	41	50%	0%
2018-2019	44%	NA	58%	55%	NA	72%	NA	33%	53	83%	100%
2019-2020	33%	NA	48%	44%	NA	56%	NA	36%	28	65%	NA

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	45	5	25	3	450	30	0	0	50	3	0	225	16	1
2019-2020	30	4	25	2	275	10	0	0	30	2	0	150	19	0
2020-2021	30	4	10	2	280	20	0	0	30	2	0	160	11	0
Tag Trend	=	=	DEC	=	INC	INC	=	=	=	=	=	INC	DEC	=

Quota Rationale

In 2019, 36% of the bucks harvested were 4-points or greater which is above the 10-year (2009-18) average of 29%. Overall, quotas are similar to last year, with small variations due to demand-success calculations. The quota recommendations are based on a post-season buck ratio objective of 30 bucks:100 does.

Reporting Biologist: Menghini

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 114-115

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	139	303	137	579	284	83	367	46	45	31	29	37	47	1,400
2018-2019				0	511	121	632	--	--	--	24	34	43	1,300
2019-2020				0	450	104	554	--	--	--	23	36	45	1,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	9%	NA	60%	32%	NA	59%	NA	55%	29	100%	29%
2018-2019	17%	NA	63%	45%	NA	40%	NA	62%	24	67%	100%
2019-2020	10%	NA	40%	30%	NA	25%	NA	64%	23	100%	43%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	110	10	25	3	90	6	0	0	10	2	15, 40	55	5	8
2019-2020	60	7	20	2	45	2	0	0	4	2	15, 40	30	5	7
2020-2021	70	8	15	2	60	4	0	0	5	2	10, 40	30	3	6
Tag Trend	INC	INC	DEC	=	INC	INC	=	=	INC	=	DEC	=	DEC	DEC

Quota Rationale

2019 Approved Quotas: 115 Late Resident- 5 Tags; Non-Res- 2 Tags
 2020 Recommended Quotas: 115 Late Resident- 5 Tags; Non-Res- 2 Tags

Quota recommendations represent a slight increase due strong harvest metrics and an increase in post-season buck ratio due to reduced harvest success in 2019 similar to that experienced statewide. Minor variations in tag quotas occur due to demand-success calculations.

Reporting Biologist: Menghini

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 121

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0	1,113	421	1,534	--	--	--	38	31	44	2,800
2018-2019	221	760	383	1,364	607	228	835	29	50	39	38	31	44	2,700
2019-2020				0	825	139	964	--	--	--	17	33	43	2,800

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	50%	75%	17%	67%		80%		36%	5	100%	100%
2018-2019	48%	100%	60%	71%		100%		27%	10	60%	40%
2019-2020	40%	30%	24%	62%		79%		27%	12	50%	83%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	25,6	3,2	10	2	160	15			20	2		80	6	5
2019-2020	45,10	5,2	25	3	120	6			15	2		75	8	6
2020-2021	30, 6	6, 2	25	2	160	15			15	2		80	5	3
Tag Trend	DEC	INC	=	DEC	INC	INC	=	=	=	=	=	INC	DEC	DEC

Quota Rationale

In 2020 adjustments were made to the population model to more accurately reflect observed sex ratios and high sample sizes on past surveys. The recommended quotas for 2020 are based on a post-season buck ratio objective of 30 bucks:100 does.

Reporting Biologist: Menghini

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 131,132,133,134

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	156	442	235	833			0	35	53	39	--	39	51	5,000
2018-2019	202	519	270	991	826	270	1,096	39	52	37	33	40	50	5,000
2019-2020				0	605	166	771	--	--	--	27	41	50	4,900

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	72%	0%	83%	61%	0%	40%	2.9	51%	11	50%	59%
2018-2019	58%	0%	67%	54%	0%	48%	3.0	43%	8	100%	100%
2019-2020	33%	0%	46%	48%	0%	53%	3.1	45%	8	36%	40%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	45	5	35	4	275	20	0	0	30	3	0	140	9	7
2019-2020	60	7	35	4	300	20	0	0	35	3	0	150	13	15
2020-2021	70	8	45	5	325	25	0	0	35	3	0	170	13	12
Tag Trend	INC	INC	INC	INC	INC	INC	=	=	=	=	=	INC	=	DEC

Quota Rationale

Statewide harvest success was down in 2019 due to challenges presented by weather and animal distribution. Area 13 saw the same reduction in harvest success which resulted in a higher post season buck ratio than anticipated. Quota recommendations are based on bringing the post-season buck ratio closer to the targeted objective for herds being managed under the alternative strategy of 35 bucks per 100 does.

Reporting Biologist: Clint Garrett

Supervisor: Tom Donham

Mule Deer Quota Recommendation Form

Unit Group: 141,142,143,144,145

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	277	865	450	1,592	1,357	523	1,880	32	52	39	39	36	49	4,800
2018-2019	263	796	437	1,496	1,560	448	2,008	33	55	41	29	35	45	4,500
2019-2020				0	1,050	274	1,324	--	--	--	26	33	43	4,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	23%	0%	38%	62%	0%	68%	2.6	30%	15	64%	67%
2018-2019	25%	0%	44%	57%	0%	55%	2.7	31%	26	60%	100%
2019-2020	15%	0%	31%	48%	0%	60%	2.7	30%	29	69%	75%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	190	24	30	4	350	25	0	0	40	3	0	190	15	11
2019-2020	225	25	30	3	300	20	0	0	35	3	0	180	16	16
2020-2021	250	30	20	2	240	15	0	0	25	2	0	200	14	14
Tag Trend	INC	INC	DEC	DEC	DEC	DEC	=	=	DEC	DEC	=	INC	DEC	DEC

Quota Rationale

The quota recommendations are based on a post-season buck ratio objective of 30 bucks:100 does.

Reporting Biologist: Clint Garrett

Supervisor: Tom Donham

Mule Deer Quota Recommendation Form

Unit Group: 151-156

Date Prepared: 3/31/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	233	705	354	1,292	1,138	363	1,501	33	50	38	32	32	45	2,200
2018-2019				0	673	265	938	--	--	--	39	30	47	2,200
2019-2020	109	390	172	671	499	127	626	28	44	34	25	30	46	2,000

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	25%		53%	43%		63%		40%	20		83%
2018-2019	28%		57%	49%		60%		37%	8		
2019-2020	15%		11%	46%		88%		34%	7	80%	67%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	110	10	15	2	200	18	0	0	25	2	0	110		5
2019-2020	80	10	10	2	160	10	0	0	15	2	0	75		6
2020-2021	45	5	10	2	130	9			9	2	0	70		4
Tag Trend	DEC	DEC	=	=	DEC	DEC	=	=	DEC	=	=	DEC	=	DEC

Quota Rationale

The quota recommendations are based on a post-season buck ratio objective of 30 bucks:100 does.

Reporting Biologist: Hale

Supervisor: Donham

Mule Deer Quota Recommendation Form

Unit Group: 161-163

Date Prepared: 3/26/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	186	589	286	1,061	560	175	735	32	49	37	31	33	43	4,111
2018-2019	80	262	117	459	898	239	1,137	31	45	34	27	32	44	4,096
2019-2020	58	202	85	345			0	29	42	33	--	33	42	3,940

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	22		30	38		45		33	13		
2018-2019	25		67	41		47		36	19		100
2019-2020	13		15	33		48		39	10		

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	160	20	35	4	375	25			50	4		140		3
2019-2020	160	20	35	4	350	25			50	5		140		3
2020-2021	140	15	35	4	350	30			45	4		140	16	
Tag Trend	DEC	DEC	=	=	=	INC	=	=	DEC	DEC	=	=	INC	DEC

Quota Rationale

Harvest objectives state that the department will manage for a post hunt buck ratio objective of 30 B/100D. This population is considered slightly decreased due to poor fawn recruitment. However, modeling and survey data do not warrant a decrease in quotas.

Reporting Biologist: Joe Bennett

Supervisor: Steven Kimble

Mule Deer Quota Recommendation Form

Unit Group: 171-173

Date Prepared: 3/26/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	236	651	345	1,232	398	112	510	36	53	39	28	40	48	3,959
2018-2019	112	310	152	574	464	130	594	36	49	36	28	36	49	3,894
2019-2020				0			0	--	--	--	--	36	45	3,694

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	7		27	28		38		29	19	60	100
2018-2019	14		34	35		43		29	27		100
2019-2020	8		18	21		34		30	21	100	

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	180	20	85	9	425	40			140	10		140		
2019-2020	200	20	75	8	375	25			130	10		140	16	3
2020-2021	180	20	70	6	375	30			105	8		140	14	3
Tag Trend	DEC	=	DEC	DEC	=	INC	=	=	DEC	DEC	=	=	DEC	=

Quota Rationale

Harvest objectives indicate to manage for a post hunt buck ratio of 30 B/100D. This population is considered slightly decreased due to poor fawn recruitment. However, modeling exercises and harvest do not warrant a decreased quotas.

Reporting Biologist: Joe Bennett

Supervisor: Steven Kimble

Mule Deer Quota Recommendation Form

Unit Group: 211_212_213

Date Prepared: 3/26/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0			0	--	--	--	--			
2018-2019				0			0	--	--	--	--			
2019-2020				0			0	--	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	14		0	63				48			
2018-2019	40		40	49				48			
2019-2020	0		63	41				53			

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	15	2	8	2	50	5						20		
2019-2020	15	2	8	2	50	5						20		
2020-2021	15	2	8	2	50	5						20	2	
Tag Trend	=	=	=	=	=	=	=	=	=	=	=	=	INC	=

Quota Rationale

Stable. No Change. Harvest metrics indicate similar harvest.

Reporting Biologist: Joe Bennett

Supervisor: Steven Kimble

Mule Deer Quota Recommendation Form

Unit Group: 221-223

Date Prepared: 4/9/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	306	781	326	1,413			0	39	42	30	--	29	40	4,300
2018-2019	134	458	207	799	1,200	305	1,505	29	45	35	25	35	42	4,300
2019-2020	57	148	59	264			0	39	40	29	--	30	41	4,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	30		58	47	52	70	2.3	48	19	43	
2018-2019	21		64	49	45	59		35	21	50	
2019-2020	15		33	31	38	76		45	22	80	

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	75	8	25	2	250	15	150	10	25	2		200	19	
2019-2020	65	8	25	2	250	20	150	10	25	2		190	19	
2020-2021	75	8	20	2	250	20	150	10	25	2		190	18	
Tag Trend	INC	=	DEC	=	=	=	=	=	=	=	=	=	DEC	=

Quota Rationale

Reporting Biologist: Munson

Supervisor: Kimble

Mule Deer Quota Recommendation Form

Unit Group: 231

Date Prepared: 4/9/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	204	795	324	1,323			0	26	41	32	--	28	34	3,500
2018-2019	172	596	238	1,006	886	247	1,133	29	40	31	28	31	38	3,700
2019-2020	70	598	219	887			0	12	37	33	--	37	46	3,600

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	32		56	68			2.1	64	6	75	61
2018-2019	31		61	70			2.4	55	8	50	76
2019-2020	32		32	54				65	9	57	54

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	45	5	20	2	150	15						85	8	63
2019-2020	45	5	25	2	150	15						85	5	66
2020-2021	45	5	25	2	150	15						85	5	61
Tag Trend	=	=	INC	=	=	=	=	=	=	=	=	=	DEC	DEC

Quota Rationale

Low observed fall buck ratio. No Spring survey. All other harvest metrics appear to be in line to continue previous quotas without having survey data.

Reporting Biologist: Cooper Munson

Supervisor: _____

Mule Deer Quota Recommendation Form

Unit Group: 241-245

Date Prepared: 3/13/2019

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018	111	237	122	470			0	47	51	35	--	35	45	1,100
2018-2019	144	324	124	592	382	131	513	44	38	26	34	44	42	1,200
2019-2020				0			0	44	--	--	--	35	49	1,200

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	43		50	75				75	0	75	54
2018-2019	67		0	70				70	1	33	67
2019-2020	55		100	73				90	3	75	67

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	10	2	4	2	90	6						30	4	24
2019-2020	15	2	6	2	95	10						30	4	17
2020-2021	15	2	6	2	100	10						30	4	23
Tag Trend	=	=	=	=	INC	=	=	=	=	=	=	=	=	INC

Quota Rationale

Mule deer harvest is suitable for the "alternative hunt unit"

Reporting Biologist: Munson

Supervisor: Kimble

Mule Deer Quota Recommendation Form

Unit Group: 251

Date Prepared: 3/26/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0			0	--	--	--	--			
2018-2019				0			0	--	--	--	--			
2019-2020				0			0	--	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	14		40	44				38		50	
2018-2019	50		67	19				50			
2019-2020	10		50	14				60			

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	10	2	5	2	40	5						30	2	
2019-2020	10	2	5	2	40	5						30	2	
2020-2021	8	2	5	2	30	5						20	2	
Tag Trend	DEC	=	=	=	DEC	=	=	=	=	=	=	DEC	=	=

Quota Rationale

Harvest metrics warrant a reduction in quotas.

Reporting Biologist: Joe Bennett

Supervisor: Steven Kimble

Mule Deer Quota Recommendation Form

Unit Group: 261-269

Date Prepared: 3/30/2020

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0			0	--	--	--	--			
2018-2019				0			0	--	--	--	--			
2019-2020				0			0	--	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	80		67	79				43		100	
2018-2019	8		55	81				43		100	
2019-2020	47		53	68				58		100	

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	10	2	10	2	65	5						30	1	0
2019-2020	15	2	15	2	70	5						35	3	0
2020-2021	15	2	16	2	75	5						35	3	0
Tag Trend	=	=	INC	=	INC	=	=	=	=	=	=	=	=	=

Quota Rationale

Reporting Biologist: Cummings

Supervisor: Kimble

Mule Deer Quota Recommendation Form

Unit Group: 271-272

Date Prepared: 3/25/2019

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2017-2018				0			0	--	--	--	--			
2018-2019				0			0	--	--	--	--			
2019-2020				0			0	--	--	--	--			

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)	Any-Legal-Weapon Success (%)			Avg Age	4-Point or Better (%)	Total Antlerless Harvest	NR Guided Success (%)	Comp Tag Success (%)
	E	L		E	M	L					
2017-2018	0		29	50				64		50	
2018-2019	33		18	43				32	1	100	
2019-2020	11		20	22				52		100	0

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt 1341		Muzzleloader Hunt 1371		Early ALW Hunt 1331		Mid ALW Hunt 1331		Late ALW Hunt 1311		Antlerless Hunt 1181	Junior Hunt 1107	NR Guided Hunt 1235	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2018-2019	10	2	10	2	30	2						15	2	0
2019-2020	10	2	10	2	30	3						15	1	0
2020-2021	10	2	10	2	25	2						10	1	0
Tag Trend	=	=	=	=	DEC	DEC	=	=	=	=	=	DEC	=	=

Quota Rationale

Limited harvest in 2019.

Reporting Biologist: Munson

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group: 011

Date Prepared: 2019-20

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		97	330	125	552	29	38	900	29
2018-2019		92	228	88	408	40	39	1,000	29
2019-2020		68	168	38	274	40	23	900	31

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	31%	0%	100%	n/a	66%	71%			0	N/A	30%
2018	36%	50%	50%	n/a	70%	100%			0	N/A	22%
2019	30%	100%	50%	n/a	69%	43%			0	N/A	24%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	17	2	2	0	70	4			0	0	0
2019	15	2	2	0	70	7			0	0	0
2020	15	2	5	0	65	7					
Tag Trend	=	=	INC	=	DEC	=	=	=	=	=	=

Quota Rationale

2019 recruitment rate of 23 fawns per 100 does, lowest observed in this hunt unit since 2000. The Sheldon unit 033 to the east of 011 also had very low recruitment this year at 24 fawns per 100 does. The 011 pop est took a step back this year due to the lower recruitment. This follows downward trend follows several years of above average recruitment and increasing trends for this pop of pronghorn.

Reporting Biologist: Hampson

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 012-014

Date Prepared: 2019-20

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		156	235	109	500	66	46	2,100	34
2018-2019		176	375	138	689	47	37	2,000	34
2019-2020		96	225	69	428	43	31	1,800	34

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	18%	100%	50%	n/a	68%	92%			0	N/A	26%
2018	58%	100%	0%	n/a	81%	85%			0	N/A	30%
2019	18%	50%	14%	n/a	68%	64%			0	N/A	22%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	27	4	3	n/a	143	16			0	0	0
2019	25	3	8	n/a	150	15			0	0	0
2020	30	3	10	n/a	150	15			0	0	0
Tag Trend	Stable	Stable	Stable	Stable	Stable	Stable	=	=	=	=	=

Quota Rationale

The 31 fawns per 100 does recruitment rate will translate into a stable trend for this population of pronghorn in 2020. This follows several years of increasing trends due to above average recruitment.

Reporting Biologist: Hampson

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 015

Date Prepared: 2019-20

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		71	226	106	403	31	47	900	33
2018-2019		143	397	147	689	36	37	1,000	31
2019-2020		71	257	100	428	28	39	860	30

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	13%	100%	0%	N/A	75%	50%			0	N/A	26%
2018	23%	0%	25%	N/A	76%	100%			0		41%
2019	13%	0%	25%	N/A	69%	75%			0	N/A	31%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	15	2	4	0	65	7			0	0	0
2019	20	2	4	0	75	6			0	0	0
2020	20	2	5	0	75	6			0	0	0
Tag Trend	INC	INC	INC	=	INC	INC	=	=	=	=	=

Quota Rationale

Another above average recruitment year will allow for a continued increasing trend in this population of pronghorn antelope. Fawn ratio of 39/100 does was observed this year for hunt unit 015.

Reporting Biologist: _____

Supervisor: _____

Pronghorn Quota Recommendation Form

Unit Group: 021-022

Date Prepared: 2019-20

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		22	72	29	123	31	40	600	32
2018-2019		25	82	36	143	30	44	650	31
2019-2020		0	0	0	0	0	0	640	29

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	0%	100%	67%		78%	67%			0		52%
2018	50%	0%	67%		89%	100%			0		43%
2019	100%	n/a	25%		88%	50%			0		45%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018	5	1	4		45	6			0	2	0
2019	3	1	4		45	5			0	0	0
2020	5	1	5		40	4			0	0	0
Tag Trend	INC	=	INC	=	DEC	DEC	=	=	=	=	=

Quota Rationale

Surveys were canceled this year due to poor weather conditons. An average rate of 35 fawns per 100 does was used in the modeling process this year for this herd.

Reporting Biologist: Hampson

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 031

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	4	23	60	16	103	45	27	1,449	30	26
2018-2019	1	1	7	5	14	29	71	1,446	31	24
2019-2020	15	43	178	54	290	33	30	1,421	34	25

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	50%	0%	N/A	N/A	52%	62%			60	57%	19%
2018	25%	0%	N/A	N/A	50%	53%			60	50%	29%
2019	25%	0%	N/A	N/A	47%	47%			36	80%	20%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	6	1	0	0	120	15			60	2	0
2019	10	1	0	0	130	15			65	5	0
2020	20	2	0	0	130	15			40		
Tag Trend	INC	INC	=	=	INC	=	=	=	DEC	DEC	=

Quota Rationale

Doe quota based on 3% of doe population was 5% in 2019

Reporting Biologist: Partee

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 032, 034

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	12	33	157	56	258	29	36	1,941	24	11
2018-2019	2	6	74	19	101	11	26	1,882	30	18
2019-2020	7	20	191	49	267	14	26	1,872	32	25

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	20%	33%	N/A	N/A	46%	64%				100%	13%
2018	23%	67%	N/A	N/A	59%	56%			25	0%	20%
2019	15%	0%	N/A	N/A	47%	44%			7	83%	14%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	30	3	0	0	85	10			25	9	0
2019	25	2	0	0	85	10			25	6	0
2020	30	3	0	0	70	8			30		
Tag Trend	INC	=	=	=	DEC	DEC	=	=	INC	DEC	=

Quota Rationale

There is a slight reduction in tag numbers for this unit. The population has dropped a little in this unit with a little lower fawn ratio than we saw last year. The model used for this unit is combined with unit 035. With the amount of moisture that was available during the survey period animals were scattered and in small groups. 2% Doe Harvest

Reporting Biologist: Partee

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 033

Date Prepared: 2019-20

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		104	407	178	689	26	44	1,200	38
2018-2019		63	212	79	354	30	37	1,270	37
2019-2020		43	156	37	236	28	24	1,200	38

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	29%	100%	25%	n/a	78%	67%	66%	100%	n/a	N/A	30%
2018	33%	100%	33%	n/a	85%	100%	76%	67%	n/a	N/A	46%
2019	25%	100%	25%	n/a	66%	67%	75%	67%	n/a	N/A	37%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	8	1	4	n/a	27	3	31	3	0	0	0
2019	7	1	5	n/a	35	4	35	4	0	0	0
2020	7	1	5	n/a	30	4	30	4	0	0	0
Tag Trend	=	=	=	=	DEC	=	DEC	=	=	=	=

Quota Rationale

Low recruitment values will result in a reduced herd estimate in 2020. Unit 011 to the west of the Sheldon also had lower observed recruitment values this year. This herd has had lower recruitment values in recent years.

Reporting Biologist: Hampson

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 035

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	12	8	46	22	88	43	48	1,941	24	11
2018-2019	4	6	73	15	98	14	21	1,882	30	18
2019-2020	3	44	125	41	213	38	33	1,872	32	25

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	30%	100%			60%	83%				50%	22%
2018	50%	100%			65%	75%			10	0%	50%
2019	33%	100%			70%	100%			6	100%	22%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	6	1	0	0	35	4			10	4	0
2019	5	1	0	0	35	4			10	5	0
2020	4	1	0	0	25	3			15		
Tag Trend	DEC	=	=	=	DEC	DEC	=	=	INC	DEC	=

Quota Rationale

This unit is modeled with units 032 and 034. Tag quotas are split with 2/3 going to 032, 034 and 1/3 going to 035. 2% Doe Harvest

Reporting Biologist:

Partee

Supervisor:

Scott

Pronghorn Quota Recommendation Form

Unit Group: 051

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	6	40	106	46	198	43	43	681	23	15
2018-2019	2	6	26	13	47	31	50	737	30	17
2019-2020	10	60	173	43	286	40	25	716	39	24

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	10%	67%	N/A	N/A	62%	100%				80%	16%
2018	30%	0%	N/A	N/A	64%	100%			0	0%	44%
2019	10%	0%	N/A	N/A	68%	75%			0	100%	35%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	20	2	0	0	30	4			0	1	
2019	15	1	0	0	35	4			0	4	
2020	35	4	0	0	50	6			0		
Tag Trend	INC	INC	=	=	=	=	=	=	=	DEC	=

Quota Rationale

Reporting Biologist: Partee

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 041-042

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	14	77	221	89	401	41	40	1,985	35	27
2018-2019	10	25	98	36	169	36	37	2,012	36	27
2019-2020	27	54	259	91	431	31	35	1,696	30	20

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	40%	100%			67%	100%	72%	67%	40	N/A	28%
2018	50%	DNH			77%	100%	81%	100%	45	100%	25%
2019	44%	0%			74%	75%	72%	86%	29	100%	?

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018	10	1			70	8	70	8	55	0	
2019	15	1			70	8	70	8	40	1	
2020	15	1			55	6	55	6	40		
Tag Trend	=	=	=	=	DEC	DEC	DEC	DEC	=	DEC	=

Quota Rationale

Doe harvest is for hunter opportunity. Recommend 3% doe harvest and post-season buck ratio of 21. These values = a projected 2020 doe harvest of 28 (79% avg success rate w 35 tags) & RBK of 94. Projected fawn recruitment for 2020 is 40 fawns/ 100 does (L-T AVG) These values project a 2021 population est of 1,700 antelope. 2020 population estimate is 1,700. This unit group can continue to support growth. So recommend low doe harvest (3% of adult females) in order to support growth. This herd has declined from last year. 2019 survey data suggests that the model was overestimating the buck segment. Also, past survey & field trip data indicate a decline in antelope observations in all areas of Units 041, 042, which supports this reduction.

Reporting Biologist: Neill

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 043-046

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	7	64	181	75	327	39	41	700	39	26
2018-2019	14	96	208	86	404	53	41	802	77	25
2019-2020	25	190	419	155	789	51	37	1,200	43	34

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	41%				72%	71%				100%	25%
2018	29%				94%	100%				80%	33%
2019	9%	0%			84%	100%				75%	18%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	20				55	6				1	
2019	20	2			70	7				4	
2020	40	4			110	15					
Tag Trend	INC	INC	=	=	INC	INC	=	=	=	DEC	=

Quota Rationale

Use post-season buck ratio objective of 25 bucks: 100 does, which falls in the middle of harvest guidelines (20-30 bucks: 100 does). Use 3 year avg success (24.8%) for archery = 40 resident tags. Last year's first choice apps were 40. Success is low due to various water sources within the unit group, provide opportunity.

Reporting Biologist: Neill

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 181-184

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	36	50	217	124	427	40	57	927	24	15
2018-2019	18	53	172	47	290	41	27	849	32	18
2019-2020	14	64	173	66	317	45	38	852	28	17

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	27%	0%			81%	100%			16	80%	27%
2018	32%	0%			86%	100%			24		
2019	33%	100%			92%	100%			23		34%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	20	2			45	6			25		
2019	15	2			55	6			25		
2020	10	1			40	4			30		
Tag Trend	DEC	DEC	=	=	DEC	DEC	=	=	INC	DEC	=

Quota Rationale

Reporting Biologist: Salisbury

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 202, 204

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	2	4	15	5	26	40	33	109	33	23
2018-2019	5	21	50	14	90	52	28	107	37	25
2019-2020					0	--	--	106	35	26

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017					63%	DNH					40%
2018					100%	DNH					100%
2019											

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018					4	1					
2019					7	1					
2020					10	1					
Tag Trend	=	=	=	=	INC	=	=	=	=	=	=

Quota Rationale

Interstate hunt for antelope in October. Population continues to struggle with low fawn production. Similar tag quotas are suggested.

Reporting Biologist: Salisbury

Supervisor: Scott

Pronghorn Quota Recommendation Form

Unit Group: 203, 291

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	6	2	22	12	42	36	55	74	41	30
2018-2018	8	14	33	13	68	67	39	90	42	26
2019-2020					0	--	--	89	36	24

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	50%				57%						40%
2018	DNH				100%						0%
2019	50%				75%						

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	1				7						
2019	2				8						
2020	2				8						
Tag Trend	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Lower population of antelope would like to keep it about the same. Antelope are located in a few key spots. Hunter congestion could be an issue with increased tags.

Reporting Biologist:

Salisbury

Supervisor:

Scott

Pronghorn Quota Recommendation Form

Unit Group: 205 - 208

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)	
	Yr Bucks	Bucks	Does	Fawns					Pre	Post
2017-2018	7	13	55	20	95	36	36	314	37	26
2018-2019					0	--	--	294	33	20
2019-2020	3	11	48	24	86	29	50	312	25	12

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	29%	N/A			71%	N/A					22%
2018	33%	0%			92%	67%					
2019	50%	0%			96%	100%					23%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	12	1			25	3					
2019	10	1			25	3					
2020	5	1			15	2					
Tag Trend	DEC	=	=	=	DEC	DEC	=	=	=	=	=

Quota Rationale

Buck ratio is low in this unit. Continue to suggest for lower harvest.

Reporting Biologist:

Salisbury

Supervisor:

Scott

Pronghorn Quota Recommendation Form

Unit Group: 061, 062, 064, 071, 073

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		281	446	210	937	63	47	1,700	30
2018-2019	55	103	378	118	654	42	31	1,400	31
2019-2020	54	159	489	234	936	44	48	1,400	31

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	11	0			87	89			161		32
2018	22	0			81	85			119		33
2019	13	33			77	92			131		27

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	55	6			180	20			200		
2019	40	4			140	15			170		
2020	60	6			120	15			170		
Tag Trend	INC	INC	=	=	DEC	=	=	=	=	=	=

Quota Rationale

The recommended quota maintains the population at its current level but reduces the buck ratio to within management objectives, 25buck:100does.

Reporting Biologist: Allen

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 065, 142, 144

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		108	250	129	487	43	52	950	27
2018-2019		75	148	54	277	51	36	900	26
2019-2020		73	219	61	353	33	28	850	30

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	25	0	70		88	90			33	100	36
2018	38	0	75		84	50			46	100	25
2019	33	0	71		75	78			40	100	26

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR	RES	Combined	
2018	30	3	4		60	7			55	3	
2019	15	2	7		75	10			45	4	
2020	15	2	4		70	8			40		
Tag Trend	=	=	DEC	=	DEC	DEC	=	=	DEC	DEC	=

Quota Rationale

Below average fawn recruitment for past two years. Quotas designed to bring 2yr+ buck ratio nearer to middle of objective

Reporting Biologist: Jeffress

Supervisor: Tom Donham

Pronghorn Quota Recommendation Form

Unit Group: 066

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	17	53	96	18	184	73	19	400	44
2018-2019					0	--	--	400	n/a
2019-2020					0	--	--	400	n/a

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	13				67	80			7		28
2018	29				72	100			8		40
2019	13				75	50			9		33

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR	RES	Combined	
2018	10	0			35	4			15		
2019	10	0			35	4			15		
2020	10	0			35	4			15		
Tag Trend	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Quota recommendations are based on harvest metrics such as hunter success and percentage horns 15" or better. Little change in these metrics suggest maintaining quotas consistent with 2019.

Reporting Biologist: Allen

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 067, 068

Date Prepared: _____

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018					0	--	--	1,000	41
2018-2019		264	551	192	1,007	48	35	1,200	37
2019-2020		111	352	108	571	32	31	1,100	30

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	25	0			82	100			86	100	40
2018	8	0			76	83			68		37
2019	17	67			81	64			84	88	34

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR	RES	Combined	
2018	30	3			110	10			130		
2019	35	4			120	15			130		
2020	55	6			100	10			90		
Tag Trend	INC	INC	=	=	DEC	DEC	=	=	DEC	=	=

Quota Rationale

The recommended quota maintains the population near its current level while reducing the buck ratio to the management objective of 25bucks:100does. It is important to limit herd growth and maintain this population near its current level due to the compromised nature of the winter range and ongoing conflicts with vehicle traffic on Interstate 80.

Reporting Biologist: Allen

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 072,074,075

Date Prepared: 3/30/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	75	78	348	125	626	44	36	1,200	22
2018-2019	43	71	342	73	529	33	21	1,100	21
2019-2020	18	56	228	71	373	32	31	1,100	26

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	21	0			75	80			44	100	26
2018	27	33			89	86			27	100	21
2019	11	0			71	71			22	75	25

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	RES	NR	RES	NR	RES			
2018	25	3			70	8			40		
2019	25	3			65	7			40		
2020	20	2			45	5			45		
Tag Trend	DEC	DEC	=	=	DEC	DEC	=	=	INC	=	=

Quota Rationale

Quota based on objective of post-season 2yr+ buck ratio of 25

Reporting Biologist: Huebner

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 076,077,079,081,091

Date Prepared: 3/30/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	47	78	275	60	460	45	22	650	32
2018-2019	28	65	120	24	237	78	20	600	31
2019-2020	10	74	185	27	296	45	15	550	27

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	14	0			97	100			12	100	55
2018	0				85	83			17	100	62
2019	24				79	67			10	100	57

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR	RES	Combined	
2018	8				50	7			20		
2019	25	0			50	6			15		
2020	25	0			35	4			20		
Tag Trend	=	=	=	=	DEC	DEC	=	=	INC	=	=

Quota Rationale

Quota based on objective of post-season 2yr+ buck ratio of 25

Reporting Biologist: Huebner

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 078, 105-107, 121

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		208	417	156	781	50	37	1,100	43
2018-2019		116	264	88	468	44	33	1,000	40
2019-2020		89	291	48	428	31	16	900	33

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	38	100	20		83	80			66	67	27
2018	75	100	22		90	100			64		38
2019	0	0	75		81	100			47	67	24

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR	RES	Combined	
2018	10	1	10		110	10			80	5	
2019	7	1	10		100	10			65	6	
2020	10	1	6		90	10			45		
Tag Trend	INC	=	DEC	=	DEC	=	=	=	DEC	DEC	=

Quota Rationale

Below average fawn recruitment for past two years. Quotas designed to bring 2yr+ buck ratio nearer to middle of objective

Reporting Biologist: Jeffress

Supervisor: Tom Donham

Pronghorn Quota Recommendation Form

Unit Group: 101-104, 108, 109, and 144

Date Prepared: 4/1/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		180	303	109	592	59	36	1,100	42
2018-2019		217	389	91	697	56	23	1,000	41
2019-2020		211	428	87	726	49	20	950	36

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	75	33	100		81	100			79		42
2018	47	0	67		84	89			46		30
2019	33	100	0		83	100			25		36

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018	20	2	3		90	10			60		
2019	15	1	2		90	10			40		
2020	15	2	2		65	7			35		
Tag Trend	=	INC	=	=	DEC	DEC	=	=	DEC	=	=

Quota Rationale

The buck ratio has been gradually lowered over the past 4 seasons and is near objective. Two years of below avg recruitment will impact 2yr+ buck ratio moving forward, so a reduction in quota this year may help temper what would probably have been an even more significant drop in 2021.

Reporting Biologist: Roberts

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group: 111-114

Date Prepared: 3/27/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		412	803	246	1,461	51	31	1,800	34
2018-2019		293	757	93	1,143	39	12	1,500	31
2019-2020		193	561	80	834	34	14	1,300	37

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	37	0	38	NA	70	85	NA	NA	33	NA	17
2018	23	40	60	NA	75	84	NA	NA	40	NA	14
2019	15	0	20	NA	58	93	NA	NA	50	NA	21

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR	RES	Combined	
2018	45	5	10	0	200	20	0	0	80		0
2019	15	2	10	0	120	15	0	0	60		0
2020	20	2	5	0	100	10	0	0	60		0
Tag Trend	INC	=	DEC	=	DEC	DEC	=	=	=	=	=

Quota Rationale

The buck ratio has been gradually lowered over the past few seasons and is near objective. Two years of below avg recruitment will impact 2yr+ buck ratio moving forward, so a reduction in quota this year may help temper what would probably have been an even more significant drop in 2021.

Reporting Biologist: Kody Menghini

Supervisor: Tom Donham

Pronghorn Quota Recommendation Form

Unit Group: 131-145-163-164

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		124	336	116	576	37	35	900	27
2018-2019		91	313	59	463	29	19	850	29
2019-2020		64	293	50	407	22	17	750	33

Harvest Results

Year	Archery Success (%)		Muzzloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	25	0	50	0	89	100	N/A	N/A	28	100	33
2018	33	100	50	N/A	83	100	N/A	N/A	31	100	25
2019	0	0	0	N/A	77	89	N/A	N/A	24		28

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	5	1	3	0	75	8	N/A	N/A	45	1	0
2019	10	1	2	0	80	10	N/A	N/A	35	1	0
2020	15	2	3	0	80	9	N/A	N/A	30	0	0
Tag Trend	INC	INC	INC	=	=	DEC	=	=	DEC	DEC	=

Quota Rationale

Recommended quota based on lowering the post hunt 2yr+ buck ratio from 28 to 25 for 2020 to reach the the middle of post hunt target objective range.

Reporting Biologist: Clint Garrett

Supervisor: Tom Donham

Pronghorn Quota Recommendation Form

Unit Group: 132-133-134-245

Date Prepared: 3/31/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		70	129	44	243	54	34	600	26
2018-2019		64	182	39	285	35	21	600	26
2019-2020		62	251	51	364	25	20	600	27

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	40	33	100	N/A	89	100	N/A	N/A	N/A	N/A	24
2018	60	0	100	N/A	94	67	N/A	N/A	N/A	N/A	44
2019	50	100	0	N/A	88	80	N/A	N/A	N/A	N/A	28

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR			
2018	5	1	1	0	40	4	N/A	N/A	0	0	0
2019	5	1	1	0	45	5	N/A	N/A	0	2	0
2020	5	1	1	0	35	4	N/A	N/A	0		0
Tag Trend	=	=	=	=	DEC	DEC	=	=	=	DEC	=

Quota Rationale

Recommended quota based on maintaining the post hunt 2yr+ buck ratio near the middle of post hunt target objective range.

Reporting Biologist: Clint Garrett

Supervisor: Tom Donham

Pronghorn Quota Recommendation Form

Unit Group: 14-15

Date Prepared: 3/30/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Model)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018		414	839	396	1,649	49	47	2,700	22
2018-2019		300	717	297	1,314	42	41	3,400	25
2019-2020		216	518	130	864	42	25	3,300	26

Harvest Results

Year	Archery Success (%)		Muzzleloader Success (%)		Early ALW Success (%)		Late ALW Success (%)		Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
	RES	NR	RES	NR	RES	NR	RES	NR			
2017	12	100			79	82			265	100	27
2018	28	40			79	80			253		27
2019	17	33			72	92			356	82	27

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES	NR	RES	NR	RES	NR	RES	Combined	
2018	55	6			200	25			420	5	
2019	60	6			250	25			530	11	
2020	80	9			230	25			480		
Tag Trend	INC	INC	=	=	DEC	=	=	=	DEC	DEC	=

Quota Rationale

Recommended quota based on maintaining the post hunt 2yr+ buck ratio near the middle of post hunt target objective range.

Reporting Biologist: Hale

Supervisor: Donham

Pronghorn Quota Recommendation Form

Unit Group 115,231,242

Date Prepared: 3/26/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	22	37	183	64	306	32	35	500	20
2018-2019	10	47	115	40	212	50	35	500	41
2019-2020	14	19	57	23	113	58	40	500	33

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2017-2018	29	100	83					
2018-2019	45	67	80				100	
2019-2020	44	78	82				100	30

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
18-19	8	1	3		40	4					
19-20	12	1	3		40	4				2	
20-21	15	2	5		45	5				2	
Tag Trend	Inc	Inc	Inc		Inc	Inc	=	=	=	=	=

Quota Rationale

Reporting Biologist: Munson

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group 161-162

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	10	13	80	26	129	29	33	435	16
2018-2019	20	58	153	41	272	51	27	450	38
2019-2020	6	28	79	19	132	43	24	432	35

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2017-2018	0		90				100	32
2018-2019	60		89				100	21
2019-2020	0		83				100	40

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR	RES	RES/NR	
2018-2019	6				30	3					
2019-2020	4				45	5				2	
2020-2021	10	1			45	5				2	
Tag Trend	INC	INC	=	=	INC	INC	=	=	=	INC	=

Quota Rationale

Based off the harvest objectives of 20-30 adult B/100D and the population being stable, I recommend no change.

Reporting Biologist: Bennett

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group 171-173

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	7	18	131	40	196	19	31	390	14
2018-2019	11	31	101	27	170	42	27	384	31
2019-2020	4	16	73	18	111	27	25	362	22

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2017-2018	33		92				100	14
2018-2019	75		91					35
2019-2020	40		97				94	31

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018-2019	5	2			25	3					
2019-2020	7	1			30	3				12	
2020-2021	5	1			25	3					
Tag Trend	INC	DEC	=	=	INC	=	=	=	=	INC	=

Quota Rationale

Based off the harvest objectives of 20-30 adult B/100D and the decreased buck ratio observed on survey, I recommend a slight decrease in the ALW quota.

Reporting Biologist: Bennett

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group 211-213

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	2	5	32	12	51	22	38	94	16
2018-2019	3	4	22	8	37	32	36	95	18
2019-2020	1	8	38	10	57	24	26	92	21

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2017-2018	0		83					0
2018-2019	100		63					0
2019-2020	0		75					17

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018-2019	2				8						
2019-2020	1				8						
2020-2021	1				8						
Tag Trend	DEC	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Stable. No Change Recommended.

Reporting Biologist: Bennett

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group 221-223, 241

Date Prepared: 3/26/2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2016-2017	25	58	186	70	339	45	38	400	31
2017-2018	34	78	279	87	478	40	31	500	28
2018-2019	10	15	46	21	92	54	46	450	46

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2016-2017	33	67	78					
2017-2018	27	89	79			100	15	
2018-2019	31	64	71			100	15	

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018-2018	6		4		35	3				1	
2019-2020	8		5		40	4				1	
2020-2021	15		5		45	4				1	
Tag Trend	INC	=	INC	=	INC	INC	=	=	=	=	=

Quota Rationale

Reporting Biologist: Munson

Supervisor: Kimble

Pronghorn Quota Recommendation Form

Unit Group 251

Date Prepared: 2020

Herd Results

Year	Post Season Survey				Survey Total	Total Buck Ratio (Obs)	Fawn:Doe Ratio (Obs)	Pop Est (August)	2 Yr + Buck Ratio (Obs)
	Yr Bucks	Bucks	Does	Fawns					
2017-2018	12	21	71	24	128	46	34	362	30
2018-2019	12	33	127	37	209	35	29	346	26
2019-2020	12	34	169	65	280	27	38	351	20

Harvest Results

Year	Archery Success (%)	Muzzleloader Success (%)	Any Legal Weapon Success (%)		Horns Shorter Than Ears Success (%)	Horns Shorter Than Ears (Total)	Land Owner Comp Tag Success (%)	Horns 15" or Better (%)
			E	L				
2017-2018	100		81				83	31
2018-2019	100		100					48
2019-2020	0		91				100	35

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery		Muzzleloader		Early ALW		Late ALW		Horns Shorter Than Ears	Land Owner Comp Tags	Emergency Doe Hunt
	RES	NR	RES		RES	NR	RES	NR			
2018-2019	2				25	3					
2019-2020	2				25	3				10	
2020-2021	5				25	3				5	
Tag Trend	=	=	=	=	=	=	=	=	=	INC	=

Quota Rationale

Based off the harvest objectives of 20-30 adult B/100D and the population being stable I recommend no change.

Reporting Biologist: Bennett

Supervisor: Kimble

Elk Quota Recommendation Form

Unit Group: 051

Date Prepared: 2020

Population Objective: 200

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	9	17	12	38	53	71	100	40			100	100	3
2018-2019	10	24	6	40	42	25	100	30		15	29	67	1
2019-2020	4	15	11	30	27	73	90	22		0	50	100	1

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019					10				20										
2019-2020					10				7										
2020-2021					3				3										
Tag Trend	=	=	=	=	DEC	=	=	=	DEC	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019					10				15										
2019-2020					10				15										
2020-2021					3				5										
Tag Trend	=	=	=	=	DEC	=	=	=	DEC	=	=	=	=	=	=	=	=	=	=

Quota Rationale

The population objective set in the Humboldt County Elk Management Plan is 200 elk. According to the plan, once the population reaches 75% of the objective, aggressive harvest measures will be implemented. Success has been real low the last several years. Dropping both early and late tags due to the change in the population. Cow tags are dropping as well at this time. Things may increase once there is more habitat recovery from the Martin Fire.

Reporting Biologist: Partee

Supervisor: Scott

Elk Quota Recommendation Form

Unit Group: 061, 071

Date Prepared: 3/31/2020

Population Objective: None - Habitat Based

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	377	1,372	598	2,347	27	44	4,300 (1,500)	49		45	22	55	150
2018-2019	209	750	309	1,268	28	41	4,400 (1,700)	75		50	8	71	217
2019-2020	496	1,042	433	1,971	48	42	4,700 (1,900)	48		49	19	48	245

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	35	4	25	3	40	5			40	5				35	50	40			11
2019-2020	25	3	20	3	30	4			40	5				40		50			10
2020-2021	30	3	20	3	40	5			50	6				10		10			5
Tag Trend	INC	=	=	=	INC	INC	=	=	INC	INC	=	=	=	DEC	=	DEC	=	=	DEC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	65				275	30			140	15				55	15	250			
2019-2020	65				275	30			170	15				0	0	0			
2020-2021	65				310	45			180	25				0	0	0			
Tag Trend	=	=	=	=	INC	INC	=	=	INC	INC	=	=	=	=	=	=	=	=	=

Quota Rationale

The recommended quota increases in antlerless tags limits the growth of the herd. While the population is growing, increased bull harvest is necessary to maintain a reasonable bull ratio.

August population estimate includes all elk estimated to share seasonal ranges in Idaho and Nevada, as well as the portion of the metapopulation, in paranthesis, estimated to reside in Nevada.

Reporting Biologist: Allen

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 062, 064, 066-068

Date Prepared: 3/31/2020

Population Objective: 500

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
	2017-2018	139	331					181	651	42			
2018-2019	24	224	111	359	11	50	700 (450)	47		47	37	78	59
2019-2020	102	158	38	298	65	24	600 (350)	33		39	16	68	55

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
	2018-2019	30	3	20	2	40	4			45	4				35	35	35		
2019-2020	15	2	10	1	35	4			30	3				25	25	25			
2020-2021	4	1	7	1	20	2			15	1				5	5	5			
Tag Trend	DEC	DEC	DEC	=	DEC	DEC	=	=	DEC	DEC	=	=	=	DEC	DEC	DEC	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
	2018-2019	55				200	25			55	6				55	15	250		
2019-2020	40				150	25			35	6				55	15	250			
2020-2021	20				70	10			20	3				0	0	0			
Tag Trend	DEC	=	=	=	DEC	DEC	=	=	DEC	DEC	=	=	=	DEC	DEC	DEC	=	=	=

Quota Rationale

The elk population is currently at ~150 elk below objective for the unit group. In addition to harvest, seasonal elk mortality and the ongoing effects of the South Sugarloaf fire are contributing to a declining population. Decreased quota recommendations will still allow for some hunter opportunity while also allowing population to begin increasing towards population objective.

August population estimate includes all elk estimated to share seasonal ranges in Idaho and Nevada, as well as the portion of the metapopulation, in paranthesis, estimated to reside in Nevada.

Reporting Biologist: Allen

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 065

Date Prepared: 3/30/2020

Population Objective: 200

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	8	12	7	27	67	58	140	50			100	100	3
2018-2019	5	23	5	33	22	22	80	50			0	0	2
2019-2020	2	15	6	23	13	40	60	0			0	0	2

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019					4														
2019-2020					4														
2020-2021					1														
Tag Trend	=	=	=	=	DEC	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019					10														
2019-2020					10														
2020-2021					2														
Tag Trend	=	=	=	=	DEC	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

This elk herd is well below objective. Spring elk mortalities are likely greatly limiting population growth. Harvest success is reflective of a very small herd.

Reporting Biologist: Jeffress

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 072,073,074

Date Prepared: 3/30/2020

Population Objective: 1,420

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	527	297	129	953	177	43	2,100	42		36	20	64	502
2018-2019	439	614	219	1,272	71	36	1,300	40		25	23	62	262
2019-2020	476	404	146	1,026	118	36	1,200	32		21	22	67	172

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	80	10	90	15	225	23			225	23				40	40	40			12
2019-2020	75	10	70	10	190	20			190	20				40		40			15
2020-2021	110	15	55	7	180	18			180	18				20		20			16
Tag Trend	INC	INC	DEC	DEC	DEC	DEC	=	=	DEC	DEC	=	=	=	DEC	=	DEC	=	=	INC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	65	2	118	2	205	15	140	15	325	35				135	30	440	140		
2019-2020	40	5	50	6	140	15			130	15				22	6	70	55		
2020-2021	25	3	10	1	140	15			120	15				0	0	0	20		
Tag Trend	DEC	DEC	DEC	DEC	=	=	=	=	DEC	=	=	=	=	DEC	DEC	DEC	DEC	=	=

Quota Rationale

This population is currently below the population objective of 1,420 elk. As a result antlerless tags continue to decline slightly. The 50 in main beam length is below the objective of 25-30% of bull harvest. This coupled with decreasing success rates indicate that antlered tags should be decreased in the unit group.

Reporting Biologist: Huebner

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 075

Date Prepared: 3/30/2020

Population Objective: 100

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	54	55	27	136	98	49	150	41		40	10	67	69
2018-2019	37	65	20	122	57	31	100	64		29	26	54	25
2019-2020	21	55	27	103	38	49	90	29		50	17	48	28

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags			
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW	
2018-2019	6		10		15	2			15	2										13
2019-2020	3		4		15	2			15	1										11
2020-2021	2		2		10	1			10	1										11
Tag Trend	DEC	=	DEC	=	DEC	DEC	=	=	DEC	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	8		8		15				325	35				135	30	440			
2019-2020	5		5		10				100	15				22	6	70			
2020-2021	1		3		6				120	15				0	0	0			
Tag Trend	DEC	=	DEC	=	DEC	=	=	=	INC	=	=	=	=	DEC	DEC	DEC	=	=	=

Quota Rationale

This population is currently slightly below the population objective of 100 elk. The % 50"+ main beam length is below the objective of 25-30% of bull harvest. Both of these metrics indicate that there should be a tag decrease for both antlerless and antlered tags.

Reporting Biologist: Huebner

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 076,077,079,081

Date Prepared: 3/30/2020

Population Objective: 1,195

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018				0	--	--	1,000	61		50	17	67	232
2018-2019	196	488	243	927	40	50	1,000	63		65	26	70	162
2019-2020	184	783	297	1,264	23	38	1,100	67		58	24	83	86

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	40	5	15	3	65	8			65	8				15		10			52
2019-2020	30	3	8	1	60	8			60	8				15		10			48
2020-2021	20	2	9	1	55	6			55	6				10		10			45
Tag Trend	DEC	DEC	INC	=	DEC	DEC	=	=	DEC	DEC	=	=	=	DEC	=	=	=	=	DEC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	30	3	25	3	100				50		15	20	70	135	30	440			
2019-2020	15	2	10	1	40				20		10	15	30	22	6	70			
2020-2021	6	1	15	1	40				20		10	10	30	0	0	0			
Tag Trend	DEC	DEC	INC	=	=	=	=	=	=	=	=	DEC	=	DEC	DEC	DEC	=	=	=

Quota Rationale

The current population estimate is near the population objective of 1,195 elk so cow quotas are designed to maintain the population at current level. The % 50"+ main beam length is slightly below the objective of 25-30% of bull harvest which results in a slight overall bull quota decrease.

Reporting Biologist: Huebner

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 078, 105-107, and 109

Date Prepared: 3/25/2020

Population Objective: 340 +/- 10%

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	78	124	41	243	63	33	340	83		86	45	85	-15
2018-2019	101	151	68	320	67	45	450	70		100	68	82	-19
2019-2020	93	270	79	442	34	29	450	82		67	48	92	-44

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	6	1	6		9	1			8	1				9					
2019-2020	10	1	6	1	12	1			11	1				10					
2020-2021	11	1	9	1	13	2			13	2				10					
Tag Trend	INC	=	INC	=	INC	INC	=	=	INC	INC	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	8		6		29														
2019-2020	15		10		80														
2020-2021	15		15		95														
Tag Trend	=	=	INC	=	INC	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

The population estimate is slightly higher than the population objective of 306 - 374. The 2019 total harvest was the highest ever for this unit group and these quotas look to build on that success as this herd is driven down to its population objective set in the Wells Resource Area Elk Plan. Elk use on private property is increasing in this unit group and will make management increasingly difficult.

Reporting Biologist: Roberts

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 091

Date Prepared: 3/30/2020

Population Objective: 125 (NV side), 350 (UT side)

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018				0	--	--	380	83			60	60	25
2018-2019	31	80	27	138	39	34	380	88			33	100	2
2019-2020				0	--	--	360	89			63	100	14

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019					9														
2019-2020					9														
2020-2021					11														
Tag Trend	=	=	=	=	INC	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019																			
2019-2020					5				5										
2020-2021					5				5										
Tag Trend	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

The 50 in main beam length is above the objective for an alternative unit of 35-45% of bull harvest. This coupled with increasing success and 100% 6pts in the harvest warrant an increase of bull tags. The antlerless hunt is an effort to reduce herd growth as the herd is slightly above Utah's population objective of 350 elk. The portion of the herd residing in Unit 091 is below Nevada's objective of 125 elk.

Reporting Biologist: Huebner

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 104, 108, and 121

Date Prepared: 3/25/2020

Population Objective: Up to 912

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	78	239	116	433	33	49	750	62			42	68	33
2018-2019	77	338	148	563	23	44	800	66			30	70	103
2019-2020	42	431	79	552	10	18	950	57			45	62	56

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	15	2	8	1	45	8													
2019-2020	10	1	7	1	50	7													
2020-2021	10	1	6	1	65	8													2
Tag Trend	=	=	DEC	=	INC	INC	=	=	=	=	=	=	=	=	=	=	=	=	INC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	15		15		120	0			0	0	25	10	10						
2019-2020	10		10		40	4			15	2	25	10	10						
2020-2021	8		10		90	10			20	2	25	10	10						
Tag Trend	DEC	=	=	=	INC	INC	=	=	INC	=	=	=	=	=	=	=	=	=	=

Quota Rationale

This population model was adjusted up to account for the high number of adult cows that were classified on survey. The adjustment put this year's estimate slightly above the population objective for this unit group. Most quotas are recommended to be increased for the coming year in order to bring the population within objective. The depredation quotas will remain the same as these hunts continue to be effective in limiting most private land issues in Steptoe Valley.

Reporting Biologist: Roberts

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 108B, 131 - 132

Date Prepared: 3/31/2020

Population Objective: 300 +/- 20% Adults

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	102	86	56	244	119	65	370		55		39	79	41
2018-2019	47	99	29	175	47	29	310		51		39	67	39
2019-2020	43	72	15	130	60	21	260		32		42	69	28

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	10	2	6				55	6											
2019-2020	10	2	6				55	6											
2020-2021	8	1	10				60	6											
Tag Trend	DEC	DEC	INC	=	=	=	INC	=	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	8	1	15	2	45	5								10	10	100			
2019-2020	8	2	20	2	50	5								10	10	25			
2020-2021	3	1	5	1	20	2								0	0	0			
Tag Trend	DEC	DEC	DEC	DEC	DEC	DEC	=	=	=	=	=	=	=	DEC	DEC	DEC	=	=	=

Quota Rationale

For the last 3 years the 50+ inch main beam harvest has been above the management objective standard of 25% to 35% and the past 3 year average is 40%. The population estimate is 260 and currently at the bottom end of the elk plan objective. Given the population is at the bottom of elk plan objective, as well as recent low calf recruitment, cow quotas have been reduced. Given the management objective of % 50"+ inch main beam harvest was above management objective and has been for the last 3-years, bull quotas have been slightly increased overall.

Reporting Biologist: Clint Garrett

Supervisor: Tom Donham

Elk Quota Recommendation Form

Unit Group: 111-115

Date Prepared: 3/30/2020

Population Objective: 2250 +/-20% (1,800-2,700)

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	501	1,542	516	2,559	32	33	4,400	60	NA	56	44	79	174
2018-2019	299	672	255	1,226	44	38	2,500	65	NA	61	44	74	230
2019-2020	453	923	253	1,629	49	27	2,800	66	NA	64	49	81	186

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	35	4	25	4	95	10	NA	NA	85	10	NA	NA	NA	NA	NA	NA	4	2	4
2019-2020	35	4	35	4	100	10	NA	NA	90	9	NA	NA	NA	NA	NA	NA	10	1	5
2020-2021	35	4	10	2	120	14	NA	NA	110	13	NA	NA	NA	NA	NA	NA			16
Tag Trend	=	=	DEC	DEC	INC	INC	=	=	INC	INC	=	=	=	=	=	=	DEC	DEC	INC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	115	0	70	0	190	10	NA	NA	225	9	0	0	0	0	0	0	0	0	0
2019-2020	70	0	40	0	130	8	NA	NA	170	8	0	0	0	0	0	0	0	0	0
2020-2021	100	0	35	0	165	9	NA	NA	200	10	0	0	0	0	0	0	0	0	0
Tag Trend	INC	=	DEC	=	INC	INC	=	=	INC	INC	=	=	=	=	=	=	=	=	=

Quota Rationale

Bull quality remains high based on the %6-pt or better and the %50in main beam or better metrics. Recommended quotas are designed to bring this population towards the center of the Population Objective.

Reporting Biologist: Menghini

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 161 - 164, 171 - 173

Date Prepared: 3/26/2020

Population Objective: 850

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	77	179	65	321	43	36	850	100	41	38	25	68	83
2018-2019	106	312	107	525	34	34	800	100	38	42	29	63	87
2019-2020	93	260	71	424	36	27	750	100	33	11	40	54	42

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	20	2	30	3	5	1	40	4	40	4									
2019-2020	20	2	30	3	8	1	40	5	40	5									
2020-2021	20	2	20	2	8	1	35	4	35	4									
Tag Trend	=	=	DEC	DEC	=	=	DEC	DEC	DEC	DEC	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	30		20		65	7			80	10				15	30	100	40		
2019-2020	30		20		65	7			80	10				15	20	75	40		
2020-2021	25		20		60	7			70	8							20		
Tag Trend	DEC	=	=	=	DEC	=	=	=	DEC	DEC	=	=	=	DEC	DEC	DEC	DEC	=	=

Quota Rationale

The modeled population is currently below objective. It is being reflected in harvest and while on survey. Modeling and harvest data shows decreased quotas are warranted.

Reporting Biologist: Joe Bennett

Supervisor: Steve Kimble

Elk Quota Recommendation Form

Unit Group: 221-223

Date Prepared: 3/30/2020

Population Objective: 1600 +/-20% (1,280-1,920)

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
	2017-2018	501	1,542					516	2,559	32			
2018-2019	188	513	176	877	37	34	1,700	79	NA	60	24	60	160
2019-2020	232	464	116	812	50	25	1,600	63	NA	40	39	79	94

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	30	3	20	2	80	9	NA	NA	70	8	NA	NA	NA	NA	NA	NA	1	0	5
2019-2020	20	2	8	2	60	7	NA	NA	60	6	NA	NA	NA	NA	NA	NA	7	2	6
2020-2021	25	3	7	1	70	8	NA	NA	70	8	Na	NA	NA	NA	NA	NA			12
Tag Trend	INC	INC	DEC	DEC	INC	INC	=	=	INC	INC	=	=	=	=	=	=	DEC	DEC	INC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	50	0	30	0	160	0	NA	NA	100	0	0	0	0	0	0	70	20	0	20
2019-2020	45	0	25	0	95	0	NA	NA	85	0	0	0	0	0	0	0	15	0	15
2020-2021	45	0	25	0	90	0	NA	NA	80	0	0	0	0	0	0	0	10	0	10
Tag Trend	=	=	=	=	DEC	=	=	=	DEC	=	=	=	=	=	=	=	DEC	=	DEC

Quota Rationale

Bull quality remains high based on the %6-pt or better and the % 50"+ main beam or better metrics. This population is currently estimated near the center of the Population Objective. 2020 quotas have been recommended to maintain this population near current level.

Reporting Biologist: Menghini

Supervisor: Donham

Elk Quota Recommendation Form

Unit Group: 231

Date Prepared: 3/26/2020

Population Objective: 550

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018	48	74	39	161	65	53	450				30		
2018-2019	103	179	69	351	58	39	500	74		60	16	54	105
2019-2020	38	86	34	158	44	40	500	77		51	34	60	84

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	20	2	10	1															14
2019-2020	20	2	10	1	40	6			45	5									14
2020-2021	20	2	10	1	40	4			45	5									15
Tag Trend	=	=	=	=	=	DEC	=	=	=	=	=	=	=	=	=	=	=	=	INC

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	35		30		60				100										
2019-2020	35		25		55	5			80	8				10	10	25	25		
2020-2021	35		30		65	6			80	8				0	0	0	25		
Tag Trend	=	=	INC	=	INC	INC	=	=	=	=	=	=	=	DEC	DEC	DEC	=	=	=

Quota Rationale

Redistribution of tags for removal of DELK tags.

Reporting Biologist: Munson

Supervisor: Kimble

Elk Quota Recommendation Form

Unit Group: 241-242

Date Prepared: 3/26/2020

Population Objective: 200

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018				0	--	--		50			50	25	4
2018-2019	5	16	11	32	31	69		67			20	50	1
2019-2020	3	12	4	19	25	33	110	72			20	25	2

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	1		2		4														1
2019-2020	2		2		3														1
2020-2021	2		2		3														1
Tag Trend	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019	2		2		5				5										
2019-2020	3				6														
2020-2021	3				10														
Tag Trend	=	=	=	=	INC	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Reporting Biologist: Munson

Supervisor: Kimble

Elk Quota Recommendation Form

Unit Group: 262

Date Prepared: 3/19/2020

Population Objective: _____

Herd & Harvest Results

Year	Survey Count			Total	Bull Ratio (Obs)	Calf Ratio (Obs)	Pop Est (August)	Bull Rifle Success (%)			50-in Beam (%)	6 Pt (%)	Total Antlerless Harvest
	Bull	Cow	Calf					E	M	L			
2017-2018				0	--	--	180	0			67	67	--
2018-2019	9	58	10	77	16	17	170	100			25	75	--
2019-2020	10	5	1	16	200	20	170	67			25	100	--

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlered

Year	Bull Archery		Bull Muzzleloader		Bull ALW Early		Bull ALW Mid		Bull ALW Late		Bull Depredation Hunt 4102			Spike Hunt 4651			Landowner Incentive Tags		
	4161	4261	4156	4256	4151	4251	4151	4251	4151	4251	E	M	L	E	M	L	A	M	ALW
2018-2019	1		1		4														
2019-2020	1		1		3														
2020-2021	1		1		3														
Tag Trend	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Approved (Previous Year) and Recommended (Current Year) Tag Quota - Antlerless

Year	Antlerless Archery		Antlerless Muzzleloader		Antlerless ALW Early		Antlerless ALW Mid		Antlerless ALW Late		Antlerless Depredation Hunt 4107			Antlerless Mgmt Hunt (DELK)			Antlerless Wilderness Hunt 4181		
	4111	4211	4176	4276	4181	4281	4151	4251	4151	4251	E	M	L	A	M	ALW	E	M	L
2018-2019																			
2019-2020																			
2020-2021																			
Tag Trend	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=

Quota Rationale

Reporting Biologist: Pat Cummings

Supervisor: Steve Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 182, 044

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	175	7	13	363	204	22	13
2017-2018	328	22	34	535	308	22	18
2019-2020	265	32	18	578	318	23	21
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	5.1	90%	6.7			
2017	14	5.8	100%	2.1			
2019	20	5.6	100%	5.2			
Trend	up	stable	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			8		2	
2017			12		2	
2019			17		3	
Trend			up		up	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
20	100%	0%	85%	15%	100%	182, 044	17		3	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Quota based on 8% of 1+ rams. Concerns with die-off. Ample rams exist for harvest. Possible disease event may occur into fall of 2020.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 045, 153

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	73	7	6	135	77	4	5
2017-2018	138	8	14	230	130	8	8
2019-2020	138	5	14	271	158	10	9
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	8	67%	20.7			
2017	8	6.1	100%	5.9			
2019	8	5.6	89%	3.1			
Trend	up	down	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3			
2017			4	4		
2019			5	3		1
Trend						

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
10	60%	40%	75%	25%	100%	045, 153	6	3	no hunt	1
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

50%6+ year old rams in the model=10. Recommend quota of 10 tags. Unit 045 has a split season. Early is residents only and Late is residents and non residents. (recommend a split of 60% Early/40% Late) Recommend 6 tags early, 4 tags late (3 resident & 1 non-resident) 6 tags in Early because there is more demand for the early hunt and average age ram harvested was in objective (2019 avg age Early hunt was 6, Late hunt was 5). Rams easier to locate in the early hunt.

Reporting Biologist: Neill

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 131, 164

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	143	7	10	170	100	12	6
2017-2018	61	6	3	110	70	8	3
2019-2020	59	2	1	100	68	6	3
Trend	down	down	down	down	down	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	5	4.8	100%	7			
2017	2	6.5	50%	15.5			
2019	2	5	67%	12.7			
Trend	down	stable	down	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			5			
2017			4			
2019			3			
Trend			down			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
3	100%	0%	90%	10%	100%	131, 164	3		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

2007 First hunt year. The 2 harvested rams scored 134 and 139 with an average age of 5. Previous 10 year average is 6.0, which meets the management objective of > 6. For 2019 the average days hunted per tag holder is 12.7 days with a 67% success rate and the statewide average is 5 days hunted per tag holder with a 86% success rate. This years aerial survey for 131/164 produced a ratio of 38 lambs:100 ewes which would suggest a possible rebound from the M. ovi event that started in 2012 and well above the previous 5 year average of 20 lambs:100 ewes. Recommended tag quota would be the same as last year with 3 total tags based on the management objective quota of 8% of the 1+ rams within this population.

Reporting Biologist: Garrett

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 132

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	48	0	0	110	68	3	3
2017-2018	85	11	5	117	68	7	4
2019-2020	103	10	6	127	73	6	4
Trend	up	stable	stable	up	up	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	7.5	100%	5			
2017	3	5	100%	3.3			
2019	2	5.5	100%	11.5			
Trend	stable	stable	stable	up			

Previous Quotas

	Rpoc	Ewes		Ram Resident		Ram Nonresident	
		Res	NR	Early	Late	Early	Late
2012				2			
2017				3			
2019				4			
Trend				up			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
4	100%	0%	90%	10%	100%	132	4		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

2010 First hunt year. The 2 harvested rams scored 139 and 145 with an average age of 5.5. Previous 5 year average is 5.3, which is below the management objective of > 6. For 2019 the average days hunted per tag holder is 11.5 days with a 100% success rate (2 returned tags) and the statewide average is 5 days hunted per tag holder with a 86% success rate. This years aerial survey for 132 produced a ratio of 34 lambs:100 ewes which is below the previous 5 year average of 44 lambs:100 ewes. Recommended tag quota would be the same as last year with 4 total tags based on the management objective quota of 8% of the 1+ rams within this population, given the combined increasing population trend.

Reporting Biologist: Garrett

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 245, 133

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	48	6	3	113	66	4	4
2017-2018	140	9	12	133	83	5	4
2019-2020				136	84	7	4
Trend	up	up	up	up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	5	75%	4.8			
2017	3	5	75%	5.8			
2019	4	5.3	100%	9.5			
Trend	stable	stable	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			4			
2017			4			
2019			4			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
4	100%	0%	100%	0%	100%	245, 133	4		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Average harvest age is appropriate and 8% of total rams. A portion of this population may not be available during the hunt due to Federal military land access.

Reporting Biologist: Munson

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 134

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	211	30	13	286	192	8	7
2017-2018	68	10	4	195	125	12	6
2019-2020	101	5	5	177	111	7	5
Trend	down	down	down	down	down	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	5	4.4	83%	4.8			
2017	3	7	60%	5.5			
2019	4	7	80%	6.8			
Trend	stable	up	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			6			
2017			5			
2019			5			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	100%	0%	100%	134	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

I recommend a quota of 5. This population has been recovering from a disease event since 2011. With that being said, multiple cohorts are not well represented in the population.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 161

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	187	10	4	309	175	15	11
2017-2018	387	32	24	456	270	16	15
2019-2020	464	38	17	546	328	18	17
Trend	up	up	stable	up	up	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	6	75%	5.8			
2017	9	5.7	90%	4.7			
2019	14	6.5	93%	3.9			
Trend	up	up	up	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			6	4		2
2017			5	3		2
2019			6	7	1	1
Trend			stable	up	up	down

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
18	50%	50%	90%	10%	100%	161	8	8	1	1
			+		0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Record surveys have been obtained in 2017 and 2019. Based off the harvest criteria in the bighorn plan (8% of total rams and 50% of 6 plus rams) there is a need for an increase in tags. I recommend a quota of 17.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 163

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	146	13	5	270	158	15	9
2017-2018	Not Conducted	Not Conducted	Not Conducted	302	187	13	9
2019-2020	Not Conducted	Not Conducted	Not Conducted	322	205	11	9
Trend	stable	stable	stable	up	up	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	5	5.4	100%	1.8			
2017	7	5.4	78%	4.1			
2019	9	6.8	100%	5			
Trend	up	up	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			5			
2017			9			
2019			8		1	
Trend			up			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
9	100%	0%	90%	10%	100%	163	8		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Based off harvest criteria in the bighorn plan (8% of total rams and 50% of 6 plus rams) the ram quota should be 9. Smaller segments of the population near Morey Peak and Salisbury Wash consist of multiple mature rams that are not well represented in the harvest data.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 173

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	53	9	4	240	135	17	8
2017-2018	53	4	3	185	110	13	6
2019-2020	45	4	1	184	108	9	6
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	6	6.3	100%	3.2			
2017	5	5	83%	4.3			
2019	4	5.3	67%	7			
Trend	down	down	down	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Toiyabe	San Ant	Toiy	San Ant
2012			5		1	
2017			4	1		1
2019			4	1	1	
Trend			stable	stable	stable	

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
4	100%	0%	80%	20%	100%	173 N	3		1	
6					0%		2			

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Based off harvest criteria in the bighorn plan, the 8% of total rams and the 50% of 6 plus rams indicates the quota should be 6. The 173N portion of this hunt is difficult in nature and the average age of rams harvested is misleading. This model is all inclusive to include both the San Antonies and the Toiyabes. The breakdown for tag allocation will be 75% Toiyabes 25% San Antonies. I recommend 2 tags for the San Antonies. In addition, I recommend 3 resident tags for the north range and the 1 non-resident tag.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 181

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	203	28	39	316	168	25	12
2017-2018	408	51	48	484	264	31	18
2019-2020	452	51	35	603	357	23	20
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	10	7.3	91%	4.1			
2017	18	7.3	100%	4			
2019	20	6.5	100%	6.3			
Trend	up	down	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			10		1	
2017			16		2	
2019			18		2	
Trend			up		up	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
19	100%	0%	90%	10%	100%	181	17		2	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Hunting occurs on Bravo 17. The military has a tolerance for a certain amount of hunters on Naval grounds. May have to go to split season in the future.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 183

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	184	15	17	381	214	13	17
2017-2018	294	32	29	452	263	15	19
2019-2020	192	30	18	320	189	19	10
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	5.8	100%	6.1			
2017	16	6	100%	2.6			
2019	5	6.2	100%	3.2			
Trend	down	stable	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			8		1	
2017			14		2	
2019			4		1	
Trend			down		stable	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
7	100%	0%	80%	20%	100%	183	6		1	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Disease event in 2018. Four out five harvested rams came out of Cow Canyon. Concerns about continued disease event in fall of 2019. Recommend lower tags below the 8% as a conservative measure. Recommend a 1 tag increase from last year.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 184

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	60	6	3	171	103	7	5
2017-2018	126	9	7	183	114	7	5
2019-2020	38	5	2	168	107	8	5
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	4	4.5	57%	4.4			
2017	4	4	80%	5.4			
2019	5	5.4	100%	6.6			
Trend	stable	up	up	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3	3	1	
2017			4		1	
2019			4		1	
Trend			stable	down	stable	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
6	100%	0%	80%	20%	100%	184	5		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Used 50% 6 year old rams =6 ram tags. Lower average age rams killed because of hunters hunting the easier Eastgate Hills. Mountain is tough to hunt for the average hunter.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 202

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	71	8	3	200	122	7	8
2017-2018	121	10	12	202	121	6	8
2019-2020	35	2	2	170	103	7	5
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	4	6.5	100%	2			
2017	6	5.2	100%	1.7			
2019	5	5.4	100%	1.8			
Trend	stable	down	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			4			
2017			6			
2019			6			
Trend			up			

Ram Quota Recommendations

Total Ram Quota						Resident		Nonresident		
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	100%	0%	100%	202	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Continued lion mortality coupled with highway mortality. So similar tag quota as of 2019.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 204

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	61	4	1	64	40	2	2
2017-2018	21	2	1	65	38	4	2
2019-2020	0			59	36	4	2
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012							
2017	0						
2019	2	4.5	100%	2			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012						
2017			1			
2019			2			
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
2	100%	0%	80%	20%	100%	204	2		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Two rams harvested aged 4 and 5. Keep at 2 tags.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 205, 207

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	311	39	25	500	285	17	17
2017-2018	462	41	46	676	394	23	23
2019-2020	359	48	49	546	324	18	18
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	18	5.7	100%	5.6			
2017	28	5.8	94%	3.4			
2019	14	6.2	70%	5.4			
Trend	up	up	down	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			14		4	
2017			25		4	
2019			18		2	
Trend			up		stable	

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
13	100%	0%	85%	15%	70%	205	8		1	
					30%	207	3		1	

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Die off fall of 2019. Conservative quota to allow for unknown adult ram mortality.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 206, 208

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	73	11	9	150	98	5	4
2017-2018	88	9	9	275	179	4	8
2019-2020	129	12	12	241	139	8	8
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	6.5	67%	2.3			
2017	6	6.5	86%	10.4			
2019	1	7	33%	8.3			
Trend	down	stable	down	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3			
2017			7			
2019			4			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
4	100%	0%	100%	0%	100%	206, 208	4		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

1 ram harvested out of 4 tags. Rams observed were in the Garfield Hills and the Candalaria Hills.

Reporting Biologist: Salisbury

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 211

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	Not Conducted	Not Conducted	Not Conducted	396	228	20	13
2017-2018	294	48	15	425	260	20	13
2019-2020	315	36	19	442	274	18	13
Trend	up	down	up	up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	6.6	90%	5.2			
2017	9	6.7	75%	3.5			
2019	12	6.8	92%	5.2			
Trend	up	stable	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			9		1	
2017			10		2	
2019			12		1	
Trend			up		stable	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
14	100%	0%	90%	10%	100%	211	13		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Based off harvest criteria in the bighorn plan, the 8% of total rams and the 50% of 6 plus rams indicates the quota should be 14. This is a slight increase from last year. However, all metrics including average age in the harvest indicate it can sustain this increase.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 212

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	Not Conducted	Not Conducted	Not Conducted	500	278	31	18
2017-2018	Not Conducted	Not Conducted	Not Conducted	429	231	25	16
2019-2020	230	47	16	362	198	22	13
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	7.2	90%	6			
2017	14	7.3	88%	2.9			
2019	13	7.8	93%	2.2			
Trend	up	stable	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			10			
2017			7	6	1	2
2019			6	6	1	1
Trend			up	up	stable	stable

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
18	50%	50%	90%	10%	100%	212	8	8	1	1
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Based off our bighorn management plan it indicates that a minimum of 13 tags be allotted. However, based off harvest average age and effort (average days hunted) I am recommending a quota of 18.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 213

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	338	40	19	609	345	41	21
2017-2018	Not Conducted	Not Conducted	Not Conducted	556	323	31	19
2019-2020	Not Conducted	Not Conducted	Not Conducted	411	222	17	15
Trend	stable	stable	stable	down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	6.4	82%	4.5			
2017	19	5.6	95%	2.4			
2019	14	5.9	88%	3			
Trend	up	stable	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			9		2	
2017	40	4	8	8	2	2
2019	50	5	7	6	2	1
Trend	up	up	up	up	stable	stable

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
16	55%	45%	80%	20%	100%	213	7	6	2	1
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags
222	24	11%		24	71%	30	3

Quota and Population Objective Rationale

Based off harvest criteria in the bighorn plan (8% of total rams and 50% of 6 plus rams) the ram quota should be 16. As the population objective is achieved through harvest and modeling exercises I recommend a reduction in ewe harvest.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 223, 241

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	135	8	8	232	156	5	6
2017-2018	165	7	12	186	113	12	6
2019-2020	21	2	3	186	111	10	5
Trend	stable	stable	stable	stable	stable	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested 223,241/241	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3 / 1	6.7 / 3	75% / 50%	13.5/15.5			
2017	2 / 3	7 / 5.7	50% / 100%	2 / 11			
2019	3 / 2	7.7 / 7	75% / 100%	7 / 9.5			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	223,241	241	Early	Late
2012			4	2		
2017			4	3		
2019			4	3		
Trend			stable	stable		

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	223,241	241	223,241	241
7	60%	40%	100%	0%	100%	223, 241	4	3	0	0
			0%			241				

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Quality rams are harvested out of both units, hunters report observations of other good rams in 241b. May look at hunt unit structure in season setting 2020.

Reporting Biologist: Munson

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 243

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	72	2	8	148	96	4	4
2017-2018	123	10	8	162	99	7	5
2019-2020	158	14	11	180	111	9	5
Trend	up	up	up	up	up	up	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	1	8	0%	8.5			
2017	1	6	25%	12.3			
2019	2	10	40%	9.2			
Trend	up	up	up	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			4			
2017			4			
2019			5			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	100%	0%	100%	243	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Limited harvest due to difficult access. Ram groups observed moving into other hunt units that may not be available during hunting season.

Reporting Biologist: Munson

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 244

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2014-2015	128	12	12	130	81	7	4
2018-2019	123	9	17	130	79	7	4
2019-2020	--	--	--	130	80	5	4
Trend				stable	stable	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2014	5	6.6	100%	6.2	--	--	--
2018	7	8.1	100%	5.4	--	--	--
2019	5	6.8	100%	12.6	--	--	--
Trend	up	stable	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2014	--	--	4	--	--	--
2018	--	--	6	--	--	--
2019	--	--	6	--	--	--
Trend			up			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	100%	0%	100%	244	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 200-225

In 2019, hunters had difficulty accessing the east side of the Arrow Canyon Range. Evidently, the Moapa Band of Paiutes Tribal Council adopted a more restrictive general public access policy. The average hunt duration among five participating tag holders was 12.6 days.

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 252

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	not conducted			326	210	12	9
2017-2018	91	15	9	214	154	10	5
2019-2020	not conducted			147	123	8	3
Trend				down	down	stable	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	8	6.4	100%	7.6			
2017	8	6	100%	5.3			
2019	3	9.7	75%	8.5			
Trend	down	up	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			8			
2017			8			
2019			4			
Trend			down			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
4	100%	0%	100%	0%	100%	252	4		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Based off harvest criteria in the bighorn plan, the 8% of total rams and 50% of 6 plus rams ram harvest should be 4. Disease has been affecting this herd for the past 6 years. Lamb recruitment has essentially been non-existent.

Reporting Biologist: Bennett

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 253

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2014-2015	265	6	19	250	136	9	9
2018-2019	148	24	29	170	83	19	7
2019-2020	--	--	--	140	73	18	5
Trend	down	up	up	down	down	up	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2014	8	7	100%	3.5	--	--	--
2018	7	5.7	100%	6.6	11	79%	0
2019	7	7.4	100%	2.6	--	--	--
Trend	stable	stable	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2014	--	--	8	--	--	--
2018	13	1	7	--	--	--
2019	--	--	7	--	--	--
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
7	100%	0%	100%	0%	100%	253	7		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 254

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2015-2016	69	7	2	80	44	5	3
2018-2019	133	11	6	130	91	6	3
2019-2020	--	--	--	130	89	6	3
Trend	up			up	up	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2015	2	7	100%	2.5	--	--	--
2018	3	4.3	100%	8.3	--	--	--
2019	2	6.5	67%	9.5	--	--	--
Trend	stable	stable	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2015	--	--	2	--	--	--
2018	--	--	3	--	--	--
2019	--	--	3	--	--	--
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
3	100%	0%	100%	0%	100%	254	3		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 200-225

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 261

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2014-2015	129	13	13	180	109	8	6
2018-2019	82	12	2	150	93	9	4
2019-2020	--	--	--	150	94	8	4
Trend				down	down	stable	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2014	5	7.2	63%	8.0	--		
2018	3	6.0	50%	8.3	--	--	--
2019	3	7.7	50%	4.3	--	--	--
Trend	down	up	down	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2014	--	--	7	--	1	--
2018	--	--	5	--	1	--
2019	--	--	5	--	1	---
Trend			down		stable	

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
4	100%	0%	75%	25%	100%	261	3		1	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 225

3 Res & 1 Nres. Overall hunter success in 2018 & 2019 = 50%.

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 262

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	234	16	24	270	159	17	9
2016-2017	156	17	13	170	108	12	5
2019-2020	--	--	--	140	91	8	4
Trend	down		down	down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	8.5	33%	10.7	--	--	--
2016	6	6.7	100%	2.8	--	--	--
2019	6	7.7	86%	5.3	--	--	--
Trend	up				--	--	--

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	5	--	1	--
2016	--	--	5	--	1	--
2019	--	--	4	--	1	--
Trend			stable		stable	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	80%	20%	100%	262	4		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 600

Note: 2019 Harvest included two Heritage rams. It appears an underrepresented ram age cohort (lambs in 2014) has advanced to trophy age (6 years).

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 263

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	231	8	11	450	268	27	14
2016-2017	239	6	27	275	175	26	8
2019-2020	--	--	--	190	136	14	5
Trend				down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	11	6.8	92%	6.8	--	--	--
2016	6	6.3	86%	7.2	--	--	--
2019	8	6.5	100%	2.6	--	--	--
Trend	down	down	stable	down	--	--	--

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	8	--	2	--
2016	--	--	5	--	1	--
2019	--	--	7	--	1	--
Trend			stable		stable	

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
8	100%	0%	90%	10%	100%	263	7		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 500

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 264 - 266

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	128	12	19	310	186	14	10
2017-2018	61	0	2	160	105	11	4
2019-2020	39	0	0	140	86	11	4
Trend	down	down	down	down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	8	5.8	88%	4.5	--	--	--
2017	2	7.5	33%	11	--	--	--
2019	2	6.5	100%	15.5	--	--	--
Trend	down	stable	stable	up	--	--	--

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	264,265	266	264,265	266
2012	--	--	4	4	--	1
2017	--	--	5	1	--	0
2019	--	--	1	1	--	0
Trend			down	down		

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
2	100%	0%	100%	0%	50%	264,265	1		0	
					50%	266	1		0	

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 600-700

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 267

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	--	--	--	300	200	12	8
2017-2018	271	24	8	300	200	12	8
2019-2020	251	14	23	300	200	12	8
Trend	stable	stable	stable	stable	stable	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	8	7.5	100%	3.5	--	--	
2017	8	7.1	89%	2.5	--	--	
2019	10	8.1	100%	4.8	--	--	
Trend	up	up	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	267		267	
2012	--	--	7	--	1	--
2017	--	--	8	--	1	--
2019	--	--	8	--	1	--
Trend			stable	stable	stable	stable

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
10	100%	0%	90%	10%	100%	267	9		1	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 268

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	--	--	--	600	325	33	22
2017-2018	642	60	80	700	375	39	26
2019-2020	480	31	54	650	335	37	25
Trend	stable	stable	stable	down	down	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	29	6.8	97%	4.2	--	--	31
2017	27	7.6	100%	3.9	29	64%	
2019	29	7.6	97%	4.4	50	75%	
Trend	up	up	stable	stable	up	up	

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	268		268	
2012	--	--	24		4	
2017	40	5	22		4	
2019	60	7	24		4	
Trend			stable	stable	stable	stable

Ram Quota Recommendations

Total Ram Quota	Early %	Late %					Resident		Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
32	100%	0%	87%	13%	100%	268	28		4	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags
275	60	17.9%		60	75%	72	8

Quota and Population Objective Rationale

Population Objective: ??

In the latter half of 2019, lack of water availability in the Muddy Mountains likely resulted in death for some bighorn sheep. Thus, survivorship was adjusted downward in the population model to reflect approximately an 8% contraction. Ram to ewe ratios encountered in the last five aerial surveys: (2014-100 rams:100 ewes), (2015-116 rams:100 ewes), (2016-104 rams:100 ewes), (2017-94 rams:100 ewes), (2019-73 rams:100 ewes).

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 271

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	216	29	25	309	186	12	10
2017-2018	91	13	8	305	199	12	8
2019-2020	144	15	12	300	197	9	8
Trend	stable	stable	stable	stable	stable	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	8	6.8	73%	6.6			
2017	12	7.8	100%	5.1			
2019	8	8.4	80%	9.5			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			9		2	
2017			10		2	
2019			9		1	
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
9	100%	0%	90%	10%	100%	271	8		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Survey, harvest, and model show a decrease in older ageclass of rams. Possibly remove NR hunt for 2021.

Reporting Biologist: Munson

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 272

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	--	--	--	130	80	5	4
2017-2018	81	3	8	90	59	6	3
2019-2020	55	7	5	90	58	6	3
Trend				down	down	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	1	8	50%	9	--	--	--
2017	2	7.5	100%	19.5	--	--	--
2019	0	--	0%	0	--	--	--
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	2	--	--	--
2017	--	--	2	--	--	--
2019	--	--	1	--	--	--
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
1	100%	0%	100%	0%	100%	272	1		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Unit 272 is remote and vast and sparsely populated by bighorn sheep. Hunter success over the last ten years (2010 - 2019) was 55%.

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 280

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	65	4	12	100	57	8	3
2017-2018	109	4	5	130	81	5	4
2019-2020	--	--	--	160	102	5	4
Trend	up	stable		up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	7	60%	6.4	--	--	--
2017	3	9.7	100%	1.7	--	--	--
2019	3	9.7	60%	5.6	--	--	--
Trend	stable	up	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	5	--	--	--
2017	--	--	3	--	--	--
2019	--	--	5	--	--	--
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	100%	0%	100%	280	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 200-225

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 281

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	49	2	5	180	108	7	6
2017-2018	111	6	10	220	128	8	7
2019-2020	--	--	--	200	120	8	6
Trend				stable	stable	stable	

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	8.3	60%	5.4	--	--	--
2017	6	7.7	86%	2.9	--	--	--
2019	3	8.7	50%	7.7	--	--	--
Trend	stable	up	down	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	5	--	--	--
2017	--	--	7	--	--	--
2019	--	--	6	--	--	--
Trend			stable			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
6	100%	0%	100%	0%	100%	281	6		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 300-320

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 282

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	83	4	9	120	74	7	3
2017-2018	77	8	5	140	93	5	4
2019-2020	57	4	4	150	97	7	4
Trend	down	down	down	up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	5	7.6	83%	5.2	--	--	--
2017	4	8.3	80%	4	--	--	--
2019	3	9	75%	12.5	--	--	--
Trend	down	up	stable	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	6	--	--	--
2017	--	--	5	--	--	--
2019	--	--	4	--	--	--
Trend			down			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
4	100%	0%	100%	0%	100%	282	4		0	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 283 - 284

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	168	6	21	300	175	23	10
2017-2018	186	12	12	230	140	15	7
2019-2020	77	6	6	220	134	11	7
Trend	down			down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	6	7	86%	5.6	--	--	--
2017	7	7.4	100%	9.3	--	--	--
2019	5	7.6	100%	6.4	--	--	--
Trend	down	up	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	6	--	1	--
2017	--	--	6	--	1	--
2019	---	--	4	--	1	--
Trend	--	--	down		stable	

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
5	100%	0%	80%	20%	100%	283 - 284	4		1	
			0%							

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 800-1000

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Desert Bighorn

Unit Group: 286

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	84	4	9	140	78	9	5
2017-2018	230	7	13	150	93	8	5
2019-2020	148	11	8	170	99	5	5
Trend	up			up	up	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	1	5	33%	5.7	--	--	--
2017	3	8	100%	2.3	--	--	--
2019	5	8.6	100%	9.8	--	--	--
Trend	up	up	up	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012	--	--	3	--	--	--
2017	--	--	3	--	--	--
2019	--	--	5	--	--	--
Trend			up			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
5	100%	0%	100%	0%	100%	286	5		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

Reporting Biologist: Cummings

Supervisor: Kimble

Bighorn Sheep Quota Recommendation Form

Subspecies: Rocky Mountain Bighorn

Unit Group: 074

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	24	4	5	54	30	2	2
2017-2018	26	3	3	27	14	2	1
2019-2020	20	3	2	35	18	3	1
Trend	down	stable	down	up	up	up	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	7	100%	3			
2017	0						
2019	0			13			
Trend	down			up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3			
2017			0			
2019			1			
Trend			down			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
1	100%	0%	90%	10%	100%	074	1		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Because this herd is still recovering from a disease event and might still have active shedders, the more conservative tag number was chosen. There were at least two mature rams observed on survey and there are likely more due to the lack of a comprehensive aerial survey in the unit this year.

Reporting Biologist: Huebner

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: Rocky Mountain Bighorn

Unit Group: 091

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	42	7	6	42	20	4	2
2017-2018	43	4	4	45	30	4	1
2019-2020	38	2	4	42	28	3	1
Trend	up	down	stable	down	down	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	9	100%	6.5			
2017	1	9	100%	7			
2019	1	10	100%	1			
Trend	stable	stable	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			2			
2017			1			
2019			1			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
0	100%	0%	90%	10%	100%	091	0		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

There will be one ram tag offered to a Utah resident for 2020.

Reporting Biologist: Huebner

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: Rocky Mountain Bighorn

Unit Group: 114

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	34	0	3	75	45	5	2
2017-2018	33	5	4	84	50	4	3
2019-2020	17	1	0	94	56	3	2
Trend	down	down	down	up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	1	2	50%	6.5			
2017	3	6.3	75%	15.3			
2019	2	5.5	67%	10			
Trend	stable	up	stable	stable			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			2			
2017			2	2		
2019			2	1		
Trend			stable	stable		

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
3	66%	34%	100%	0%	100%	114	2	1	0	0
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Aerial surveys were difficult in this unit this spring due to open conditions. A 2019 summer ground survey resulted in a higher sample than the spring aerial survey. A total of 53 bighorn were observed yielding sex and age ratios of 78 rams:100 ewes:52 lambs. The population model is showing a stable population in 2020. Two hunters harvest in 2019 and one hunter turned their tag in and it was not reissued. This hunt continues to be physically and mentally challenging, despite mature rams being available to harvest. Quota recommendations are the same as in 2019.

Reporting Biologist: Menghini

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: Rocky Mountain Bighorn

Unit Group: 115

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	24	2	3	36	22	2	1
2017-2018	29	1	1	40	22	2	1
2019-2020	9	2	1	49	29	3	2
Trend	down	up	stable	up	up	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	1	8	100%	6			
2017	0		0%				
2019	2	3	100%	10			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012				1		
2017				1		
2019				2		
Trend				up		

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
2	0%	100%	100%	0%	100%	115		2		0
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Aerial surveys were difficult in this unit this spring due to open conditions. Collared bighorn were in upper elevations, in thick trees, and in ledges. Some collared bighorn were not located, despite knowing the general areas they were in. Other uncollared bighorn were located in lower elevations indicating that bighorn were scattered and difficult to find. Two tags were issued in 2019 for the first time. Both hunters harvested young rams. The current population estimate is stable. Similar to unit 114, this hunt is physically and mentally challenging. Quotas recommendations are the same as in 2019.

Reporting Biologist: Menghini

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 011, 013

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	na	na	na	na	na	na	na
2017-2018							
2019-2020							
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	na	na	na		na		na
2017	na	na	na		na		na
2019	na	na	na		na		na
Trend							

Previous Quotas

	Rams Harvested	Average Age Harvested Rams	Ewes		Ram Resident		Ram Nonresident	
			Res	NR	Early	Late	Early	Late
2012	na	na	na		na		na	
2017	na	na	na		na		na	
2019	na	na	na		na		na	
Trend								

Ram Quota Recommendations

Total Ram Quota	Resident		Nonresident		Unit(s)
	Early %	Late %	Early	Late	
	100%	0%	80%	20%	011, 013
			0%		

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 250

No hunting as of yet - Population Objective of 250 animals in Hays Canyon unit 013 and Coleman and Massacre Rims in hunt unit 011. Unit 011 current stable to decreasing trend, 013 Hays Canyon current stable to increasing trend.

Reporting Biologist: Hampson

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 012

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	96	8	8	280	165	16	9
2017-2018	131	8	9	154	98	5	4
2019-2020	131	11	5	181	112	6	5
Trend	up	up	down	up	up	stable	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	7	7.7	64%	8.8			
2017	4	7.3	100%	10			
2019	4	7.8	100%	7			
Trend	stable	up	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			9		2	
2017			3		1	
2019			3		1	
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
5	100%	0%	80%	20%	100%	012	4		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: **350**

Estimates and trend in the last few years is upward and this herd or hunt unit could support an additional tag in 2020. However, we only observed 5 mature rams on survey in this hunt unit. Unit 012 is a large hunt unit and could support 350 to 400 bighorn. Augmentations planned in the near future could help bolster this herd further and allow for continued herd growth and expansion. Augmentations are planned in areas where densities of sheep are low and will help to increase numbers in these underutilized areas of unit 012.

Reporting Biologist: Hampson

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 014

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	59	5	1	119	76	7	3
2017-2018	30	3	2	132	81	3	4
2019-2020	47	0	0	120	76	2	4
Trend	stable	down	down	down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	5.3	100%	4.7			
2017	2	7	67%	3.7			
2019	1	7	50%	12.5			
Trend	down	stable	down	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3			
2017			3			
2019			2			
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
2	100%	0%	80%	20%	100%	014	2		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: **250**

Quotas for 2020 are expected to stay at 2 tags. Lack of mature rams and lower numbers of sheep have impacted hunting of CBHS in this hunt unit over the past few years. Population Objective of 250. The recent augmentation will hopefully bolster this population of sheep. However, mountain lion predation may be partially limiting herd growth.

Reporting Biologist: Hampson

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 022, 021

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	60	1	1	119	75	5	3
2017-2018	26	3	5	109	63	6	4
2019-2020	53	7	4	90	58	3	3
Trend	up	up	stable	down	stable	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	6.7	100%	8			
2017	2	6.5	67%	9.7			
2019	2	8	100%	4			
Trend	stable	up	up	up			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			3			
2017			3			
2019			2			
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
3	100%	0%	100%	0%	100%	022, 021	3		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: **200**

Quotas increased by 1 tag in 2019. Recommended quota for 2020 should remain at 3 tags. Sufficient rams are available but are limited due to small population size. Population estimates have been pulled back in this unit in recent years due to significant loss of habitat from very large wildfires.(200,000 ac). Sheep hunting areas can be difficult to access due to private lands (ranches) closing off access. Pyramid Lake tribal lands also limit access from east side of hunt unit.

Reporting Biologist: Hampson

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 031

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	140	21	8	209	101	14	9
2017-2018	93	7	9	140	74	10	5
2019-2020	111	4	3	137	76	7	5
Trend	up	down	down	down	up	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	10	7.4	91%	4			24
2017	4	7	100%	5.3			
2019	6	6.7	86%	7.7			10
Trend	up	down	down	up			

Previous Quotas

	Res	NR	Ram Resident		Ram Nonresident	
			Early	Late	Early	Late
2012			7		1	
2017			4			
2019			6			
Trend			down			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Res %	NR %	% Split	Unit(s)	Resident		Nonresident	
							Early	Late	Early	Late
6	100%	0%	100%	0%	100%	031	6		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 300

There is more than ample amount of habitat left in this unit. The Montana Mountains will need to be repopulated in the near future. 14 sheep were removed in January 2020 and 19 were removed in 2019 for augmentations. Using lower number for quota due to specialty tags.

Reporting Biologist: Partee

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 032

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	151	24	10	267	143	15	10
2017-2018	115	19	16	370	207	15	13
2019-2020	146	21	11	327	175	16	12
Trend	up	up	down	down	down	up	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	8	8.8	89%	2.1			41
2017	15	6.4	100%	8.3			0
2019	12	6.5	100%	6.4			26
Trend	stable	down	stable	up			

Previous Quotas

					Ewes		Ram Resident		Ram Nonresident	
					Res	NR	Early	Late	Early	Late
2012							8		1	
2017							12		2	
2019							10		1	
Trend							up		stable	

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
12	100%	0%	90%	10%	100%	032	11		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags
			10				

Quota and Population Objective Rationale

Population Objective: **400+**

This unit is expansive with multiple mountain ranges, which can all support additional bighorns. 10 ewes were removed in January 2020 for an augmentation. Using lower number for quota due to specialty tags.

Reporting Biologist: Partee

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 033

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	57	7	11	158	98	6	5
2017-2018	83	1	1	109	61	4	3
2019-2020	66	9	4	116	72	3	3
Trend	stable	stable	down	down	down	down	down

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	6	6.2	100%	9.5			
2017	2	7	100%	3.5			
2019	3	7	100%	14			
Trend	down	up	stable	down			

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			4		2	
2017			2			
2019			3			
Trend			down			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
3	100%	0%	100%	0%	100%	033	3		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: **300**

Quotas were increased by 1 tag in 2019. 2020 recommended quotas should remain at 3 tags. Hunting bighorn on the Sheldon remains a challenge but sufficient mature rams are available. Low densities and expansive amount of habitat make it difficult to located sheep. Population objective is currently estimated at 300 sheep but the Sheldon CBHS population was impacted by long-term drought between 2007 and 2015. Other factors include sheep movements outside of hunt unit into unit 032 and north into the state of Oregon.

Reporting Biologist: Hampson

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 034

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	152	12	14	225	123	14	8
2017-2018	166	2	4	251	139	15	9
2019-2020	91	11	4	313	171	17	11
Trend	down	up	stable	up	up	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	9	7.7	100%	6.7			25
2017	8	7.8	89%	10.3			
2019	7	6.4	88%	5.5			
Trend	down	down	down	down			

Previous Quotas

	Res	NR	Ram Resident		Ram Nonresident	
			Early	Late	Early	Late
2012			9			
2017			8		1	
2019			7		1	
Trend			down			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Resident				Nonresident	
			Res %	NR %	% Split	Unit(s)	Early	Late
11	100%	0%	80%	20%	100%	034	9	2
			0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 300+

Still available unoccupied habitat within this unit. Using lower number due to specialty tags

Reporting Biologist: Partee

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 035

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	44	2	5	134	88	2	4
2017-2018	88	7	0	212	124	7	7
2019-2020	162	8	5	289	172	11	9
Trend	up	up	up	up	up	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	3	5	100%	7.3			
2017	4	6.8	100%	6.8			
2019	5	6.4	71%	6.6			
Trend	up	up	down	down			

Previous Quotas

					Ewes		Ram Resident		Ram Nonresident	
					Res	NR	Early	Late	Early	Late
2012							3			
2017							3		1	
2019							6		1	
Trend							up			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
9	100%	0%	85%	15%	100%	035	8		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: **300+**

Bighorns continue to expand into additional areas of little-used or unused habitat in the Jackson Mountains. More habitat is available and unoccupied. Bloody Runs is an addition to this area.

Reporting Biologist: Partee

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 041

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	23	1	2	34	18	2	1
2017-2018	25	2	3	61	31	3	2
2019-2020	31	2	3	50	28	2	2
Trend				down			

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	season	closed					
2017	1	5	100%	10			
2019	1	10	100%	13			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			0			
2017			1			
2019			1			
Trend			stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
1	100%	0%	100%	0%	100%	041	1		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective:

All specialty tags (Heritage, PIW& Dream) are not permitted to hunt CBHS in Unit 041 in 2020 to preserve hunt quality and quantity. Recommend 1 tag for 2020. There are concerns about a limited number of mature rams available for the 2020 season due to ongoing mountain lion predation.

Reporting Biologist: Neill

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 051

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	94	11	4	222	157	4	5
2017-2018	143	14	7	158	103	5	4
2019-2020	118	5	3	127	82	4	4
Trend	down	down	down	down	down	down	stable

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	2	7.5	100%	6			
2017	5	6.6	100%	14.2			
2019	3	6.3	75%	6.5			
Trend	stable	down	stable	up			

Previous Quotas

					Ewes		Ram Resident		Ram Nonresident	
					Res	NR	Early	Late	Early	Late
2012							2			
2017							4			
2019							2		1	
Trend							stable			

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
3	100%	0%	80%	20%	100%	051	2		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	2019 % Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Population Objective: 350

Enough room for expansion into formerly occupied and new areas. Population has been limited by disease.

Reporting Biologist: Partee

Supervisor: Scott

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 066

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013							
2017-2018							
2019-2020							
Trend							

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012							
2017	0			28			
2019	0			4			
Trend							

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			0			
2017			1			
2019			1			
Trend						

Ram Quota Recommendations

Total Ram Quota							Resident		Nonresident	
	Early %	Late %	Res %	NR %	% Split	Unit(s)	Early	Late	Early	Late
	100%	0%	100%	0%	100%	066	0		0	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	% Succ	Res Tags	NR Tags

Quota and Population Objective Rationale

Reporting Biologist: Jeffress

Supervisor: Donham

Bighorn Sheep Quota Recommendation Form

Subspecies: California Bighorn

Unit Group: 068

Year 2020

Survey and Model Results

Year	Survey Total	Survey 4-5 yr old Rams	Survey 6+ yr old Rams	Pop Estimate	# 1+ Ewes Population	50% 6+ yr old Rams	8% of 1+ Rams
2012-2013	83	5	3	150	83	5	5
2017-2018	144	28	12	126	67	11	5
2019-2020	109	13	3	154	72	13	7
Trend	stable	stable	stable	stable	stable	up	up

Hunt Results and Translocation Removal

Year	Rams Harvested	Average Age Harvested Rams	% Ram Hunter Success	Avg Days Hunted	Ewes Harvested	% Ewe Hunter Success	Ewes Nonlethal Removal
2012	4	3.5	100%	4.3			18
2017	6	5.8	100%	4.8	2	100%	
2019	8	7.3	100%	9.1	1	100%	19
Trend	up	up	stable	up	stable	stable	

Previous Quotas

	Ewes		Ram Resident		Ram Nonresident	
	Res	NR	Early	Late	Early	Late
2012			4			
2017	2		5			
2019	1		7		1	
Trend	stable		up			

Ram Quota Recommendations

Total Ram Quota	Early %	Late %	Resident			Unit(s)	Resident		Nonresident	
			Res %	NR %	% Split		Early	Late	Early	Late
9	100%	0%	90%	10%	100%	068	8		1	
					0%					

Ewe Removal Recommendations

Total Ewe Objective	# Reduce	% Reduce	Nonlethal	Harvest	% Succ	Res Tags	NR Tags
70	2	3%		2	70%	3	0

Quota and Population Objective Rationale

Reporting Biologist: S. Hale

Supervisor: Donham