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ACKNOWLEDGEMENT

The field data contained in these reports is the result of the combined efforts of the Lander Region Wildlife Division personnel including District Wildlife Biologists, District Game Wardens, the Habitat Biologist, the Wildlife Management Coordinator and Region Supervisor, and other Department personnel working at check stations. The authors wish to express their appreciation to all those who assisted in data collection.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR615 - RED DESERT

HUNT AREAS: 60-61, 64

PREPARED BY: GREG HIATT

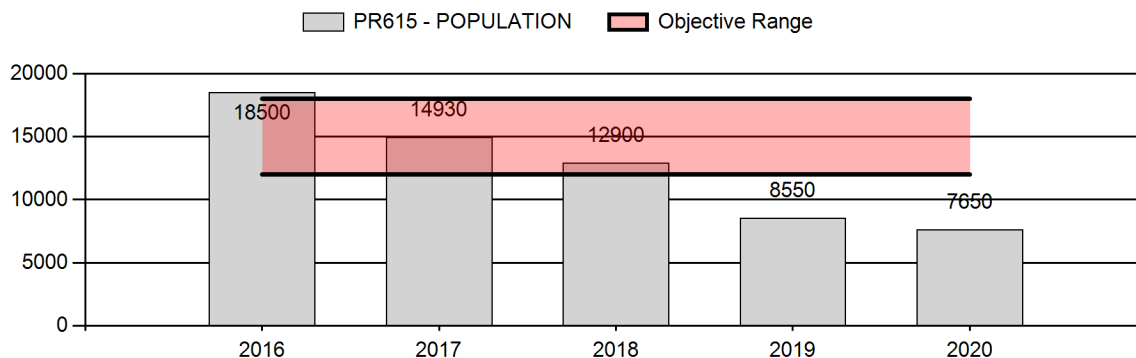
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 14,926 | 7,650 | 7,100 |
| Harvest: | 270 | 275 | 310 |
| Hunters: | 291 | 334 | 365 |
| Hunter Success: | 93% | 82% | 85 % |
| Active Licenses: | 314 | 334 | 365 |
| Active License Success: | 86% | 82% | 85 % |
| Recreation Days: | 923 | 1,203 | 1,225 |
| Days Per Animal: | 3.4 | 4.4 | 4.0 |
| Males per 100 Females | 57 | 55 | |
| Juveniles per 100 Females | 55 | 45 | |

| | |
|---|-----------------------|
| Population Objective (± 20%) : | 15000 (12000 - 18000) |
| Management Strategy: | Special |
| Percent population is above (+) or below (-) objective: | -49% |
| Number of years population has been + or - objective in recent trend: | 3 |
| Model Date: | 3/2/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 11.6% | 15.4% |
| Total: | 3.4% | 4.2% |
| Proposed change in post-season population: | -9.4% | -7.3% |

Population Size - Postseason



**2021 Hunting Seasons
Red Desert Pronghorn (PR615)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--------------|
| | | Opens | Closes | Opens | Closes | | |
| 60 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 50 | Any antelope |
| 61 | 1 | Aug. 15 | Sep. 10 | Sep. 11 | Oct. 31 | 125 | Any antelope |
| 64 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 225 | Any antelope |

2020 Hunter Satisfaction: 81% Satisfied, 9% Neutral, 10% Dissatisfied

2021 Management Summary

1.) **Hunting Season Evaluation:** This herd experienced a severe winter with exceptionally deep snow in 2018-19, causing significant mortality that was observed by both field personnel and hunters. Losses during the 2019-20 winter, which had less snowfall but severe cold that extended from late October through February, were also above average, at least in the eastern portion of the herd unit. These losses, compounded with near-record low fawn crops in 2018 (41:100), 2019 (49:100) and 2020 (45:100) have caused this population to decline.

The current population model for the Red Desert herd indicates this population dropped to roughly 50% below objective range by posthunt 2020. This model is a truncated version of previous models, initiating in 2008 rather than 1993. While initial population estimates in this model are high, removal of 15 years of historic herd data allows the current model to closely align with the three most recent line transect estimates of population size, falling within the 95% confidence intervals of each. Line transect population estimates are derived using a proven and robust scientific methodology and anchoring the spreadsheet model to these independent estimates of herd size, particularly the most recent in 2017, increases confidence in the model's predictions. A line transect survey of this herd rescheduled for spring 2021 should help quantify losses during those two winters and further align the model with another independent estimate of herd size. With the herd so far below objective, doe harvest was eliminated in 2019 and no doe/fawn licenses were offered in 2020 or 2021.

Concurrent with the decline in herd size and fawn production, the buck:doe ratio for this herd dropped from 64:100 in 2017 to 53:100 in 2019 and 55 in 2020. Most of this decline occurred in Area 60, dropping from 79:100 in 2018 to only 48:100 in 2020. Buck:doe ratios remained low in Area 61, at only 51:100 in 2020, but improved to 67:100 in Area 64.

Hunter success and satisfaction in 2019 and 2020 reflected the population losses during the 2018-19 and 2019-20 winters. Hunter satisfaction in this herd declined again in 2020 from record lows seen in 2019 (Figure 1.). Both general dissatisfaction and strong dissatisfaction were again at record highs. Less than 81 percent of hunters were satisfied with the quality of their hunt experiences in this special management herd, while 97 percent had been

satisfied before those two winters. A record low of only 43 percent of the hunters were strongly satisfied. All of the decline in hunter satisfaction came from Area 61.

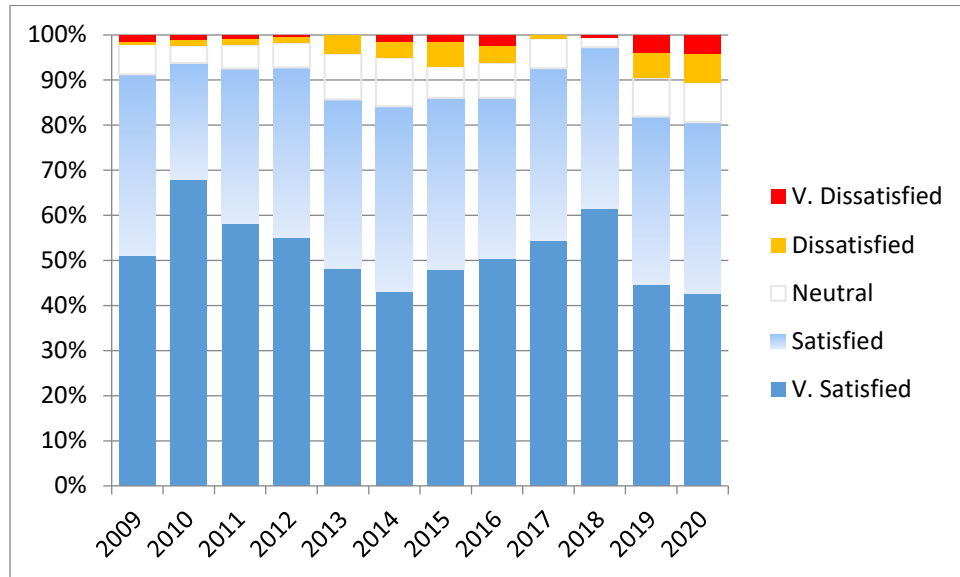


Figure 1. Hunter satisfaction and dissatisfaction for the Red Desert Pronghorn Herd.

In response to losses during the previous winters, harvest was reduced in Area 60 in 2020, and hunter success and satisfaction increased in that area. Similar improvement was seen in Area 64, with a much higher buck:doe ratio, with success rising to 88% and satisfaction to 87%. Beginning in 2019, Area 61 was included in a Department sponsored study to examine the effects of harvest on buck quality in pronghorn populations. Area 61 was designated a ‘control’ area for the study with the intent to maintain current management for the duration of the study through 2022. Despite this decision, the harvest quota for Area 61 was increased in 2020. As a result, hunter success in Area 61 declined to a record low of only 75% and hunter satisfaction declined to 74%, also a record low. Hunter dissatisfaction with their hunt experience in this herd was a record high 10% in 2020, and was highest in Area 61 at 13%.

Department and University personnel checked and measured horn length of 38 percent of the bucks harvested from this herd in 2020, well above the 14 percent checked in 2019 and the 10 percent checked statewide. Department personnel and check stations were most effective checking buck harvest from Area 61 at 43 percent, compared to 31 percent from Area 60 and 37 percent from Area 64. Hunters in this herd found noticeably fewer bucks in the 14 inch range in 2020, with more than half measuring only 12 inches to 13 inches (Figure 2.). This was likely due to loss of older age classes during the 2019-20 winter and stunting of horn growth of surviving bucks from physiological stresses during that same winter.

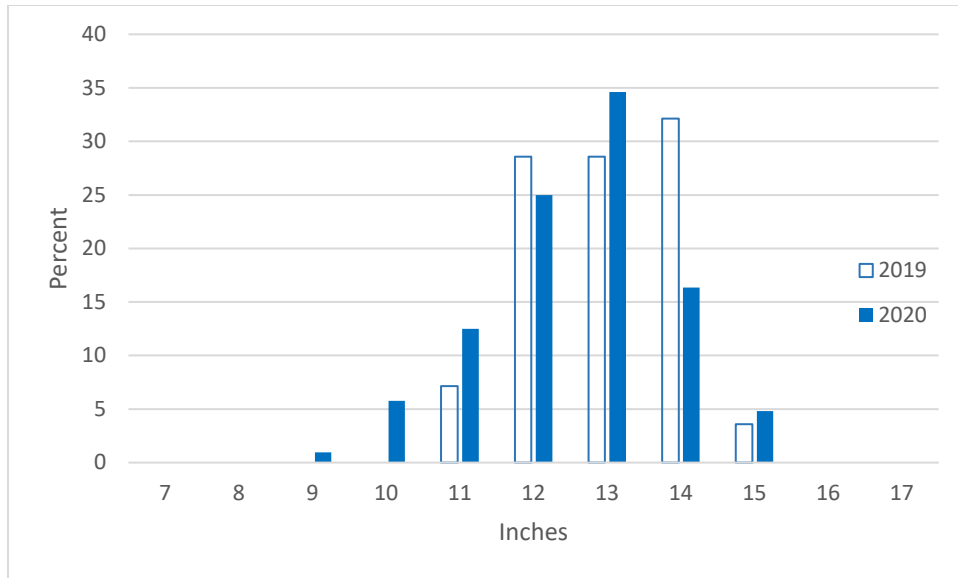


Figure 2. Percentages by horn length of pronghorn bucks checked from the Red Desert Pronghorn Herd in 2019 and 2020.

The largest bucks measured from this herd in 2020 were 15.8 inches long, slightly longer than the maximum of 15.6 inches measured in 2019. In 2020, 21 percent of the bucks checked from this herd were 14 inches or more in length, less than the 34 percent in this size range in 2019 but well above the 8 percent seen in this size range statewide. Average horn length in the Red Desert herd dropped from 13.5 inches in 2019 to 13 inches in 2020, but still exceeded the statewide average of 12 inches. Within the three hunt areas, average horn length ranged from 12.8 inches in Area 64 to 13.4 inches in Area 60. Overall, in 2020 hunters in the Red Desert herd enjoyed a supply of bucks with longer horns than available in most of the rest of the state (Figure 3.). Two of the ten longest bucks checked and measured in Wyoming in 2020 were harvested in the Red Desert herd.

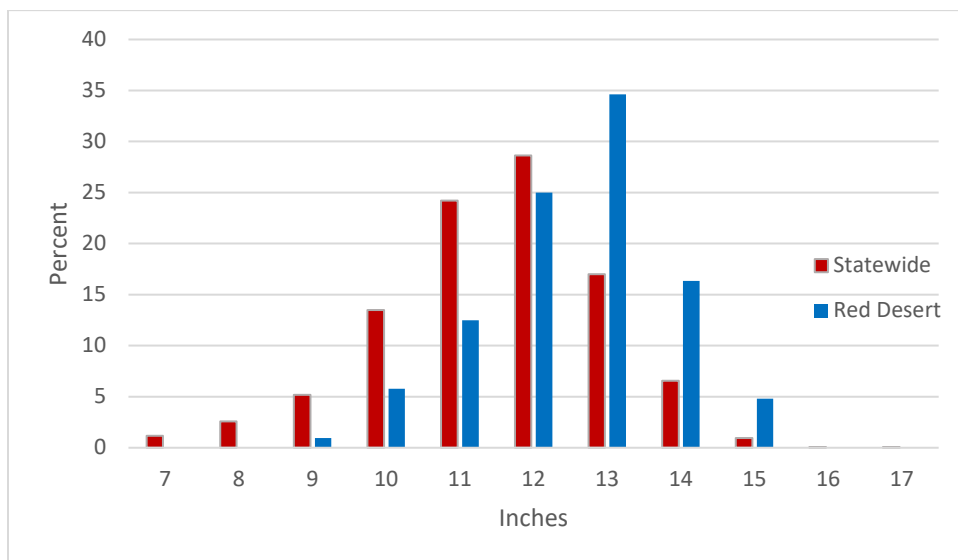


Figure 3. Percentages by horn length of pronghorn bucks checked from the Red Desert Pronghorn Herd compared to statewide in 2020.

From 2018 through 2020, reported harvests represented 8.5 % of the males estimated to be in this herd. Despite the poor success and low satisfaction seen in 2020, license quotas in 2021 were increased to achieve a desired 15% harvest rate on adult males. All of the increase was added to Area 64, along with a slight adjustment of 25 licenses from Area 61. License quotas for 2021 represent 19.9% of the bucks predicted to be in the herd this year, a significant increase in harvest rate given that many pronghorn in the checker-boarded southeastern portion of Area 61 are unavailable for most hunters to access.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR630 - IRON SPRINGS

HUNT AREAS: 52, 56, 108

PREPARED BY: GREG HIATT

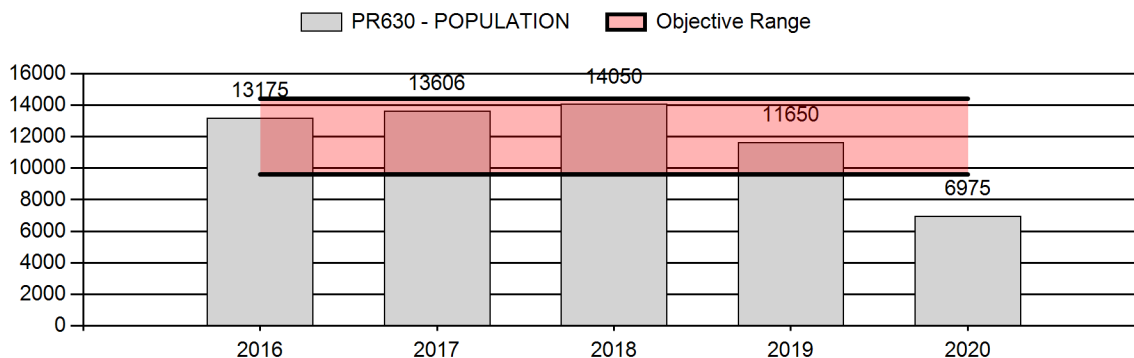
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 13,270 | 6,975 | 7,260 |
| Harvest: | 750 | 767 | 515 |
| Hunters: | 733 | 786 | 595 |
| Hunter Success: | 102% | 98% | 87 % |
| Active Licenses: | 869 | 934 | 595 |
| Active License Success: | 86% | 82% | 87 % |
| Recreation Days: | 2,534 | 3,079 | 1,800 |
| Days Per Animal: | 3.4 | 4.0 | 3.5 |
| Males per 100 Females | 54 | 49 | |
| Juveniles per 100 Females | 48 | 42 | |

| | |
|---|----------------------|
| Population Objective (± 20%) : | 12000 (9600 - 14400) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -41.9% |
| Number of years population has been + or - objective in recent trend: | 1 |
| Model Date: | 3/11/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 7.6% | 4.5% |
| Males ≥ 1 year old: | 20.2% | 15.8% |
| Total: | 9.8% | 6.6% |
| Proposed change in post-season population: | -43% | 4% |

Population Size - Postseason



**2021 Hunting Seasons
Iron Springs Pronghorn (PR630)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 52 | 1 | Aug. 15 | Sep. 15 | Sep. 16 | Oct. 31 | 150 | Any antelope |
| 52 | 2 | Aug. 15 | Sep. 15 | Sep. 16 | Nov. 14 | 150 | Any antelope valid south of North Spring Creek |
| 52 | 6 | Aug. 15 | Sep. 15 | Sep. 16 | Oct. 31 | 100 | Doe or fawn |
| 52 | 7 | Aug. 15 | Sep. 15 | Sep. 16 | Nov. 14 | 150 | Doe or fawn valid south of North Spring Creek |
| 56 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 31 | 50 | Any antelope |
| 108 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 31 | 50 | Any antelope |
| 108 | 7 | Aug. 15 | Sep. 19 | Sep. 20 | Nov. 30 | 25 | Doe or fawn valid south of the Bridger Pass Road (B.L.M. Road 3301), east of the Continental Divide and north of the Miller Hill Road (Carbon County Road 505W) |

2020 Hunter Satisfaction: 73% Satisfied, 12% Neutral, 13% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: Much of this herd was believed to have avoided the severe losses seen in neighboring herds during the 2019-20 winter, but classification and harvest data in 2020 indicate that was not the case. The 2020 classification sample was the smallest in at least 40 years and was almost half that collected prior to the previous two winters, despite being collected by the same personnel in the same areas. The 2020 yearling buck:doe ratio, an indicator of winter fawn survival, was only 6:100, the lowest in at least 40 years. At 42:100, fawn production in 2020 was the second lowest in 20 years. As expected, losses were more extreme in the northern portion of the herd, with Area 108 having only 1 yearling buck:100 does, and 16:100 fawns.

Hunter success and satisfaction in 2020 also reflected the severe losses during the 2019-20 winter. Hunter success in Areas 108 and 56 dropped to 68% and 73%, all-time record lows. Hunters in Area 52 fared better, with 89% success. Hunter satisfaction dropped in all three areas and was a record low of 75% for the herd (Figure 1.). Area 108 had an all-time record low of 62 percent satisfaction, well below the average of 84% in the previous 5 years. Hunter dissatisfaction was a record high 12% for the herd, and 18% for Area 108.

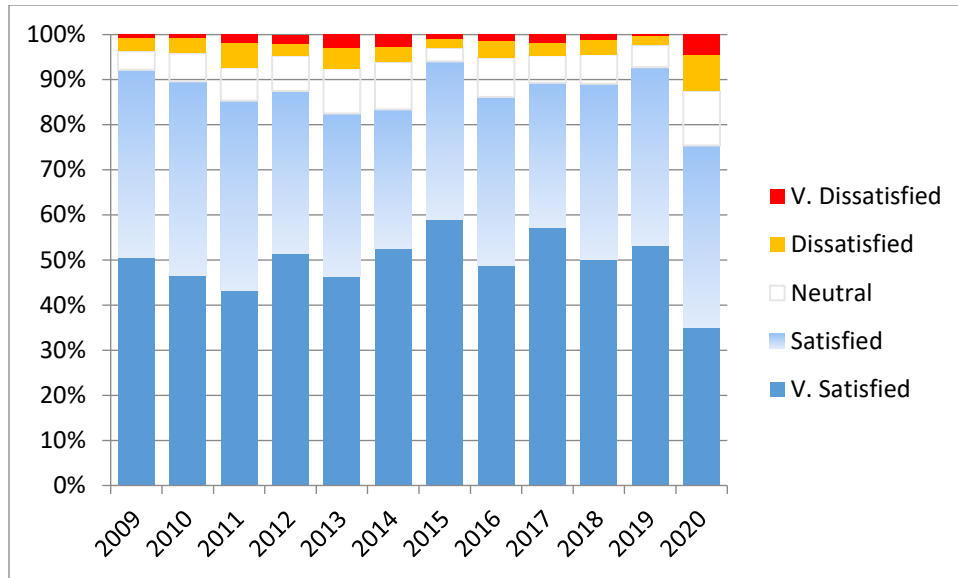


Figure 1. Hunter satisfaction and dissatisfaction in the Iron Springs Pronghorn Herd.

Department and University personnel checked and measured horn length of 10 percent of the bucks harvested from this herd in 2020, nearly the same percentage as in 2019 and matching the statewide average. Department personnel and check stations were most effective checking harvest from Area 108 at 37 percent, compared to 18 percent from Area 56 and 7 percent from Area 52. Hunters in this herd found noticeably fewer bucks in the 12-13 inch range in 2020, with almost half measuring only 10 inches to 11 inches (Figure 2.). This was likely due to loss of older age classes during the 2019-20 winter and stunting of horn growth of surviving bucks from physiological stresses during that same winter.

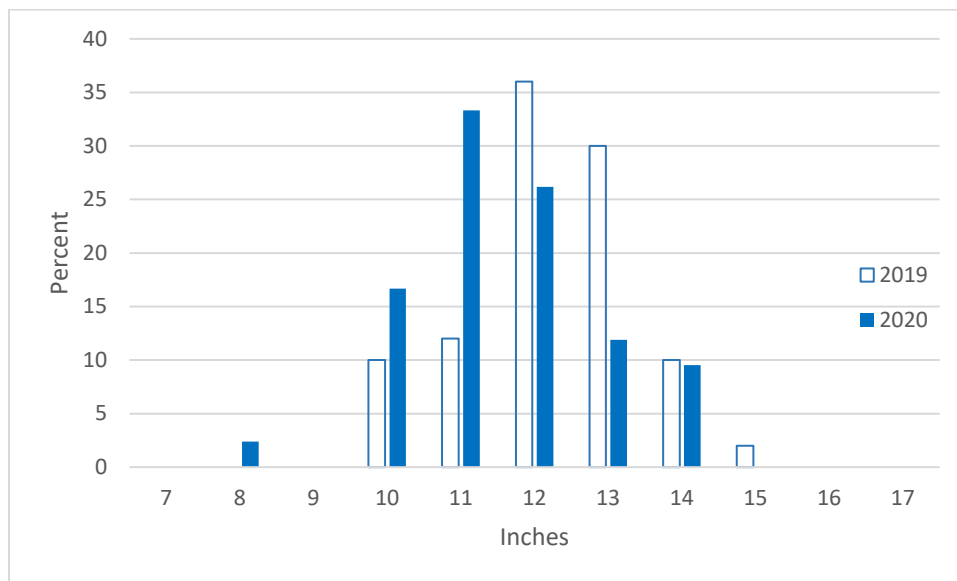


Figure 2. Percentages by horn length of pronghorn bucks checked from the Iron Springs Pronghorn Herd in 2019 and 2020.

The largest buck measured from this herd in 2020 was 14.7 inches long, more than an inch shorter than the maximum of 15.9 inches measured in 2019. In 2020, only 10 percent of the bucks checked from this herd were 14 inches or more in length, slightly less than the 12 percent seen in 2019 but greater than the 8 percent in this size range measured statewide in 2020. Average horn length in the Iron Springs herd dropped from 12.7 inches in 2019 to 12.1 inches in 2020, at the statewide average, and was similar between the three hunt areas. Overall, hunters in the Iron Springs herd in 2020 pursued a supply of bucks that had horn lengths similar to that available in the rest of the state (Figure 3.).

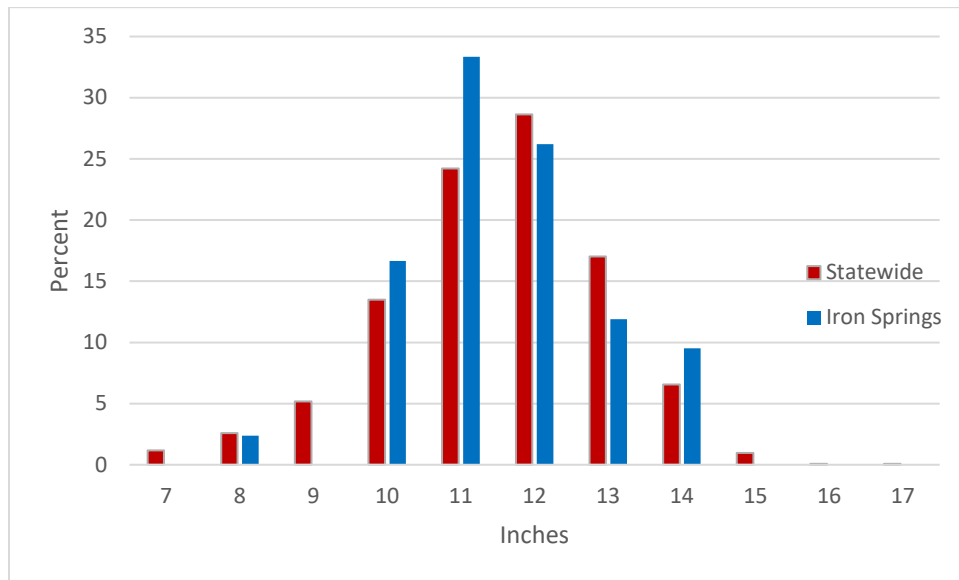


Figure 3. Percentages by horn length of pronghorn bucks checked from the Iron Springs Pronghorn Herd compared to statewide in 2020.

Incorporating these classification and harvest data, the herd model predicts roughly half the population was lost during the 2019-20 winter, and the herd was more than 40% below objective at posthunt 2020. Harvest adjustments for the winter losses were made in the northern portion of the herd in 2020, but model estimates, harvest data, hunter satisfaction and hunter comments indicate these adjustments were not adequate, and reductions are also warranted in the southern portion in Area 52. While doe harvest is not necessary with the herd so far below objective, some Type 6 and 7 licenses were retained in Areas 52 and 108 to address damage issues.

From 2018 through 2020, reported harvests represented 14.3 % of the males estimated to be in this herd. License quotas for 2021 represent 20% of the bucks predicted to be in the herd this year, below the 25% target, but roughly 90% of the pronghorn in Area 56 and half those in Area 108 are unavailable for harvest due to a lack of access. Pronghorn in major blocks of Area 52, particularly in the southern half, are also unavailable for harvest.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

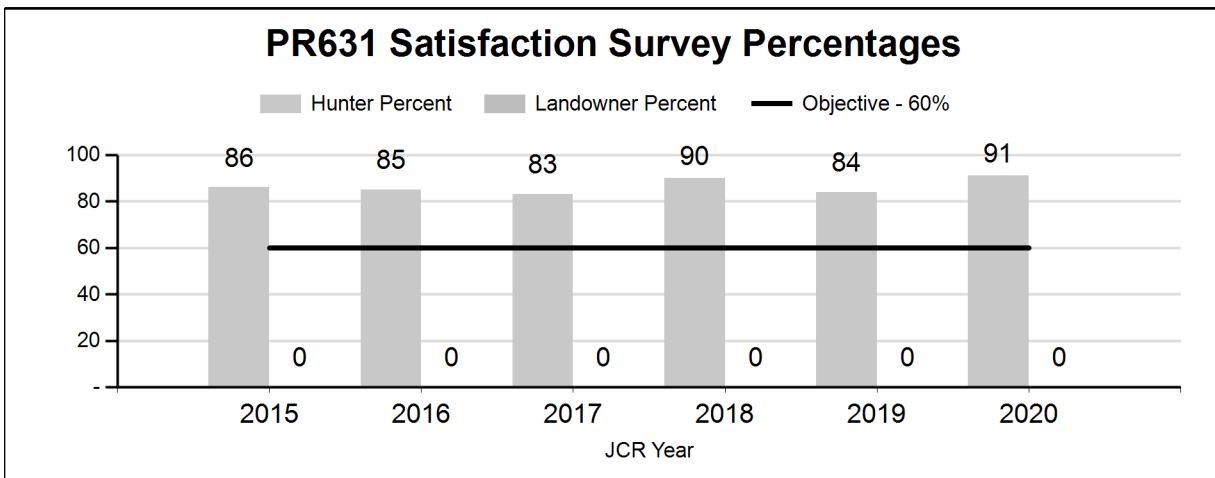
PERIOD: 6/1/2020 - 5/31/2021

HERD: PR631 - WIND RIVER

HUNT AREAS: 84

PREPARED BY: GREG ANDERSON

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---|----------------------------|-------------|----------------------|
| Hunter Satisfaction Percent | 86% | 91% | 90% |
| Landowner Satisfaction Percent | 0% | 0% | 0% |
| Harvest: | 116 | 131 | 125 |
| Hunters: | 129 | 119 | 120 |
| Hunter Success: | 90% | 110% | 104 % |
| Active Licenses: | 157 | 155 | 160 |
| Active License Success: | 74% | 85% | 78 % |
| Recreation Days: | 686 | 626 | 700 |
| Days Per Animal: | 5.9 | 4.8 | 5.6 |
| Males per 100 Females: | 31 | 54 | |
| Juveniles per 100 Females | 43 | 52 | |
| Satisfaction Based Objective | | | 60% |
| Management Strategy: | | | Recreational |
| Percent population is above (+) or (-) objective: | | | N/A% |
| Number of years population has been + or - objective in recent trend: | | | 0 |



**2021 Hunting Seasons
Wind River Antelope (PR631)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--------------|
| | | Opens | Closes | Opens | Closes | | |
| 84 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 100 | Any antelope |
| 84 | 6 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 75 | Doe or fawn |

2020 Hunter Satisfaction: 91% Satisfied, 7% Neutral, 2% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The hunt season in area 84 has remained unchanged for the past five years. During that time period, anecdotal evidence indicates the population has fluctuated year to year based on environmental factors but it does not appear harvest pressure has had a great influence on the population. This herd inhabits mountain foothill areas throughout much of the summer and fall including isolated parks in conifer covered areas. Given the terrain inhabited by many of the antelope in the herd, classification sampling is difficult and sample sizes are typically small. In addition, there is believed to be a high rate of interchange with the Wind River Reservation. These factors preclude modeling the population. Instead the herd has a hunter satisfaction objective with the goal to have 60% of hunters satisfied. This goal has been met over the past five year period with satisfaction ranging from 83% to 91% in 2020. Given no obvious trends up or down in hunter success, relatively stable hunter satisfaction, and no damage complaints from landowners license quotas for 2021 will remain unchanged to provide the same amount of opportunity as the last five years.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR632 - BEAVER RIM

HUNT AREAS: 65-69, 74, 106

PREPARED BY: STAN HARTER

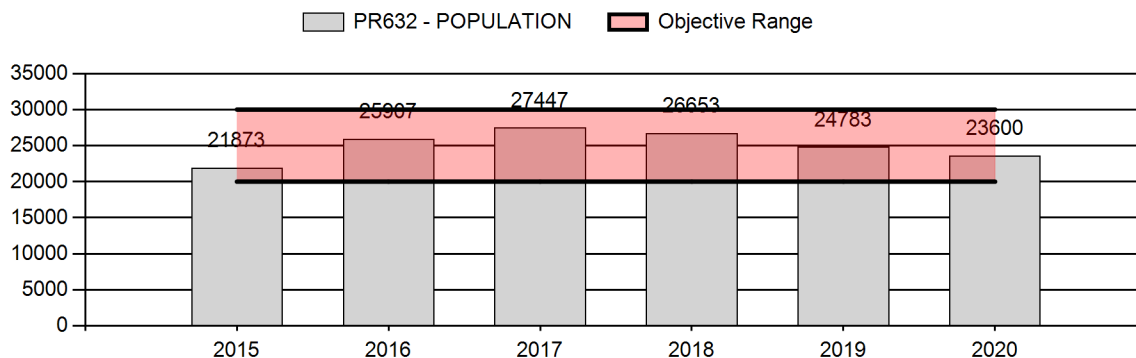
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 25,333 | 23,600 | 24,264 |
| Harvest: | 1,580 | 1,997 | 1,540 |
| Hunters: | 1,643 | 2,113 | 1,700 |
| Hunter Success: | 96% | 95% | 91% |
| Active Licenses: | 1,831 | 2,290 | 1,800 |
| Active License Success: | 86% | 87% | 86% |
| Recreation Days: | 5,108 | 6,009 | 5,500 |
| Days Per Animal: | 3.2 | 3.0 | 3.6 |
| Males per 100 Females | 58 | 58 | |
| Juveniles per 100 Females | 59 | 43 | |

| | |
|---|-----------------------|
| Population Objective (\pm 20%) : | 25000 (20000 - 30000) |
| Management Strategy: | Special |
| Percent population is above (+) or below (-) objective: | -5.6% |
| Number of years population has been + or - objective in recent trend: | 2 |
| Model Date: | 1/21/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females \geq 1 year old: | 4.6% | 1.5% |
| Males \geq 1 year old: | 23.1% | 24.6% |
| Total: | 7.7% | 5.9% |
| Proposed change in post-season population: | -4.8% | +2.8% |

Population Size - Postseason



2021 Hunting Seasons

Beaver Rim Pronghorn (PR632)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|-----------|---------------|----------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 65 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 150 | Any antelope |
| 65 | 7 | Aug. 15 | Aug. 31 | Sept. 1 | Nov. 7 | 100 | Doe or fawn valid north of the Little Popo Agie River, also valid in Area 66 west of the Little Popo Agie River |
| 66 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 150 | Any antelope |
| 67 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 250 | Any antelope |
| 68 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 500 | Any antelope |
| 69 | 1 | Aug. 15 | Sept. 14 | Sept. 15 | Oct. 31 | 150 | Any antelope |
| 69 | 6 | Aug. 15 | Sept. 14 | Sept. 15 | Oct. 31 | 100 | Doe or fawn |
| 74 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 200 | Any antelope |
| 106 | 1 | Aug. 15 | Sept. 17 | Sept. 18 | Oct. 31 | 200 | Any antelope |

2020 Hunter Satisfaction: 90.3% Satisfied, 6.3% Neutral, 3.4% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: This population declined about 5% from 2019 to 2020, plausibly due to a harsh winter in 2019-20, followed by extreme drought in spring/summer 2020. The current population estimate of 23,600 pronghorn is 5.6% below objective. In all, 1,996 pronghorn were harvested in 2020. Pre-season classification data show the fawn/doe ratio decreased to 43J/100F, the lowest in the herd unit's history since 1994. The total buck/doe ratio rose to 58M/100F in 2020. Using standard drive routes for classifying pronghorn annually in this herd unit, sample sizes nearly doubled from 2012 to 2018, but declined by 39% in 2020 compared with 2019. The 2021 hunting seasons are designed to maximize opportunity for bucks and reduce doe/fawn harvest in response to declining population trends. The population is expected to increase by 2.8% to about 24,264 in 2021, toward objective if fawn recruitment improves to the 5-year average and with anticipated harvest. However, buck/doe ratios are expected to remain just below the low end of the special management criteria as estimated using the previous 5-year average, with model projections showing a much reduced ratio of 45M/100F based on low yearling buck/doe ratios in 2019 and 2020, combined with expected poor yearling recruitment following the record low fawn/doe ratio in 2020. Habitats have received minimal precipitation since winter 2019-20 (33-45% below average at Jeffrey City and Lander, respectively), making it very difficult to predict potential age and sex composition going into the 2021 hunting season. Winter 2020-21 has been very mild, with warmer than average temperatures and very limited snow cover on winter ranges. As such, winter survival has been better than expected following the dry conditions experienced in 2020. Precipitation in the form of snow and rain has been closer to average from mid-March to mid-May 2021, and vegetation conditions appear much improved thus far.

Therefore in 2021, doe/fawn license quotas have been reduced or eliminated in all hunt areas to address these losses and concerns. Hunt Area 65 Type 7 licenses will remain to address damage situations and Hunt Area 69 will have a 50% reduction of Type 6 licenses from 2020. Reductions have been made to Type 1 license quotas in 3 hunt areas (67, 69, and 74) in response to declines in buck/doe ratios, especially yearling buck/doe ratios in single digits. Buck harvest in the Beaver Rim herd unit has averaged 20.6% of the pre-season buck population from 2018-2020. Hunt Areas 68 and 106 are part of a University of Wyoming research project comparing how buck pronghorn ages and horn sizes are correlated. Buck/doe ratios remained good in Area 68, allowing retention of 500 Type 1 licenses as a “treatment” for this study to determine if increasing buck harvest has an impact on age and horn size. Area 106 will also have no changes in the Type 1 quota, serving as a “control” for this study. A line-transect (LT) survey will be flown at the end of biological year 2020, after being postponed last year due to Covid-19 restrictions.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR634 - BADWATER

HUNT AREAS: 75

PREPARED BY: GREG
ANDERSON

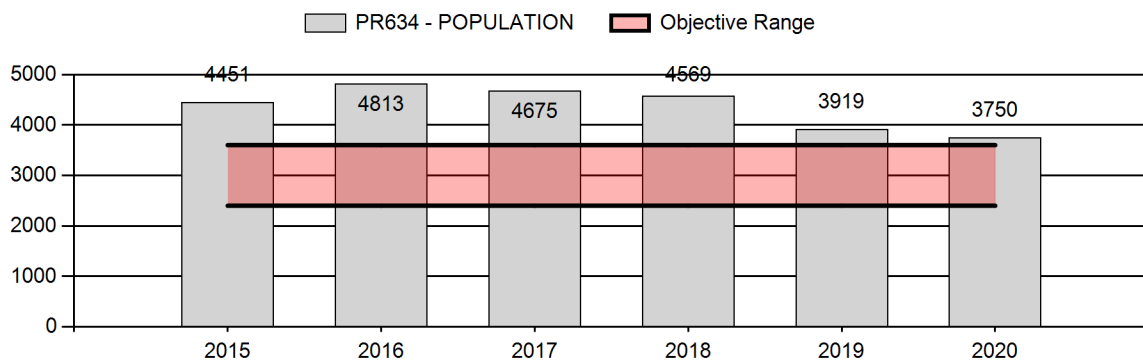
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 4,485 | 3,750 | 3,436 |
| Harvest: | 673 | 740 | 460 |
| Hunters: | 690 | 733 | 425 |
| Hunter Success: | 98% | 101% | 108 % |
| Active Licenses: | 745 | 795 | 485 |
| Active License Success: | 90% | 93% | 95 % |
| Recreation Days: | 1,972 | 1,820 | 1,300 |
| Days Per Animal: | 2.9 | 2.5 | 2.8 |
| Males per 100 Females | 67 | 47 | |
| Juveniles per 100 Females | 69 | 53 | |

| | |
|---|--------------------|
| Population Objective (± 20%) : | 3000 (2400 - 3600) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | 25% |
| Number of years population has been + or - objective in recent trend: | 10 |
| Model Date: | 02/17/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 13% | 8% |
| Males ≥ 1 year old: | 46% | 40% |
| Total: | 16% | 12% |
| Proposed change in post-season population: | -4% | -8% |

Population Size - Postseason



**2021 Hunting Seasons
Badwater Antelope (PR634)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--------------|
| | | Opens | Closes | Opens | Closes | | |
| 75 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 325 | Any antelope |
| 75 | 6 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 175 | Doe or fawn |

2020 Hunter Satisfaction: 86% Satisfied, 9% Neutral, 5% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The Badwater Antelope herd has been above objective for over five years. In addition, the buck/doe ratio has been above the prescribed recreational threshold of 60/100 prior to 2019. To manage the population toward the objective of 3,000 antelope, license numbers in area 75 increased each of the last 6 years prior to 2019. To accommodate a pronghorn growth study being conducted by the University of Wyoming, it was decided to maintain the population at a level above objective to provide year-to-year consistency during the study. In response, license numbers were reduced from 2018 to 2019 in an attempt to maintain the population at approximately 4,000 pronghorn or 33% above objective. An extremely harsh winter in 2019/20 followed by extreme drought in 2020 resulted in very poor survival for the 2019 cohort as evidenced by the historically low yearling buck/doe ratio of 5/100 in 2020. The poor survival combined with low recruitment again in 2020 evidenced by a fawn/doe ratio of 53/100 resulted in a substantial population decline in bio-year 2020 despite the reduction in harvest pressure. Given a precipitous decline in the buck/doe ratio from 59/100 in 2019 to 47/100 in 2020 and poor recruitment in 2020, the population is expected to decline further in 2021. To mitigate the expected decline, licenses will be reduced substantially in 2021. The license reduction is expected to help maintain the buck/doe ratio in the mid 40's/100. Despite the proposed harvest reduction, the population is expected to decline further to approximately 3,400 antelope and be within objective. Also, despite the license decrease, the number of Type 1 licenses issued in 2021 will still allow for potential harvest of 40% of the pre-season buck population. From 2018 through 2020 an average of 45% of the pre-season bucks have been harvested in this herd unit.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

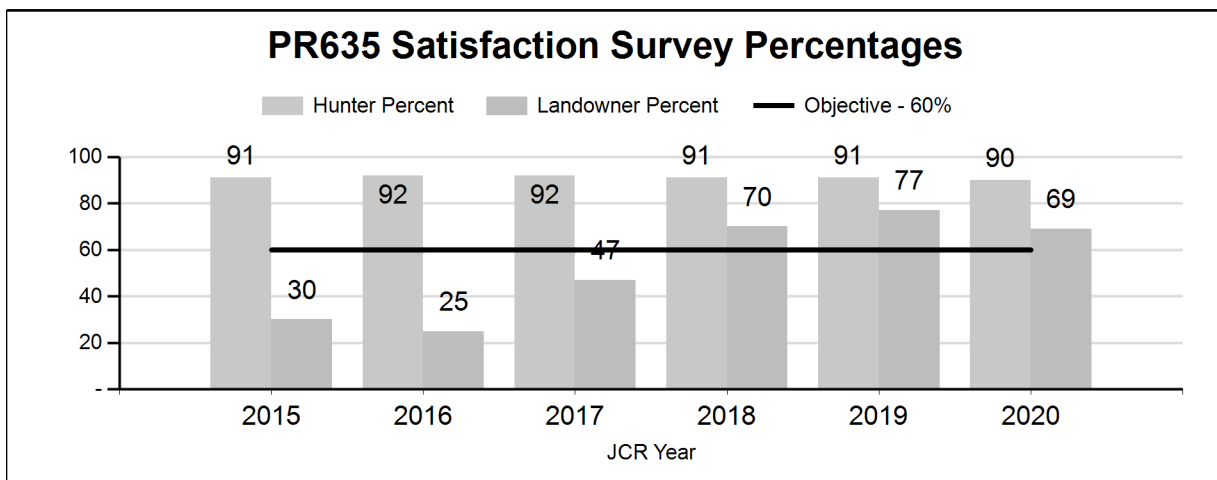
PERIOD: 6/1/2020 - 5/31/2021

HERD: PR635 - PROJECT

HUNT AREAS: 97, 117

PREPARED BY: GREG ANDERSON

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---|----------------------------|-------------|----------------------|
| Hunter Satisfaction Percent | 92% | 90% | 90% |
| Landowner Satisfaction Percent | 50% | 69% | 65% |
| Harvest: | 473 | 468 | 400 |
| Hunters: | 454 | 423 | 400 |
| Hunter Success: | 104% | 111% | 100% |
| Active Licenses: | 536 | 531 | 475 |
| Active License Success: | 88% | 88% | 84% |
| Recreation Days: | 1,685 | 2,167 | 2,000 |
| Days Per Animal: | 3.6 | 4.6 | 5 |
| Males per 100 Females: | 41 | 34 | |
| Juveniles per 100 Females | 53 | 30 | |
| Satisfaction Based Objective | | | 60% |
| Management Strategy: | | | Recreational |
| Percent population is above (+) or (-) objective: | | | 20% |
| Number of years population has been + or - objective in recent trend: | | | 3 |



**2021 Hunting Seasons
Project Antelope (PR635)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 97, 117 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 225 | Any antelope |
| 97, 117 | 2 | | | Aug. 15 | Oct. 31 | 50 | Any antelope valid in Area 97 south of U.S. Highway 26 or Wyoming Highway 134 and east of Eight Mile Road, and in all of Area 117 |
| 97, 117 | 6 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 100 | Doe or fawn |
| 97, 117 | 7 | | | Aug. 15 | Oct. 31 | 150 | Doe or fawn valid in Area 97 south of U.S. Highway 26 or Wyoming Highway 134 and east of Eight Mile Road, and in all of Area 117 |

2020 Hunter Satisfaction: 90% Satisfied, 6% Neutral, 4% Dissatisfied

2020 Landowner Satisfaction: 69% Good # of Ant, 23% Too many Ant, 8% Too few Ant

2021 Management Summary

1.) Hunting Season Evaluation: This herd unit is managed based on a hunter/landowner satisfaction objective. Mixed landownership within the Wind River Reservation (WRR) precludes the collection of good demographic data and population modeling. The satisfaction objective was set in 2013 and personnel have been collecting landowner satisfaction data since 2014. Since the satisfaction objective was set in 2013, hunter satisfaction has remained around 90% annually and was exactly 90% in 2020. Landowner satisfaction has increased dramatically since 2015 when the vast majority of landowners contacted felt there were too many antelope in the area. To address this concern, license issuance increased each year from 2016 through 2019 to increase harvest pressure on antelope. The strategy appeared to work very well as landowner satisfaction began increasing in 2017 and rose above 60% in 2018. Landowner satisfaction remained above 60% in both 2019 and 2020. Although landowner satisfaction decreased slightly from 2019 to 2020 the reason was one landowner commenting there were now too few antelope in the area whereas the consensus for dissatisfied landowners in the past was too many. Since the population met both the hunter and landowner satisfaction objective in 2019 and fawn production was extremely low with a fawn/doe ratio of 38/100 licenses were decreased from 2019 to 2020 to eliminate some harvest pressure. In 2020, fawn recruitment was even lower with a fawn/doe ratio of 30/100. In addition, the buck/doe ratio has been quite low for three consecutive years and was 34/100 in 2020. In response to another year of low fawn recruitment and a buck/doe ratio below 40/100 for three consecutive years, license numbers will decrease again from 2020 to 2021.

Given extremely low recruitment in the area for two years it is unlikely the population will grow over the next year but lower harvest should mitigate the decline. Despite the population declining throughout much of the herd unit over the past several years, Type 2 and 7 license numbers will remain unchanged to address localized damage problems.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR636 - NORTH FERRIS

HUNT AREAS: 63

PREPARED BY: GREG HIATT

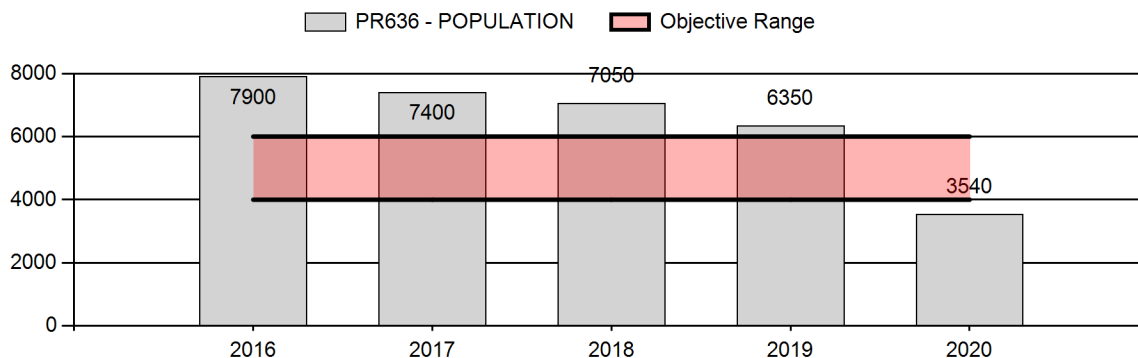
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 7,230 | 3,540 | 4,040 |
| Harvest: | 502 | 632 | 270 |
| Hunters: | 541 | 757 | 340 |
| Hunter Success: | 93% | 83% | 79 % |
| Active Licenses: | 596 | 843 | 340 |
| Active License Success: | 84% | 75% | 79 % |
| Recreation Days: | 1,461 | 2,420 | 910 |
| Days Per Animal: | 2.9 | 3.8 | 3.4 |
| Males per 100 Females | 65 | 73 | |
| Juveniles per 100 Females | 73 | 33 | |

| | |
|---|--------------------|
| Population Objective (\pm 20%) : | 5000 (4000 - 6000) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -29.2% |
| Number of years population has been + or - objective in recent trend: | 1 |
| Model Date: | 3/2/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females \geq 1 year old: | 12.7% | 0% |
| Males \geq 1 year old: | 23.6% | 24.5% |
| Total: | 14.9% | 6.2% |
| Proposed change in post-season population: | -45% | 14% |

Population Size - Postseason



**2021 Hunting Seasons
North Ferris Pronghorn (PR636)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--|
| | | Opens | Closes | Opens | Closes | | |
| 63 | 1 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 125 | Any antelope |
| 63 | 2 | Aug. 15 | Sep. 17 | Sep. 18 | Oct. 31 | 250 | Any antelope valid east of the Buzzard Road (Natrona County Road 410-Carbon County Road 497) |

2020 Hunter Satisfaction: 72% Satisfied, 15% Neutral, 13% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: This herd was believed to have avoided the severe losses seen in neighboring herds during the 2019-20 winter, but 2020 classification data, harvest data, hunter comments and landowner reports of finding hundreds of pronghorn carcasses indicate that was not the case. The 2020 classification sample was the smallest in 6 years and was almost half that collected in 2019. The 2020 yearling buck:doe ratio, an indicator of winter fawn survival, was only 6:100, the lowest since following the 1992-93 winter. The 2020 fawn:doe ratio was only 33:100, also the lowest since 1993.

Hunter success and satisfaction in 2020 reflected the severe losses during the 2019-20 winter. Hunters with Type 1 or 2 licenses averaged only 71% success, a 35-year record low. Hunter satisfaction dropped to a record low of 72% (Figure 1.). Hunter dissatisfaction was a record high at 13% for the herd, almost 6 times the previous 5-year average.

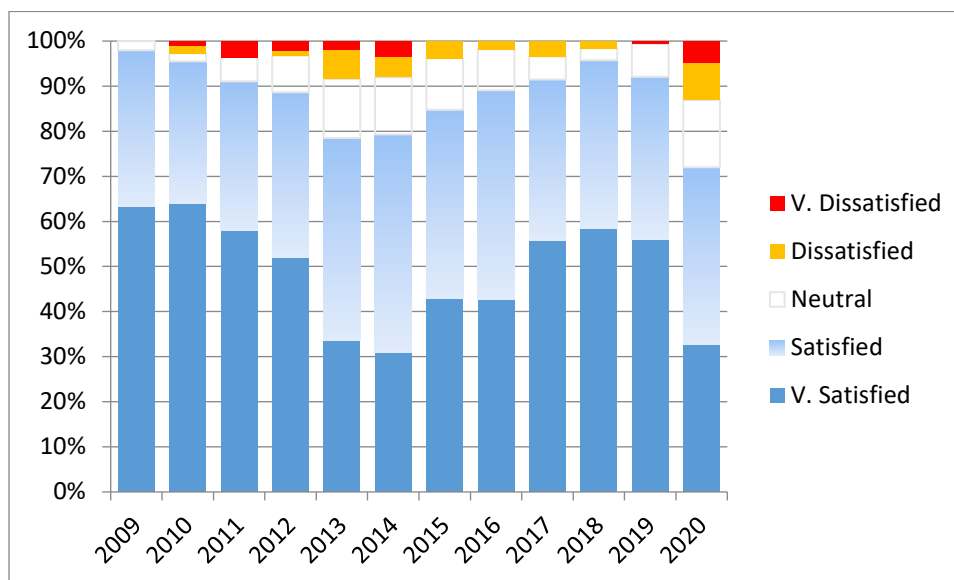


Figure 1. Hunter satisfaction and dissatisfaction in the North Ferris Pronghorn Herd.

Department and University personnel checked and measured horn length of 17 percent of the bucks harvested from this herd in 2020, less than the 23 percent measured in 2019 but well above the statewide average of 10 percent. Hunters in this herd found noticeably fewer bucks in the 12-15 inch range in 2020, with most measuring 10 inches to 11 inches (Figure 2.). This was likely due to removal of older age classes from heavy harvests in previous years, losses of these age classes during the 2019-20 winter, and stunting of horn growth of surviving bucks from physiological stresses during that same winter.

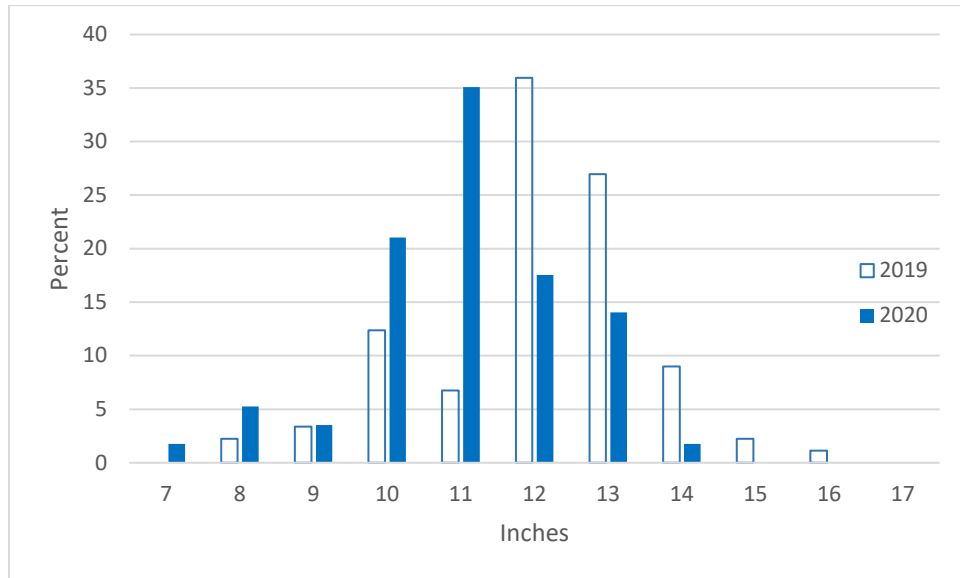


Figure 2. Percentages by horn length of pronghorn bucks checked from the North Ferris herd in 2019 and 2020.

The largest buck in the 2020 sample from this herd was only 14.1 inches long, compared to a maximum of 16.8 inches in 2019. In 2019, 12 percent of the bucks checked from this herd were 14 inches or more in length, but in 2020 only 2 percent reached that size. Statewide, 8 percent of harvested bucks were 14 inches or more in length. Average horn length in the North Ferris herd dropped from 12.5 inches in 2019 to 11.5 inches this year, less than the statewide average of 12 inches. Overall, hunters in the North Ferris herd in 2020 pursued a supply of bucks that was shorter than found in most of the rest of the state (Figure 3.), with more than half these bucks in the 10”-11” range.

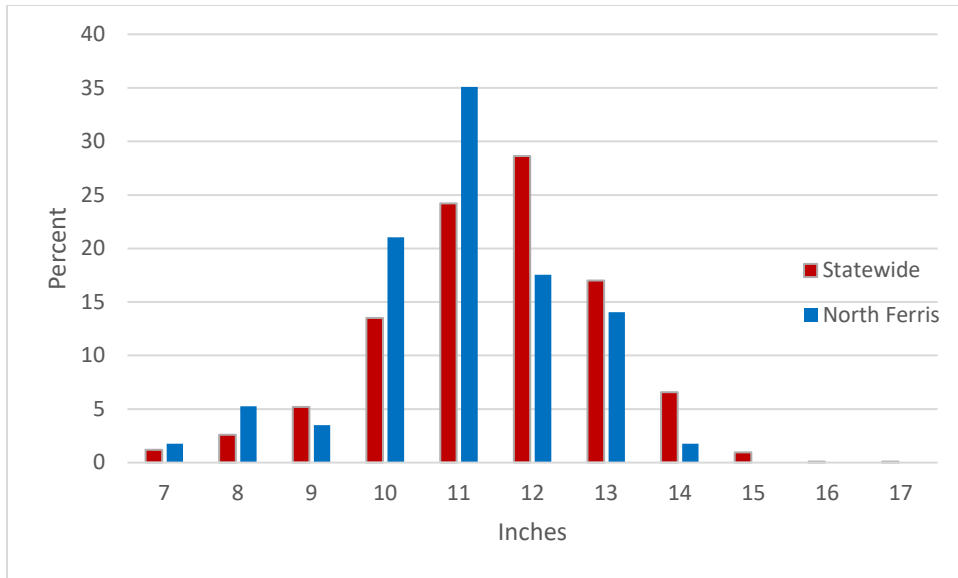


Figure 3. Percentages by horn length of pronghorn bucks checked from the North Ferris Herd compared to statewide in 2020.

Incorporating 2020 classification and harvest data, the herd model predicts roughly 40% of this population was lost during the 2019-20 winter, and the herd was more than 30% below objective at posthunt 2020. With the herd so far below objective, no doe harvest is warranted and Type 6 and 7 licenses are not available in 2021. From 2018 through 2020, reported harvests represented 19.2 % of the males estimated to be in this herd. Quotas for buck harvest in 2021 are intended to achieve the standard 25% harvest rate. Opening dates were shifted to retain a Saturday opener and align with neighboring areas in the Lander Region.

2020 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2020 - 5/31/2021

HERD: PR637 - SOUTH FERRIS

HUNT AREAS: 62

PREPARED BY: GREG HIATT

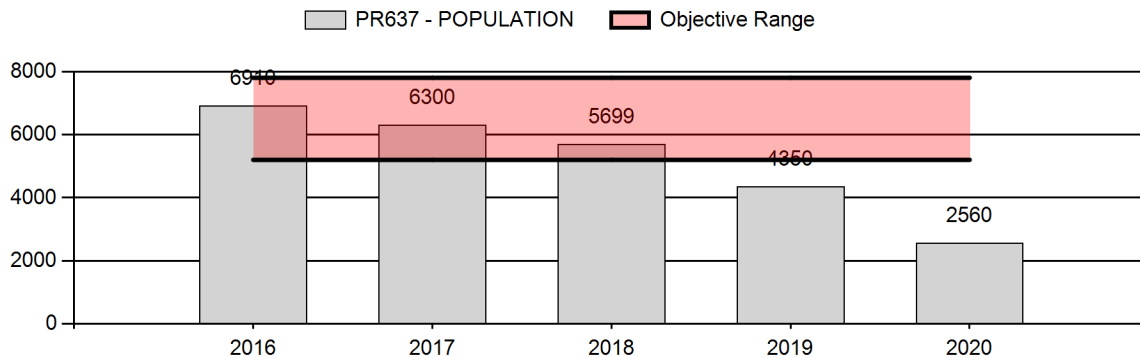
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 5,580 | 2,560 | 2,615 |
| Harvest: | 172 | 66 | 75 |
| Hunters: | 183 | 86 | 90 |
| Hunter Success: | 94% | 77% | 83 % |
| Active Licenses: | 202 | 86 | 90 |
| Active License Success: | 85% | 77% | 83 % |
| Recreation Days: | 552 | 287 | 290 |
| Days Per Animal: | 3.2 | 4.3 | 3.9 |
| Males per 100 Females | 62 | 55 | |
| Juveniles per 100 Females | 45 | 20 | |

| | |
|---|--------------------|
| Population Objective (± 20%) : | 6500 (5200 - 7800) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -60.6% |
| Number of years population has been + or - objective in recent trend: | 2 |
| Model Date: | 3/2/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 7.6% | 9.2% |
| Total: | 2.5% | 2.8% |
| Proposed change in post-season population: | -39% | 2.5% |

Population Size - Postseason



**2021 Hunting Seasons
South Ferris Pronghorn (PR637)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 62 | 1 | Aug. 15 | Sep. 10 | Sep. 11 | Oct. 31 | 50 | Any antelope |
| 62 | 2 | Aug. 15 | Sep. 10 | Sep. 11 | Oct. 31 | 50 | Any antelope valid east of the Continental Divide and north of Wise Dugout Draw |

2020 Hunter Satisfaction: 69% Satisfied, 11% Neutral, 20% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: This herd’s population model and a line transect survey flown in June 2019 indicate this herd is roughly 60 percent below objective size, a result of heavy losses during the 2018-19 and 2019-20 winters and several years of extremely poor fawn production (28:100 in 2019, 20:100 in 2020). With the herd so far below objective, no doe harvest is warranted and no Type 6 licenses are issued. The 2020 yearling buck:doe ratio, an indicator of winter fawn survival, was only 3:100, the lowest in at least 40 years. At 20:100, fawn production in 2020 was the lowest in over 40 years. As expected, effects of the hard winter were more extreme in the eastern (Type 2) portion of the herd, having only 2 yearling bucks:100 does, and 18:100 fawns.

Hunter success and satisfaction in 2020 reflected the severe losses during the 2019-20 winter, despite the cuts in license quotas made that year. Hunter success dropped to 79% and hunter satisfaction dropped to an all-time low of 69% (Figure 1.). Hunter dissatisfaction was a record high 20% for the herd, more than 4 times the previous 5-year average.

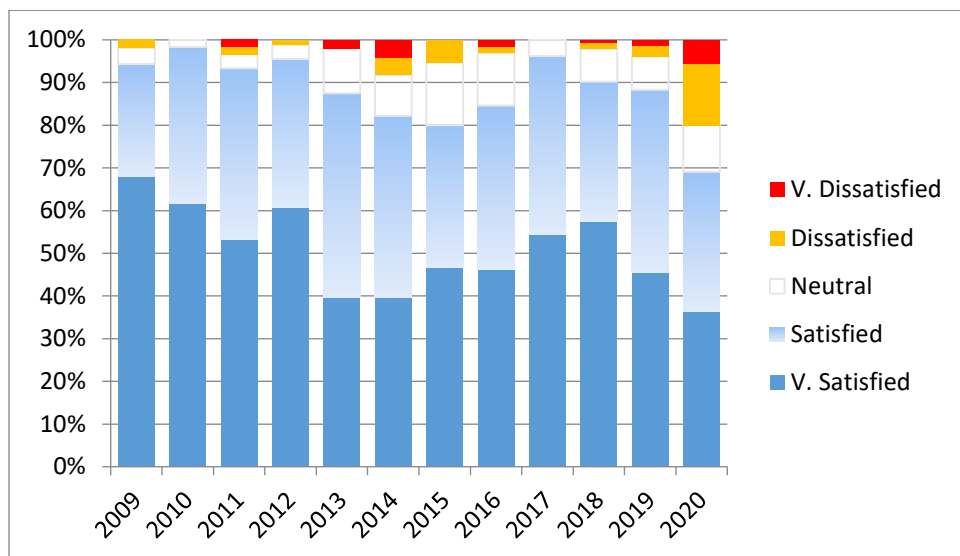


Figure 1. Hunter satisfaction and dissatisfaction in the South Ferris Pronghorn Herd.

Department and University personnel checked and measured horn length of only three bucks harvested from this herd in 2020, representing 4.5% of the reported harvest. This was less than half the 11% checked in 2019 and below the statewide average of 10 percent, despite increased effort and hours afield by field personnel. Hunters reported more days of hunting this year, presumably causing many to miss opening weekends when check stations were established. Hunters reported noticeably fewer bucks in the 13-15 inch range in 2020, with none of the three measured bucks meeting or exceeding 13” (Figure 2.). This was likely due to loss of older age classes during the 2019-20 winter, as well as stunting of horn growth of surviving bucks from physiological stresses during that same winter.

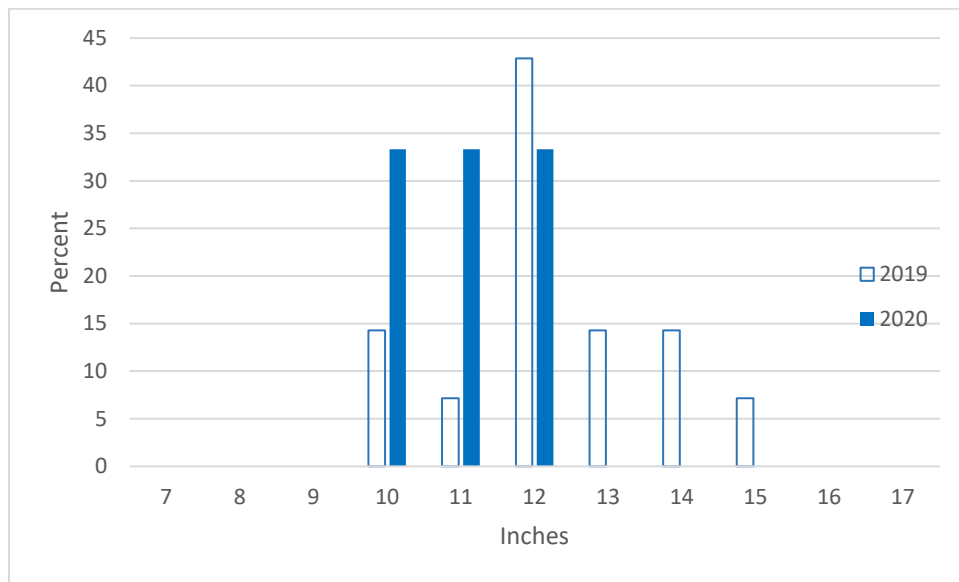


Figure 2. Percentages by horn length of pronghorn bucks checked from the South Ferris herd in 2019 and 2020.

The largest buck in the 2020 sample from this herd was only 12.6 inches long, compared to a maximum of 15 inches in 2019. In 2019, 21 percent of the bucks checked from this herd were 14 inches or more in length, but in 2020 none were. Average horn length in the South Ferris herd dropped from 12.7 inches in 2019 to 11.4 inches this year, less than the statewide average of 12 inches.

From 2018 through 2020, reported harvests represented 7.5 % of the males estimated to be in this herd. License quotas for 2021 represent only 12.2% of the bucks predicted to be in the herd this year, but roughly half the pronghorn in the area are unavailable for harvest due to checker-boarded land ownership and a lack of access. The extremely low yearling buck:doe and fawn:doe ratios observed in 2020 indicate that it will be several years before recruitment can replace bucks that are harvested. Harvests need to remain conservative and well below the standard harvest rate until herd size and productivity reach more normal levels.

2020 - JCR Evaluation Form

SPECIES: Mule Deer
 HERD: MD642 - DUBOIS
 HUNT AREAS: 128, 148

PERIOD: 6/1/2020 - 5/31/2021

PREPARED BY: GREG
 ANDERSON

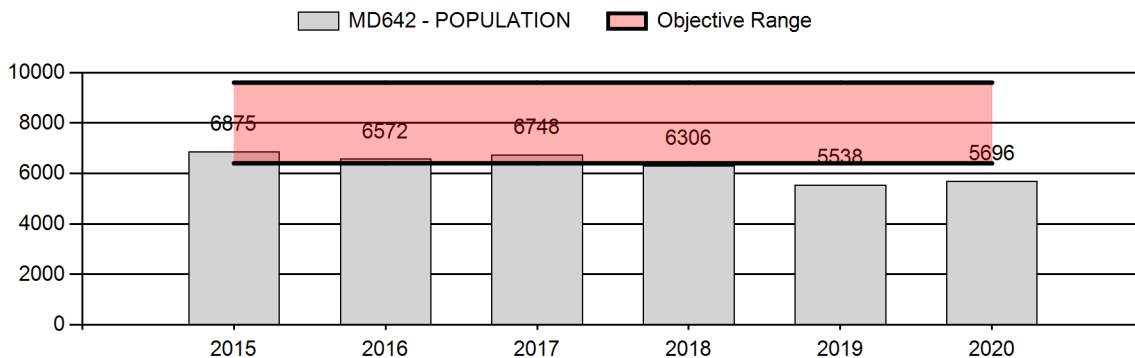
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 6,408 | 5,696 | 5,651 |
| Harvest: | 418 | 250 | 445 |
| Hunters: | 1,130 | 1,067 | 1,200 |
| Hunter Success: | 37% | 23% | 37 % |
| Active Licenses: | 1,140 | 1,081 | 1,250 |
| Active License Success: | 37% | 23% | 36 % |
| Recreation Days: | 6,065 | 6,150 | 6,300 |
| Days Per Animal: | 14.5 | 24.6 | 14.2 |
| Males per 100 Females | 25 | 27 | |
| Juveniles per 100 Females | 54 | 52 | |

Population Objective (± 20%) : 8000 (6400 - 9600)
 Management Strategy: Recreational
 Percent population is above (+) or below (-) objective: -28.8%
 Number of years population has been + or - objective in recent trend: 10
 Model Date: 02/17/2021

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 1% | 1% |
| Males ≥ 1 year old: | 22% | 36% |
| Total: | 4% | 7% |
| Proposed change in post-season population: | +8% | 0% |

Population Size - Postseason



**2021 Hunting Seasons
Dubois Mule Deer (MD642)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--|
| | | Opens | Closes | Opens | Closes | | |
| 128 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 15 | | Antlered mule deer or any white-tailed deer |
| 128 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 20 | 50 | Any deer |
| 128 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 20 | 50 | Any white-tailed deer |
| 128 | 7 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 20 | 50 | Doe or fawn valid on private land |
| 128 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 50 | Doe or fawn white-tailed deer |
| | 8 | | | Nov. 1 | Nov. 20 | | Unused Type 8 licenses valid on private land |
| 148 | Gen | Sep. 1 | Sep. 14 | Sep. 15 | Oct. 25 | | Antlered mule deer or any white-tailed deer |

2021 Region L nonresident quota: 250

2019 Hunter Satisfaction: 52% Satisfied, 21% Neutral, 27% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 mule deer hunting seasons in both areas 128 and 148 will remain unchanged from the 2020 seasons. Indications are the population in the herd unit was relatively stable over the past 3 years with a slight increase from 2019 to 2020. Fawn production was 52/100 in 2020 which was slightly higher than the previous three years and resulted in the small population increase. The buck/doe ratio in the herd unit has been remarkably stable over decades and is typically in the mid-20's/100. In 2020 the buck/doe ratio was 27/100 which is well within the historical range of variation for this herd. The yearling buck/doe ratio was 7/100 and was exactly the same as the five-year average indicating average fawn survival over the year. Although the population increased slightly in 2020, harvest was down significantly with only 225 bucks harvested. This was the lowest harvest since 2011. The days/harvest also increased significantly to 24.6 in 2020. The decline in success and increase in days/harvest can be directly attributed to weather conditions throughout the herd unit. Fall and early winter weather was extremely mild with little snow fall and mild temperatures. The result was mule deer migrating back into the herd unit later than average. Thus, during the general, October season hunters saw far fewer deer than in a typical year with the deer appearing in the herd unit later in October.

While the mule deer population has been stable in the herd unit, casual observations suggest the white-tailed deer population has been growing. In 2019 Type 8 licenses were included in hunt

area 128 to allow increased harvest of white-tailed does. The licenses were also issued in 2020. For 2021, the season dates for these licenses will be extended on private land to encourage hunters to harvest white-tailed deer west of Dubois along the Wind River.

2.) Chronic Wasting Disease Monitoring and Management: This is a Tier 2 surveillance herd that has not yet had a priority sampling year. The herd is currently scheduled for priority sampling in 2022. Past opportunistic sampling indicates CWD prevalence in the herd is extremely low.

3.) As part of a cooperative study with the University of Wyoming 48 adult, doe mule deer were outfitted with GPS collars between March, 2016 and March, 2017. The last of these collars were retrieved in April, 2019. The collar data has been used to document migration routes and timing for deer in the herd. Data from the collars was summarized in a report completed March, 2021.

4.) In 2019, funding was acquired to conduct an assessment of U.S. Highway 26 where it runs through the upper Wind River Valley to determine if modifications can be made to decrease the number of deer/vehicle collisions. Mule deer mortality along the highway has been a persistent problem for decades. Much of the problem stems from the fact the highway parallels the herd's spring/fall migration route and is exacerbated by the fact the highway bisects densely populated winter range. The highway assessment being conducted by Eco Resolutions from Golden, Colorado began in spring, 2020 and will be completed in 2021 with the publication of a mitigation strategy document.

2020 - JCR Evaluation Form

SPECIES: Mule Deer

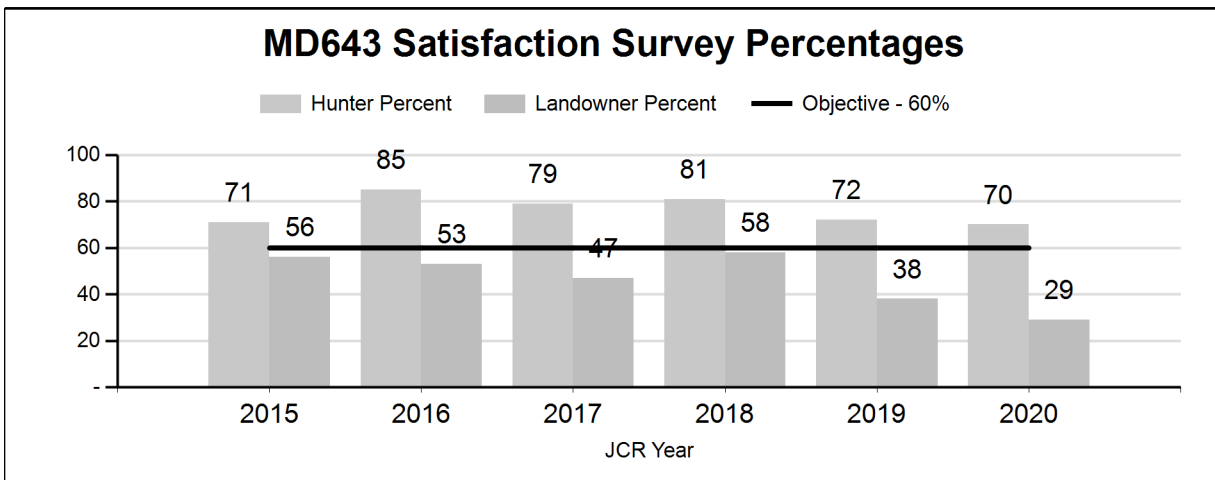
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD643 - PROJECT

HUNT AREAS: 157, 170-171

PREPARED BY: GREG ANDERSON

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---|----------------------------|-------------|----------------------|
| Hunter Satisfaction Percent | 78% | 70% | 65% |
| Landowner Satisfaction Percent | 49% | 29% | 30% |
| Harvest: | 437 | 247 | 250 |
| Hunters: | 610 | 440 | 450 |
| Hunter Success: | 72% | 56% | 56 % |
| Active Licenses: | 705 | 488 | 500 |
| Active License Success: | 62% | 51% | 50 % |
| Recreation Days: | 2,414 | 1,821 | 1,900 |
| Days Per Animal: | 5.5 | 7.4 | 7.6 |
| Males per 100 Females: | 0 | 29 | |
| Juveniles per 100 Females | 0 | 51 | |
| Satisfaction Based Objective | | | 60% |
| Management Strategy: | | | Recreational |
| Percent population is above (+) or (-) objective: | | | -10% |
| Number of years population has been + or - objective in recent trend: | | | 2 |



**2021 Hunting Seasons
Project Mule Deer (MD643)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 157 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 300 | Any deer |
| 157 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 200 | Any white-tailed deer |
| 157 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 10 | 200 | Doe or fawn |
| 157 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 350 | Doe or fawn white-tailed deer |
| 157 | 8 | | | Nov. 1 | Nov. 30 | | Doe or fawn white-tailed deer valid on private land |
| 171 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | | Any deer |
| 171 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 100 | Any white-tailed deer |
| 171 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 250 | Doe or fawn |

2020 Hunter Satisfaction: 70% Satisfied, 12% Neutral, 18% Dissatisfied

2020 Landowner Satisfaction: 29% Good # of MD, 24% Too many MD, 47% Too few MD

2021 Management Summary

1.) Hunting Season Evaluation: This herd unit is managed based on a hunter/landowner satisfaction objective. Mixed landownership within the Wind River Reservation (WRR) precludes the collection of good demographic data and population modeling. The satisfaction objective was set in 2013 and personnel have been collecting landowner satisfaction data since 2014. Since 2014, hunter satisfaction has consistently been above the objective 60% threshold however it has decreased each of the last 3 years from 81% in 2018 to 70% in 2020. The decline in hunter satisfaction has coincided with a perceived decline in deer numbers based on casual observations by personnel. In 2018 and 2019, 0% of landowners surveyed responded they thought mule deer numbers were too low. In contrast, 48% of landowners in 2020, and 47% of landowners in 2021 responded they felt there were too few mule deer. This dramatic shift in landowner sentiment supports hunter and department personnel observations indicating a substantial population decline in the herd. To reduce harvest pressure in the herd, Type 6 licenses were cut by 50% from 400 in 2019 to 200 in 2020.

In 2019 the Department initiated focused CWD sampling in this herd unit that had never been intensively sampled in the past. Focused CWD sampling will be ongoing in 2021 given appropriate personnel resources. While prevalence data is still preliminary for the herd unit,

sampling from 2019 and 2020 indicate CWD prevalence in hunt area 157 is likely above 50% in adult male mule deer. The impact of such a high rate of prevalence on the population is unknown but it is certainly possible CWD could have been a contributing factor in the perceived population decline over the past 2 years in addition to harvest pressure. Despite indications that hunter satisfaction is continuing to decline and landowners are increasingly expressing concern about low numbers of mule deer, the 2021 season will remain unchanged. This level of harvest pressure may curtail growth in the population but the Department believes prudent disease mitigation in an area with such high levels of CWD include maintaining the population at a lower level than in the recent past. Discussions are ongoing concerning the collection of better demographic data in the herd which will be helpful in determining the best course of action to mitigate high prevalence of CWD in the future.

While most landowners now believe mule deer numbers are too low, the vast majority of landowners still feel white-tailed deer numbers are either at a desirable level or too high. As such, white-tailed deer harvest will also remain unchanged from 2019. White-tailed deer license numbers were increased substantially from 2019 to 2020 and maintaining the higher harvest in 2021 is desirable from a landowner and hunter opportunity standpoint.

2.) Chronic Wasting Disease Management: This is a Tier 2 surveillance herd. The herd was prioritized for CWD sampling beginning in 2019 and will likely continue through 2021. To date, 120 samples were collected in 2019 including 76 adult male samples and 89 samples were collected in 2020 including 46 adult males. Prevalence data will be reported in the 2021 JCR when this focal surveillance period is complete.

2020 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2020 - 5/31/2021

HERD: MD644 - SOUTH WIND RIVER

HUNT AREAS: 92, 94, 160

PREPARED BY: STAN HARTER

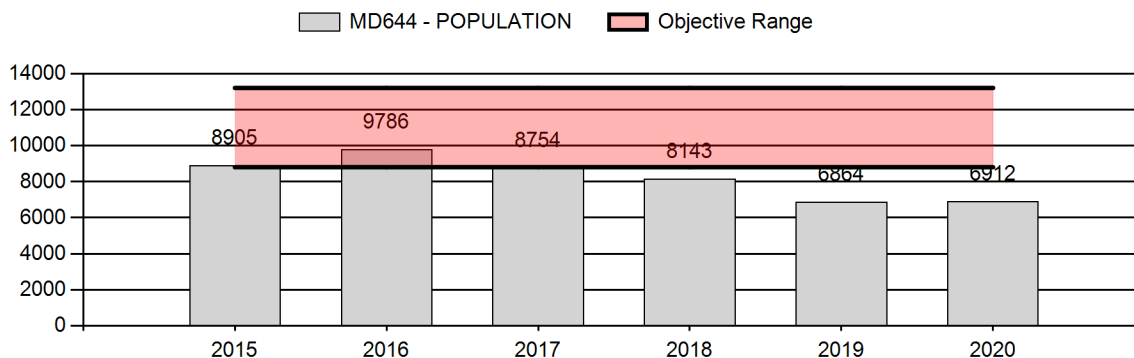
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 8,490 | 6,912 | 7,361 |
| Harvest: | 614 | 175 | 320 |
| Hunters: | 1,413 | 1,007 | 1,000 |
| Hunter Success: | 43% | 17% | 32 % |
| Active Licenses: | 1,417 | 1,019 | 1,020 |
| Active License Success: | 43% | 17% | 31 % |
| Recreation Days: | 5,668 | 4,081 | 5,000 |
| Days Per Animal: | 9.2 | 23.3 | 15.6 |
| Males per 100 Females | 30 | 23 | |
| Juveniles per 100 Females | 74 | 74 | |

| | |
|---|----------------------|
| Population Objective (± 20%) : | 11000 (8800 - 13200) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -37.2% |
| Number of years population has been + or - objective in recent trend: | 1 |
| Model Date: | 2/5/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0.5% | 0.5% |
| Males ≥ 1 year old: | 15.0% | 20.4% |
| Total: | 2.5% | 4.1% |
| Proposed change in post-season population: | +3.9% | +6.5% |

Population Size - Postseason



2021 Hunting Seasons

South Wind River Mule Deer (MD644)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-------------|-----------|---------------|----------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 92 | Gen | Sept. 1 | Sept. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer |
| 92 | 6 | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 20 | 25 | Doe or fawn valid on private land north of the Little Popo Agie River |
| 92, 94, 160 | 3 | Sept. 1 | Sept. 30 | Oct. 1 | Nov. 30 | 100 | Any white-tailed deer |
| 92, 94, 160 | 8 | Sept. 1 | Sept. 30 | Oct. 1 | Nov. 30 | 150 | Doe or fawn white-tailed deer |
| 94 | Gen | Sept. 1 | Sept. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer |
| 160 | Gen | Sept. 1 | Sept. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer |

2021 Region L Non-Resident Quota: 250

2020 Hunter Satisfaction: 31.8% Satisfied, 24.4% Neutral, 43.9% Dissatisfied

2021 Management Summary

Hunting Season Evaluation: The South Wind River mule deer population grew slightly in 2020, following 4 years of declines, with the 2020 post-season population estimate being 3.9% above 2019, but remaining 37% below the objective of 11,000 mule deer. This growth was unexpected following drought in spring/summer 2020. Lander received a meager 0.6” of precipitation from mid-April through Labor Day, almost 90% less than the long-term average for that period. While declines have been noticed in each of the 3 hunt areas in the herd unit, the decrease has been the most dramatic in hunt area 94. The classification survey flown in November 2020 showed modest improvement in the number of mule deer observed in area 94 compared to that observed in 2019, giving some hope that prior observation declines were at least partially related to distribution shifts. Due to an overall declining mule deer population and concerns about the overall number of hunters in the herd unit with respect to the number of available buck mule deer, the 2020 deer season did not include a youth-only segment, and the “standard” general license season was reduced from 8 to 6 days. These season length changes accompanied implementation of antler point restrictions (APR) for mule deer for the 3rd time since 2004. The Region L non-resident quota was decreased by 50 for the 2020 season. These changes resulted in the lowest number of hunters and total harvest in the 26 year history of the South Wind River mule deer herd unit. Yet, the desired increase in the total buck/doe ratio did not materialize, as the adult buck/doe ratio dropped to the

lowest level since 2014, and the yearling buck/doe ratio only slightly increased above the low of 6YM/100F in 2019. The total number of bucks observed in classification surveys was the lowest since 1994, even though most groups of does also had adult bucks present, indicating the rut was still occurring. The sample size decline (of all classifications) was partly due to a 20% reduction of deer flight budgets. The fawn/doe ratio rebounded from the 2019 ratio of 54J/100F (the 2nd lowest since 1994) to 74J/100F in 2020, sparking hope that population growth is possible. Since the 2020 seasons did reduce hunter numbers and mule deer buck harvest as desired, no changes are being made for the 2021 seasons in hunt areas 92, 94, and 160; including the white-tailed deer only Type 3 and 8 seasons. The APR season structure will be evaluated following the 2021 season, when managers will consider whether the population has rebounded enough to allow a return to a more typical general season or if the population and concurrent number of available bucks continues to decline, more restrictive hunting season options such as limited quota seasons may be considered. The Region L non-resident quota will stay at 250 for the 2021 season. Winter 2020-21 has been very mild, with warmer than average temperatures and very limited snow cover on winter ranges. As such, winter survival has been better than expected following the dry conditions experienced in 2020. Precipitation in the form of snow and rain has been closer to average from mid-March to mid-May 2021, and vegetation conditions appear much improved thus far. With low winter mortality and continued minimal harvest in 2021, we expect the South Wind River mule deer population may still grow by 6.5% if fawn/doe and buck/doe ratios show minor improvement, resulting in a 2021 post-season population of nearly 7,400 mule deer (33% below objective).

2.) Chronic Wasting Disease Monitoring and Management: This is a Tier 1 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has been prioritized for CWD surveillance in 2024.

3.) Mule Deer Initiative Weather and Habitat Information:

Weather

Precipitation

Precipitation from October 2019 through September 2020 was below the 30-year average (Figure 1). Winter snows contributed the majority of the annual precipitation. Precipitation during the growing season (April-June 2020) was also well below the 30-year average. Most of the growing season precipitation fell during April which was followed by a dry, hot summer and a mild fall. For the South Wind River Mule Deer Herd Unit, this information is based on 9 weather stations located throughout the herd unit and is generated from the PRISM (Parameter-elevation Relationships on Independent Slopes Model) dataset developed by Oregon State University.

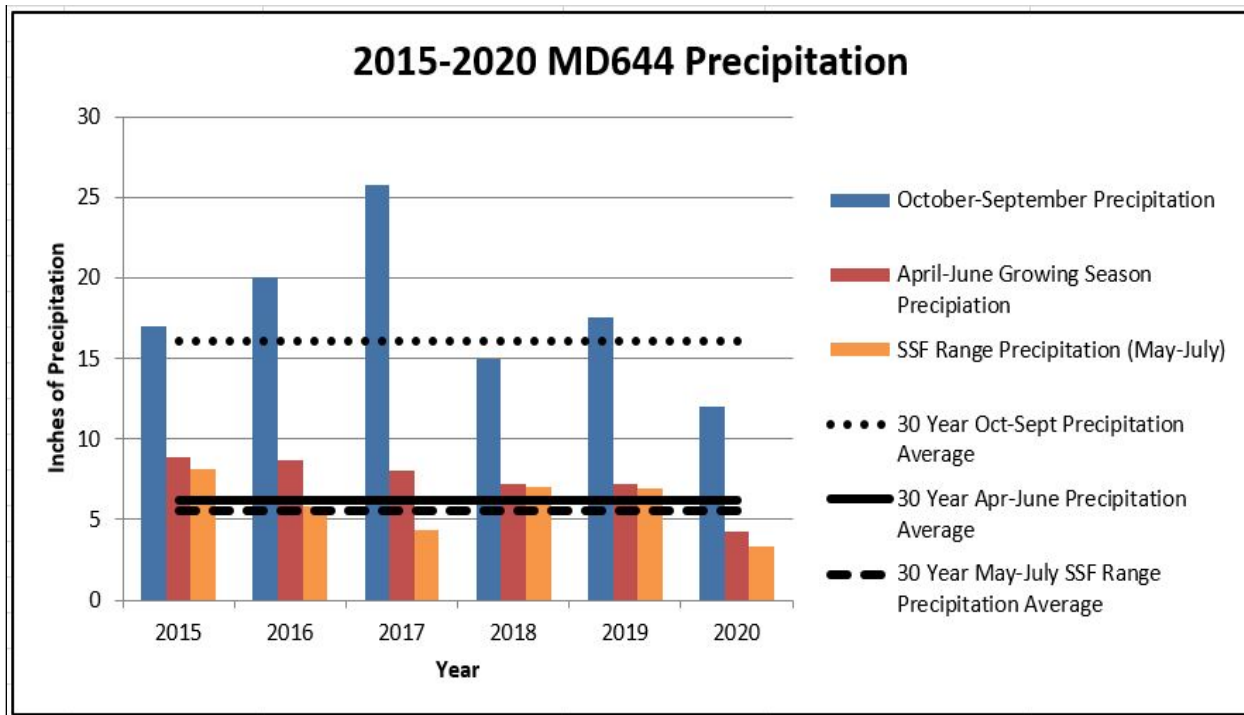


Figure 1. Precipitation patterns in the South Wind River DAU, 2015=2020.

Winter Conditions

The 2020-2021 winter was characterized by mostly mild temperatures and very little snowfall. Temperature from November-February averaged 26 degrees Fahrenheit and was above normal for this time period in the Lander Area. A mild fall was followed by a relatively mild winter. A total of 26.1”of snowfall was recorded in Lander from September 2020-February 2021. This is markedly lower than the 30-year average. Above average temperatures combined with below average snowfall for Lander and the surrounding foothills created milder winter conditions for mule deer. Despite the lower snowpack documented through the winter, a very wet spring brought snow water equivalency rates and precipitation totals closer to normal, which may benefit vegetation production during the coming growing season, depending on continued spring and summer precipitation.

Habitat

Precipitation was below average during the spring of 2020, likely causing lower forage production across the herd unit. Above normal temperatures, and very low precipitation amounts from June-August likely caused lower vegetation production and may have resulted in increased nutritional stress on lactating does, yet unexpectedly the fawn/doe ratio improved to 74J/100F in 2020.

Significant Events

Habitat enhancements continued across the Herd Unit in 2020, with the sixth year of aspen treatments (cut/ pile and lop/scatter) in the South Pass area. Sites treated were in Mill Creek and Gold Creek. A total of 263 acres of aspen were treated to remove encroaching conifers and improve aspen regeneration. This work was done and is ongoing as part of the WGFD’s Mule Deer Initiative. Since 2015, a total of 2,498 acres have been treated on South Pass in cooperation with USFS- Shoshone National Forest, BLM, and Wyoming State Forestry.

Beaver Dam Analogues (BDAs), and beaver relocation are becoming increasingly popular tools for use in habitat enhancement and restoration across Wyoming. Ten BDA's were constructed within the Mill Creek Watershed, in concert with conifer removal to improve riparian condition and aspen vigor. Historic beaver activity is present along Mill Creek, and hopefully beaver will re-inhabit this watershed as conditions improve.

The Popo Agie Weed Management Association initiated a Russian olive removal project in Squaw Creek, a tributary of the Popo Agie River, in an effort to improve riparian vegetation for mule deer. This project is on-going and treatment occurred on approximately 17 acres in cooperation with 11 landowners along the length of Squaw Creek. This work will continue for the next 3-5 years, and may expand to include Baldwin Creek.

Rapid Habitat Assessments

In 2015, WGFD personnel initiated the Rapid Habitat Assessment (RHA) methodology to survey and assess important mule deer habitats. This method was developed to capture large-scale habitat quality metrics to better understand the condition of vegetation communities important to mule deer. RHAs provide a standardized habitat assessment conducted across the landscape. These assessments and resulting analyses are intended to provide a basis for mule deer population objective and other management decisions. They convey some insight into the habitat's long-term condition or carrying capacity.

One Riparian RHA was conducted in the 2020 field season. RHA activity will ramp up significantly in the 2021 field season to document current conditions across the South Wind River Mule Deer Herd Unit.

2020 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2020 - 5/31/2021

HERD: MD646 - SWEETWATER

HUNT AREAS: 96-97

PREPARED BY: STAN HARTER

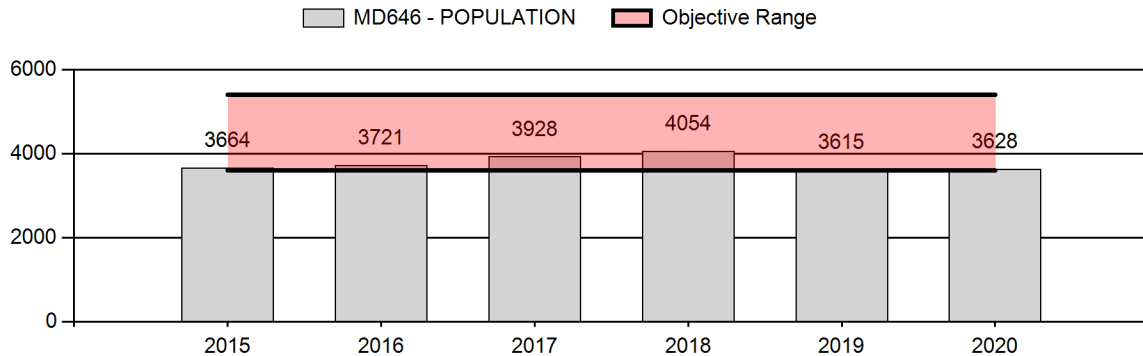
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 3,796 | 3,628 | 3,769 |
| Harvest: | 416 | 188 | 250 |
| Hunters: | 849 | 746 | 750 |
| Hunter Success: | 49% | 25% | 33 % |
| Active Licenses: | 849 | 746 | 750 |
| Active License Success: | 49% | 25% | 33 % |
| Recreation Days: | 2,810 | 2,955 | 3,500 |
| Days Per Animal: | 6.8 | 15.7 | 14 |
| Males per 100 Females | 19 | 20 | |
| Juveniles per 100 Females | 76 | 80 | |

| | |
|---|--------------------|
| Population Objective (± 20%) : | 4500 (3600 - 5400) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -19.4% |
| Number of years population has been + or - objective in recent trend: | 1 |
| Model Date: | 2/9/2021 |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0.0% | 0.0% |
| Males ≥ 1 year old: | 35.9% | 36.4% |
| Total: | 4.9% | 6.2% |
| Proposed change in post-season population: | +0.8% | +3.9% |

Population Size - Postseason



2021 Hunting Seasons

Sweetwater Mule Deer (MD646)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|-----------|---------------|----------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 96 | Gen | Sept. 1 | Sept. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer |
| 97 | Gen | Sept. 1 | Sept. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer |
| 97 | 3 | Sept. 1 | Sept. 30 | Oct. 15 | Nov. 30 | 25 | Any white-tailed deer |
| 97 | 8 | Sept. 1 | Sept. 30 | Oct. 15 | Nov. 30 | 50 | Doe or fawn white-tailed deer |

2021 Region Q Non-Resident Quota: 125

2020 Hunter Satisfaction: 41.6% Satisfied, 22.0% Neutral, 26.5% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The Sweetwater mule deer population has remained somewhat stable for the last 6 years, with the 2020 population estimate of just over 3,600 mule deer being about 1% higher than 2019. The 2020 classification survey completed in December resulted in 38% fewer mule deer being observed than in 2019. This was mainly due to most deer remaining widely scattered on summer ranges with open conditions in area 96, along with a 20% reduction in flight budget. The fawn/doe ratio improved to 80J/100F, along with an improved yearling buck/doe ratio at 8YM/100F. However, the adult buck/doe ratio declined to 12AM/100F, probably because of antler point restrictions (APRs) forcing harvest on adult bucks. The total buck/doe ratio, 20M/100F, reached the low end of the recreational management range for the first time since 2015, with APRs resulting in a 33% reduction of harvest to 188 bucks, the 2nd lowest level since 2004. The Sweetwater mule deer herd unit remains below objective, with low buck/doe ratios. Since the 2020 seasons did reduce mule deer buck harvest as desired, no changes are being made for the 2021 seasons in hunt areas 96 and 97; including the white-tailed deer only Type 3 and 8 seasons in area 97. The APR season structure will be evaluated following the 2021 season, when managers will consider whether the population has rebounded enough to allow a return to a more typical general season or if the population and concurrent number of available bucks continues to decline, more restrictive hunting season options such as limited quota seasons may be considered. The Region Q non-resident quota will stay at 125 for the 2021 season. Resident hunter numbers increased in 2020, despite APRs which usually result in lower hunter interest. We believe this was in part due to the Mullen wildfire in the Snowy Range forcing hunters to seek alternative hunt areas. Winter 2020-21 has been very mild, with warmer than average temperatures and very limited snow cover on winter ranges. As such, winter survival has been better than expected following the dry conditions experienced in 2020. Precipitation in the form of snow and rain has been closer to average from mid-March to mid-May 2021, and vegetation conditions appear much improved

thus far. Through reduced buck harvest, minimal winter mortality, and fawn recruitment near the 5-year average, this population should grow slightly to a post-season 2021 population of nearly 3,800 mule deer, with the total buck/doe ratio improving to around 25M/100F.

2.) Chronic Wasting Disease Monitoring & Management: This is a Tier 1 surveillance herd that was prioritized for CWD sampling in 2020, with 80 samples collected from male mule deer (76 adults, 4 yearlings) in the field by extra personnel, as well as at check stations. One adult male mule deer tested positive from hunt area 96 (the 1st positive for this hunt area) and one adult male was positive from hunt area 97. We set up a new check station at the Sweetwater Station WYDOT rest area specifically to collect CWD samples with someone attending that check station for the entire 6-day season. For this surveillance period, we obtained less than half the sampling goal of 200 adult buck mule deer, as harvest was reduced due to conservative season limitations, including APRs. Sample distribution of mature males was similar to the distribution of harvest with more harvest and CWD samples from hunt area 96 than in area 97, which is similar to long-term harvest trends. To date, no CWD management actions have occurred in this herd unit.

3.) Mule Deer Initiative Weather and Habitat Information:

Weather

Precipitation

Precipitation from October 2019 through September 2020 was significantly lower than the 30 year average (Figure 1). Winter snows contributed the majority of the annual precipitation. The growing season precipitation (April-June 2020) was also significantly below thirty year average, as was the high elevation SSF seasonal range average precipitation (May- July 2020). Temperatures through the summer were slightly above average. This precipitation information is generated from the PRISM (Parameter-elevation Relationships on Independent Slopes Model) dataset developed by Oregon State University. For the Sweetwater Herd Unit, precipitation information is based on 1 weather station located near Jeffrey City, WY.

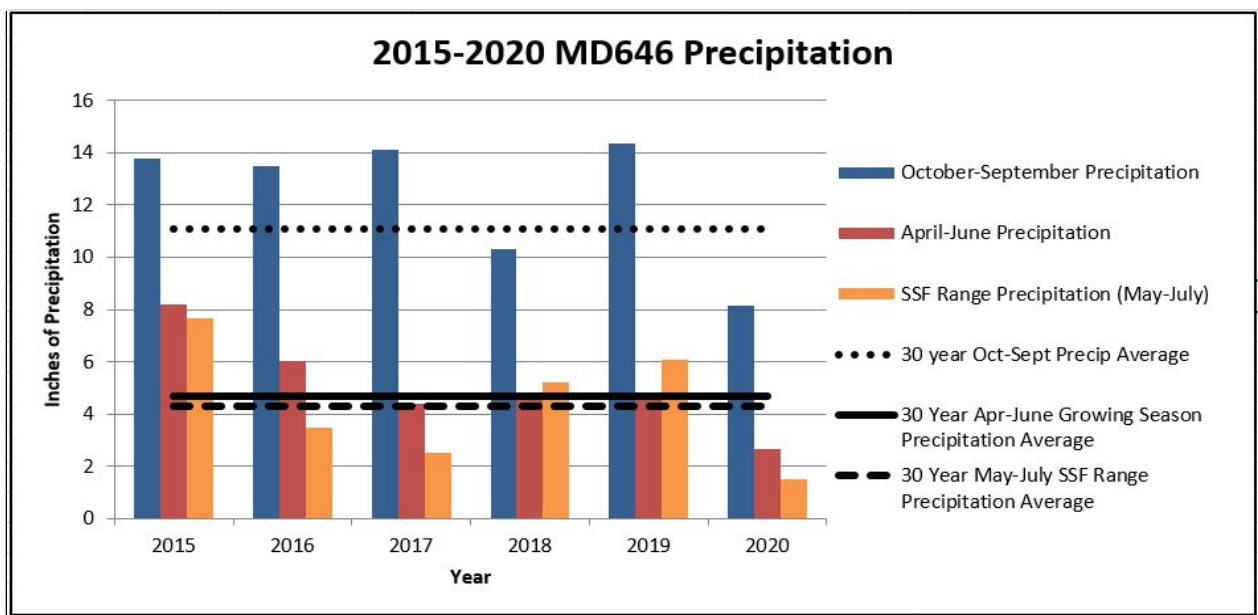


Figure 1. Precipitation patterns in the Sweetwater DAU, 2015=2020.

Winter Conditions

The 2020-2021 winter was characterized by below normal snowfall amounts with temperatures averaging 22.8° F, which is considered normal for the November-February time period in the Jeffrey City area. The winter was characterized by high winds across the herd unit. A total of 20.4” of snowfall was recorded in Jeffrey City from November 2020-February 2021. This is 6” below the 30 year average.

Habitat

Growing season precipitation was well below average during the spring/ summer of 2020, which likely provided reduced forage quality across the herd unit for mule deer does in early parturition. Above normal temperatures, and very low precipitation amounts from June-August likely caused lower vegetation production and may have resulted in increased nutritional stress on lactating does, yet unexpectedly the fawn/doe ratio improved to 80J/100F in 2020.

Significant Events

The BLM conducted a wild horse gather within the Sweetwater Herd Unit, and removed nearly 300 horses, which were a contributing factor in declining range trends in the area.

WGFD partnered with Wyoming State Forestry, Fremont County Fire Protection District, and several private landowners in the West Cottonwood Creek watershed to continue to remove encroached conifer from aspen and riparian communities, and reduce the risk of catastrophic wildfire from developed areas on Green Mountain. This project was initiated in 2016 with one landowner, and has now collectively treated nearly 300 acres on private and state owned lands on Green Mountain.

Rapid Habitat Assessments

In 2015, WGFD personnel initiated the Rapid Habitat Assessment (RHA) methodology to survey and assess important mule deer habitats. This method was developed to capture large-scale habitat quality metrics to better understand the condition of vegetation communities important to mule deer. RHAs provide a standardized habitat assessment conducted across the landscape. These assessments and resulting analyses are intended to provide a basis for mule deer population objective and other management decisions. They convey some insight into the habitat’s long-term condition or carrying capacity.

From 2015-2019, 101 RHA’s were conducted across the herd unit, mostly in the vicinity of Green Mountain, which is an important area for wildlife. In 2020, ten RHA’s were conducted, all in aspen communities, and all on Whiskey Mountain and Green Mountain. These, as is consistent across Green Mountain, showed late seral aspen communities, with high browse levels.

2020 - JCR Evaluation Form

SPECIES: Mule Deer
 HERD: MD647 - FERRIS
 HUNT AREAS: 87

PERIOD: 6/1/2020 - 5/31/2021
 PREPARED BY: GREG HIATT

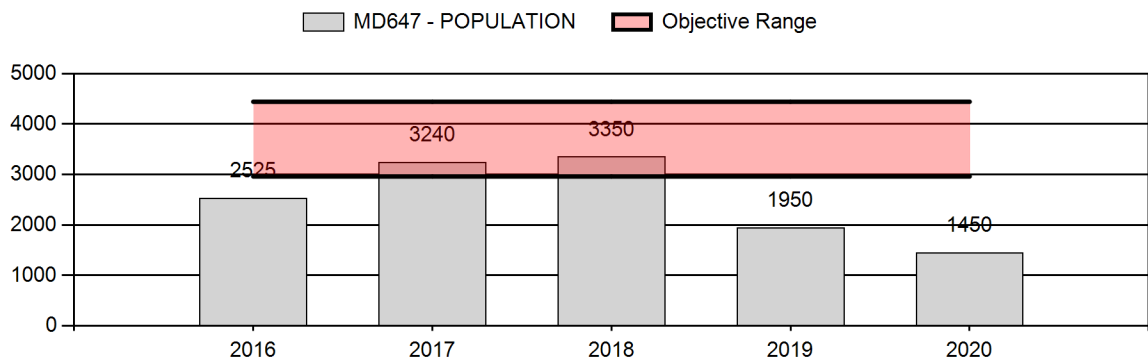
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 2,551 | 1,450 | 1,610 |
| Harvest: | 89 | 69 | 55 |
| Hunters: | 108 | 95 | 70 |
| Hunter Success: | 82% | 73% | 79 % |
| Active Licenses: | 108 | 95 | 70 |
| Active License Success: | 82% | 73% | 79 % |
| Recreation Days: | 550 | 610 | 375 |
| Days Per Animal: | 6.2 | 8.8 | 6.8 |
| Males per 100 Females | 55 | 37 | |
| Juveniles per 100 Females | 82 | 65 | |

Population Objective (± 20%) : 3700 (2960 - 4440)
 Management Strategy: Special
 Percent population is above (+) or below (-) objective: -60.8%
 Number of years population has been + or - objective in recent trend: 10
 Model Date: 3/2/2021

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 17.8% | 13.6% |
| Total: | 4.5% | 3.4% |
| Proposed change in post-season population: | -33% | 9.3% |

Population Size - Postseason



**2021 Hunting Seasons
Ferris Mule Deer (MD647)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 87 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 75 | Antlered mule deer or any white-tailed deer |

2020 Hunter Satisfaction: 69% Satisfied, 21% Neutral, 10% Dissatisfied

2021 Management Summary

1.) **Hunting Season Evaluation:** This herd reached objective range in 2017 and 2018, the first time in over a decade, a result of improved precipitation, extensive habitat treatments and increased predator control. Losses during the severe 2018-19 and 2019-20 winters were significant and the herd model predicts the population had dropped 60 percent below objective size by posthunt 2020.

With the herd being in special management, hunters expect better opportunities to see and harvest larger bucks than available in neighboring general license, more productive herds. Buck:doe ratios reported for this herd are inflated by major portions of the herd unit being unavailable to most hunters and essentially unhunted. License quotas were increased from 2016 through 2018, reducing the buck:doe ratio from above 50:100 in 2018 to only 37:100 in 2020, but also increasing dissatisfaction and complaints about low buck quality.

Hunter success and satisfaction in 2020 reflected the severe losses during the 2019-20 winter, despite the cut in license quota made that year. Hunter success dropped to 73%, the lowest in 18 years, and the average days hunted per deer harvested rose to 8.8 days, the highest since this area went to limited quota hunting in 1997. Hunter satisfaction dropped to 69%, the second-lowest recorded for this herd (Figure 1.). The proportion of hunters who were “very satisfied” dropped to a record low. Hunter dissatisfaction remained at 10 percent.

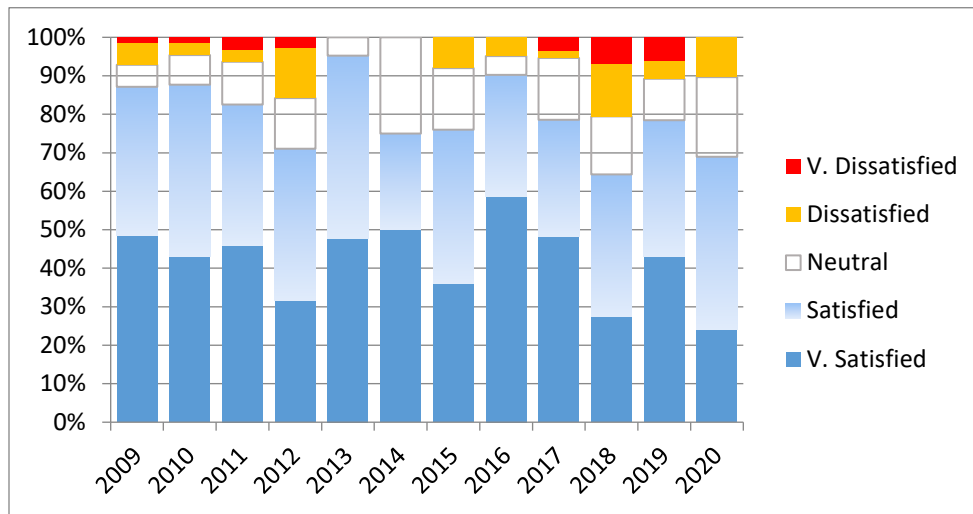


Figure 1. Hunter satisfaction and dissatisfaction for the Ferris Mule Deer Herd.

Antler measurements were collected on 26 percent of the 2020 harvest, compared to 7 percent in 2019 and 19 percent in 2018. Average spread of field checked adult mule deer bucks from this herd dropped from 21.5 inches in 2018 to 20.25 in 2019 and 19.85 in 2020. The maximum spread fell from 27 inches in 2018 to 25.25 inches in 2020. Despite this herd being in special management, none of the harvest checked in 2019 or 2020 were Class 3 bucks. Classification data show a similar decline in mature bucks from this herd as license quotas increased. Class 3 bucks represented 12 percent of classified adult bucks in 2015, but only 3 percent of adult bucks in the 2019 sample and 5 percent in 2020. Of the few Class 3 bucks found in the 2020 classification survey, 29 percent were in checker-boarded lands where there is little or no public access.

Classification and harvest data indicate the reduction in license quota in 2020 was not adequate to compensate for losses during the 2018-19 and 2019-20 winters, and a further reduction is necessary in 2021. The model predicts the population and buck:doe ratio should both increase slightly with the harvest from 75 Type 1 licenses.

- 2.) **Chronic Wasting Disease Monitoring & Management:** Because of its small size and low harvest rate, this herd is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data are available within this herd unit and no CWD management actions have occurred.

2020 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2020 - 5/31/2021

HERD: MD648 - BEAVER RIM

HUNT AREAS: 90

PREPARED BY: GREG
ANDERSON

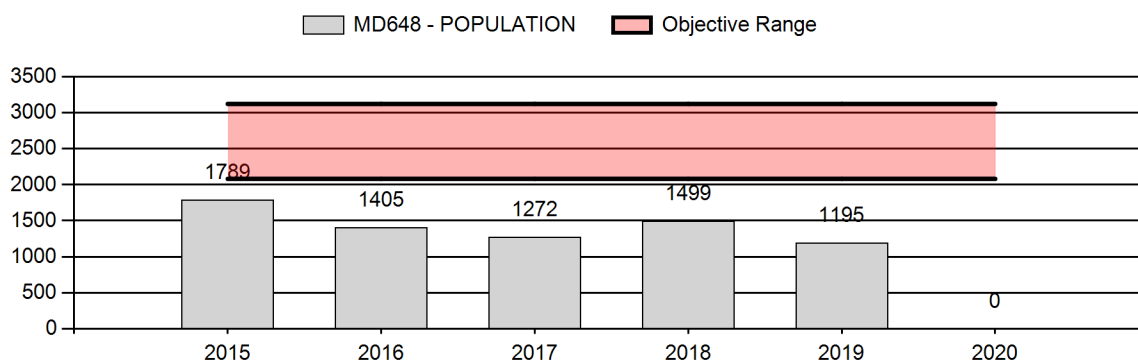
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 1,432 | N/A | 1,200 |
| Harvest: | 49 | 47 | 55 |
| Hunters: | 60 | 70 | 75 |
| Hunter Success: | 82% | 67% | 73% |
| Active Licenses: | 60 | 70 | 75 |
| Active License Success: | 82% | 67% | 73 % |
| Recreation Days: | 383 | 465 | 500 |
| Days Per Animal: | 7.8 | 9.9 | 9.1 |
| Males per 100 Females | 39 | 0 | |
| Juveniles per 100 Females | 45 | 0 | |

| | |
|---|--------------------|
| Population Objective (± 20%) : | 2600 (2080 - 3120) |
| Management Strategy: | Special |
| Percent population is above (+) or below (-) objective: | N/A% |
| Number of years population has been + or - objective in recent trend: | 10 |
| Model Date: | None |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Total: | 0% | 0% |
| Proposed change in post-season population: | 0% | 0% |

Population Size - Postseason



**2021 Hunting Seasons
Beaver Rim Mule Deer (MD648)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|-------------|
| | | Opens | Closes | Opens | Closes | | |
| 90 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 75 | Any deer |

2020 Hunter Satisfaction: 47% Satisfied, 29% Neutral, 24% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 hunt season in area 90 will be the same as the 2020 season. For the past two decades area 90 has been managed for trophy mule deer with fairly limited license numbers issued. License issuance has varied between 50 and 150. Given the small number of licenses issued annually, harvest mortality has likely had little impact on the overall deer population in the area for many years. That said, the population has been below objective for over 10 years. Given low deer densities and no recent indications of population growth, the hunt season in area 90 has been structured to provide a high quality recreational experience for a limited number of hunters annually. Despite only limited buck harvest in the herd unit for a number of years, indications are the population declined over the past several years. Environmental conditions in the area were quite harsh in both 2018 and 2019 resulting in poor fawn recruitment and survival. The summer of 2020 was very dry throughout this herd unit and resulted in very poor vegetation production. Although the 2020/21 winter has been quite mild fawn mortality will still likely be high due to the lack of feed available throughout the area. The end result of recent environmental conditions is three small age classes in the population. Classification surveys were not conducted in the area in 2020 due to budget restrictions but antelope classification data from overlapping areas as well as deer classification data from neighboring areas indicate that recruitment was very low. The lack of classification data precluded calculating a population estimate for the year but indications are the population declined over the past year. The decline is reflected in harvest statistics where Type 1 license success was 67% in hunt area 90 which was substantially lower than the previous 5 year average of 83%. Some of the lower success can be attributed to the hot, dry weather throughout the hunting season that made deer more difficult to find. The tough hunting conditions were also reflected in hunter satisfaction which declined significantly from 2019.

2.) Chronic Wasting Disease Monitoring and Management: This is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has not been prioritized for CWD surveillance because harvest has been well below the level necessary to effectively estimate prevalence for over two decades.

2020 - JCR Evaluation Form

SPECIES: Mule Deer

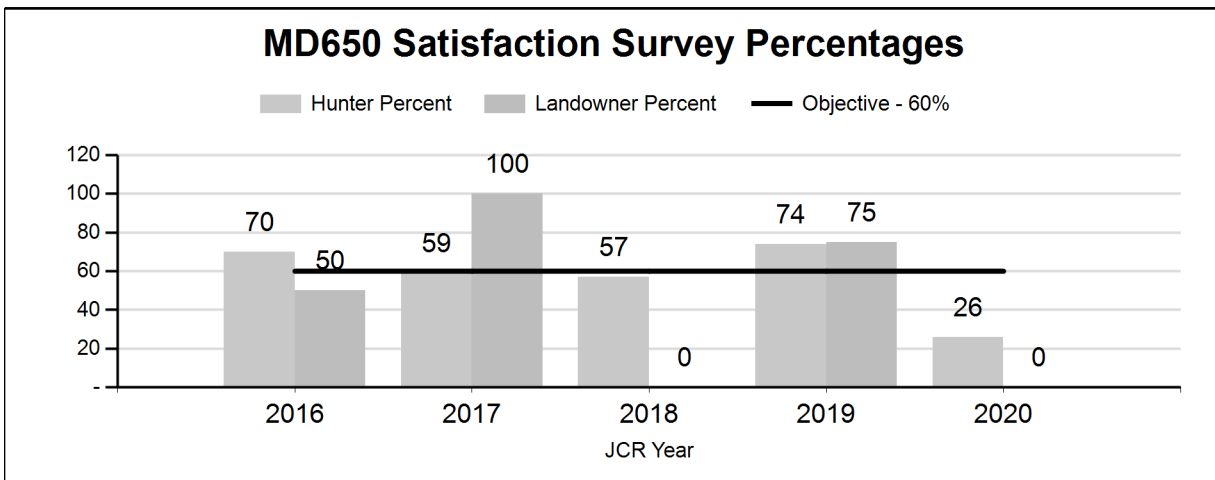
PERIOD: 6/1/2020 - 5/31/2021

HERD: MD650 - CHAIN LAKES

HUNT AREAS: 98

PREPARED BY: GREG HIATT

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---|----------------------------|-------------|----------------------|
| Hunter Satisfaction Percent | 62% | 26% | 35% |
| Landowner Satisfaction Percent | 59% | 0% | 25% |
| Harvest: | 43 | 32 | 40 |
| Hunters: | 103 | 99 | 105 |
| Hunter Success: | 42% | 32% | 38% |
| Active Licenses: | 103 | 99 | 105 |
| Active License Success: | 42% | 32% | 38 % |
| Recreation Days: | 350 | 324 | 360 |
| Days Per Animal: | 8.1 | 10.1 | 9 |
| Males per 100 Females: | 0 | 0 | |
| Juveniles per 100 Females | 0 | 0 | |
| Satisfaction Based Objective | | | 60% |
| Management Strategy: | | | Recreational |
| Percent population is above (+) or (-) objective: | | | N/A% |
| Number of years population has been + or - objective in recent trend: | | | 1 |



**2021 Hunting Seasons
Chain Lakes Mule Deer (MD650)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 98 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 20 | | Antlered mule deer three (3) points or more on either antler or any white-tailed deer, archery and muzzle-loading firearms only |

2021 Region Q nonresident quota: 125 licenses

2020 Landowner Satisfaction: 0% Satisfied, 0% Neutral, 100% Dissatisfied

2020 Hunter Satisfaction: 26% Satisfied, 26% Neutral, 48% Dissatisfied

2021 Management Summary

1.) **Hunting Season Evaluation:** With the adoption of a hunter/landowner satisfaction objective for this herd, efforts are made to personally query major landowners on their satisfaction with deer numbers each year. Because of a vacancy in the West Rawlins Game Warden position, personal contacts were made with only two major landowners, both of which were concerned with low deer numbers in 2020. Both landowners were dissatisfied with buck quality and supported use of the three-point restriction. Hunter satisfaction plummeted to only 26% in 2020, the lowest satisfaction rate in this herd since these data were first collected in 2009 (Figure 1.). Hunter dissatisfaction with their hunting experience in this herd rose to 48%, also a 12-year record.

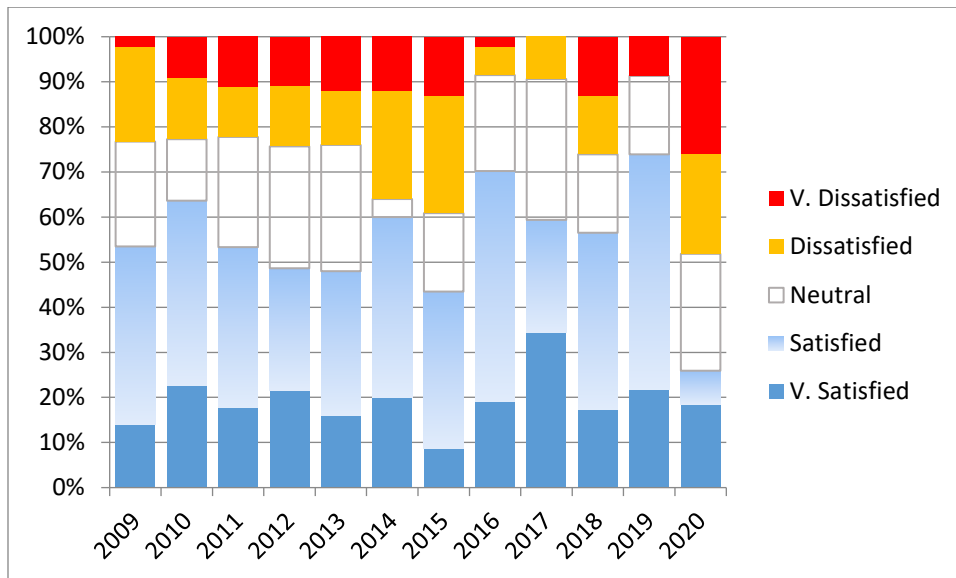


Figure 1. Hunter satisfaction and dissatisfaction for the Chain Lakes Mule Deer Herd.

Hunter success dropped to 32%, the lowest in 7 years, a result of both low deer numbers and the 3-point antler restriction. While the 3-point antler point restriction may not significantly affect harvest in this primitive weapon hunt area, it is necessary to prevent a sharp increase in hunter numbers in this area when other general license areas in Region Q have the antler point restriction.

Antler measurements were collected on 4 bucks harvested from this area in 2020, representing 12.5% of the reported harvest. All were adult bucks, two in Class 1 and two in Class 2. Average antler spread was 17.73 inches, with a maximum of 22.5 inches. Both values were within the ranges seen in the previous two hunting seasons, which also had small sample sizes.

- 2.) **Chronic Wasting Disease Monitoring & Management:** Because of its small size and low harvest rate, this herd is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data are available for this herd unit and no CWD management actions have occurred. During the past two years, 56 urban mule deer have been removed from the city of Rawlins in the southeast corner of the herd unit under Chapter 56 permits, and 6 of the 55 deer that were sampled tested positive for CWD.

2020 - JCR Evaluation Form

SPECIES: Elk
 HERD: EL635 - WIGGINS FORK
 HUNT AREAS: 67-69, 127

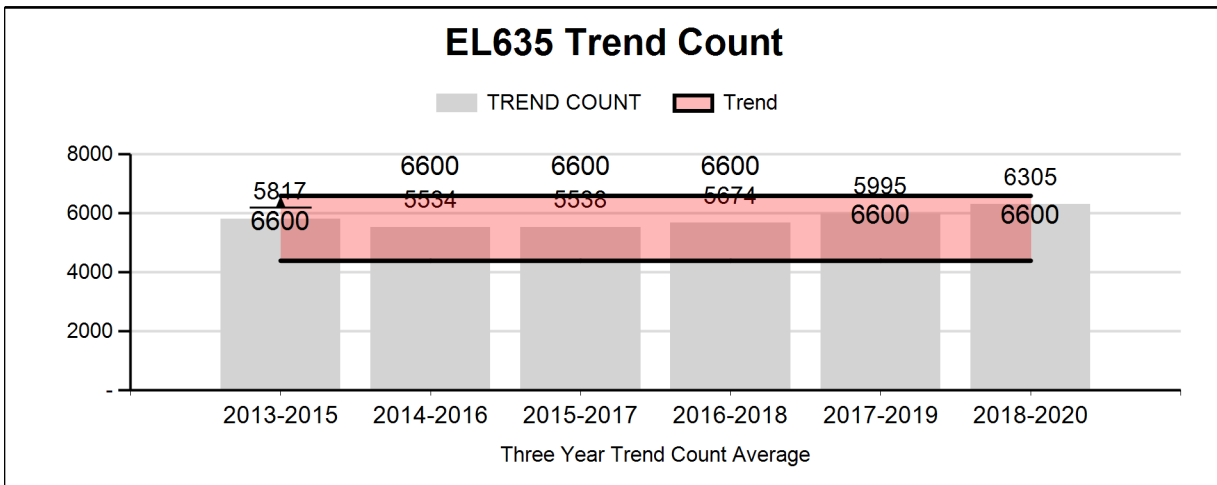
PERIOD: 6/1/2020 - 5/31/2021
 PREPARED BY: GREG ANDERSON

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 5,812 | 6,470 | 6,000 |
| Harvest: | 880 | 1,170 | 1,300 |
| Hunters: | 2,442 | 2,618 | 2,700 |
| Hunter Success: | 36% | 45% | 48 % |
| Active Licenses: | 2,546 | 2,707 | 2,800 |
| Active License Success | 35% | 43% | 46 % |
| Recreation Days: | 16,393 | 18,212 | 19,000 |
| Days Per Animal: | 18.6 | 15.6 | 14.6 |
| Males per 100 Females: | 18 | 20 | |
| Juveniles per 100 Females | 25 | 22 | |

Trend Based Objective (± 20%) 5,500 (4400 - 6600)
 Management Strategy: Recreational
 Percent population is above (+) or (-) objective: 18%
 Number of years population has been + or - objective in recent trend: 3

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|---------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Juveniles (< 1 year old): | 0% | 0% |



**2021 Hunting Seasons
Wiggins Fork Elk (EL635)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|------------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 67 | Gen | Sep. 15 | Sep. 30 | Oct. 1 | Oct. 10 | | Antlered elk |
| 67 | Gen | | | Oct. 11 | Oct. 31 | | Antlered elk, spikes excluded |
| 67 | 4 | Sep. 15 | Sep. 30 | Nov. 1 | Dec. 15 | 350 | Antlerless elk |
| 67 | 6 | Sep. 15 | Sep. 30 | Nov. 15 | Dec. 15 | 700 | Cow or calf valid west of the Wiggins Fork and west of the East Fork downstream from the confluence with the Wiggins Fork |
| 67, 68, 69 | 9 | | | Sep. 1 | Sep. 30 | 125 | Any elk, archery only |
| 68 | Gen | Sep. 15 | Sep. 30 | Oct. 1 | Oct. 10 | | Antlered elk |
| 68 | Gen | | | Oct. 11 | Oct. 31 | | Antlered elk, spikes excluded |
| 68 | 6 | Sep. 15 | Sep. 30 | Nov. 1 | Nov. 30 | 50 | Cow or calf |
| 69 | Gen | Sep. 15 | Sep. 30 | Oct. 1 | Oct. 31 | | Any elk |
| 69 | 6 | Sep. 15 | Sep. 30 | Oct. 1 | Nov. 30 | 25 | Cow or calf |
| 127 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | | Any elk |
| 127 | Gen | | | Nov. 1 | Jan. 31 | | Antlerless elk |

2020 Hunter Satisfaction: 68% Satisfied, 18% Neutral, 14% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: Based on an annual, winter trend count conducted in January, 2021, the 2021 hunting season will include increased antlerless elk harvest in area 67 and unchanged antlerless elk harvest in areas 68 and 69. Personnel counted a total of 6,470 elk during the January, 2021 trend count. This was 95 more elk than counted in 2020 and included a slight

decrease in the number of elk seen in hunt area 67 concurrent with an increase in elk counted in hunt areas 68 and 69. The three year average of elk count numbers was 6,304. This is within the 20% range of the established objective of 5,500 elk. That said, the number of elk counted has increased each year since 2016 and is now at the upper end of the established objective range. This herd has 3 established sub-populations designated based on migratory movements and winter range use. Of these 3 sub-populations, two are almost at established objective levels. The East Fork segment has an objective of 2,200 elk with 2,020 counted this year. The South Dubois segment is also at objective (1,100) with a 2020 winter count of 1,147. The Dunoir/Spring Mountain segment continues to be above the set objective of 2,200 elk with a 2020 winter count of 3,303. Both Type 4 and 6 licenses in area 67 are structured to allow antlerless harvest on the Dunoir/Spring Mountain segment with Type 6 license pressure focused exclusively on this segment. These license types will be increased by a total of 200 in 2021 to increase harvest pressure on elk in the East Fork and Dunoir/Spring Mountain segments. This license increase follows an increase of 350 in 2020 and should begin to decrease the number of elk in hunt area 67. In contrast, elk numbers in areas 68 and 69 increased slightly from 2020 and are currently at objective.

2.) Chronic Wasting Disease Monitoring and Management. This is a Tier 2 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has been prioritized for CWD surveillance in 2021.

2020 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2020 - 5/31/2021

HERD: EL637 - SOUTH WIND RIVER

HUNT AREAS: 25, 27-28, 99

PREPARED BY: STAN HARTER

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 2,855 | 3,934 | 3,500 |
| Harvest: | 630 | 670 | 850 |
| Hunters: | 1,943 | 1,729 | 2,000 |
| Hunter Success: | 32% | 39% | 42 % |
| Active Licenses: | 1,992 | 1,787 | 2,025 |
| Active License Success | 32% | 37% | 42 % |
| Recreation Days: | 14,321 | 13,160 | 16,000 |
| Days Per Animal: | 22.7 | 19.6 | 18.8 |
| Males per 100 Females: | 27 | 16 | |
| Juveniles per 100 Females | 32 | 28 | |

Trend Based Objective (± 20%) 2,600 (2080 - 3120)

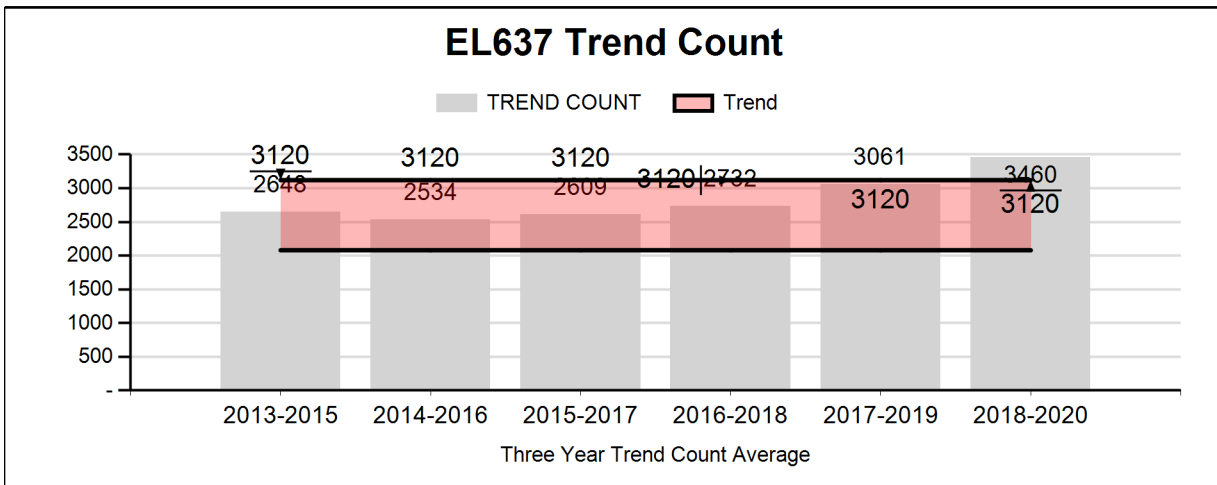
Management Strategy: Recreational

Percent population is above (+) or (-) objective: 51%

Number of years population has been + or - objective in recent trend: 4

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|---------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Juveniles (< 1 year old): | 0% | 0% |



**2021 Hunting Seasons
South Wind River Elk (EL637)**

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|-----------|---------------|----------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 25, 27 | 1 | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 31 | 150 | Any elk |
| 25 | 4 | Sept. 1 | Sept. 30 | Oct. 11 | Oct. 31 | 75 | Antlerless elk |
| 25 | 5 | Sept. 1 | Sept. 30 | Oct. 21 | Oct. 31 | 75 | Antlerless elk |
| 25 | 5 | | | Nov. 1 | Nov. 10 | | Antlerless elk, valid north of the Sweetwater River |
| 25 | 6 | Sept. 1 | Sept. 30 | Nov. 1 | Nov. 21 | 100 | Cow or calf, valid north of the Sweetwater River |
| 27 | 4 | Sept. 1 | Sept. 30 | Oct. 1 | Nov. 21 | 50 | Antlerless elk |
| 28 | Gen | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 14 | | Any elk |
| 28 | Gen | | | Oct. 15 | Oct. 22 | - | Antlerless elk |
| 28 | 4 | Sept. 1 | Sept. 30 | Nov. 1 | Nov. 21 | 175 | Antlerless elk |
| 28 | 6 | | | Dec. 1 | Jan. 31 | | Cow or calf, valid off national forest north of the Little Popo Agie River and east of R 101 W; also valid in Area 127 south of the Boulder Flats Road and west of U.S. Highway 287 |
| 99 | 1 | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 31 | 150 | Any elk |
| 99 | 1 | | | Nov. 1 | Nov. 20 | | Antlerless elk |
| 99 | 4 | Sept. 1 | Sept. 30 | Oct. 1 | Nov. 20 | 175 | Antlerless elk |

2020 Hunter Satisfaction: 59.6% Satisfied, 21.8% Neutral, 18.6% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The South Wind River elk herd unit has a mid-winter trend count objective of 2,600 elk. The 2020 trend count/classification survey flown in January 2021, when pooled with a ground count of elk in the North Fork Road area, produced a count of 3,934 elk. The latest 3-year average is 3,460 elk, placing the 2020 count outside the +20% margin of the objective. Distribution shifts between hunt areas 25 and 28 resulted in a near average count in area 25, but area 28 had the highest total count since 1994. Part of the increase in area 28 was a group of 300 elk observed just south of the Wind River Reservation boundary in the North Fork Popo Agie area that are rarely seen, along with a group of 175 elk in the Cherry Creek area that had at least one elk with a collar indicating likely movement from a feedground in the Pinedale Region (from area 98 – outside of the South Wind River herd unit). The calf/cow ratio of 28J/100F for

the herd unit was the lowest in 6 years and the total bull/cow ratio of 16M/100F was the lowest since 2008. With such high numbers of elk observed in area 28 during the mid-winter trend counts, the 2021 season structure includes keeping the area 28 general license season as “any elk” for the first 2 weeks of the 3 week season, then converting from “antlered” to “antlerless” for the final 8 days (Oct. 15-22), and adding 50 Type 4 antlerless licenses in area 28.

To address concerns from hunters and landowners about hunter crowding and access in area 25 due to large tracts of inaccessible private land that provide a safe haven for elk, changes are being made to divide seasons into 4 license types, with staggered opening and closing dates, and making licenses valid in November valid only north of the Sweetwater River where growth in elk numbers is most noticeable. The shortened seasons are designed to force hunters to hunt, rather than “wait for better conditions” that often occurs with long seasons, resulting in lower harvest rates in many cases.

Changes made to increase harvest in 2020 appear to have worked despite a very mild, open hunting season, with a 20% increase over 2019 and the harvest of 670 elk being above the long-term average. However, with continued increases in the overall trend count, additional female harvest is needed to limit growth and move toward objective. Type 1 hunters in areas 25 and 99 and Type 4 hunters in area 27 had greater than 60% success in 2020, but this was anomalous to the previous 10-year average success rates experienced by hunters with those license types (2010-19 average success rates - HA 25 T1 = 55%, HA 99 T1 = 45%, HA 27 T4 = 29%). As such, no changes are being made to the number of these licenses for the 2021 season. The seasons above should increase antlerless elk harvest in 2021, and help curtail population growth and move this herd toward objective.

2.) Chronic Wasting Disease Monitoring and Management. This is a Tier 1 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred. This herd has been prioritized for CWD surveillance in 2024.

2020 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2020 - 5/31/2021

HERD: EL638 - GREEN MOUNTAIN

HUNT AREAS: 24, 128

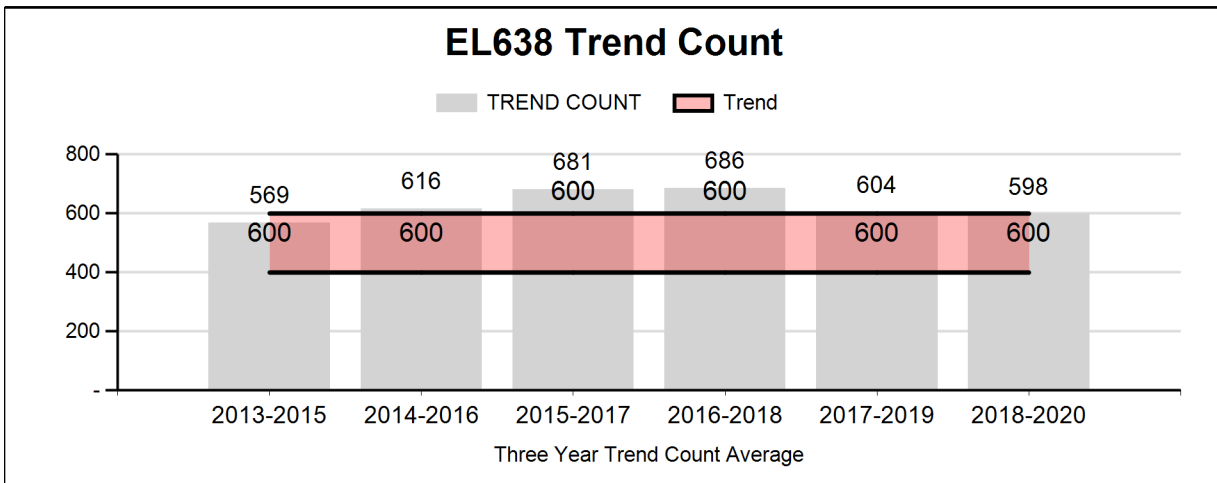
PREPARED BY: STAN HARTER

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 655 | 565 | 500 |
| Harvest: | 220 | 265 | 270 |
| Hunters: | 568 | 584 | 625 |
| Hunter Success: | 39% | 45% | 43 % |
| Active Licenses: | 573 | 584 | 625 |
| Active License Success | 38% | 45% | 43 % |
| Recreation Days: | 3,481 | 4,002 | 4,500 |
| Days Per Animal: | 15.8 | 15.1 | 16.7 |
| Males per 100 Females: | 37 | 25 | |
| Juveniles per 100 Females | 34 | 27 | |

Trend Based Objective (± 20%) 500 (400 - 600)
 Management Strategy: Recreational
 Percent population is above (+) or (-) objective: 13%
 Number of years population has been + or - objective in recent trend: 0

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|---------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Juveniles (< 1 year old): | 0% | 0% |



2021 Hunting Seasons

Green Mountain Elk (EL638)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|-----------|---------------|----------|--------------|---------|-------|--|
| | | Opens | Closes | Opens | Closes | | |
| 24 | 1 | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 14 | 175 | Any elk |
| 24 | 1 | | | Nov. 1 | Nov. 30 | | Antlerless elk |
| 24 | 4 | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 14 | 75 | Antlerless elk |
| 24 | 4 | | | Nov. 1 | Nov. 30 | | Antlerless elk, also valid in Area 128 |
| 24 | 5 | Sept. 1 | Sept. 30 | Nov. 1 | Nov. 30 | 175 | Antlerless elk |
| 128 | Gen | Sept. 1 | Sept. 30 | Oct. 1 | Oct. 7 | | Any elk |
| 128 | Gen | | | Oct. 8 | Oct. 14 | | Antlered elk |

2020 Hunter Satisfaction: 67.7% Satisfied, 15.9% Neutral, 16.4% Dissatisfied

2021 Management Summary

1.) Hunting Season Evaluation: The Green Mountain elk herd unit has a mid-winter trend count objective of 500 elk. The 2020 trend count/classification survey was flown in January 2021, and combined with a ground count of one group at the northwest end of Green Mountain, resulted in a count of 565 elk, but there was at least 1 known group of elk that we missed due to low clouds/fog over the mountains on January 10th. No elk were found in area 128. The latest 3-year trend count average is 598, placing the population just within the objective's $\pm 20\%$ range. Hunting seasons have been manipulated over the last 15-20 years to reduce the population, yet it seems to remain relatively stable. License numbers were increased substantially in area 24 until 2013, which resulted in minimal increases in harvest and significant increases in complaints about hunter crowding and perceived fewer elk. The 2020 calf/cow ratio was 27J/100F (36% below the average of 42J/100F since 1994). Traditionally high calf recruitment in this herd unit adds difficulty in reducing populations with hunting seasons, especially with hunter crowding often being a concern. The bull/cow ratio of 25M/100F is 19% below the long-term average, with 102 fewer spikes and bulls observed in 2020 than in 2018 (36 fewer than in 2019), with the difference being greater for branch antlered bulls than spikes. While hunter success for bulls has been good, many hunters have remarked they are disappointed they are seeing smaller bulls on average in recent years. Harvest increased in 2020 to the highest level and with the highest overall success rate since 2012. The bull/cow ratio averaged 37M/100F from 2015-2019. Based on the high trend count of 742 elk in 2018 and adding 15%, a reasonable population estimate of 850 is derived, meaning there will be approximately 270 bulls (including spikes) available for harvest in area 24 in 2021. Issuing 175 Type 1 licenses is 65% of the available bulls. Combined with previously documented hunter crowding issues related to high license numbers, we are not increasing the number of Type 1 licenses in 2021. Since changes made in 2020 seemed successful, combined with the low number of bulls observed, the 2021 hunting season will have no changes. If antlerless harvest stays above average levels in both hunt areas in 2021 and calf recruitment stays low, this population should decrease toward objective.

2020 - JCR Evaluation Form

SPECIES: Elk
 HERD: EL639 - FERRIS
 HUNT AREAS: 22, 111

PERIOD: 6/1/2020 - 5/31/2021
 PREPARED BY: GREG HIATT

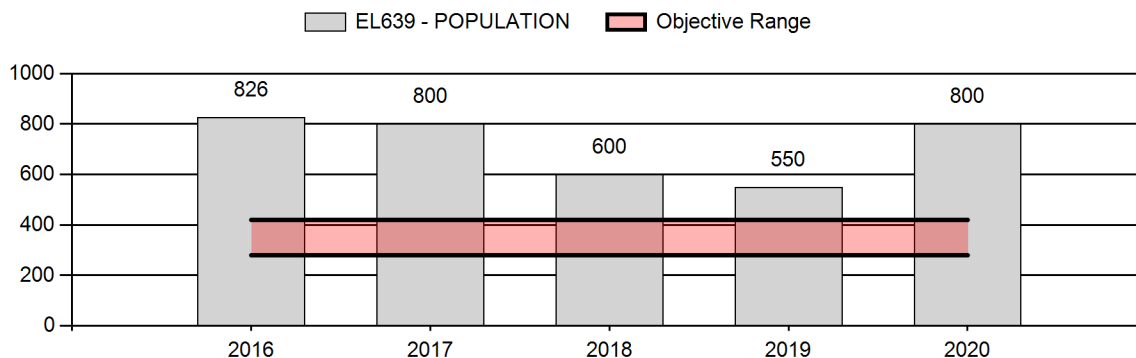
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 685 | 800 | 840 |
| Harvest: | 140 | 147 | 175 |
| Hunters: | 284 | 232 | 310 |
| Hunter Success: | 49% | 63% | 56 % |
| Active Licenses: | 294 | 248 | 310 |
| Active License Success: | 48% | 59% | 56 % |
| Recreation Days: | 1,739 | 1,797 | 2,360 |
| Days Per Animal: | 12.4 | 12.2 | 13.5 |
| Males per 100 Females | 86 | 63 | |
| Juveniles per 100 Females | 39 | 56 | |

Population Objective (± 20%) : 350 (280 - 420)
 Management Strategy: Special
 Percent population is above (+) or below (-) objective: 129%
 Number of years population has been + or - objective in recent trend: 8
 Model Date: None

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Total: | 0% | 0% |
| Proposed change in post-season population: | 10% | 5% |

Population Size - Postseason



**2021 Hunting Seasons
Ferris Elk (EL639)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|---|
| | | Opens | Closes | Opens | Closes | | |
| 22 | 1 | Sep. 1 | Sep. 30 | Oct. 8 | Oct. 31 | 60 | Any elk |
| 22 | 1 | | | Nov. 15 | Dec. 15 | | Any elk, also valid in Area 111 |
| 22 | 1 | | | Dec. 16 | Dec. 31 | | Antlerless elk |
| 22 | 6 | Sep. 1 | Sep. 30 | Oct. 8 | Oct. 31 | 50 | Cow or calf valid in the Muddy Creek Drainage |
| 22 | 6 | | | Nov. 1 | Dec. 31 | | Cow or calf valid in the entire area |
| 111 | 1 | Sep. 1 | Sep. 30 | Oct. 10 | Oct. 31 | 70 | Any elk |
| | 1 | | | Nov. 15 | Dec. 15 | | Any elk, also valid in Area 22 |
| | 1 | | | Dec. 16 | Dec. 31 | | Antlerless elk |
| 111 | 4 | Sep. 1 | Sep. 30 | Oct. 10 | Dec. 31 | 50 | Antlerless elk |
| 111 | 6 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 31 | 150 | Cow or calf |

2020 Hunter Satisfaction: 79% Satisfied, 8% Neutral, 13% Dissatisfied

2021 Management Summary

- Hunting Season Evaluation:** Conditions for this year’s trend count were near ideal, with fresh snow cover, good light and light winds for both days of flying. A total of 781 elk were counted, well above the objective of 350. The trend count found only 463 elk in the publicly available portion of this herd, with 318 elk (41%) in checker-boarded lands where hunter access is severely limited. Nearly all of the increase in trend count tallies was in the checker-board, and 47% of the cows in the herd were in the checker-boarded lands and unavailable to harvest.

Hunter success improved for all license types in these two hunt areas in 2020, and the average number of days hunted declined for all types. Heavy snows prevented hunters from accessing many elk winter ranges in 2019, and the 2020 statistics may reflect improved hunting weather as much as the number of elk available. As would be expected with improved success, hunter satisfaction increased in Area 111, to 81% (Figure 2.). Hunter satisfaction did not increase in Area 22 (Figure 1.), remaining near 75%, and dissatisfaction increased to 16%, a 5-year high.

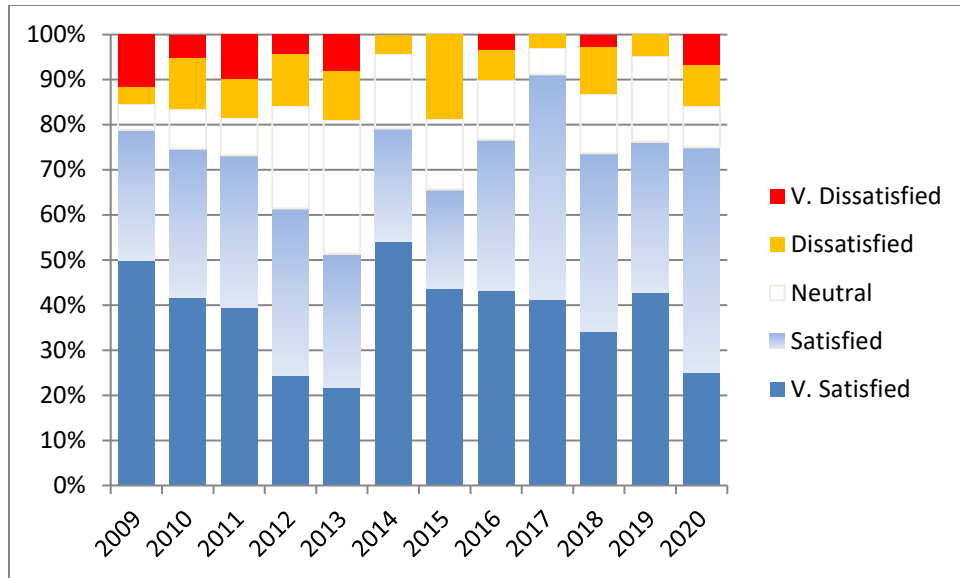


Figure 1. Hunter satisfaction and dissatisfaction for Area 22 in the Ferris Elk Herd.

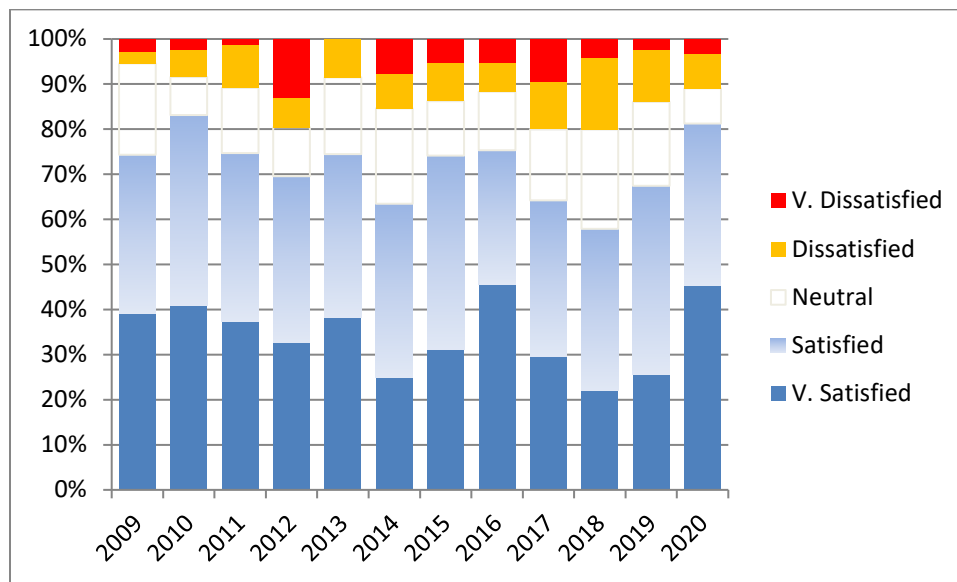


Figure 2. Hunter satisfaction and dissatisfaction for Area 111 in the Ferris Elk Herd.

Classification sample this year was the second highest in 5 years. Calf production was again high at 56:100. The antlered:cow ratio was 63:100, demonstrating there are surplus bulls available for harvest. Antlerless harvests need to continue, and should be increased, but nearly half the reproductive portion of this herd is unavailable for harvest in the checkerboard. The main landowner in the checkerboard was approached with the possibility of a separate license type and season for getting antlerless harvest from this portion of the herd, but they were not interested. Advantages of the Hunter Management Program were also discussed and explained, with the same result. As a consequence, harvest rates need to be scaled according to the number of elk actually available for harvest,

with the goal of retaining reasonable numbers of elk and hunting opportunity on public and accessible private lands. Assuming typical calf production and hunter success, the 2021 license quotas should continue to reduce elk numbers on the accessible portions of this herd, but elk numbers in the inaccessible checkerboard, in the southern portion of Area 111 will continue to grow unabated, leaving the herd unit as a whole above objective.

Early winter hunts have allowed for harvest of antlerless elk that are on private land and unavailable during October, and a similar strategy was successfully employed in 2019 and 2020 for “any elk” seasons for the Type 1 licenses. To maintain harvest of surplus antlered elk, the same season is employed this year. Since many bull groups frequently cross the boundary between Areas 22 and 111 during the winter, the Type 1 hunters are again allowed to hunt both areas during this late “any elk” hunt and adjust their hunts accordingly.

- 2.) **Chronic Wasting Disease Monitoring & Management:** Because of its small size and low harvest rate, this herd is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred.

2020 - JCR Evaluation Form

SPECIES: Elk
 HERD: EL643 - SHAMROCK
 HUNT AREAS: 118

PERIOD: 6/1/2020 - 5/31/2021

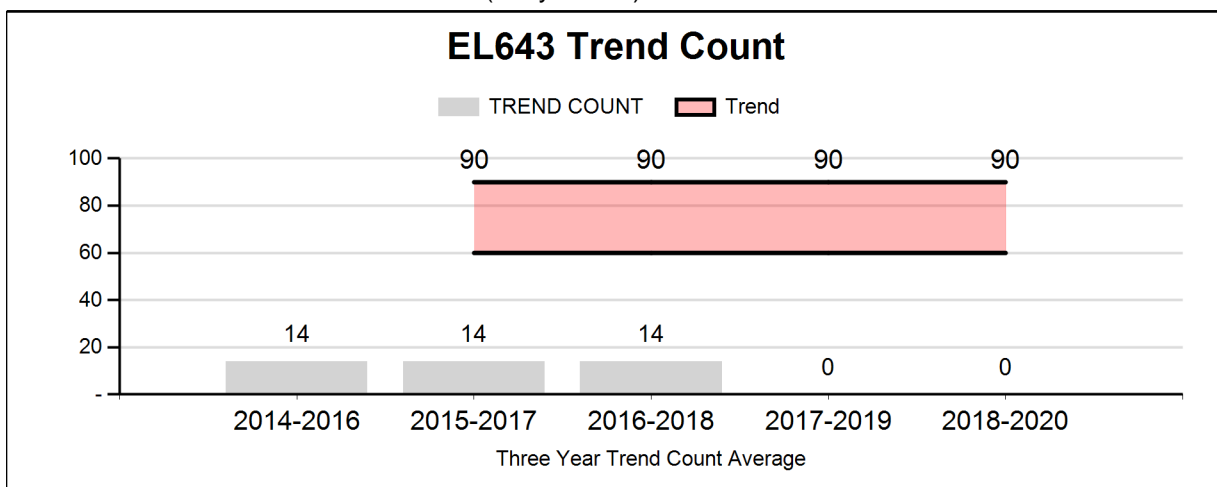
PREPARED BY: GREG HIATT

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 42 | 0 | 0 |
| Harvest: | 54 | 44 | 50 |
| Hunters: | 87 | 86 | 90 |
| Hunter Success: | 62% | 51% | 56 % |
| Active Licenses: | 96 | 93 | 90 |
| Active License Success | 56% | 47% | 56 % |
| Recreation Days: | 469 | 401 | 490 |
| Days Per Animal: | 8.7 | 9.1 | 9.8 |
| Males per 100 Females: | 0 | 0 | |
| Juveniles per 100 Females | 0 | 0 | |

Trend Based Objective (± 20%) 75 (60 - 90)
 Management Strategy: Recreational
 Percent population is above (+) or (-) objective: N/A%
 Number of years population has been + or - objective in recent trend: 4

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|---------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Juveniles (< 1 year old): | 0% | 0% |



**2021 Hunting Seasons
Shamrock Elk (EL643)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|--|
| | | Opens | Closes | Opens | Closes | | |
| 118 | 1 | Sep. 1 | Sep. 30 | Oct. 22 | Nov. 12 | 25 | Any elk |
| 118 | 4 | Sep. 1 | Sep. 30 | Oct. 22 | Nov. 30 | 25 | Antlerless elk |
| 118 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 50 | Cow or calf valid south of the Mineral X Road (Sweetwater County Road 63 and B.L.M. Road 3206) |

2020 Hunter Satisfaction: 69% Satisfied, 12% Neutral, 19% Dissatisfied

2021 Management Summary

1.) **Hunting Season Evaluation:** The most recent end-of-year trend count for this herd was flown in June 2017, with only 42 elk found, more than 40 percent below objective. Another aerial count scheduled for 2020 was postponed until spring 2021 due to concerns over Covid-19. Despite the low count in 2017, license quotas have remained constant, with 100 licenses available in each of the past 3 years. Hunter success declined for Type 1 and 6 hunters in 2020, but rose slightly for hunters with Type 4 antlerless licenses. Overall, hunter success was 47%, below the 5-year average of 54%. As would be expected with lower hunter success, hunter satisfaction declined slightly to 69 percent and dissatisfaction increased to 19 percent (Figure 1.).

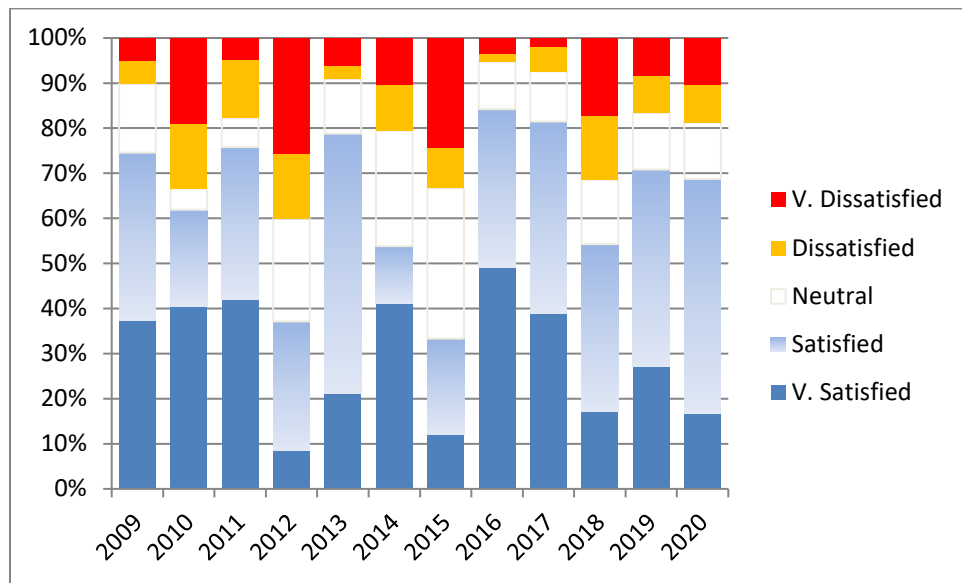


Figure 1. Hunter satisfaction and dissatisfaction in the Shamrock Elk Herd.

When first issued, the Type 6 licenses in this herd were limited to the southeastern corner of the area to address damage concerns, and an early Oct. 1 starting date was effective in increasing harvest and dispersing elk off private pastures. When the restricted area on these licenses was expanded to encompass the entire southern half of the hunt area, Type 1 and Type 4 hunters began to complain that the early cow hunt was making elk more wary and hazing large groups of elk out of the herd unit into Area 100 prior to their opening date. To address these annual concerns, the season opening date for Type 6 licenses was moved back to coincide with the regular season in 2020. Synchronizing the antlerless harvest did not benefit bull hunters, as success for the Type 1 licenses dropped to 36%, the lowest since this area was first hunted in 1984. Landowners were split on the synchronized season, unhappy at the crowding of hunters but appreciative of a shorter season. Hunters were largely displeased with the synchronized cow/calf season, with 6 of 12 public comments on this area requesting a return to the Oct 1 opening date. Since the delayed season failed to improve harvest by the Type 1 hunters and most hunters were displeased with the shorter, more crowded cow season, the Oct. 1 opening date for the Type 6 licenses was restored in 2021.

- 2.) **Chronic Wasting Disease Monitoring & Management:** Because of its small size and low harvest rate, this herd is a Tier 3 surveillance herd. To date, no meaningful CWD prevalence data is available within this herd unit and no CWD management actions have occurred.

2020 - JCR Evaluation Form

SPECIES: Moose
 HERD: MO620 - LANDER
 HUNT AREAS: 2, 30, 39

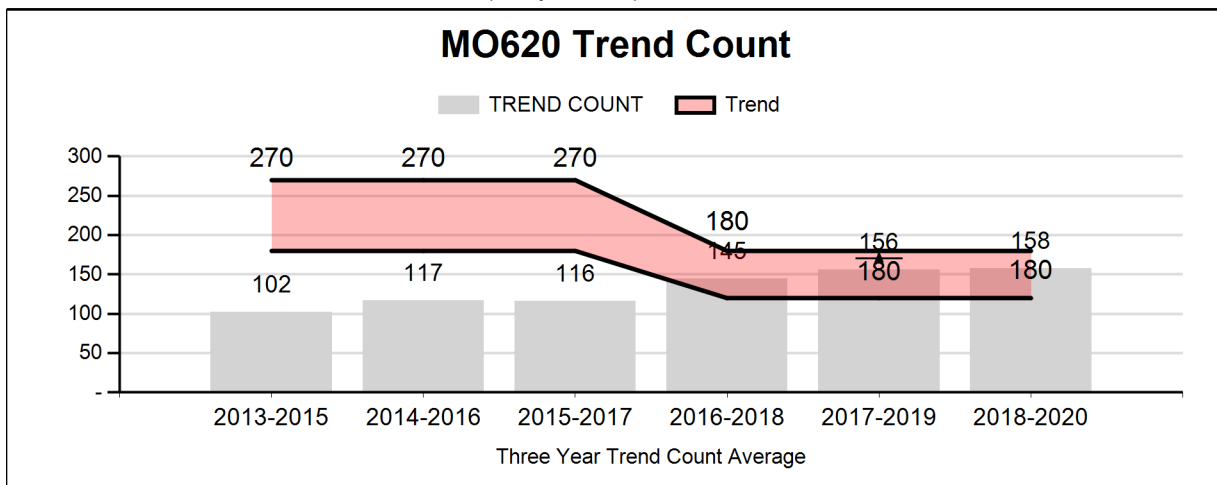
PERIOD: 6/1/2020 - 5/31/2021
 PREPARED BY: STAN HARTER

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 141 | 118 | 150 |
| Harvest: | 6 | 5 | 5 |
| Hunters: | 7 | 5 | 5 |
| Hunter Success: | 86% | 100% | 100% |
| Active Licenses: | 7 | 5 | 5 |
| Active License Success | 86% | 100% | 100% |
| Recreation Days: | 76 | 49 | 50 |
| Days Per Animal: | 12.7 | 9.8 | 10 |
| Males per 100 Females: | 59 | 82 | |
| Juveniles per 100 Females | 47 | 54 | |

Trend Based Objective ($\pm 20\%$) 150 (120 - 180)
 Management Strategy: Special
 Percent population is above (+) or (-) objective: -21.3%
 Number of years population has been + or - objective in recent trend: 1

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|----------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Juveniles (< 1 year old): | 0% | 0% |



2021 Hunting Seasons

Lander Moose (MO320)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|-----------|---------------|----------|--------------|---------|-------|----------------|
| | | Opens | Closes | Opens | Closes | | |
| 2, 30 | 1 | Sept. 1 | Sept. 30 | Oct. 1 | Nov. 20 | 5 | Antlered moose |
| 39 | | | | CLOSED | | | |

2021 Management Summary

1.) Hunting Season Evaluation: With a general lack of snow cover, moose were often greatly scattered in forested habitats away from willow riparian habitats during classification/trend count flights conducted in mid-January 2021. Pinedale Region personnel flew the west side of area 30 in mid-February and only observed one bull. As such, the 2020 mid-winter trend count of 118 moose was 36% lower than in 2019, when 183 moose were observed. This is a concern, but detection conditions most likely explain the disparity. The current 3-year trend count average is 158 moose, placing this population just above the objective of 150 moose. Harvest survey results from the 2020 season again show 100% bull harvest with 5 licenses valid in both hunt areas 2 and 30. Only 4 of 5 hunters submitted teeth for aging via cementum annuli, which indicated the average age of harvested bulls was 5.75 years (range 2-9) with an average antler spread of 40.44 inches (range 35.5-45.25) from 4 measurements. The average age of harvested moose has been above 5 in 4 of the last 6 seasons, and antler size has also increased. Teeth were also collected from 2 cow moose from miscellaneous mortalities (one roadkill, one possible plant toxicity), and were aged at 2 and 10 years old, respectively. Both cows had calves in early September when the mortalities occurred. Hunting season structure has been conservative for the past several years due to concerns about population declines. Accordingly, hunter success has been 100% in each of the last 3 seasons. Classification data showed a calf/cow ratio of 54J/100F (with one set of twin calves), and the bull/cow ratio increased to 82M/100F. The 2021 season features no changes, given fewer bulls were observed during the mid-winter flight. Most bulls still retaining antlers during the trend count were young bulls with small antlers, and outnumbered those without antlers during the survey.

2020 - JCR Evaluation Form

SPECIES: Moose
 HERD: MO621 - DUBOIS
 HUNT AREAS: 6

PERIOD: 6/1/2020 - 5/31/2021

 PREPARED BY: GREG
 ANDERSON

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|-------------------------|----------------------------|-------------|----------------------|
| Population: | | N/A | N/A |
| Harvest: | 5 | 5 | 5 |
| Hunters: | 5 | 5 | 5 |
| Hunter Success: | 100% | 100% | 100 % |
| Active Licenses: | 5 | 5 | 5 |
| Active License Success: | 100% | 100% | 100 % |
| Recreation Days: | 58 | 92 | 75 |
| Days Per Animal: | 11.6 | 18.4 | 15 |

Limited Opportunity Objective:

5-year running median age of harvested bulls is > 4 years

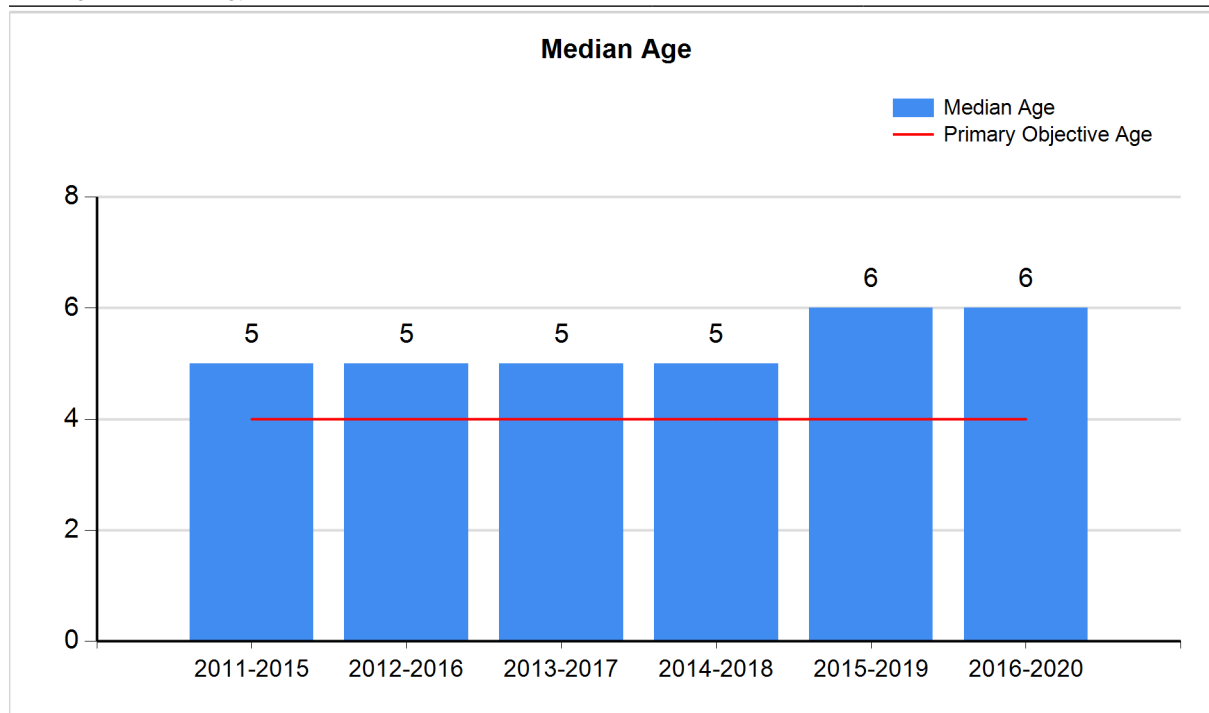
5-year running average of <= 10 days/animal to harvest

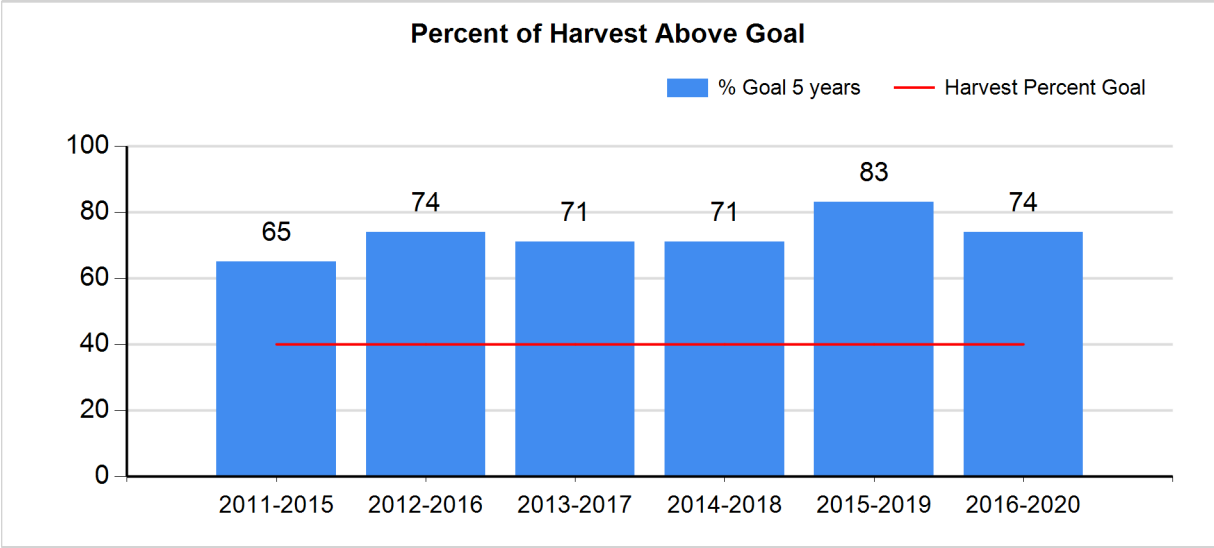
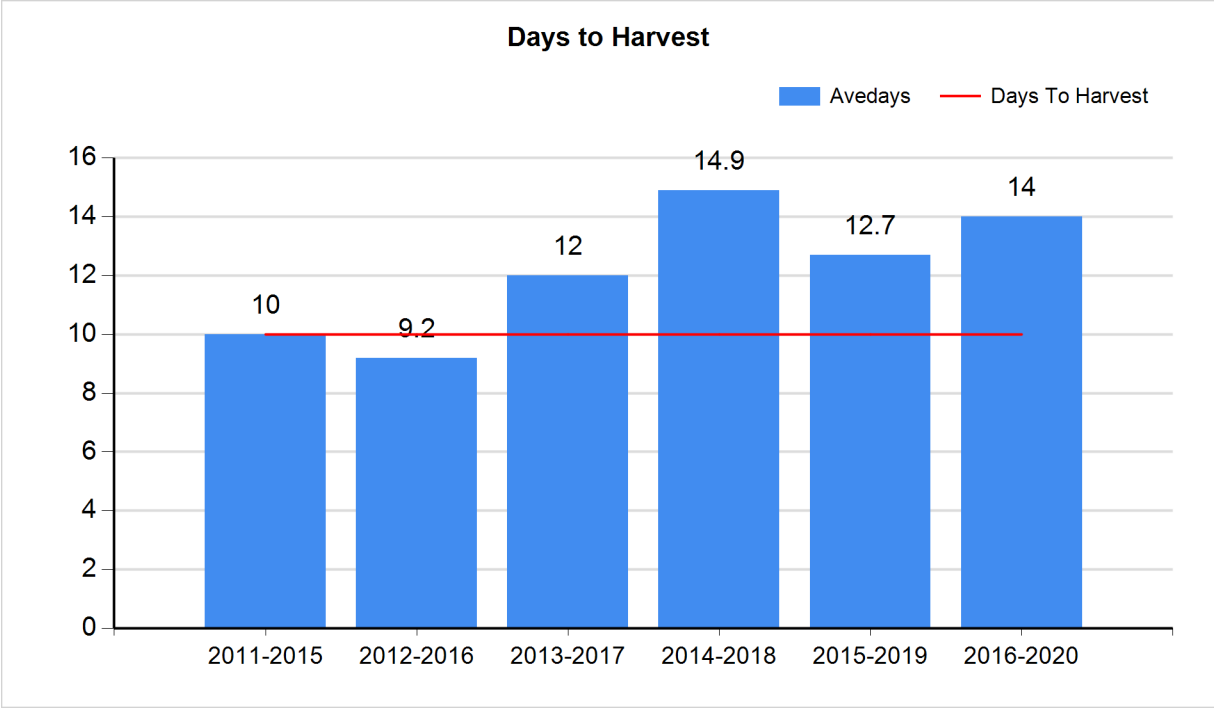
Secondary Objective:

5-year running average 40% of harvested bulls are > 5 years old

Management Strategy:

Special





**2021 Hunting Seasons
Dubois Moose (MO621)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|----------------|
| | | Opens | Closes | Opens | Closes | | |
| 6 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 20 | 5 | Antlered moose |

2021 Management Summary

1.) Hunting Season Evaluation: The 2021 hunting season remains unchanged from the previous 10 years for this hunt area/herd unit. The season will remain conservative with only 5 licenses issued. Harvest success has been 80-100% each of the last 10 years including 100% in 2020. This indicates hunters are able to find adult bull moose in the area. Furthermore, tooth age data indicate criteria for the limited opportunity objective in the herd continue to be met. Lab ages for 4 bull harvested in 2020 yielded a median age of 5. This is nearly the same as the 5-year running median age of harvest of 6. Indications are the population continues to languish well below historical levels in the area with low numbers of moose occupying traditional winter ranges throughout the area. Winter surveys do not reveal any increasing trend in moose numbers so additional hunting opportunity is not warranted in 2021.

2020 - JCR Evaluation Form

SPECIES: Bighorn Sheep

PERIOD: 6/1/2020 - 5/31/2021

HERD: BS609 - WHISKEY MOUNTAIN

HUNT AREAS: 8-10

PREPARED BY: GREG ANDERSON

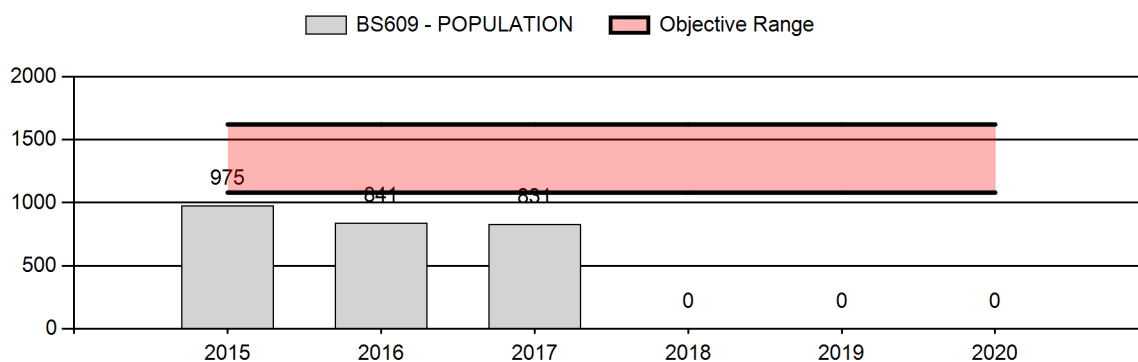
| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Population: | 529 | N/A | N/A |
| Harvest: | 14 | 4 | 10 |
| Hunters: | 21 | 13 | 15 |
| Hunter Success: | 67% | 31% | 67 % |
| Active Licenses: | 21 | 13 | 15 |
| Active License Success: | 67% | 31% | 67 % |
| Recreation Days: | 224 | 147 | 200 |
| Days Per Animal: | 16 | 36.8 | 20 |
| Males per 100 Females | 51 | 32 | |
| Juveniles per 100 Females | 19 | 29 | |

| | |
|---|--------------------|
| Population Objective (± 20%) : | 1350 (1080 - 1620) |
| Management Strategy: | Special |
| Percent population is above (+) or below (-) objective: | N/A% |
| Number of years population has been + or - objective in recent trend: | 10 |
| Model Date: | None |

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|--|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 0% | 0% |
| Total: | 0% | 0% |
| Proposed change in post-season population: | 0% | 0% |

Population Size - Postseason



**2021 Hunting Seasons
Whiskey Mountain Bighorn Sheep (BS609)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|-------------|
| | | Opens | Closes | Opens | Closes | | |
| 8 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 7 | Any ram |
| 9 | 1 | Aug. 1 | Aug. 14 | Aug. 15 | Oct. 15 | 4 | Any ram |
| 10 | 1 | Aug. 1 | Aug. 14 | Aug. 15 | Oct. 15 | 4 | Any ram |

2021 Management Summary

1.) Hunting Season Evaluation: The only change between the 2020 and 2021 hunting season is the reduction of 1 Type 1 license in hunt area 8. The reduction will result in the issuance of 5 resident licenses and 2 non-resident licenses in area 8. Since 2018 there has been insufficient demographic data collected in this herd to produce an accurate population estimate. Regardless, it appears the population continued to decline in 2020. Personnel classified a historically low number of sheep within the herd unit in 2020 with a sample of 250. Some the low classification sample can be attributed to weather conditions. It was a very mild winter with little snow cover at higher elevations allowing for sheep to be more dispersed. Due to the low classification sample, age/sex ratios should be viewed with caution. That said, the lamb/ewe ratio was the highest it had been in the last 5 years at 29/100. Much of the higher lamb/ewe ratio is due to the high ratio of 63/100 in hunt area 8. Area 9 had a lamb/ewe ratio of 29/100 and area 10 had the lowest ratio of 12/100. The number of sheep in area 10 continues to decline as a direct result of poor lamb recruitment in the area. Of particular note in 2020 is the low harvest rate for hunters. Area 10 hunters had a 0% success rate which is a historical low for the area. This was the third year that 4 licenses were issued in area 10 after being reduced from 8 licenses in 2017. Although the population has not improved there still is recreational opportunity for 4 hunters in area 10. This is evidenced by the 75% success rate in 2019, 50% success in 2018 and 73% success in 2017. Although success should be monitored closely when determining future quotas, one year of poor success should not curtail future recreational opportunity, thus the quota will remain unchanged for 2021. Similar to the low classification sample, some of the difficulty in harvest can be attributed to unseasonably warm and dry conditions throughout the hunting season resulting in wider dispersion of rams. Although only 1 ram was harvested in area 9 in 2020 this falls within the range of variation for this area where hunters have harvested anywhere between 0 and 4 rams since 2002 when the license quota for the area was reduced to 4. The harvest success of 43% in area 8 was also low but within the historic range of variation for this area. That said, only 7 licenses will be issued in area 8 in 2021 to help balance the resident/non-resident license issuance with other areas in the state.

2.) In 2019, a lamb survival study was initiated in this herd to determine cause specific mortality of lambs and track body condition of sheep in the population. In the spring of 2019, 24 adult ewes were outfitted with GPS collars and had VITs implanted to aid researchers in capturing

neonate lambs. Graduate students from the University of Wyoming were able to capture 14 neonate lambs during spring, 2019. Between June, 2019 and January, 2020 all lambs subsequently died. The study continued in 2020/21 with 11 lambs captured and collared between May and June, 2020. Similar to 2019, all 11 collared lambs died by the end of February, 2021. Each year, roughly half of the collared lamb mortalities were attributable to pneumonia.

2020 - JCR Evaluation Form

SPECIES: Bighorn Sheep
 HERD: BS615 - FERRIS-SEMINOE
 HUNT AREAS: 17, 26

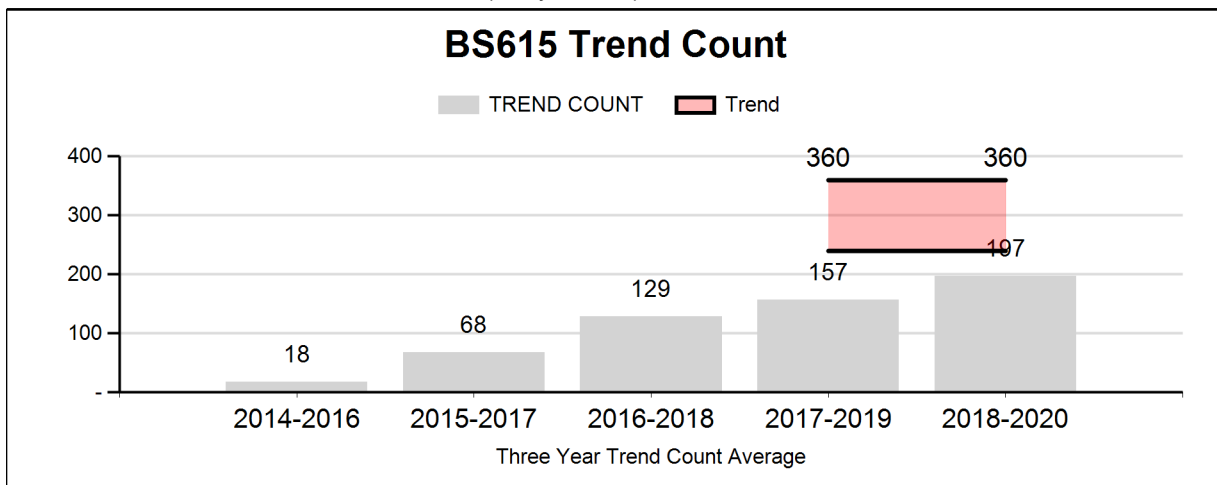
PERIOD: 6/1/2020 - 5/31/2021
 PREPARED BY: GREG HIATT

| | <u>2015 - 2019 Average</u> | <u>2020</u> | <u>2021 Proposed</u> |
|---------------------------|----------------------------|-------------|----------------------|
| Trend Count: | 131 | 274 | 290 |
| Harvest: | 3 | 5 | 8 |
| Hunters: | 3 | 5 | 8 |
| Hunter Success: | 100% | 100% | 100% |
| Active Licenses: | 3 | 5 | 8 |
| Active License Success | 100% | 100% | 100% |
| Recreation Days: | 26 | 21 | 80 |
| Days Per Animal: | 8.7 | 4.2 | 10 |
| Males per 100 Females: | 53 | 84 | |
| Juveniles per 100 Females | 47 | 63 | |

Trend Based Objective ($\pm 20\%$) 300 (240 - 360)
 Management Strategy: Special
 Percent population is above (+) or (-) objective: -8.7%
 Number of years population has been + or - objective in recent trend: 12

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

| | <u>JCR Year</u> | <u>Proposed</u> |
|------------------------------|-----------------|-----------------|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 4.5% | 6% |
| Juveniles (< 1 year old): | 0% | 0% |



**2021 Hunting Seasons
Ferris-Seminole Bighorn Sheep (BS615)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|-----------|------|---------------|---------|--------------|---------|-------|-------------|
| | | Opens | Closes | Opens | Closes | | |
| 17,26 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 8 | Any ram |

2021 Management Summary

1.) Hunting Season Evaluation: A winter trend count flown in January 2021 found 274 bighorn sheep, providing a 3-year average of 197 sheep, still below the objective of 300. As is typical, the vast majority (92%) of these animals were in Area 17, and most of these were in the Seminole Mountains. Lamb production was high at 71:100, well above the 43:100 and 46:100 seen in 2019 and 2018. Ram:ewe ratios ranged from 47:100 in 2017 to 44:100 in 2019, but jumped to 106:100 this year with at least 102 adult rams seen during the trend count. Despite the abundance of rams in the herd, average age of harvested rams declined slightly to 7.0 years compared to 7.4 years in 2019 (Figure 1.). While there is a good supply of rams, the majority appear to be 5 years of age or younger, products of the exceptional lamb production seen in 2015 and 2016. There are enough mature rams to increase the quota to 8 licenses. While two of the five rams harvested in 2020 came from Area 26, there does not yet appear to be need to separate the quotas between these two areas.

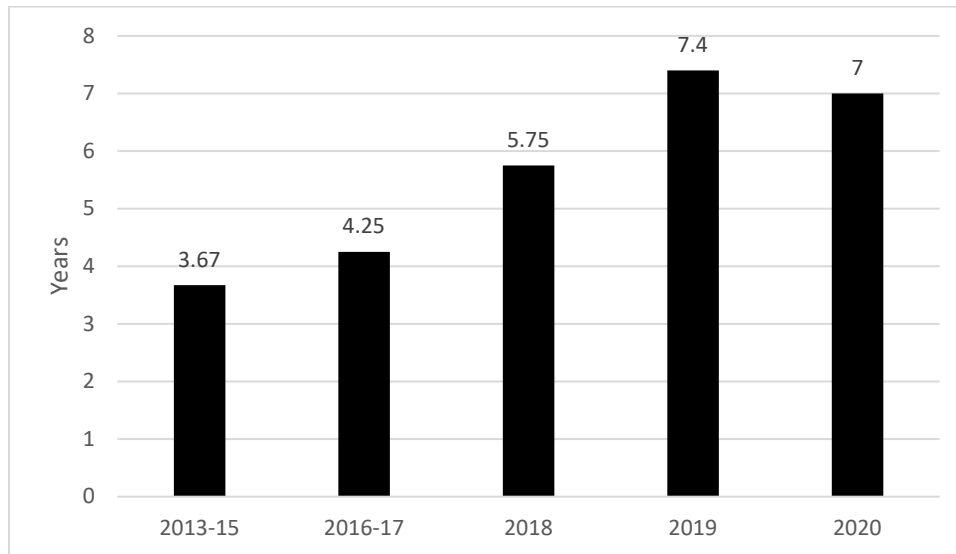


Figure 1. Average age of rams harvested from the Ferris-Seminole Bighorn Sheep Herd.

2.) Management Objective Review: In 2020, managers reviewed the past five years' population, weather and habitat data and determined the current management objective for the Ferris-Seminole Bighorn Sheep herd was no longer appropriate. A change from the postseason population objective of 300 bighorn sheep to a Mid-Winter Trend Count objective of 300 bighorn sheep, based upon a running 3-year average, was reviewed internally, taken to the public for comment and adopted by the Commission in September 2020.