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# 2021 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2021 - 5/31/2022

HERD: PR201 - Copper Mountain

HUNT AREAS: 76, 79, 114-116
PREPARED BY: Bart Kroger

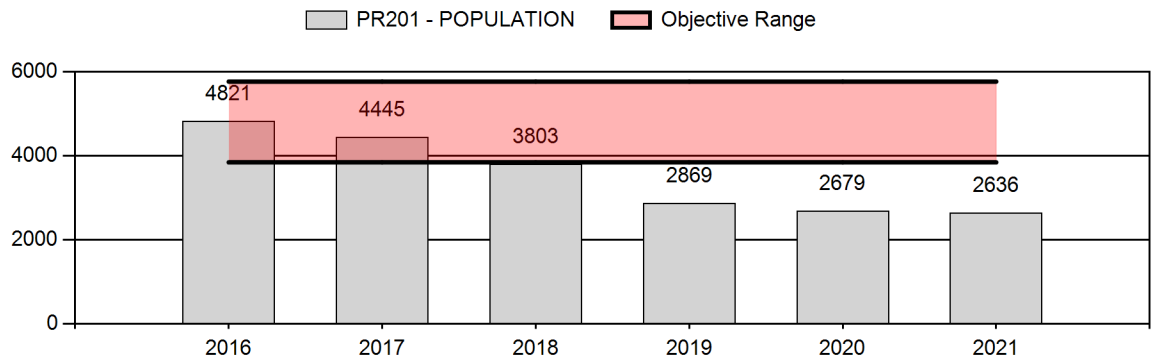
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,723 | 2,636 | 2,596 |
| Harvest: | 953 | 514 | 435 |
| Hunters: | 992 | 608 | 525 |
| Hunter Success: | 96% | 85% | 83 % |
| Active Licenses: | 1,140 | 673 | 550 |
| Active License Success: | 84% | 76% | 79 % |
| Recreation Days: | 3,834 | 2,406 | 2,100 |
| Days Per Animal: | 4.0 | 4.7 | 4.8 |
| Males per 100 Females | 59 | 41 | |
| Juveniles per 100 Females | 61 | 48 | |

| | |
|---|---|
| Population Objective (± 20%) : | 4800 (3840 - 5760) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -45.1% |
| Number of years population has been + or - objective in recent trend: | 4 |
| Model Date: | 2/15/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 11% | 9% |
| Males ≥ 1 year old: | 45% | 47% |
| Proposed change in post-season population: | -2% | -2% |

## Population Size - Postseason



**2022 Hunting Seasons**
**Copper Mountain Pronghorn (PR201)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 76 | 1 | Aug. 15 | Sep. 30 | Oct. 1 | Oct. 31 | 125 | Any antelope |
| 79 | 1 | | | Oct. 1 | Oct. 15 | 25 | Any antelope valid on or within one-half (1/2) mile of irrigated land |
| 79 | 6 | | | Sep. 1 | Nov. 30 | 75 | Doe or fawn valid on or within one-half (1/2) mile of irrigated land |
| 79 | 9 | | | Aug. 15 | Sep. 30 | 50 | Any antelope, archery only |
| 114 | 1 | Aug. 15 | Sep. 30 | Oct. 1 | Oct. 31 | 75 | Any antelope |
| 114 | 2 | Aug. 15 | Aug. 31 | Oct. 25 | Dec. 31 | 25 | Any antelope valid on irrigated land east of the Worland Airport Road and south of U.S. Highway 16 |
| 114 | 6 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 24 | 25 | Doe or fawn valid on irrigated land |
| 114 | 7 | Aug. 15 | Aug. 31 | Oct. 25 | Nov. 30 | 25 | Doe or fawn valid on irrigated land |
| 114 | 8 | Aug. 15 | Aug. 31 | Oct. 25 | Dec. 31 | 25 | Doe or fawn valid on irrigated land east of the Worland Airport Road and south of U.S. Highway 16 |
| 115 | 1 | Aug. 15 | Sep. 30 | Oct. 1 | Oct. 31 | 200 | Any antelope |
| 115 | 6 | Aug. 15 | Aug. 31 | Sep. 1 | Nov. 30 | 100 | Doe or fawn valid east of the Nowood River or south of the Nowater Stock Trail (B.L.M. Road 1404) |

**2021 Hunter Satisfaction:** 77% Satisfied, 11% Neutral, 12% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 season structure is again very conservative due to declining numbers of pronghorn in the herd. A significant late winter die-off in 2018/19, along with two recent years of drought and poor fawn production have contributed to these declines. Fawn ratios since 2019 have average 46:100 does, which are three of the lowest fawn ratios on record. The number of pronghorn classified in the herd unit has declined by over 50% since 2015. Based on field personnel perceptions, along with landowner and hunter comments during the 2020 and 2021 hunting season, it is believed nearly a 50% loss in this pronghorn population has occurred. Hunter satisfaction has declined from 92% satisfied in 2018 to 77% satisfied in 2021. Hunter success was 85% in 2021, down from 103% in 2018, while hunter effort has increased by more

than a day. Overall, a slight reduction of 25 Type 1 licenses will occur in area 76, no changes in area 79, and a reduction of 50 Type 6 licenses in area 115. For area 114, several changes to season dates, limitations, and a new Type 8 license will occur to further address damage issues near Worland. Nearly 800 licenses have been reduced in this herd unit over the last four years. Until fawn ratios improve and overall population increases are observed, this herd will likely continue to have very conservative hunting seasons. The 3-year average percent harvest of the preseason males (≥1 year old) is currently 42%.

**2.) Management Objective Review:** The Copper Mountain Pronghorn herd unit objective was not reviewed in 2020. Field managers feel pronghorn numbers are likely below current model estimates.

**3.)** Damage issues have and will continue to be management concerns for this pronghorn herd, especially in those agricultural areas near the Worland. Supporting some doe/fawn licenses should be considered annually to allow for crop damage prevention even when herd numbers are suppressed, or below herd objectives.

**4.)** Overall habitat conditions continue to decline in this herd due to increases in cheatgrass prevalence and expansion. Because of this, pronghorn herd growth will likely continue to struggle, and more erratic declines in numbers may occur more often when higher than normal weather events occur. Epizootic Hemorrhagic Disease (EHD) was confirmed in 2021 south and east of Worland, but no significant die-offs were documented.

**5.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model was approximately 2600 pronghorn. In 2021, WGFD managers also began using PopR integrated population models (IPM) to estimate population indices for pronghorn and mule deer. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 5,800 (CL=5,200 – 6,500) pronghorn. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022. A line-transect abundance survey is planned for spring 2023 for this herd unit to hopefully help refine the new PopR model estimate.

# 2021 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2021 - 5/31/2022

HERD: PR204 - FIFTEENMILE

HUNT AREAS: 77, 83, 110
PREPARED BY: BART KROGER

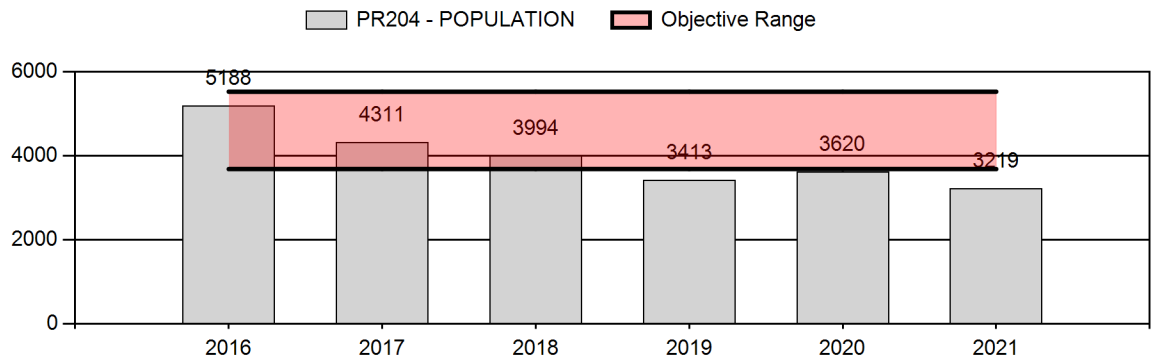
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 4,105 | 3,219 | 3,048 |
| Harvest: | 916 | 443 | 360 |
| Hunters: | 907 | 528 | 425 |
| Hunter Success: | 101% | 84% | 85 % |
| Active Licenses: | 1,036 | 591 | 475 |
| Active License Success: | 88% | 75% | 76 % |
| Recreation Days: | 2,896 | 1,519 | 1,300 |
| Days Per Animal: | 3.2 | 3.4 | 3.6 |
| Males per 100 Females | 45 | 43 | |
| Juveniles per 100 Females | 58 | 62 | |

| | |
|---|---|
| Population Objective (± 20%) : | 4600 (3680 - 5520) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -30.0% |
| Number of years population has been + or - objective in recent trend: | 3 |
| Model Date: | 2/15/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 5% | 3% |
| Males ≥ 1 year old: | 60% | 81% |
| Proposed change in post-season population: | -11% | -5% |

## Population Size - Postseason



**2022 Hunting Seasons**
**Fifteen Mile Pronghorn (PR204)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 77 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 14 | 125 | Any antelope |
| 77 | 2 | | | Aug. 15 | Nov. 30 | 25 | Any Antelope valid north of Wyoming Highway 30 |
| 77 | 6 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 24 | 50 | Doe or fawn valid on or within one-half (1/2) mile of irrigated land in Hot Springs County |
| 77 | 7 | Aug. 15 | Aug. 31 | Oct. 25 | Nov. 30 | 25 | Doe or fawn valid on irrigated land |
| 77 | 8 | | | Aug. 15 | Nov. 30 | 25 | Doe or fawn valid north of Wyoming Highway 30 |
| 83 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Nov. 7 | 150 | Any antelope |
| 83 | 6 | Aug. 15 | Sep. 19 | Sep. 20 | Nov. 30 | 25 | Doe or fawn valid on irrigated land within the Gooseberry Creek or Little Gooseberry Creek Drainages |
| 110 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 14 | 125 | Any antelope |
| 110 | 6 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 14 | 50 | Doe or fawn |

**2021 Hunter Satisfaction:** 85% Satisfied, 9% Neutral, 6% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 season structure for this herd unit is again mostly conservative due to fewer pronghorn in recent years. A 2018/19 winter loss, along with two consecutive years of drought have caused this population to decline. Field personnel and landowner perceptions are that a 50% loss of pronghorn has occurred. Current model estimates and trends are considered somewhat reliable because they reflect these declining trends. Hunter satisfaction declined from 91% satisfied in 2020 to 85% satisfied in 2021. Hunter success has declined sharply in recent years, from a record high of 110% in 2018, to a record low of 84% in 2021. Roughly 1,300 pronghorn were classified in 2021, down nearly 40% since 2018 when 2,100 were classified. Overall, a reduction of about 1,000 licenses has occurred in the herd unit the past three years. Fawn ratios the past two years have been favorable at about 63:100 does. Buck ratios continue to remain low at about 41:100 on average the past three years. Season changes for the 2022 include several season date and limitation changes, along with a new Type 8 license in area 77 to address damage concerns north of Highway 30. A reduction of 100 Type 1 licenses will occur in area 83, and a change to the Type 6 to address potential damage issues near lower Gooseberry Creek. No changes will occur for area 110, since it appears to still support good numbers of pronghorn. Although this pronghorn herd is well below its post-season objective level, doe/fawn licenses will remain to address potential damage concerns in each hunt area. The 3-year average percent harvest of the preseason males (≥1 year old) is currently 45%.

**2.) Management Objective Review:** The Fifteen Mile Pronghorn herd unit objective was last reviewed in 2018, with no changes made.

**3.) Damage:** Issues of crop damage have and will continue to be management concerns for this pronghorn herd, especially in those agricultural areas near the Bighorn River, Greybull River and along Owl Creek in Hunt Areas 77 and 83. Supporting some doe/fawn licenses should be considered annually to allow for crop damage prevention even when herd numbers are suppressed, or below herd objectives.

**4.) Habitat:** Overall habitat conditions continue to decline in this herd due to increases in cheatgrass prevalence and expansion. Because of this, pronghorn herd growth will likely continue to struggle, and more erratic declines in the population may occur more often.

**5.) Research:** Pronghorn collared during the fall 2019 in the Carter Mountain Herd have shown significant movements into Hunt Area 110 of the Fifteen Mile herd during 2020 and 2021. Because of this, area 110 will be incorporated into the Carter Mountain herd unit.

**7.) Epizootic Hemorrhagic Disease (EHD):** EHD was confirmed near Worland in 2021. However, no significant die-off of pronghorn were detected within the Fifteen Mile herd.

**8.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model was approximately 3,000 pronghorn. In 2021, WGFD managers also began using PopR integrated population models (IPM) to estimate population indices for pronghorn and mule deer. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 7,300 (CL=6,400 – 8,100, rhat=1.63) pronghorn. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022. A line-transect abundance survey is planned for spring 2022 for this herd unit to hopefully help refine the new PopR model estimate.

# 2021 - JCR Evaluation Form

SPECIES: Pronghorn
PERIOD: 6/1/2021 - 5/31/2022

HERD: PR205 - CARTER MOUNTAIN

HUNT AREAS: 78, 81-82
PREPARED BY: SAM STEPHENS

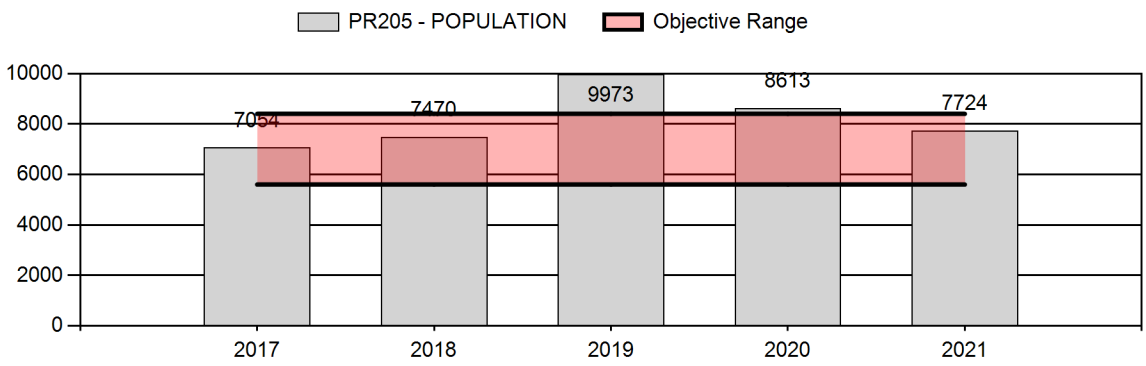
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 8,139 | 7,724 | 8,220 |
| Harvest: | 796 | 1,021 | 1,100 |
| Hunters: | 816 | 1,053 | 1,150 |
| Hunter Success: | 98% | 97% | 96% |
| Active Licenses: | 927 | 1,203 | 1,200 |
| Active License Success: | 86% | 85% | 92% |
| Recreation Days: | 2,717 | 3,966 | 4,000 |
| Days Per Animal: | 3.4 | 3.9 | 3.6 |
| Males per 100 Females | 54 | 54 | |
| Juveniles per 100 Females | 54 | 50 | |

| | |
|---|---|
| Population Objective (± 20%) : | 7000 (5600 - 8400) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | 10% |
| Number of years population has been + or - objective in recent trend: | 3 |
| Model Date: | 1/28/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 11% | 10% |
| Males ≥ 1 year old: | 27% | 22% |
| Proposed change in post-season population: | -13% | -11% |

## Population Size - Postseason



**2022 HUNTING SEASONS**
**CARTER MOUNTAIN PRONGHORN HERD (PR205)**

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 78 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 31 | 150 | Any antelope |
| 78 | 6 | | | Aug. 15 | Nov. 15 | 150 | Doe or fawn valid on irrigated land |
| 78 | 7 | | | Oct. 15 | Nov. 30 | 100 | Doe or fawn valid on irrigated land in Big Horn County |
| 81 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Nov. 15 | 275 | Any antelope |
| 81 | 6 | Aug. 15 | Sep. 19 | Sep. 20 | Nov. 15 | 200 | Doe or fawn |
| 82 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 14 | 200 | Any antelope |
| 82 | 2 | Aug. 15 | Sep. 19 | Oct. 15 | Nov. 15 | 100 | Any antelope valid east of Wyoming Highway 120 |
| 82 | 6 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 14 | 200 | Doe or fawn |
| 82 | 8 | Aug. 15 | Sep. 19 | Oct. 15 | Nov. 30 | 50 | Doe or fawn valid in Big Horn County |

**2021 Hunter Satisfaction**: 85% Satisfied, 9% Neutral, 6% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:**

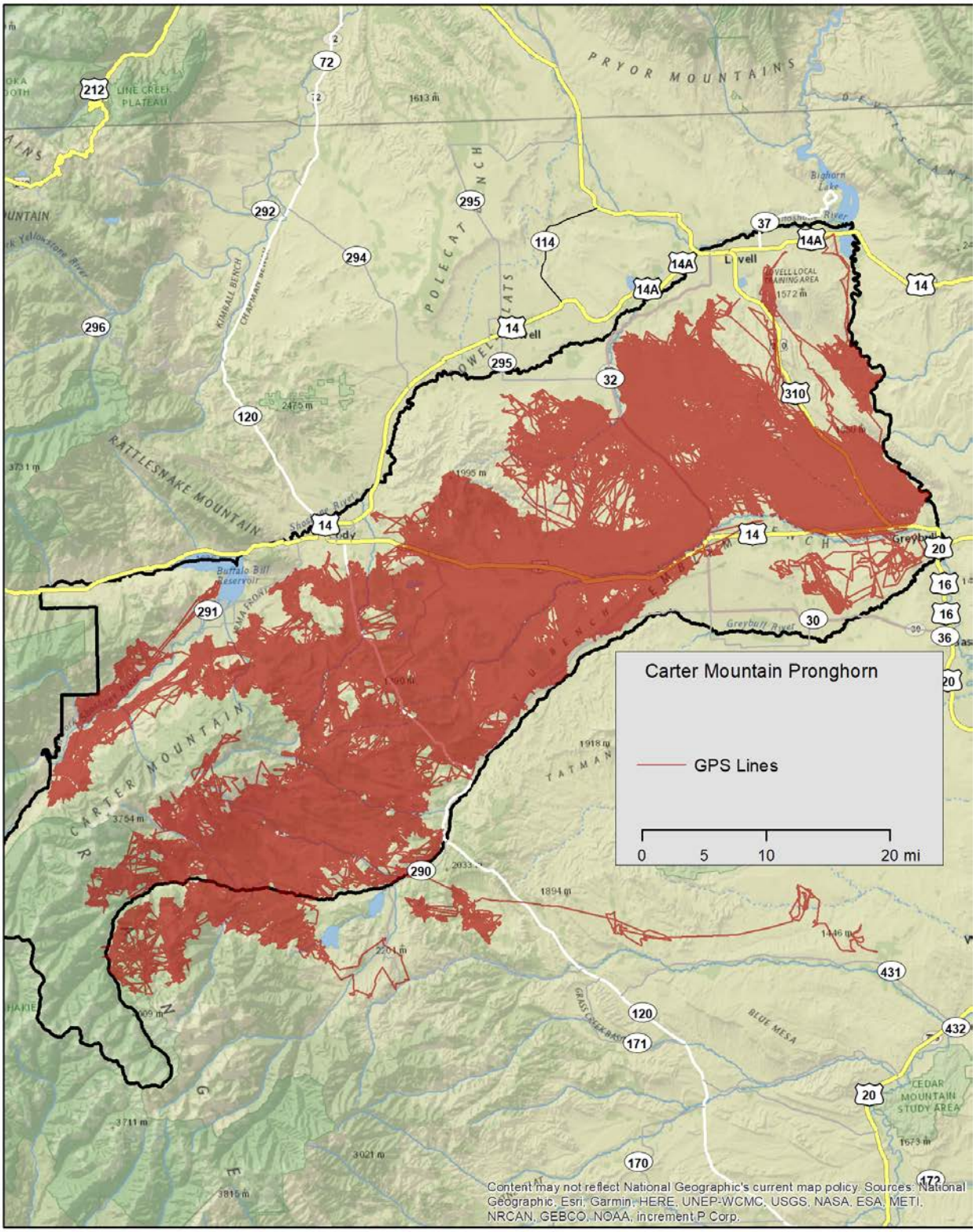
In 2021 we saw increased hunter opportunity result in the largest harvest of pronghorn for the Carter Mountain Pronghorn (n=1021). Changes in 2022 were intended to maintain harvest levels across the herd unit by offsetting the addition of 150 doe/fawn licenses in Hunt Area 78 with reductions in the Hunt Area 81 Type 6 and Hunt Area 82 Type 8 quotas. Maintaining harvest at this high level is due to the population decreasing closer to objective (n=7,724) but still seeing an increase in sagebrush utilization which indicates that we are seeing the cumulative effect of increased abundance amidst a two year drought. It's suspected that increased use of sagebrush may also be impacting the ability of plants to recover. This is especially pronounced where the age-class of sagebrush within the Dry Creek Basin is showing an increase in the proportion of decadent and dead plants. Over-browsing of an aging sagebrush resource could be a limitation for future population performance of the Carter Mountain Herd. Maintaining harvest levels to curb population growth within the objective range (±20% of 7000) should alleviate the impact to available habitat. Hunt Areas 81 and 82 include the more migratory segment of the herd. The success of this migratory life history strategy is reflected in the dissimilarity with respect to higher fawn recruitment rates amongst migratory pronghorn, where those that summer at higher elevations in Hunt Areas 81 and 82 typically show a higher fawn ratio. Higher recruitment rates

give a population more resilience to mortality events (i.e. hunting or winter-kill). Increases to the 81 and 82 Type 1 and 2 quotas were intended to increase hunter opportunity and buck harvest. From 2018 to 2020 the adult buck harvest rate averaged 20%. In 2021 the harvest rate increased to 26%.

**2.) Carter Mountain Pronghorn Study:**

In November of 2019 the Wyoming Game and Fish Department worked with researchers from West Inc. to capture and GPS collar pronghorn in the Carter Mountain Herd Unit. GPS collars were deployed on adult female pronghorn (n=100) within the Dry Creek and Little Dry Creek watersheds, which spans from Wyoming State Highway 120 easterly to Greybull Wyoming. An additional 25 collars were deployed in August and December 2020 to redeploy collars lost to mortalities and augment the sample size. These collars collected a location every 2 hours to map fine-scale movement and habitat selection. Data from this study will be analyzed to determine seasonal movements, adult female survival rates, and habitat use for the Carter Mountain Pronghorn Herd. GPS movement data indicate most pronghorn are travelling 30-60 miles between seasonal ranges (Figure 1). In 2021: eight (n=8) mortalities were detected resulting in an annual survival rate of 0.93 (95% CI was 0.89 to 0.98).

Figure 1.


Carter Mountain Pronghorn
GPS Lines
0 5 10 20 mi
PRYOR MOUNTAINS
POLECAT BENCH
RATTLESNAKE MOUNTAIN
CARTER MOUNTAIN
TATMAN
BLUE MESA
CEDAR MOUNTAIN STUDY AREA
Lovell
Greybull
Buffalo Bill Reservoir
Bighorn Lake
Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

# 2021 - JCR Evaluation Form

SPECIES: Pronghorn

PERIOD: 6/1/2021 - 5/31/2022

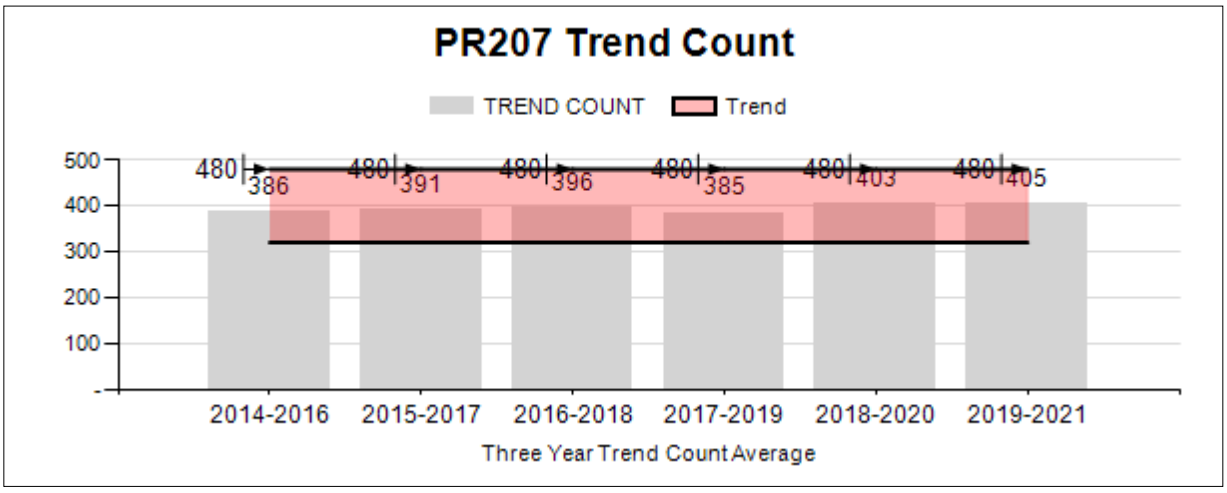
HERD: PR207 - BADGER BASIN

HUNT AREAS: 80

PREPARED BY: TONY MONG

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 416 | 326 | 300 |
| Harvest: | 85 | 118 | 120 |
| Hunters: | 90 | 147 | 200 |
| Hunter Success: | 94% | 80% | 60 % |
| Active Licenses: | 99 | 163 | 210 |
| Active License Success | 86% | 72% | 57 % |
| Recreation Days: | 343 | 740 | 700 |
| Days Per Animal: | 4.0 | 6.3 | 5.8 |
| Males per 100 Females: | 37 | 51 | |
| Juveniles per 100 Females | 31 | 43 | |

| | |
|---|---|
| Trend Based Objective (± 20%) | 400 (320 - 480) |
| Management Strategy: | Recreational |
| Percent population is above (+) or (-) objective: | 0 |
| Number of years population has been + or - objective in recent trend: | 0 |



**2022 Hunting Seasons**
**Badger Basin (PR207)**

| Hunt Area | Type | Archery Dates Opens | Archery Dates Closes | Season Dates Opens | Season Dates Closes | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| 80 | 1 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 31 | 100 | Any antelope |
| 80 | 6 | Aug. 15 | Sep. 19 | Sep. 20 | Oct. 31 | 150 | Doe or fawn valid on irrigated land |

**2020 Hunter Satisfaction:** 69% Satisfied, 23% Neutral, 8% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The increase in Type 6 licenses for the 2021 hunting season is to help decrease high numbers of pronghorn congregating on irrigated land in the Heart Mountain area. We have seen an increase from a trend count of 320 in 2017 to 460 in 2020. Most of these increases have occurred on private irrigated lands. We have also fielded an increase in the number of complaints from landowners in the eastern portion of the area. The increase for the Type 6 licenses should decrease damage concerns and decrease overall population numbers to objective.

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD207 - PAINTROCK

HUNT AREAS: 41, 46-47
PREPARED BY: SAM STEPHENS

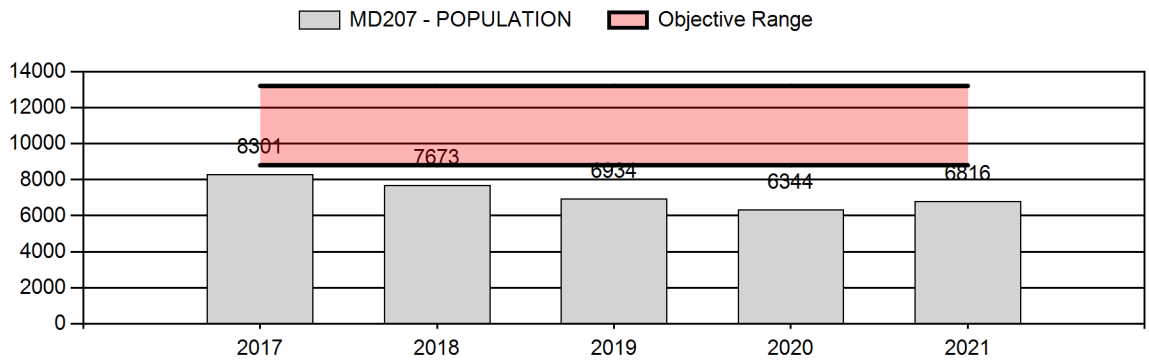
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 7,450 | 6,816 | 6,800 |
| Harvest: | 711 | 725 | 975 |
| Hunters: | 1,355 | 1,399 | 1,400 |
| Hunter Success: | 52% | 52% | 70% |
| Active Licenses: | 1,436 | 1,474 | 1,524 |
| Active License Success: | 50% | 49% | 64 % |
| Recreation Days: | 5,850 | 5,621 | 5,700 |
| Days Per Animal: | 8.2 | 7.8 | 5.8 |
| Males per 100 Females | 25 | 25 | |
| Juveniles per 100 Females | 61 | 66 | |

| | |
|---|---|
| Population Objective (± 20%) : | 11000 (8800 - 13200) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -38.0% |
| Number of years population has been + or - objective in recent trend: | 9 |
| Model Date: | 02/18/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 5% | 10% |
| Males ≥ 1 year old: | 38% | 48% |
| Proposed change in post-season population: | -10% | -12% |

## Population Size - Postseason



**2022 HUNTING SEASONS**
**PAINTROCK MULE DEER HERD (MD207)**

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 41 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Any deer |
| 41 | Gen | | | Oct. 25 | Oct. 31 | | Any deer valid on or within one-half (1/2) mile of irrigated land |
| 41 | 1 | | | Nov. 1 | Nov. 15 | 25 | Any deer |
| 41 | 6 | Sep.1 | Sep. 30 | Oct. 15 | Nov. 15 | 150 | Doe or fawn valid on or within one-half (1/2) mile of irrigated land |
| 46 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Antlered mule deer or any white-tailed deer |
| 47 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Any deer |
| 47 | Gen | | | Oct. 25 | Oct. 31 | | Any deer valid on or within one-half (1/2) mile of irrigated land |
| 47 | 1 | | | Nov. 1 | Nov. 15 | 25 | Any deer |
| 47 | 6 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 15 | 100 | Doe or fawn valid on or within one-half (1/2) mile of irrigated land |

**2022 Region R nonresident quota:** 600 licenses

**2021 Hunter Satisfaction:** 61% Satisfied, 18% Neutral, 21% Dissatisfied

**2021 Management Summary**

**1) Hunting Season Evaluation:**

Deficient habitat, suppressed juvenile recruitment, and disease continue to contribute to the poor population performance seen in the Paintrock Mule Deer Herd. Relative to long-term trends, recent data indicate that the Paintrock Mule Deer Herd is on a downward trajectory. However 2021 saw a slight departure from recent trends. Fawn recruitment increased to 63 fawns per 100 does. Harvest increased to 508 bucks and 184 does taken by hunters. Collectively this was a 14% increase from the past three year average (2018-2020). General season limitations were created for Hunt Areas 41 and 47 in 2015 to limit hunters from taking an antlerless deer on a general license. Following that year's record low doe harvest, a subsequent general season was created to target antlerless deer within ½ mile of irrigated land. The 2016 season resulted in a female harvest similar to what occurred prior to the 2015 change. Collectively when considering

the past three management strategies: there has been little change in harvest where adult female segment of general season harvest has ranged from 10-24% (2013-19). Changes made to the general seasons in 2020 to "any deer" marginally increased the doe harvest rate in 2020 and 2021 (17%). Poor population performance within this herd can likely be tied to multiple variables, but markedly the amount of quality habitat and high chronic wasting disease (CWD) prevalence ostensibly have the greatest impact. Public scoping meetings in August 2021 were conducted by WGFD staff to collect hunter feedback regarding the implementation of various CWD management strategies recommended in the WGFD CWD Management Plan. Surveys were completed by hunters at the meeting and in the field while Department staff conducted check stations within the Paintrock Herd Unit. Options for CWD management that the public most supported were 1) harvesting older age class bucks with later seasons, 2) targeting CWD hot-spots, and 3) increasing white-tailed deer harvest. Adult male mule deer exhibit higher CWD prevalence rates than adult females. Additionally prevalence increases with age, ostensibly because bucks have more time to come into contact with a greater number of individual deer. Type 1 licenses for Hunt Areas 41 and 47 are designed to target older aged bucks where adult male CWD prevalence averages 33% and 14% respectively. Similarly extending the general seasons for an additional week which would restrict hunting to areas near irrigated lands. This change is intended to concentrate deer harvest within CWD hot-spots which mostly occur on or around agricultural areas. Similar changes were made within the North Bighorn Herd Unit to ensure a consistent change for all Region R non-resident hunters. The desired outcome of these management changes is that CWD prevalence rates stabilize rather than continue on the current increasing trajectory.

**2) Chronic Wasting Disease:**

This is a Tier 2 surveillance herd where targeted sampling was initiated in the 2021 season. Signs, business cards, direct mailing, and increased days of check station operation were employed to increase samples returned. Proportion of total and targeted samples returned/harvested in 2021 was 27% (n=197/725) and 28% (n=140/508), respectively; greatest proportions of target samples/deer harvested returned from HA 46, 47, and 41, respectively. Since at least 2015-17, prevalence of CWD in adult male mule deer has increased (Table 1).

**Table 1.** CWD prevalence of mule deer within Paintrock herd unit, 2019-2021.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | **Adult Males (CI = 95%)** | Yearling Males | Adult Females |
| 2015-17 | **10% (4-13%, n=162)** | 4% (23) | 25% (8) |
| 2019-21 | **18% (11-24%, n=212)** | 4% (23) | 12% (60) |

In 2021-22, education and scoping efforts were targeted at pre- and post-season public meetings, trainings, and focused conversations in the field for HA 41, 46, and 47. From surveys conducted at these events, non-hunting and hunting respondents supported targeting hot-spots of CWD positive animals, increasing harvest of male mule deer relative to females or overall population reduction, and increasing adult male deer harvest with later hunting seasons (Table 2). To

address CWD through mule deer harvest, we will maintain Oct 15-24 General license “any deer” seasons and expand this season to Oct 25-31 for animals within 1/2 mile of irrigated lands in HA 41 and 47, and introduce 25, Type 1 licenses in both Hunt Areas 41 and 47 from November 1-15.

**Table 2.** Proportion of survey responses supporting various harvest strategies aimed at reducing CWD in the Paintrock herd unit, 2021.

| | Proportion of Responses in Support of Each Harvest Strategy within Category of Respondent | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mule Deer | | | White-Tailed Deer | | | Male | |
| Respondents | Address Hotspots | Male Harvest | Female Harvest | Population Reduction | Male Harvest | Female Harvest | Population Reduction | Late Season | Do Nothing |
| All [a] | 78 | 54 | 39 | 19 | 62 | 50 | 30 | 69 | 8 |
| Hunters | 70 | 44 | 35 | 9 | 52 | 44 | 17 | 83 | 9 |

[a] Includes responses of hunters and non-hunters

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD208 - SOUTHWEST BIGHORNS

HUNT AREAS: 35-37, 39-40, 164
PREPARED BY: BART KROGER

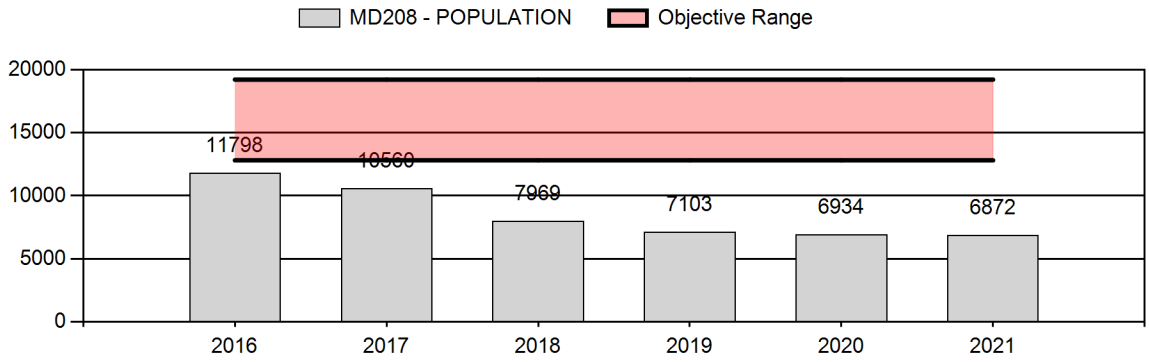
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 8,873 | 6,872 | 7,110 |
| Harvest: | 1,229 | 566 | 360 |
| Hunters: | 2,022 | 1,425 | 1,000 |
| Hunter Success: | 61% | 40% | 36 % |
| Active Licenses: | 2,143 | 1,480 | 1,050 |
| Active License Success: | 57% | 38% | 34 % |
| Recreation Days: | 8,562 | 6,492 | 4,000 |
| Days Per Animal: | 7.0 | 11.5 | 11.1 |
| Males per 100 Females | 37 | 41 | |
| Juveniles per 100 Females | 61 | 57 | |

| | |
|---|---|
| Population Objective (± 20%) : | 16000 (12800 - 19200) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -57.0% |
| Number of years population has been + or - objective in recent trend: | 4 |
| Model Date: | 2/7/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 3% | 1% |
| Males ≥ 1 year old: | 37% | 23% |
| Proposed change in post-season population: | -5% | 0% |

## Population Size - Postseason



**2022 Hunting Seasons**
**Southwest Bighorns Mule Deer (MD208)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 35 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Any deer |
| 36 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 175 | Antlered mule deer or any white-tailed deer |
| 36 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 25 | Doe or fawn white-tailed deer |
| 37 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 75 | Antlered deer |
| 37, 39 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov.30 | 25 | Any white-tailed deer |
| 37, 39 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 50 | Doe or fawn white-tailed deer |
| 39 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Antlered mule deer or any white-tailed deer |
| 40 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Antlered deer valid on national forest; any deer off national forest |
| 40 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 50 | Any white-tailed deer |
| 40 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 300 | Doe or fawn white-tailed deer |
| 164 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct.14 | | Any deer |
| | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 15 | 100 | Any white-tailed deer; also valid in Area 125 |
| 164 | 6 | Sep. 1 | Sep. 30 | Oct. 25 | Nov. 15 | 25 | Doe or fawn valid on or within one-half (1/2) mileof irrigated land |
| 164 | 7 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 14 | 50 | Doe or fawn valid on or within one-half (1/2) mileof irrigated land |
| 164 | 8 | | | Sep. 1 | Dec. 31 | 200 | Doe or fawn white-tailed deer; also valid in Area 125 |

**2022 Region M nonresident quota:** 400 licenses

**2021 Hunter Satisfaction:** 47% Satisfied, 21% Neutral, 32% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation**: This mule deer herd has experienced a significant population decline since about 2016. Contributing to this decline includes, a winter die-off in 2018/19, two consecutive year droughts, four years of poor fawn production, CWD/EHD and reduced habitat conditions. These variables, have likely lead to the fewest deer and poorest hunting conditions in this herd unit in the past 40 years. The 2022 hunting season structure will again be moreconservative than previous years. Overall, hunter satisfaction has declined from 72% in 2018 to 47% in 2021. Hunter success in 2021 was 40%, down from 71% in 2017. Days/harvest was 11.5 in 2021, up from 5.9 in 2017. Fawn ratios

the previous four years have averaged 56:100 does, with2018 and 2019 (52 and 54:100) being two of the lowest on record. Total number of deer classifiedin 2021 was 298, with a fawn ratio of 57:100 and a buck ratio of 41:100. The new abundance survey technique was used in 2021 to classify the herd unit, which had an abundance estimate of 7, 400 mule deer. Because of these declines in mule deer numbers and significant declines in hunter harvest, the Region M quota will again be reduced, alongwith the Type 1 license quotas in areas 36 and 37. Also, the Type 6 licenses in area 40 will be eliminated. Because hunt area 164 has been selected as a focal CWD management area, the general deer season and Type 7 season will be extended by 4 days.

**2.) Management Objective Review**: The Southwest Bighorns Mule Deer herd unit objective was last reviewed in 2019, and no objective changes were warranted.

**3.) Habitat**: Overall habitat conditions continue to decline in this herd due to increases in cheatgrass prevalence and expansion. Because of this, mule deer herd growth will likely continue to struggle,and more erratic declines may occur more often due to the loss of desirable forage species. The continuing increase of cheatgrass expansion has and will negatively impact this deer herd.

**4.) Chronic Wasting Disease Monitoring and Management**: This is a Tier 1 surveillance herd prioritized for CWD sampling in 2019 and 2020, with data combined from 2018 to achieve sufficient sampling confidence (Table 1). Sample dispersion occurs throughout the unit, with concentration around Worland and along major tributaries of the Bighorn River; positive samples occur primarily along the Bighorn River, particularly in HA164.

Table 1. CWD prevalence of hunter-harvested mule deer in the Southwest Bighorns herd unit.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | Adult Males (CI = 95%) | Yearling Males | Adult Females |
| 2018-2020 | 18% (11-25%, n=187) | 11% (18) | 15% (40) |

In 2021-22, education and scoping efforts were targeted at pre- and post-season public meetings, trainings, and conversations in the field focused particularly on HA 164. From surveys conductedat these events, non-hunting and hunting respondents supported targeting hot-spots of CWD positive animals, increasing harvest of male mule deer relative to females or overall population reduction, and increasing adult male deer harvest with later hunting seasons (Table 2). Given the limited number of mule deer in this herd, we proposed to address CWD through mule deer harvestin Hunt Area 164 by extending the season in October by four days for both the general "any-deer" license and Type 7 license. White-tailed deer harvest has increased 3X in the past 3 years.

Table 2. Proportion of survey responses supporting various harvest strategies aimed at reducingCWD in the Southwest Bighorns herd unit, 2021.

| | Proportion of Responses in Support of Each Harvest Strategy within Category of Respondent | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mule Deer | | | White-Tailed Deer | | | MaleLate Season | Do Nothing |
| Respondents | Address Hotspots | Male Harvest | Female Harvest | Population Reduction | Male Harvest | Female Harvest | Population Reduction | | |
| All [a] | 78 | 54 | 39 | 19 | 62 | 50 | 30 | 69 | 8 |
| Hunters | 71 | 50 | 33 | 17 | 63 | 50 | 33 | 58 | 13 |

[a] Includes responses of hunters and non-hunters

**5.) Population Modeling**: The bio-year 2021 postseason population estimate for this herd unit fromthe WGFD spreadsheet model was approximately 6,900 mule deer. In 2021, WGFD managers alsobegan using PopR integrated population models (IPM) to estimate population indices for pronghornand mule deer. The 2021 postseason population estimate for this herd unit from the PopR IPM wasapproximately 9,000 (CL=8,100 – 10,000) mule deer. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022.

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD209 - BASIN

HUNT AREAS: 125, 127
PREPARED BY: BART KROGER

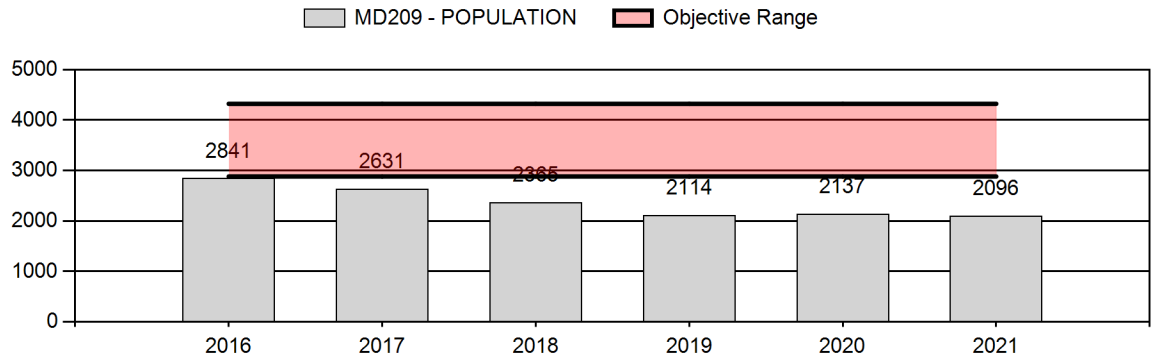
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 2,418 | 2,096 | 2,075 |
| Harvest: | 120 | 64 | 64 |
| Hunters: | 276 | 194 | 200 |
| Hunter Success: | 43% | 33% | 32 % |
| Active Licenses: | 280 | 194 | 200 |
| Active License Success: | 43% | 33% | 32 % |
| Recreation Days: | 1,104 | 746 | 750 |
| Days Per Animal: | 9.2 | 11.7 | 11.7 |
| Males per 100 Females | 36 | 30 | |
| Juveniles per 100 Females | 60 | 63 | |

| | |
|---|---|
| Population Objective (± 20%) : | 3600 (2880 - 4320) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -41.8% |
| Number of years population has been + or - objective in recent trend: | 6 |
| Model Date: | 2/7/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 16% | 16% |
| Proposed change in post-season population: | -1% | 0% |

## Population Size - Postseason



**2022 Hunting Seasons**
**Basin Mule Deer (MD209)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 125 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 75 | Antlered deer |
| 127 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 24 | | Antlered deer |
| 127 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 25 | Any white-tailed deer; also valid in Area 125 |
| 127 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 15 | 75 | Doe or fawn white-tailed deer |

**2022 Region X nonresident quota:** 200 licenses

**2021 Hunter Satisfaction:** 47% Satisfied, 23% Neutral, 30% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The Basin mule deer herd unit has supported very conservative hunting seasons in recent years because of very low deer numbers. Even under these conservative seasons, growth of this herd has been nonexistent, and is actually showing continuing long-term declines. A late winter die-off in 2018/19, along with severe drought conditions in 2020 and 2021, has further suppressed this population. The number of deer observed during classification surveys has declined by nearly 60% in recent years. Poor fawn ratios occurred in 2018 and 2019 (53:100 and 44:100), however 2020 and 2021 saw improved ratios at 62:100 and 63:100. Buck ratios have remained in the low 30's:100 the last few years. Hunter success the previous three years have been the lowest on record, while hunter effort has been the highest on record. A total of 64 bucks were harvested in 2021, which was the lowest on record. Hunter satisfaction has dropped from 64% satisfied in 2018 to 46% and 47% satisfied in 2020 and 2021, respectively. The only season change is the closing date for the HA127 Type 8 licenses to allow for some additional doe/fawn white-tailed deer harvest.

**2.) Management Objective Review:** The Basin Mule Deer herd unit objective was last reviewed in 2019, and no objective changes were warranted.

**3.) Habitat**: Overall habitat conditions continue to decline in this herd due to increases in cheatgrass prevalence and expansion. Because of this, mule deer herd growth will likely continue to struggle, and more erratic declines may occur more often due to the loss of desirable forage species.

**4.) Chronic Wasting Disease Monitoring & Management:** Chronic wasting disease (CWD) is a concern in this mule deer herd. CWD is likely contributing to some long-term declines of deer in this herd. 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 of low deer numbers and insufficient licenses offered to realistically achieve 200 target samples in a 3 year timeframe.

**5.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model was approximately 2,100 mule deer. In 2021, WGFD managers also

began using PopR integrated population models (IPM) to estimate population indices for pronghorn and mule deer. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 2,100 (CL=1,600 – 2,800, rhat = 14.23) mule deer. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022.

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD210 - GREYBULL RIVER

HUNT AREAS: 124, 165
PREPARED BY: SAM STEPHENS

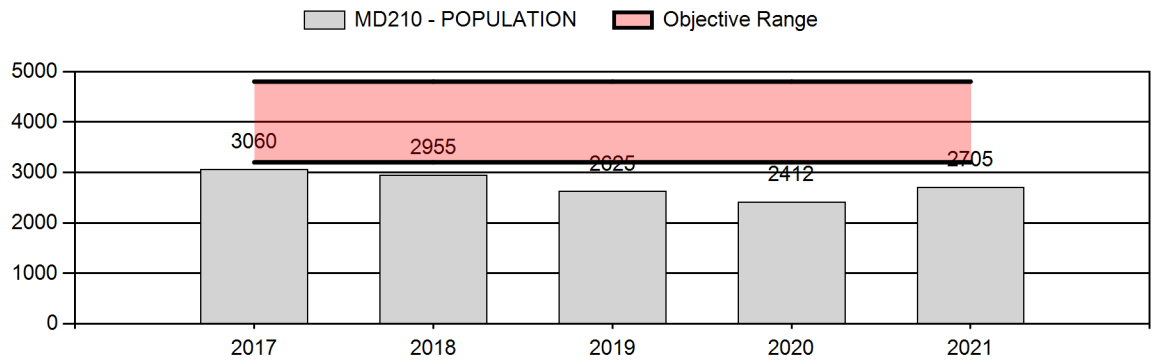
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,130 | 2,705 | 2,500 |
| Harvest: | 441 | 232 | 125 |
| Hunters: | 831 | 585 | 350 |
| Hunter Success: | 53% | 40% | 36 % |
| Active Licenses: | 945 | 635 | 385 |
| Active License Success: | 47% | 37% | 32 % |
| Recreation Days: | 3,076 | 2,091 | 1,100 |
| Days Per Animal: | 7.0 | 9.0 | 8.8 |
| Males per 100 Females | 30 | 34 | |
| Juveniles per 100 Females | 69 | 53 | |

| | |
|---|---|
| Population Objective (± 20%) : | 4000 (3200 - 4800) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -32.4% |
| Number of years population has been + or - objective in recent trend: | 5 |
| Model Date: | 02/18/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 7% | 3% |
| Males ≥ 1 year old: | 24% | 25% |
| Proposed change in post-season population: | -8% | -5% |

## Population Size - Postseason



## 2022 HUNTING SEASONS

## GREYBULL RIVER MULE DEER HERD (MD210)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 124 | Gen | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 10 | | Any deer |
| 124 | 6 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 25 | Doe or fawn valid on or within one-half (1/2) mile of irrigated land |
| 165 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 50 | Any deer |

**2022 Region X nonresident quota:** 200 licenses

**2021 Hunter Satisfaction:** 39% Satisfied, 25% Neutral, 36% Dissatisfied

**2022 Management Summary**

**1) Hunting Season Evaluation:**

Mule deer abundance and subsequent harvest have continued to decline in the Greybull River Herd. Hunter satisfaction decreased 9% from 2020 to 2021. General season hunter success was 29% in 2020 and subsequent effort increased to 11 days/harvest. Additionally, standardized efforts to classify mule deer in the post-season period resulted in the lowest count of mule deer since the surveys began. Depressed fawn recruitment rates have impacted population growth since 2017. Habitat degradation from invasive species (cheatgrass) is likely the primary driver behind long-term population decline for mule deer herds living in low elevation arid environments, however high rates of Chronic Wasting Disease (CWD) appear to be having a more recent population level impact. In 2021 hunters experienced another significant decline in annual mule deer harvest (-47%) from the 2016-20 average. Similarly, the raw number of deer counted during annual classification surveys fell 56% below the previous five year average. Mature buck harvest decreased significantly in 2021 where bucks with antler widths greater than 20 inches accounted for 16% of the overall buck harvest, compared to the previous five year average of 31% (range: 25-37%). Post-season classification data elucidates a similar trend. From 2015 to 2019, class 2 and 3 bucks ($\geq$20") accounted for approximately 29% (range: 22-43%) of the total bucks counted during post-season surveys. In 2020 this proportion decreased to 12% and showed a slight increase to 18% in 2021 (Figure. 1). While reductions in license quotas have aimed to alleviate hunter-crowding the reality of a declining deer population and fewer mature bucks is likely driving the increases in hunter dissatisfaction. Changes for 2022 include reducing doe/fawn license quotas to reduce doe mule deer harvest. Additionally reductions to Hunt Area 165 Type 1 quotas were made due to a lack of deer. While CWD remains the primary concern, managers are aiming to increase white-tailed deer harvest by maintaining Type 3 and Type 8 quotas in Hunt Area 124 and increase quotas in Hunt Areas 165.

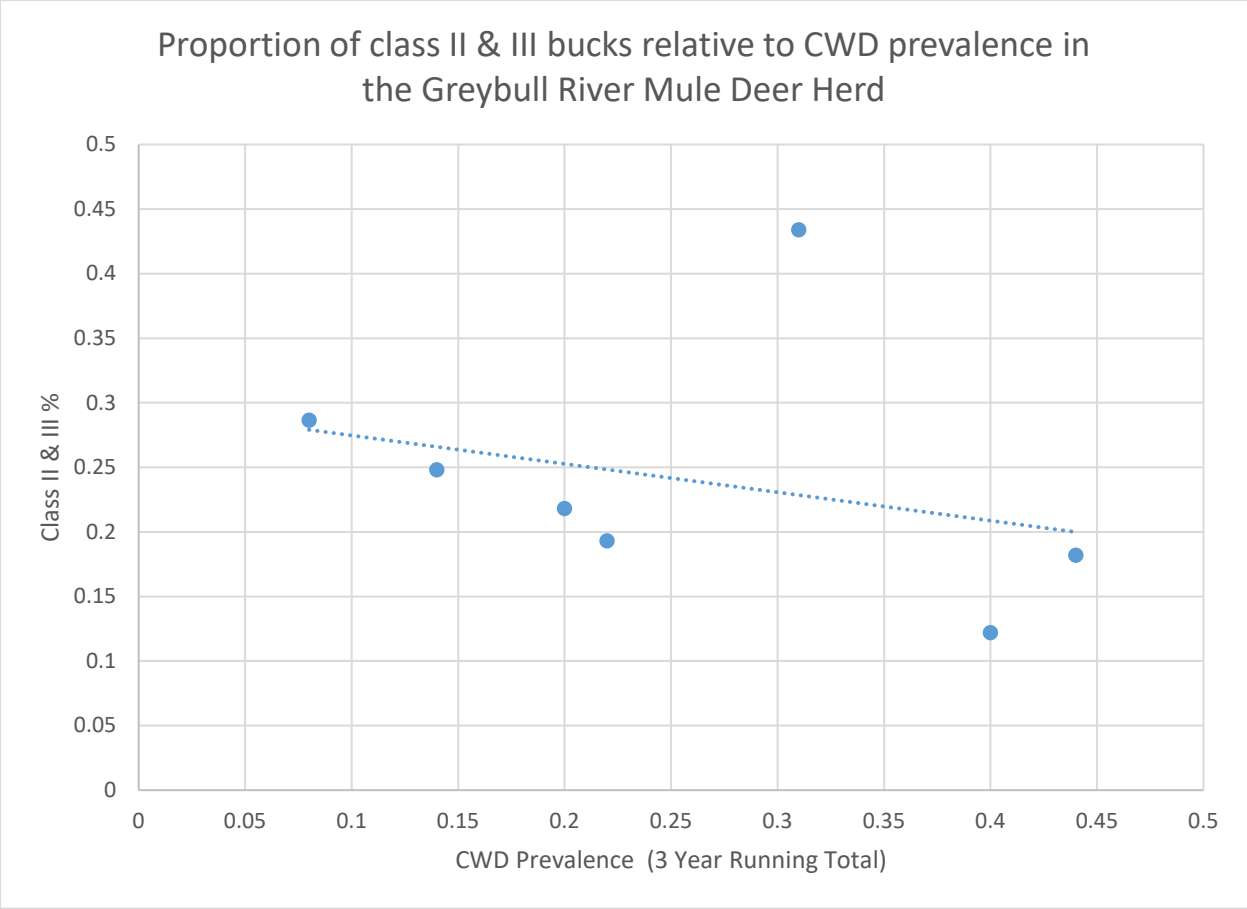
## 2) Chronic Wasting Disease

This is a Tier 2 surveillance herd where sampling was targeted in the 2020 and 2021 seasons. Signs, business cards, direct mailing, and increased days of check station operation likely helped increase samples returned, with sampling dispersion and positives concentrated primarily along the Greybull river corridor. Proportion of total and targeted samples returned/harvested in 2021 was 31% (n=71/232) and 27% (n=36/134), respectively. However, we did not achieve 200 target samples resulting from extremely low deer numbers; thus we plan to target this herd for sampling in 2022. Prevalence of CWD is relatively high in adult and yearling male mule deer (Table 1). Prevalence in adult males exceeds prevalence seen in a similar environment (i.e., Shoshone River) with over 200 samples collected in the same time frame (35%, n=224). To date, no mule deer harvest strategies have occurred to specifically address CWD.

**Table 1.** CWD prevalence of mule deer within Greybull River herd unit, 2019-2021.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | **Adult Males (CI = 95%)** | Yearling Males | Adult Females |
| 2019-21 | **44% (23-53%, n=126)** | 37% (27) | 13% (67) |

**Figure 1.**


Proportion of class II & III bucks relative to CWD prevalence in the Greybull River Mule Deer Herd
Class II & III %
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
CWD Prevalence (3 Year Running Total)

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD211 - SHOSHONE RIVER

HUNT AREAS: 121-123
PREPARED BY: SAM STEPHENS

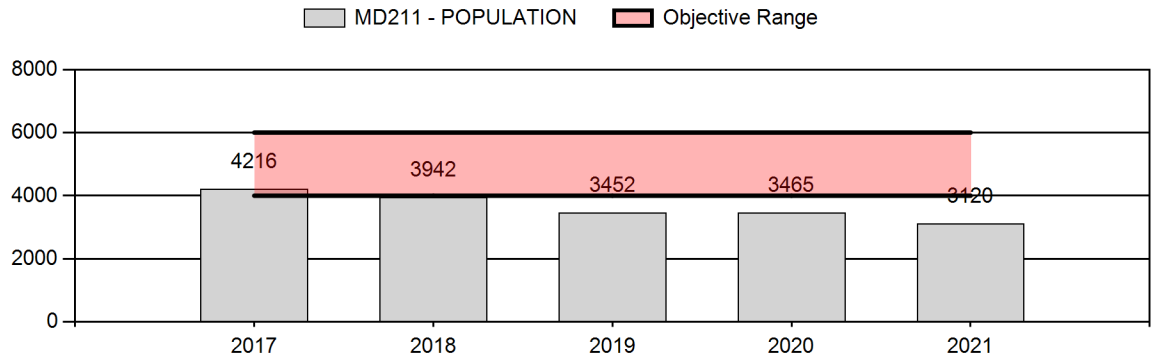
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,955 | 3,120 | 3,100 |
| Harvest: | 676 | 415 | 400 |
| Hunters: | 1,493 | 1,166 | 1,150 |
| Hunter Success: | 45% | 36% | 35% |
| Active Licenses: | 1,587 | 1,230 | 1,230 |
| Active License Success: | 43% | 34% | 33 % |
| Recreation Days: | 5,748 | 4,007 | 4,000 |
| Days Per Animal: | 8.5 | 9.7 | 10 |
| Males per 100 Females | 32 | 30 | |
| Juveniles per 100 Females | 75 | 52 | |

| | |
|---|---|
| Population Objective (± 20%) : | 5000 (4000 - 6000) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -37.6% |
| Number of years population has been + or - objective in recent trend: | 6 |
| Model Date: | 02/06/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 8% | 8% |
| Males ≥ 1 year old: | 37% | 37% |
| Proposed change in post-season population: | -12% | -11% |

## Population Size - Postseason



## 2022 HUNTING SEASONS

## SHOSHONE RIVER MULE DEER HERD (MD211)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 121 | Gen | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 10 | | Any deer on private land; antlered mule deer or any white-tailed deer off private land |
| 121 | Gen | Sep. 1 | Sep. 30 | Nov. 11 | Nov. 30 | | Antlerless deer valid on private land |
| 121 | 6 | Sep.1 | Sep. 30 | Oct. 15 | Nov. 30 | 100 | Doe or fawn valid on private land |
| 122 | Gen | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 10 | | Any deer on private land; antlered mule deer or any white-tailed deer off private land |
| 122 | Gen | Sep. 1 | Sep. 30 | Nov. 11 | Nov. 30 | | Antlerless deer valid on private land |
| 122 | 6 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 100 | Doe or fawn valid on private land |
| 123 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | | Antlered mule deer or any white-tailed deer |
| 123 | 6 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 25 | Doe or fawn valid on private land |

**2022 Region X nonresident quota:** 200 licenses

**2021 Hunter Satisfaction:** 54% Satisfied, 24% Neutral, 22% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:**

Management of mule deer in the Shoshone River Herd Unit continue to be driven by crop damage concerns on private land. The majority of this herd unit is Bureau of Land Management administered land, bisected by riparian corridors and adjacent irrigated lands. The arid climate within the herd unit in the later summer limits plant production on native range and drives deer to irrigated private land. Landowner tolerance of deer and the crop damage is low in all three hunt areas. A November general hunting season is designed to address crop damage and prevent this herd from increasing rapidly during high production years. Relative to other neighboring mule deer herd units, the Shoshone River Mule Deer has demonstrated dramatic population

growth rates with fawn ratios ranging from 52-96 fawns per 100 does in the last ten years. It's unknown why this herd is more productive, but we infer that it likely has something to do with the abundance of irrigated farm land and an aggressive harvest management strategy which began in 2009. In 2022 we will maintain the same season structure from 2021. Increases to "white-tailed deer only" Type 3 and 8 quotas are intended to increase white-tailed deer harvest and address Chronic Wasting Disease in Hunt Areas 121 and 122.

**2.) Chronic Wasting Disease Monitoring & Management:**

This is a Tier 2 surveillance herd where sampling was targeted in the 2019 and 2020 seasons. Samples are concentrated primarily throughout agricultural lands of the unit, with positives concentrated near Cody, Lovell, and Deaver. Combined with 2021 data, prevalence of CWD is relatively high in adult and yearling male mule deer (Table 1).

**Table 1.** CWD prevalence of mule deer within Shoshone River herd unit, 2019-2021.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | **Adult Males (CI = 95%)** | Yearling Males | Adult Females |
| 2019-21 | **35% (21-42%, n=224)** | 14% (29) | 13% (90) |

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: MD212 - OWL CREEK/MEETEETSE

HUNT AREAS: 116-120
PREPARED BY: BART KROGER

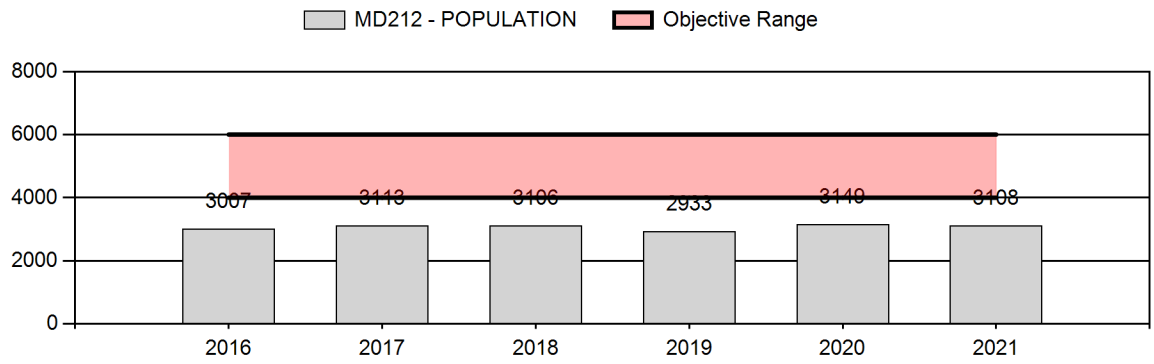
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,062 | 3,108 | 3,087 |
| Harvest: | 238 | 213 | 190 |
| Hunters: | 318 | 302 | 250 |
| Hunter Success: | 75% | 71% | 76 % |
| Active Licenses: | 337 | 319 | 250 |
| Active License Success: | 71% | 67% | 76 % |
| Recreation Days: | 1,371 | 1,463 | 1,300 |
| Days Per Animal: | 5.8 | 6.9 | 6.8 |
| Males per 100 Females | 37 | 40 | |
| Juveniles per 100 Females | 69 | 61 | |

| | |
|---|---|
| Population Objective (± 20%) : | 5000 (4000 - 6000) |
| Management Strategy: | Special |
| Percent population is above (+) or below (-) objective: | -37.8% |
| Number of years population has been + or - objective in recent trend: | 10 |
| Model Date: | 2/7/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 1.5% | 0% |
| Males ≥ 1 year old: | 25% | 25% |
| Proposed change in post-season population: | 0% | 0% |

## Population Size - Postseason



**2022 Hunting Seasons**
**Owl Creek/Meeteetse Mule Deer (MD212)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 116 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 75 | Antlered mule deer or any white-tailed deer |
| 116, 117 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 100 | Any white-tailed deer |
| 116 | 7 | | | Sep. 1 | Oct. 14 | 100 | Doe or fawn white-tailed deer valid on private land in the Wood River drainage |
| 116, 117, 118 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 175 | Doe or fawn white-tailed deer |
| 117 | 1 | Sep. 1 | Sep. 14 | Sep. 15 | Oct. 15 | 50 | Antlered mule deer or any white-tailed deer |
| 118 | 1 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 25 | Antlered deer |
| 118 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | | Any white-tailed deer |
| 119 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 50 | Antlered deer |
| 119 | 2 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 15 | 75 | Antlered deer |
| 119, 120 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 100 | Any white-tailed deer |
| 120 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 75 | Antlered deer |
| 120 | 8 | | | Sep. 1 | Dec. 15 | 200 | Doe or fawn white-tailed deer |

**2021 Hunter Satisfaction:** 63% Satisfied, 18% Neutral, 19% Dissatisfied

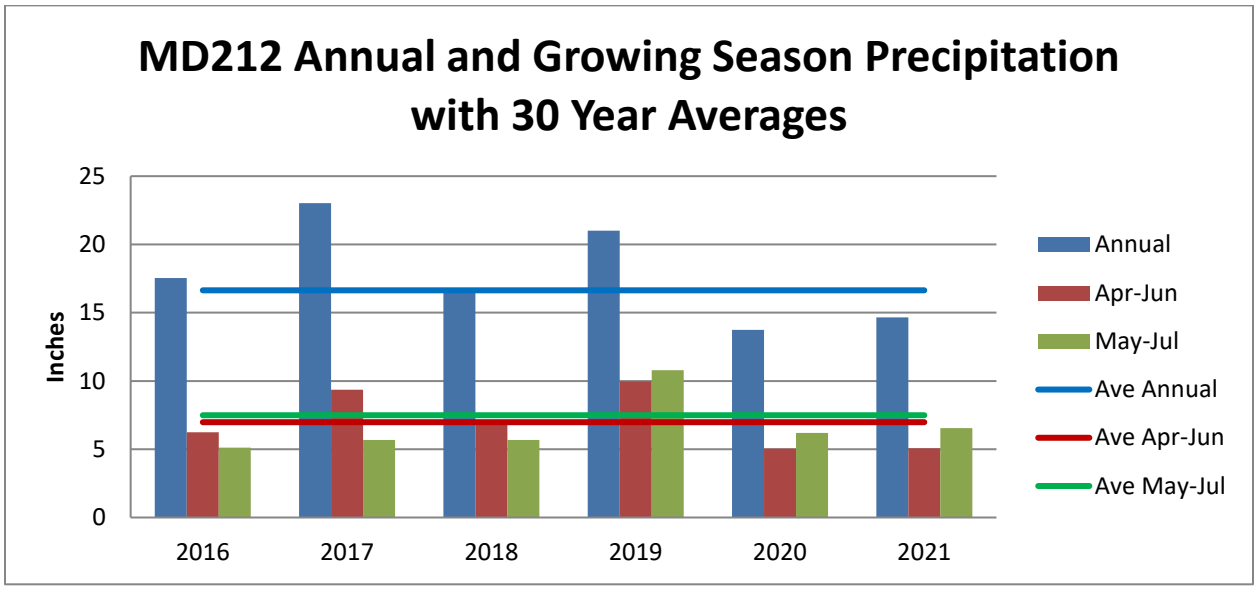
**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 hunting season structure will remain fairly conservative in order to promote herd growth. Minimal female harvest in this herd has been the norm in recent years, while Type 1 license quotas appear to be adequate for maintaining higher buck ratios and quality. The population is currently below objective levels, despite conservative hunting seasons the past 10 years. Hunter satisfaction decreased in 2021 to 63%, compared to 74% in 2020. Hunter harvest, success and effort in 2021 was mostly similar to 2020. The 2021 fawn ratio was 61:100, compared to the previous 5-year average of 69:100. Since this mule deer herd has remained below objective levels, mostly conservative seasons will again be implemented. Changes for the 2022 hunting season include the elimination of the Type 6 licenses in areas 116 and 119. A slight increase of 25 licenses for both the area 116 Type 7 and 8 quotas will allow for some additional white-tailed deer harvest. All current Type 1 license quotas are unchanged to continue to allow for high hunter success and buck numbers.

**2.) Management Objective Review:** The Owl Creek/Meeteetse Mule Deer herd unit objective was last reviewed in 2019, with no objective changes being made. A five year MDI update for this herd was also reviewed and presented to the public in 2019.

**3.) Mule Deer Initiative Habitat Information:**

*Weather*




*Precipitation*

Annual precipitation within the herd unit from October 2020 thru September 2021 was 88% of the 30-year average. Growing season precipitation (April thru June 2021) within winter ranges was 73% of average. Growing season precipitation (May - July 2021) within spring/summer/fall ranges was 87% of average. These numbers were not significantly better than the previous year and represent the driest years since 2012.

*Winter Severity*

The 2020-2021 winter was similar to the long-term average. Data from the Thermopolis climate station showed the average December-March temperature was slightly below the 23-year average, and total inches of snowfall in December-March was right at average.

*Habitat*

Rapid Habitat Assessments are conducted annually across the state to assess condition of seasonal mule deer habitats. These data are used to inform decisions on population objectives at each 5-year review. In 2021, 10 aspen and 16 rangeland assessments were conducted within the Owl Creek Meeteetse Herd Unit area. The results of these surveys will be analyzed during the herd unit objective review in 2024. All aspen communities were in advanced stages of succession and at high risk of replacement by conifers. The Department translocated 31 beavers into three steams

within the herd unit between 2019 and 2021 for the purpose of enhancing riparian habitat. Nineteen dams associated with five beaver colonies were constructed. In August, 2021, 345 acres of cheatgrass-infested winter range in Little Buffalo Basin was aerially treated with Rejuvra herbicide.

**4.) Chronic Wasting Disease Monitoring & Management**: This is a Tier 3 surveillance herd for chronic wasting disease (CWD). 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 of low harvest. However, CWD still remains a concern, and although prevalence is relatively low at this time, concerns for its increase and long-term effect of this mule deer herd need to be considered.

**5.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model was approximately 3,100 mule deer. In 2021, WGFD managers also began using PopR integrated population models (IPM) to estimate population indices for pronghorn and mule deer. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 2,700 (CL=2,300 – 3,200, rhat = 1.39) mule deer. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022.

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer | PERIOD: 6/1/2021 - 5/31/2022

HERD: MD215 - UPPER SHOSHONE

HUNT AREAS: 110-115 | PREPARED BY: TONY MONG

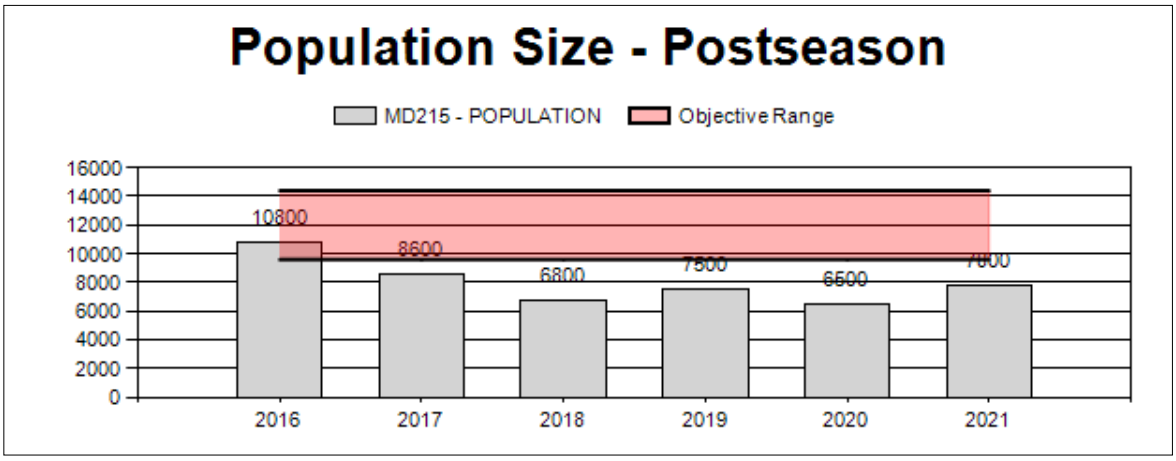
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 8,040 | 7,800 | 8,900 |
| Harvest: | 559 | 559 | 750 |
| Hunters: | 1,392 | 1,158 | 1,300 |
| Hunter Success: | 40% | 48% | 58 % |
| Active Licenses: | 1,412 | 1,184 | 1,350 |
| Active License Success: | 40% | 47% | 56 % |
| Recreation Days: | 7,233 | 6,103 | 7,000 |
| Days Per Animal: | 12.9 | 10.9 | 9.3 |
| Males per 100 Females | 24 | 35 | |
| Juveniles per 100 Females | 56 | 77 | |

Population Objective (± 20%) : 12000 (9600 - 14400)

| | |
|---|---|
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | -35% |
| Number of years population has been + or - objective in recent trend: | 5 |
| Model Date: | 1/23/2022 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 0.7% | 0.7% |
| Males ≥ 1 year old: | 34% | 26% |
| Proposed change in post-season population: | 7% | 14% |



**2022 Hunting Seasons**
**Upper Shoshone Mule Deer (MD215)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 110 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 6 | | Antlered mule deer or any white-tailed deer |
| 110, 111 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 20 | 25 | Antlered mule deer or any white-tailed deer |
| 110, 111 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 31 | 100 | Doe or fawn white-tailed deer |
| 111 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 6 | | Antlered mule deer or any white-tailed deer |
| 112 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 6 | | Antlered mule deer or any white-tailed deer |
| 112, 113, 114 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 20 | 25 | Antlered mule deer or any white-tailed deer |
| 112, 113 | 3 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 75 | Any white-tailed deer |
| 112, 113 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 31 | 400 | Doe or fawn white-tailed deer on private land |
| 113 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 6 | | Antlered mule deer or any white-tailed deer |
| 113 | 7 | Sep. 1 | Sep. 14 | Sep. 15 | Nov. 30 | 150 | Doe or fawn valid on private land north and east of Carter Creek |
| 114 | Gen | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 6 | | Antlered mule deer or any white-tailed deer |
| 115 | Gen | Sep. 1 | Sep. 9 | Sep. 10 | Oct. 22 | | Antlered mule deer or any white-tailed deer |

**2022 Region F nonresident quota:** 550 licenses

**2021 Hunter Satisfaction:** 61% Satisfied, 22% Neutral, 17% Dissatisfied

**2022 Management Summary**

**1.) Hunting Season Evaluation:** We are increasing the General Season closing dates throughout the herd unit and increase white-tailed deer and resident mule deer opportunity in Hunt Areas 112 and 113. The 2021 hunting season showed a higher harvest compared to the previous 3 years but lower compared to the previous 10 years (previous 10 year average = 641). The lower harvest over the last three seasons, higher fawn ratios and less severe winters has allowed both the population and buck ratios to respond favorably. We have seen buck ratios in all age classes increase, especially

in the adult buck ratios increasing from 13 in 2018 to 23 in 2021. The higher buck ratios and some public support has led to a lengthening of the General Season, which will increase opportunity and increase harvest on the male portion of the population to decrease ratios. Lower overall population numbers and some mixed results from the public provided enough data to indicate that a return to the previous ending date is not warranted at this point. Fawn production within the herd was the highest it has ever been this year and coupled with the higher fawn ratios and higher over winter survival during the last 3 years we should see an increase in numbers to population objective in the next few years and possible increases in opportunity in the future, barring any unforeseen issues.

**2.) Chronic Wasting Disease Monitoring & Management:** This is a Tier 2 surveillance herd where sampling was targeted in the 2020 and 2021 seasons. Proportion of total and targeted samples returned/harvested in 2021 was 18% (n=103/559) and 18% (n=93/528), respectively. Given the location of the South Fork check station and 10-day annual operation, sampling in this herd consistently exceeds 200 target samples from 3-year blocks. Samples are concentrated along the North Fork and South Fork of the Shoshone River (few from HA 114 and 115), with positives concentrated primarily near Cody and Irma Flats. Since at least 2014-16, prevalence of CWD in adult male and female mule deer has increased (Table 1).

Table 1. CWD prevalence of mule deer within Paintrock herd unit, 2019-2021.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | Adult Males (CI = 95%) | Yearling Males | Adult Females |
| 2014-16 | 1% (0-3%, n=258) | 0% (21) | 0% (41) |
| 2017-19 | 2% (1-5%, n=224) | 0% (7) | 0% (88) |
| 2019-21 | 9% (5-13%, n=203) | 0% (6) | 3% (40) |

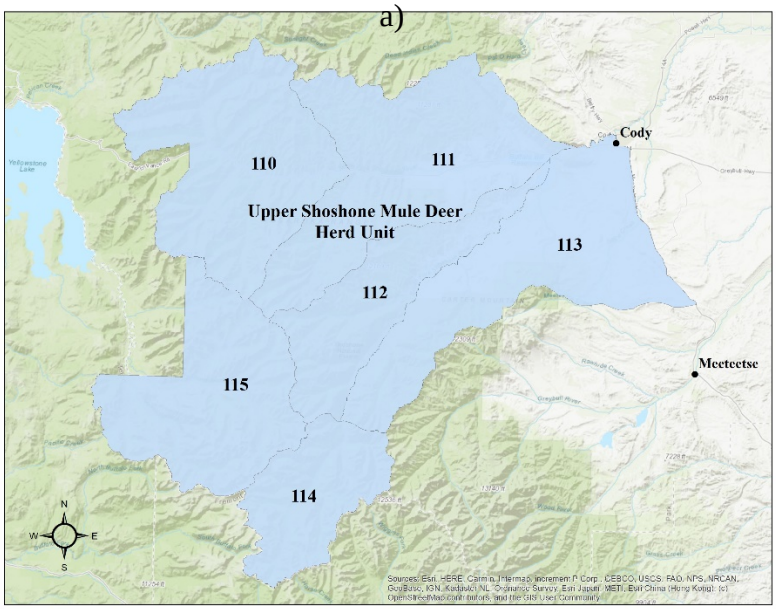
In 2021-22, education and scoping efforts were targeted at post-season public meetings for the Upper Shoshone herd and particularly for Irma Flats in HA 112 and 113. From surveys (n = 65) conducted at these events and on-line, 69% were concerned to very concerned with CWD; and 48% were supportive to very supportive of increasing the number of days of the general and Type 1 seasons, respectively. To address CWD through mule deer harvest, we are proposing to extend seasons for the general license and Type 1 license by three days and five days, respectively.

**3.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model (WGFD 2012) was approximately 7,800 mule deer. In 2021, WGFD managers also began using PopR integrated population models (IPM) (Nowak, et. al. 2018) to estimate population indices for mule deer and pronghorn. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 8,400 (CL = 7,700 – 9,400, Rhat = 1.11) mule deer using the days to harvest effort variable. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022.

**4.) Upper Shoshone Mule Deer Public Scoping Meetings:** In 2019 we held a series of public meetings and involvement that lead to major changes to hunting seasons in the Upper Shoshone mule deer herd from 2019 to 2021. In those meetings we made a pledge to come back after 3 hunting seasons and report on the changes seen in the herd and ask for additional input on future seasons. These meetings were held in January. In addition to in person meetings we also made presentations and surveys available online. We received 64 individual responses to the surveys (55 residents, 9 non-resident). Appendix A contains the questions and results of the questions to the survey.

Appendix A. Upper Shoshone Mule Deer Herd attitude survey questions (a), results (b) and comments (c). A total number of 64 surveys were returned with 55 resident hunters making up the majority of respondents, residents and non-resident answers were combined. Note that not every person answered every question so total respondents for each question changed.

a)



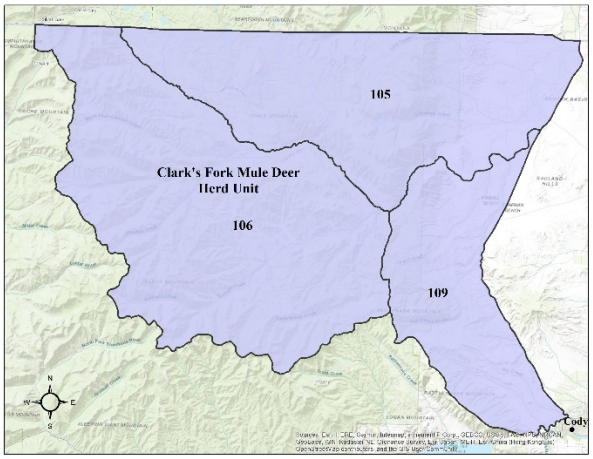

**Upper Shoshone Mule Deer Herd Unit Survey**

1. How many years have you hunted the Upper Shoshone Mule Deer Herd?

***Circle one***

Less than 1 1-3 years 4-8 years 8+ years

2. Do you also spend time hunting in the Clark's Fork Mule Deer Herd (HAs 105, 106, 109)?




Yes No

3. Do you hunt mainly the **North Fork** (Hunt Areas 110-111) or the **South Fork** (Hunt Areas 112-113) or **Both** in the Upper Shoshone Mule Deer Herd? (See map at top of the page)

***Circle one***

**North Fork** (Hunt Areas 110-111) **South Fork** (Hunt Areas 112-113) **Both**

4. How many years, out of the last 5 years, did you hunt mule deer in the Upper Shoshone Mule Deer Herd? (ENTER YEARS) _____

5. In the past 5 years, about how many days per year did you typically hunt deer in the Upper Shoshone Mule Deer Herd? (ENTER DAYS)_____

6. How acceptable or unacceptable are the number of mule deer in the Upper Shoshone Mule Deer Herd?

***Circle one***

Very Acceptable Acceptable Don't Know Unacceptable Very Unacceptable

7. How acceptable or unacceptable are the number of mature mule deer bucks in the Upper Shoshone Mule Deer Herd?

***Circle one***

Very Acceptable Acceptable Don't Know Unacceptable Very Unacceptable

8. Chronic wasting disease (CWD) is present in mule deer, white-tailed deer, elk, and moose across the state. On a scale of 1 to 5, how concerned are you about the presence of CWD within the Upper Shoshone Mule Deer Herd? (Circle one)

***Circle one number***

Not Concerned 1 2 3 4 5 Greatly Concerned

9. Data indicates that **white-tailed deer** have higher prevalence of CWD than mule deer. In order to control or decrease populations of **white-tailed deer**, antlerless harvest is necessary. Which of the following methods of antlerless harvest would you prefer be used to control or decrease **white-tailed deer** populations? (This information will be used to inform management decisions and multiple options may be combined to reach management goals).

***Circle one management action***

A separate, earlier general license season for antlerless white-tailed deer only

A separate, later general license season for antlerless white-tailed deer only

Issue high numbers of reduced price additional white-tailed doe/fawn licenses (Type 8 license)

Start the season dates of additional white-tailed doe/fawn licenses earlier (Type 8 license)

Extend the season dates of additional white-tailed doe/fawn licenses later (Type 8 license)

10. Which of the following methods of antlered (buck) harvest would you prefer be used to control or decrease **white-tailed antlered** (buck) deer populations? (This information will be used to inform management decisions and multiple options may be combined to reach management goals).

***Circle one management action***

A separate, earlier general license season for antlered white-tailed deer only

A separate, later general license season for antlered white-tailed only deer

Issue high numbers of additional white-tailed buck licenses (Type 3 license)

Start the season dates of additional white-tailed buck licenses earlier (Type 3 license)

Extend the season dates of additional white-tailed buck licenses (Type 3 license)

11. Based on your personal experience, the information you heard tonight and the discussions you have had, would you like to see a change in hunting season structure in the Upper Shoshone Mule Deer Herd for 2022-2024?

***Circle one***

YES NO UNDECIDED

12. Based on your personal experience, the information you heard tonight and the discussions you have had, on a scale of 1 to 5 (1 is very supportive and 5 is no support at all) how supportive are you:

a) of decreasing the number of days of the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024? (Current general season is: October 15 to November 3)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

b) of no change to the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024? (Current general season is: October 15 to November 3)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

c) of increasing the number of days onto the end of the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024? (Current general season is: October 15 to November 3)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

d) of going back to the 2019 general mule deer hunting season end dates in the Upper Shoshone Mule Deer Herd for 2022-2024? (2019 end date was: November 10)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

e) of maintaining the Type 1 “late season” license in the Upper Shoshone Mule Deer Herd for 2022-2024? (Type 1 season dates are: Nov. 1 to Nov. 15 and 25 current licenses in HAs 110-111 and 25 current licenses in HAs 112-113 )

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

13. If you are supportive of maintaining the Type 1 “late season” license in the Upper Shoshone Mule Deer Herd, on a scale of 1 to 5 how supportive are of you increasing the ending date of the Type 1 license if we increase the general season ending date? (Current ending date: November 15) If you are not supportive of maintaining the Type 1 license, do not answer.

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

14. Comments or suggestions

_____

_____

_____

_____

_____

_____

_____

_____

_____

b) Summary of the most relevant questions.

Question #1. *How many years have you hunted the Upper Shoshone Mule Deer Herd?*

| # Years | # respondents | % of respondents |
|---|---|---|
| 8+ | 36 | 61.02% |
| 4 to 8 | 8 | 13.56% |
| 1 to 3 | 10 | 16.95% |
| <1 | 5 | 8.47% |

Question #4. *How many years, out of the last 5 years, did you hunt mule deer in the Upper Shoshone Mule Deer Herd?*

| Years | # respondents | % of respondents |
|---|---|---|
| 1 | 12 | 20.34% |
| 2 | 5 | 8.47% |
| 3 | 9 | 15.25% |
| 4 | 8 | 13.56% |
| 5 | 25 | 42.37% |

Question #6. *How acceptable or unacceptable are the number of mule deer in the Upper Shoshone Mule Deer Herd?*

| How Acceptable | # respondents | % of respondents |
|---|---|---|
| Very Acceptable | 7 | 11.67% |
| Acceptable | 17 | 28.33% |
| Don't Know | 16 | 26.67% |
| Unacceptable | 17 | 28.33% |
| Very Unacceptable | 3 | 5.00% |

Question #7. *How acceptable or unacceptable are the number of mature mule deer bucks in the Upper Shoshone Mule Deer Herd?*

| How Acceptable | # respondents | % of respondents |
|---|---|---|
| Very Acceptable | 3 | 5.00% |
| Acceptable | 14 | 23.33% |
| Don't Know | 13 | 21.67% |
| Unacceptable | 24 | 40.00% |
| Very Unacceptable | 6 | 10.00% |

Question #8. *Chronic wasting disease (CWD) is present in mule deer, white-tailed deer, elk, and moose across the state. On a scale of 1 to 5, how concerned are you about the presence of CWD within the Upper Shoshone Mule Deer Herd?*

| Concern level | # respondents | % of respondents |
|---|---|---|
| 1 (greatly concerned) | 20 | 33.33% |
| 2 | 14 | 23.33% |
| 3 | 7 | 11.67% |
| 4 | 13 | 21.67% |
| 5 (not concerned) | 6 | 10.00% |

Question #9 (top results only). *Which of the following methods of antlerless harvest would you prefer be used to control or decrease white-tailed deer populations?*

| Option | # respondents | % of respondents |
|---|---|---|
| Higher # of type 8 | 24 | 40.00% |
| Extend Type 8 season dates | 6 | 10.00% |
| Later Antlerless General | 12 | 20.00% |

Question #10 (top results only). *Which of the following methods of antlered (buck) harvest would you prefer be used to control or decrease white-tailed antlered (buck) deer populations?*

| Option | # respondents | % of respondents |
|---|---|---|
| Higher # of type 3 | 24 | 40.00% |
| Extend type 3 season | 9 | 15.00% |
| Earlier General | 7 | 11.67% |
| Later General | 20 | 33.33% |

Question #11. *Based on your personal experience, the information you heard tonight and the discussions you have had, would you like to see a change in hunting season structure in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| | # respondents | % of respondents |
|---|---|---|
| Yes | 28 | 51.85% |
| No | 22 | 40.74% |
| Undecided | 4 | 7.40% |

Question #12 a. *How supportive of decreasing the number of days of the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 1 | 1.67% |
| Supportive | 2 | 3.33% |
| Don’t Know | 6 | 10.00% |
| Unsupportive | 8 | 13.33% |
| Very Unsupportive | 43 | 71.67% |

Question #12 b. *How supportive of no change to the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 21 | 35.00% |
| Supportive | 8 | 13.33% |
| Don’t Know | 15 | 25.00% |
| Unsupportive | 8 | 13.33% |
| Very Unsupportive | 8 | 13.33% |

Question #12 c. *How supportive of increasing the number of days onto the end of the current general mule deer hunting season in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 21 | 35.00% |
| Supportive | 6 | 10.00% |
| Don't Know | 6 | 10.00% |
| Unsupportive | 6 | 10.00% |
| Very Unsupportive | 21 | 35.00% |

Question #12 d. *How supportive of going back to the 2018 general mule deer hunting season end dates in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 20 | 33.33% |
| Supportive | 8 | 13.33% |
| Don't Know | 9 | 15.00% |
| Unsupportive | 8 | 13.33% |
| Very Unsupportive | 15 | 25.00% |

Question #12 e. *How supportive of maintaining the Type 1 "late season" license in the Upper Shoshone Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 29 | 45.31% |
| Supportive | 10 | 15.63% |
| Don't Know | 13 | 20.31% |
| Unsupportive | 3 | 4.69% |
| Very Unsupportive | 9 | 14.06% |

Question #13. *If you are supportive of maintaining the Type 1 "late season" license in the Upper Shoshone Mule Deer Herd, on a scale of 1 to 5 how supportive are of you increasing the ending date of the Type 1 license if we increase the general season ending date?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 21 | 42.00% |
| Supportive | 6 | 12.00% |
| Don't Know | 11 | 22.00% |
| Unsupportive | 4 | 8.00% |
| Very Unsupportive | 8 | 16.00% |

c) Comments from the survey

-The Type 1 tag should be the entire month of November and the number of white tail should be increased.

-Since does are all that really matter for population, I think the general season could be extended again. Maybe only until November 5. Then Type 1 licenses could be increased and extended, as well.

-Mandatory reporting better reflects true data of how many resident hunters in each hunt unit. Shouldn't be able to receive a tag if not reported. Colorado CWD data is new. Just started extending season dates. Not good enough data supporting buck harvest. Wait for better data before entertaining suppressing buck numbers. Leave buck #'s around 28-30 bucks. Thanks for all your hard work.

-I think we are on a good trajectory where we are at. Lets see what happens the next 3 years with current management.

-Based on personal observation of the # of mule deer in Unit 113 and the type 7 tags, I think the # of tags can and should be increased substantially. Additionally, I think consideration should be given to initializing a Type 3 mule deer buck tag to increase buck harvest in the Irma Flats area and also consider allowing for additional harvest of buck mule deer specifically in that "sub-unit" of Irma Flats to try and decrease the prevalence of CWD.

-Let us have more than 5 deer licenses if they are type 8. Whitetail numbers need to be decreases and to encourage hunters to harvest more whitetails we need to remove license limits per person on Type 8s and 3s. I don't want to use of of my 5 max licenses to be used for population management when there is a high prevalence of CWD and the meat may be unfit for consumption.

-I don't think the Type 1 and Gen seasons should overlap. Given the small number of Type 1 licenses issued, I would recom the hunt for all of Nov. I had the tag this year 110-1 and is seemed like there were hunters everywhere.

-I have noticed significantly more mature bucks showing up around the Nov 9 mark. I hunt both the general and late seasons and the difference is dramatic. In my opinion, if the goal is to kill more mature bucks extending the general to the 10th and letting the late tag run through November would drastically increase our opportunity at higher quality deer.

-It is good to be optimistic of increasing mule deer numbers, however I think we need to be cautious for a few more years. We still have continuing severe drought in our area. The sage brush landscape in North fork seems to be severely hurt by last summers drought. I support maintaining hunt seasons as they have been last 3 years.

-Figure out a way to get better info. Leave check stations open later into the night. Figure out how to get more participation in online surveys

-Increase days on Type 1 not General. Let things ride the way they are now. Too early to tell if things are working great or not. Things didn't start to improve until 2018-2019 so we still need at least 2 more years until we increase buck harvest. However I am in favor of running type 1 later to try and target the oldest bucks.

- Thank you. very informative and well presented. And update in 3 years would be great
From Comments made, I feel you are moving towards a 2018 season. A couple of "better" years does not constitute a trend of justify easing of restrictions. you KNOW this

-Thank you for all the data you're able to provide, we as hunters and outdoorsmen appreciate the task of collecting that data. I like to see a solid balance of proper management for the long term state of mule deer and also allowing plenty of opportunity to hunt and harvest mature mule deer.

-Does anyone look into Colorado's cull on bucks for CWD was a fail? I hope we don't follow suit. Does anyone look into Bureaucrats creating CWD to prevent scabies into sheep in Colorado? Can something be learned here?

-I had a whitetail doe tag in NF 2 years ago- and I had cameras out on a river bottom from Clearwater down. There are whitetails there, but not enough to justify buying a whitetail only tag. I would just hunt them though- with my unfilled general tag.

-Make filling out hunter surveys mandatory. Can't apply for license until survery IS complete, similar to HIP.

- Continue to limit nonresidents to <20%. Thank you for explaining the 4 point rule rationale. And, thanks for putting this info together.

-If days are added to the general season, I would like to see it at the beginning of the season or if later days are added make it beyond the wilderness boundary.

-I recommend leaving things as they are for another 3 years, We're not at objective yet. Keep after it.

# 2021 - JCR Evaluation Form

SPECIES: Mule Deer | PERIOD: 6/1/2021 - 5/31/2022

HERD: MD216 - CLARKS FORK

HUNT AREAS: 105-106, 109 | PREPARED BY: TONY MONG

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,200 | 2,600 | 2,900 |
| Harvest: | 321 | 173 | 175 |
| Hunters: | 805 | 494 | 450 |
| Hunter Success: | 40% | 35% | 39% |
| Active Licenses: | 824 | 494 | 450 |
| Active License Success: | 39% | 35% | 39 % |
| Recreation Days: | 4,233 | 2,619 | 2,500 |
| Days Per Animal: | 13.2 | 15.1 | 14.3 |
| Males per 100 Females | 28 | 25 | |
| Juveniles per 100 Females | 54 | 73 | |

Population Objective (± 20%) : 5000 (4000 - 6000)

Management Strategy: Recreational

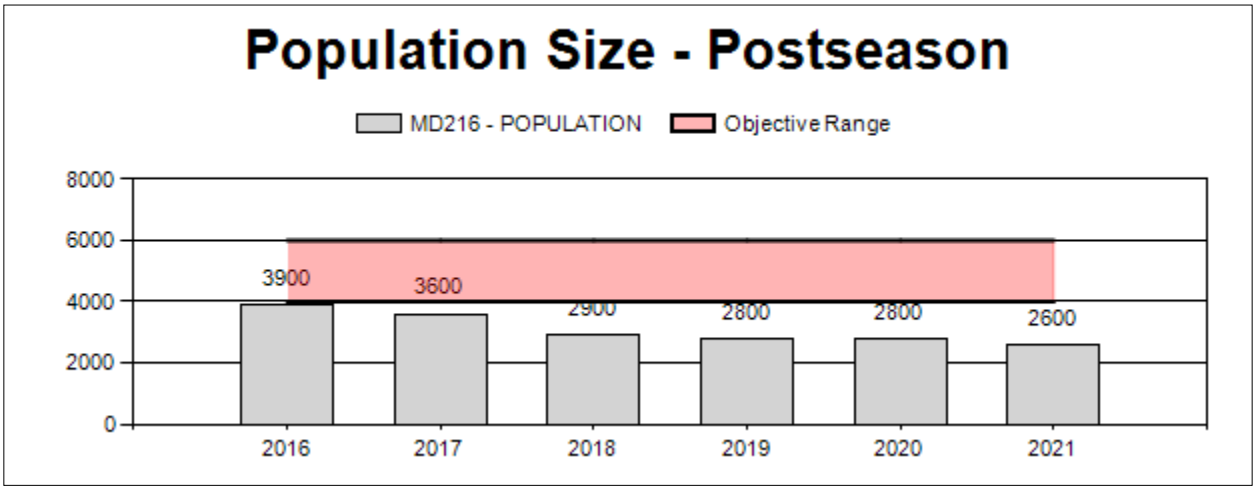
Percent population is above (+) or below (-) objective: -48%

Number of years population has been + or - objective in recent trend: 5

Model Date: 1/22/2022

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 0% | 0% |
| Males ≥ 1 year old: | 33% | 31% |
| Proposed change in post-season population: | 1% | 11% |



**2022 Hunting Seasons**
**Clark's Fork Mule Deer (MD216)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 105 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 24 | | Antlered mule deer or any white-tailed deer valid on national forest |
| 105 | Gen | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 5 | | Antlered mule deer or any white-tailed deer valid off national forest |
| 105 | Gen | Sep. 1 | Sep. 30 | Nov. 6 | Nov. 17 | | Antlerless deer valid on private land |
| 105, 106, 109 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 20 | 25 | Any deer |
| 105 | 8 | | | Sep. 1 | Nov. 15 | 50 | Doe or fawn white-tailed deer |
| 106 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 24 | | Antlered mule deer or any white-tailed deer |
| 106 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 15 | 50 | Doe or fawn white-tailed deer |
| 109 | 8 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 75 | Doe or fawn white-tailed deer |

**2022 Region F nonresident quota:** 550 licenses

**2021 Hunter Satisfaction:** 54% Satisfied, 16% Neutral, 30% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** We are increases the white-tailed deer licenses throughout the herd unit. The 2021 hunting season showed a lower harvest compared to the previous 3 years, lower compared to the previous 10 years (previous 10 year average = 255) and the lowest harvest ever recorded. Despite the lower harvest we have not seen a good response in either the population or buck ratios. Because of lower overall population numbers, stagnate older age class buck ratios and mixed results from the public survey we are cautious in moving forward with any changes in the seasons that would increase buck harvest at this time. In addition, hunter dissatisfaction with the hunting conditions has also remained high with 30% of hunter responding to the harvest survey showing dissatisfaction with their hunt. Average dissatisfaction prior to the big die off of 2016/17 was 15% showing that many hunters are not seeing the same type of positive increases in either population or buck availability compared to the adjacent Upper Shoshone mule deer herd. Despite the suppressed population growth and buck response, we have seen over the last 3 years, fawn production within the herd this year was the highest it has been since 1995. If we couple this with the slightly higher fawn ratios and seemingly higher over winter survival during the last 3 years we should see an increase in population size in the next few years and will most likely see liberalization

of the season in the next year or two.

**2.) Chronic Wasting Disease Management:** This is a Tier 2 surveillance herd where sampling was targeted in the 2019 and 2020 seasons. We did not target this herd in 2021 given the low number of samples returned for effort exerted in target years (~8hr personnel time/sample), and low odds of achieving 200 target samples. Samples are concentrated primarily in Sunlight Basin (HA106) with positives concentrated along the Clark's Fork river corridor near Clark (HA105). Prevalence was highest in adult males (Table 1). To date, no mule deer harvest strategies have occurred to specifically address CWD.

Table 1. CWD prevalence of mule deer within Clark's Fork herd unit, 2019-2021.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | Adult Males (CI = 95%) | Yearling Males | Adult Females |
| 2019-21 | 8% (3-16%, n=84) | 0% (13) | 0% (9) |

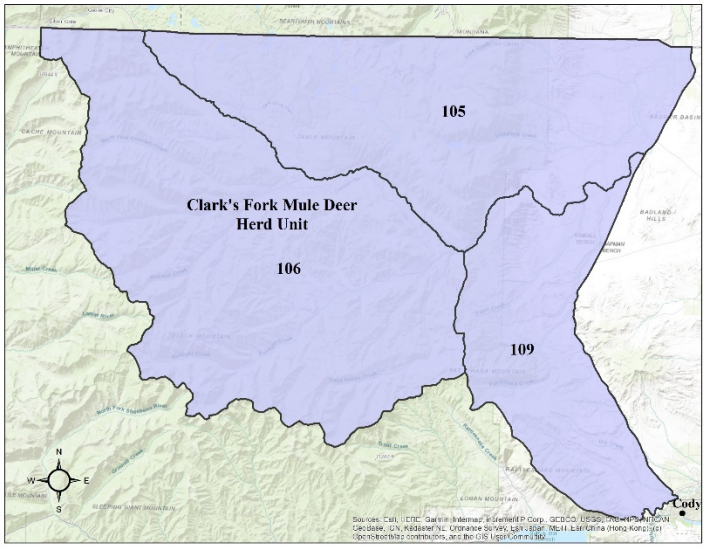
In 2021-22, education and scoping efforts were targeted at post-season public meetings for this herd. From surveys (n = 24) conducted at these events and on-line, 78% were concerned to very concerned with CWD; 53% were supportive to very supportive of increasing the number of days of the general season; and 73% were supportive to very supportive of maintaining the Type 1 season. To address CWD through mule deer harvest, we propose to maintain the Type 1 season, yet will not increase number of days to the general season given low deer population numbers.

**3.) Population Modeling:** The bio-year 2021 postseason population estimate for this herd unit from the WGFD spreadsheet model (WGFD 2012) was approximately 2,600 mule deer. In 2021, WGFD managers also began using PopR integrated population models (IPM) (Nowak, et. al. 2018) to estimate population indices for mule deer and pronghorn. The 2021 postseason population estimate for this herd unit from the PopR IPM was approximately 4,800 (CL = 3,900 – 5,700, Rhat = 1.43) mule deer using the days to harvest effort variable. Postseason population estimates from both models for 2021 were reported here to allow for comparison during this transitional year. The Department intends to replace the WGFD spreadsheet model with the PopR IPM in bio-year 2022.

**4.) Clark's Fork Mule Deer Public Scoping Meetings:** In 2019 we held a series of public meetings and involvement that lead to major changes to hunting seasons in the Clark's Fork mule deer herd from 2019 to 2021. In those meetings we made a pledge to come back after 3 hunting seasons and report on the changes seen in the herd and ask for additional input on future seasons. These meetings were held in January. In addition to in person meetings we also made presentations and surveys available online. We only received 28 individual responses to the surveys (27 residents, 1 non-resident). Appendix A contains the questions and results of the questions to the survey.

Appendix A. Clark's Fork Mule Deer Herd attitude survey questions (a), results (b) and comments (c). A total number of 28 surveys were returned with 27 resident hunters making up the majority of respondents, residents and non-resident answers were combined. Note that not every person answered every question so total respondents for each question changed.

a)



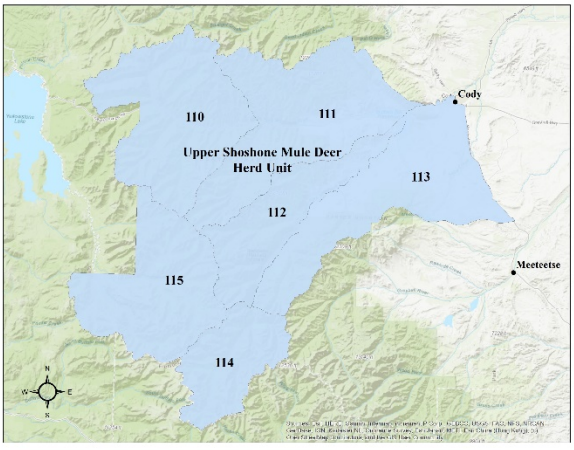

**Clark's Fork Mule Deer Herd Unit** Survey

1. How many years have you hunted the Clark's Fork Mule Deer Herd?

***Circle one***

Less than 1 1-3 years 4-8 years 8+ years

2. Do you also spend time hunting in the Upper Shoshone Mule Deer Herd Unit (HAs 110-115)?




Yes No

3. How many years, out of **the last 5 years**, did you hunt mule deer in the Clark's Fork Mule Deer Herd? (ENTER YEARS) _____

4. In the past 5 years, about how many days per year did you typically hunt deer in the Clark's Fork Mule Deer Herd? (ENTER DAYS)_____

5. How acceptable or unacceptable are the number of mule deer in the Clark's Fork Mule Deer Herd?

***Circle one***

Very Acceptable Acceptable Don't Know Unacceptable Very Unacceptable

6. How acceptable or unacceptable are the number of mature mule deer bucks in the Clark's Fork Mule Deer Herd?

***Circle one***

Very Acceptable Acceptable Don't Know Unacceptable Very Unacceptable

7. Chronic wasting disease (CWD) is present in mule deer, white-tailed deer, elk, and moose across the state. On a scale of 1 to 5, how concerned are you about the presence of CWD within the Clark's Fork Mule Deer Herd?

***Circle one number***

Greatly Concerned 1 2 3 4 5 Not Concerned

8. Data indicates that **white-tailed deer** have higher prevalence of CWD than mule deer. In order to control or decrease populations of **white-tailed deer**, antlerless harvest is necessary. Which of the following methods of antlerless harvest would you prefer be used to control or decrease **white-tailed deer** populations? (This information will be used to inform management decisions and multiple options may be combined to reach management goals).

***Circle one management action***

A separate, earlier general license season for antlerless white-tailed deer only

A separate, later general license season for antlerless white-tailed deer only

Issue high numbers of reduced price additional white-tailed doe/fawn licenses (Type 8 license)

Start the season dates of additional white-tailed doe/fawn licenses earlier (Type 8 license)

Extend the season dates of additional white-tailed doe/fawn licenses later (Type 8 license)

9. Which of the following methods of antlered (buck) harvest would you prefer be used to control or decrease **white-tailed antlered** (buck) deer populations? (This information will be used to inform management decisions and multiple options may be combined to reach management goals).

***Circle one management action***

A separate, earlier general license season for antlered white-tailed deer only

A separate, later general license season for antlered white-tailed only deer

Issue high numbers of additional white-tailed buck licenses (Type 3 license)

Start the season dates of additional white-tailed buck licenses earlier (Type 3 license)

Extend the season dates of additional white-tailed buck licenses (Type 3 license)

10. Based on your personal experience, the information you heard tonight and the discussions you have had, would you like to see a change in hunting season structure in the Clark's Fork Mule Deer Herd for 2022-2024?

***Circle one***

YES NO UNDECIDED

11. Based on your personal experience, the information you heard tonight and the discussions you have had, on a scale of 1 to 5 (1 is very supportive and 5 is no support at all) how supportive are you:

a) of decreasing the number of days of the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024? (Current general season is: October 1 to October 24)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

b) of no change to the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024? (Current general season is: October 1 to October 24)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

c) of increasing the number of days onto the end of the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024? (Current general season is: October 1 to October 24)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

d) of going back to the 2018 general mule deer hunting season end dates in the Clark's Fork Mule Deer Herd for 2022-2024? (2018 end date was: October 31)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

e) of maintaining the Type 1 "late season" license in the Clark's Fork Mule Deer Herd for 2022-2024? (Type 1 season dates are: Nov. 1 to Nov. 15 and 25 current licenses)

***Circle one number***

Very supportive 1 2 3 4 5 No support at all

---

12. Comments or suggestions

_____

_____

_____

_____

_____

_____

_____

_____

_____

b) Summary of the most relevant questions.

Question #1. *How many years have you hunted the Clark's Fork Mule Deer Herd?*

| # Years | # respondents | % of respondents |
|---|---|---|
| 8+ | 11 | 47.83% |
| 4 to 8 | 4 | 17.39% |
| 1 to 3 | 8 | 34.78% |
| <1 | 0 | 0.00% |

Question #3. *How many years, out of the last 5 years, did you hunt mule deer in the Clark's Fork Mule Deer Herd?*

| Years | # respondents | % of respondents |
|---|---|---|
| 1 | 3 | 10.71% |
| 2 | 4 | 14.29% |
| 3 | 5 | 17.86% |
| 4 | 5 | 17.86% |
| 5 | 11 | 39.29% |

Question #5. *How acceptable or unacceptable are the number of mule deer in the Clark's Fork Mule Deer Herd?*

| How Acceptable | # respondents | % of respondents |
|---|---|---|
| Very Acceptable | 4 | 14.29% |
| Acceptable | 3 | 12.50% |
| Don't Know | 2 | 8.33% |
| Unacceptable | 14 | 58.33% |
| Very Unacceptable | 5 | 20.83% |

Question #6. *How acceptable or unacceptable are the number of mature mule deer bucks in the Clark's Fork Mule Deer Herd?*

| How Acceptable | # respondents | % of respondents |
|---|---|---|
| Very Acceptable | 4 | 14.29% |
| Acceptable | 4 | 14.29% |
| Don't Know | 2 | 7.14% |
| Unacceptable | 13 | 46.43% |
| Very Unacceptable | 6 | 21.43% |

Question #7. *Chronic wasting disease (CWD) is present in mule deer, white-tailed deer, elk, and moose across the state. On a scale of 1 to 5, how concerned are you about the presence of CWD within the Clark's Fork Mule Deer Herd?*

| Concern level | # respondents | % of respondents |
|---|---|---|
| 1 (greatly concerned) | 9 | 32.14% |
| 2 | 6 | 21.43% |
| 3 | 6 | 21.43% |
| 4 | 1 | 3.57% |
| 5 (not concerned) | 6 | 21.43% |

Question #8 (top results only). *Which of the following methods of antlerless harvest would you prefer be used to control or decrease white-tailed deer populations?*

| Option | # respondents | % of respondents |
|---|---|---|
| Higher # of type 8 | 8 | 28.57% |
| Extend Type 8 season dates | 3 | 10.71% |
| Later Antlerless General | 11 | 39.29% |

Question #9 (top results only). *Which of the following methods of antlered (buck) harvest would you prefer be used to control or decrease white-tailed antlered (buck) deer populations?*

| Option | # respondents | % of respondents |
|---|---|---|
| Higher # of type 3 | 7 | 25.00% |
| Extend type 3 season | 3 | 10.71% |
| Later General | 12 | 42.86% |

Question #10. *Based on your personal experience, the information you heard tonight and the discussions you have had, would you like to see a change in hunting season structure in the Clark's Fork Mule Deer Herd for 2022-2024?*

| | # respondents | % of respondents |
|---|---|---|
| Yes | 10 | 35.71% |
| No | 6 | 21.43% |
| Undecided | 12 | 42.86% |

Question #11 a. *How supportive of decreasing the number of days of the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 1 | 3.57% |
| Supportive | 2 | 7.14% |
| Don't Know | 5 | 17.86% |
| Unsupportive | 4 | 14.29% |
| Very Unsupportive | 16 | 57.14% |

Question #11 b. *How supportive of no change to the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 6 | 21.43% |
| Supportive | 3 | 10.71% |
| Don't Know | 5 | 17.86% |
| Unsupportive | 4 | 14.29% |
| Very Unsupportive | 10 | 35.71% |

Question #11 c. *How supportive of increasing the number of days onto the end of the current general mule deer hunting season in the Clark's Fork Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 11 | 39.29% |
| Supportive | 5 | 17.86% |
| Don't Know | 1 | 3.57% |
| Unsupportive | 2 | 7.14% |
| Very Unsupportive | 9 | 32.14% |

Question #11 d. *How supportive of going back to the 2018 general mule deer hunting season end dates in the Clark's Fork Mule Deer Herd for 2022-2024?*

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 13 | 46.43% |
| Supportive | 4 | 14.29% |
| Don't Know | 1 | 3.57% |
| Unsupportive | 4 | 14.29% |
| Very Unsupportive | 5 | 17.86% |

Question #11 e. *How supportive* of maintaining the Type 1 "late season" license in the Clark's Fork Mule Deer Herd for 2022-2024?

| How Supportive | # respondents | % of respondents |
|---|---|---|
| Very Supportive | 14 | 50.00% |
| Supportive | 7 | 25.00% |
| Don't Know | 4 | 14.29% |
| Unsupportive | 1 | 3.57% |
| Very Unsupportive | 2 | 7.14% |

c) Comments from the survey

- I realize WGFD has cameras out monitoring mule deer migrations but from personal experience mule deer hunting in the Sunlight/Crandall area can be pretty dismal until essentially the last week of October when the deer really seem to start moving. The season was shortened by only a week but it greatly decreased opportunities for people that hunt on foot (i.e. not on horseback in the upper drainages). Combine earlier dates with warmer, drier falls (ie drought/climate change) and it can really decrease the overall quality of the hunt. I haven't seen much improvement at all in the number of quality of bucks (in fact it has likely declined the past two years) in my experience so I would like to see the mule deer season extended to October 31. I do like the reduction in nonresident licenses so would like to see that continued. In terms of habitat much of the Clarks Fork where these deer live are not in areas that can be manipulated substantively to improve conditions to where it would reasonably impact herd numbers. I did have a Type I tag a few years ago. I was pretty disappointed by the number of older mule deer (very few). One thing missing in the presentation was to what extent do the deer in the Upper Clarks Fork rely on habitat in Yellowstone.. Do those deer migrate back and forth from the park? Otherwise great presentation and thanks for making it available online especially during covid. Lets go back to a mule deer season that runs until October 31 while continuing attempts to improve habitat conditions/focus on whitetail reductions.

- One of the biggest issues I see facing our wildlife is the continued overgrazing by some of our livestock producers. Some of them do a good job. I have witnessed time after time the overgrazing of areas that G&F has asked to be designated as crucial winter range. I have myself complained to the Forest multiple times and nothing gets done. I know that this is an issue that no one wants to bring up, however, it needs to be handled if we are going to have healthy game. We all need to quit pussy footing around our ranchers. Currently there are still cows on Table Mountain in Crandall, which is to be designated as crucial winter range on the current forest plan

revision. I sent the owner a message on November 14th with their location. The same Rancher had cows come out of north Crandall last week as well. This is also crucial winter range. The same rancher had some cows all winter in dead Indian last year. This lease is over grazed beyond belief. This lease should be revoked. As a member of the general public, my complaints fall on deaf ears at the SNF. We need G&F range specialists to be monitoring these winter range areas and pushing the SNF to manage them properly. This is the only way things will ever get changed.

- Make 106 a 4 pt and for 2 years and save the yearlings. Expand season to October. Shoot all the whitetails in Sunlight Basin through Nov 15. I think your yearling buck harvest status in 106 are in error.

- I strongly support doe harvest targeting on private land to increase doe numbers.

- Type 1 tag should be able to hunt during general dates. That hunt changes depending on weather. They should be able to hunt general dates.

# 2021 - JCR Evaluation Form

SPECIES: White tailed Deer
PERIOD: 6/1/2021 - 5/31/2022

HERD: WD201 - BIGHORN BASIN

HUNT AREAS: 35, 37, 39-41, 46-47, 50-53, 105-106, 109-125, 127, 164-165
PREPARED BY: SAM STEPHENS

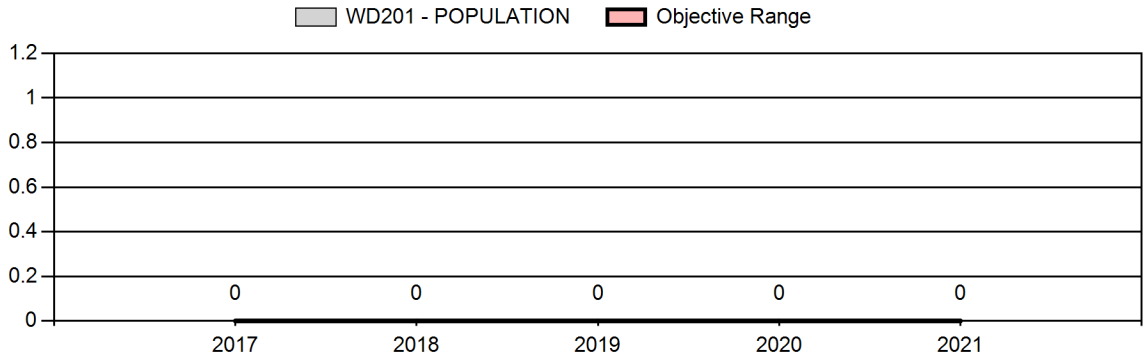
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 0 | N/A | N/A |
| Harvest: | 2,491 | 2,471 | 2,800 |
| Hunters: | 4,636 | 4,496 | 4,893 |
| Hunter Success: | 54% | 55% | 57 % |
| Active Licenses: | 5,737 | 5,822 | 6,337 |
| Active License Success: | 43% | 42% | 44 % |
| Recreation Days: | 20,482 | 25,095 | 27,314 |
| Days Per Animal: | 8.2 | 10.2 | 9.8 |
| Males per 100 Females | 35 | 30 | |
| Juveniles per 100 Females | 68 | 64 | |

| | |
|---|---|
| Population Objective (± 20%) : | 0 (0 - 0) |
| Management Strategy: | Recreational |
| Percent population is above (+) or below (-) objective: | N/A% |
| Number of years population has been + or - objective in recent trend: | 0 |
| Model Date: | None |

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

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

## Population Size - Postseason



## 2022 HUNTING SEASONS

## BIGHORN BASIN WHITE-TAILED DEER HERD (WD201)

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 36 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Oct. 31 | 25 | Doe or fawn white-tailed deer |
| 37,39 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 25 | Any white-tailed deer |
| 37,39 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 50 | Doe or fawn white-tailed deer |
| 40 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 50 | Any white-tailed deer |
| 40 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 300 | Doe or fawn white-tailed deer |
| 41 | 3 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 150 | Any white-tailed deer |
| 41 | 8 | | | Sep. 1 | Dec. 31 | 250 | Doe or fawn white-tailed deer |
| 47,51,52 | 3 | Sep.1 | Sep. 30 | Oct. 15 | Nov. 30 | 100 | Any white-tailed deer |
| 47 | 8 | | | Sep. 1 | Dec. 31 | 150 | Doe or fawn white-tailed deer |
| 51 | 8 | | | Sep. 1 | Dec. 31 | 150 | Doe or fawn white-tailed deer |
| 105 | 8 | | | Sep. 1 | Nov. 15 | 50 | Doe or fawn white-tailed deer |
| 106 | 8 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 15 | 50 | Doe or fawn white-tailed deer |
| 109 | 8 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | ~~25~~ 75 | Doe or fawn white-tailed deer |
| 110, 111 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 31 | 100 | Doe or fawn white-tailed deer |
| 112, 113 | 3 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 75 | Any white-tailed deer |
| 112, 113 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 31 | 400 | Doe or fawn white-tailed deer valid on private land |
| 116, 117 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 100 | Any white-tailed deer |
| 116, 117, 118 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 175 | Doe or fawn white-tailed deer |
| 119, 120 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 100 | Any white-tailed deer |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 120 | 8 | | | Sep. 1 | Dec. 15 | 200 | Doe or fawn white-tailed deer |
| 121 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 15 | 75 | Any white-tailed deer |
| 121 | 8 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 15 | 100 | Doe or fawn white-tailed deer |
| 122 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 15 | 75 | Any white-tailed deer |
| 122 | 8 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 15 | 100 | Doe or fawn white-tailed deer |
| 124 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 150 | Any white-tailed deer |
| 124 | 8 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 250 | Doe or fawn white-tailed deer |
| 127 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 30 | 25 | Any white-tailed deer; also valid in Area 125 |
| 127 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Nov. 30 | 75 | Doe or fawn white-tailed deer |
| 164 | 3 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 15 | 100 | Any white-tailed deer, also valid in Area 125 |
| 164 | 8 | | | Sep. 1 | Dec. 31 | 200 | Doe or fawn white-tailed deer, also valid in Area 125 |
| 165 | 3 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 15 | 100 | Any white-tailed deer |
| 165 | 8 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 31 | 300 | Doe or fawn white-tailed deer |

**2021 Hunter Satisfaction:** 57% Satisfied, 20% Neutral, 23% Dissatisfied

**Management Summary**

**1.) Hunting Season Evaluation:**

White-tailed deer in the Bighorn Basin are managed as one herd unit consisting of 33 hunt areas under recreational management. Hunting seasons for white-tailed deer are typically set in conjunction with mule deer hunting seasons by hunt area. Hunting opportunity exists for licenses exclusive for white-tailed bucks such as Type 3 licenses and white-tailed does or fawns with Type 8 licenses. Significant epizootic hemorrhagic disease (EHD) outbreaks occurred in 2001, 2007, 2011, and 2012 reduced white-tailed deer abundance in parts of the Basin. Estimating the percent of the white-tailed deer population affected by disease mortality was never attempted, because no population estimate exists. Despite sporadic outbreaks of EHD in certain hunt areas in 2020, the population appears to be stable and white-tailed deer are still expanding their range throughout the Bighorn Basin. White-tailed deer hunting seasons are set to address landowner concerns and provide a late season opportunity to pursue bucks during the rut. White-tailed deer specific licenses (Types 3 & 8) are needed to obtain adequate harvest. Increases to buck and doe licenses for the 2022 season were created to address Chronic Wasting Disease which exhibits higher prevalence in white-tailed deer relative to sympatric Bighorn Basin mule deer herds.

**2.) Chronic Wasting Disease:**
The Bighorn Basin white-tailed deer herd overlaps several Tier 1, 2, and 3 mule deer herds where sampling for CWD in white-tailed deer occurs opportunistically. Sampling from 2019-2021 hunting seasons suggests prevalence of CWD in adult male white-tailed deer ranging from 15% to 34% (Table 1), decreasing from east to west. Proportion of white-tailed deer sampled/harvested in 2021 was 13% (n=325/2471). Prevalence in 2021 for adult male white-tailed deer in the Bighorn Basin was 32% (n=165) compared to 22% (n=417) in adult male mule deer. Density of all samples and positive samples in white-tailed deer remain concentrated along agricultural lands of rivers and major tributaries, with numerous hot-spots throughout the Bighorn Basin.

**Table 1.** CWD prevalence of white-tailed deer within associated mule deer herds, 2019-2021.

| Mule Deer Herd | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* | | |
|---|---|---|---|
| | Adult Males | Yearling Males | Adult Females |
| Paintrock | 34% (44) | 0% (5) | 18% (33) |
| North Bighorn [a] | 33% (18) | 0% (1) | 22% (9) |
| Southwest Bighorn | 32% (81) | 14% (7) | 25% (36) |
| Shoshone River | 28% (148) | 23% (13) | 14% (56) |
| Clark's Fork | 24% (17) | N/A | 17% (6) |
| Upper Shoshone | 15% (55) | 0% (5) | 11% (35) |

[a] Data exclusive to Bighorn Basin, excludes Sheridan Region

Outreach and education efforts included pre- and post-season scoping meetings in person and on-line (9) and sampling trainings (5). Surveys conducted at these events and focused conversations in the field helped gauge public support for various management options in mule deer HAs 41, 46, 47 (Paintrock); 164 (Southwest Bighorn); 105, 106, 109 (Clark's Fork); and 110-115 (Upper Shoshone). Survey questions were standardized within Paintrock and Southwest Bighorn herd scoping efforts (East Basin), and within Clark's Fork and Upper Shoshone herd scoping efforts (West Basin).

One hundred-forty five surveys were completed by resident and non-resident respondents, including non-hunters. Respondents from East Basin efforts (n = 74, 82% hunters) supported 1) targeting hot-spots of CWD positive animals, 2) increasing harvest of adult male white-tailed deer (and mule deer) with later hunting seasons, and 3) increasing harvest of white-tailed deer adult males, adult females, and overall population/density reduction more than similar options targeting mule deer (Table 2). Respondents from West Basin efforts (n = 71, 17% non-residents) supported for both male and female white-tailed deer 1) later general seasons, and 2) increased limited quota licenses (Table 3).

**Table 2.** Proportion of responses supporting various harvest strategies aimed at reducing CWD in the Paintrock (PR) and Southwest Bighorns (SB) mule deer herd units, 2021 (n = 74 surveys).

| | Proportion of Responses in Support of Each Harvest Strategy within Category of Respondent | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mule Deer | | | White-Tailed Deer | | | | |
| Respondents | Address Hotspots | Increase Male Harvest | Increase Female Harvest | Population Reduction | Increase Male Harvest | Increase Female Harvest | Population Reduction | Male Late Season | Do Nothing |
| All [a] | 78 | 54 | 39 | 19 | 62 | 50 | 30 | 69 | 8 |
| PR Hunters | 70 | 44 | 35 | 9 | 52 | 44 | 17 | 83 | 9 |
| SB Hunters | 71 | 50 | 33 | 17 | 63 | 50 | 33 | 58 | 13 |

[a] Includes responses of hunters and non-hunters

**Table 3.** Proportion of responses supporting various white-tailed deer harvest strategies aimed at reducing CWD in the Upper Shoshone and Clark's Fork mule deer herd units, 2021 (n = 71 surveys).

| | Proportion of Responses in Support of Each White-Tailed Deer Harvest Strategy within Sex within Herd Unit | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Males | | | | Females | | | |
| Mule Deer Herd Unit | Earlier Season [a] | Later General Season | Later Ltd Quota Season | Increased Ltd Quota Licenses | Earlier Season [a] | Later General Season | Later Ltd Quota Season | Increased Ltd Quota Licenses |
| Upper Shoshone | 11 | 33 | 17 | 39 | 19 | 22 | 20 | 39 |
| Clark's Fork | 14 | 50 | 14 | 21 | 13 | 53 | 20 | 13 |

[a] Combined responses regarding earlier general and limited quota seasons

To address CWD, particularly in white-tailed deer, increased Type 3 and 8 licenses were initiated in 2019 for HA 164 and are proposed to continue. 2022 changes within the Bighorn Basin, include increased Type 3 licenses in four hunt areas, and numerous increases to Type 8 licenses. Other increases in opportunity include expanded seasons and general licenses that include any white-tailed deer.

# 2021 - JCR Evaluation Form

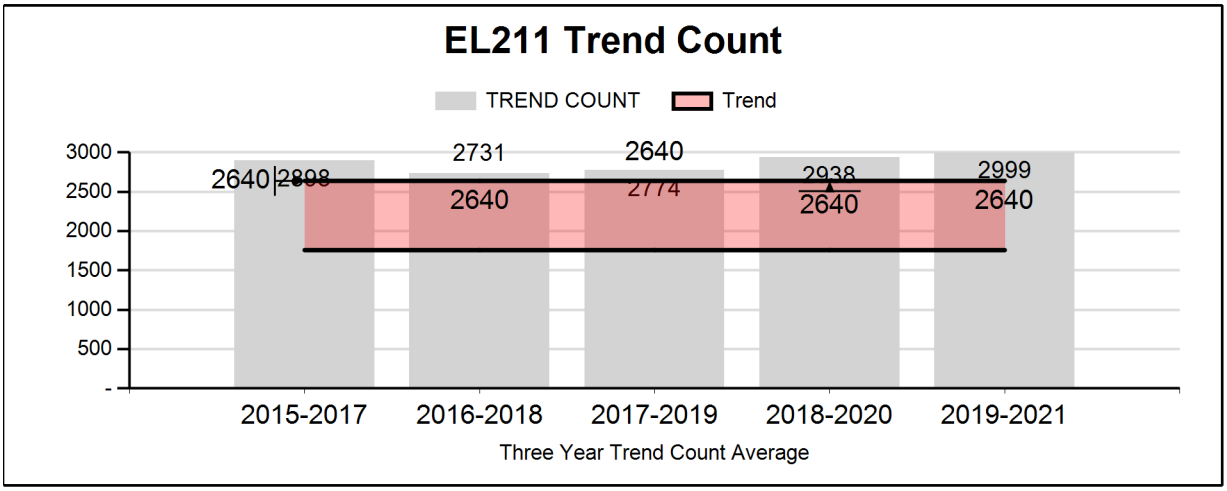
SPECIES: Elk
PERIOD: 6/1/2021 - 5/31/2022
HERD: EL211 - MEDICINE LODGE
HUNT AREAS: 41, 45
PREPARED BY: SAM STEPHENS

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 2,806 | 3,161 | 2,700 |
| Harvest: | 822 | 648 | 1,100 |
| Hunters: | 1,988 | 1,979 | 2,400 |
| Hunter Success: | 41% | 33% | 46 % |
| Active Licenses: | 2,053 | 2,035 | 2,535 |
| Active License Success | 40% | 32% | 43 % |
| Recreation Days: | 14,135 | 15,769 | 18,900 |
| Days Per Animal: | 17.2 | 24.3 | 17.2 |
| Males per 100 Females: | 27 | 36 | |
| Juveniles per 100 Females | 40 | 33 | |

| | |
|---|---|
| Trend Based Objective (± 20%) | 2,200 (1760 - 2640) |
| Management Strategy: | Recreational |
| Percent population is above (+) or (-) objective: | 44% |
| Number of years population has been + or - objective in recent trend: | 7 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 16% | 30% |
| Males ≥ 1 year old: | 12% | 41% |
| Juveniles (< 1 year old): | 10% | 10% |



## 2022 HUNTING SEASONS

## MEDICINE LODGE ELK HERD (EL211)

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 41 | 1 | | | Oct. 15 | Nov. 4 | 200 | Any elk |
| 41 | 2 | | | Nov. 5 | Nov. 20 | 175 | Any elk |
| 41 | 3 | | | Sep. 1 | Oct. 14 | 75 | Any elk valid off national forest north of Trapper Creek |
| 41 | 4 | | | Oct. 1 | Oct. 10 | 350 | Antlerless elk |
| 41 | 4 | | | Oct. 15 | Nov. 20 | | Antlerless elk |
| 41 | 6 | | | Dec. 1 | Dec. 21 | 350 | Cow or calf |
| 41 | 7 | | | Sep. 1 | Oct. 14 | 150 | Cow or calf valid off national forest north of Trapper Creek |
| 41 | 9 | | | Sep. 1 | Sep. 30 | 150 | Any elk, archery only |
| 45 | 1 | Sep. 15 | Sep. 30 | Oct. 15 | Nov. 4 | 350 | Any elk |
| 45 | 4 | Sep. 15 | Sep. 30 | Oct. 15 | Nov. 30 | 250 | Antlerless elk |
| 45 | 5 | Sep. 15 | Sep. 30 | Oct. 1 | Oct. 10 | 200 | Antlerless elk |
| 45 | 5 | | | Nov. 5 | Nov. 30 | | Antlerless elk |
| 45 | 6 | | | Aug. 15 | Nov. 30 | 225 | Cow or calf valid off national forest |
| 45 | 7 | | | Dec. 1 | Dec. 21 | 200 | Cow or calf |
| 45 | 9 | | | Sep. 1 | Sep. 30 | 150 | Any elk, archery only |

**2021 Hunter Satisfaction:** 58% Satisfied, 19% Neutral, 23% Dissatisfied

### 2022 Management Summary

**1) Hunting Season Evaluation:**

High calf recruitment and insufficient female harvest continues to yield an elk herd which is over-objective. Classification and trend flights continue to show an over-abundance of elk in the herd unit (3,161). Access issues derived from land ownership and topographical constraints limits the cow harvest necessary to curb population growth. This problem is especially pronounced in Hunt Area 41 where a ceiling on hunter numbers is developing. Data from 2019-21 indicates that in spite of increased license quotas, harvest has remained stagnant or declined. The prevailing concern amongst hunters is that the area has become over-crowded with hunters which is therefore driving elk into more inaccessible locales. Our changes for 2022 include

strategies to (1) decrease elk hunter crowding and (2) increase elk available to public land hunters. During the fall season large groups of elk move into a matrix of private land on the northern end of Hunt Area 41. This issue has intensified in recent years where elk are leaving publicly accessible lands in Early September. Elk harvest within this portion of the hunt area is limited to a handful of landowners and a tenacious few public land hunters. As hunter pressure mounts in October, elk linger in this segment of the Hunt Area. Type 3 and 7 licenses are proposed to target these elk prior to the Type 1 and 4 seasons. While harvest success is likely to be very low, the intent is to curtail movements to private land. Under the right weather conditions this strategy could prove useful in moving elk back to public land prior to October. To reduce crowding the Type 1 quota will be reduced by 175 licenses. This reduction will be off-set with the creation of a later season Type 2 license. Additionally the Type 4 quota will be reduced and the Type 6 quota increased. These changes are intended to make for two quality "any elk" seasons by diffusing hunting pressure which should increase harvest. Lastly the Type 4 season will end on November 20th and the Type 6 season will begin on December 1st. This change is intended to create a 10-day break in the season to allow elk to become more accessible prior to the December 1st opening day.

Hunt Area 45 contains more accessible public land which gives hunters more opportunity to harvest elk. The 2022 changes seek to make the most of this opportunity in order to increase cow elk harvest. Increases to the Type 4 quota and creation of the Type 7 license are intended to maximize cow elk harvest in areas that see little hunter presence under the current season structure. Lastly, critical comments received from Type 9 hunters reference overcrowding during the September 15-30 period. This has prompted changes to eliminate "special archery seasons" for certain license types in both Hunt Areas (41 Types 1 & 4 and 45 Types 4 & 5). Based on the lack of cow elk harvest from archers, there appears to be little merit to maintaining special archery seasons for full-price antlerless hunters. To account for the removal of the "special archery season" a modest increase to the Hunt Area 41 Type 9 quota is warranted.

**2) Chronic Wasting Disease:**

This is a Tier 2 CWD surveillance herd, targeted for sampling in 2021. Proportion of targeted samples collected/harvested in 2021 was 13% (n=80/599). CWD was first detected in the herd unit in 2020 (HA45), and was detected again in 2021 (HA41). Combined 2019-2021 data suggest low prevalence (Table 1). Sample distribution is nearly even between HA 41 and 45. Harvest strategies proposed in 2022 to address concentrated, overabundance of elk and help manage CWD include the addition of Type 2, 3, and 7 licenses in HA 41, addition of Type 7 licenses in HA 45, and overall increased numbers of licenses and extension of seasons in both HA 41 and 45. This herd will be targeted for sampling again in 2022.

**Table 1.** CWD prevalence for hunter-harvested elk in the Medicine Lodge Elk Herd, 2019 - 21.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* |
|---|---|
| | **All Adult Elk (CI = 95%)** |
| 2019-21 | **2% (0-6%, n=118)** |

# 2021 - JCR Evaluation Form

SPECIES: Elk
HERD: EL214 - GOOSEBERRY
HUNT AREAS: 62-64

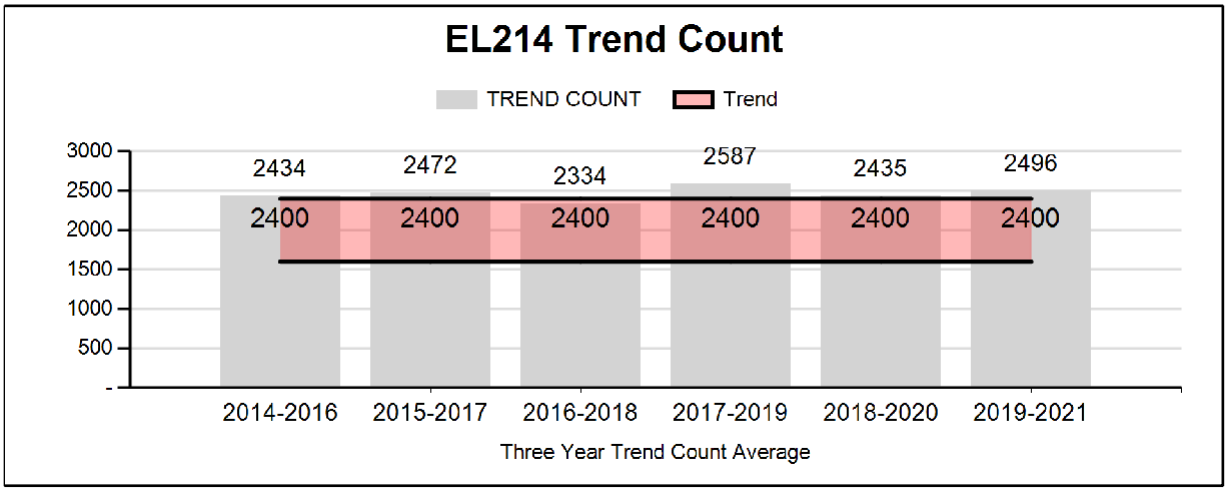
PERIOD: 6/1/2021 - 5/31/2022
PREPARED BY: BART KROGER

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 2,426 | 2,359 | 2,400 |
| Harvest: | 647 | 602 | 600 |
| Hunters: | 1,235 | 1,130 | 1,150 |
| Hunter Success: | 52% | 53% | 52% |
| Active Licenses: | 1,276 | 1,159 | 1,175 |
| Active License Success | 51% | 52% | 51% |
| Recreation Days: | 7,628 | 7,409 | 7,500 |
| Days Per Animal: | 11.8 | 12.3 | 12.5 |
| Males per 100 Females: | 28 | 43 | |
| Juveniles per 100 Females | 19 | 17 | |

| | |
|---|---|
| Trend Based Objective (± 20%) | 2,000 (1600 - 2400) |
| Management Strategy: | Special |
| Percent population is above (+) or (-) objective: | 18% |
| Number of years population has been + or - objective in recent trend: | 10 |

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

| | JCR Year | Proposed |
|---|---|---|
| Females 2: 1 year old: | n/a% | n/a% |
| Males 2: 1 year old: | n/a% | n/a% |
| Juveniles (< 1 year old): | n/a% | n/a% |



**2022 Hunting Seasons**
**Gooseberry Elk (EL214)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 62 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 21 | 125 | Any elk |
| 62 | 4 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 21 | 75 | Antlerless elk |
| 62, 63 | 5 | Sep. 1 | Sep. 30 | Oct. 22 | Dec. 21 | 150 | Antlerless elk |
| 63, 64 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 21 | 200 | Any elk |
| 63, 64 | 2 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 21 | 25 | Any elk valid within the Washakie Wilderness |
| 63, 64 | 3 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 75 | Any elk |
| 63 | 4 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 21 | 100 | Antlerless elk |
| 63 | 6 | | | Aug.15 | Oct. 31 | 200 | Cow or calf valid off national forest north of Gooseberry Creek |
| 63 | 6 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 21 | | Cow or calf valid in the entire area |
| 64 | 6 | | | Sep. 1 | Nov. 14 | 200 | Cow or calf valid in that portion of the Cottonwood Creek Drainage downstream of and including the 21-Creek Drainage, also valid within the Grass Creek Drainage downstream of the Grass Creek/Little Grass Creek confluence |
| 64 | 6 | Sep. 1 | Sep. 30 | Nov.15 | Dec. 21 | | Cow or calf valid in the entire area |
| 64 | 7 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 21 | 300 | Cow or calf valid south of and including the Cottonwood Creek Drainage |

**2021 Hunter Satisfaction:** 71% Satisfied, 17% Neutral, 12% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 hunting season structure is again fairly liberal with numerous Type 4, 6 and 7 licenses and long seasons to hopefully continue reducing elk numbers. Type 1, 2, and 3 quotas (any elk licenses) will remain consistent in order to continue providing for a quality hunting experience while maintaining good bull numbers and hunter success. Most hunters still demand bull quality and quantity remain a management priority for this herd. Although area 62 had >60% hunter success on the Type 1 licenses in 2021, in 2020 it was 58%. Over the course of 20+ years the area 62 Type 1 licenses have decreased from 175 to 125 because of hunter demanding fewer licenses to provide for a more quality hunt. Since 2011, when the quota was reduced to 125 licenses, hunters now appear pleased with the current season structure, and very few hunter complaints are heard. Hunter satisfaction did increase slightly in 2021 (71%) compared to 69% in 2020. The Gooseberry elk herd continues to have one of the highest hunter satisfaction ratings in the

State. The 2021 herd unit hunter success was 53% and hunter effort was 12.3 days/harvest, which were mostly similar to previous years. A total of 602 elk were harvested, which was about 45 fewer than the previous 5-year average. Calf ratios have remained below 20:100 cows the previous 4 years, and below 30:100 the last 9 years. The 2021 calf ratio was 17:100. Hunting season changes for 2022 are mainly limitation changes and license type changes to allow for simplicity. An increase of 100 Type 6 licenses in area 63 is warranted because of the increased number of elk counted in that hunt area in 2021, along with most landowners desiring fewer elk.

**2.) Management Objective Review:** The Gooseberry elk herd unit objective was reviewed in 2022. Most hunters and landowners appear satisfied with current elk numbers, and management. We are maintaining this herd at the current objective and management strategy based on internal discussions and conversations with our constituents. We evaluated and considered population status and habitat data included in this document and a change is not warranted at this time. We will review this herd objective again in 2017; however, if the situation arises that a change is needed, we will review and submit a proposal as needed.

**3.) Chronic Wasting Disease Monitoring and Management:** This is a Tier 3 surveillance herd. To date, no meaningful surveillance data have been collected, and no specific elk management actions have addressed CWD.

**4.)** Brucellosis is present in this herd, and measures to reduce elk/cattle interaction have and will continue. The 2017-2021 seropositive brucellosis prevalence was 20-25%, compared to 10-15% from 2011-2015.

# 2021 - JCR Evaluation Form

SPECIES: Elk

PERIOD: 6/1/2021 - 5/31/2022

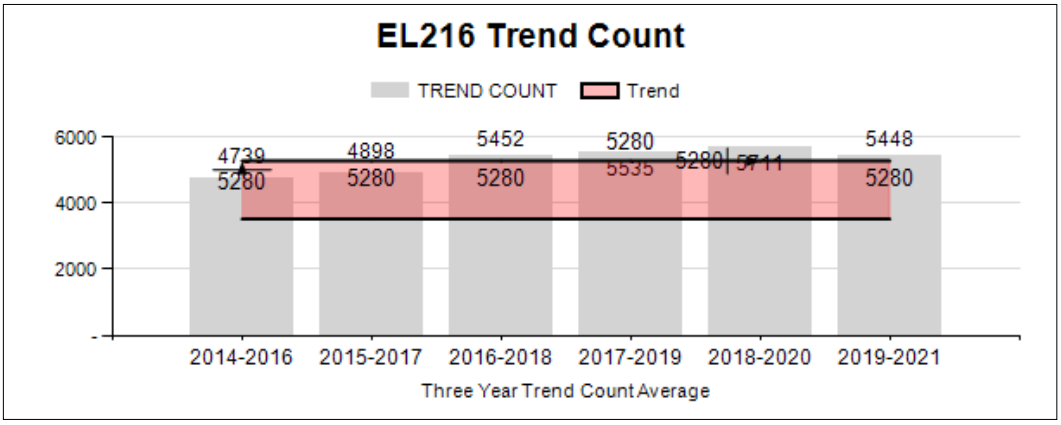
HERD: EL216 - CODY

HUNT AREAS: 55-56, 58-61, 66

PREPARED BY: TONY MONG

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 5,524 | 5,079 | 4,500 |
| Harvest: | 1,280 | 1,059 | 1,200 |
| Hunters: | 2,967 | 2,494 | 2,500 |
| Hunter Success: | 43% | 42% | 48 % |
| Active Licenses: | 3,141 | 2,624 | 2,600 |
| Active License Success | 41% | 40% | 46 % |
| Recreation Days: | 20,645 | 15,448 | 16,000 |
| Days Per Animal: | 16.1 | 14.6 | 13.3 |
| Males per 100 Females: | 43 | 29 | |
| Juveniles per 100 Females | 20 | 19 | |

| | |
|---|---|
| Trend Based Objective (± 20%) | 4,400 (3520 - 5280) |
| Management Strategy: | Special |
| Percent population is above (+) or (-) objective: | 15% |
| Number of years population has been + or - objective in recent trend: | 5 |



**2022 Hunting Seasons**
**Cody Elk (EL216)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 55 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 50 | Any elk |
| 55 | 9 | | | Sep. 1 | Sep. 30 | 25 | Any elk, archery only |
| 56 | Gen | Sep. 1 | Sep. 30 | | | | Any elk |
| 56 | Gen | | | Oct. 1 | Oct. 21 | | Antlered elk |
| 56 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Dec. 7 | 10 | Any elk |
| 56 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 21 | 100 | Cow or calf |
| 56 | 7 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 21 | 100 | Cow or calf valid off national forest |
| 56 | 9 | | | Sep. 1 | Sep. 30 | 30 | Any elk, archery only |
| 58 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Nov. 30 | 35 | Any elk |
| 58 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 21 | 75 | Cow or calf |
| 59 | Gen | Sep. 1 | Sep. 30 | | | | Any elk |
| 59 | Gen | | | Oct. 1 | Oct. 21 | | Antlered elk |
| 59 | 1 | Sep. 1 | Sep. 30 | Nov. 1 | Nov. 15 | 10 | Any elk |
| 59 | 6 | Sep. 1 | Sep. 30 | Oct. 1 | Dec. 21 | 125 | Cow or calf |
| 59 | 7 | Sep. 1 | Sep. 30 | | | | Cow or calf valid in the entire area |
| 59 | 7 | | | Oct. 1 | Nov. 15 | 50 | Cow or calf valid within the Washakie Wilderness |
| 59 | 9 | | | Sep. 1 | Sep. 30 | 25 | Any elk, archery only |
| 60 | Gen | Sep. 1 | Sep. 19 | | | | Any elk |
| 60 | Gen | | | Sep. 20 | Oct. 22 | | Antlered elk |
| 60 | 9 | | | Sep. 1 | Sep. 30 | 20 | Any elk, archery only |
| 61 | 1 | Sep. 1 | Sep. 30 | | | | Any elk valid in the entire area, also valid in that portion of Area 62 within the Washakie Wilderness south of Avalanche Creek |
| 61 | 1 | | | Oct. 1 | Oct. 31 | 150 | Any elk valid within the Washakie Wilderness, also valid in that portion of Area 62 within the Washakie Wilderness south of Avalanche Creek |
| 61 | 2 | Sep. 1 | Sep. 30 | Oct. 7 | Nov. 15 | 50 | Any elk |
| 61 | 4 | Sep. 1 | Sep. 30 | Oct. 15 | Dec. 21 | 200 | Antlerless elk |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 61 | 6 | Sep. 1 | Sep. 30 | Nov. 7 | Dec. 21 | 400 | Cow or calf valid in the entire area |
| 61 | 7 | | | Sep. 1 | Dec. 21 | 500 | Cow or calf valid on or within one-half (1/2) mile of irrigated land or north of and including the Rawhide Creek Drainage |
| 61 | 7 | | | Jan. 1 | Jan. 15 | | Cow or calf valid on or within one-half (1/2) mile of irrigated land or north of and including the Rawhide Creek Drainage |
| 66 | Gen | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 21 | | Any elk |
| 66 | 6 | | | Aug. 15 | Jan. 15 | 100 | Cow or calf |

**2021 Hunter Satisfaction:** 59% Satisfied, 22% Neutral, 19% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** We made minor changes to seasons this year to maximize cow harvest in Hunt Area 61. Three year average trend count numbers have increased Hunt Areas 55-56 (2021 3-year trend count, 1085), decreased in Hunt Areas 58-59 (2021 3-year trend count, 824) and decreased in Hunt Area 61 count block (2021 3-year trend count, 3,527). In Hunt Area 56 we have several groups of elk that are causing damage on private lands and we removed the full priced Type 5 license that does not typically have much interest from hunters to a reduced price Type 7 in order to encourage harvest off forested land and on elk that are causing damage issues. Trend counts for Hunt Area 61 are over objective and license dates and restrictions are being adjusted to allow for higher harvest on these elk. In Hunt Area 66 we have seen the number of elk decrease significantly over the last 5 years and landowner tolerance of high hunter numbers decrease as well. In order to respond to this we are decreasing General Season opportunities. The shifting of dates and licenses should decrease total number of elk in the portions of the herd that are over objective or causing damage issues.

**2.) Management Objective Review:** We are not proposing any changes to the current trend count management objective for this herd. Current management is by Hunt Area block 3 year average trend counts. Hunt Areas 55/56 objective is 1150, Hunt Areas 58/59 objective is 950, Hunt Area 61 objective is 2,250 and Hunt Area 66 objective is 0. Trend counts are currently the best method for tracking population trends because of the migratory nature of most of the herd in addition to large movements seen into and out of the herd unit.

**3.) Chronic Wasting Disease Monitoring & Management:** This is a Tier 2 CWD surveillance herd, targeted for sampling in 2020. CWD was first detected in this herd in 2018, and has since been detected in 2020 and 2021, with all positives found in HA 66 concentrated primarily along the Greybull River. Combined 2019-2021 data suggest low prevalence (Table 1). To date, no management actions have occurred in this herd to specifically address CWD.

Table 1. CWD prevalence for hunter-harvested elk in the Medicine Lodge Elk Herd, 2019 - 21.

| Year(s) | Percent CWD-Positive and (*n*) – *Hunter Harvest Only* |
|---|---|
| | **All Adult Elk (CI = 95%)** |
| 2019-21 | **2% (1-6%, n=166)** |

**4.) Hunt Area with Greater than 60% Success:**

a) 58 Type 1 (68.4%): No increase. This license is dependent on access to private land and weather to move elk into the area. Most elk available for this license have been through general hunts in Hunt Areas 60 and 59 and limited quota Hunt Area 61 before arriving in Hunt Area 58. If weather moves elk through the general areas during the general season we could see high harvest on bull elk and could see extremely high harvest on the bulls using the area. This area has low recruitment into the population due to very low calf ratios, which can make recovery of the loss of large numbers of bulls slow and difficult.

b) 59 Type 1 (75.0%): No increase. Most elk available for this license have been through general hunts in Hunt Areas 60 and 59. If weather moves elk through the general areas during the general season we could see high harvest on bull elk on the bulls using the area. This area has low recruitment into the population due to very low calf ratios, which can make recovery of the loss of large numbers of bulls slow and difficult.

c) 60 Gen (64.5%): This is a General Area and has no restrictions on bull harvest.

c) 61 Type 1 (69.1%): The Type 1 hunters supported a hunter success of >60% in 2021. This hunter success does vary depending on late September snow storms prior to the October 1 opener, which typically drive elk into and out of the wilderness. Over the last 5 years, Type 1 hunter success has seen a low of 33% in 2017 and a high of 92% in 2020. The Type 1 license is unique in that hunters have to commit a tremendous amount of time, effort and money into this "backcountry" hunt, as do many of the Type 1 and General hunters in the Cody elk herd. Plus, all non-residents must commit to a guide or outfitter because of the wilderness limitation on the Type 1 license. Therefore, hunters have come accustom to demanding high hunter success, good opportunity for quality bulls, seeing lots of bulls, and having a quality hunting experience in this hunt area. Even slight changes, or perceived changes, in reduced quality (hunter crowding, bull quality, bull numbers, etc.) of the hunt brings demand from the hunters to make it better. This was the case in 2009 when the Type 1 license quota in hunt area 61 was raised from 150 to 175, and remained at 175 through 2011. Because of this slight increase of 25 licenses, numerous hunter complaints were heard regarding overcrowding at the Jack Creek trailhead, safety issues with trucks and horse trailers having to park on the county/FS road due to limited trailhead space, hunters not being able to find adequate horse camps in the back country with adequate feed, along with the traditional complaints of to many hunters and bull quality going down. Because of these hunters concerns the Type 1 quota was reduced back to 150 licenses.

# 2021 - JCR Evaluation Form

SPECIES: Elk

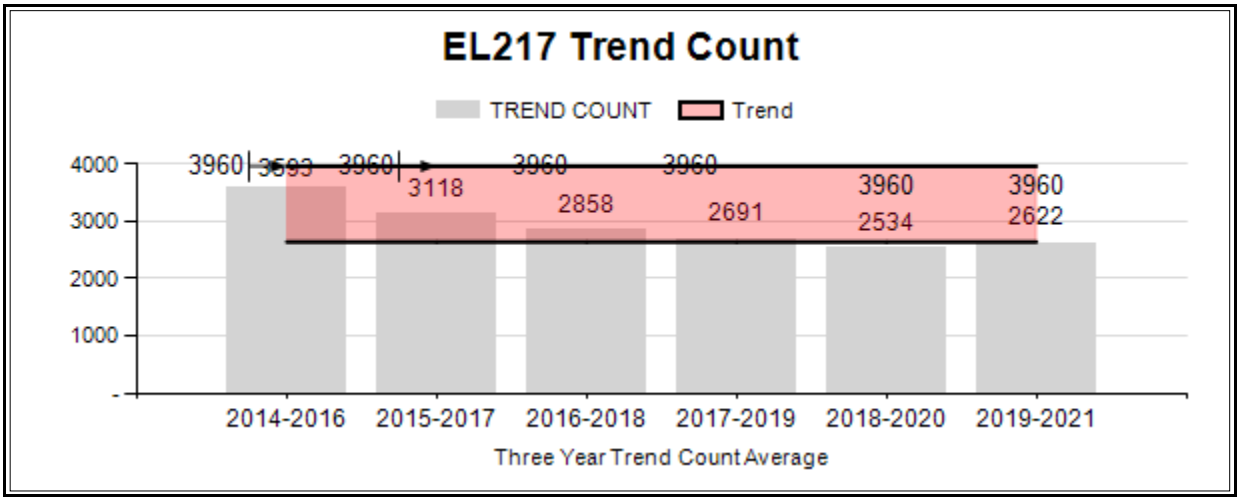
PERIOD: 6/1/2021 - 5/31/2022

HERD: EL217 - CLARKS FORK

HUNT AREAS: 51, 53-54

PREPARED BY: TONY MONG

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 2,688 | 3,000 | 3,000 |
| Harvest: | 441 | 271 | 325 |
| Hunters: | 936 | 778 | 800 |
| Hunter Success: | 47% | 35% | 41 % |
| Active Licenses: | 983 | 803 | 815 |
| Active License Success | 45% | 34% | 40 % |
| Recreation Days: | 6,915 | 6,299 | 6,300 |
| Days Per Animal: | 15.7 | 23.2 | 19.4 |
| Males per 100 Females: | 26 | 16 | |
| Juveniles per 100 Females | 18 | 22 | |
| Trend Based Objective (± 20%) | | | 3,300 (2640 - 3960) |
| Management Strategy: | | | Special |
| Percent population is above (+) or (-) objective: | | | -9.1% |
| Number of years population has been + or - objective in recent trend: | | | 5 |



## 2022 Hunting Seasons
## Clark's Fork Elk (EL217)

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 51 | 1 | | | Oct. 1 | Oct. 31 | 100 | Any elk south and west of the Clarks Fork River |
| 51 | 2 | | | Oct. 1 | Oct. 31 | 40 | Any elk north and east of the Clarks Fork River |
| 51 | 4 | | | Nov. 16 | Dec. 15 | 100 | Antlerless elk |
| 51 | 9 | | | Sep. 1 | Sep. 30 | 70 | Any elk, archery only |
| 53 | 1 | | | Oct. 1 | Oct. 31 | 10 | Any elk |
| 53 | 2 | | | Nov. 1 | Nov. 30 | 35 | Any elk valid in the North Fork Shoshone River Drainage |
| 53 | 4 | | | Oct. 1 | Dec. 15 | 25 | Antlerless elk |
| 53 | 6 | | | Oct. 15 | Dec. 21 | 75 | Cow or calf valid in the North Fork Shoshone River Drainage |
| 53 | 7 | | | Sep. 1 | Dec. 21 | 25 | Cow or calf valid on private land |
| 53 | 9 | | | Sep. 1 | Sep. 30 | 10 | Any elk, archery only |
| 54 | 1 | | | Oct. 1 | Nov. 30 | 50 | Any elk valid south of the Clarks Fork River |
| 54 | 2 | | | Oct. 1 | Oct. 31 | 25 | Any elk valid north of the Clarks Fork River |
| 54 | 6 | | | Sep. 1 | Sep. 30 | 150 | Cow or calf valid on private land or east of Wyoming Highway 120 |
| 54 | 6 | | | Oct. 1 | Oct. 31 | | Cow or calf valid in the entire area |
| 54 | 7 | | | Nov. 1 | Nov. 24 | 300 | Cow or calf |
| 54 | 7 | | | Nov. 25 | Dec. 21 | | Cow or calf valid east of Wyoming Highway 120 or north of the Clarks Fork River |
| 54 | 9 | | | Sep. 1 | Sep. 30 | 35 | Any elk, archery only |

**2021 Hunter Satisfaction:** 51% Satisfied, 18% Neutral, 31% Dissatisfied

**2021 Management Summary**

**1.) Hunting Season Evaluation:** We are making very few changes this year. Three year average trend count numbers have increased in Hunt Areas 53 (2021 3-year trend count, 374) and decreased in both Hunt Areas 51 (2021 3-year trend count, 865) and Hunt Area 54 (2021 3-year trend count, 1,394). We are only above objective in Hunt Area 54 therefore we are increasing the opportunity to harvest cows in areas where we are having the most issues with private land damage. The shifting of when hunters can hunt in the eastern and northern portion of the Hunt Area should decrease total number of elk in the herd.

**2.) Chronic Wasting Disease Monitoring & Management:** This is a Tier 3 surveillance herd. To date, no meaningful surveillance data have been collected, and no specific elk management actions have addressed CWD.

**3.) Hunt Area with Greater than 60% Success:**

54 Type 2 (60.0%): No increase. The success in the area is variable and can be highly dependent on access to private land, which is difficult and weather dependent. If the high success continues into future years, we will revisit increasing licenses here. Weather determines the availability elk and ability of hunters to reach elk on this license. Increasing licenses could create more pressure on elk that are easily available decreasing local easy to access portions of the herd. This area has low recruitment into the population due to low calf ratios (5-year average = 22:100 cows) which can make recovery of the loss of large numbers of bulls slow and difficult.

# 2021 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2021 - 5/31/2022

HERD: MO201 - ABSAROKA

HUNT AREAS: 8-9, 11

PREPARED BY: BART KROGER

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 0 | N/A | N/A |
| Harvest: | 9 | 8 | 8 |
| Hunters: | 9 | 8 | 8 |
| Hunter Success: | 100% | 100% | 100 % |
| Active Licenses: | 9 | 8 | 8 |
| Active License Success: | 100% | 100% | 100 % |
| Recreation Days: | 80 | 51 | 60 |
| Days Per Animal: | 8.9 | 6.4 | 7.5 |

Limited Opportunity Objective:

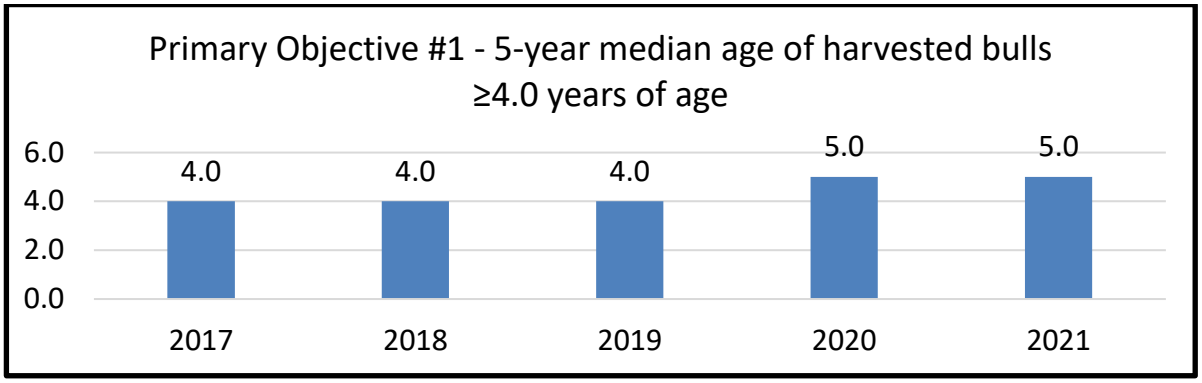
5-year median age of ≥ 4.0 years for harvested moose

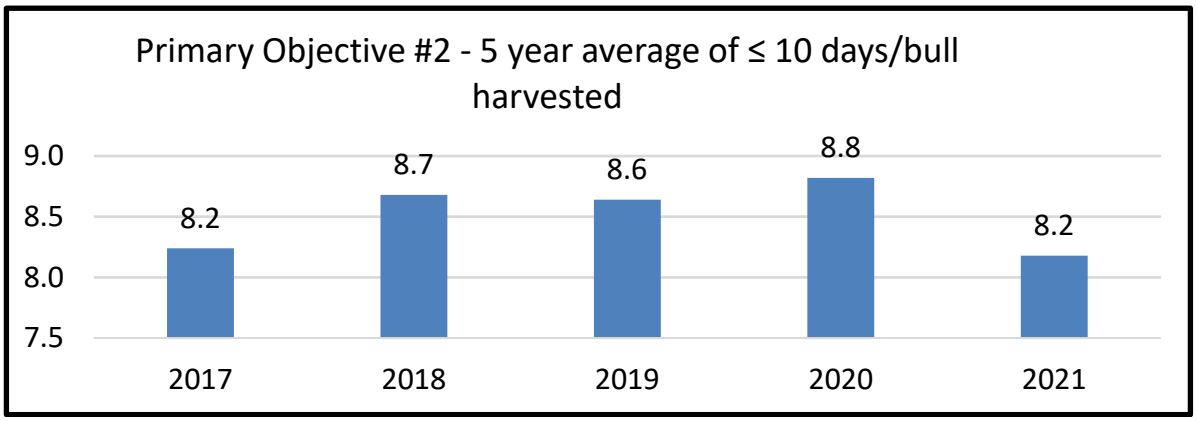
5-year average of <= 10 days/animal to harvest

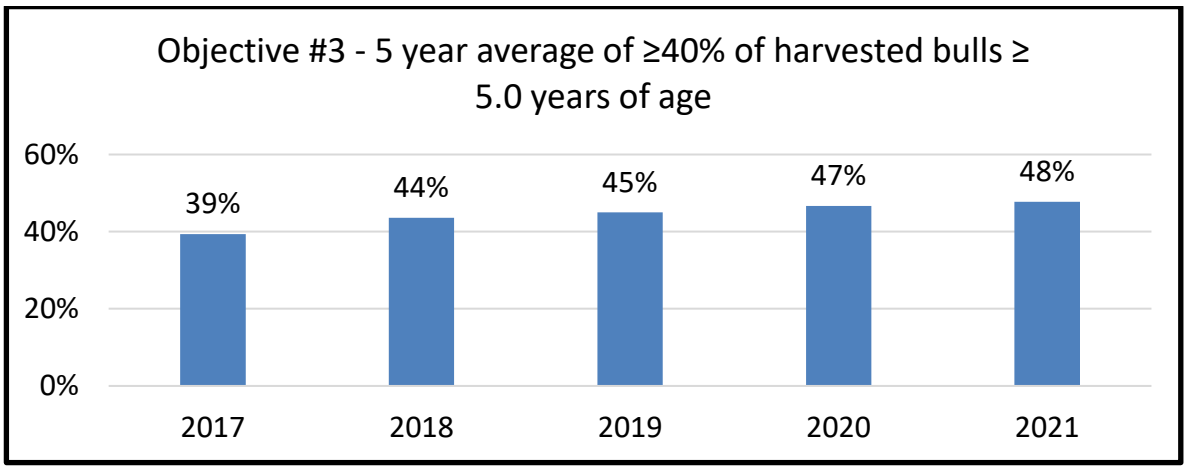
Secondary Objective:

5-year average of 40% of harvested moose are ≥ 5 years of age

Management Strategy: Special




Objective #3 - 5 year average of ≥40% of harvested bulls ≥ 5.0 years of age
60%
40%
20%
0%
39%
44%
45%
47%
48%
2017
2018
2019
2020
2021

**2022 Hunting Seasons**
**Absaroka Moose (MO201)**

| Hunt Area | License Type | Special Archery Dates | | Regular Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 8 | | | | | | | Closed |
| 9 | 1 | Sep. 1 | Sep. 30 | Oct. 1 | Oct. 31 | 3 | Antlered moose (2 residents; 1 nonresident) |
| 11 | 1 | Sep. 1 | Sep. 9 | Sep. 10 | Nov. 10 | 5 | Antlered moose |

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 hunting season for the Absaroka moose herd is unchanged from 2021. Moose numbers in this herd unit are considered at low densities, but it appears to be increasing in recent years. Enough moose do exist to support a limited bull harvest. Number of moose observed during the 2021 winter aerial trend survey was 25 moose in area 9 and 11 in area 11. Limited flight time in area 11 didn't allow for the Sunlight and Crandall areas to be surveyed. Trail camera pictures taken during 2021 had at least 37 different moose in area 9, including 12 cows, 6 calves and 19 bulls, and a total of 58 in area 11, including 23 cows, 9 calves and 26 bulls. In 2021, 8 bull moose were harvested, including 3 from Hunt Area 9 and 5 from Hunt Area 11, for a hunter success of 100%. The 2021 5-year median age of harvested bulls is 5.0 years.. Currently all four management objectives for this moose herd are being met for 2021.

**2.) Field Data:** Both trail cameras and trend counts surveys need to continue annually to document the presence of bull moose, as well as monitor population trends and composition of the herd. Additional effort needs to be placed on contacting hunters to remind them to submit tooth samples from harvested bulls.

**3.) Herd Research:** In March 2020, 31 moose, including 15 bulls and 16 cows were radio collared as part of the Meeteetse Moose Project. Three mortalities have occurred, including 2 cows, one likely a vehicle collision and the other was malnutrition/predation, along with one bull, which was harvested by a hunter. Project goals include survival rates, movement patterns, habitat selection, forage preference and hunter vulnerability.

# 2021 - JCR Evaluation Form

SPECIES: Bighorn Sheep
PERIOD: 6/1/2021 - 5/31/2022

HERD: BS200 - ABSAROKA

HUNT AREAS: 1-5, 22
PREPARED BY: TONY MONG

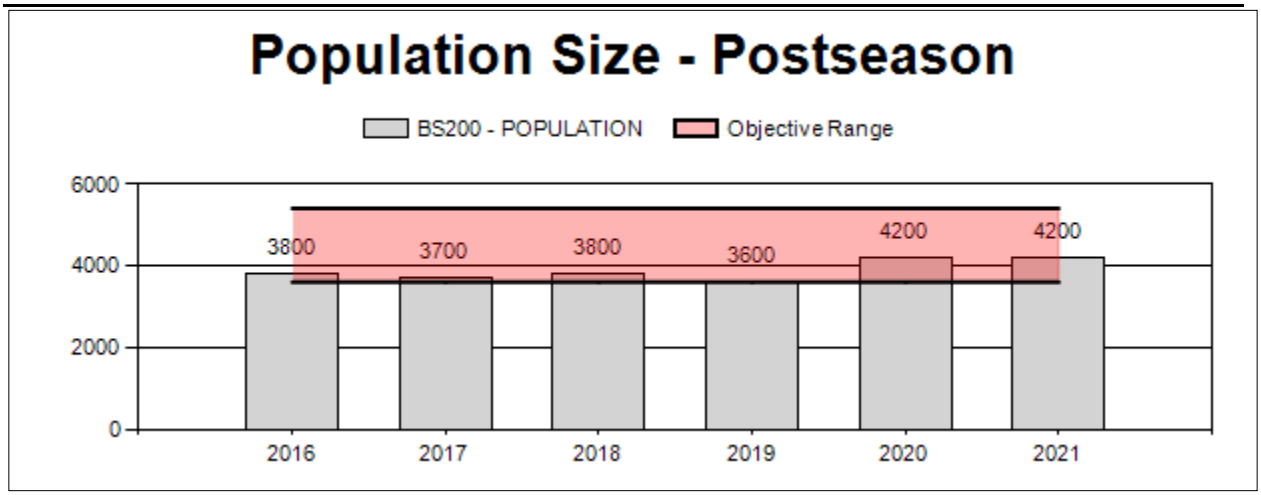
| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Population: | 3,820 | 4,200 | 4,100 |
| Harvest: | 114 | 105 | 105 |
| Hunters: | 144 | 127 | 130 |
| Hunter Success: | 79% | 83% | 81% |
| Active Licenses: | 144 | 127 | 125 |
| Active License Success: | 79% | 83% | 84% |
| Recreation Days: | 1,217 | 1,137 | 1,125 |
| Days Per Animal: | 10.7 | 10.8 | 10.7 |
| Males per 100 Females | 36 | 39 | |
| Juveniles per 100 Females | 32 | 37 | |

Population Objective (± 20%) : 4500 (3600 - 5400)

Management Strategy: Special
Percent population is above (+) or below (-) objective: -6.7%
Number of years population has been + or - objective in recent trend: 0
Model Date: 2/22/2022

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

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | n/a% | n/a% |
| Males ≥ 1 year old: | n/a% | n/a% |
| Proposed change in post-season population: | n/a% | n/a% |



**2022 Hunting Seasons**
**Absaroka Bighorn Sheep (BS200)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 1 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 12 | Any ram |
| 2 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 20 | Any ram |
| 3 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 28 | Any ram |
| 4 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 24 | Any ram |
| 5 | 1 | | | Aug. 1 | Aug. 31 | 32 | Any sheep valid within the Owl Creek drainage |
| 5 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | | Any ram |
| 22 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 4 | Any ram, also valid in Area 5 |

**2021 Management Summary**

**1.) Hunting Season Evaluation:** The 2022 hunting seasons will allow us to continue to increase the ram population within the herd unit through lower than average harvest in all hunt areas. We are decreasing licenses in Hunt Area 3 due to increasing days to harvest and from discussion with hunters and outfitters. This should allow for a better hunting experience and allow for ram populations to fully recover. Harvest data indicates good age class of rams harvested in each Hunt Area (HA 1 = 7.9, HA 2 = 7.5, HA 3 = 7.4, HA 4 = 7.8, HA 5 = 7.8) and high harvest success across the Hunt Areas as well. We are cautiously optimistic that more opportunity will be available in the coming years.

# 2021 - JCR Evaluation Form

SPECIES: Bighorn Sheep
HERD: BS212 - DEVIL'S CANYON
HUNT AREAS: 12

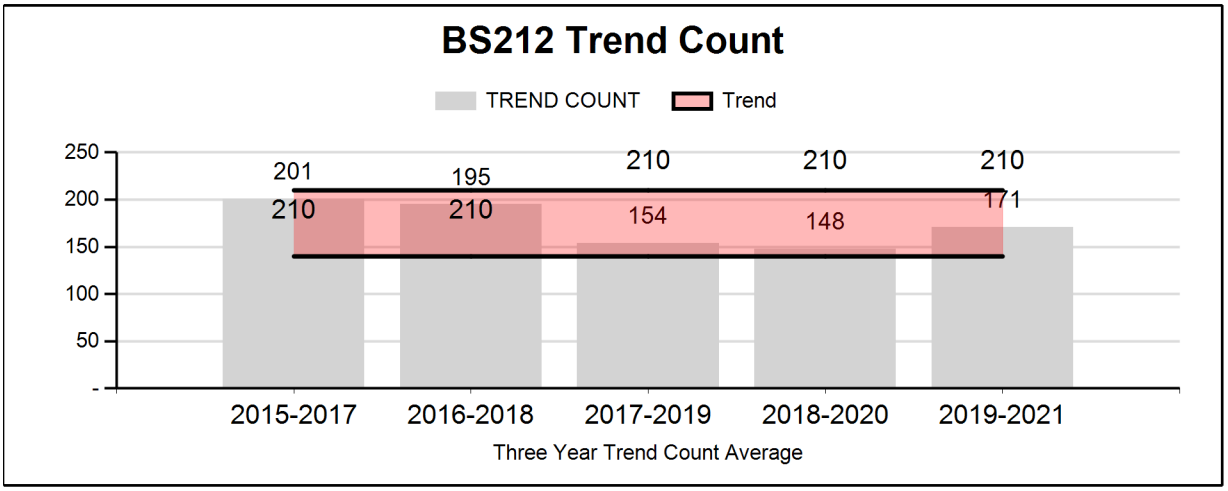
PERIOD: 6/1/2021 - 5/31/2022
PREPARED BY: SAM STEPHENS

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 177 | 212 | 240 |
| Harvest: | 6 | 0 | 12 |
| Hunters: | 6 | 0 | 12 |
| Hunter Success: | 100% | 0% | 100 % |
| Active Licenses: | 6 | 0 | 12 |
| Active License Success | 100% | 0% | 100 % |
| Recreation Days: | 45 | 0 | 90 |
| Days Per Animal: | 7.5 | 0 | 7.5 |
| Males per 100 Females: | 49 | 74 | |
| Juveniles per 100 Females | 44 | 51 | |

| | |
|---|---|
| Trend Based Objective (± 20%) | 175 (140 - 210) |
| Management Strategy: | Special |
| Percent population is above (+) or (-) objective: | 21% |
| 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):**

| | JCR Year | Proposed |
|---|---|---|
| Females ≥ 1 year old: | 0% | 4% |
| Males ≥ 1 year old: | 6% | 9% |
| Juveniles (< 1 year old): | 0% | 0% |



**2022 HUNTING SEASONS**
**DEVILS CANYON BIGHORN SHEEP HERD (BS212)**

| Hunt Area | Hunt Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 12 | 1 | Aug. 1 | Aug. 14 | Aug. 15 | Oct. 15 | 8 | Any ram |
| 12 | 6 | | | Oct. 1 | Oct. 15 | 4 | Ewe or lamb |

**2022 Management Summary**

1.) **Hunting Season Evaluation:**
In 2021 we continued a conservative management approach by allocating 6 licenses for the harvest of any ram in Hunt Area 12. With a success rate of 100% we saw a harvest of 6 adult rams which ranged from 5-10 years old and averaged 7.5 y.o. Classification flights from July 2021 showed positive trends of both an increasing population and ram recruitment. Lamb ratios increased to 51 lambs per 100 ewes and ram ratios increased to 75 rams per 100 ewes. The 2022 season will see increased ram harvest and hunter opportunity by allocating 8 any ram licenses. Additionally the annual trend showed increased sheep abundance at 212 sheep, roughly 21% above the trend objective of 175. Despite the three year average (n=171) still remaining within the trend objective range, increasing lamb production and recruitment data collected with GPS collars indicates a growing population. Type 6 licenses are intended to utilize female harvest as a means of addressing this increase. Since 2014, harvest has been replicated with the translocation of sheep (~120 ewes) out of Devils Canyon. Despite such large reductions in population size, the Devils Canyon Herd remains within our management objective. Trend and classification data will be monitored to adjust the Type 6 license quota when appropriate.

2.) **Devils Canyon Bighorn Sheep Movement Analysis:**
With disease sampling funding secured through the Wyoming chapter of the Wild Sheep Foundation, additional funding was opportunistically granted by the organization ($12,450) and the Wyoming Governors Big Game License Coalition ($15,000) in 2019 to purchase GPS collars (n=30) to monitor habitat use, seasonal movement, and annual recruitment rates of Devils Canyon bighorn sheep. Amongst four capture efforts (November 2019, March 2020, December 2020, and January 2022) we have maintained a sample size of 10 adult males (1-7 y.o) and 20 adult females fitted with GPS collars. Collars are collecting locations every six hours and transmitting data remotely every two days. Three (n=3) mortalities were detected in 2021 from a collared ram (n=1) and collared ewes (n=2). Collars have been used to estimate survival rates for independent sex and age cohorts. Measured adult female annual survival in 2021 was *0.9*. Measured adult male annual survival in 2021 was also *0.9*. Additionally collared individuals were used to efficiently locate groups of sheep and conduct three separate classification surveys outside of our standardized July effort. These surveys collected post-winter, late spring, and winter classification data which provide temporal context to lamb survival through the biological year. In December 2019 and January 2021 we had the ability to fly a portion of the herd and

obtain winter classification data. The lamb ratio observed during winter flights was analogous to the ratio attained from the summer flight, indicating little mortality from late summer through autumn. Annual summer and winter flights should be repeated in this fashion for another year to determine the value of using mid-summer lamb ratios to project population growth. Additionally, collared females were used to conduct post-winter classifications to estimate juvenile winter survival for 2019 (*0.78*) and 2020 (*0.66*). The collars are expected to collect data for a minimum of 3.5 years, and should give us some ecological insight into the future of the Devils Canyon herd as it relates to appropriate management goals.

# 2021 - JCR Evaluation Form

SPECIES: Mountain Goat

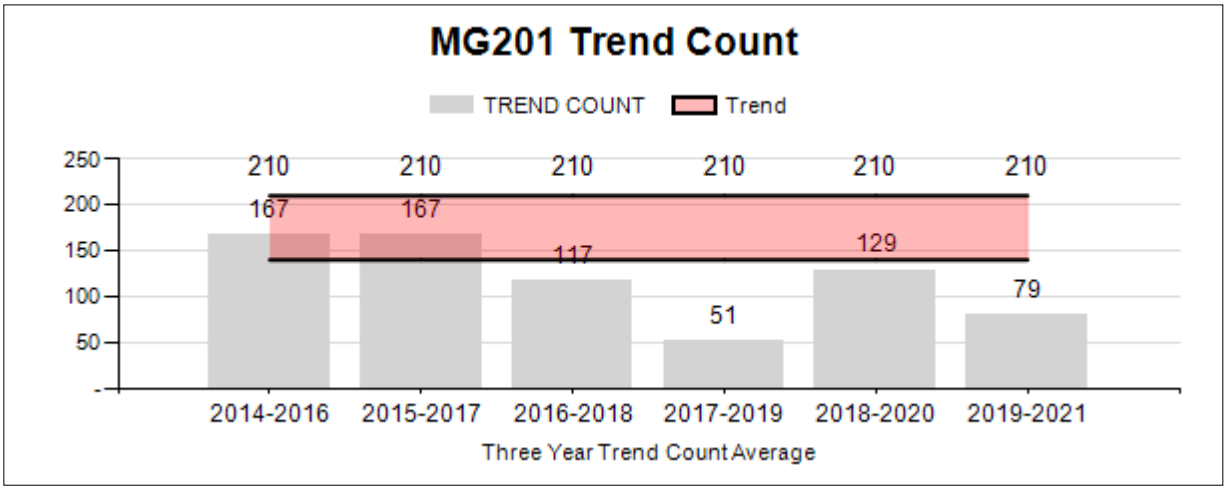
PERIOD: 6/1/2021 - 5/31/2022

HERD: MG201 - BEARTOOTH

HUNT AREAS: 1, 3, 5, 514, 999

PREPARED BY: TONY MONG

| | 2016 - 2020 Average | 2021 | 2022 Proposed |
|---|---|---|---|
| Trend Count: | 195 | 0 | 175 |
| Harvest: | 31 | 32 | 35 |
| Hunters: | 38 | 49 | 50 |
| Hunter Success: | 82% | 65% | 70 % |
| Active Licenses: | 38 | 49 | 50 |
| Active License Success | 82% | 65% | 70 % |
| Recreation Days: | 232 | 295 | 300 |
| Days Per Animal: | 7.5 | 9.2 | 8.6 |
| Males per 100 Females: | 0 | 0 | |
| Juveniles per 100 Females | 39 | 0 | |
| Trend Based Objective (± 20%) | | | 175 (140 - 210) |
| Management Strategy: | | | Special |
| Percent population is above (+) or (-) objective: | | | 0% |
| Number of years population has been + or - objective in recent trend: | | | 0 |



**2022 Hunting Seasons**
**Beartooth Herd (MG201)**

| Hunt Area | Type | Archery Dates | | Season Dates | | Quota | Limitations |
|---|---|---|---|---|---|---|---|
| | | Opens | Closes | Opens | Closes | | |
| 1 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 8 | Any mountain goat |
| 3 | 1 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 28 | Any mountain goat |
| 3 | 2 | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 12 | Any mountain goat valid in the North Fork Shoshone River Drainage |
| 5 | A | Aug. 15 | Aug. 31 | Sep. 1 | Oct. 31 | 4 | Any mountain goat; also valid in Area 4 |

**2020 Management Summary**

**1.) Hunting Season Evaluation:** There are no changes to the Beartooth Mountain Goat Seasons for 2022. Harvest success was good in all areas and types (HA 1 = 88%, HA3-1 = 80%, HA3-2 = 67%). The new restricted area created with the Hunt Area 3 Type 2 license had a higher success rate than expected and was a good management tool in helping reducing numbers of mountain goats in the North Fork drainage. In addition to success overall nanny harvest was low at an average of 33%. We are scheduled to fly and count goats in these areas this summer and we will be able to determine the impact higher harvest has had on herd numbers and adjust licenses as needed for 2023.