2013 - JCR Evaluation Form

| SPECIES: Pronghorn |  | PERIOD: 6/1/2013-5/31/2014 |
| :--- | :---: | :---: |
| HERD: PR202 - BIG HORN |  |  |
| HUNT AREAS: 79 |  | PREPARED BY: |
|  |  |  |

## Population Size - Postseason



## Harvest



Number of Hunters


Harvest Success
$\square$ PR202 - Hunter Success \% $\square$ PR202 - Active License Success


## Active Licenses

$\square$ PR202 - Active Licenses


Days Per Animal Harvested


Preseason Animals per 100 Females

for Pronghorn Herd PR202 - BIG HORN

|  |  | MALES |  |  |  | FEMALES |  | JUVENILES |  | Tot Cls | $\begin{aligned} & \text { Cls } \\ & \text { Obj } \end{aligned}$ | Males to 100 Females |  |  |  | Young to |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Pre Pop | Ylg | Adult | Total | \% | Total | \% | Total | \% |  |  | YIng | Adult | Total | Conf Int | $\begin{aligned} & 100 \\ & \text { Fem } \end{aligned}$ | Conf Int | $\begin{gathered} 100 \\ \text { Adult } \end{gathered}$ |
| 2008 | 0 | 21 | 30 | 51 | 22\% | 115 | 50\% | 66 | 28\% | 232 | 0 | 18 | 26 | 44 | $\pm 0$ | 57 | $\pm 0$ | 40 |
| 2009 | 0 | 23 | 43 | 66 | 27\% | 120 | 48\% | 63 | 25\% | 249 | 0 | 19 | 36 | 55 | $\pm 0$ | 52 | $\pm 0$ | 34 |
| 2010 | 0 | 6 | 19 | 25 | 19\% | 72 | 54\% | 36 | 27\% | 133 | 0 | 8 | 26 | 35 | $\pm 0$ | 50 | $\pm 0$ | 37 |
| 2011 | 0 | 24 | 46 | 70 | 31\% | 96 | 42\% | 63 | 28\% | 229 | 268 | 25 | 48 | 73 | $\pm 0$ | 66 | $\pm 0$ | 38 |
| 2012 | 0 | 30 | 50 | 80 | 24\% | 162 | 48\% | 94 | 28\% | 336 | 0 | 19 | 31 | 49 | $\pm 0$ | 58 | $\pm 0$ | 39 |
| 2013 | 0 | 28 | 43 | 71 | 24\% | 145 | 50\% | 74 | 26\% | 290 | 248 | 19 | 30 | 49 | $\pm 0$ | 51 | $\pm 0$ | 34 |

# 2014 Hunting Seasons Big Horn Pronghorn Herd Unit (PR202) 

| Hunt <br> Area | Type | Dates of Seasons |  | Quota | Limitations |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Opens | Closes |  |  |
| 79 | 6 | Sept. 1 | Oct. 31 | 50 | Limited quota; doe or fawn valid on or within one-half $(1 / 2)$ mile of irrigated land |
|  | 9 | Aug. 15 | Sept. 30 | 30 | Limited quota; any antelope, archery only |
| Archery: $79$ |  | Not appl |  |  |  |


| Area | Type | Quota changes from 2013 |
| :---: | :---: | :---: |
| 79 | $6 \& 9$ | No change |
| Total | $6 \& 9$ | No change |

## Management Evaluation

Current Management Objective: none
2013 Postseason Population Estimate: none
2014 Proposed Postseason Population Estimate: none
Herd Unit Issues. Management of this herd unit using a population objective was eliminated in 2001 due to insufficient sample sizes obtained during classification surveys. Without adequate samples, sex and age ratios were unreliable and inadequate for population modeling using Pop-II software. There have been no line transect surveys conducted in this herd unit to obtain an independent population estimate due to the small population and limited flight budgets. No management goals (e.g., count objectives, satisfaction) were established for this herd due to lack of data. This herd will be reviewed in 2014 and management goals will be established.

Weather. Habitat quality is probably most affected by desert-like conditions ( $<12$ " annual precipitation) and poor soils. Both of those factors have allowed cheatgrass to invade and dominate some sites. Drought is the most important factor influencing survival and productivity of this antelope herd. Drought conditions occurred in 2000-04 and 2012. Affects of drought on upland vegetation resulted in a shift of antelope to agricultural fields. Landowners have a low tolerance of antelope. In response, the number of doe/fawn licenses has been increased throughout the herd unit.

Habitat. Dry conditions and poor soils across most of the herd unit resulted in marginal habitat for pronghorn. Saltbush and mixed shrub communities dominate the area. Sagebrush improves in quantity and quality with higher precipitation and elevation (and better soils) on the east side of the herd unit; however, few pronghorn occur in the "best" habitat. Most antelope in the herd unit concentrate around irrigation canals and stock dams. Bentonite mining has been expanding toward and into the best remaining stands of sagebrush on the west side of the herd unit.

Field Data. Drought that occurred across most of Wyoming in summer 2012 did not appear to affect antelope in this herd unit. The fawn:doe ratio obtained from the 2013 classification survey ( $51: 100$ ) was lower than the 6 -year average (2008-2013; 56:100). These animals have adapted by relying on irrigation water and irrigated crop land (i.e., pasture, alfalfa). The two shrub transects established in this herd unit (Brokenback, Alkali) were located outside of areas used extensively by antelope (to monitor deer browsing).

The amount of effort (hours) to survey antelope in this herd unit has not been constant over the years, so trends in classification survey data should not be taken to represent trends in the overall population. This herd unit has been a low priority and classification data was not always collected. As noted, small sample sizes resulted in sex and age ratios that were not an accurate representation of the entire population. Although more data has been collected since 2006, sample sizes were insufficient in some years. On average (6-year: 2008-13) 56 fawns: 100 does and 51 bucks: 100 does were classified; low compared to other herds in Wyoming. Both buck ratios and fawn ratios were showing a slight downward trend until a large increase in both ratios in 2011. More antelope were observed during the 2012 classification survey than ever before (336); buck (49:100) and fawn (58:100) ratios decreased from peaks in 2011. People that have hunted this area for many years report that more antelope can be seen in the herd unit but buck numbers and size have declined. Buck:doe ratios have decreased dramatically since the mid 1990s.

Harvest Data. Trends in hunting statistics do not suggest a clear trend in the population. From 1995-2013, recreation days and days per harvested animal have large fluctuations depending on if and how many doe/fawn licenses were issued. Considering only the archery licenses, hunter success has been increasing since 2005. Days per harvest have been trending downward, as has total recreation days, but to a lesser degree. Those statistics suggest that archery hunting for bucks has gotten easier and/or the population has been increasing.

Population. Preliminary attempts to construct a reliable population model (spreadsheet) have been marginally successful. Since 2006, more antelope have been observed during classification surveys ( $>200$ animals in most years); thus, more accurate sex and age ratios were expected. Modeling this new area as one distinct population may not be possible (i.e., two distinct populations). Classification data from the two old hunt areas suggested differences in juvenile and adult survival. Movement of antelope between the two areas was minimal.

Management Summary. The Big Horn pronghorn herd is a small population ( $<300$ animals), so only limited hunting opportunities (archery only) have been historically offered in Area 79 and 116. Since both Hunt Areas have been managed with the same hunting licenses for approximately the past 10 years, they were merged into one area (79) beginning with the 2013 hunting season. To continue addressing depredation to irrigated crops, no change to doe/fawn (Type 6) licenses occur.

Although quantity and quality of data is lacking, it appears the Big Horn pronghorn herd has been increasing. Limited hunting opportunity will continue since the population is low. The area is very popular with archery hunters. Attempts to add rifle hunting (even for does/fawns) has encountered opposition from archery hunters that traditionally hunt in the area.


| SPECIES: Pronghorn |  | PERIOD: 6/1/2013-5/31/2014 |
| :---: | :---: | :---: |
| HERD: PR203-COPPER MOUNTAIN |  |  |
| HUNT AREAS: 76, 114-115 |  | PREPARED BY: BART KROGER |
| 2008-2012 Average | $\underline{2013}$ | 2014 Proposed |
| Population: 4,275 | 2,469 | 2,001 |
| Harvest: 592 | 884 | 690 |
| Hunters: 616 | 966 | 750 |
| Hunter Success: 96\% | 92\% | 92\% |
| Active Licenses: 718 | 1,067 | 850 |
| Active License Percent: 82\% | 83\% | 81\% |
| Recreation Days: 2,623 | 3,178 | 3,000 |
| Days Per Animal: 4.4 | 3.6 | 4.3 |
| Males per 100 Females 48 | 43 |  |
| Juveniles per 100 Females 55 | 69 |  |
| Population Objective: |  | 4,800 |
| Management Strategy: |  | Recreational |
| Percent population is above (+) or below (-) objective: |  | -48.6\% |
| Number of years population has been + or - objective in rece | nd: | 4 |
| Model Date: |  | 2/13/2014 |
| Proposed harvest rates (percent of pre-season estimate for each sex/age group): |  |  |
|  | JCR Year | Proposed |
| Females $\geq 1$ year old: | 28.8\% | 23.7\% |
| Males $\geq 1$ year old: | 55.6\% | 68.1\% |
| Juveniles (<1 year old): | 6\% | 8\% |
| Total: | 26\% | 25\% |
| Proposed change in post-season population: | -26\% | -20\% |

Population Size - Postseason


## Harvest



Number of Hunters


Harvest Success
$\square$ PR203 - Hunter Success \% PR203 - Active License Success


## Active Licenses


$\square$ PR203 - Days


Preseason Animals per 100 Females


## 2008-2013 Preseason Classification Summary

for Pronghorn Herd PR203 - COPPER MOUNTAIN

|  |  | MALES |  |  |  | FEMALES |  | JUVENILES |  | Tot Cls | Cls Obj | Males to 100 Females |  |  |  | Young to |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Pre Pop | Ylg | Adult | Total | \% | Total | \% | Total | \% |  |  | YIng | Adult | Total | Conf Int | $\begin{aligned} & 100 \\ & \text { Fem } \end{aligned}$ | Conf Int | $\begin{gathered} 100 \\ \text { Adult } \end{gathered}$ |
| 2008 | 5,538 | 0 | 0 | 403 | 21\% | 969 | 51\% | 534 | 28\% | 1,906 | 1,364 | 0 | 0 | 42 | $\pm 3$ | 55 | $\pm 4$ | 39 |
| 2009 | 5,591 | 0 | 0 | 509 | 24\% | 961 | 46\% | 613 | 29\% | 2,083 | 1,686 | 0 | 0 | 53 | $\pm 4$ | 64 | $\pm 4$ | 42 |
| 2010 | 5,063 | 0 | 0 | 358 | 24\% | 752 | 51\% | 362 | 25\% | 1,472 | 1,172 | 0 | 0 | 48 | $\pm 4$ | 48 | $\pm 4$ | 33 |
| 2011 | 4,400 | 0 | 0 | 467 | 25\% | 928 | 50\% | 478 | 26\% | 1,873 | 1,277 | 0 | 0 | 50 | $\pm 4$ | 52 | $\pm 4$ | 34 |
| 2012 | 4,038 | 0 | 326 | 326 | 23\% | 682 | 49\% | 391 | 28\% | 1,399 | 1,285 | 0 | 48 | 48 | $\pm 4$ | 57 | $\pm 5$ | 39 |
| 2013 | 3,400 | 0 | 0 | 263 | 20\% | 618 | 47\% | 429 | 33\% | 1,310 | 0 | 0 | 0 | 43 | $\pm 4$ | 69 | $\pm 6$ | 49 |

## 2014 HUNTING SEASONS <br> COPPER MOUNTAIN PRONGHORN HERD (PR203)

| Hunt <br> Area | Dates of Seasons |  |  |  | License | Limitations |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Type | Opens | Closes | Quota |  |  |
| 76 | 1 | Oct. 1 | Oct. 31 | 150 | Limited quota | Any antelope |
|  | 2 | Aug. 15 | Sep. 30 | 25 | Limited quota | Any antelope valid on or within one-half ( $1 / 2$ ) mile of irrigated land |
|  | 6 | Sep. 1 | Oct. 31 | 50 | Limited quota | Doe or fawn valid on or within onehalf ( $1 / 2$ ) mile of irrigated land |
| 114 | 1 | Oct. 1 | Oct. 31 | 50 | Limited quota | Any antelope |
|  | 2 | Aug. 15 | Sep. 30 | 50 | Limited quota | Any antelope valid on or within one-half ( $1 / 2$ ) mile of irrigated land |
|  | 6 | Aug. 15 | Nov. 30 | 200 | Limited quota | Doe or fawn valid on or within onehalf ( $1 / 2$ ) of irrigated land |
| 115 | 1 | Oct. 1 | Oct. 31 | 150 | Limited quota | Any antelope |
|  | 6 | Sep. 1 | Oct. 31 | 200 | Limited quota | Doe or fawn valid in that portion of Area 115 east of the Nowood River or south and west of Cornell Gulch or Nowater Stock Trail (BLM Road 1404) |
| Archery |  | Aug. 15 |  |  |  | Refer to Section 3 |


| Hunt Area | License Type | Quota change from 2013 |
| :---: | :---: | :---: |
| 76 | 6 | +25 |
|  | 7 | -75 |
| 114 | 2 | -100 |
|  | 6 | -300 |
| 115 | 6 | +25 |
| Total | $\mathbf{2}$ | $\mathbf{- 1 0 0}$ |
|  | $\mathbf{6 \& 7}$ | $\mathbf{- 3 2 5}$ |

## Management Evaluation

Current Postseason Population Management Objective: 4,800
Management Strategy: Recreational
2013 Postseason Population Estimate: 2,500
2014 Proposed Postseason Population Estimate: 2000

## Herd Unit Issues

The current model represents a good reflection of the population and trends, which mirrors that of field personnel perceptions, harvest data and classification numbers. The herd unit is about $70 \%$ public lands and $30 \%$ private lands. Much of the herd unit is supported by vast areas of cheatgrass. Higher densities of pronghorn occur is the southern portion of herd unit along the
upper slopes of Copper Mountain and the upper Nowood area. Pronghorn utilizing the low elevation desert country are at low densities, and in some cases are struggling to maintain current numbers. In summer 2012, significant cropland damage issues occurred in the western portion of the herd unit, particularly hunt area 114. Poor habitat conditions, long-term drought, and crop damage will and continue to be major management concerns for this herd. The herd objective and management strategy were last revised in 2013.

## Weather

The winter of 2010/11 was severe enough to have caused significant mortality in this herd. After this winter event, reduced numbers of pronghorn were apparent throughout the herd unit. Since then, winter conditions has been sporadic, with $2011 / 12$ being mostly mild and 2012/13 and 2013/14 being slightly severe with persistent snow cover throughout the winter. Overall, annual drought conditions continue to persist, with periodic moisture events occurring during the year. Spring and early summer moisture in 2010 and 2011 was above normal, but 2012 and 2013 was way below normal. These cyclic weather events for the most part appears to be having mostly negative effects on this herd since overall numbers continue to decline.

## Habitat

Habitat conditions have declined in this herd unit since the onset of drought in the 1990's. With reduced moisture, spring green-up and annual plant growth has been minimal in most years. Lack of precipitation has also affected available water in many stock reservoirs and perennial streams. Much of the herd unit is supported by vast areas of cheatgrass, due to several severe fires in the 1996. Two sagebrush transects were established in this herd unit in September 2004 (Appendix C). Annual production (leader growth) for these transects has average around 2 cm . Winter utilization remains low at about $10 \%$ for these transects. Until considerable moisture regimes return, herd growth and survival will continue to be adversely affected by reduced habitat conditions caused by drought.

## Field Data

Both aerial and ground surveys are used in obtaining pre-season classification data for this pronghorn herd. Routine classification routes for each hunt area are maintained. The number of pronghorn classified has declined in recent years, from a high of 2,083 pronghorn in 2009 to 1,310 in 2013, a $37 \%$ decline. However, relative trends for both fawn and buck ratios appear mostly stable over this time period, with a 2013 ratio of 43 bucks and 69 fawns per 100 does. Although buck and fawn ratios remain favorable, the declines in overall pronghorn numbers are of concern.

Three line-transect (LT) surveys have been conducted in the herd unit; the first in 2000 with an estimate of 4,600 pronghorn, the second in 2004 with an estimate of 4,000 pronghorn, and the last in 2007 with an estimate of 4,100 pronghorn. These LT estimates are consistent with field personnel perceptions, and track well with model trends and estimates.

## Harvest Data

Because of increasing pronghorn numbers in the late 2000's, along with increased damage issues, license quotas, hunter number and harvest increased dramatically from 2006 to 2010, but have dropped off slightly since. In fact, between 2006 and 2010, harvest increased by over
$130 \%$. Between 2010 and 2012 harvests dropped by about $19 \%$ due to declining numbers and reduced damage concerns. Then in 2013, license quotas were drastically increased in area 114 due to damage issues, and thus harvest increased by $48 \%$.

## Population

The constant juvenile \& adult survival (CJ, CA) spreadsheet model best represents the long-term population estimate and trends for this herd. This model had the lowest AIC value ( $\mathrm{n}=70$ ), and tracks well with LT estimates, harvest data, and classification numbers. Although this pronghorn population has shown a decline of $50 \%$ since 2008 , some doe/fawn harvest is warranted in order to alleviate potential damage concerns. Although the population is currently below objective by $48 \%$, we are anticipating the population to drop to about 2,000 pronghorn post-season 2014, or nearly $60 \%$ below objective. The current model is a fair to good representation of this herd.

## Management Summary

The 2014 season calls for a drop in Type 6 license quotas in areas 76 and 114, due to reduced damage issues in those areas. In area 115 the Type 6 quota will increase by 25 licenses along with an earlier opening date to help alleviate some landowner concerns over high pronghorn numbers on their property. Buck harvest for Type 1 licenses remains favorable for all areas so no changes will occur with those quotas. The projected 2014 harvest of about 690 pronghorn will continue to drive this population down to an estimated 2014 post-season population of around 2,000 pronghorn.








山
O~



75


ш







Pronghorn (A203) - Copper Mountain
HA 76, 114, 115
Revised 4/2006

2013 - JCR Evaluation Form

| SPECIES: Pronghorn |  | PERIOD: 6/1/2013-5/31/2014 |
| :---: | :---: | :---: |
| HERD: PR204-FIFTEENMILE |  |  |
| HUNT AREAS: 77, 83, 110 |  | PREPARED BY: BART KROGER |
| 2008-2012 Average | $\underline{2013}$ | 2014 Proposed |
| Population: 4,813 | 2,820 | 2,492 |
| Harvest: 611 | 945 | 660 |
| Hunters: 573 | 969 | 700 |
| Hunter Success: 107\% | 98\% | 94\% |
| Active Licenses: 680 | 1,103 | 750 |
| Active License Percent: 90\% | 86\% | 88\% |
| Recreation Days: 1,907 | 3,039 | 2,500 |
| Days Per Animal: 3.1 | 3.2 | 3.8 |
| Males per 100 Females 42 | 36 |  |
| Juveniles per 100 Females 53 | 65 |  |
| Population Objective: |  | 4,600 |
| Management Strategy: |  | Recreational |
| Percent population is above (+) or below (-) objective: |  | -38.7\% |
| Number of years population has been + or - objective in rece | nd: | 3 |
| Model Date: |  | 2/13/2014 |
| Proposed harvest rates (percent of pre-season estimate for each sex/age group): |  |  |
|  | JCR Year | Proposed |
| Females $\geq 1$ year old: | 24.3\% | 16.9\% |
| Males $\geq 1$ year old: | 75.3\% | 81.4\% |
| Juveniles (<1 year old): | 5\% | 4\% |
| Total: | 24\% | 21\% |
| Proposed change in post-season population: | -12\% | 18\% |

Population Size - Postseason


## Harvest



Number of Hunters


Harvest Success

PR204 - Hunter Success \% PR204 - Active License Success


## Active Licenses

$\square$ PR204 - Active Licenses


Days Per Animal Harvested
$\square$ PR204 - Days


Preseason Animals per 100 Females
PR204 - Males
PR204 - Juveniles

for Pronghorn Herd PR204-FIFTEENMILE

|  |  | MALES |  |  |  | FEMALES |  | JUVENILES |  | Tot Cls | Cls <br> Obj | Males to 100 Females |  |  |  | Young to |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Pre Pop | Ylg | Adult | Total | \% | Total | \% | Total | \% |  |  | YIng | Adult | Total | $\begin{aligned} & \text { Conf } \\ & \text { Int } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { Fem } \end{aligned}$ | Conf Int | $\begin{gathered} 100 \\ \text { Adult } \end{gathered}$ |
| 2008 | 5,948 | 0 | 0 | 428 | 20\% | 1,053 | 50\% | 611 | 29\% | 2,092 | 1,413 | 0 | 0 | 41 | $\pm 3$ | 58 | $\pm 4$ | 41 |
| 2009 | 6,079 | 0 | 0 | 480 | 22\% | 1,069 | 49\% | 611 | 28\% | 2,160 | 1,406 | 0 | 0 | 45 | $\pm 3$ | 57 | $\pm 4$ | 39 |
| 2010 | 5,906 | 0 | 0 | 439 | 22\% | 1,008 | 50\% | 572 | 28\% | 2,019 | 1,411 | 0 | 0 | 44 | $\pm 3$ | 57 | $\pm 4$ | 40 |
| 2011 | 5,129 | 0 | 0 | 404 | 20\% | 1,060 | 54\% | 507 | 26\% | 1,971 | 1,147 | 0 | 0 | 38 | $\pm 3$ | 48 | $\pm 3$ | 35 |
| 2012 | 4,363 | 0 | 362 | 362 | 22\% | 900 | 55\% | 389 | 24\% | 1,651 | 971 | 0 | 40 | 40 | $\pm 3$ | 43 | $\pm 3$ | 31 |
| 2013 | 3,900 | 0 | 0 | 244 | 18\% | 672 | 50\% | 435 | 32\% | 1,351 | 0 | 0 | 0 | 36 | $\pm 4$ | 65 | $\pm 5$ | 47 |

## 2014 HUNTING SEASONS <br> FIFTEEN MILE PRONGHORN HERD (PR204)

| Hunt Area | Dates of Seasons |  |  |  | License | Limitations |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Type | Opens | Closes | Quota |  |  |
| 77 | 1 | Sep. 20 | Oct. 14 | 75 | Limited quota | Any antelope |
|  | 2 | Aug. 15 | Sep. 19 | 35 | Limited quota | Any antelope valid on or within one-half ( $1 / 2$ ) mile of irrigated land |
|  | 6 | Aug. 15 | Nov. 15 | 100 | Limited quota | Doe or fawn valid on or within one-half ( $1 / 2$ ) mile of irrigated land |
| 83 | 1 | Sep. 20 | Nov. 7 | 250 | Limited quota | Any antelope |
|  | 6 | Aug. 15 | Nov. 15 | 100 | Limited quota | Doe or fawn valid on or within onehalf ( $1 / 2$ ) mile of irrigated land |
| 110 | 1 | Sep. 20 | Oct. 14 | 100 | Limited quota | Any antelope |
|  | 6 | Sep. 20 | Oct. 14 | 25 | Limited quota | Doe or fawn |
| Archery |  | Aug. 15 |  |  |  | Refer to Section 3 |


| Hunt Area | License Type | Quota change from 2013 |
| :---: | :---: | :---: |
| 77 | 2 | -40 |
|  | 6 | -100 |
| 83 | 6 | -300 |
| 110 | 1 | -50 |
|  | 6 | -75 |
| Total | $\mathbf{1 \& 2}$ | $\mathbf{- 9 0}$ |
|  | $\mathbf{6}$ | $\mathbf{- 4 7 5}$ |

## Management Evaluation

Current Postseason Population Management Objective: 4,600
Management Strategy: Recreational
2013 Postseason Population Estimate: 2,800
2014 Proposed Postseason Population Estimate: 2,500

## Herd Unit Issues

Pronghorn utilizing mostly native ranges are at low densities, whereas those utilizing mostly private (irrigated) areas are at higher densities. This has led to increased damage concerns on some private lands in recent years, along with increased harvest even though this herd is well below objective levels. The current model represents a good reflection of the population and trends, which mirrors that of field personnel perceptions, harvest data and classification numbers. The herd unit is about $75 \%$ public lands and $25 \%$ private lands, with the majority of pronghorn in the herd unit on or associated with private land. In summer 2012, private crop land damage issues occurred in the eastern portion of the herd unit, particularly hunt area 77 and 83 . Poor habitat conditions, long-term drought, and crop damage will and continue to be major management concerns for this herd. The herd objective and management strategy were revised in 2013.

## Weather

The winters of 2011-12 and 2012-13 were mild with low snowpack resulting in mostly good over winter survival. However, the winter of 2010-11 along with the dry spring and summer of 2012 appears to have been severe enough to cause some die-off and reduced survival. High fall moisture in 2013 will likely result in good spring green up in 2014. The winter of 2013/14 was above normal, mainly because of persistent snow cover throughout the winter, along with relatively cold temperatures. Overall, annual drought conditions continue to persist, with periodic moisture events occurring during the year. These cyclic weather events for the most part appear to be having mostly negative effects on this deer herd, since overall populations numbers continue to decline.

## Habitat

Habitat conditions have declined in this herd unit since the onset of drought in the 1990's. With reduced moisture, spring green-up and annual plant growth has been minimal in most years. Lack of precipitation has also affected available water in many stock reservoirs and perennial streams. Overall, long-term drought conditions have affected habitat conditions in this herd unit. Most sagebrush communities continue to lack vigor, reproduction, and leader growth. Until considerable moisture regimes return, herd growth and survival will continue to be adversely affected by reduced habitat conditions caused by drought. Three sagebrush transects were established in this herd unit in 2004. Transect locations include 5-mile Creek, Grass Creek and Wagonhound Bench (Appendix C). Annual production of sagebrush (leader growth), continues to average about 2 cm . Winter utilization of these three sagebrush transects was similar to slightly below the 6 -year average of $12 \%$.

## Field Data

Aerial preseason classification flights are conducted annually during the month of August in hunt areas 77 and 83 , while hunt area 110 classifications are conducted from the ground. Relative trends for fawn and buck ratios appear mostly stable over the past 6 years, with only slight annual variations. On average, buck and fawn ratios are consistently about 40:100 and 55:100, respectively. Starting in 2008, classification sample sizes began to decline, with 2,100 classified in 2008, down to 1,350 in 2013, a $36 \%$ decline. The number of pronghorn classified mirrors that of the population model trend in recent years.

Four line-transect (LT) surveys have been conducted in the herd unit since 1999. LT estimates of pronghorn over the past 14 years have been, 2,900 in 1999, 2,800 in 2002, 3,700 in 2006 and 4,600 in 2010. Model estimates are slightly higher than the 1999, 2002 and 2006 LT estimates, whereas the 2010 LT estimate is higher than the model estimate. However, all four LT standard errors (SE) fall within the range of the model estimates. In addition, population trends between the model and LT's are consistent with field personnel perceptions.

## Harvest Data

Because of increasing pronghorn numbers in the mid to late 2000's, along with increased damage issues, license quotas have increased dramatically since 2008. In fact, between 2008 and 2013, total harvest increased by over $300 \%$. These harvest trends, along with model population estimates and trends are reflective of field personnel perceptions that pronghorn numbers have declined dramatically. In fact, starting in 2014, license quotas will be reduced, mainly because of reduced damage issues and low population levels. Hopefully this will allow for some growth of this herd to occur.

## Population

The constant juvenile \& adult survival (CJ, CA) spreadsheet model best represents the long-term population estimate and trends for this herd. This model had the lowest AIC value of 72, and tracks well with field perceptions, LT estimates, harvest data, and classification numbers. Although this pronghorn population has declined by $39 \%$ since 2008 , additional harvest has been needed to help alleviate damage issues, specifically in areas 77 and 83 . The model is a fair to good representation of this herd.

## Management Summary

Because of reduced damage issues and the fact this population is $39 \%$ below objective, major reductions in license quotas will occur for 2014. License quota reductions of 475 Type 6 and 90 Type $1 \& 2$ licenses will occur for the herd unit. However, all hunt areas will maintain some doe/fawn harvest in order to address damage if it arises. The reductions of Type 1 and 2 license quotas in 77 and 110 are mainly due to low buck ratios, and overall low pronghorn numbers. The Pitchfork Ranch has expressed concern over low pronghorn numbers in area 110 in recent years. The Pitchfork HMA annually supports nearly $80 \%$ of the harvest in area 110 . The projected 2014 harvest of about 660 pronghorn will continue to drive this population down to an estimated 2014 post-season population of around 2,500 pronghorn, or about $46 \%$ below objective.






2013 - JCR Evaluation Form

| SPECIES: Pronghorn |  | PERIOD: 6/1/2013-5/31/2014 |
| :--- | :--- | :---: |
| HERD: PR205 - CARTER MOUNTAIN |  |  |
| HUNT AREAS: 78, 81-82 |  | PREPARED BY: |
|  |  |  |

Population Size - Postseason
$\square$ PR205-POPULATION - PR205- OBJECTIVE


## Harvest



Number of Hunters


Harvest Success
$\square$ PR205 - Hunter Success \% PR205 - Active License Success


## Active Licenses



Days Per Animal Harvested
$\square$ PR205 - Days


Preseason Animals per 100 Females


2008-2013 Preseason Classification Summary
for Pronghorn Herd PR205-CARTER MOUNTAIN

|  |  | MALES |  |  |  | FEMALES |  | JUVENILES |  | Tot Cls | $\begin{aligned} & \text { Cls } \\ & \text { Obj } \end{aligned}$ | Males to 100 Females |  |  |  | Young to |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Pre Pop | Ylg | Adult | Total | \% | Total | \% | Total | \% |  |  | YIng | Adult | Total | $\begin{aligned} & \text { Conf } \\ & \text { Int } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { Fem } \end{aligned}$ | Conf Int | $\begin{gathered} 100 \\ \text { Adult } \end{gathered}$ |
| 2008 | 7,300 | 161 | 264 | 425 | 24\% | 880 | 49\% | 485 | 27\% | 1,790 | 1,870 | 18 | 30 | 48 | $\pm 4$ | 55 | $\pm 4$ | 37 |
| 2009 | 8,400 | 156 | 273 | 568 | 28\% | 925 | 45\% | 568 | 28\% | 2,061 | 1,634 | 17 | 30 | 61 | $\pm 5$ | 61 | $\pm 5$ | 38 |
| 2010 | 7,600 | 198 | 410 | 608 | 28\% | 1,098 | 50\% | 473 | 22\% | 2,179 | 1,344 | 18 | 37 | 55 | $\pm 4$ | 43 | $\pm 3$ | 28 |
| 2011 | 7,200 | 115 | 367 | 482 | 25\% | 992 | 51\% | 458 | 24\% | 1,932 | 1,980 | 12 | 37 | 49 | $\pm 4$ | 46 | $\pm 4$ | 31 |
| 2012 | 7,000 | 125 | 365 | 490 | 29\% | 844 | 50\% | 370 | 22\% | 1,704 | 1,557 | 15 | 43 | 58 | $\pm 5$ | 44 | $\pm 4$ | 28 |
| 2013 | 6,300 | 74 | 302 | 376 | 22\% | 973 | 57\% | 358 | 21\% | 1,707 | 1,319 | 8 | 31 | 39 | $\pm 3$ | 37 | $\pm 3$ | 27 |

## 2014 HUNTING SEASONS <br> Carter Mountain Pronghorn Antelope Herd Unit (PR205)

| Hunt <br> Area | Type | Dates of Seasons |  | Quota | Limitations |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Opens | Closes |  |  |
| 78 | 1 | Sep. 20 | Oct. 31 | 125 | Limited quota; any antelope |
|  | 6 | Aug. 15 | Nov 30 | 75 | Limited quota; doe or fawn on or within one-half ( $1 / 2$ ) mile of irrigated land |
|  | 7 | Sep. 1 | Nov. 30 | 150 | Limited quota; doe or fawn valid in the Shoshone River drainage |
| 81 | 1 | Oct. 1 | Nov. 15 | 125 | Limited quota; any antelope |
|  | 6 | Oct. 1 | Nov. 15 | 50 | Limited quota; doe or fawn valid west of Wyoming Highway 120 |
| 82 | 1 | Sep. 20 | Oct. 14 | 150 | Limited quota; any antelope |
|  | 6 | Aug. 15 | Oct 31 | 50 | Limited quota; doe or fawn valid on or within one-half ( $1 / 2$ ) mile of irrigated land east of Wyoming Highway 120 in Park County. |
|  | 7 | Sep. 20 | Oct 14 | 75 | Limited quota; doe or fawn valid west of Wyoming Highway 120 |

Archery:
78, 81, 82
Aug. 15 Sep. 30
Refer to Section 3 of this Chapter

| Hunt Area | Type | Quota change from 2012 |
| :---: | :---: | :---: |
| 78 | 7 | -100 |
| Total | 1 |  |
|  | 6 | -100 |
|  | 7 |  |
|  | 8 |  |

## Management Evaluation

## Current Management Objective: 7,000

2013 Postseason Population Estimate: 5,500
2014 Proposed Postseason Population Estimate: 6,500
Herd Unit Issues. Carter Mountain pronghorn herd unit (HU) has been managed under recreational management with a post-season population objective of 7,000 antelope since 1984 . That population goal was most recently reviewed in 2002.

Anthropomorphic factors are probably having only a slight influence on survival and productivity of this herd, but probably not to any great extent due to the overall size of the herd
unit. There is one major oil/gas field (Oregon Basin) and many wells scattered across the HU. Two major highways bisect the HU (US Highway 14-16-20 and Wyoming Highway 120) that may be affecting migration routes. Urban expansion is a concern in Area 81 near Cody and the South Fork Highway. Grazing levels (cattle and feral horses) may be affecting herbaceous vegetation which would probably only affect spring/summer forage for antelope.

Habitat. Habitat quality is probably most affected by desert-like conditions ( $<12$ " annual precipitation) and poor soils. Both of those factors have allowed cheatgrass to invade and dominate some sites. Drought is the most important factor influencing survival and productivity of this antelope herd. Drought conditions occurred in 2000-04 and 2012-13. Affects of drought on upland vegetation resulted in a shift of antelope to agricultural fields, especially along the Shoshone River in Area 78. Landowners have a low tolerance of antelope. In response, the number of doe/fawn licenses has been increased throughout the HU.

With only one sagebrush browse transect established in this herd unit, data is insufficient to draw any inferences across the entire HU. The transect near Oregon Basin was established in 2004. This single transect has been of limited utility in gauging browsing levels since production has been limited, even in non-drought years. Utilization of sagebrush along the transect has ranged from $<5 \%$ to $25 \%$ (2005-2013). Weather (snow) probably determines how many antelope concentrate near this site to a great extent.

Weather. Affects of drought on this population were also evident in classification and harvest data. Low fawn:doe ratios were observed during drought years. The 15-year (1985-1999) average was 54 fawns:100 does; in 2000-04, fawn:doe ratios averaged 36:100 and was 44:100 in 2012. Productivity in this herd is lower than other herds across Wyoming. Buck:doe ratios reflected low productivity and declined during drought years (to $26: 100$ in 2004). Buck ratios have been increasing since 2004, peaking at 61:100 in 2009 and ranging between 49 (in 2011) and 58:100 does (in 2012). Total number of antelope classified also suggested lower populations during drought years. The 15-year (1985-1999) average number of antelope observed was 2,145; between 2000-06 an average of 1,485 (range 1411-1616) were surveyed. Since 2007, the number of antelope surveyed has increased, peaking at 2179 in 2011 and has decreased steadily in the past three years (to 1700 in 2013). Standardized survey routes were established in 2001.

Harvest. The number of hunting licenses and active hunters decreased as the population declined, and after the drought subsided somewhat, we increased the number of licenses slowly. We increased doe/fawn licenses decrease crop depredation in 2010. Total recreation days began declining in 2001 to 2006, and then began increasing. Similarly, days per harvested animal increased then declined in 2005 and 2006. Days per harvest between 2007-12 have fluctuated, averaging 3.7 days ( $\pm 0.3$ ). Hunter success typically does not fluctuate greatly; however, a decline was noted during drought. Prior to 2000 , average success was $87 \%$ (range $80-90 \%$ ); during drought (2000-05) success averaged $84 \%$ (range $78-90 \%$ ); and following the extended drought, success increased back to $88 \%$ (87-90\%). Hunting statistics do reflect population levels but may also be influenced by number of licenses issued.

Population. For many years, WGFD used POP-II software to estimate populations of big game species. We have recently changed to spreadsheet models in hopes to more accurately predict changes in populations. Spreadsheet models produced population estimates completely different from POP-II. Thus the old population objectives may no longer be valid. It will take much effort to educate the various publics about differences between the two population estimating
techniques, which become more confusing when line transect estimates are included. For the Carter Mountain HU, we will be using the Time-Specific Juvenile/Constant Adult (TSJ,CA) survival model. This model more closely estimates the population and trend in the population as observed by field personnel, and resembles estimates/trends provided by POP-II; however, there will be more effort to better understand model trends as they relate to line transect estimates.

For post-season 2013, the TSJ,CA model estimates about 8,500 , and although the AIC is the highest, seems to parallel line transect and match field observations. The population model estimated 10,000 antelope in 2009; however, the winter of 2010-11 and drought of 2012, along with increased number of doe/fawn licenses, decreased the population.

Unfortunately, line transect surveys conducted in 2006 and 2009 estimated the population much higher than what the POP-II models, TSJ,CA model, line transect estimates from 2000 and 2003, and field personnel perception. Line transect surveys in 2006 and 2009 used a single observer while similar surveys in 2000 and 2003 used two observers. Use of a single observer significantly changed the calculations performed on the line transect data, resulting in estimates (10,000-12,000 antelope) that were 2-3 times higher than previous estimates, which is higher than earlier estimates. We plan to work more on spreadsheet model exercises, and how they may relate to line transect estimates.

Management Summary. The hunting seasons proposed for 2014 will decrease the population, maintain the need to still harvest does on cropland, and should keep this herd near objective levels. Crop depredation has been unacceptable to landowners and the level of reimbursement for that damage has been unacceptable to WGFD.



| Classification Counts |  |  |  |  |  |  |  |  | Harvest |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Juvenile/Female Ratio |  |  | Total Male/Female Ratio |  |  | Males | Females | Juv | Total Harvest | Segment Harvest Rate (\% of |  |
| Year | Derived Est | Field Est | Field SE | Derived Est | Field Est | Field SE |  |  |  |  | Total Males | Females |
| 1993 |  | 29.70 | 1.78 | 50.22 | 62.59 | 2.89 | 438 | 305 | 13 | 756 | 22.7 | 7.9 |
| 1994 |  | 45.01 | 2.53 | 45.65 | 44.23 | 2.50 | 410 | 182 | 16 | 608 | 25.1 | 5.1 |
| 1995 |  | 44.10 | 2.37 | 41.71 | 40.20 | 2.24 | 414 | 144 | 10 | 568 | 28.0 | 4.1 |
| 1996 |  | 68.39 | 3.26 | 37.28 | 31.61 | 1.96 | 314 | 163 | 0 | 477 | 23.8 | 4.6 |
| 1997 |  | 46.52 | 2.32 | 39.44 | 39.87 | 2.10 | 286 | 215 | 30 | 531 | 19.5 | 5.8 |
| 1998 |  | 52.05 | 2.75 | 39.98 | 37.94 | 2.23 | 318 | 232 | 25 | 575 | 21.7 | 6.3 |
| 1999 |  | 46.89 | 2.53 | 40.49 | 42.06 | 2.36 | 331 | 259 | 35 | 625 | 22.5 | 7.1 |
| 2000 |  | 41.00 | 2.62 | 40.10 | 50.47 | 3.00 | 327 | 159 | 20 | 506 | 23.0 | 4.5 |
| 2001 |  | 27.63 | 1.97 | 37.86 | 33.77 | 2.23 | 306 | 26 | 0 | 332 | 23.1 | 0.7 |
| 2002 |  | 31.73 | 2.19 | 33.14 | 29.90 | 2.11 | 333 | 28 | 0 | 361 | 28.8 | 0.8 |
| 2003 |  | 39.50 | 2.51 | 28.56 | 27.40 | 2.00 | 270 | 12 | 7 | 289 | 26.9 | 0.3 |
| 2004 |  | 38.70 | 2.39 | 27.14 | 26.23 | 1.88 | 175 | 6 | 0 | 181 | 17.9 | 0.2 |
| 2005 |  | 49.26 | 3.01 | 28.49 | 31.60 | 2.27 | 131 | 4 | 0 | 135 | 12.4 | 0.1 |
| 2006 |  | 59.68 | 3.74 | 32.52 | 48.39 | 3.24 | 140 | 36 | 3 | 179 | 11.0 | 0.9 |
| 2007 |  | 53.07 | 3.01 | 37.71 | 31.73 | 2.16 | 165 | 95 | 4 | 264 | 10.5 | 2.3 |
| 2008 |  | 55.11 | 3.12 | 41.68 | 48.30 | 2.85 | 168 | 77 | 5 | 250 | 9.3 | 1.8 |
| 2009 |  | 61.41 | 3.27 | 45.39 | 61.41 | 3.27 | 202 | 129 | 16 | 347 | 9.8 | 2.8 |
| 2010 |  | 43.08 | 2.37 | 49.30 | 55.37 | 2.80 | 266 | 162 | 29 | 457 | 11.3 | 3.4 |
| 2011 |  | 46.17 | 2.61 | 50.04 | 48.59 | 2.70 | 328 | 400 | 32 | 760 | 13.7 | 8.4 |
| 2012 |  | 43.84 | 2.73 | 51.93 | 58.06 | 3.30 | 331 | 353 | 22 | 706 | 13.7 | 7.6 |
| 2013 |  | 36.79 | 2.27 | 54.00 | 38.64 | 2.35 | 331 | 400 | 18 | 749 | 13.8 | 9.0 |
| 2014 |  | 49.67 | 2.80 | 52.41 | 54.29 | 2.97 | 500 | 500 | 30 | 1030 | 23.5 | 12.3 |
| 2015 |  | 46.09 | 2.64 | 51.70 | 52.24 | 2.87 | 500 | 500 | 30 | 1030 | 25.5 | 13.2 |
| 2016 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2017 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2018 |  |  |  |  |  |  |  |  |  |  |  |  |
| $2019$ |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2022 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2023 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2024 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2025 |  |  |  |  |  |  |  |  |  |  |  |  |




2013 - JCR Evaluation Form

| SPECIES: Pronghorn |  | PERIOD: 6/1/2013-5/31/2014 |
| :--- | :--- | :---: |
| HERD: PR207 - BADGER BASIN |  |  |
| HUNT AREAS: 80 |  | PREPARED BY: DOUG |
|  |  |  |
|  |  |  |

## Population Size - Postseason

```
\(\square\) PR207-POPULATION - PR207- OBJECTIVE
```



Harvest


Number of Hunters


Harvest Success
$\square$ PR207 - Hunter Success \% PR207 - Active License Success


## Active Licenses



Days Per Animal Harvested
$\square$ PR207 - Days


Preseason Animals per 100 Females


2008-2013 Preseason Classification Summary
for Pronghorn Herd PR207-BADGER BASIN

| Year | Pre Pop | MALES |  |  |  | FEMALES |  | JUVENILES |  | Tot Cls | Cls <br> Obj | Males to 100 Females |  |  |  | Young to |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ylg | Adult | Total | \% | Total | \% | Total | \% |  |  | Ylng | Adult | Total | Conf Int | $\begin{aligned} & 100 \\ & \text { Fem } \end{aligned}$ | Conf Int | $\begin{gathered} 100 \\ \text { Adult } \end{gathered}$ |
| 2008 | 1,801 | 82 | 152 | 234 | 29\% | 442 | 54\% | 137 | 17\% | 813 | 685 | 19 | 34 | 53 | $\pm 5$ | 31 | $\pm 4$ | 20 |
| 2009 | 1,549 | 56 | 122 | 178 | 31\% | 321 | 55\% | 83 | 14\% | 582 | 784 | 17 | 38 | 55 | $\pm 7$ | 26 | $\pm 4$ | 17 |
| 2010 | 1,313 | 58 | 157 | 215 | 28\% | 419 | 55\% | 132 | 17\% | 766 | 617 | 14 | 37 | 51 | $\pm 5$ | 32 | $\pm 3$ | 21 |
| 2011 | 1,118 | 15 | 92 | 107 | 25\% | 236 | 54\% | 92 | 21\% | 435 | 612 | 6 | 39 | 45 | $\pm 7$ | 39 | $\pm 6$ | 27 |
| 2012 | 1,032 | 37 | 73 | 110 | 23\% | 283 | 59\% | 85 | 18\% | 478 | 515 | 13 | 26 | 39 | $\pm 5$ | 30 | $\pm 4$ | 22 |
| 2013 | 944 | 36 | 79 | 115 | 24\% | 286 | 60\% | 76 | 16\% | 477 | 451 | 13 | 28 | 40 | $\pm 5$ | 27 | $\pm 4$ | 19 |


| Hunt <br> Area | Type | Dates of Seasons |  |  |  |
| :---: | :---: | :--- | :--- | :--- | :--- |
| Opens | Closes | Quota | Limitations |  |  |
| 80 | 1 | Sept. 1 | Sept. 30 | Oct.31 | 50 |
|  | 6 | Sept. 1 |  | Limited quota; any antelope <br> Limited quota; doe or fawn <br> valid in the Shoshone River <br> drainage |  |
| Archery |  | Aug. 15 | Aug. 31 | Refer to Section 3 of this <br> Chapter |  |


| Hunt Area | Type | Quota change from 2013 |
| :---: | :---: | :---: |
| 80 | 1 | -25 |
|  | 6 | +25 |
|  | 7 | -50 |
| Total | $\mathbf{1}$ | $\mathbf{- 2 5}$ |
|  | $\mathbf{6}$ | $\mathbf{+ 2 5}$ |
|  | $\mathbf{7}$ | $\mathbf{- 5 0}$ |

## Management Evaluation

Current Postseason Population Management Objective: 1,000
Management Strategy: Recreational
2013 Postseason Population Estimate: ~800
2014 Proposed Postseason Population Estimate: ~800

## Herd Unit Issues

Much of the Badger Basin Herd Unit consists of extremely arid habitats, with low antelope densities that exhibit poor productivity. These areas are interspersed with irrigated lands that are characterized by higher levels of productivity. As a result, damage to irrigated lands is often a problem in this herd unit, especially in drought periods. However, winters are relatively mild and survival is presumably good in most years.

## Weather

Weather conditions during the 2013 biological year were characterized by near normal precipitation during the growing season (April-June). Winter conditions were relatively severe, with above average snowfall and colder than normal temperatures.

## Habitat

No habitat monitoring data is collected in this herd unit. Although growing season precipitation was near normal, damage issues continued to be significant in some locations, and fawn recruitment was extremely poor.

## Field Data

Preseason classifications in 2013 yielded a fawn ratio of 27 fawns:100 does, and a total buck ratio of 40 bucks:100 does. The poor productivity exhibited by this herd (especially in drought periods) is reflected in the fact that in the last 20 years, fawn:doe ratios have only exceeded 50:00 3 times (1996, 2005, 2007). The 20year (1994-2013) average fawn:doe ratio is only 37.3 fawns: 100 does. Buck ratios increased as the population grew from 2002 to 2007 (remaining above 50 bucks: 100 does from 2006 to 2010), but have declined as the population has been reduced.

## Harvest Data

Permit levels (both doe/fawn and any antelope licenses) were reduced in 2012 as the population declined. Hunter success on Type 1 licenses has declined in the past 3 years and reflects the relative abundance of buck antelope. Increased hunter success on both Type 6 and Type 7 doe/fawn licenses in 2013 is probably a reflection of reduced permit levels and increased hunter access to key irrigated lands with high antelope densities.

## Population

Conservative hunting seasons and good fawn production (for this herd) allowed this population to substantially exceed the objective by 2005. Measures were taken to increase harvest from 2007-2011, and the population declined below the objective in 2011. Recent poor fawn crops (31:100 in 2008, 26:100 in 2009, 32:100 in 2010, 39:100 in 2011, 30 in 2012, 27:100 in 2013), coupled with increased female harvest, have reduced pronghorn numbers in this herd unit. Still pronghorn damage in agricultural areas continues to be a chronic problem in this herd unit, with some damage prone areas having been addressed, while other new damage situations have arisen.

The "Constant Juvenile - Constant Adult Mortality Rate" (CJCA) spreadsheet model was chosen to use for the post season population estimate of this herd, as this model had the lowest relative AIC of all the models and the population estimate and trend appears to be reasonable. The postseason population estimate for 2013 is approximately 800 antelope, or $20 \%$ below the population objective.

We propose to reduce Type 1 licenses by 25 to preserve buck ratios, remove the area-wide doe/fawn license, and restrict doe/fawn harvest to the Shoshone River drainage in order to address damage situations. The result of the proposed seasons should be a postseason 2014 population of approximately 800 pronghorn with a preseason buck:doe ratio of approximately 40:100.






