DRAFT
PRONGHORN MANAGEMENT PLAN

DATA ANALYSIS UNIT PH-20
Wet Mountain Herd

GAME MANAGEMENT UNITS
69, 84, 85, 86, 691, 851and 861

Prepared for:
Colorado Parks and Wildlife

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DAU PH-20 (Wet Mountain Pronghorn)

EXECUTIVE SUMMARY

GMUs: 69, 84, 85, 86, 691, 851 and 861
Land Ownership: 74% Private, 14% Federal (USFS or BLM), 10% State Land Board, CPW 2%, <1% Other
Posthunt Population: **Previous Obj.** 2,000 **2013 Estimate** 2,425 **Current Obj.** 2,400 (2,200-2,600)
Posthunt Sex Ratio: **Previous Obj.** 35 **2013 Prehunt Estimate** 38 **2013 Posthunt Modeled** 36 **Current Obj.** 35(30-40)

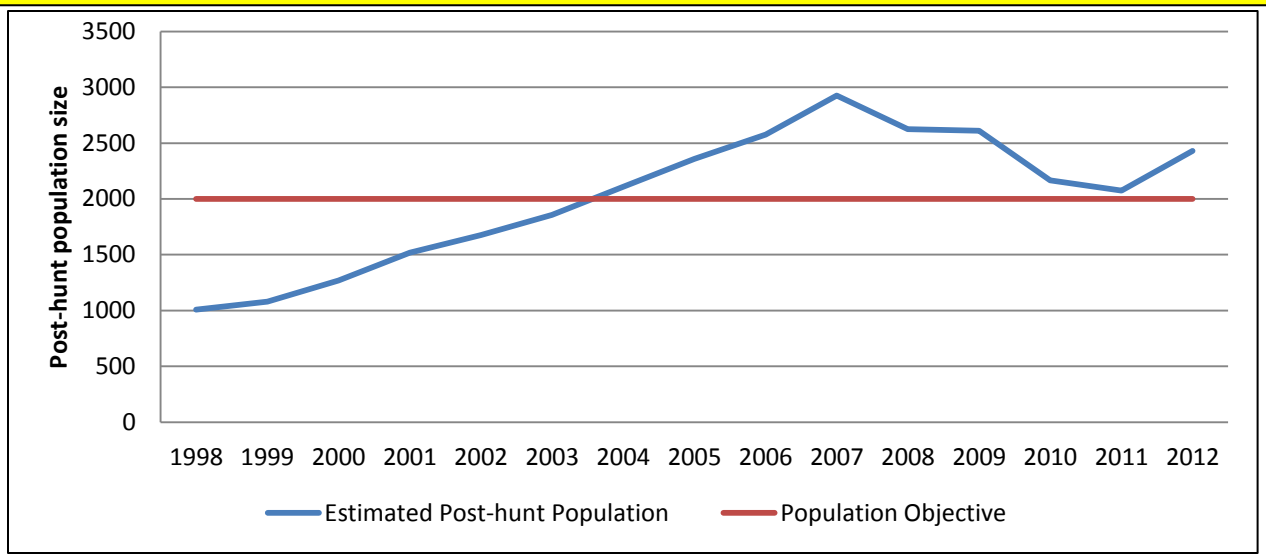

Figure 1. PH-20 Pronghorn modeled post-hunt population and objective range from 1998 through 2012.

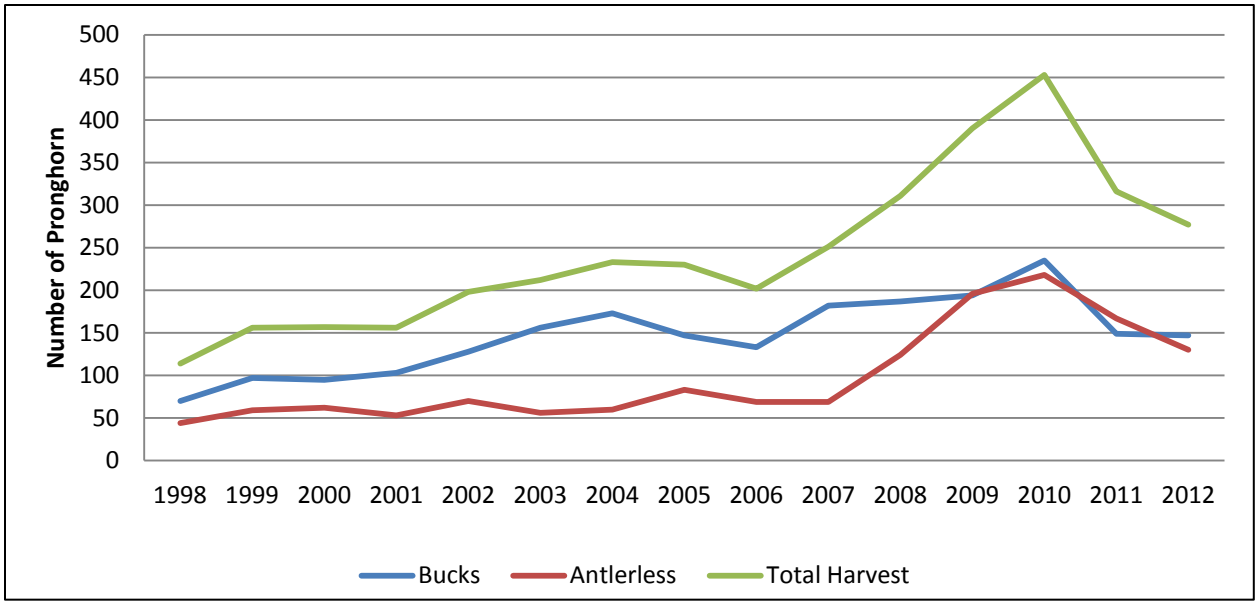

Figure 2. PH-20 Pronghorn buck, antlerless and total harvest from 1998 through 2012.

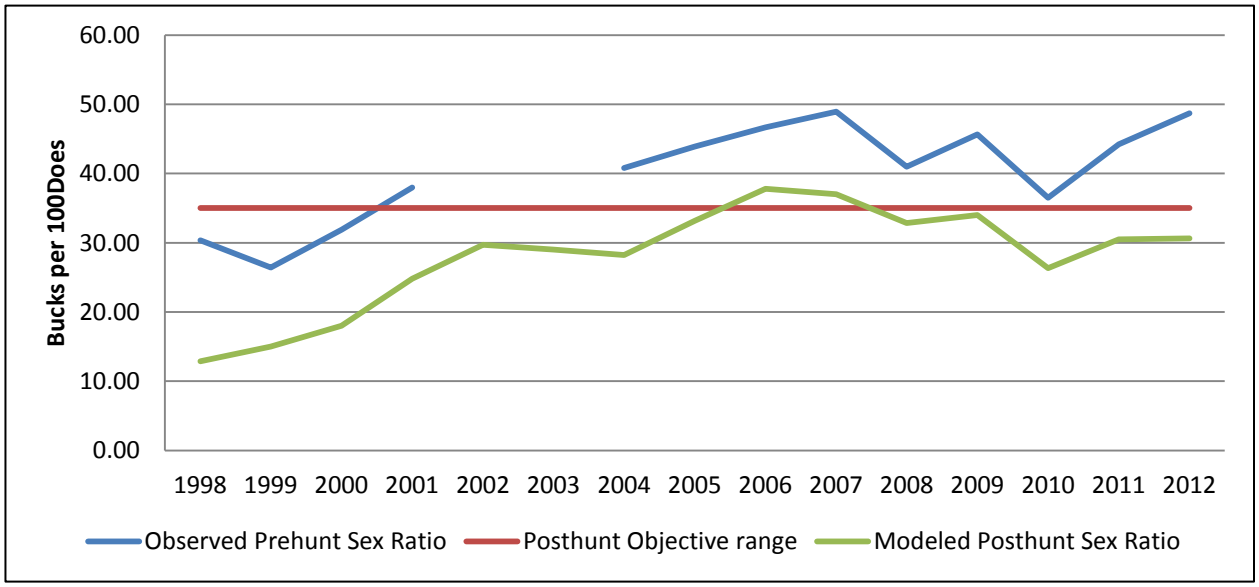

Figure 3. PH-20 Pronghorn observed prehunt sex ratio, posthunt objective range, and modeled posthunt sex ratio from 1998 through 2012.

BACKGROUND INFORMATION

The Wet Mountain Pronghorn Data Analysis Unit (DAU PH-20) is a large pronghorn DAU in southeastern Colorado. Pronghorn are found in open habitats throughout the DAU but higher concentrations tend to be in the western and south-central portions. The majority of the DAU is private land and the potential for game damage to fences and pasture land exists throughout the DAU. Urbanization along the I-25 corridor, Colorado Highway 50 corridor, and subdivisions along the Wet Mountain Valley have reduced the amount of pronghorn habitat in the DAU. The DAU is currently experiencing the initial stages of wind power development that may impact the pronghorn population in unknown ways.

Prior to developing population and sex ratio alternatives, we prepared two separate online surveys for hunters and landowners. We mailed postcards to 1,022 sportsmen who applied for a PH-20 pronghorn license in 2012 to solicit hunter input. Landowners in the area were hand delivered postcards with the online survey information by local District Wildlife Managers. After receiving feedback from the online surveys, we prepared three alternative population and sex-ratio objectives.

Forty-eight (48) sportsmen and nine landowners responded to the respective surveys. A majority of both landowners and sportsmen favored an objective that would maintain or increase the pronghorn population in PH-20. Both landowners and hunters expressed that the CPW was currently issuing the correct number of buck hunting permits and that the sex ratio objective should remain at 35 (range 30-40).

After developing 3 alternatives based on landowner and hunter input, we placed the draft DAU plan on the CPW website for a 30 day comment period. We also sent letters to the various County Commissioners and land management agencies. Only one comment was received from

the 30 day comment period and was more related to the need to hunt pronghorn rather than commenting on the plan.

Population Objectives

Preferred Alternative *— 2,400 (range 2,200-2,600) pronghorn*

This was the estimated 2012 Post-hunt population size. Under this alternative harvest pressure would be slightly reduced to hold the population at the new population size.

Alternative #2 — 2,000 (range 1,800-2,200) pronghorn

This alternative represents a 20% reduction in numbers from the current modeled population size and is the current long-term population objective.

Alternative #3—3,000 (range 2,800-3,200) pronghorn

This alternative encompasses a 25% increase from the current modeled population size.

Sex Ratio Objectives

Preferred Alternative *— 35 (range 30-40) bucks per 100 does*

This alternative represents the current sex ratio objective and encompasses the ten-year average sex ratio for the population.

Alternative #2 — 30 (range 25-35) bucks per 100 does

This alternative would reduce the current sex ratio objective by ~15%.

Alternative #3 — 45 (range 40-50) bucks per 100 does

This alternative would increase the current observed sex ratio by ~30%.

Preferred Alternatives

Preferred post-hunt population objective range =2, 400 (2,200-2,600) Pronghorn

This alternative encompasses the current pronghorn population size. Respondents to our landowner survey indicated that they preferred we maintain (30%) or increase (60%) the current number of pronghorn on the landscape. Hunters also indicated that they preferred that we maintain (33%) or increase (51%) the pronghorn population. If adopted, this alternative would allow managers at CPW to take a slightly less aggressive approach to doe harvest in DAU which should reduce hunting pressure in the DAU. However, harvest would need to be maintained at a level which prevents the population from increasing which will give sportsmen the opportunity to harvest animals.

Preferred post-hunt sex ratio objective range = 35 (30-40) bucks per 100 does

This is the current sex ratio objective and encompasses the long-term average sex ratio for the population. Under this alternative, CPW would be able to maintain the current management

practices which was favored by the majority of both landowners and sportsmen in our outreach surveys. This management approach was favored by 40% of landowners and 48% of sportsmen who responded to the respective outreach surveys.

This DAU plan was approved by the Colorado Parks and Wildlife Commission on April 11, 2014

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INTRODUCTION AND PURPOSE

Colorado Parks and Wildlife (CPW) manages big game, including pronghorn, for the use, benefit, and enjoyment of the people of the state in accordance with the CPW's Strategic Plan (2010-2020). Pronghorn management is also determined by mandates from the Colorado Parks and Wildlife Commission and the Colorado Legislature. Colorado's wildlife species require careful and increasingly intensive management to accommodate the many and varied public demands and growing human impacts. The CPW uses a "Management by Objective" approach to manage the state's big game populations (Figure 4).

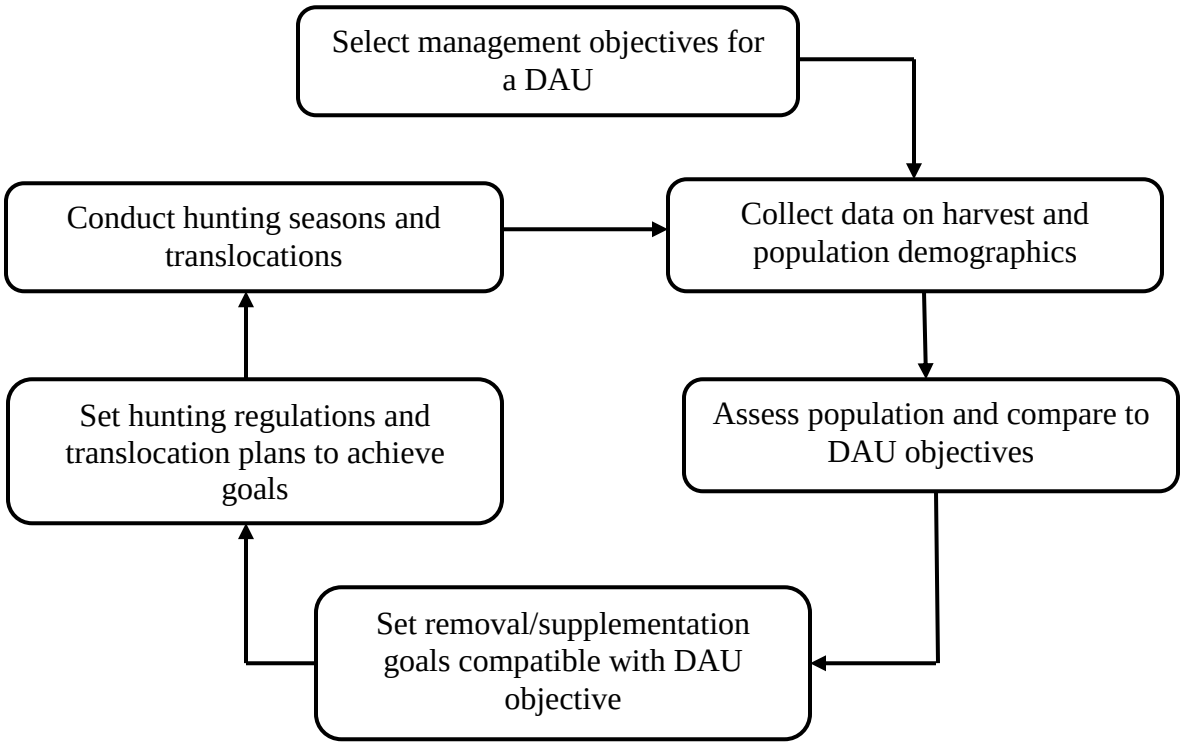


Figure 4. Management by Objective process used by CPW to manage big game populations by Data Analysis Unit.

With the Management by Objective approach, big game populations are managed to achieve population objectives established for a Data Analysis Unit (DAU). A DAU is the geographic area that includes the year-round range of a big game herd. A DAU includes the area where the majority of the animals in a herd are born, live and die. DAU boundaries are delineated to minimize interchange of animals between adjacent DAUs. A DAU may be divided into several Game Management Units (GMUs) in order to distribute hunters and harvest within a DAU.

Management decisions within a DAU are based on a DAU plan. The primary purpose of a DAU plan is to establish population and sex ratio (i.e., the number of males per 100 females) objectives for the DAU. The DAU plan also describes the strategies and techniques that will be used to reach these objectives. During the DAU planning process, public input is solicited and

collected through questionnaires, public meetings, and comments to the CPW staff and the PWC. The intentions of the CPW are integrated with the concerns and ideas of various stakeholders including the United States Forest Service (USFS), the Bureau of Land Management (BLM), city and county governments, hunters, guides and outfitters, private landowners, local chambers of commerce, and the general public. In preparing a DAU plan, agency personnel attempt to balance the concerns of all the stakeholders when setting the population and sex ratio objectives. DAU plans are approved by the PWC and are reviewed and updated every 10 years.

The DAU plan serves as the basis for the annual herd management cycle. In this cycle, the size and composition of the herd is assessed and compared to the objectives defined in the DAU plan. Removal goals are set. Based on these goals, specific removal strategies are made for the coming year to either maintain the population or move it towards the established objectives (e.g., license numbers and allocation are set, translocation plans are made). Hunting seasons and/or translocations are then conducted and evaluated. The annual management cycle then begins again (Figure 4).

The purpose of this DAU plan is to set population and sex ratio objectives for the Wet Mountain pronghorn herd. The DAU plan will be in place from 2013-2023 with the expectation that it will be reviewed and updated in 2023.

DESCRIPTION OF DAU AND HABITAT

Geography

The Wet Mountain Pronghorn DAU (PH-20) is located in south-central Colorado and contains all or portions of Chaffee, Custer, Fremont, Huerfano, Pueblo and Las Animas counties. It consists of Game Management Units (GMU's) 69, 84, 85, 86, 691, 851 and 861. The DAU is bounded on the north by US Highway 50; on the east by Interstate 25; on the south by The New Mexico State Line; and on the west by the Sangre de Cristo divide. The Wet Mountain DAU covers 4,135 mi^2 ranging in elevation from 1,678 m (4,655 ft) from where the Arkansas River flows under Interstate 25 to 4,483 m (14,345 ft) at the top of Blanca Peak in the Sangre de Cristo Mountains (Figure 5). Topography ranges from flat hay meadows to gentle slopes, rolling hills to steep ridges and gulches to cliffs and alpine meadows.

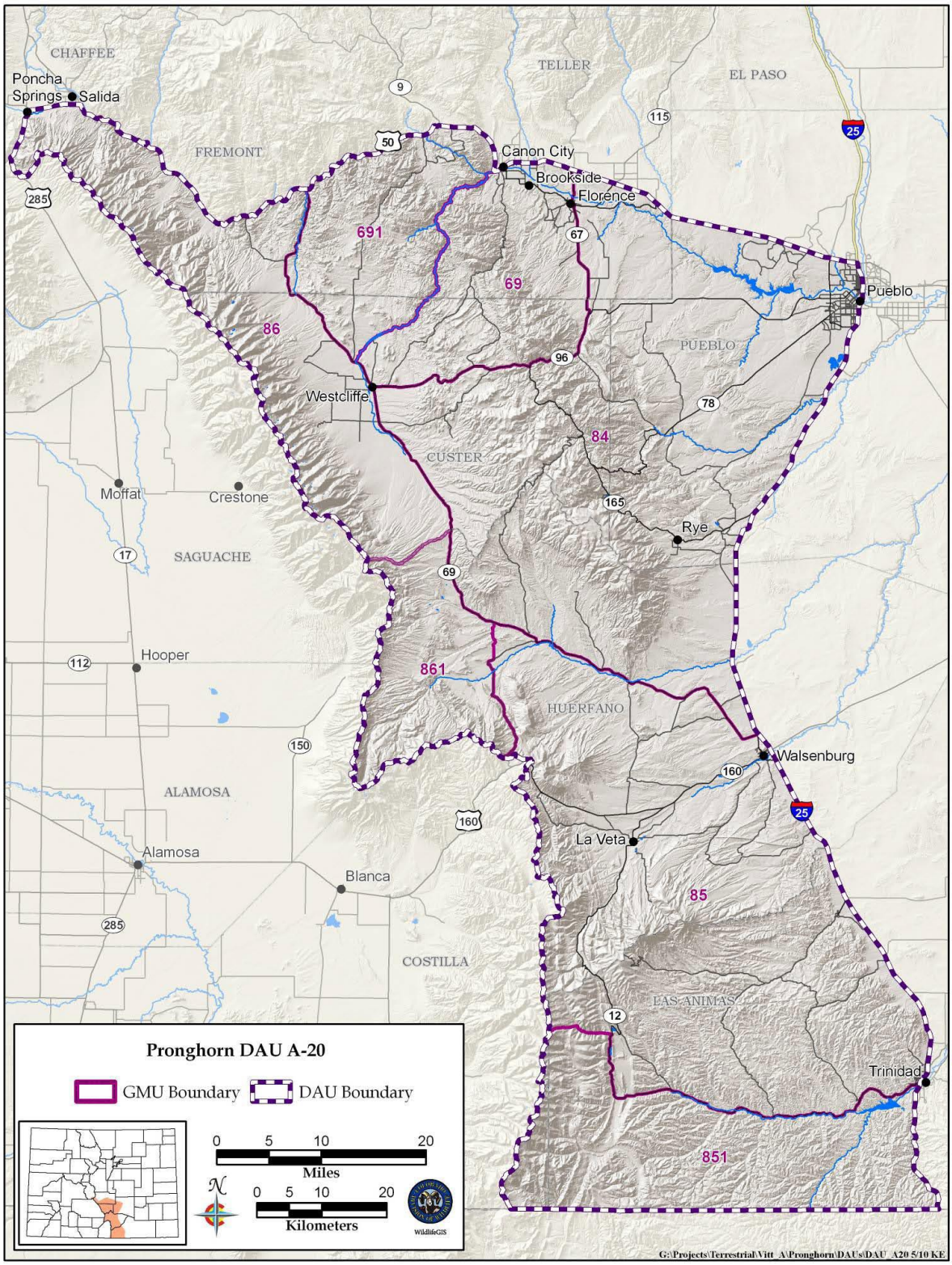


Figure 5. PH-20 Geography and GMU Boundaries

Climate

Precipitation ranges from 50+ cm (20 in) at higher elevations to less than 15 cm (6 in) in the lower elevations, mainly in the form of winter and spring snowfall and late summer thunderstorms.

Land Ownership and Use

Within the total area in PH-20, approximately 1,429 mi^2 (34.5%) is considered pronghorn habitat (Figure 6). Of the pronghorn habitat in PH-20, 1,267 mi^2 (89%) is privately owned. CPW owns 11 mi^2 (1%); U. S. Forest Service owns 26 mi^2 (2%); Bureau of Land Management owns 47 mi^2 (3%), Colorado State Parks 13 mi^2 (1%); and Colorado State Land Board owns 61 mi^2 (4%)(Figure 6).

Agriculture is the primary land use in the Wet Mountain Pronghorn DAU. Livestock grazing occurs on both private and public lands, with irrigated hay meadows common in the Wet Mountain Valley. Row crops are uncommon and generally confined to small farms at lower elevations. Historically, there has been extensive mining in portions of 691, but this land use ceased since the first part of the century. Early 20th century energy development is evident in units 85 and 851 noted by the presence of large coal mines and numerous coke ovens scattered among the canyons. Current energy demands for the area include wells in the La Veta area producing CO_2 shipped to Texas oilfields, and coal-bed methane production affecting extensive parts of GMUs 85 and 851. The New Elk coal mine has recently been reopened west of the town of Weston but is not located in pronghorn range.

Wind energy development in PH-20 is in the initial stages. Several windfarms have been proposed near the towns of Walsenburg and La Veta. At the current time, only preliminary meteorological tower placement has occurred. Agreements with landowners have been put in place, but regulatory and power distribution challenges have prevented any towers being built within the area.

Currently, four ranches in PH-20 are enrolled in the Division of Wildlife's Ranching for Wildlife Program. There ranches provide public recreation and wildlife habitat improvement on private lands. Of the four ranches, Wolf Springs currently offers pronghorn hunting opportunities.

For a number of reasons, several large ranches within the DAU have been sold to developers. This has resulted in the development of communities based on 40 acre lots which are quickly impacting large expanses of the region. This is especially noticeable in the areas around Westcliffe, the DeWeese plateau, and areas to the north of La Veta. Several area ranches have been placed in conservation easements protecting these areas from future development. Early Spanish land grants resulted in large tracts of land being held by one owner and large ranches still persist.

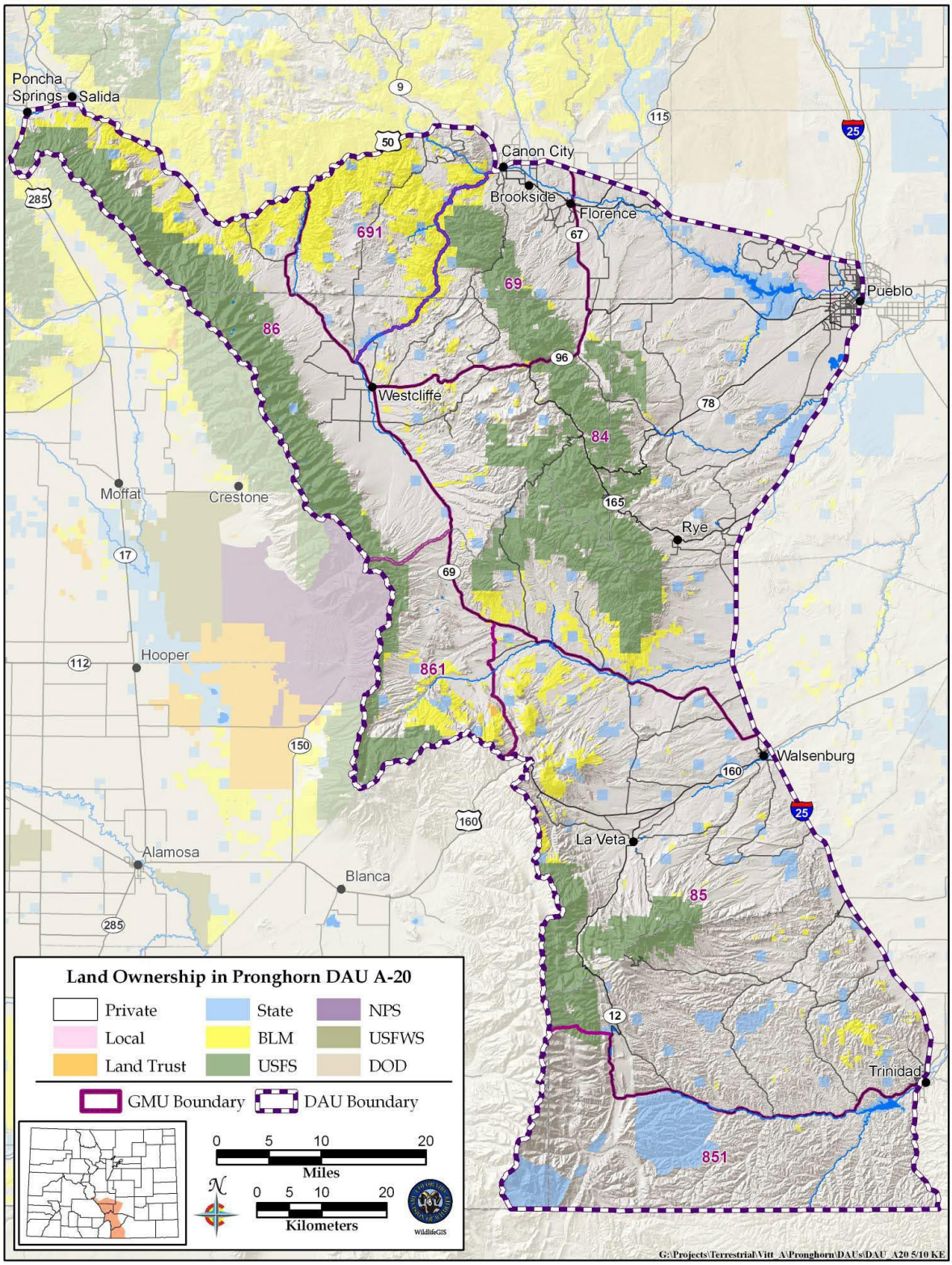


Figure 6. PH-20 Land Ownership

Vegetation

Predominate vegetative communities include alpine tundra, sub-alpine conifer, montane conifer, montane shrub, great basin desert shrub, and plains grassland.

Major grass species include blue grama (*Bouteloua gracilis*), buffalo grass (*Buchloe dactyloides*), parry oatgrass (*Danthonia parryi*), sand dropseed (*Sporobolus airoides*), side-oats grama (*Bouteloua* curtipendula), indian ricegrass (*Oryzopsis hymenoides*), and ring muly (*Muhlenbergia pungens*).

Major shrub species include Gambles oak (*Quercus gambelli*), mountain mahogany (*Cerocarpus montanus*), cholla cactus (*Opuntia whipplei*), juniper (*juniperus spp.*) and skunkbrush sumac (*Rhus trilobata*).

HERD MANAGEMENT HISTORY AND BACKGROUND

History (1988-2004)

Population Size and Inventory

In 1988, the Wildlife Commission established a population objective of 2,000 pronghorn for the DAU. At that time population estimates were derived from biennial pre-season aerial counts, harvest data and the POP II computer program (Fossil Creek Software, 1992 v.7.03, Fort Collins, Colorado). Using these methods, the 1988 post-hunt population estimate was 800 animals. The population increased to an estimated population of approximately 1,530 pronghorn by 2004.

Throughout this time, pre-season minimum counts were conducted within the DAU in an attempt to verify the modeled population estimates. One mile transects were flown in pronghorn habitat and every pronghorn observed was counted. CPW conducted preseason minimum counts in 1997, 2001 and 2004 with 714, 693 and 1,179 pronghorn observed, respectively.

Post-hunt Sex Ratio

Starting in 1989, pre-hunt sex ratios were derived from pre-season aerial counts conducted from a fixed-wing aircraft. Observers flew one to three mile wide transects across the DAU and classified every group observed into bucks, does and fawns. This data was entered into the POP II or other spreadsheet models which then generated post-season sex ratio estimates.

From 1989 to 2004, estimated post-hunt sex ratios have varied from a high of 30 in 2002 to a low of 10 in 1997. In 2004, the post-hunt sex ratio was estimated to be approximately 28 bucks per 100 does. From 1989 to 2004, the estimated buck:doe ratio averaged 20 bucks per 100 does.

Harvest

Between 1989 and 2004, buck harvest varied from a low of 44 pronghorn in 1991 to a high of 173 in 2004, with an average of 92 bucks harvested per year. Over the same period, doe/fawn harvest varied from a high of 70 in 2002 to a low of 14 in 1991, with an average of 23 does and fawns harvested per year.

Hunting Pressure

From 1989 to 2004, the number of hunters in the DAU ranged from 79 in 1989 to 374 in 2004 and averaged 212 hunters per year.

Population and Sex Ratio (2005-2012)

Population Size and Inventory

Historically, the population model for PH-20 was based on preseason sex and age ratio flights, harvest data, and preseason minimum counts. During the minimum count, observers flew one-mile wide transects across the DAU, counting every animal observed. It's important to note that only a percentage of the pronghorn herd was counted during minimum counts so the actual population size was higher in these years. The relationship between the minimum count and the population size is currently unknown.

In 2008, the CPW began surveying pronghorn populations through aerial line transect distance sampling (Buckland et al. 2001; Guenzel 2007). Distance sampling provided a superior technique to minimum counts for two reasons. First, estimates of both population size and density, and corresponding levels of precision, would be generated with distance sampling. No estimate of precision was possible with the minimum count. Second, detection probabilities (i.e., the percentage of the population observed) could be estimated with distance sampling. In contrast, an unknown portion of the population was observed during minimum counts, making an extrapolation between the minimum count and actual population size problematic.

Distance sampling estimates were conducted in the spring after animals have dispersed from winter concentrations but before fawns were born. Therefore, estimates produced through distance sampling represented preproduction estimates. In 2009, the distance sampling estimate for the PH-20 was 2,706 ± 727 pronghorn.

Sex Ratio Estimates

In 2012, the preseason sex ratio for PH-20 was estimated to be 48.72 bucks per 100 does, with observers classifying 1,201 pronghorn. The three year average preseason buck doe ratio for the

DAU is 43.1 bucks per 100 does and the long term average since 1992 is 37.97 bucks per 100 does.

Licenses (2003-2012)

License numbers in PH-20 have varied greatly in the last decade as the pronghorn population has increased towards and above the population objective and as the agency has tried to keep the population within the objective range.

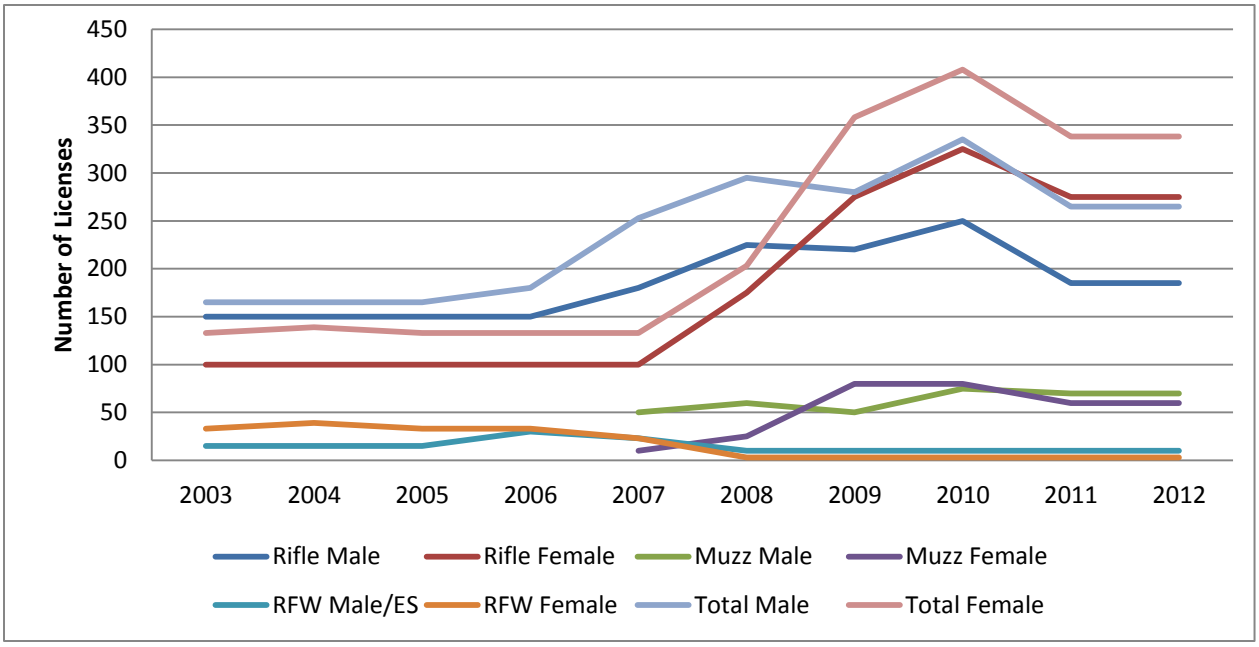


Figure 7. Male and female licenses in DAU PH-20 between 2003-2012

From 2003-2012, the highest license numbers were in 2010 with 335 male and 408 female licenses being issued for the DAU (Figure 7).

Until 2007, muzzleloading hunters needed to draw one of the relatively few statewide buck or doe tags to hunt in PH-20. In 2007, all DAUs in Colorado became specified for muzzleloading with initial license numbers being set at 50 buck and 10 does in 2007. Licenses have been increasing since that time to increase pronghorn harvest across the DAU. Muzzleloader licenses were set at 70 buck and 60 does for the 2011 and 2012 seasons.

Archery hunting in PH-20 is with over-the-counter licenses that are unlimited in number. This hunting season is very popular with hunters especially those that use the services of a guide and outfitter.

Harvest (1989 to 2012)

From 1989 to 2006, consistent with license allocations, harvest within PH-20 has slightly increased throughout time. Since 2006, license numbers have increased until 2010, when 335

buck and 408 doe licenses were available. This increase in license numbers has brought about record pronghorn harvest within PH-20 (Figure 8). A total of 235 bucks and 218 does/fawns were harvested in 2010. Licenses and therefore harvest were reduced in 2011 to maintain the population within population objectives. License numbers remained consistent with the numbers offered in 2011for the 2012 season.

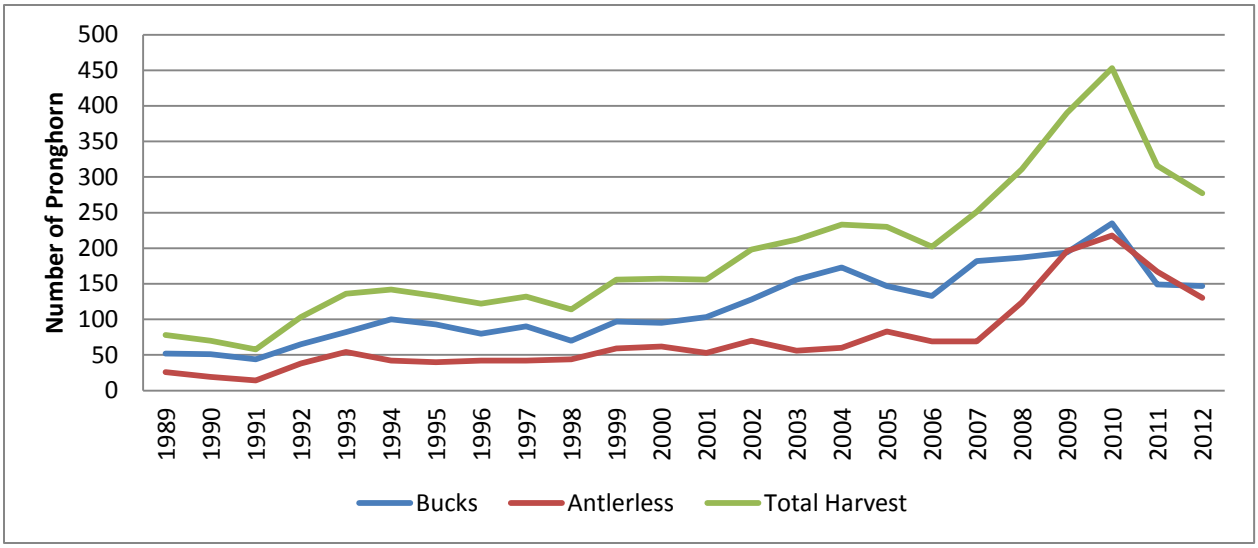


Figure 8. Pronghorn harvest in DAU PH-20 from 1989 through 2012

Success Rates and Preference Points (2003 to 2012)

Harvest success rates have been relatively static for rifle buck hunters from 2003 to 2010, with an average success rate of 79% from 2003-2010. Current success rates have shown a slight decrease as license numbers increase within the DAU. Success rates for 2011 and 2012 were 71% and 61%, respectfully. Archery success rates varied over the same period, with a low of 11% in 2005, to a high of 34% in 2007 and 2010. Average archery success over the period was 21%. Rifle doe harvest success also varied, from a low of 46% in 2012 to a high of 75% in 2009 and 2010. The average rifle doe harvest success rate over the timeframe was 64% (Figure 9). While there certainly are more does on the landscape, this lower doe success rate may be a reflection of hunters hunting less days, or with less intensity, for females than they would for males. Preference point numbers also suggest that a buck hunt is a less frequent event for hunters and perhaps hunters in PH-20 pursue bucks more intensively than they do does within the DAU.

The number of preference points required to draw a license varies with the number of individuals that desire that particular license and the number of licenses available. As demand for a particular license goes up the number of preference points required to draw that license increases. The number of preference points required to draw a non RFW doe license within DAU PH-20 has remained at 0 for both non-residents and resident hunters. The number of preference points required to draw the buck licenses has decreased over time as buck licenses were increased to where a hunter, both nonresident and resident can draw the license with 1 preference point.

Licenses for the properties that are participating in the Ranching for Wildlife program are in greater demand than those that are distributed in the regular drawings. The number of preference points needed to draw the single male license available for the Wolf Springs Ranch has been increasing since 2007, varying from 12 to 16 with 16 points needed to draw the license in 2012. While demand for the doe licenses on the ranch is substantially less than the bucks, it still requires between 2 or 3 points to draw a doe license each year.

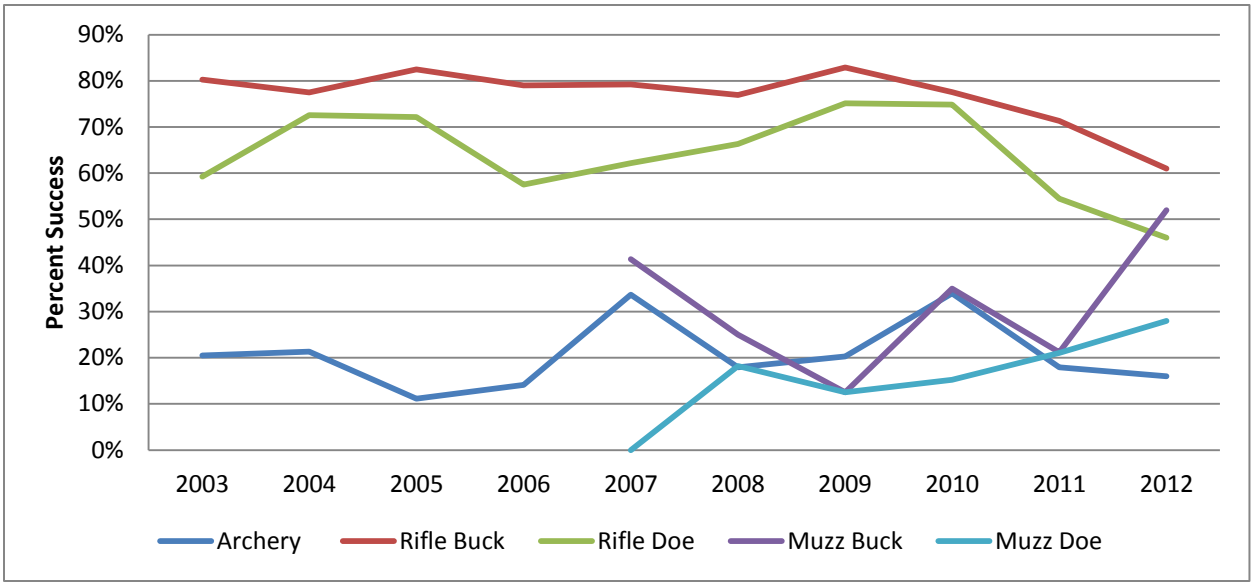


Figure 9. Pronghorn hunter success rates in DAU PH-20 from 2003 through 2012 by method of take

Disease

Disease is not thought to be a factor regulating pronghorn populations in PH-20. Unlike deer, elk, and moose, pronghorn are not known to carry chronic wasting disease (CWD). Other diseases affecting pronghorn include bluetongue and epizootic hemorrhagic disease (Lance and Pojar 1984; O'Gara 2004).

Game Damage

There is currently no appreciable level of pronghorn game damage in PH-20. From 2008 to 2010 there has not been any pronghorn damage claims paid to landowners within the DAU. A significant amount of damage caused by pronghorn within the DAU is damage to pastureland, most problems have been resolved by dispersal hunts on property of the affected properties.

Habitat Management

Pronghorn habitat in PH-20 will likely be impacted in the future by rural housing development in the northern, western and south-eastern parts of the DAU and by wind energy development in the southern parts of the DAU.

Changes to pronghorn habitat in PH-20 by wind energy development are undetermined at this time. Impacts to pronghorn herd population performance, vital rates, etc are still largely unknown, but there is a direct loss of habitat due to the development of roads, vehicle use, and electricity transmission lines.

CURRENT HERD MANAGEMENT

Current Post-Hunt Population

Based on the 2012 post-hunt population model, the herd in PH-20 is currently near 2,400 pronghorn (Figure 10). This is 400 animals above the current long-term objective of 2,000 pronghorn. In the last year, management has focused on stabilizing herd numbers until a rewrite of the DAU plan was accomplished.

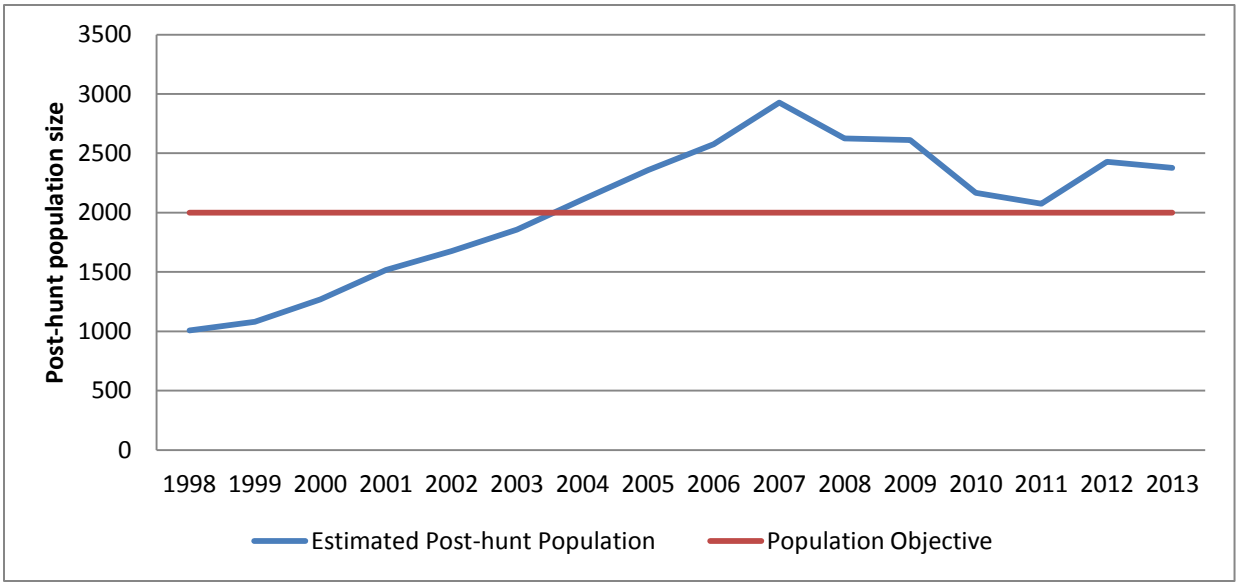


Figure 10. PH-20 modeled post-hunt pronghorn population and objective range from 1989 through 2013.

Current Sex & Age Ratios

The current sex ratio objective for PH-20 is 35 bucks per 100 does. The 2012 modeled post-hunt sex ratio for PH-20 was 30 bucks per 100 does (Figure 11).

The fawn to doe ratio is estimated annually during prehunt classification flights. In 2012, we estimated there were 56 fawns per 100 does. This was higher than both the three year average fawn to doe ratio of 33fawns per 100 does and the overall average ratio of 45. Fawn to doe ratios fluctuate annually depending on spring and winter weather conditions.

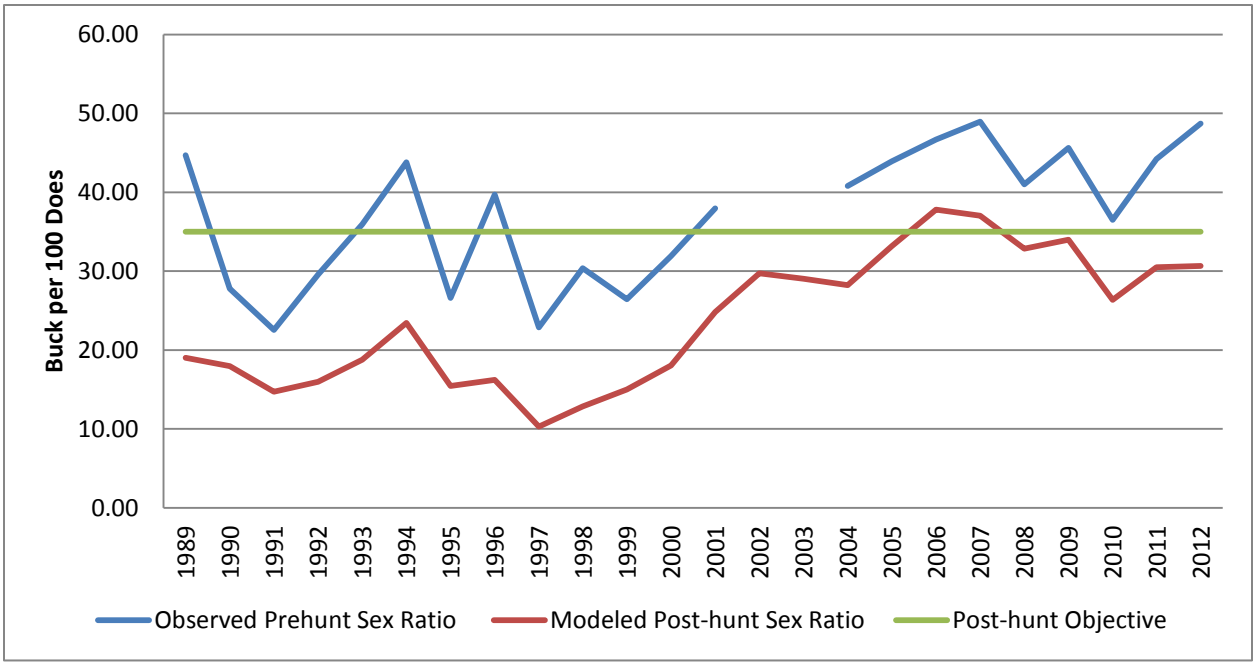


Figure 11. PH-20 observed prehunt sex ratio, posthunt objective, and modeled posthunt sex ratio from 1989-2012.

Current Management Strategies/Problems

The current management strategy is to maintain harvest pressure to keep the population at the objective. As such, license numbers, especially for does, were increased in from 2003-2010. Pronghorn populations are very sensitive to changes in annual fawn recruitment rates, which can vary substantially from year to year. Therefore, doe licenses will need to be changed annually to maintain the population at objective. Additionally, buck harvest success rates vary as much as fawn recruitment, so buck license numbers will also need to changed annually to maintain the population within the sex ratio objective range.

Pronghorn may cause forage or crop losses to agricultural producers. Although game damage claims have been minimal, some landowners feel there are too many pronghorn, particularly on private land in the northern portions of GMU 86 and winter range in GMU 691.

Data collection on pronghorn is becoming increasing difficult in the DAU due to housing development and the increase in hobby horse farms within the region. Currently, we collect most pronghorn survey data from a small plane flying at low altitudes (<300 ft. above ground level) and have potential disrupt domestic livestock animals, especially horses, during our surveys. As such, we might need to explore alternative methods for collecting data on pronghorn in the future.

ISSUES AND STRATEGIES

Issue Solicitation Process

Hunter Input

Following the 2012 rifle season, we mailed postcards to all of the sportsmen who applied for a pronghorn license in the DAU in 2012 (n=1,022 sportsmen). The postcard provided hunters with a brief description of the DAU planning process and directed the sportsmen to a website where they could fill out a survey. Sportsmen were also instructed to call the Pueblo Office of CPW if they wished to receive a paper copy of the survey. A total of 49 sportsmen (5%) completed the survey, with 37 completing the on-line version, while 12 requested a paper copy.

In the survey hunters were asked to provide background information, hunting and harvest information and their opinions regarding changes to population and sex ratio objectives. Overall, hunter satisfaction was high in the DAU with 57.1% of respondents rating their satisfaction with hunting in the DAU as Good or Excellent (Figure 12). The percentage of respondents who rated their satisfaction as Poor was 8.1%. Sportsmen favored a population objective that would maintain or increase the number of pronghorn in the DAU (relative to the current population size; Figure 13). Less than 14% of respondents favored a reduction in the current population size.

Pronghorn management and the number of buck permits issued are tied to the buck to doe ratio. This sex ratio drives license numbers and equates to the number of hunters in the field. Higher buck:doe ratios means that there will be fewer hunters in the field and more bucks in the population. Conversely a lower buck:doe ratio means more hunters and fewer bucks in the population. Hunters were asked how they preferred the DAU to be managed along these guidelines. The majority of respondents (47.9%) supported no change in the sex ratio objective (Figure 14).

In the written comments, a number of hunters expressed frustration with their inability to obtain access in the DAU. Many sportsmen suggested that CPW work with private landowners to secure access for hunters.

The survey text, summary data for all questions and written comments are available in Appendix A.

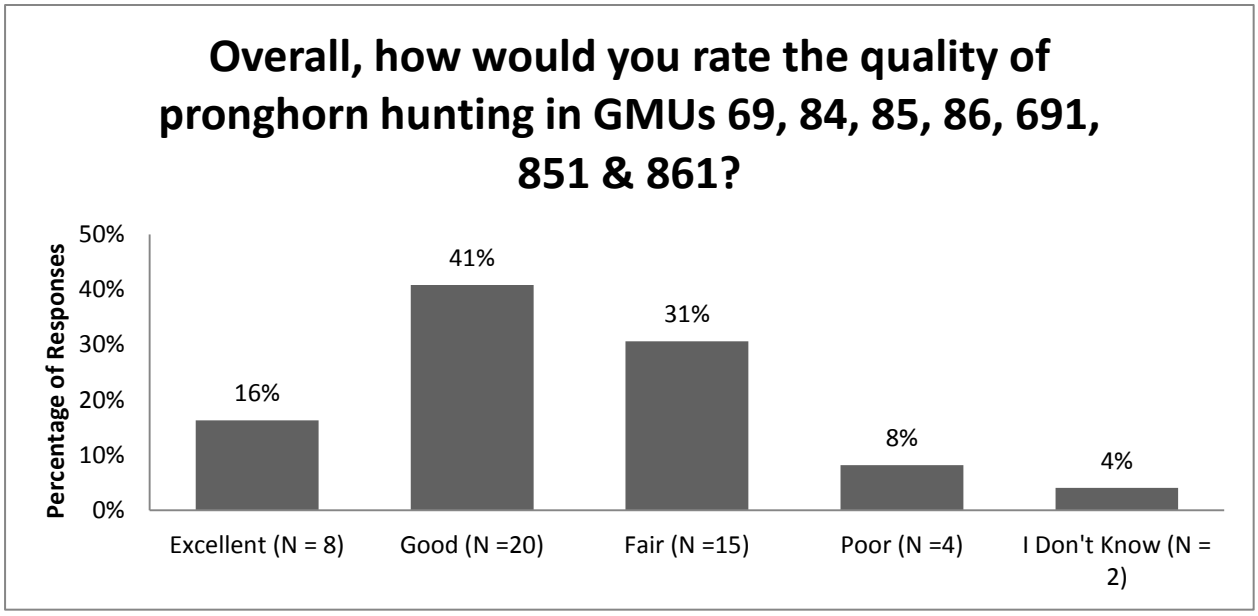


Figure 12. Percentage of responses to the question asking hunters how they viewed their overall hunting satisfaction for DAU PH-20.

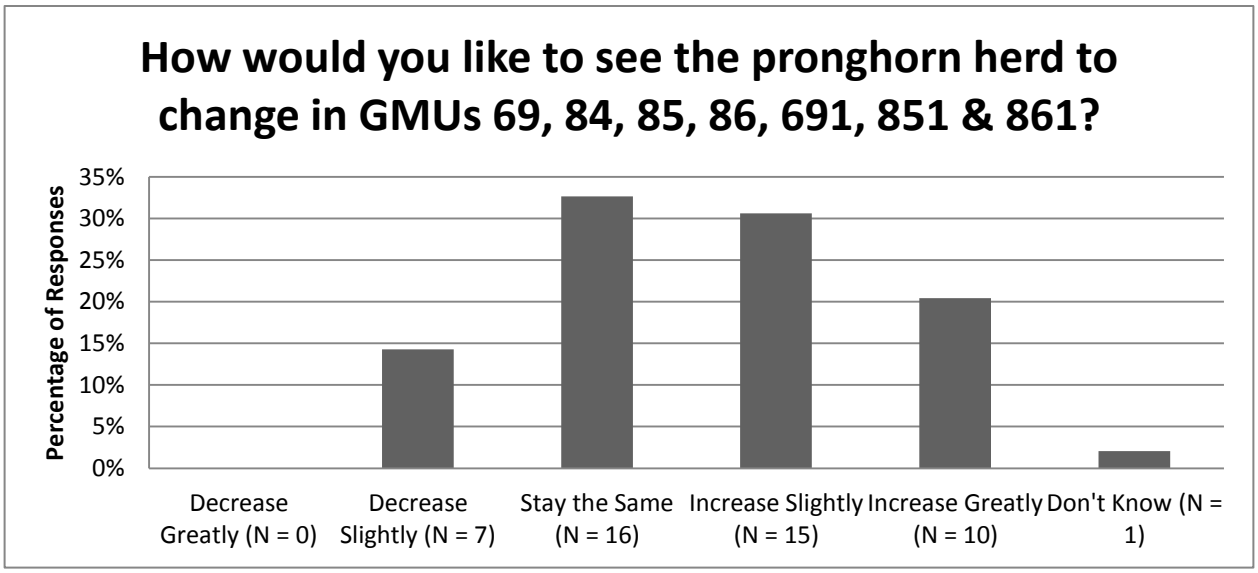


Figure 13. Percentage of responses to the question asking hunters how they would like the pronghorn herd to change in size in the PH-20 DAU. (See full text of question in Appendix A).

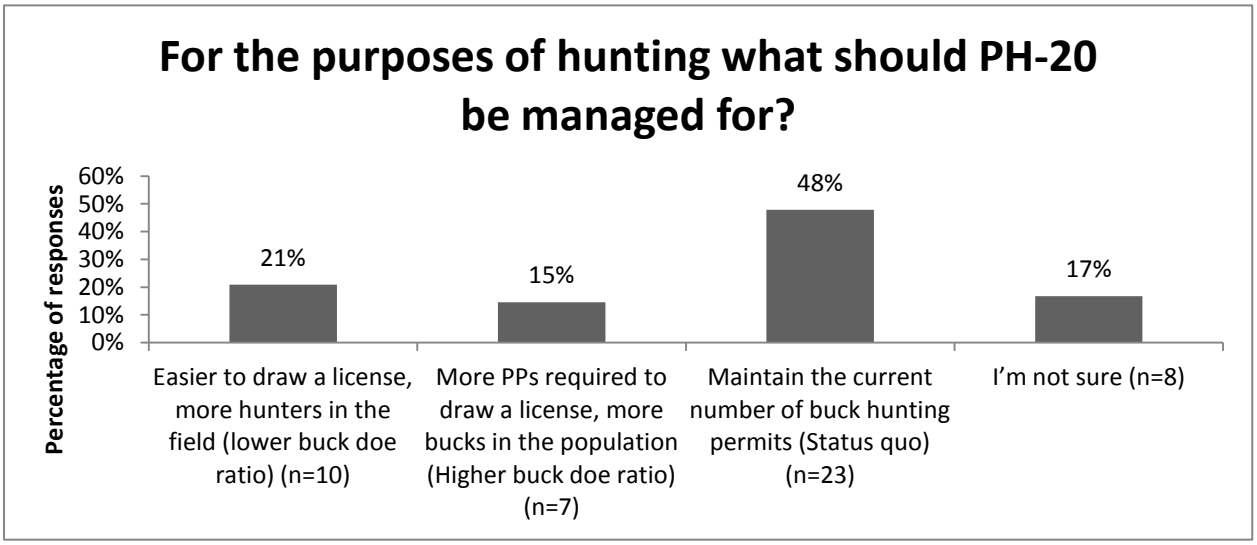


Figure 14. Percentage of responses to the question asking hunters how they would like to see the sex ratio change in the PH-20 DAU.

Landowner Input

We also developed an online survey to solicit landowner input for this DAU plan. Postcards were printed and handed out by the local District Wildlife Managers to landowners in their districts. The postcard provided landowners with a brief description of the DAU planning process and directed them to a website where they could fill out a survey. Landowners were also instructed to call the Pueblo Office of CPW if they wished to receive a paper copy of the survey. A total of 10 landowners completed the survey, with 4 completing the on-line version and 6 requesting a paper copy.

The survey text, summary data for all questions and written comments are available in Appendix B.

In the survey, landowners were asked to provide background information, their opinions regarding changes to population and sex ratio objectives, and opinions about hunters and pronghorn damage. Landowners in this DAU favored a population objective that would increase the number of pronghorn in the DAU (relative to the current population size; Figure 15). Slightly more respondents (40%) indicated that they were satisfied with the current number of buck permits in the DAU versus those that would like to see buck permits reduced (30%; Figure 16).

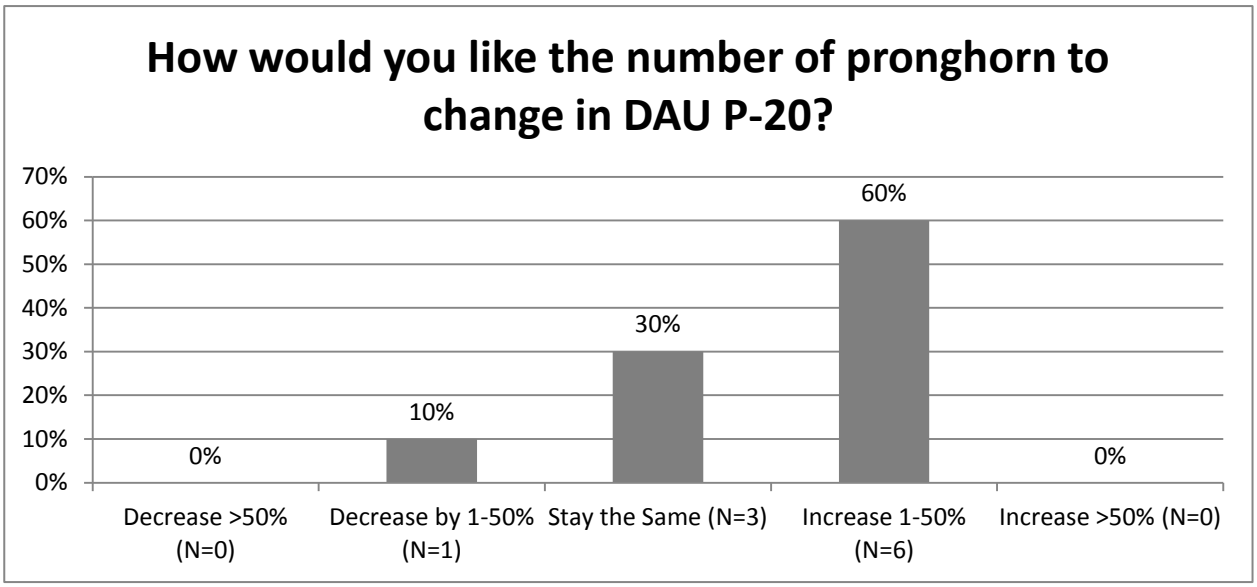


Figure 15. Percentage of responses to the question asking landowners how they would like the pronghorn herd to change in size in the PH-20 DAU.

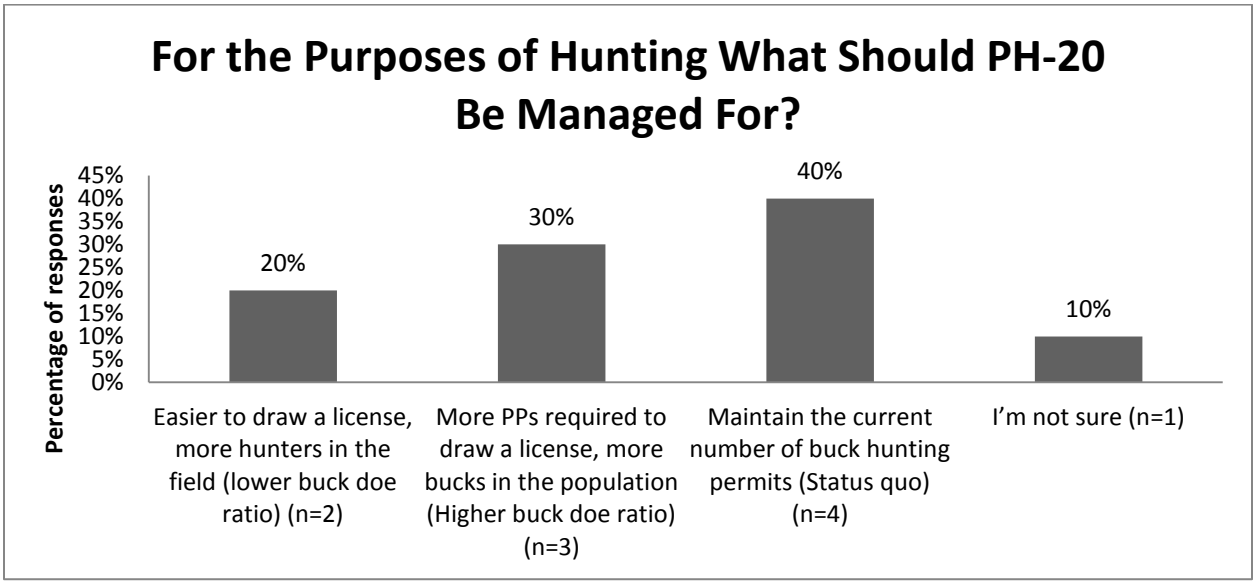


Figure 16. Percentage of responses to the question asking landowners how buck hunting permits are issued in the PH-20 DAU.

Since the DAU is almost exclusively private, hunters depend on landowners for hunting access. Thus, effective management of pronghorn through harvest depends on landowner receptiveness to hunters. Prior to initiating this DAU plan, we were frequently approached by individuals who

expressed concerns about hunter behavior during the pronghorn hunting season. We, therefore, asked landowners a question about whether and to what degree they experienced any of the following four problems with hunters: 1) trespass, 2) property damage, 3) too many hunters asking permission to hunt, 4) rude conduct. Additionally, landowners were given the option to specify any additional problems they experienced.

Trespassing was the most commonly cited problem by survey respondents with 71% of landowners indicating that hunters had trespassed on their property at least once in the last five years (N=5) (Figure 17). Twenty-two percent (29%) of landowners reported major problems with trespassing (N=2). Too many hunters asking for permission received the second highest percentage of complaints (44%) followed by rude conduct by hunters (42%) and damage caused by hunters (28%).

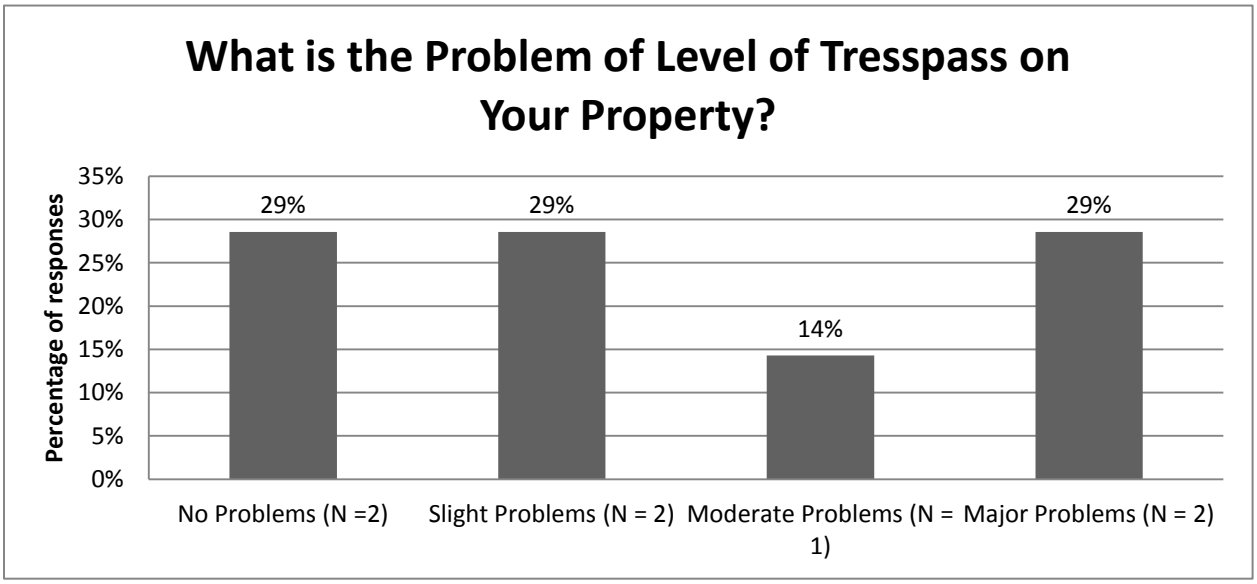


Figure 17. Landowner responses related to the question of tresspass on thier property in PH-20.

We asked landowners if pronghorn caused damage to their property. Three of nine (33%) of respondents indicated that pronghorn damaged to their property, with two of the three reporting severe damage. Damage to pasture land and damage to fences were the only types of damage reported.

Since hunting licenses are the primary tool available to CPW for managing pronghorn numbers, landowners face a tradeoff between the number of pronghorn and pronghorn hunters on the landscape. Recognizing this tradeoff, we asked landowners whether they preferred us to limit the number of hunters in the DAU or to limit the damage caused by pronghorn. The majority of landowners thought that the current numbers of pronghorn and hunters in the DAU were acceptable (5 of 9 landowners). The remaining respondents were split on whether they wanted to limit the number of hunters or limit the amount of damage caused by pronghorn (Figure 17).

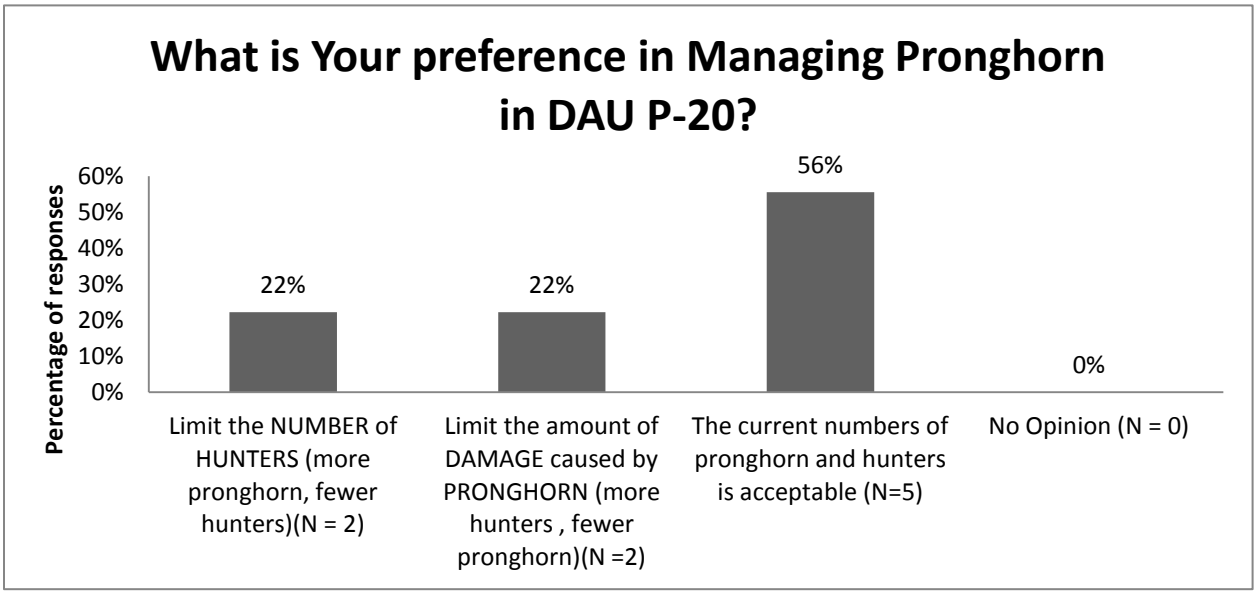


Figure 18. Percentage of responses to the question what is your preference in managing pronghorn in the PH-20 DAU.

MANAGEMENT ALTERNATIVES DEVELOPMENT

Based on the responses from the landowner and hunter surveys three alternatives were developed and presented to stakeholders.

Since the DAU is primarily private, we considered the needs of landowners when drafting management alternatives. The majority of landowners surveyed indicated that they would like pronghorn herd size to remain the same or increase from 2012 levels while hunters preferred an increase in the population size. Both hunters and landowners indicated that the current buck to doe ratio was acceptable.

Based on these results, we proposed three population objective and three sex ratio alternatives for consideration.

Population Objectives

We developed three alternative population objectives for the DAU. In the draft version of this DAU plan, we chose not to select a preferred alternative so we could maintain neutrality during the public comment period. The current modeled population size is 2,425 pronghorn and the current population objective is 2,000.

Alternative #1—2,400 (range 2,200-2,600) pronghorn

This alternative encompasses the current pronghorn population size. Respondents to our landowner survey indicated that they preferred we maintain (30%) or increase (60%) the current number of pronghorn on the landscape. Hunters also indicated that they preferred that we

maintain (33%) or increase (51%) the pronghorn population. If adopted, this alternative would allow managers at CPW to take a slightly less aggressive approach to doe harvest in DAU which should reduce hunting pressure in the DAU. However, harvest would need to be maintained at a level which prevents the population from increasing which will give sportsmen the opportunity to harvest animals.

Alternative #2—2,000 (range 1,800-2,200)

This alternative represents a ~20% reduction in numbers from the current modeled population size and is the current long-term population objective. This alternative was supported by 13% of the respondents to the landowner survey and 14% of the hunters surveyed. If adopted, this alternative would require a continuation of current management practices, including a high level of hunting pressure. Under this alternative, sportsmen would continue to have access to a high number of licenses, but as the population declines, their chance of harvesting an animal would also decline.

Alternative #3—3,000 (range 2,800-3,200) pronghorn

This alternative encompasses a 25% increase from the current modeled population size. Landowners and hunters supported an approach that would maintain or increase the current population size. Respondents to our landowner survey indicated that they preferred we increase (60%) the current number of pronghorn on the landscape. Hunters also indicated that they preferred that we increase (51%) the pronghorn population. If this alternative were to be adopted, the CPW would need to reduce the number of licenses in the DAU in the short term to allow the herd to grow, with a long-term outlook of higher license numbers to maintain the increased population size. In the short term, this would reduce hunting pressure for private landowners, but it would also reduce opportunity for hunters. In the long term, this alternative would create higher potential for pronghorn-caused damage on private land.

Sex Ratio Objectives

We developed three sex ratio alternatives. As with the population objectives, we did not choose a preferred alternative in the Draft DAU to maintain neutrality. The 2011 posthunt modeled sex ratio is 36 bucks per 100 does.

Alternative #1—35 bucks per 100 does (range 30-40) bucks per 100 does

This is the current sex ratio objective and encompasses the long-term average sex ratio for the population. Under this alternative, CPW would be able to maintain the current management practices which was favored by the majority of both landowners and sportsmen in our outreach surveys. This management approach was favored by 40% of landowners and 48% of sportsmen who responded to the respective outreach surveys.

Alternative #2—30 bucks per 100 does (range 25-35)

This alternative would reduce the current sex ratio objective by ~20%. If adopted, the CPW would have to increase buck licenses proportionally to bring the population closer to objective. In the near term, this would provide more hunting opportunities for sportsmen. However, as the population neared objective, sportsmen would have access to fewer bucks in the population, and thus their opportunity to harvest a buck would also decrease. This management approach was

favored by 20% of landowners and 21% of sportsmen who responded to the respective outreach surveys.

Alternative #3—45 bucks per 100 does (range 40-50)

This alternative would increase the current observed sex ratio by ~25%. To bring the population closer to objective, CPW would have to dramatically decrease buck license numbers. This would reduce the opportunity for sportsmen to obtain a license in the DAU but could eventually result in a higher quality hunting experience since there would be proportionally more bucks in the population. This approach was favored by 30% of landowners and 15% of sportsmen from the respective outreach surveys.

30-DAY PUBLIC COMMENT PERIOD

Outreach Efforts

After proposing the three population and sex ratio alternatives, we finalized a draft DAU plan and used multiple avenues to solicit stakeholder feedback. The draft DAU plan was posted on the CPW website from 28 October 2013 through 29 November 2013. We sent the draft DAU plan to the State Land Board and County Commissioners from Custer, Fremont, Huerfano and Pueblo Counties. Plans were also sent to sportsmen and landowners who had either routinely discussed pronghorn management with local DWMs or who had expressed an interest in reading the draft during the initial scoping process.

On 13 November 2013 a short presentation was given to the Sangre de Cristo Habitat Committee on the draft plan. Past pronghorn/livestock forage conflicts were outlined and a letter supporting the preferred population alternative was received from the Committee chairman. This letter of support can be viewed in Appendix D.

Only one comment was received from the 30 day comment period and was more related to the need to hunt pronghorn rather than commenting on the plan. This comment may be reviewed in Appendix E.

PREFERRED ALTERNATIVES

We considered feedback from both the outreach surveys and the 30-day comment period when selecting preferred alternatives. Since the DAU is primarily private, we attempted to balance the needs of landowners when choosing preferred alternatives.

Preferred post-hunt population objective range =2, 400 (2,200-2,600) Pronghorn

This alternative encompasses the current pronghorn population size. Respondents to our landowner survey indicated that they preferred we maintain (30%) or increase (60%) the current number of pronghorn on the landscape. Hunters also indicated that they preferred that we maintain (33%) or increase (51%) the pronghorn population. If adopted, this alternative would allow managers at CPW to take a slightly less aggressive approach to doe harvest in DAU which should reduce hunting pressure in the DAU. However, harvest would need to be maintained at a

level which prevents the population from increasing which will give sportsmen the opportunity to harvest animals.

Preferred post-hunt sex ratio objective range = 35 (30-40) bucks per 100 does

This is the current sex ratio objective and encompasses the long-term average sex ratio for the population. Under this alternative, CPW would be able to maintain the current management practices which was favored by the majority of both landowners and sportsmen in our outreach surveys. This management approach was favored by 40% of landowners and 48% of sportsmen who responded to the respective outreach surveys.

LITERATURE CITED

Buckland, S. T., D. R. Anderson, K. P. Burnham, J. L. Laake, D. L. Borchers, and L. Thomas. 2001. Introduction to distance sampling. Oxford University Press, Oxford, U.K.

Guenzel, R.J. 2007. Procedures for Estimating Pronghorn Abundance in Wyoming Using Aerial Line Transect Sampling. Wyoming Game and Fish Department, Cheyenne. 100 pp.

Lance, W. R., and T. M. Pojar. 1984. Diseases and parasites of pronghorn: a review. Colorado Division of Wildlife Special Report #57. 14 pp.

O'Gara, B.W. 2004. Diseases and Parasites. Pp. 299-336 *in* O'Gara, B. W., and J. D. Yoakum, editors. Pronghorn Ecology and Management. The University Press of Colorado, Boulder.

APPENDIX A, Hunter Outreach Survey Postcard

Dear Colorado Pronghorn Hunter:

Wildlife managers at Colorado Parks and Wildlife are updating pronghorn herd management plans in all or part of the following counties in southeastern Colorado: Huerfano, Las Animas, Custer, Chaffee and Pueblo.

The CPW is seeking hunter input on the future management of these herds. As a hunter in these units we would like your input on pronghorn management in the area.

We are gathering hunter input through a short online survey. The survey is available at: https://www.research.net/s/PH-20_Pronghorn_Hunter_Survey

Please note that there is a /s/ between the .net and PH-20 in the address above.

If you would like to provide input but do not have internet access, please leave a message with your name and address at 719.561.5306 so we can mail you a paper copy of the survey. **Surveys must be completed by August 21, 2013**.

Thank you,

Colorado Parks and Wildlife

Pronghorn Data Analysis Unit (DAU) PH-20 Hunter Survey

25 July 2013

Dear Colorado Sportsman,

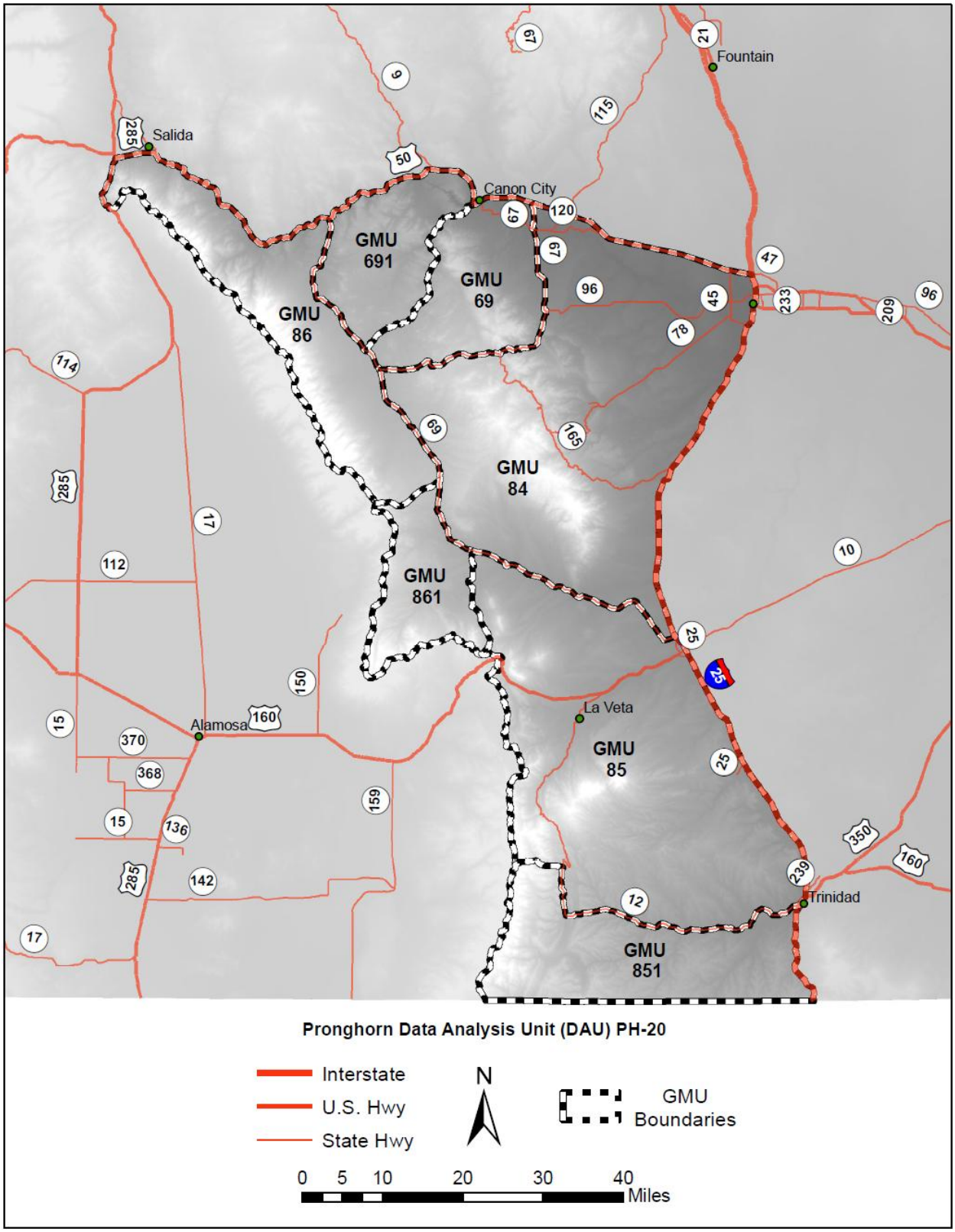
Colorado Parks and Wildlife (CPW) is interested in your input on the management of the Wet Mountain Pronghorn Herd in south-central Colorado, including Game Management Units (GMUs) 69, 84, 85, 86, 691, 851 and 861 (see map below). In Colorado, pronghorn populations are managed for specific geographic areas with a pronghorn management plan. Pronghorn management plans describe trends in pronghorn numbers and actions CPW has and will take to manage pronghorn for a 10 year period. CPW is interested in incorporating the concerns and desires of the public with the biological characteristics of the Wet Mountain pronghorn herd in the management plan it is developing for the next 10 years. Public input is, therefore, a very important part of the planning process.

Please help us to learn what you think about the pronghorn herd in the Thatcher area and how you interact with pronghorn in this area. The information you provide will help CPW develop objectives and management actions for pronghorn in parts of Custer, Fremont, Chaffee, Huerfano, Las Animas and Pueblo counties.

If you have any questions about this pronghorn herd or its management, please call me at 719-561-5306 or email me at allen.vitt@state.co.us.

Sincerely,

Allen Vitt
Terrestrial Biologist
Colorado Parks and Wildlife
Pueblo, CO


Fountain
Salida
Canon City
Alamosa
La Veta
Trinidad
GMU 691
GMU 69
GMU 86
GMU 84
GMU 861
GMU 85
GMU 851
Pronghorn Data Analysis Unit (DAU) PH-20
Interstate
U.S. Hwy
State Hwy
N
GMU Boundaries
0 5 10 20 30 40
Miles

Part 1 – Background Information

1. Please enter your CID number. ***(n=49 responses; n=0 skipped question)***

2. Are you a resident of Colorado? ***(n=49 responses; n=0 skipped question)***
   □ Yes ***(n=47)*** □ No ***(n=2)***

3. Do you live in the within GMUs 69, 84, 85, 86, 691, 851 & 861? ***(n=49 responses; n=0 skipped question)***
   □ Yes ***(n=33)*** □ No ***(n=16)***

4. Do you own or lease 40 acres or more of property in the DAU? ***(n=48 responses; n=1 skipped question)***
   □ Yes ***(n=18)*** □ No ***(n=30)***

5. **(If you answered yes to question 1c)**: How many acres do you own or lease? ***(n=19 responses; n=0 skipped question)***
   □ 40-160 acres ***(n=9)***
   □ 161-640 acres ***(n=4)***
   □ 641-5000 acres ***(n=4)***
   □ 5000+ ***(n=2)***

Part 2 – Hunting and Harvest Information

6. How important to you is pronghorn hunting compared to your other recreational activities? ***(n=49 responses; n=0 skipped question)***
   □ My most important recreational activity ***(n=0)***
   □ One of the more important recreational activities I participate ***(n=31)***
   □ No more important than any other recreational activity ***(n=17)***
   □ Less important than most of my other recreational activities ***(n=1)***
   □ Not at all important to me as a recreational activity ***(n=0)***

7. Overall, how would you rate the quality of pronghorn hunting in GMUs 69, 84, 85, 86, 691, 851 & 861?
   (n=49responses; n=0 skipped question)

   □ Excellent ***(n=8)***
   □ Good ***(n=20)***
   □ Fair ***(n=15)***
   □Poor ***(n=4)***
   □I don't know ***(n=2)***

8. Did you have a pronghorn license to hunt in GMUs 69, 84, 85, 86, 691, 851 & 861 in 2012?

(n=49responses; n=0 skipped question)

□ Yes ***(n=31)*** □ No ***(n=18)***

9. Did you hunt pronghorn in GMUs 69, 84, 85, 86, 691, 851 & 861 in 2012? ***(n=30 responses)***

□ Yes ***(n=27)*** □ No ***(n=8)***

10. In 2012, which of the following seasons did you hunt? (Check all that apply)? ***(n=28 responses)***

□ Over-the-counter either-sex archery ***(n=1)***
□ Regular Rifle Season Buck ***(n=10)***
□ Regular Rifle Season Doe ***(n=15)***
□ Muzzleloader Buck ***(n=1)***
□ Muzzleloader Doe ***(n=1)***

11. How many days did you hunt pronghorn in the following GMUs in 2012 (69, 84, 85, 86, 691, 861)? ***(n=9 responses)***

□ 1 ***(n=1)***
□ 2 ***(n=2)***
□ 3 ***(n=3)***
□ 4 ***(n=2)***
□ 5 ***(n=1)***

12. In how many years out of the past 5 have you applied or purchased an antlerless pronghorn permit in GMUs 69, 84, 85, 86, 691, 851 & 861? ***(n=32 responses)***

□ 0-1 of the last 5 ***(n=9)***
□ 2-3 of the last 5 **(*n=17)***
□ 4-5 of the last 5 ***(n=6)***

13. How many pronghorn did you harvest in 2012 in GMUs 69, 84, 85, 86, 691, 851 or 861? ***(n=32 responses)***

□ 0 ***(n=13)*** □ 1 ***(n=18)*** □ 2 ***(n=1)***

14. Why did you NOT HUNT in the DAU in 2012 (please check all that apply.)
□ Did not draw a license ***(n=4)***
□ The complexity of hunting regulations in Colorado ***(n=0)***
□ Time demands of my family obligations ***(n=1)***
□ Time demands of my job ***(n=0)***
□ The cost of hunting licenses, equipment or other expenses ***(n=0)***
□ Season conflicted with other obligations ***(n=1)***

 Trouble finding permission to hunt ***(n=2)***
 Other (Please Explain): ***(n=3)***

Drew RFW tag for Wolf Springs Ranch. In speaking with ranch manager prior to season, however, he said the drought had decimated their pronghorn herds and he had seen no trophy animals. Given the extremely high number of Pref Points I used, rather than hunt a substandard animal, I turned the license back in and retrieved my points.

Never heard about it

I did not hunt this DAU

Part 3 – Population Objective

Population Objective: Colorado Parks and Wildlife strives to manage pronghorn populations within the social carrying capacity of the herd. The social carrying capacity is the number that will be tolerated by the people who are impacted by the herd (hunters, wildlife viewers, landowners). The social carrying capacity may be above or below the number of animals that can be supported by the available habitat.

CPW strives to keep the number of pronghorn near the herd's social carrying capacity. When populations are above the population objective, CPW increases hunting license numbers (primarily female licenses) to increase harvest. This translates to more hunters in the field. When populations are below objective, CPW can decrease the number of hunting licenses to reduce harvest and allow the population to increase.

15. For the 2014-2024 time period, relative to the current number, how would you like to see the pronghorn herd to change in GMUs 69, 84, 85, 86, 691, 851 & 861?
(n=49 responses)

 Decrease greatly (over 50% fewer pronghorn) ***(n=0)***
 Decrease slightly (25% fewer pronghorn) ***(n=7)***
 Stay the same ***(n=16)***
 Increase slightly (25% more pronghorn) ***(n=15)***
 Increase greatly (over 50% more pronghorn) ***(n=10)***
 Don't know/No opinion ***(n=1)***

Part 4 – Male:Female (Sex) Ratio Objective

Male:Female Ratio Objective: Decisions about how many and what type of pronghorn hunting permits to issue are included in the pronghorn management plan. Permits can be issued in a way that maximizes either the number of buck hunting licenses available to hunters, the number of bucks available to hunters, or some compromise between the two. In general, a decrease in the number of buck hunting licenses could make buck permits more difficult to draw, and require additional preference points to draw a permit, but may limit competition and interference among hunters and increase buck harvest rates. Conversely, an increase in the number of buck hunting licenses could make buck licenses easier to draw, require less Preference Points, but could increase competition and interference among hunters.

16. Which of the following approaches should guide the number of licenses allocated in GMUs 69, 84, 85, 86, 691, 851 and 861? ***(n=48 responses)***

 Increase the number of buck hunting permits (easier to draw a license, more hunters in the field) ***(n=10)***

 Decrease the number of buck hunting permits (more PPs required to draw a license, more bucks in the population) ***(n=7)***

 Maintain the current number of buck hunting permits ***(n=23)***

 I'm not sure ***(n=8)***

17. Thank you for taking the time to complete this survey. Your input is very valuable to us and helps us to better manage your wildlife resources. Happy hunting!

Please feel free to leave us any additional comments regarding pronghorn or pronghorn hunting in GMUs 69, 84, 85, 86, 691, 851 or 861.

Written Responses to Hunter Outreach Survey

1	Becoming more difficult to access areas as land is developed into mini ranches.
2	It was disappointing to not use a literally "once in a lifetime" tag on a prime RFW property. But, if the drought had indeed impacted the quality of the herd as the ranch manager said, better to hold off and hope for a better situation in the future. I am a big supporter of the Ranching for Wildlife program--one of the best things Colorado has ever done. I would love to see it expand even further.
3	My pronghorn hunting in these units has been limited to RFW Wolf Springs Ranch.
4	There are way too many pronghorn currently in this whole area. There needs to be more licenses given to reduce the numbers to a more reasonable level.

5	My tag was from a land owner voucher.
6	Is there a possibility of a limited number of either sex permits?
7	Good job CPW
8	DOW officers of the Pueblo Regional office are very helpful in sharing information about hunting locations and access. Thank you.
9	I wish there was more information on seasonal distribution and movements of pronghorn in this area. At times they seem to disappear for periods and, when talking to other hunters and ranchers I know, I haven't been able to get ideas on where the pronghorn go.
10	Need more land to hunt in the Wet Mt. Valley. The ranchers need to let hunters on their land and have the hunters sign a waiver for accidents
11	Thanks you for the work you do.
12	Way too many hunters increasing every year since I started hunting them in 1996. GOOD then!
13	As a landowner and a hunter that enjoys pronghorn hunting I feel there are too many hunting licenses issued in unit 69, 84, etc. given the extremely limited amount of public ground available for hunting in the area. In the portion of this hunting area where we own property there is not enough public hunting ground available for the number of permits that are currently issued. It is extremely frustrating to find someone has trespassed onto private property to poach game animals. Please factor the amount (not much) of public ground available for pronghorn hunting into the decision of how many licenses to issue over the next 10 years in this area. We are landowners that prefer to feed and support the pronghorn before we tolerate more trespassers.
14	One of the biggest issues creating lower Antelope success during Archery season, is the fact that the Antelope are not close enough to rutting during the set season dates. I would like to see all Antelope seasons move back a month. It may appear that rifle hunters would have to choose based on deer seasons, and that might hurt revenue, but that is what the Archery hunters are doing now based on how the seasons are set up. What's the difference?
15	I hunt on private land on a large ranch, where I also file the applications for the landowner vouchers. We received no doe or buck vouchers this year for these units.
16	It seems to me that most of the pronghorn have migrated south and out of the Wet Mtn Valley. La Veta?? Water?? Lots of private in Wet Mtn Valley that hinders most of the hunting for pronghorn but other than that the units seem fair.
17	I am basing my answers to this survey on the Froze Creek State Trust Land, having hunted this area I found way too many hunters the State Trust boundaries are not marked very clearly, causing confusion as to whether I was on private land or not!
18	For 2013 season the lands I've hunted for over 25 years are no longer available. Landowners are worried about liability as a result of a Montana suit where a landowner lost his land. Mainly Wet Mountain Valley

19	Ban Hunting leases by private parties, more hunting leases by DOW!

APPENDIX B, Landowner Outreach Survey Postcard

Dear Colorado Landowner:

Wildlife managers at Colorado Parks and Wildlife are updating pronghorn herd management plans in all or part of the following counties in southeastern Colorado: Huerfano, Las Animas, Custer, Chaffee and Pueblo. Game management Units affected are: 69, 84, 85, 86, 691, 851 and 861.

The CPW is seeking landowner input on the future management of these herds. As a landowner in these units we would like your input on pronghorn management in the area.

We are gathering Landowner input through a short online survey. The survey is available at: https://www.research.net/s/PH-20_Landowner_Survey

Please note that there is a /s/ between the .net and PH-20 in the address above.

If you would like to provide input but do not have internet access, please leave a message with your name and address at 719.561.5306 so we can mail you a paper copy of the survey. **Surveys must be completed by August 21, 2013**.

Thank you,

Colorado Parks and Wildlife

Pronghorn Herd Management Plan Landowner Survey

25 July 2013

Dear Landowner/Operator,

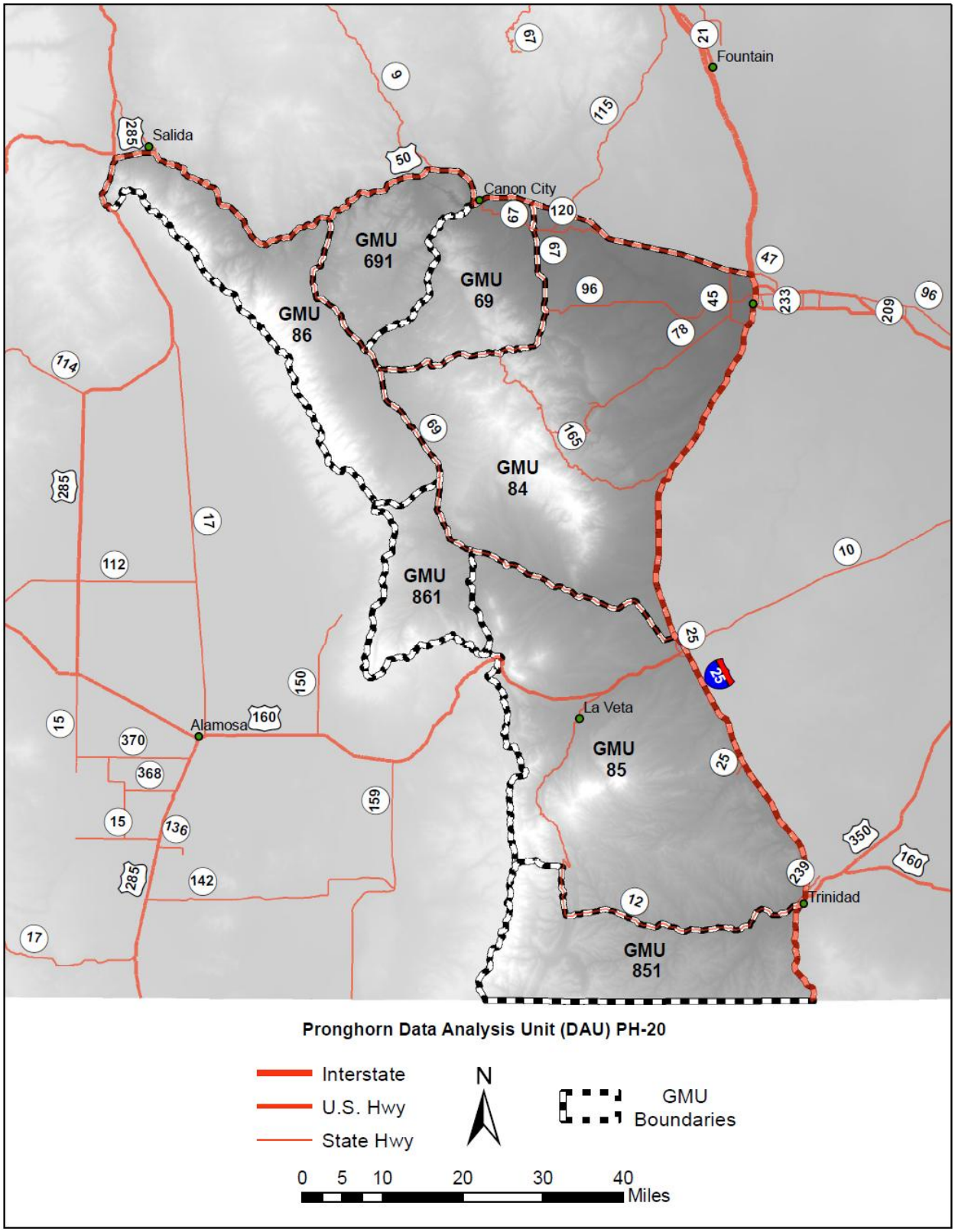
Wildlife managers at the Colorado Parks and Wildlife (CPW) are updating the pronghorn herd management plan in the following hunting units (Game Management Units or GMUs): 69, 84, 85, 86, 691, 851 and 861. These GMUs include all or part of the following counties in southcentral Colorado: Custer, Chaffee, Pueblo, Huerfano, and Las Animas (see map below). As a landowner and/or agricultural producer in this area, the CPW is seeking your input on the future management of this herd. The information you provide through this survey will influence pronghorn management strategies and objectives in the area.

Please take a few minutes to fill out this short survey. Your responses are private and will not be associated with your name or address in published reports. While your response to this questionnaire and any of the questions is completely voluntary, you can help us effectively manage pronghorn and pronghorn hunting in Colorado by sharing your experience and views. You may skip any questions you do not feel comfortable answering. If you have any questions about this survey, please feel free to contact me at allen.vitt@state.co.us or 719.561.5306.

Thank you for your participation.

Sincerely,

Allen Vitt
Terrestrial Biologist
Colorado Parks and Wildlife
Pueblo, CO



Part 1: Background Information

1. In which county(ies) is your property located? (Check all that apply)

☐ Custer **(N=8)** ☐ Chaffee ☐ Huerfano **(N=1)** ☐ Las Animas
☐ Pueblo **(N=1)** ☐ Other (please specify)_____

2. **How many acres of land do you own, lease or manage?**

☐ <160 acres ***(n=3)*** ☐ 160-1000 acres ***(n=1)*** ☐ 1001-5000 acres ***(n=1)*** ☐ >5000 acres ***(n=5)***

Part 2. Management Objectives

Population Objective

Colorado Parks and Wildlife (CPW) strives to manage pronghorn populations within the social carrying capacity of the herd. The social carrying capacity is the number that will be tolerated by the people who are impacted by the herd (hunters, wildlife viewers, landowners). The social carrying capacity is often below the number of animals that can be supported by the available habitat.

A population objective is set at the herd's social carrying capacity. When populations are above the population objective, CPW increases hunting license numbers (primarily female licenses) to bring the population closer to objective through increased harvest. This translates to more hunters in the field. When populations are below objective, the CPW can decrease the number of hunting licenses to allow the population to increase.

3. How would you like the number of pronghorn in Game Management Units (GMUs) which include your property(ies) to change?

I would like the pronghorn herd size to:

Decrease by more than 50%	Decrease by 1-50%	Same the same	Increase by 1-50%	Increase by more than 50%	No Opinion
0	***1***	***3***	***6***	***0***	***0***

Buck Objective

Decisions about how many and what type of pronghorn hunting permits to issue are included in the pronghorn management plan. Permits can be issued in a way that maximizes either the number of buck hunting licenses, the number of bucks available to hunters, or some compromise between the two. In general, a decrease in the number of buck hunting licenses could make buck permits more difficult to draw but may limit competition and interference among hunters and

increase buck harvest rates. Conversely, an increase in the number of buck hunting licenses could make buck licenses easier to draw but could increase competition among hunters and decrease buck harvest rates.

4. Which of the following general strategies should CDOW use to guide decisions about <u>how many buck pronghorn permits to issue</u> in the Game Management Unit(s) which include your property?

☐ Increase the number of buck pronghorn hunting permits (easier to draw a license, more hunters in the field) ***(n=2)***

☐ Decrease the number of buck pronghorn hunting permits (harder to draw a license, fewer hunters in the field) ***(n=3)***

☐ Maintain the current number of buck pronghorn hunting permits ***(n=4)***

☐ No opinion ***(n=1)***

5. How would you like to see the number of HUNTERS change in the Game Management Unit(s) which include your property(s).

☐ Increase **(n=2)**

☐ Stay the same **(n=4)**

☐ Decrease **(n=3)**

☐ No Opinion **(n=1)**

Part 3. Hunting and Damage

6. Have you hunted pronghorn in Colorado in the last five years?

☐ Yes → ***(n=6)***

☐ No → ***(n=4)***

☐ I prefer not to answer this question ***(n=0)***

7. Out of the last 5 years, how many years did you hunt for pronghorn?

☐ 0 of 5 years ***(0=2)***	☐ 1-2 of 5 years ***(n=4)***	☐ 3-4 of 5 years ***(n=1)***	☐ 5 of 5 years ***(n=1)***

8. How did you obtain your license(s)? (Check all that apply)

☐ On a regular draw license ***(n=4)***

☐ On a landowner voucher for the property I own or manage ***(n=4)***

☐ On a landowner voucher for another property ***(n=0)***

☐ Family only landowner license ***(n=1)***

9. Do you lease your property to outfitters? *(n=1 skipped question)*

☐ YES ***(n=0)***

☐ NO ***(n=10)***

10. From 2007-2011 did you allow anyone to hunt your property?

☐ YES **(n=6)**

☐ NO **(n=3)**

11. Whom did you allow to hunt pronghorn on land you control in the last 5 years? (Check all that apply)

☐ No one ***(n=2)***

☐ Family, friends, and neighbors ***(n=6)***

☐ Public hunters who paid no access fee ***(n=2)***

☐ Hunters or outfitters who have leased the land or paid an access fee ***(n=1)***

12. Have you changed hunter access to your property in the last 5 years?

☐ No change in hunter access ***(n=6)***

☐ I allow MORE hunters access to my property ***(n=1)***

☐ I allow FEWER hunters access to my property ***(n=2)***

☐ I have CLOSED my property to hunters ***(n=0)***

13. If you had any problems with pronghorn hunters on your property in the last 5 years, please rate the level at which you experienced the following problems.

	NO PROBLEMS	MINOR PROBLEMS	MODERATE PROBLEMS	MAJOR PROBLEMS
TOO MANY hunters asking for permission to hunt	5	0	2	2
TRESPASS by pronghorn hunters on your property	2	2	1	2
DAMAGE to your property by pronghorn hunters	5	0	0	2
RUDE CONDUCT by pronghorn hunters on your property	4	1	2	0
OTHER problems with pronghorn hunters on your property	4	0	0	0

Comments: Tress violation

Shooting from road

2 dead calves

Hunting licenses are the primary tool available to the CPW for managing pronghorn numbers. For landowners, this creates a potential trade off between the number of pronghorn on their property and hunting pressure on or around their property. As pronghorn numbers increase, the potential for crop damage is higher. To lower the number of pronghorn, the CPW typically increases the number hunting permits (primarily for females) available, which increases the number of hunters in the field.

14. For the purposes of pronghorn management in the Game Management Units which include your property, what is your preference?

- ☐ Limit the NUMBER of pronghorn HUNTERS (more pronghorn, fewer hunters) **(n=2)**
- ☐ Limit the amount of DAMAGE to your property caused by PRONGHORN (fewer pronghorn, more hunters) **(n=2)**
- ☐ The current numbers of hunters and pronghorn in the GMU(s) is acceptable **(n=5)**
- ☐ No Opinion **(n=0)**

15. Have pronghorn caused damage to your crops or other property in the last 5 years?

- ☐ NO ***(n=5)***
- ☐ YES, light damage ***(n=1)***
- ☐ YES, moderate damage ***(n=0)***
- ☐ YES, severe damage ***(n=2)***

☐ I prefer not to answer this question **(n=1)**

16. When does the majority of damage occur?

☐ Spring ***(n=2)***	☐ Summer ***(n=3)***	☐ Fall ***(n=2)***	☐ Winter ***(n=2)***

17. What type of crops/land did pronghorn cause damage to on your property? (Check all that apply)

☐ Winter Wheat ***(n=0)***	☐ Corn ***(n=0)***	☐ Alfalfa/Hay ***(n=0)***	☐ Fences ***(n=4)***	☐ Pasture land ***(n=4)***
☐ Other (please specify): ***(n=0)***				

Part 4. Additional Comments

20. How did you hear about this survey?

☐ Colorado Cattlemen's Association

☐ Colorado Farm Bureau

☐ CDOW postcard ***(n=3)***

☐ CDOW employee ***(n=5)***

☐ Family, friends or neighbors **(n=2)**

☐ Other (please specify):

Thank you for taking the time to complete this survey. Your input is very valuable to us and will help us better manage your wildlife resources. Please feel free to leave us ***additional comments on the back of this page*** *regarding pronghorn management or pronghorn hunters.*

Please leave any addition comments in the space below:

Written Responses to Landowner Outreach Survey

1	Insist on written permission to hunt along with the application for non-landowner. Put a bounty on coyotes $20.00 per scalp, and we will have more antelope and deer. Quit using Custer and counties next to us for a dumping ground for bears and lions. Open a spring bear hunt and be able to bait them.
2	Unit is too big to be managed as 1 unit not all of unit has some antelope
3	Because of the lack of licenses and if public licenses are awarded to those with fewer preference points than the landowner voucher they have no access
4	Our resident herd is from 150-350 head, we have produced approximately 10 B&C quality bucks (2 comments)
5	When we were involved with Ranching for Wildlife our management plan required taking 40 antelope per year – now we take 1-5 per year – and can't regularly get a license (2 comments)

APPENDIX C, Press release for public comment

News about Colorado's Natural Resources

Email Article

11/5/2013
Division of Wildlife

CPW seeks public comment on pronghorn management southwest of Pueblo

PUEBLO, Colo. - The draft herd management plan for pronghorn southwest of Pueblo and along the Wet Mountain Valley is available on the Colorado Parks and Wildlife website until Friday, Nov. 29. The public will have the opportunity to provide written comments regarding several possible population objectives and management strategies for the pronghorn population in Game Management Units 69, 84, 85, 86, 691 and 861.

The area being reviewed for management adjustments includes portions of Chaffee, Custer, Fremont, Huerfano, Pueblo and Las Animas Counties.

The draft management plan was developed with information compiled by Colorado Parks and Wildlife and with public input gathered from hunters and landowners within the region. Hunters who applied for a license within the area and local landowners were given the opportunity to offer comments through online survey.

"We rely on the public's input to develop these management plans," said Allen Vitt, terrestrial biologist with Colorado Parks and Wildlife. "We blend societal concerns with science and biology to ensure we manage our wildlife with the public's support."

Before the final management plan is finalized, Colorado Parks and Wildlife hopes to gather additional public input.

To find the draft management plan go to cpw.state.co.us and click on the "Hunting" tab, then click on "Big Game" on the left-hand menu, then scroll down and select "Herd Management Plans" and scroll to the bottom of the page.

The draft plan can also be found by visiting the herd management website.

Written comments must be received by 5 p.m., Nov. 29, and can be sent to Colorado Parks and Wildlife, Attention: Allen Vitt, 600 Reservoir Rd. Pueblo, CO 81005 or by email to Allen.Vitt@state.co.us

Printed copies of the plan will also be available at the Colorado Parks and Wildlife Pueblo office at the above address.

For additional information or general questions, call Allen Vitt at 719-561-5306.

APPENDIX D, Sangre de Cristo HPP letter of support

November 13, 2013

Allen Vitt
Area 11 Terrestrial Biologist
Colorado Parks and Wildlife
Pueblo Office
600 Reservoir Road
Pueblo, CO 81005

Mr. Vitt,

Thank you for allowing the Sangre de Cristo HPP committee the chance to comment on the Wet Mountain pronghorn herd management plan. After review of the draft DAU plan and discussion with Area 11 staff, we endorse CPW's plan to raise the objective to 2,400 animals to better reflect the current herd size and to better manage the pronghorn population.

Game damage occurring within this DAU is relative minor and centered on a limited number of agricultural ranches. Our committee continues to work on projects and treatments which attempt to reduce these forage conflicts.

Sincerely,

John Stroh II, Chairman
Sangre de Cristo Habitat Partnership Program

Appendix E, All Responses from 30-day Comment Period on Pronghorn Management in Pronghorn DAU PH-20.

1	We noticed a newspaper article referring to your so called management of the pronghorn antelope herd population in southern Colorado. The word management can only mean that you intend to kill some of them. On our journeys from our home in the Gardner area to Pueblo, we always enjoy seeing pronghorns. These animals are never in large groups, so the population cannot be in need of reduction. Neither can it be said as these animals are small in stature and low in numbers, that they consume a lot of grass. In conclusion, we say leave these beautiful creatures alone, they do not need the meddling of man.