

HASWELL PRONGHORN HERD MANAGEMENT PLAN

DATA ANALYSIS UNIT PH-05, HASWELL

GAME MANAGEMENT UNITS 120, 121, 125, 126



Created for:
Colorado Parks and Wildlife



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EXECUTIVE SUMMARY

Haswell Pronghorn Herd (DAU PH-5)	GMUs: 120, 121, 125, 126
Post-Hunt Population: Previous Objective: 2,400-3,000; Estimate for 2018: 3,600	
Current Population Objective: 3,000-4,000	
Post-Hunt Sex Ratio (Bucks:100 Does): Previous Objective: 33-40; Estimate for 2018: 41.8	
Current Sex Ratio Objective: 35-45	

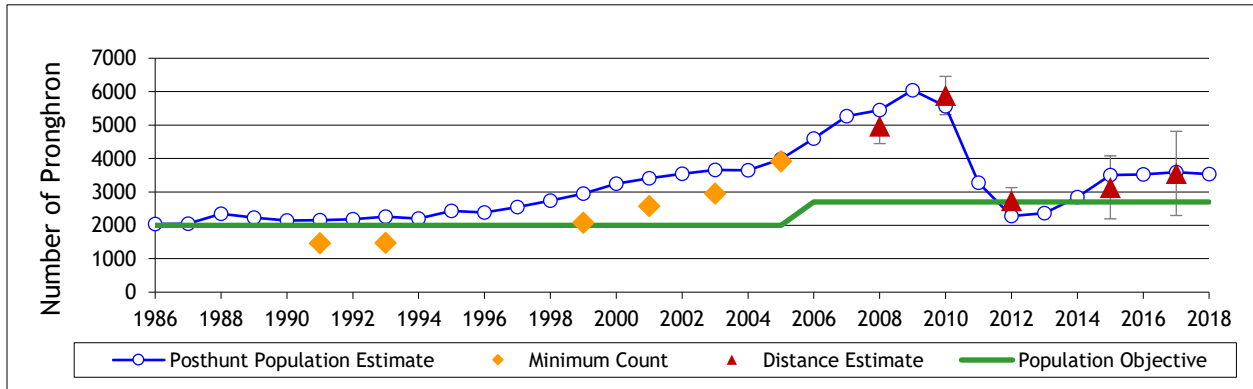


Figure 1. Haswell DAU modeled posthunt population, objective, postseason minimum counts, and distance estimates from 1986-2018.

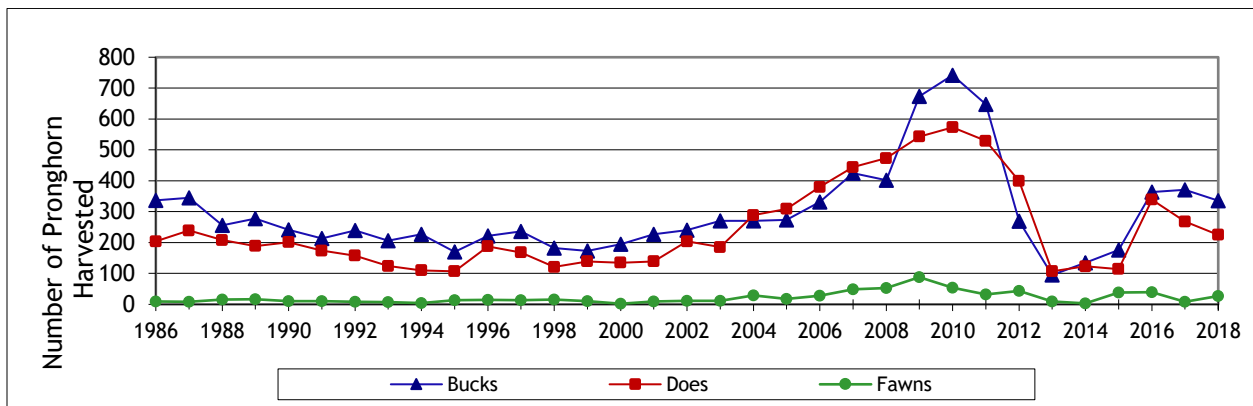


Figure 2. Haswell DAU buck, doe, and fawn harvest estimates from 1986-2018.

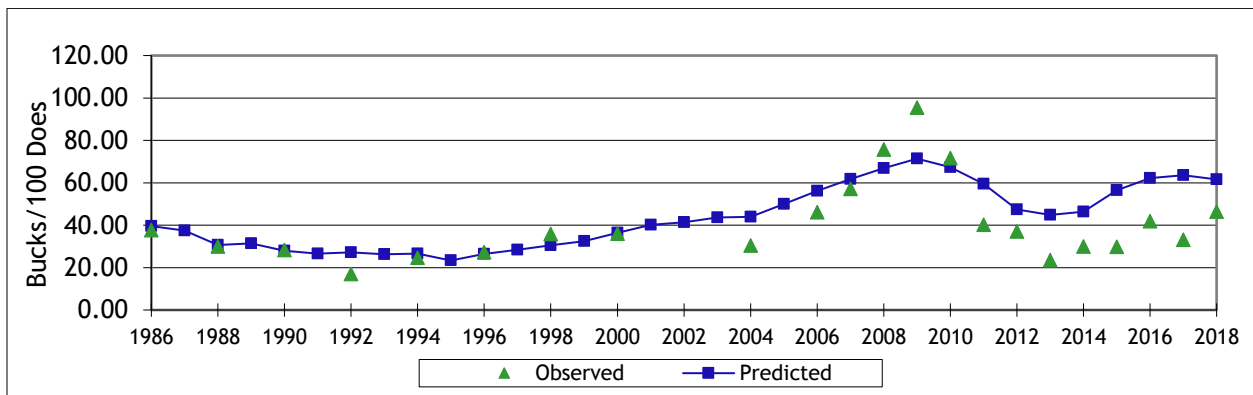


Figure 3. Haswell DAU preseason observed and model predicted sex ratios from 1986-2018.

Background Information

The Haswell Data Analysis Unit (DAU), hereafter referred to as Haswell, encompasses a large area between the Arkansas River and Colorado Hwy 94. Approximately 84% of the DAU is comprised of private lands. The primary public land holder is the State Land Board, owning 14% of the DAU. Only 2% of the DAU offers public pronghorn hunting opportunity.

Since 1986, Haswell's post season population estimates have ranged from 2,050-6,050 pronghorn. Historically, game damage has been the greatest significant issue in Haswell, and population objectives in previous herd management plans were set at levels to minimize game damage conflict. During the duration of the previous herd management plan, only two pronghorn damage complaints were received by CPW personnel, even though the population reached a record high in 2007-2009.

To solicit input for this herd management plan, we sent mail surveys to 198 randomly selected landowners in the DAU. In addition, we surveyed 500 hunters who had hunted in Haswell in recent years. Survey results suggest that game damage conflict may no longer be as substantial an issue as it once was in Haswell, and the pronghorn population should be managed to maintain the population at its current level of 3,600.

Population Objective Alternatives

Alternative 1: 3,000-4,000 pronghorn (approved alternative): This alternative would maintain the population at its current level. The survey suggests that this is the preferred alternative by the majority of landowners in Haswell.

Alternative 2: 3,500-4,700 pronghorn: This alternative would call for a ~15% increase over the current estimated population. A 15% increase is supported by the majority of hunters. The upper bound of this objective may go above the tolerance level for the majority of landowners.

Alternative 3: 2,400-3,000 pronghorn (status quo): This would maintain the objective set in 2006. This alternative is not supported by the majority of landowners and hunters.

Sex Ratio Objective Alternatives (Post-Hunt)

Alternative 1: 35-45 bucks per 100 does (approved alternative): This alternative represents a sex ratio range that has shown to be practicable while maintaining the population at its current level. The majority of both hunters and landowners are in support of maintaining buck permit numbers and buck:doe ratios at their current levels.

Alternative 2: 33-40 bucks per 100 does (status quo): This alternative calls for a decrease below current levels. This is not supported by the majority of landowners or hunters.

Alternative 3: 40-50 bucks per 100 does: This alternative calls for an increase above current levels, and significant changes in license setting. Approximately 1/3 of hunters support a buck:doe ratio increase.

The preferred alternatives reflect the current population and sex ratio for PH-5, therefore no significant changes in licenses would be needed to achieve these objectives. Annual fluctuations in population due to weather (droughts, severe winters) will be addressed through adjustments in license allocations. Significant issues such as hunter crowding will be addressed by maintaining the population within the preferred objective, by adjusting the length of the regular rifle season, use of list B doe licenses, and/or maintaining a late doe season. Game damage issues will be addressed by conducting dispersal hunts when needed.

The Colorado Parks and Wildlife Commission approved this plan in July of 2019

Haswell DAU Management Plan
PH-05, GMU's: 120, 121, 125, 126

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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 (PWC) 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. CPW uses a "Management by Objective" approach to manage the state's big game populations (Figure 4).

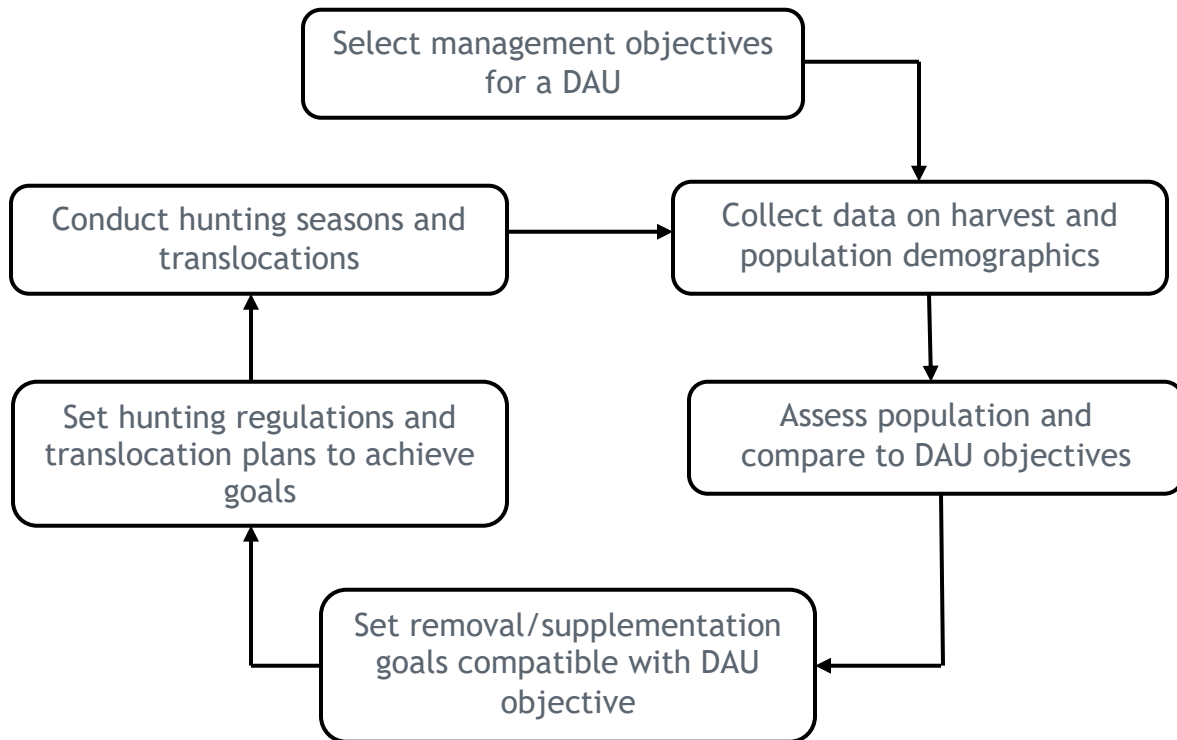


Figure 4. Management by Objective process used by Colorado Parks and Wildlife to manage big game populations by Data Analysis Unit (DAU).

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 most 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) to distribute hunters and harvest within a DAU.

Management decisions within a DAU are based on a herd management plan. The primary purpose of a herd management plan is to establish population and sex ratio (i.e., the number of males per 100 females) objectives for the DAU. The herd management plan also describes the strategies and techniques that will be used to reach these objectives. During the herd management planning process, public input is solicited and collected through questionnaires, public meetings, and comments to CPW staff and the PWC. The intentions of CPW are integrated with the concerns and ideas of various stakeholders including the State Land Board (SLB), the Bureau of Land Management (BLM), city and county governments, hunters, guides

and outfitters, private landowners, local chambers of commerce, and the public. In preparing a herd management plan, agency personnel attempt to balance the biological capabilities of the herd and its habitat with the public's demand for wildlife recreational opportunities and public tolerance for game damage. Herd management plans are approved by the PWC and are reviewed and updated approximately every 10 years.

The herd management 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 herd management plan and 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 herd management plan is to set population and sex ratio objectives for the Haswell pronghorn herd (PH-5). The herd management plan will be in place from 2019-2029 with the expectation that it will be reviewed and updated in 2029.

DATA ANALYSIS UNIT DESCRIPTION

Location

The Haswell DAU (PH-5) is located in southeastern Colorado (Figure 5). Boundaries include highways 94 and 40 on the north; highway 287 on the east; the Arkansas River on the south; and highway 71 on the west.

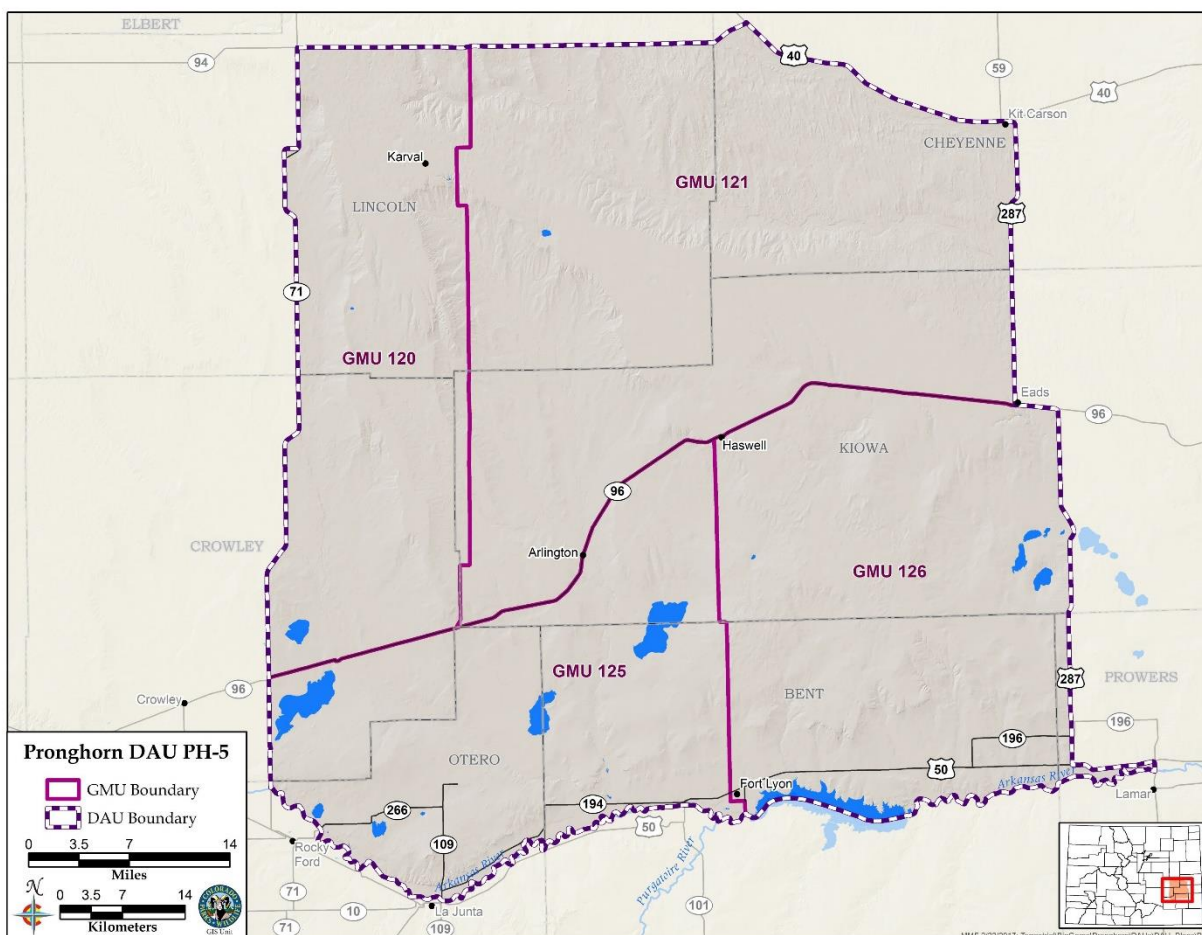


Figure 5. Location Map of PH-5, Haswell, GMU's 120, 121, 125, 126

Physiography

Haswell includes four game management units and covers approximately 2,484 mi². The topography of Haswell consists of flat to gently rolling plains. There are several drainages across the DAU, with the Arkansas River, Adobe Creek, Rush Creek, and Sand Creek being the most prominent. Haswell's dominant vegetative community is shortgrass prairie. Sand sagebrush covered flats and sand hills compose most of the area between Rush Creek and Sand Creek (Figure 6). Dryland farm ground is scattered throughout the DAU. The climate of the area is characterized by long, hot summers and mild winters. Temperatures vary from below freezing in winter to well over 100° F in summer. Annual Precipitation ranges from 10-15 inches, with a high proportion of the precipitation often coming in the form of July-August monsoonal rains.



Figure 6. Photo of one of the dominate habitat types (sand sage prairie) in the DAU. Photo was taken in the Rush Creek watershed in GMU 121.

HABITAT RESOURCES and CAPABILITY

Land Ownership

The majority of land in Haswell is in private ownership (84%). The State Land Board (SLB) owns 14% of the DAU, which accounts for the majority of the DAU's public lands. Only 1.2% of Haswell is owned by other governmental agencies such as CPW, Bureau of Land Management, Bureau of Reclamation, various counties, and the National Park Service. Public pronghorn hunting opportunities are very limited in Haswell with only 1.7% of the DAU being available to public pronghorn hunters. Public opportunities include State Wildlife Areas, leased SLB properties, and a small amount of BLM.

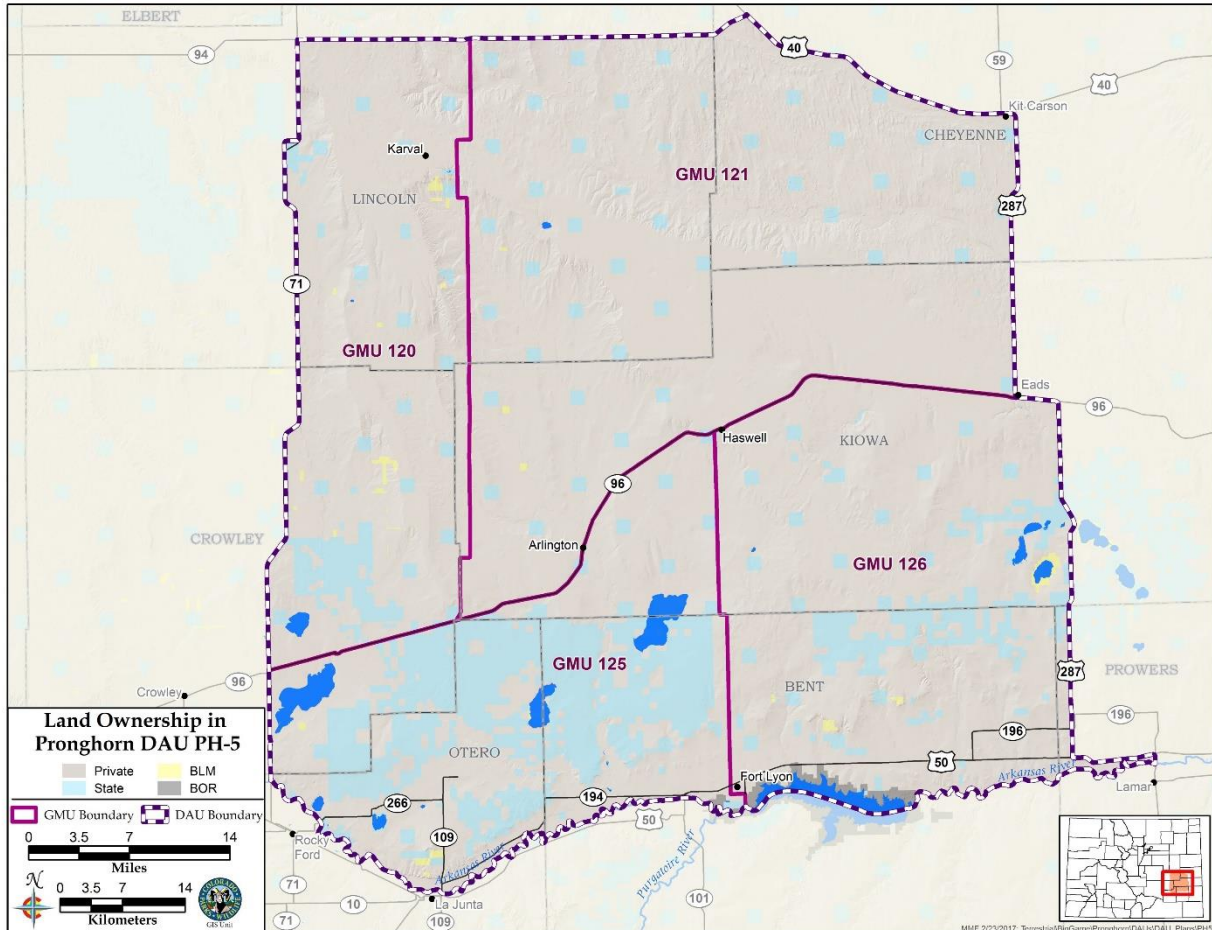


Figure 7. Land ownership in the Haswell DAU.

Land Use

Land use (both public and private) is almost exclusively agricultural. The primary use for most of the DAU is livestock grazing. A substantial amount of dryland farming occurs, primarily in the eastern half of Haswell. Irrigated farmland is almost exclusively restricted to the Arkansas River Valley along the southern border of the DAU. Land use in the DAU has not changed significantly in recent times. There is some potential for land use changes in the form of wind energy development. CPW is not aware of any wind energy projects being planned in Haswell, but various energy companies are planning and/or currently installing wind farms just outside the DAU boundaries.

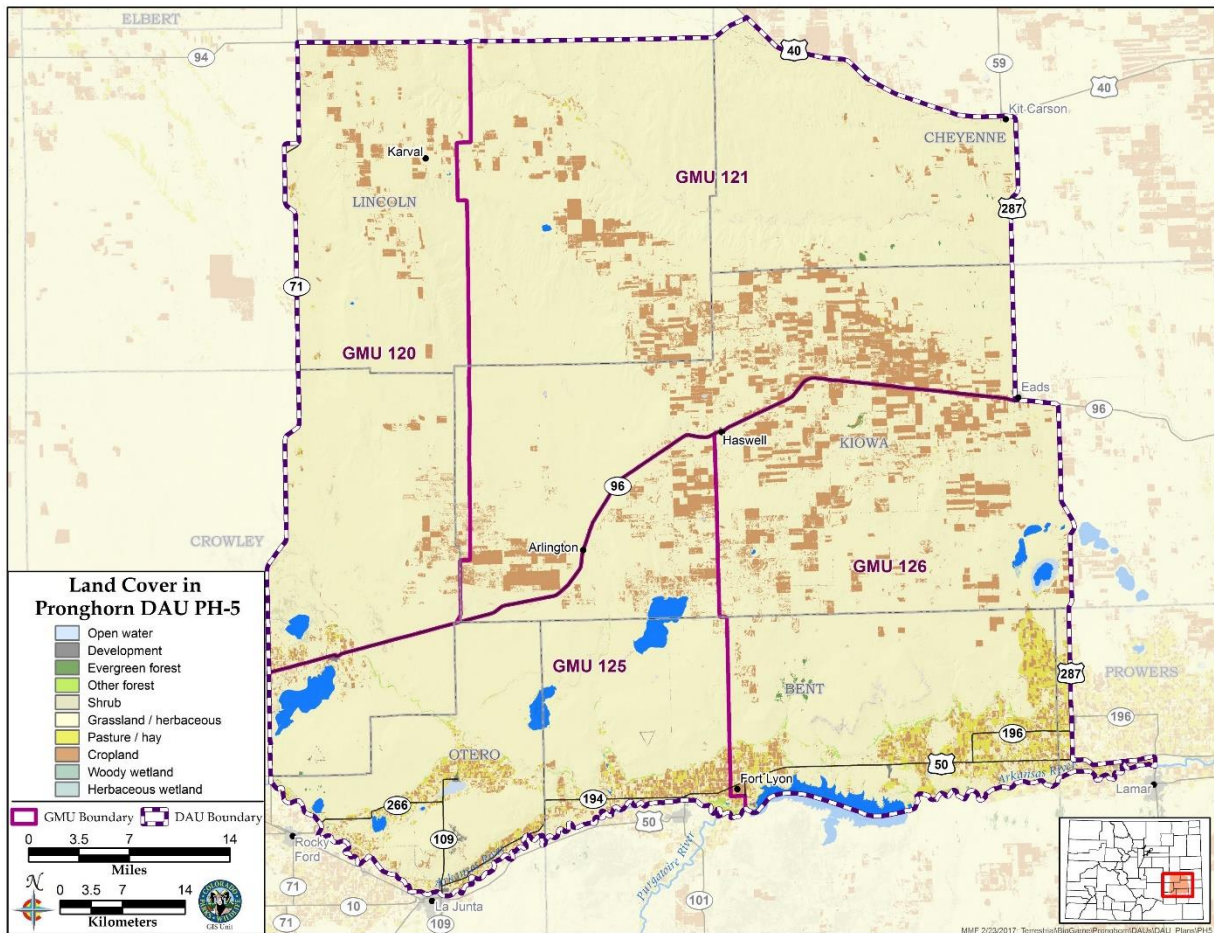


Figure 8. Land cover in the Haswell DAW.

Habitat Capability

Haswell's pronghorn habitat is ideal for supporting large numbers of pronghorn. The current population is likely to be far lower than the DAW's biological carrying capacity. The greatest limiting factor on the population is hunter harvest. In some years, natural factors such as extreme drought or severe winter storms can, in conjunction with hunter harvest, cause population decline. In the absence of relatively aggressive license setting, this population would increase quickly. Ultimately, this herd is limited by a social carrying capacity because of conflicts with agricultural activities and hunter access on private lands.

Conflicts with Agriculture

Most pronghorn related game damage in Haswell consists of damage to growing wheat, to other growing crops, and to fences. While pronghorn do cause game damage in Haswell, the number of landowner complaints has remained low even when the population has been well over objective. Between 2007 and 2018, Haswell's post season population ranged between 2,400 and 6,050 (record high) pronghorn. Over the course of that ten-year period, only two pronghorn damage complaints were received by District Wildlife Managers. One conflict involved a concentration of pronghorn on growing wheat and the other involved damage to growing onions. In both cases, landowners chose not to pursue claims or dispersal hunts.

To understand the perceptions of landowners towards pronghorn in Haswell, we created a survey that was mailed to 198 randomly selected landowners in the DAU (Appendix A). The survey was designed to get input on population objectives and provide input on any potential issues with pronghorn. A total of 67 landowners submitted responses to this survey. Through the survey, we found that landowners showed varied responses regarding their perception of pronghorn damage to their property (Figure 15). The survey asked landowners to what extent they had experienced problems with pronghorn damaging fences over the previous 5 years. Landowner responses are as follows: 43% No Problem, 33% Minor Problem, 20% Moderate Problem, and 4% Major Problem.

Of the 67 respondents to the survey, 39 of them stated that they owned cropland. Of those 39 farmers, when asked to what extent they had experienced pronghorn damage to wheat and other crops over the previous 5 years, the majority stated that pronghorn damage to wheat (54%) and other growing crops (59%) has not been a problem. Responses of the other farmers are as follows: 21% Minor problem with wheat, 23% Minor problem with other crops, 13% Moderate problem with wheat, 10% Moderate problem with other crops, 13% Major problem with wheat, and 8% Major problem with other crops.

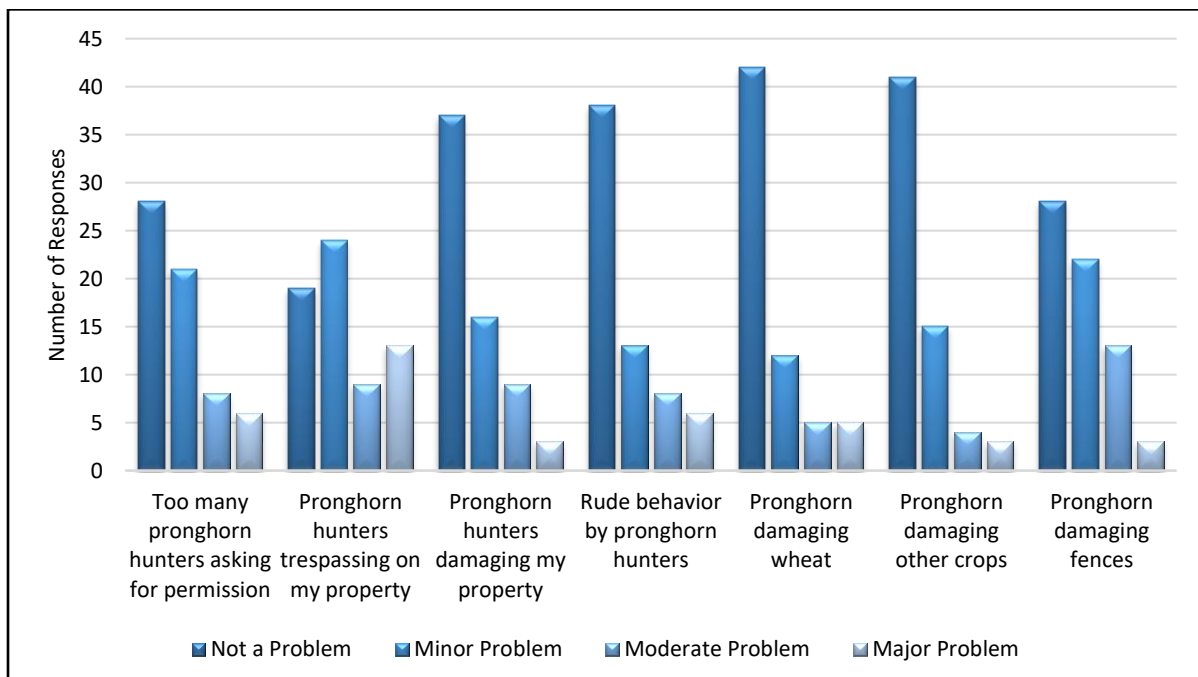


Figure 15. Results from 67 Haswell landowner respondents when asked; “To what extent have you experienced any of the following problems related to pronghorn and pronghorn hunters in the last 5 years?”

Social Carrying Capacity

The greatest indicator of general landowner sentiment towards pronghorn and the DAU’s social carrying capacity is landowner’s opinions regarding the population level. In the survey, landowners were asked how they would like to see the pronghorn population change relative to the current number of pronghorn in the Haswell DAU. Responses suggest that maintaining Haswell’s population at its current level would be the best and most balanced course of action (Appendix A and Figure 16). The greatest proportion of landowners showed preference for the population to be maintained at the current level. The number of landowners calling for population decrease was close to the number that called for population increase (Figure

16). Of the landowners showing preference for a change in population, more landowners desired slight increases or decreases (i.e. 15% increase/decrease) than for major increases/decrease (Figure 16). By maintaining the population at its current level, CPW would be managing close to the median of landowner opinion towards the pronghorn population.

Another aspect of the social carrying capacity of a private lands pronghorn herd is the acceptance of landowners to the numbers of hunters required to manage a herd at a specific level. Most landowners in Haswell currently support pronghorn hunting by allowing it on their lands (landowner survey question #2, Appendix A). That support however, could wane if hunter numbers are so great that they cause landowners to become intolerant of pronghorn hunters. The landowner survey gives evidence that landowners have had more issues with hunters than they have had directly from pronghorn (Figure 15). Question #4 (Appendix A) indicates that 20% of landowners have experienced moderate to major levels of rude behavior and damage to property by pronghorn hunters. Trespass has been an even greater problem with 33% of landowners having experienced moderate to major levels.

From 2006 to 2010, Haswell's estimated post-season pronghorn population ranged between 4,500 and 5,200 pronghorn. With the population so far above objective, CPW biologists and wildlife managers increased rifle license numbers each year from 2005 (865 licenses) to 2011 (3,400 licenses). During those years where rifle license numbers were set at or above 2,400, District Wildlife Managers reported receiving complaints from landowners that there were too many hunters in the primary rifle season. Haswell's District Wildlife Managers believe that maintaining the DAU's post-season population at or above 5,000 would require hunting license numbers to be too high, exceeding many landowner's tolerance levels for hunter numbers.

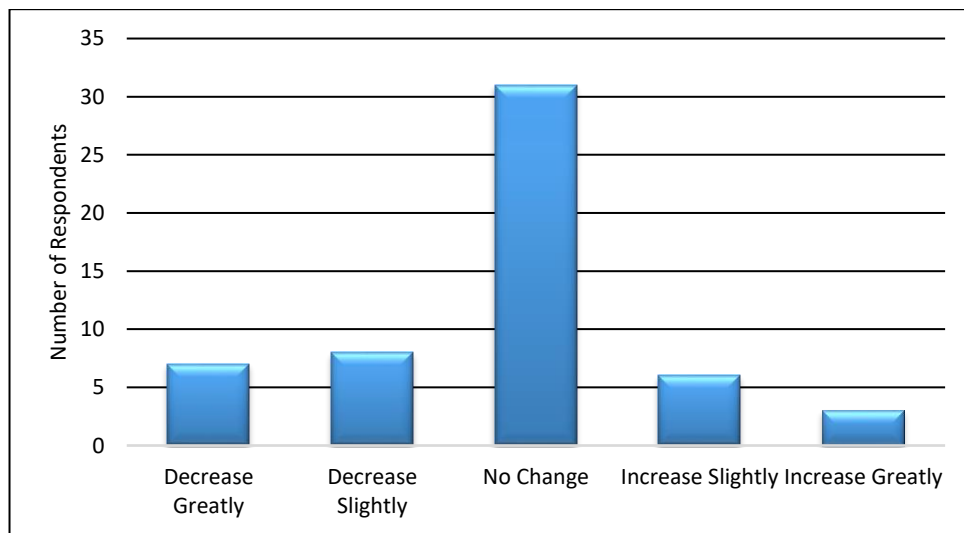


Figure 16. Results from 67 landowner responses to the question of “For the 2018-2028 time period, relative to the current number of pronghorn, how would you like to see the pronghorn population change in the Haswell Herd Management Unit?”

HERD MANAGEMENT HISTORY

Population Inventory Techniques

The current modeled estimate for Haswell is, in part, based off an intensive monitoring program that consists of annual preseason sex/age classification flights and aerial line intersect distance sampling (Buckland et al. 2001; Guenzel 2007). In Haswell, both sampling techniques use CPW fixed winged aircraft. Sex/age classification flights are conducted by flying North/South transects across the entire DAU. Transects are spaced evenly across the DAU, generally three miles apart. The distance between transects has varied some years due to a limit on airplane availability and/or higher densities of pronghorn that allowed for sufficient sample size with wider transects. Pronghorn classification flights are conducted between late July and early September. Prior to 2006, sex/age classification flights were conducted in Haswell every other year. Since 2006, the classification flights have been conducted annually to improve the accuracy of Haswell's modeled population estimates.

Historically, minimum counts were used to verify population estimates from the model. Minimum counts of pronghorn in Haswell were conducted in 1991, 1993, 1999, 2001, 2003, and 2005. Minimum counts were flown post season, usually in December. They consisted of flying North/South transects across the entire DAU with 1-mile spacing between transects. A minimum count provides a minimum estimate of the number of pronghorn in the DAU, but since the number of pronghorn missed is unknown, it does not reflect a population estimate with an estimate of statistical precision.

In June of 2008, 2010, 2012, 2015, and 2017, aerial line intersect distance sampling was conducted in Haswell. Distance sampling has a couple of advantages over minimum counts. First, distance sampling provides both a population estimate and a corresponding level of precision. Second, detection probabilities (i.e. the percentage of the population observed) can be estimated with distance sampling. The distance sampling was conducted in the spring after animals had dispersed from winter concentrations but before fawns were born, therefore the estimate produced through distance sampling was a preproduction estimate. The most recent distance estimate (2017) generated a population estimate of 3,554 pronghorn (standard error = 1260).

Post-Hunt Population Size

Haswell's modeled population estimates have relied on data from harvest surveys, sex/age classifications, minimum counts, and distance sampling estimates. Since 1986, Haswell's post-season population estimates have ranged from 2,040 - 6,050 pronghorn (average 3,100; Figure 17). The population reached its 6,050 animal peak in 2009. Due to significant increases in hunting license numbers, the addition of a late doe-only season, and the change of all doe licenses to "list B", the population has been reduced to its current estimated post-season population of 3,600 pronghorn.

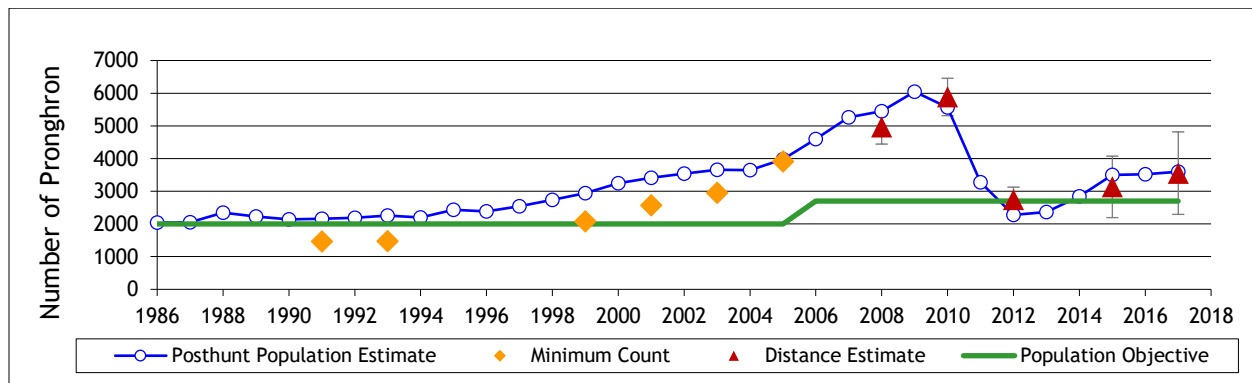


Figure 17. Haswell's population, minimum counts, distance sampling estimate, and population objectives; 1986 through 2018.

Post-Hunt Herd Composition

Sex/age classification flights were flown in Haswell during the following years: 1986, 1988, 1990, 1992, 1994, 1996, 1998, 2000, 2004, and 2006-2018 (Figure 18). Across those years, pre-season observed sex ratios have ranged from a low of 16.9 bucks:100 does to a high of 95.4 bucks:100 does (average 40.4 bucks:100 does). The modeled post season buck:doe ratio from 2006 through 2018 has ranged from 37.3 to 63 bucks:100 does (average 47.5 bucks:100 does). The previous post season buck:doe ratio objective was a target of 36 with a range of 33-40.

Across Haswell's classification flights, the observed fawn:doe ratios ranged from a low of 12.8 fawns:100 does to a high of 71.6 fawns:100 does. The average across those years was 49.2 fawns:100 does.

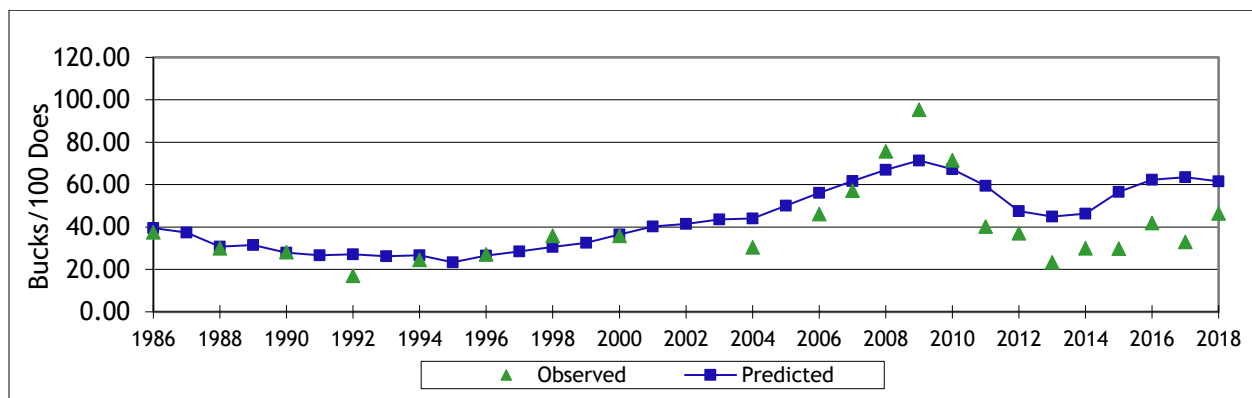


Figure 18. Observed and predicted pre-season sex ratios for Haswell; 1986 through 2018.

Harvest and Hunters

The Haswell DAU saw relatively consistent license and harvest numbers from 1989 through 2003 (Figure 19). This time period of relative stability had annual license numbers that ranged from 485 to 755, and annual harvest that ranged from 290 to 466 pronghorn. In 2004, CPW began to increase license numbers in response to an increasing population. The estimated population went from 3,500 pronghorn in 2003 to its record high of 5,200 pronghorn in 2009. License increases continued until 2011 as managers tried to keep up with the population increase. By 2011, Haswell had 3,400 rifle licenses and harvest that exceeded 1,200 pronghorn.

In order to address the rapidly increasing Haswell population, CPW considered management

options beyond regular rifle season license increases. In 2009, a five-day late doe-only rifle season was instituted. In 2010, CPW made all doe licenses list B, allowing Haswell's hunters the opportunity to harvest more than one pronghorn per year. In 2012, CPW increased the length of the late doe season to ten days. The 10-day season spans the first two weekends in December.

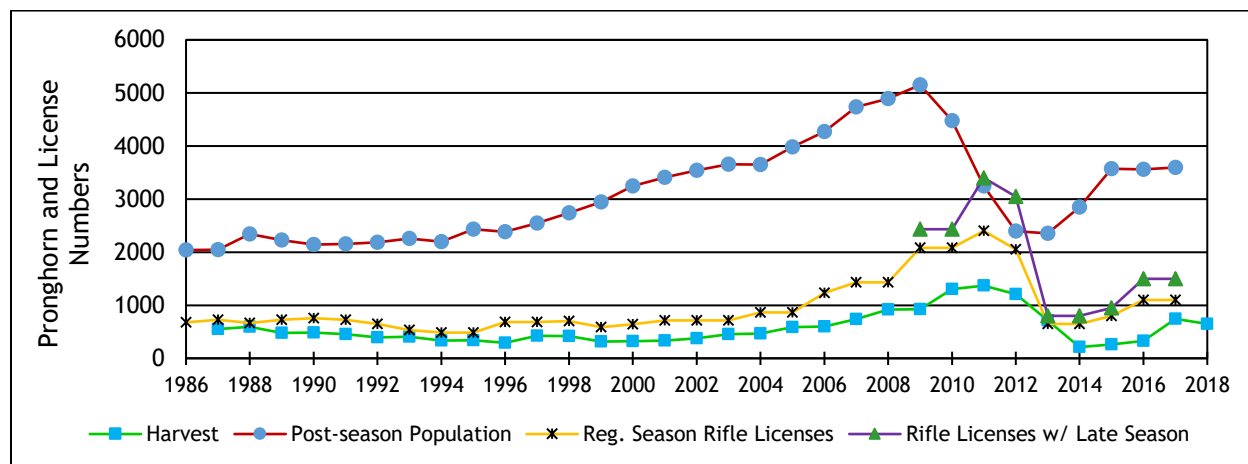


Figure 19. Haswell's post-season population, harvest, and the number rifle licenses from 1986 through 2018.

Between the license increases, list B doe licenses, and the addition of a late doe season, CPW was successful in bringing the population back to objective. By the end of 2012, the Haswell population was brought down to 2,400 pronghorn.

Due to the reduced numbers of pronghorn, landowner and hunter complaints that the pronghorn had disappeared, and drought caused low fawn:doe ratios, CPW decreased license numbers for 2013-2015. The population responded by reaching 3,500 pronghorn in 2015. CPW's license setting in 2016-2018 has caused the population to remain around 3,500.

PUBLIC INVOLVEMENT

Landowner Solicitation

Landowner input is essential because of the predominance of private lands and the potential for game damage conflicts in the DAU. Historically, Haswell's pronghorn population objectives were derived with public input collected at public meetings. This was problematic because public meetings received little to no landowner attendance. For example, during the scoping period for the 2006 plan revision, public meetings were held in Lamar, La Junta, and Eads. Those meetings were highly publicized through the Cattle Growers Association, local grazing associations, local radio stations, and local newspapers. Between the three public meetings, only 9 of Haswell's landowners attended. With such a low attendance rate, it was difficult for CPW managers to get a sense as to whether or not those 9 landowners offered opinions that were consistent with those of the landowner majority.

To better understand landowner opinions regarding pronghorn numbers, we conducted a mail survey for this herd management plan revision. In September of 2017, surveys were mailed to 198 randomly selected landowners in Haswell. Only landowners who owned a minimum of a quarter section (160 acres) of land were included in the landowner selection pool. This was done to eliminate owners of smaller residential properties from the list. The questionnaire

included ten questions and a postage paid return envelope. We also issued a press release on September 14th that was printed in local papers and read on several radio stations around the Haswell area (Appendix H). The press release informed the public about the Haswell herd management plan revision and offered landowners the opportunity to contact CPW to comment and/or fill out a survey. We received 67 completed landowner surveys through the mail, and 1 survey completed as a result of the press release.

Landowner Survey Results

The landowner survey consisted of 10 questions covering multiple topics (Appendix A). Of primary concern for the herd management planning process are landowner opinions regarding how/if they would like to see the population changed and how/if they would like to see sex ratios change. The survey included two questions related to population objective and one question related to sex ratio objective. The survey also included questions concerning other topics: game damage conflict, hunter conflict, hunter access on private lands, and the late doe-only season (see the following sections: Appendix A, Conflicts with Agriculture, and Harvest and Hunters).

When asked how they would like to see the Haswell Herd managed, the majority of landowners (46%) think that the current numbers of both hunters and pronghorn are acceptable (Question #6, Appendix A). Twenty three percent of landowners called for a reduction in the pronghorn population, whereas 14% of landowners would rather see higher pronghorn numbers and a reduction in hunter numbers. Seventeen percent of respondents had no opinion.

When asked how they would like to see the pronghorn population change over the next ten years, relative to the current number of pronghorn, the majority of landowners (47%) think that there should be no change to the current numbers of pronghorn (estimated 3,500 animals). Some landowners indicated that they would like to see an increase in the population, with 9% having selected “increase slightly” and 4% having selected “increase greatly”. Twelve percent of respondents preferred to see the population reduced slightly, and 11% preferred to see the population reduced greatly. (Question #7, Appendix A).

When asked about the approach to guide buck license allocation, landowner responses (Question #8, Appendix A) were fairly split on this question. Approximately 37% of respondents said they’d like buck license numbers maintained, 19% chose an increase, 18% chose a decrease, and 26% were not sure. Overall, responses show support for maintaining the sex ratio at or near the current estimated ratio.

The survey also gave landowners the opportunity to offer additional comments. Those comments can be found in Appendix C.

Hunter Solicitation

In addition, we sought hunter input regarding the Haswell population and targeted sex ratio by sending surveys to 500 hunters who had received at least one Haswell rifle or muzzleloader license for the 2014, 2015, and/or 2016 seasons. We received completed surveys from 147 hunters.

Hunter Survey Results

In addition to the landowner survey, we conducted a hunter survey that consisted of 10 questions covering multiple topics (Appendix D). The survey included two questions related to population objective and one question related to sex ratio objective. The survey also

included questions concerning other topics: hunt quality, hunter crowding, and why some license holders chose not to hunt (see the following sections: Appendix A, and Harvest and Hunters).

When asked about the number of pronghorn and the number of hunters in Haswell, the majority of the respondents (51%) preferred pronghorn numbers and license numbers to remain the same (Question #7, Appendix D). Thirty percent of respondents preferred to see pronghorn numbers increased, even if that meant licenses would be more difficult to draw. Only 2% of hunters stated that they would like to see the pronghorn numbers decreased.

When asked how they would like to see the Haswell pronghorn herd change over the next 10 years, the majority (64%) would like to see the population increase at some level. Twenty three percent of the respondents thought the current numbers were acceptable (Question #8, Appendix D). Only 2% of respondents called for a decrease in the population.

When asked about the approach to guide buck license allocation, the majority (51%) of hunters would like to see current numbers of buck permits maintained at their current level (Question #9, Appendix D). A significant proportion (30%) of hunters indicated that they would be willing to have buck permits reduced in order to increase the buck:doe ratio. Only 7% of respondents stated that they would like to see the number of buck permits increased.

30 Day Comment Period

In addition to the survey, this draft herd management plan was open for review by the public for a 30 day comment period. It was posted 12/03/2018 on the CPW website at: <http://cpw.state.co.us/hmp> . A press release was issued by CPW on 12/03/2018 (Appendix I). Copies of this plan were also sent to the Colorado Cattleman's Association, State Land Board district managers for Districts 5 and 6, and the county commissioners for Bent, Kiowa, Cheyenne, Lincoln, Crowley, and Otero Counties (Appendix G). No comments were received during the 30 day comment period.

MANAGEMENT ALTERNATIVES

As customary in herd management plans, we examined a range of both population objectives and sex ratios for the Haswell DAU.

Population Objective Alternatives

Alternative 1: **3,000-4,000 pronghorn (approved alternative)**: This alternative would maintain the population at its current level. The survey suggests that this is the preferred alternative by the majority of landowners in Haswell.

Alternative 2: **3,500-4,700 pronghorn**: This alternative would call for a ~15% increase over the current estimated population. A 15% increase is supported by the majority of hunters. The upper bound of this objective may go above the tolerance level for the majority of landowners.

Alternative 3: **2,400-3,000 pronghorn (status quo)**: This would maintain the population objective set in 2006. This alternative is not supported by the majority of landowners and hunters.

Sex Ratio Objective Alternatives (Post-Hunt)

Alternative 1: 35-45 bucks per 100 does (approved alternative): This alternative represents a sex ratio range that has shown to be practicable while maintaining the population at its current level. The majority of both hunters and landowners are in support of maintaining buck permit numbers and buck:doe ratios at their current levels.

Alternative 2: 33-40 bucks per 100 does (status quo): This alternative calls for a decrease below current levels. This is not supported by the majority of landowners or hunters.

Alternative 3: 40-50 bucks per 100 does (status quo): This alternative calls for an increase above current levels, and significant changes in license setting. Approximately 1/3 of hunters support a buck:doe ratio increase.

STRATEGIES TO ADDRESS MANAGEMENT CONCERNS

Game Damage

Evidence suggests that pronghorn damage has not been a major issue in Haswell in recent years (see sections: “Conflicts with Agriculture”, pg. 11; “Social Carrying Capacity”, pg. 12). CPW has instituted several tools that have helped to alleviate issues with pronghorn-caused crop damage. Since the establishment of the late doe season, game damage complaints in Haswell have been nearly non-existent. When pronghorn densities do become too great on fields with growing crops, dispersal hunts will be used to reduce damage and disperse pronghorn.

Hunter Crowding

From 2009 through 2012, hunter crowding was an issue in Haswell with rifle license numbers that ranged from 2,430 to 3,400. During that time, both landowners and hunters complained to District Wildlife Managers about the high number of hunters. CPW wildlife managers believe that the population can be managed within the objective range with rifle license numbers at or around 1,500, which is where licenses have been set in recent years. In the hunter survey, hunters who had hunted in recent years, were asked how other hunters affected their hunt (question #6, Appendix D). Over 82% of hunter respondents stated; that other hunters had no impact on their hunt, they didn’t see any other hunters, or there weren’t enough hunters to get pronghorn moving around. Haswell’s wildlife managers believe that hunter crowding issues will remain at a relatively low level if Haswell is managed to the proposed objective.

Another way CPW could reduce crowding issues is by extending the regular rifle season. Currently the regular pronghorn rifle season is 7 days long, including only one weekend. CPW Area 12 staff and biologist will propose that the Haswell pronghorn rifle seasons be increased to 9 days in length, so that the season will encompass two full weekends. While it is expected that most of the hunters would still hunt on opening day, some hunters may choose to hunt on the second weekend in order to avoid hunter crowding.

STRATEGIES FOR ACHIEVING OBJECTIVES

CPW biologists and wildlife managers have experience with managing the Haswell population at the proposed population objective range of 3,000-4,000 animals. For 11 of the last 20 years, the post hunt population has fallen within that range. During that time, production has

been highly variable, with fawn:doe ratios as low as 12.8 and as high as 71.6. CPW biologists and wildlife managers have gained considerable understanding as to how license numbers should be set to manage at the proposed objective range even through the production extremes observed in Haswell.

The proposed post-hunt sex ratio objective is: 35-45 bucks:100 does. This is a higher buck:doe ratio than the previous objective (33-40), but is consistent with post season sex ratios that resulted from management in recent years. Efforts will continue to achieve the sex ratio objective each year by using the observed pre-season buck:doe ratio, and using models to estimate the doe and buck harvest needed to achieve the objective. Managers are better equipped to achieve the buck:doe ratio goal in Haswell now that preseason classification flights are being conducted every year, instead of every other year.

Since 2006, CPW has been conducting consistent and intensive survey efforts to collect data that has been used to build robust population models for Haswell. As funding allows, CPW biologists and managers intend to continue carrying out the current data collection regimen of annual harvest surveys, annual pre-season classification flights, and periodic distance sampling flights.

In recent years, CPW has added a couple of significant management tools to the Haswell management toolbox. The addition of the December late doe rifle season gives additional license setting flexibility. It allows CPW further opportunity to reduce the population as needed, while not increasing hunter crowding during the regular rifle season. It also helps landowners and CPW wildlife managers to reduce pronghorn damage on wheat fields, by conducting a 10-day hunting season that disperses pronghorn at the time of year when pronghorn start to congregate on growing wheat. Another relatively recent change was the classification of all doe licenses in Haswell as list B. This gives CPW better ability to increase doe licenses when needed, without making significant increases to hunter crowding.

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.

APPENDIX A: Landowner Survey with Results

Dear Landowner,

Colorado Parks & Wildlife (CPW) is interested in **your input** on the management of pronghorn antelope in the **Haswell Pronghorn Herd Management Unit**, Game Management Units (GMUs) 120, 121, 125, 126.

Your input is a **very important part** of the planning process. The information you provide will help guide management of the pronghorn herd for the next 10 years!

Please help us learn what is most important to you about pronghorn management in this area. Your identity will be kept confidential and the information you provide will never be associated with your name.

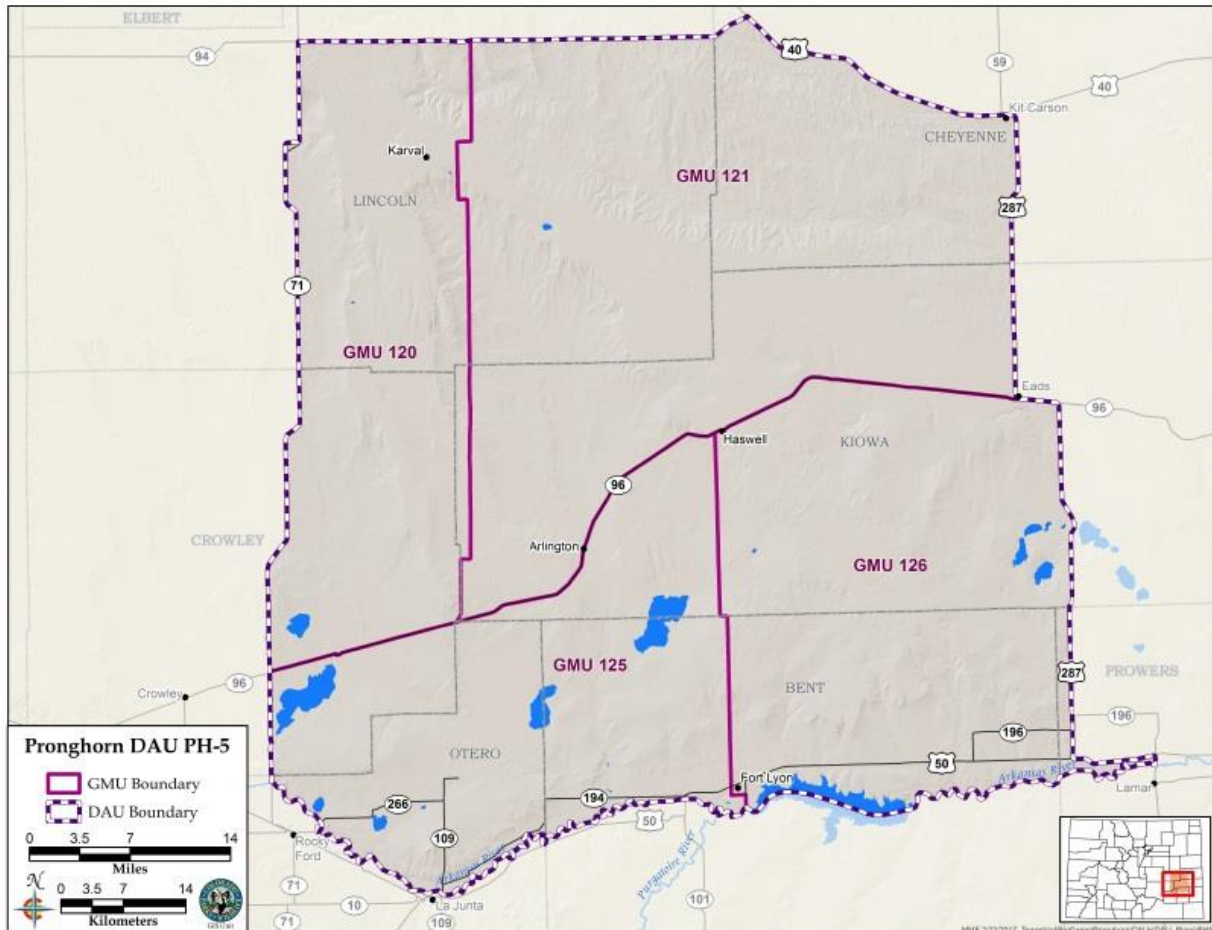
If you have any questions about the pronghorn herd please contact either:

- Jonathan Reitz, Wildlife Biologist, at (719) 691-9130; jonathan.reitz@state.co.us
- Travis Black, Area Wildlife Manager, at (719) 336-6603; travis.black@state.co.us

Surveys must be completed before **October 7th**.

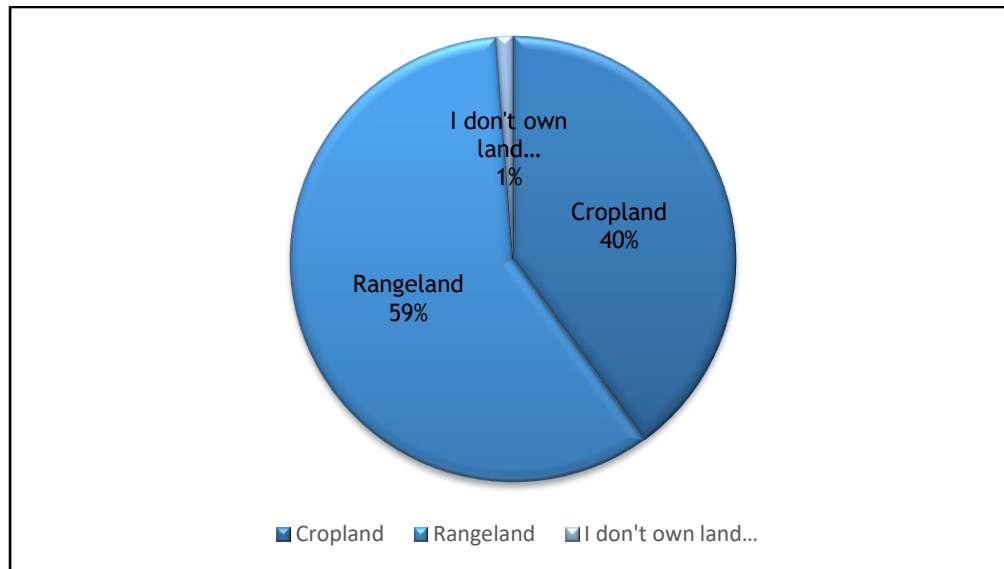
Thank you for participating!

This survey is specific to the **Haswell Pronghorn Herd Management Unit**. This unit is bounded by highway 50 on the south, highway 287 on the east, highways 94/40 on the north, and highway 71 on the west. The map below is for reference. *Please answer the following questions concerning pronghorn management in this area only.*



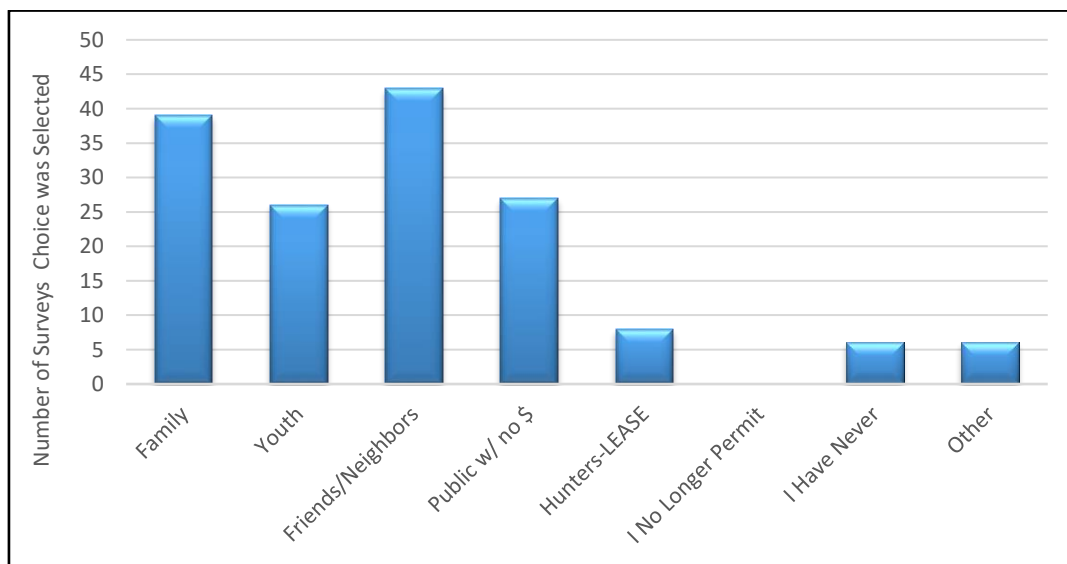
1. How would you describe the land that you own in the Haswell Herd Management Unit?
(Please check all that apply.)

- ☐ Cropland
- ☐ Rangeland
- ☐ I don't own land in the Haswell herd unit



2. Over the last five years, which of the following did you allow to hunt pronghorn on your property? (Please check all that apply)

- ☐ Family
- ☐ Youth
- ☐ Friends and/or neighbors
- ☐ Public hunters who did not pay an access fee
- ☐ Hunters or outfitters who have leased the land or paid an access fee
- ☐ I no longer permit pronghorn hunting on my land
- ☐ I have never allowed anyone to hunt pronghorn on my land
- ☐ Other (Please specify): _____



3. Have you hunted pronghorn in the Haswell Herd Management Unit during the last five years?

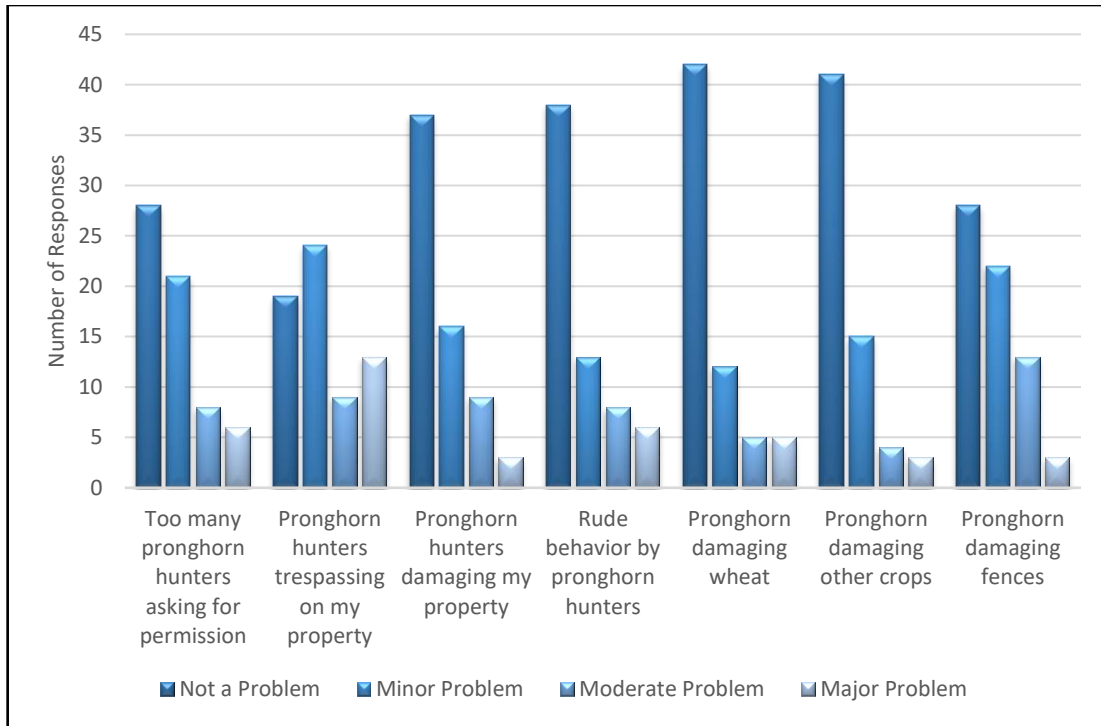
- ☐ Yes
- ☐ No

Yes: 26%

No: 74%

4. To what extent have you experienced any of the following problems related to pronghorn and pronghorn hunters in the last 5 years? (Please check one response for each statement.)

	Not a Problem	Minor Problem	Moderate Problem	Major Problem
Too many pronghorn hunters asking for permission to hunt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pronghorn hunters trespassing on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pronghorn hunters damaging my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rude behavior by pronghorn hunters on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pronghorn damaging growing wheat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pronghorn damaging other crops (non wheat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pronghorn damaging fences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



5. Have you experienced other problems related to pronghorn causing damage and/or pronghorn hunters? (Please specify):

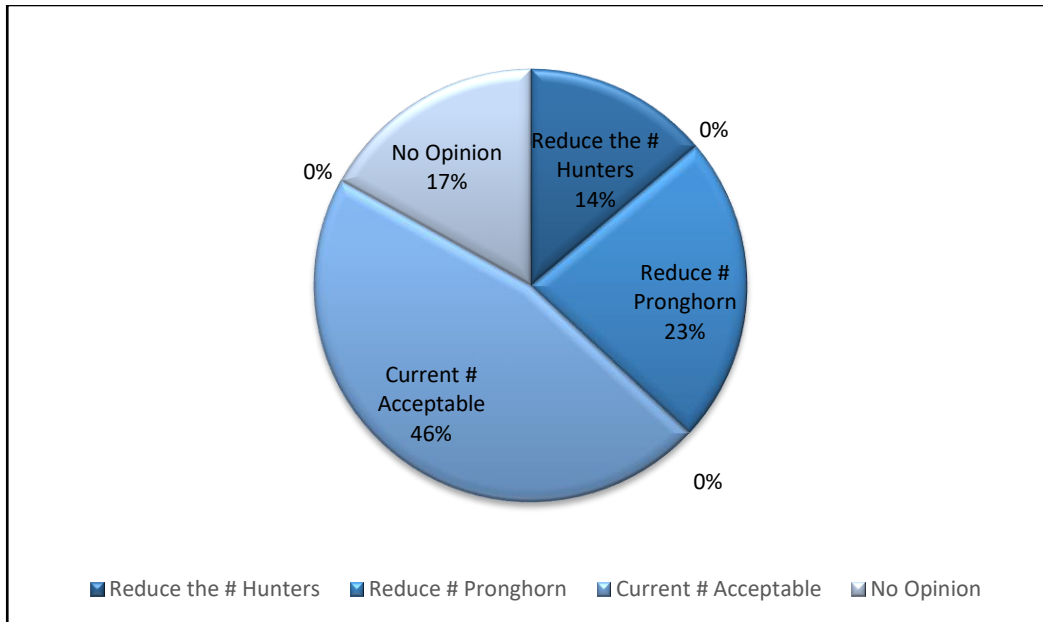
Responses for question #5 can be found in Appendix B

Please read the following brief description before answering questions 6 and 7.

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

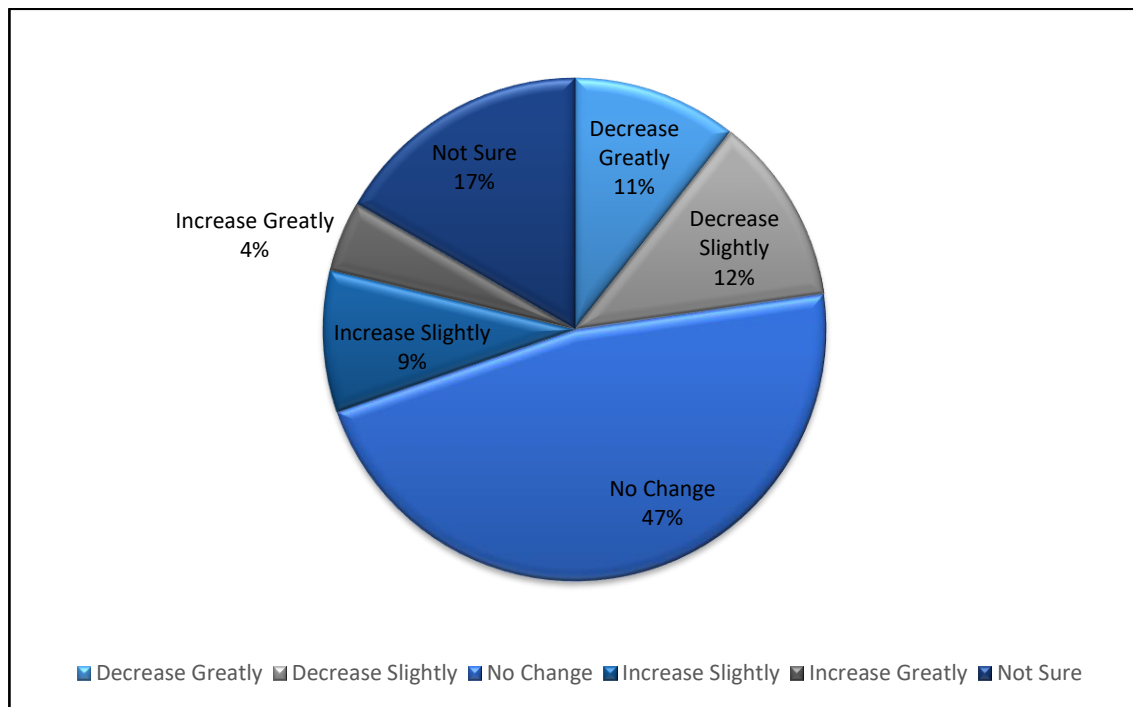
6. How would you like to see the Haswell Herd managed? (Please check only one)

- ☐ Reduce the number of hunters (more pronghorn, fewer hunters)
- ☐ Reduce the number of pronghorn (fewer pronghorn, more hunters)
- ☐ The current numbers of hunters and pronghorn in the GMU(s) are acceptable
- ☐ No Opinion



7. For the 2018-2028 time period, relative to the current number of pronghorn, how would you like to see the pronghorn population change in the Haswell Herd Management Unit?

	Decrease greatly (~50% fewer pronghorn)	Decrease slightly (~15% fewer pronghorn)	No change (Current numbers are acceptable)	Increase slightly (~15% more pronghorn)	Increase greatly (~50% more pronghorn)	Not Sure
I would like the pronghorn population to:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



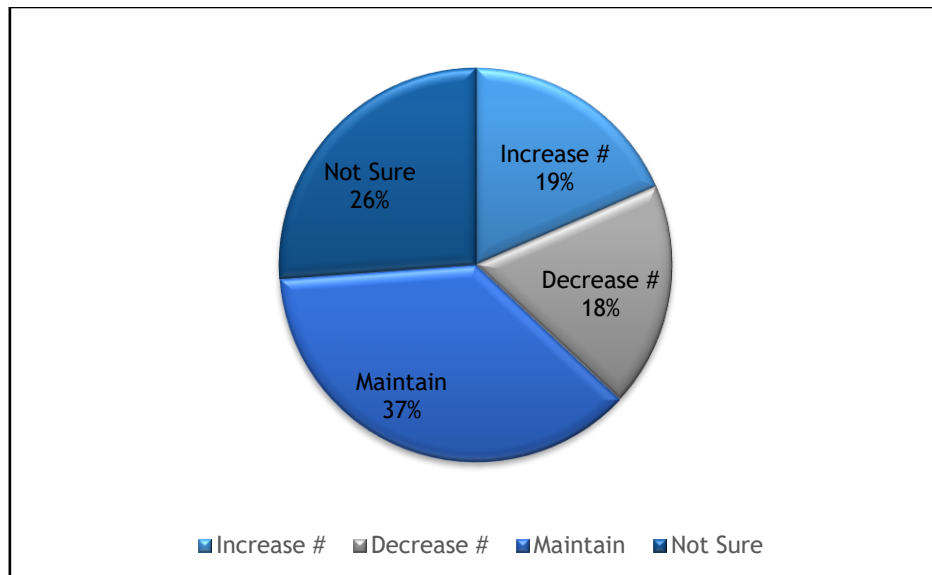
Please read the following brief description about managing male-to-female ratios before answering question 8 (below).

If a pronghorn herd is managed for **increased hunting opportunity**, more buck hunting licenses are made available and buck hunters are generally able to hunt more frequently. This can result in fewer total bucks in the herd (*lower buck-to-doe ratio*) and fewer mature bucks.

If a herd is managed for **increased buck quality**, fewer buck licenses are issued in order to increase the number of bucks in the population (*higher buck-to-doe ratio*). This generally results in less frequent hunting opportunities and fewer hunters in the field, but it can also result in a greater chance of encountering a mature buck.

8. Which of the following approaches should guide the number of buck licenses allocated in the Haswell herd unit?

- ☐ Increase the number of buck hunting permits (easier to draw a license, more hunters in the field)
- ☐ Decrease the number of buck hunting permits (more preference points required to draw a license, more bucks in the population)
- ☐ Maintain the current number of buck hunting permits
- ☐ I'm not sure



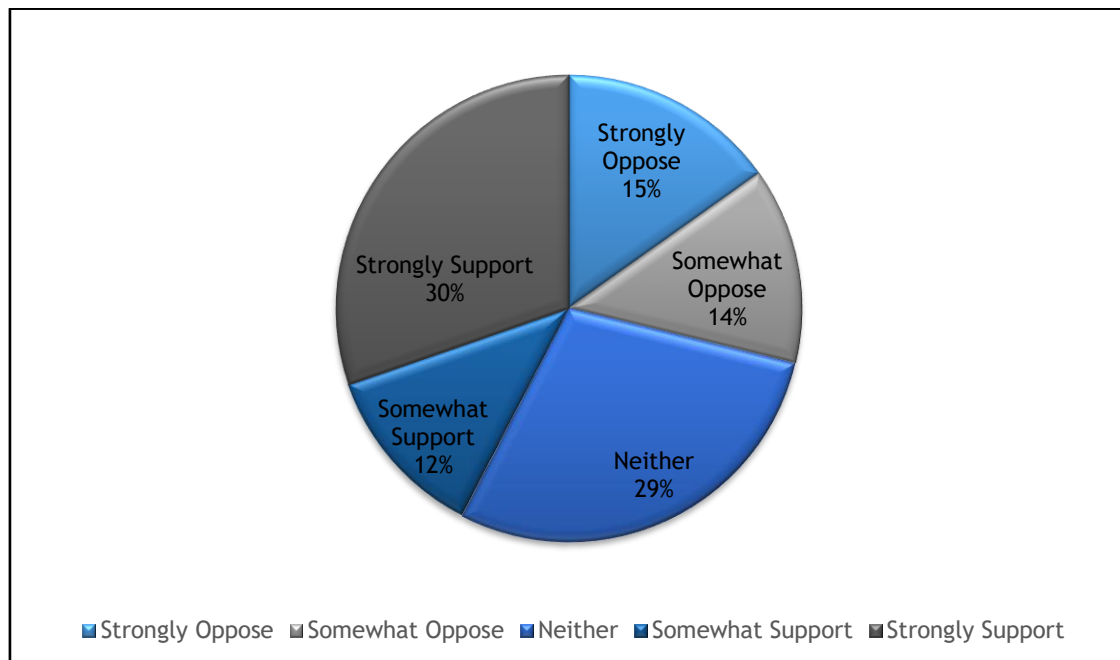
Since 2009, CPW has held a late season doe hunt in the Haswell herd unit. The purpose of this 10 day season is to increase CPWs ability to keep pronghorn numbers under control as well as to give landowners another tool to help keep pronghorn concentrations from getting too large on wheat fields. Some additional benefits of the season are that it increases hunter opportunity, and reduces hunter crowding during the primary season by shifting some of the doe licenses to the late season.

CPW is considering extending to 31 days (December 1-31). The longer season gives hunters and/or landowners:

- increased flexibility with hunting dates
- reduced hunter crowding
- the opportunity for more time afield
- more time to have hunters push pronghorn off of fields of growing wheat

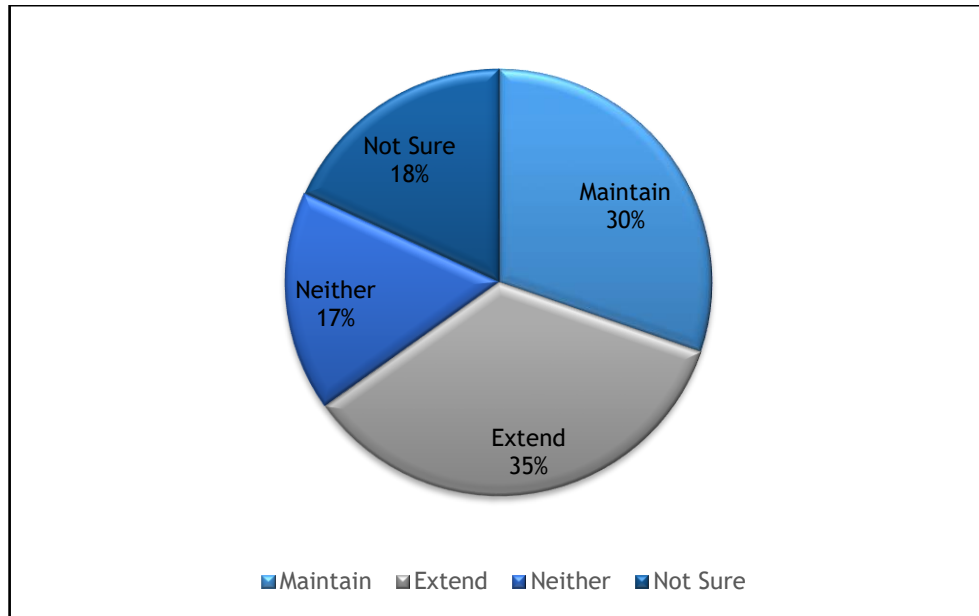
9. Do you support or oppose maintaining a late doe only pronghorn season in the Haswell Herd Management Unit?

- ☐ Strongly oppose
- ☐ Somewhat oppose
- ☐ Neither oppose nor support
- ☐ Somewhat support
- ☐ Strongly support



10. Would you prefer CPW to maintain a 10 day late season hunt, or extend the season to include the entire month of December?

- ☐ Maintain the 10 day season
- ☐ Extend the season to include December 1-31
- ☐ Neither
- ☐ Not sure



Thank you very much 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 any additional comments regarding pronghorn management below.

Additional Comments if Appendix C

APPENDIX B: Landowner Survey Question #5 Responses

- Usual - gates not shut by hunters
- No
- Hunters leaving gates open, hunting on private property insisting it is state land. Hunters driving over the grass in the pasture not using just the roads. Hunters dropping off trash, damage to the fences
- In the past gates have been left open. Hunters misread maps and were not on public land.
- I have not
- Hunters hunting without permission/trespassing. Damaging property and fences. The people are the problem, not the animals
- On my property, sections xxxxxxx and xxxxxxxxxx, the pronghorn are too concentrated. As a result, the large amount of hunters in the area is causing blowing on the trail roads. Also, the antelope are eating the wheat and spreading bind weed. Please reduce the number in this area
- December season - residential theft of fuel, tools, and equipment no DOW presence enforcing any laws. DOW sells licenses to anyone to hunt on private land, hasn't paid any grazing fees in compliance to Colorado statues DOW committing FRAUD! To all license applicants. DOW needs liability ins. to cover all damages caused by their license holders. DOW need to have current landowner maps in possession to have done their due diligence as an officer of the la.
- Had several hunters trespassing and later found the carcass with head and front cape removed. Trophy hunting is becoming a problem and those hunters don't have the balls to even donate the meat
- Young people can't afford to pay to [?] so to many want to [?] I don't have that much land on [?]
- Leaving gates open or cutting fences to property they don't have permission to be on. They say they hunt for the neighbor and we thought this is their land. Some years we have no problem
- No
- n/a
- people need to be required to have written permission from landowners before putting in for tags
- I don't live there so not sure on exactly what is happening
- We have a lot of road hunters that shoot bucks and drag them to their vehicles. We've called in several in Lincoln County and that has helped
- Spread noxious weeds, they eat a lot!
- Pronghorn #s on our ranch north of Ordway are way down. The people that we have let hunt the last several years have had poor hunting experience due to low #s

- No we have just has 320 acres.
- Too many hunters draw tags and then ask permission or “Road Hunt”. I’d like to see in private owned areas that they receive permission before they apply for a tag
- Access without permission. Hunting from county road. Leaving trash from cleaning animals in bags (esp guts)
- Pronghorn grazing neighbor bindweed and spreading it
- They leave gates open allowing livestock to roam. Damage fences, drive on wheat fields
- My cattle ranch is carefully marked “No Hunting!” “No Trespassing”! Only my family has permission to hunt! Others No! I’ll call the Kiowa County Sheriff!
- They cause the ground to blow. Hunters must prove permission before getting license and know how’s property they are on
- In the past gates have been left open. Hunters misread maps and were not on public land.

APPENDIX C: Landowner Survey Additional Comments

- Please call if I can be of further assistance! Thanks
- The herd numbers have went down to much since the program. We manage our herds and hunters and seem to always have some antelope although the quality has greatly diminished. The problem we see is that everyone else has lost their herds due to over hunting and now more and more people are wanting on our land. Our herds would be destroyed if we did this as well. I'd like to see license numbers go down or put a minimum in horn size so everyone would stop harvesting immature animals. Numbers have slightly come up this last year but bucks need one or two more to reach maturity
- Consider a longer season. Short season encourage hunters to be less cautious. A windy opening weekend can ruin the success, encourage poor shots, etc.
- We do not hunt so most of this is irrelevant to us.
- Hunters need hand written proof of permission to hunt on the land they are hunting on
- Longer season (at least two weekends)
- I would like to see the late season be does only for 10 days ad for youth only
- Before you changed the program, we could get credit for leased ground giving us more permits. Now we still manage the leased ground but receive ½ of the permits. With more permits we were able to allow families to hunt. Moms and dads and their kids. We also cater to handicap people
- I misread the form and signed up for “family” tags only, rather than for general use. Unfortunately the family vouchers were not used.
- I would like to see at least 25% of bucks. You know more about managing buck nos. licenses in late season. Too many antelope, add hunters. Too few, fewer licenses. Managed according to range conditions and size of herd
- Cancel the season DOW personnel will not patrol and uphold laws. Don't increase liability to landowners. More landowner licenses to allow owners to manage herd numbers.
- I would like to extend the first season to 10-12 days instead of one week this would give the hunters a lot better chance to harvest an animal and maybe try to get permission to hunt since they would not feel like they were pressured to get one right away. With the extended season they would have 2 full weekends to harvest an antelope.
- I don't like hunters bothering me or my cattle more than 10 days

APPENDIX D: Hunter Survey with Results

Dear Hunter,

Colorado Parks & Wildlife (CPW) is interested in **your input** on the management of the Haswell Pronghorn Herd (Game Management Units 120, 121, 125, and 126).

Your input is a **very important** part of the planning process. The information you provide will help guide management of the pronghorn herd for the next 10 years!

Please help us learn what is most important to you about pronghorn management in this area. Your identity will be kept confidential and the information you provide will never be associated with your name.

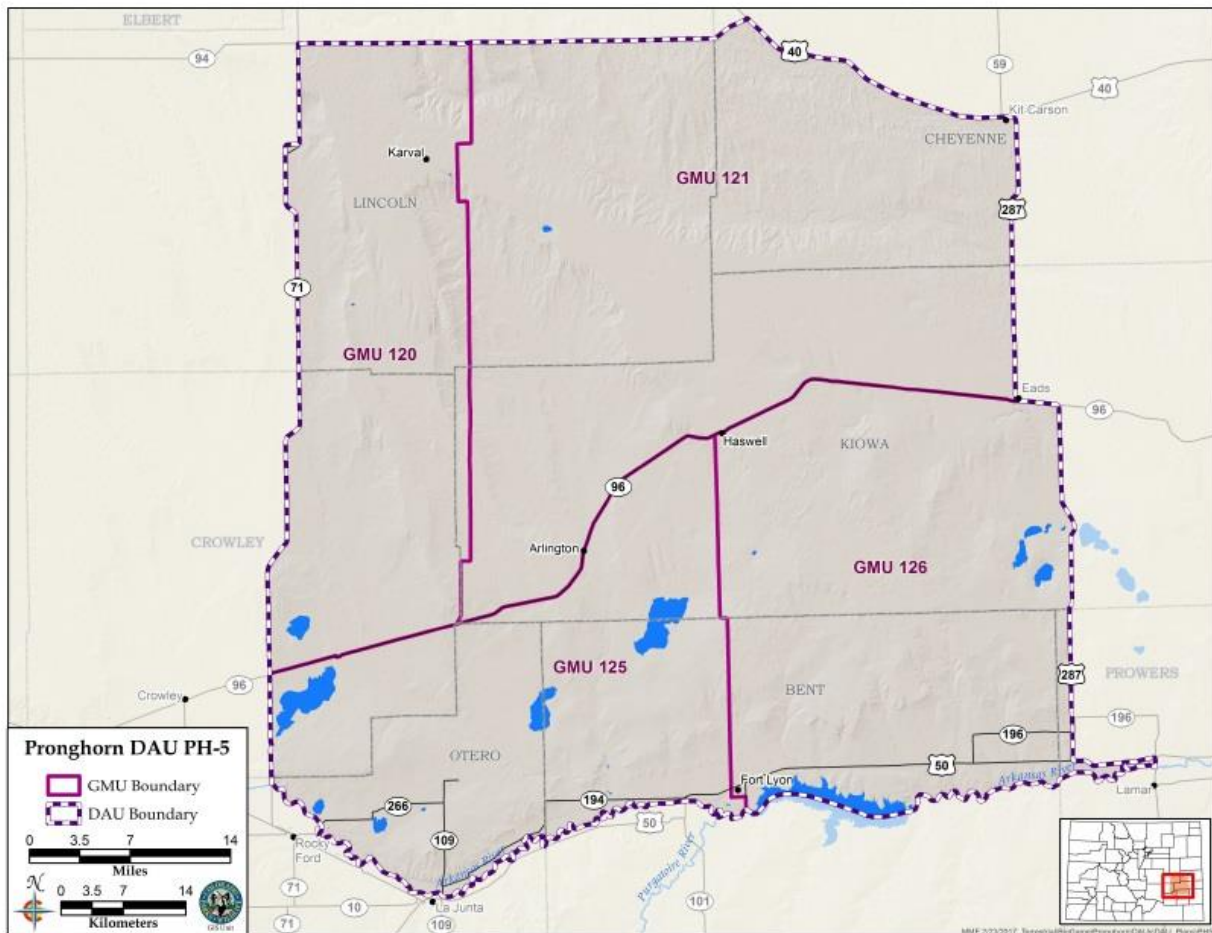
If you have any questions about the pronghorn herd please contact either:

- Jonathan Reitz, Wildlife Biologist, at (719) 691-9130; jonathan.reitz@state.co.us
- Travis Black, Area Wildlife Manager, at (719) 336-6603; travis.black@state.co.us.

Surveys must be completed before **October 15th**.

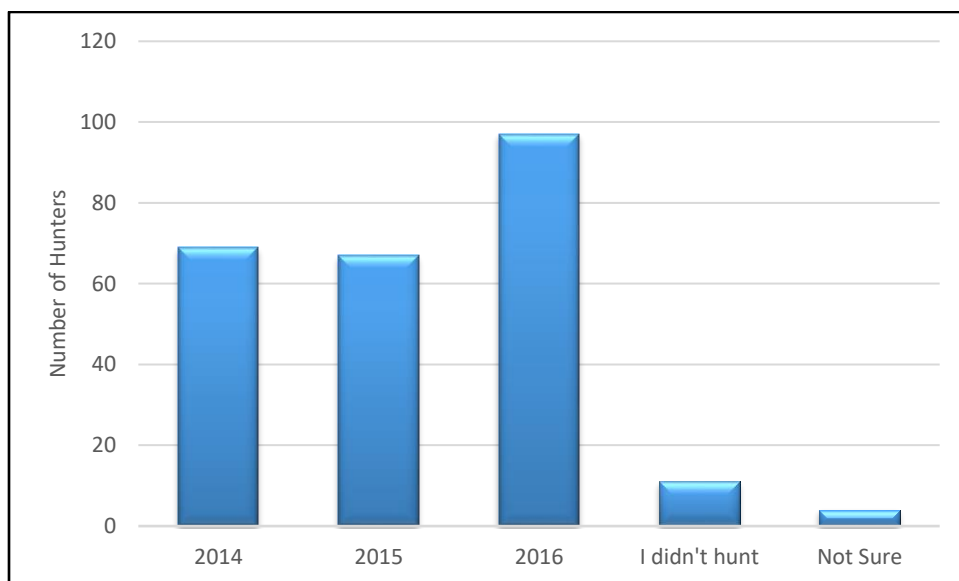
Thank you for participating!

This survey is specific to the Haswell Pronghorn Herd Management Unit. It includes Game Management Units 120, 121, 125, and 126. The map below is for reference. ***Please answer the following questions concerning your experiences in this area only.***



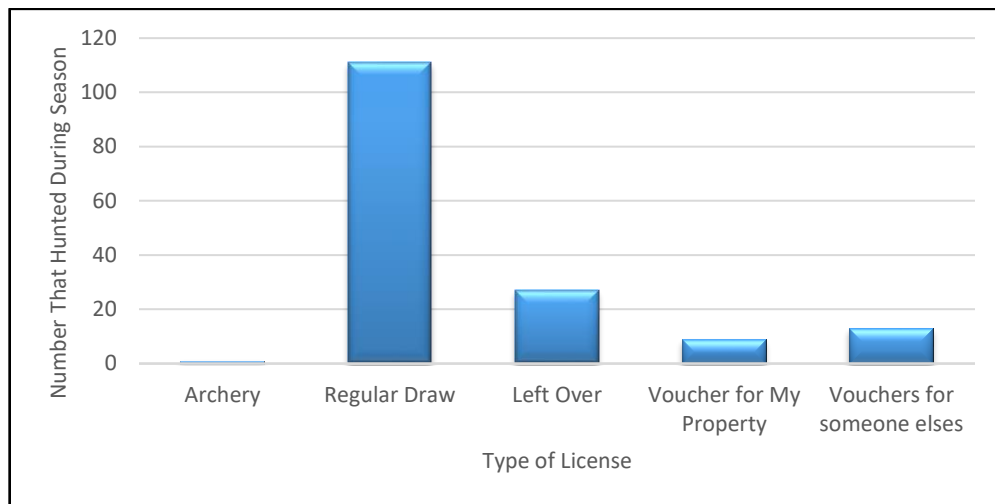
1. Which of the following year(s) have you hunted pronghorn in the Haswell Herd Management Unit? *(Please check all that apply.)*

- ☐ 2014
- ☐ 2015
- ☐ 2016
- ☐ I did not hunt pronghorn in the Haswell Herd Management Unit during any of these years. (please skip to question #10)
- ☐ I am not sure



2. During the previous three years which of the following license(s) did you obtain for the Haswell Herd Management Unit? *(Please check all that apply.)*

- ☐ An over-the-counter either sex archery license
- ☐ A regular draw license
- ☐ A left over license
- ☐ A landowner voucher for the property I own or manage
- ☐ A landowner voucher for another property



3. Do you live within the Haswell Herd Management Unit?

(See map above, and check only one).

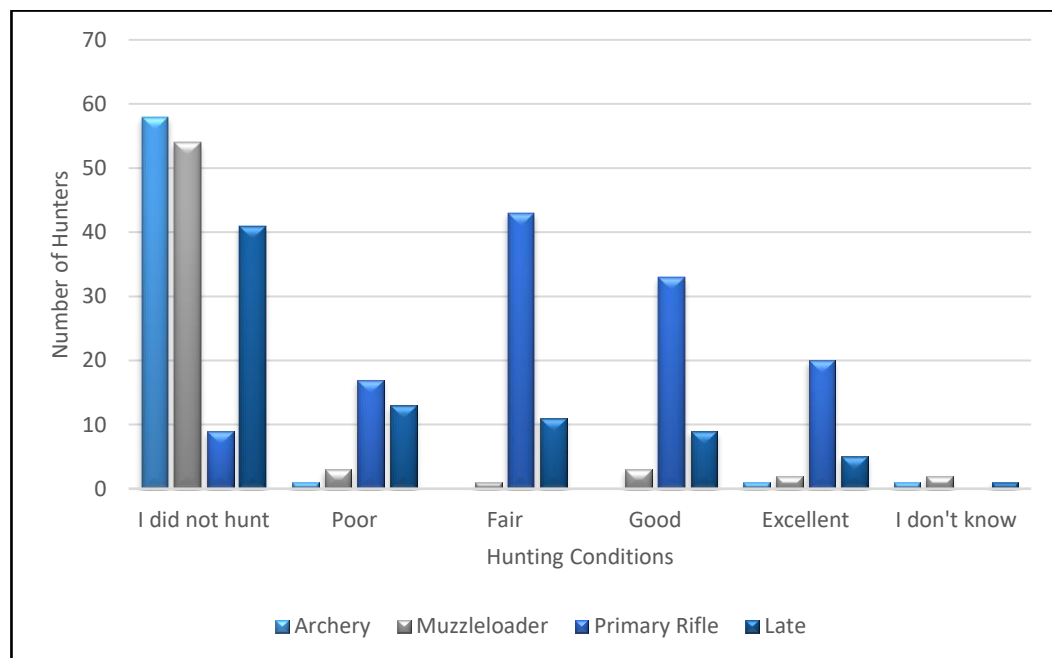
- ☐ Yes
- ☐ No

Yes: 10%

No: 90%

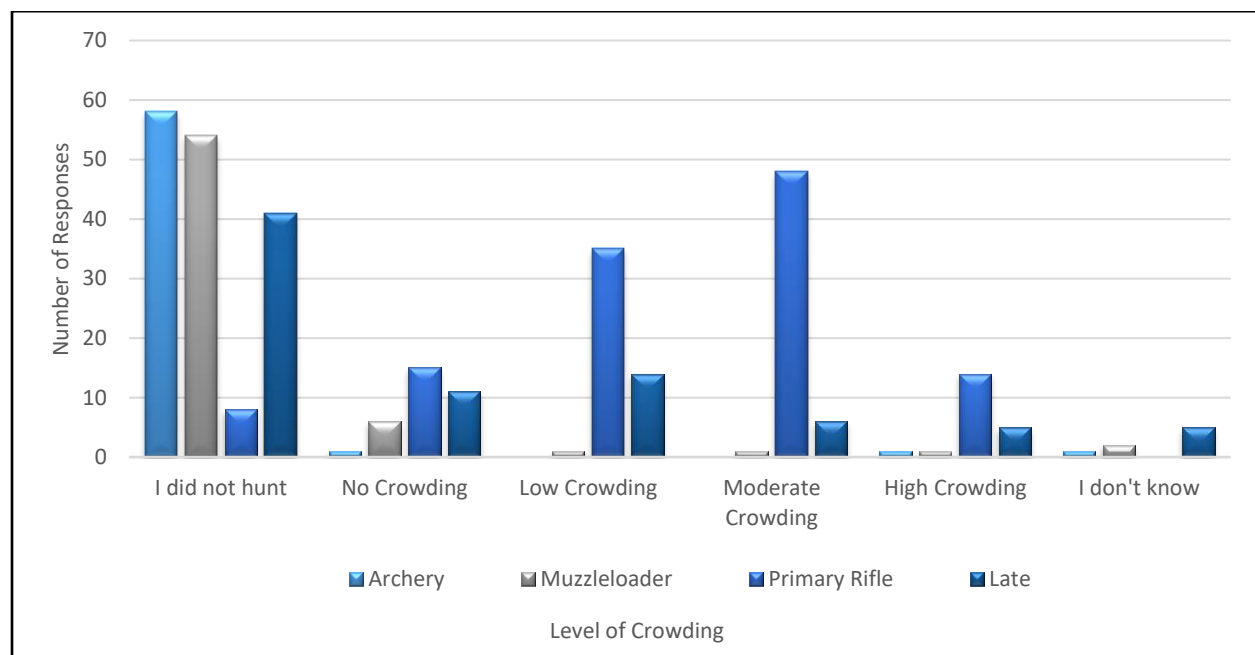
4. How would you rate the quality of pronghorn hunting in the Haswell Herd Management Unit for any of the seasons that you hunted from 2014-2016?
 (Please check only one response per season.)

	I did not hunt this season	Poor	Fair	Good	Excellent	I don't know
Either Sex Archery Season	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muzzleloader Season	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Primary Rifle Season (Early OcHaswellr)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Late Season Doe Only Rifle Season (December)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



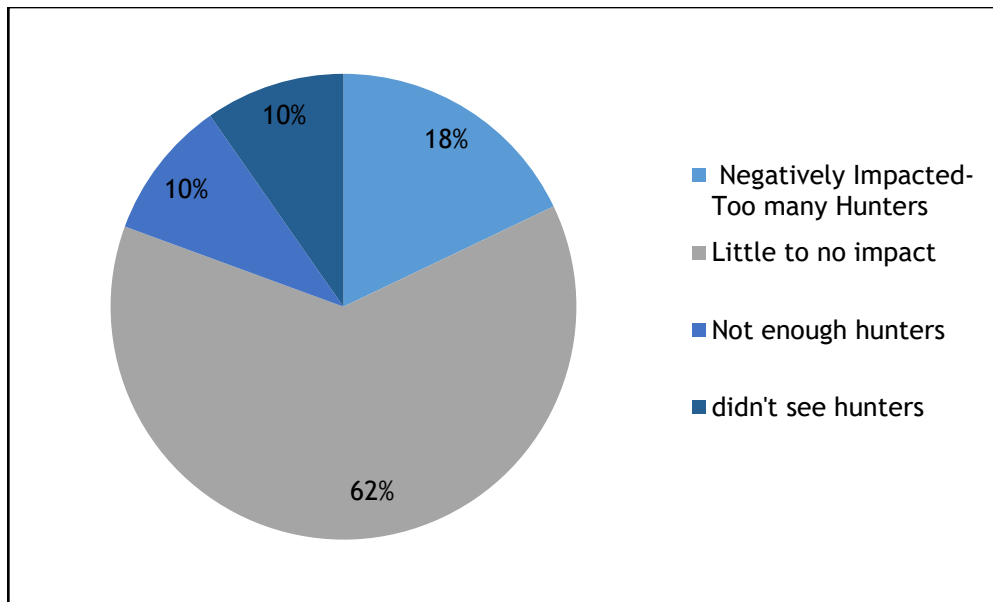
5. How would you rate the level of hunter crowding in the Haswell Herd Management Unit for any of the seasons that you hunted from 2014-2016?
(Please check only one response per season.)

	I did not hunt this season	No Crowding	Low level of crowding	Moderate level of crowding	High level of Crowding	I don't know
Either Sex Archery Season	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muzzleloader Season	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Primary Rifle Season (Early OcHaswellr)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Late Season Doe Only Rifle Season (December)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



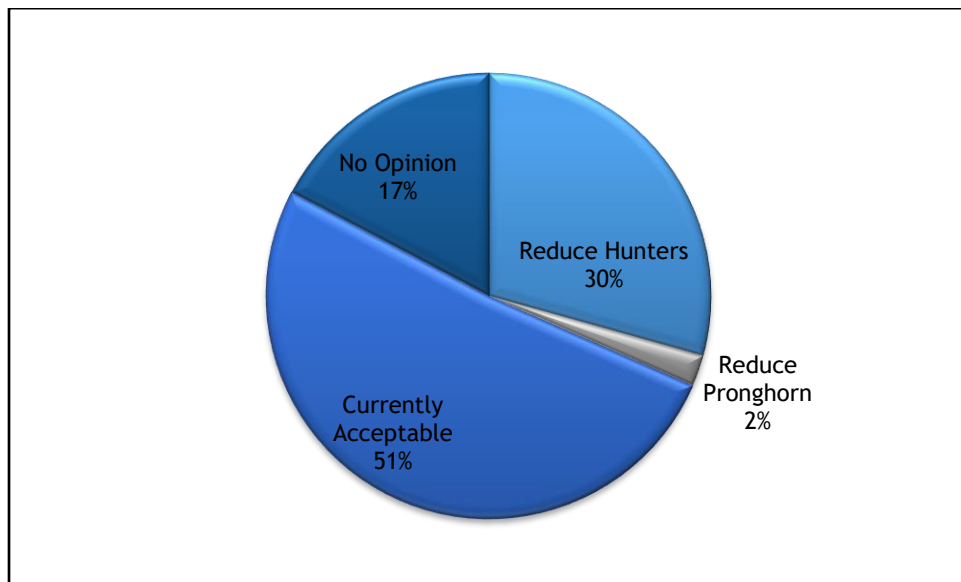
6. Which of the following best describes your pronghorn hunting experience(s) in the Haswell Herd Management Unit from 2014-2016? *(Please check only one.)*

- ☐ My hunt was negatively impacted by their being too many hunters in the area I hunted.
- ☐ Other hunters in the area had little to no impact on my hunt.
- ☐ There were not enough hunters around to get the pronghorn moving around.
- ☐ I didn't really see any other hunters.



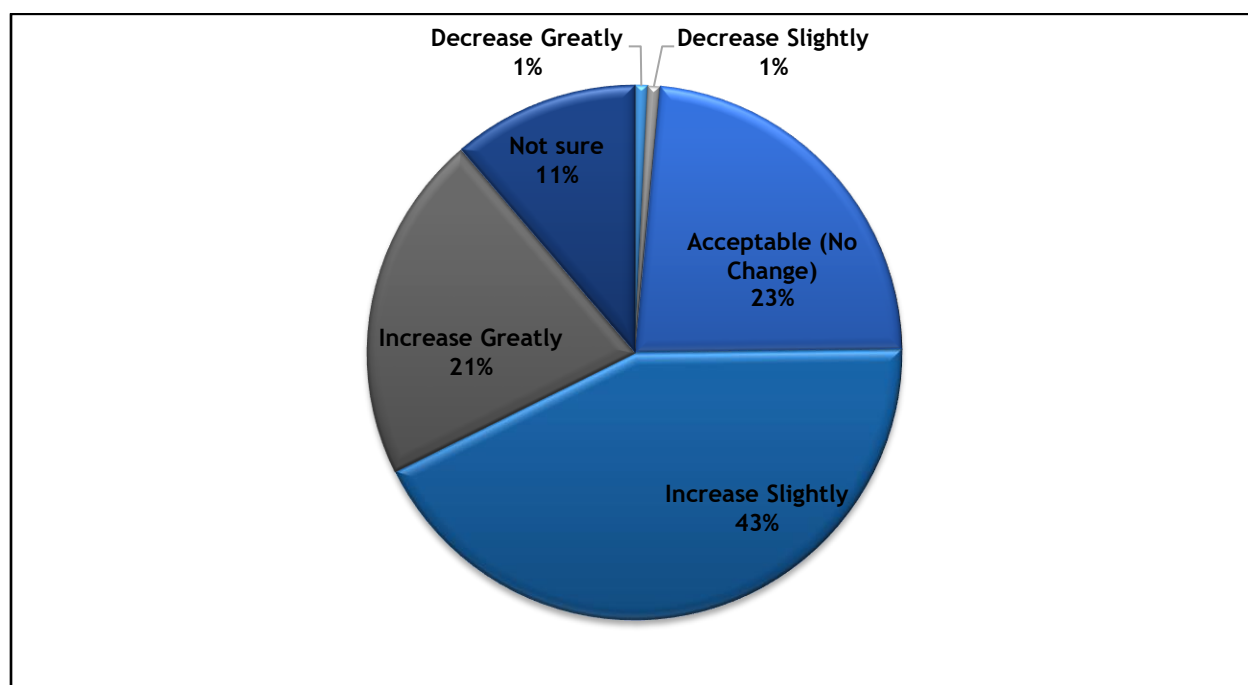
7. For the purposes of pronghorn management in the Haswell Herd Management Unit, what is your preference? *(Please check only one.)*

- ☐ Reduce the number of hunters (more pronghorn, fewer hunters, harder to draw a license, higher harvest success rates)
- ☐ Reduce the number of pronghorn (fewer pronghorn, more hunters, easier to draw a license, lower harvest success rates)
- ☐ The current numbers of hunters and pronghorn in herd unit are acceptable
- ☐ No opinion



8. How would you like to see the Haswell pronghorn herd population change over the next 10 years? (Please check only one.)

	Decrease greatly (~50% fewer pronghorn)	Decrease slightly (~15% fewer pronghorn)	No change (current numbers are acceptable)	Increase slightly (~15% more pronghorn)	Increase greatly (~50% more pronghorn)	Not Sure
I would like the pronghorn population to:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



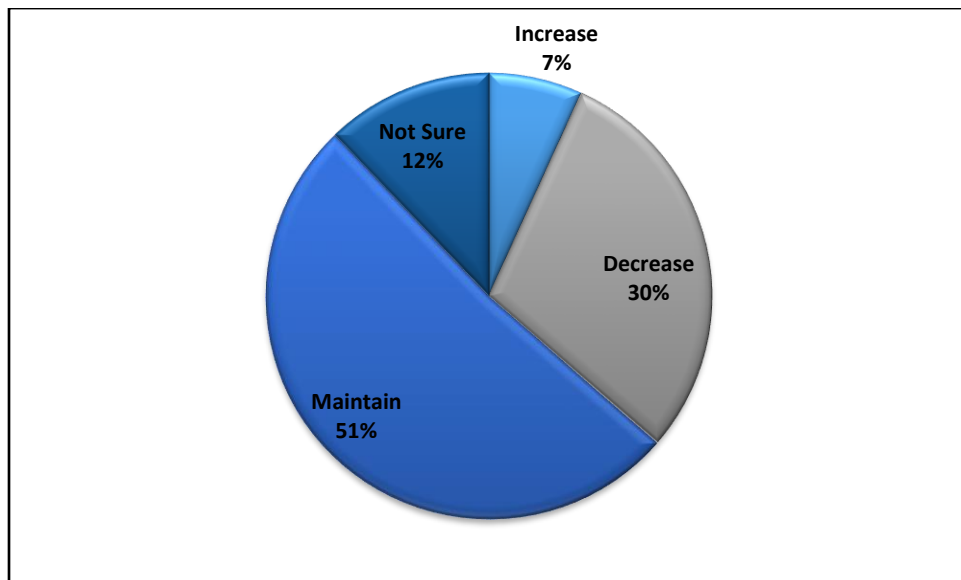
Please read the following brief description about managing male-to-female ratios before answering question 9.

If a pronghorn herd is managed for **increased hunting opportunity**, more buck hunting licenses are made available and buck hunters are generally able to hunt more frequently. This can result in fewer total bucks in the herd (*lower buck-to-doe ratio*) and fewer mature bucks.

If a herd is managed for **increased hunt quality**, fewer buck licenses are issued in order to increase the number of bucks in the population (*higher buck-to-doe ratio*). This generally results in less frequent hunting opportunities and fewer hunters in the field, but it can also result in a greater chance of encountering a mature buck.

9. Which of the following approaches should guide the number of buck licenses allocated in the Haswell Herd Management Unit? *(Please check only one.)*

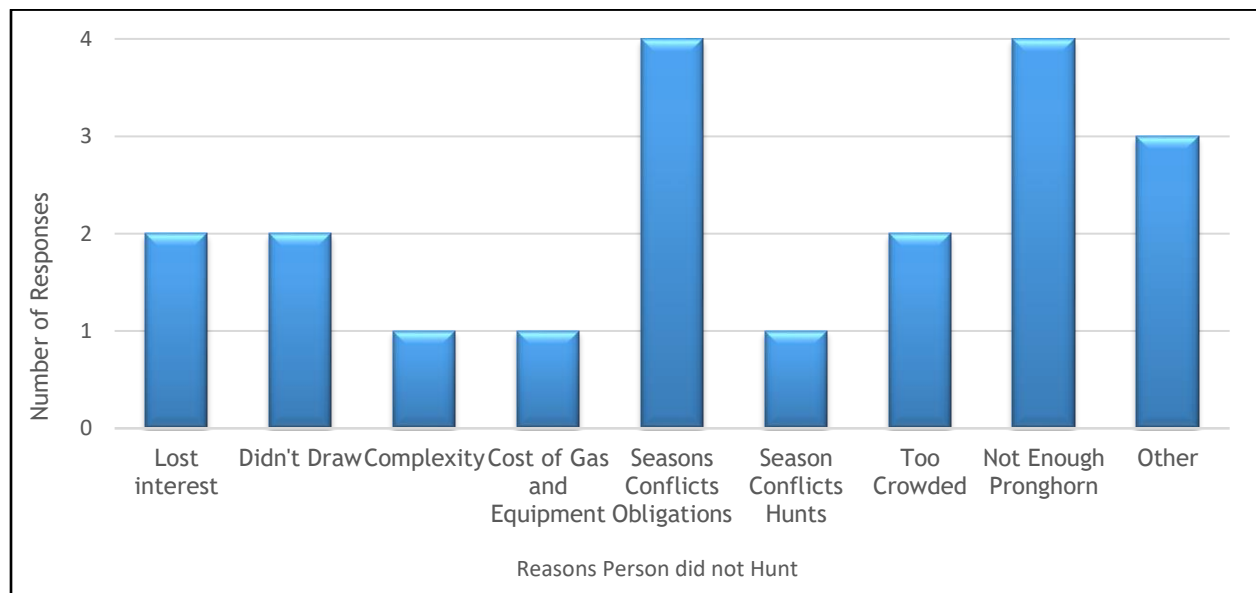
- ☐ Increase the number of buck hunting permits (easier to draw a license, more hunters in the field)
- ☐ Decrease the number of buck hunting permits (more preference points required to draw a license, more bucks in the population)
- ☐ Maintain the current number of buck hunting permits
- ☐ I'm not sure



If you HUNTED pronghorn in the Haswell herd unit from 2014-2016, you are DONE with this survey. Please SKIP question #10.

10. Why did you NOT HUNT pronghorn in the Haswell Herd Management Unit during 2014, 2015, or 2016? (Please check all that apply)

- ☐ I lost interest in hunting pronghorn the year(s) that I had a license
- ☐ Did not draw a license
- ☐ The complexity of hunting regulations in Colorado
- ☐ The cost of gas, equipment, or other expenses
- ☐ Season conflicted with other obligations
- ☐ Season conflicted with other hunts
- ☐ The Haswell Herd Management Unit has become too crowded with hunters
- ☐ There were not enough pronghorn where I hunt
- ☐ Other (please specify)



Thank you very much 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 any additional comments regarding pronghorn management on the space below.

Additional Comments in Appendix F

APPENIDX E: Hunter Survey Question 10 “Other” Responses

- Did not draw. Hunted from La Junta to east end of units. All pronghorn on wheatfield no way to get there. Started to hunt 146 unit

APPENDIX F: Hunter Survey Additional Comments

- There was a noticeable increase in hunter numbers after zone 125 was combined with others in the draw. It seemed much better in 2016
- A lot of pronghorn in the area depends on rains and it helps the vegetation grow
- There were very few animals on the property I had permission to hunt. The one herd of about 20 animals were so skittish that they headed to New Mexico while we were belly crawling & we weren't within a ¼ mile of them! Hunted the next three days, and saw no other animals. Very disappointing season.
- Availability of hunting area
- I am ok with current conditions
- I cannot answer your survey accurately because I hunt private property in 121.
- Worst ever! Hunted 3 days- never was able to get a shot at a doe. All were over 500 yards away- usually on the run. We will not hunt that area again unless it greatly improves!
- Could not find hunting access without paying big money. No public hunting areas that had animals- opinion
- The CPW put kit fox counter out at punkin center one wk. before opening in 120 running the pronghorn off. Not a good thing to do just before start of our hunt!!
- Please note! - I have the privilege to hunt on private property with the permission of the property manager. My knowledge of the entire Haswell Unit as a whole is lacking.
- I did not draw a license I 2016 I believe. The other years I hunted I did not harvest an animal
- I hunt private land on [unk] edge. Do not scoot anywhere else do not know herd size. Trespass fees of 1-3+ hundred too much on [unk] properties. Pronghorn stay here, no one to move them around
- Give hunters more permits instead one two or three
- Walk in hunting- too large and no place close to get permits Colorado Parks and Wildlife is making harder to hunt. Why combine units? By doing so takes away tags from other units. Way too many out of state hunters.
- 2014, 2015 I feel that there were not enough antelope and far too many hunters. The antelope numbers appear to be on the rebound in the last couple of years (2016, 2017), so possibly the number of hunters may not be that excessive. I hunt in unit 120 (for antelope) but live in unit 140
- CDOW has historically done a great job of balancing interests. Keep up the good work with that history in mind. It is easy to bow to all the recent special interests groups and see our state and its culture change with money interests. Sincere regards
- Thank you!
- Lots of trick questions on this survey... Of course I would Love to see more Antelope in the unit, but not at the expense of being able to hunt. This is the Unit that almost guarantees me a tag & a kill every year. I hunt it specifically for the chance of putting meat in my freezer.

- Sorry I don't have an opinion on a few questions as I only hunted the last day of the 2016 season on a piece of public land, saw no hunters and shot a nice 14" buck so all I can say is things looked good in my eyes. Thanks, [signature]
- More familiar with hunting in unit 116

APPENDIX G: Mailing List for 30 Day Comment Period

Bent County Commissioners
P.O. Box 350
Las Animas, CO 81054

Cheyenne County Commissioners
PO Box 567
51 South 1st
Cheyenne Wells, CO 81054

Crowley County Commissioners
603 Main St. Suite 2, Courthouse Annex
Ordway, CO 81063

Kiowa County Commissioners
PO Box 100
Eads, CO 81036

Lincoln County Commissioners
PO Box 39
Hugo, CO 80821

Otero County Commissioners
Otero County Courthouse
13 W. 3rd Street, Room 212
La Junta CO 81050

Colorado Cattleman's Association
8833 Ralston Rd.
Arvada, CO 80002

Michael Pollart
State Land Board District Manager
700 S. Main Street
Lamar, CO 81052

Justin Osborne
State Land Board District Manager
4718 North Elizabeth St., Suite C1
Pueblo, CO 81008

APPENDIX H: Press Release for Landowner Survey

Sept. 13, 2017

Public opinion sought as CPW updates goals for managing pronghorn herds

LAMAR, Colo. - Landowners who want a voice in how Colorado Parks and Wildlife manages the Haswell and Haswell pronghorn herds should speak up now.

The agency has begun the process of revising the herd management plans that will guide CPW for the next 10 years.

To start, CPW has mailed surveys to randomly selected landowners in game management units ranging, in general, from southeast of Punkin Center, southwest of Kit Carson, northwest of Campo and northeast of Branson.

In addition, CPW is inviting input from other landowners in hopes of getting a wide sample of opinions to guide wildlife managers writing the plans.

The herd management plans to be revised include nearly a dozen Game Management Units, or GMUs, including 120, 121, 125, 126, 130, 136, 137, 138, 143, 144 and 146.

Several years of above-average fawn production caused both populations to peak in 2010, with an estimated 6,000 animals in the Haswell herd, and 5,000 animals in the Haswell herd.

Since then, both populations have declined due to drought, increased harvesting including the addition of a December doe-only hunting season. Currently, both the Haswell and Haswell herds are estimated around 3,500 pronghorn with buck-to-doe ratios near 40 or so bucks per every 100 does.

“Landowners within the Haswell and Haswell herd management areas are encouraged to participate in the survey and let us know how they would like to see the pronghorn population managed relative to their current numbers,” said Jonathan Reitz, wildlife biologist.

There are several options for any landowner who has not received a survey in the mail and would like the opportunity to provide feedback. They can drop by the CPW Service Center in Lamar or call at 719-336-6600. Another option is to contact their local CPW district wildlife manager. Or they can call Area Wildlife Manager Travis Black at 719-336-6603 or Reitz at 719-336-6605.

Sportsmen in the CPW’s Southeast Region will be surveyed separately for their opinions on management of the pronghorn herds.

The purpose of a herd management plan is to integrate CPW’s management strategies with information from the public to determine how a big-game herd should be managed.

APPENDIX I: Press Release Requesting Input for 30 Day Comment Period

December 3, 2018

CPW seeks final public input on plan to manage Haswell Pronghorn Herd for next 10 years

LAMAR, Colo. - Public input is being sought by Colorado Parks and Wildlife about how it manages the Haswell pronghorn herd over the next 10 years.

CPW staff has spent months drafting a proposed management plan for pronghorn in the Haswell herd, which spans Game Management Units (GMUs) 120, 121, 125, and 126 in Bent, Otero, Crowley, Lincoln, Kiowa, and Cheyenne Counties.

The draft plan, now available online, reflects CPW's efforts to balance the biological capabilities of the herd and its habitat with the public's demand for wildlife recreational opportunities.

The final plan will guide CPW officials as they decide how many pronghorn should exist in each GMU. The plan will also help CPW decide the proper ratio of males to females over the next decade.

The selection of population and sex ratio objectives drive important decisions including:

- How many animals must be harvested to maintain or move toward the objectives.
- What types of hunting seasons are required to achieve the harvest objective.

For the development of the Haswell Herd Management Plan, CPW has conducted various pronghorn population surveys, a landowner survey and a hunter survey. Based on that feedback, CPW is recommending an increase in population objectives to 3,500 pronghorn, which reflects the current population level.

To review the draft Haswell Herd Management Plan, follow this link:

<http://cpw.state.co.us/thingstodo/Pages/HerdManagementPlans.aspx>

Public comments on the draft must be received by CPW by January 2. To submit a comment, instructions can be found on the website. Comments will be used to further develop the draft plan that will be presented to Colorado's Parks and Wildlife Commission.

APPENDIX J: Comments from 30 Day Comment Period

***No public comments were received during the 30 day comment period.**

This plan was approved by the Colorado Parks and Wildlife
Commission in July of 2019

