PRONGHORN MANAGEMENT PLAN
CHEROKEE PARK HERD

Data Analysis Unit PH-33
GMUs 9 & 191

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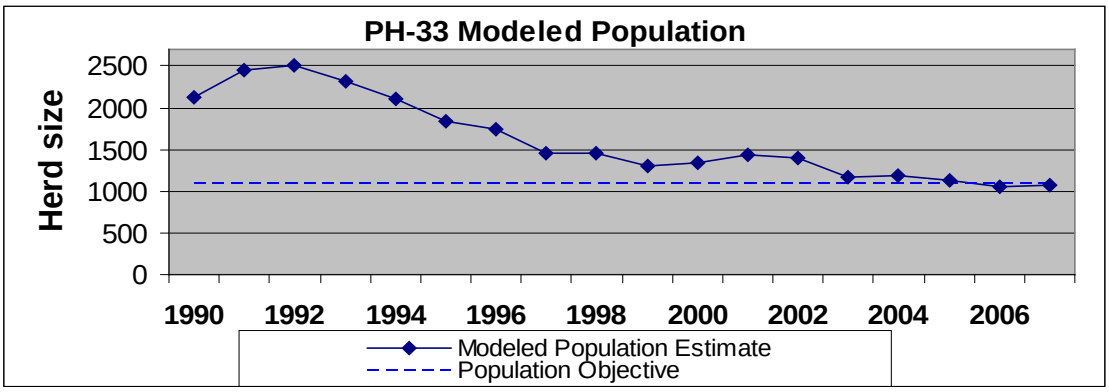
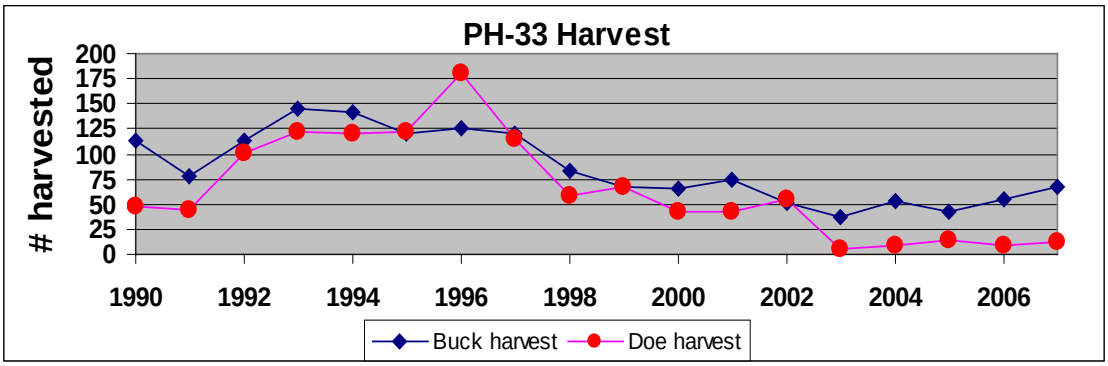
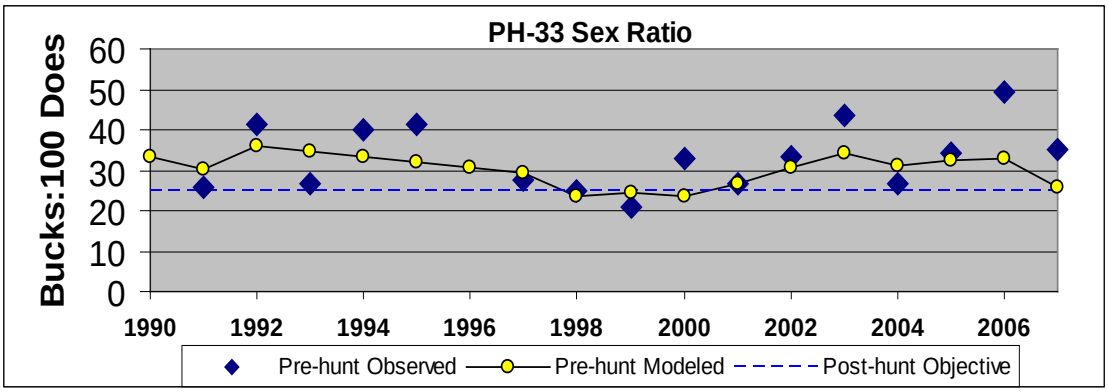
2009

DATA ANALYSIS UNIT PLAN FOR PH-33
EXECUTIVE SUMMARY

GMUs: 9 & 191 (North-central Larimer County)
Land Ownership: 685 sq. mi. (61% private, 13% USFS, 13% City/County, 12% State)
Post-hunt Population:
Previous objective: 1,100 2007 Estimate (Modeled): 1,080
Current objective**:** Alternative #2 1,000-1,200 pronghorn (status quo)
Sex Ratio (Bucks:100 Does):
Previous Post-hunt Objective: 25 2007 Pre-hunt Observed: 35 2007 Pre-hunt Modeled: 26
Current objective: Alternative #2 20-25 bucks:100 does (status quo)







Background

Data Analysis Unit (DAU) PH-33 forms a relatively small pronghorn herd that occupies primarily private land north of Fort Collins. There is some movement between PH-33 and Wyoming, but otherwise the DAU accurately captures the annual range of this herd. The 2007 post-hunt population of 1,080 is right at the long-term objective of 1,100. A small number of adjustments to management have occurred over time in PH-33 including separating it from PH-36 in 1989 and creating specified muzzleloading licenses in 2007. Game damage has not been an issue with only one claim in 24 years. This herd has declined in size over the last 18 years; the most pronounced decrease has been during the current decade where fawn:doe ratios have been lower than during the 1990s. Buck:doe ratios however, have trended higher in the last 8 years relative to the 1990s. The 2007 pre-hunt observed buck:doe ratio was 35:100, with a modeled ratio of 26 bucks:100 does. This observed pre-hunt ratio is in line with the long-term post-hunt objective for the DAU of 25 bucks:100 does.

Harvest has been under 75 bucks and 75 does per year for the last 10 years. When the pronghorn population was larger during the early/mid 1990s harvest levels for both bucks and does were almost twice as high as today. Hunter success is high across all manners of take. In the past 4 years, buck rifle success has been over 90% with doe rifle slightly less. One year of DAU-specified muzzleloading data (2007) suggests a high success rate with this method as well. Archery success has been on a slight increasing trend since the mid-1990s with almost exclusively bucks harvested. Archer success rates in 2007 exceeded 45%.

Significant Issues

As a relatively small herd, almost entirely on private land, there haven't been many management issues in PH-33. While a small number of preference points (0-2) are needed to draw rifle licenses few landowners are raising concerns over controlling population numbers or difficulty in drawing licenses. There is a large amount of interest on the part of pronghorn hunters for greater access opportunities in PH-33. Continued DOW discussions with the City of Fort Collins regarding hunting as a management tool on properties in GMU 9 should continue.

Management Alternatives

This management plan provides 3 alternatives for a herd population objective and 3 options for sex ratio objectives. These population and sex ratio objectives are independent of one another, and represent different biological issues, social aspects and hunting strategies in herd management.

Population Objective Alternatives:

Population Alternative #1: 700-900 pronghorn (~25% reduction)

This alternative represents the smallest population size among the options. A short term increase in harvest would be used to reach the lower objective; once at this new population level, license numbers would be cut below current levels. Preference points needed to draw a buck or doe license would likely increase.

Population Alternative #2: 1,000-1,200 pronghorn (status quo)

Assuming no large changes in observed biological data (herd size, fawn:doe ratios) this option would continue the management and license levels currently

in place. Improved fawn recruitment would allow an increase in female licenses over the long-term.

Population Alternative #3: 1,300-1,500 pronghorn (~25% increase)

This alternative would manage for the largest population size of the 3 options. Doe harvest would be reduced for a number of years until this 25% increase has been achieved. Once at the new objective, this option would allow for a greater buck and doe harvest than currently available. Landowner concerns over forage loss would probably be increased with this option.

Herd Composition-Sex Ratio Objective Alternative

Composition Alternative #1: 15-20 bucks:100 does

This alternative would represent the lowest level of buck numbers, and therefore least buck maturity/horn size among the 3 options. This ratio would permit a small increase in buck hunting opportunity, but not enough to impact preference point dramatically.

Composition Alternative #2: 20-25 bucks:100 does (status quo)

This status quo alternative would represent the current level of buck hunting, buck maturity and horn size.

***Composition Alternative #3*:** 25-30 bucks:100 does

This third alternative would require a reduction in the level of buck harvest to achieve this ratio increase. Once achieved, this alternative would provide the largest mature bucks/ horn size of the 3 options.

Preferred Alternatives

The preferred population and composition ratios recommended below reflect a continuation of current management objectives (status quo).

Population Alternative #2: 1,000-1,200 pronghorn (status quo)

Composition Alternative #2: 20-25 bucks:100 does (status quo)

This plan was approved by the Colorado Wildlife Commission on March 12, 2009.

CHEROKEE PARK
PRONGHORN MANAGEMENT PLAN
DAU PH-33 (GMUs 9 & 191)

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DATA ANALYSIS UNIT PLAN FOR PH-33

INTRODUCTION

The purpose of a Data Analysis Unit (DAU) plan is to give the Colorado Division of Wildlife (CDOW) direction in managing a big game species in a given geographical area. It identifies suitable habitat, gives the herd history and current status, and identifies issues and problems. Key features of a DAU plan are the herd size and herd composition objectives, which are developed after considering input from all interested entities. CDOW intends to update these plans as new information and data become available, at least once every ten years.

DAU PLANS AND WILDLIFE MANAGEMENT BY OBJECTIVES

The Colorado Division of Wildlife manages wildlife for the use, benefit and enjoyment of the people of the state in accordance with the CDOWs Strategic Plan and mandates from the Colorado Wildlife Commission and the Colorado Legislature. Colorado's wildlife resources require careful and increasingly intensive management to accommodate the many and varied public demands and growing impacts from people. To manage the state's big game populations, the CDOW uses a "management by objective" approach (Figure 1). Big game populations are managed to achieve population and sex ratio objectives established for Data Analysis Units.

DAUs provide the framework to manage individual herds of big game animals. DAUs are generally discrete geographically, and attempt to identify an individual big game population. However, individual animal movements may at times straddle or encompass more than one DAU. While DAU boundaries are administrative, they represent the best way to encompass the majority of a herd within a biological area, and allow the most practical application of management tools such as hunting, to reach objectives. DAUs are typically composed of smaller areas designated as game management units (GMUs), which provide a more practical framework where the management goals can be refined and applied on a finer scale, typically through hunting regulations.

The DAU plan process is designed to balance public demands, habitat capabilities and herd capabilities into a management scheme for the individual herd. The public, hunters, federal land use agencies, landowners and agricultural interests are involved in the determination of the plan objectives through input given during public meetings, the opportunity to comment on draft plans and when final review is undertaken by the Colorado Wildlife Commission.

The objectives defined in the plan guide a long term cycle of information collection, information analysis and decision making. The end product of this process is a recommendation for numbers of hunting licenses for the herd (Figure 1). A traditional DAU plan addresses two primary goals: the number of animals the DAU should contain and the sex ratio of those animals expressed as males:100 females. The plan also specifically outlines the management techniques that will be used to reach desired

objectives. The fact that DAU plans are reviewed and revised on a 5-10 year basis provides assurances against the often-dynamic fluctuations experienced by Colorado's big game herds. Changes in land development, public attitudes, hunter success, hunter access, research results, disease prevalence and game damage may all contribute new information needed when reviewing or revising a DAU plan. The CDOW strives to maintain a tight link between the inclusion of publics in the development of population objectives and the yearly iteration of data collection, analysis and renewed decision-making to reach those objectives.

Individual DAUs are managed with the goal of meeting herd objectives. Herd data, which is typically collected annually, is entered into a computer population model to get a population projection. The parameters that go into the model include harvest data from hunter surveys, sex and age composition of the herd gathered by field surveys, and mortality factors such as wounding loss and winter severity, generally acquired from field observations. The resultant computer population projection is then compared to the herd objective, and a harvest calculated to align the population with the herd objective.

COLORADO'S BIG GAME MANAGEMENT BY OBJECTIVE PROCESS

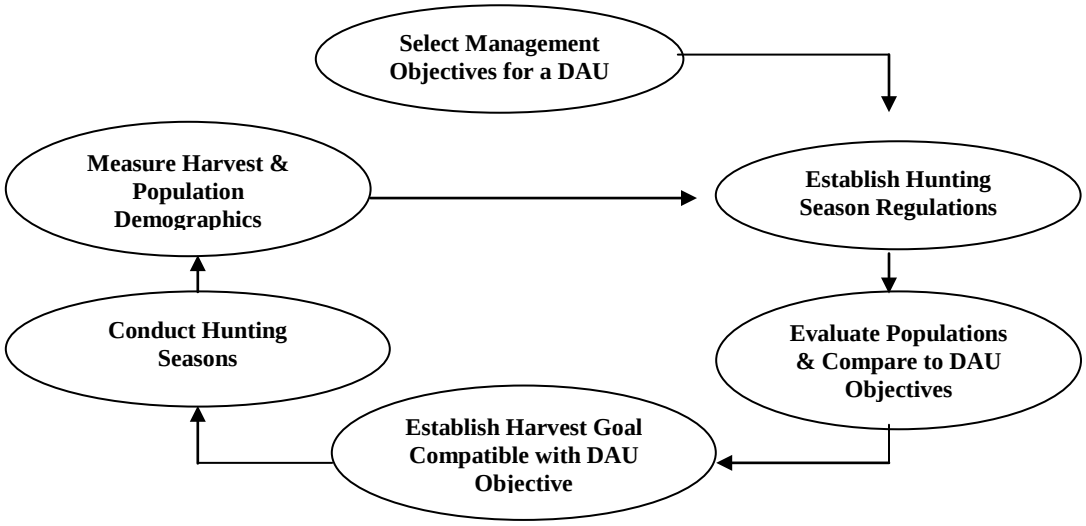

Figure 1. Management by objectives process used by the CDOW to manage big game populations on a DAU basis.

DESCRIPTION OF DAU PH-33 AND HABITAT

Geography

Pronghorn Data Analysis Unit (DAU) PH-33 is located in Larimer and Weld Counties in north central Colorado (Figure 2). It consists of Game Management Units (GMU) 9 and 191. PH-33 is bounded on the north by the Wyoming state line, on the east by I-25, on the south by Colorado Highway 14, and on the west by Larimer County Roads 69, 68C, 74E (Red Feather Lakes Road), 179, 80C (Cherokee Park Road), and 59.

Elevations range from 8,100 feet at the highest point on the western edge of the DAU to 4,890 feet in the southeast corner near Fort Collins.

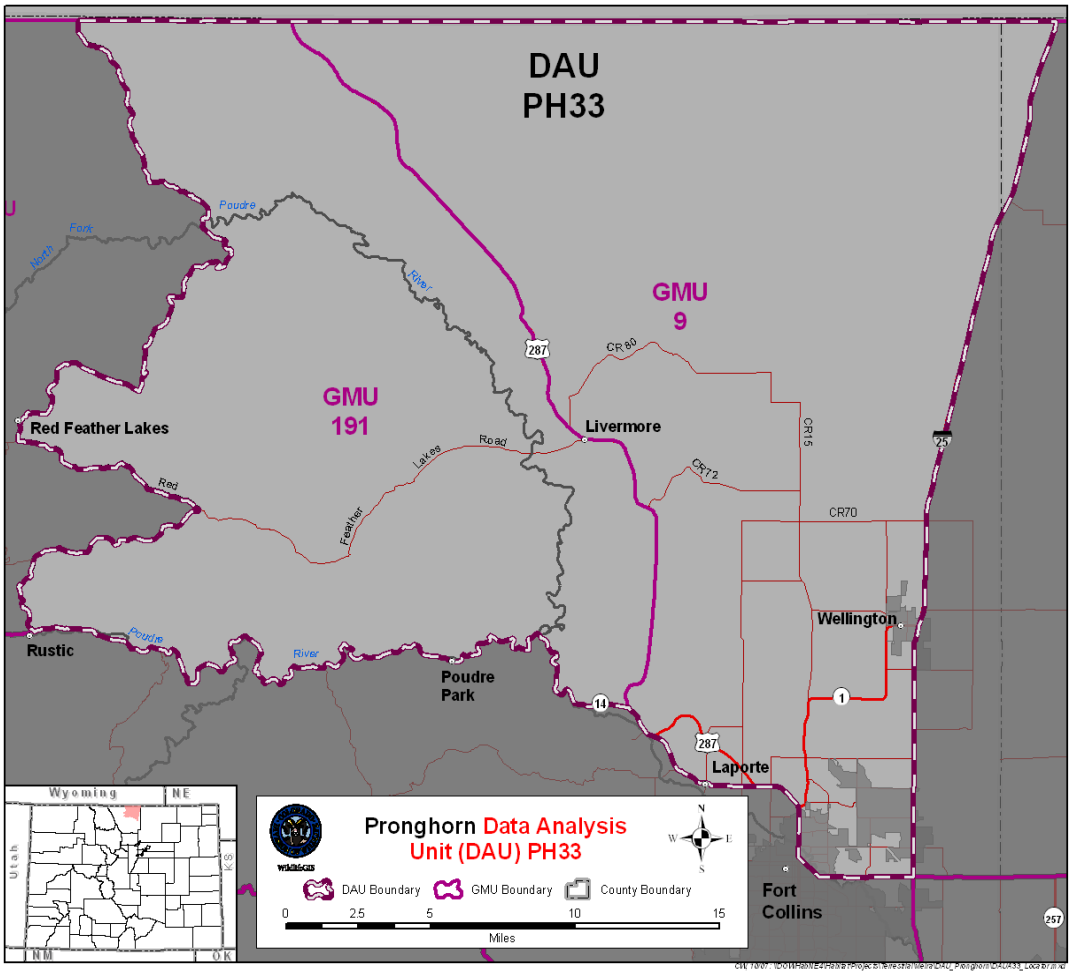

Figure 2. PH-33 Geography and GMU boundaries

Climate

The overall climate in PH-33 is relatively dry with low humidity. It is seasonal with a fairly mild climate year-round. Climate varies across the DAU as a function of elevation. The principal pronghorn habitat in the DAU is dominated by mid- and short grass prairie. Weather-related winter mortality is usually not a factor in PH-33.

Land Ownership and Use

The surface area of the entire DAU is 685 square miles. The majority of the DAU landscape is owned by private landowners (61% or 419 sq. miles) (Figure 3). United States Forest Service (USFS) lands encompass 94 square miles, or 14 % of the DAU. Recent purchases by city and county governments account for another 13% or 90 sq. miles of land. The remaining 12% of the DAU are state lands, mostly managed by the State Land Board (SLB) or CDOW.

Much of the western and southern parts of the DAU are not suitable pronghorn habitat so the majority of animals are located on private lands on either side of US 287, or private and municipality owned lands in central and northern GMU 9.

Development of land in PH-33 for housing and subdivision of larger ranches have contributed to a decrease in pronghorn habitat, mostly in southern GMU 9. The recent purchase of additional land in northern GMU 9 by the City of Fort Collins coupled with the City's existing ownership in the area takes a significant step towards preserving the northern part of PH-33 as unbroken pronghorn habitat.

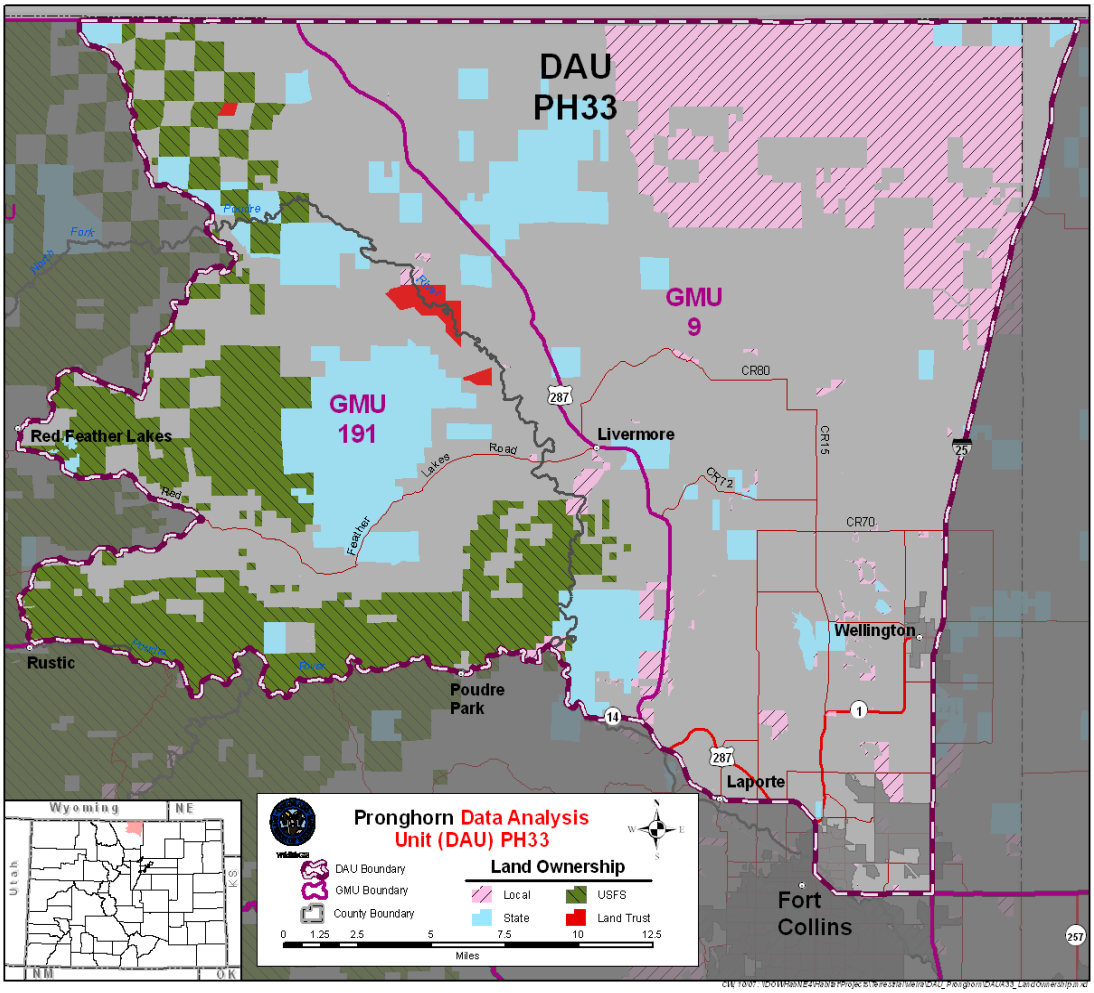

Figure 3. PH-33 Land Ownership

Vegetation

Vegetation over much of PH-33 is composed of midgrass and short grass prairie rangeland. Native grasses, non-native grasses, and croplands dominate much of the landscape, with areas of sagebrush, rabbitbrush, and cacti. Riparian areas are comprised of cottonwoods, along with alders and willows. Pronghorn in PH-33 mainly use the grasslands (Figure 4), with some use of mountain mahogany dominated hillsides near flatter terrain.

Midgrass prairie species include sideoats grama, galleta, and foxtail barley. Short grass prairie species include buffalograss and blue grama.

Foothills vegetation in the western portion of PH-33 is found from approximately 5,500 to 7,000 feet and is characterized by various shrub types and ponderosa pine. Shrubs include antelope bitterbrush, mountain mahogany, juniper, and wild plum.

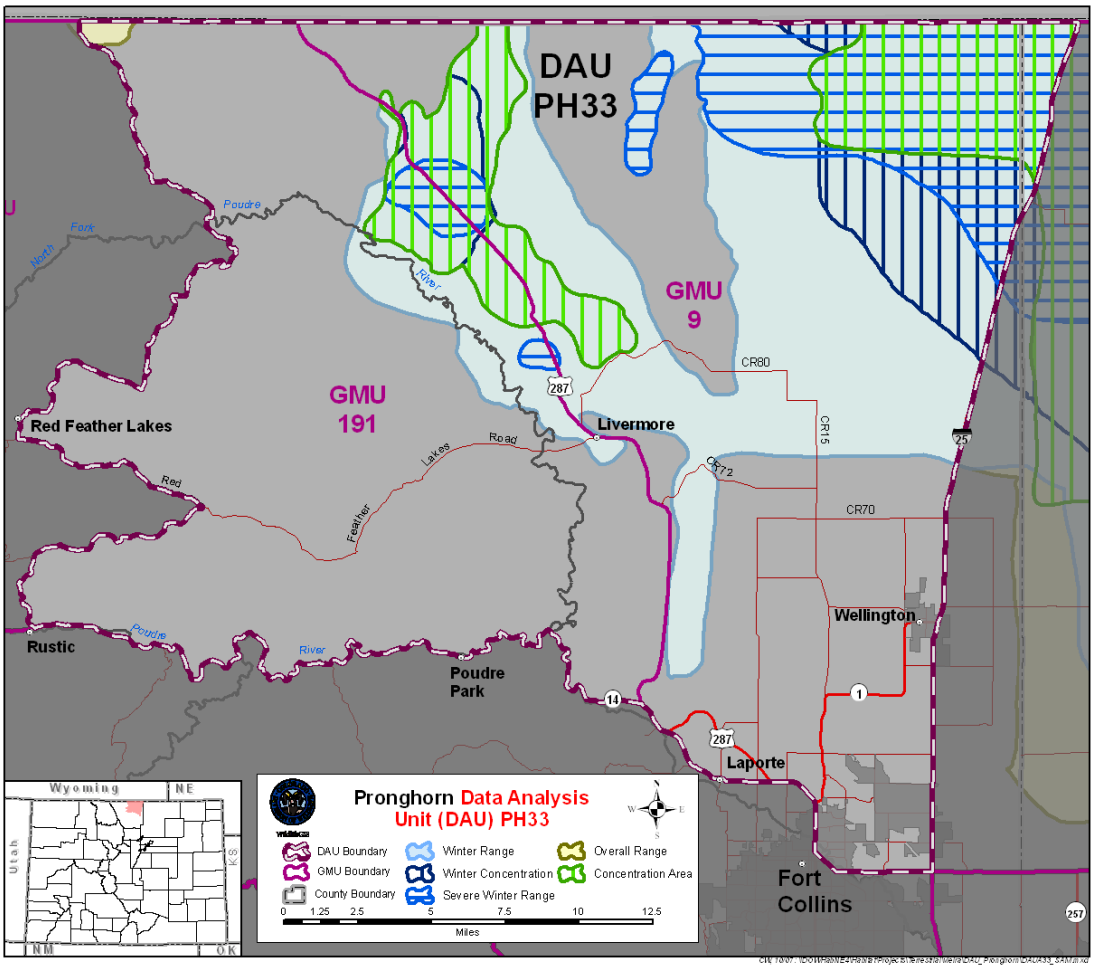

Figure 4. PH-33 Pronghorn Habitat

HERD MANAGEMENT HISTORY AND BACKGROUND

The DAU is currently being managed with the post-hunt objective of maintaining the herd at 1,100 animals with a buck:doe ratio of 25:100.

History

Before 1989 PH-33 had been managed jointly with the adjoining DAU to the west (PH-36) as one unit. While the documented justification and record of decision for the split haven't been found, the topography along the interface of the 2 units certainly suggests very little interchange in Colorado between herds. All the data presented in this plan will be from 1990 and on when the DAU became independent. PH-33 has been managed relatively consistently over the last 15-20 years with changes in licenses levels mostly in response to declines in herd size linked to low fawn recruitment, drought and possibly changes in habitat.

Population and Sex Ratio

Estimating population numbers of wild animals over large geographic areas is a difficult and approximate science. Numerous attempts have been made to accurately count known numbers of wild animals in large fenced areas. All of these efforts have failed to count 100% of the animals. The CDOW recognizes the difficulties of estimating the size of pronghorn populations as a challenge in managing populations and attempts to maximize the accuracy of these estimates by using the latest technology and inventory methodology available. As better information and techniques become available (e.g., new estimates of survival/mortality, wounding loss, sex ratios, density, or new modeling techniques and software) they are evaluated and used where appropriate. The population estimate presented in this document should, therefore, not be considered a completely accurate enumeration of the animals in the DAU.

DAU PH-33 has been managed for a population objective of 1,100 animals. During the early 1990s this herd was significantly over objective and relatively high harvest contributed to reducing the population, leaving it at 20-40% over-objective in the late 1990s (Figure 5). Impacts to fawn recruitment possibly due to long-term drought impacts, beginning around 2002, contributed to a steep reduction in population size that brought the modeled population down to the objective of 1,100. Lack of fawn recruitment was severe enough that reductions in harvest were needed to keep the population from going below objective (2002-2007 mean August ratio 28 fawns:100 does). The modeled 2007 post-hunt population estimate is 1,080, putting the herd right at the current objective.

As a state-line herd it has been difficult to calibrate minimum counts seen on classification flights in August to numbers that hunters see in the early fall, and to herds observed by landowners during winter conditions. There is certainly some level of movement between PH-33 and Wyoming during winter and summer, particularly along the boundary with GMU 9.

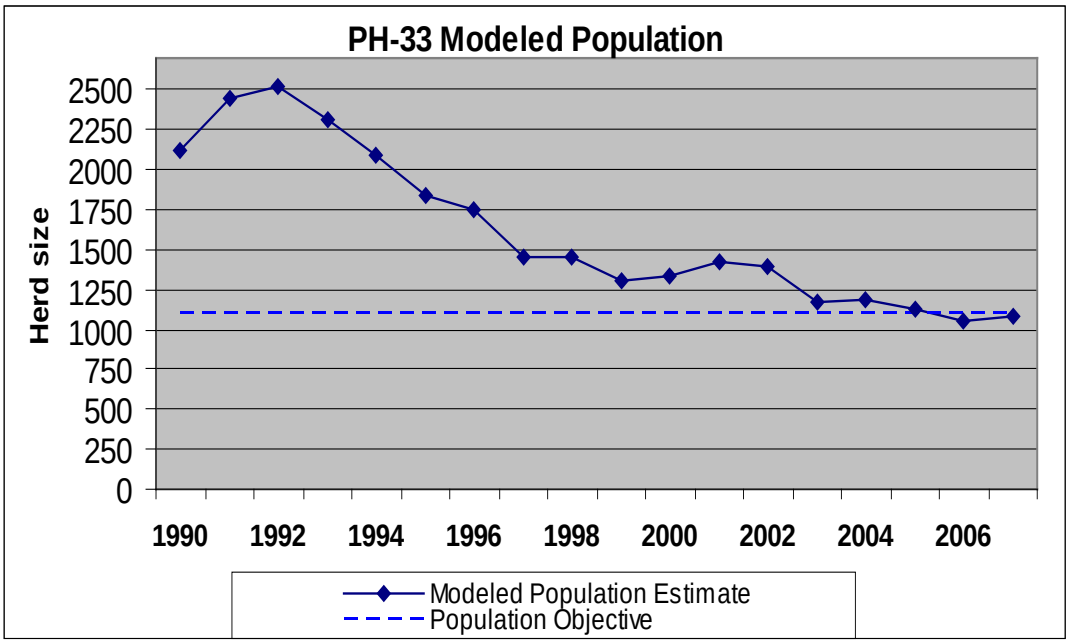

Figure 5. PH-33 Population Estimate and Objective

Observed pre-season ratios in PH-33 have ranged between 20-50 bucks:100 does over the last 18 years (Figure 6). This large range has proved adequate to reach post-hunt objectives when observed pre-hunt ratios were on the high end of the range, but often not sufficient when on the low end. Since 2000, mean observed ratios have increased, with a high of nearly 50 bucks:100 does in 2006. This increase may be due to reduced harvest levels on bucks (as well as does) that accompanied the population decrease seen since 2002.

Classification data in PH-33 was collected in 16 of the last 18 years during fixed wing transect flights in August. Transects are flown every 3 miles and recent samples sizes have been in the 500-600 animal range (~50% of population estimate). Modeled buck:doe ratios over the last 18 years reflect the decline in observed ratios in the late 1990s, but don't seem to track the observed increase in the mid-2000s as well. The modeled post-hunt estimates in 2006 and 2007 (33 bucks: 100 does, 26 bucks:100 does) are well below the observed ratios in both years and the 2005-2007 3-year observed average (39.5). Given all inputs and constraints to the population model, these lowered ratios fit the model best, however they are lower than what was actually observed during aerial surveys. It could be that the unusually high ratio observed in 2006 of 49 bucks:100 does was biased high; the 3-year observed average tends to compare more realistically with the modeled ratios.

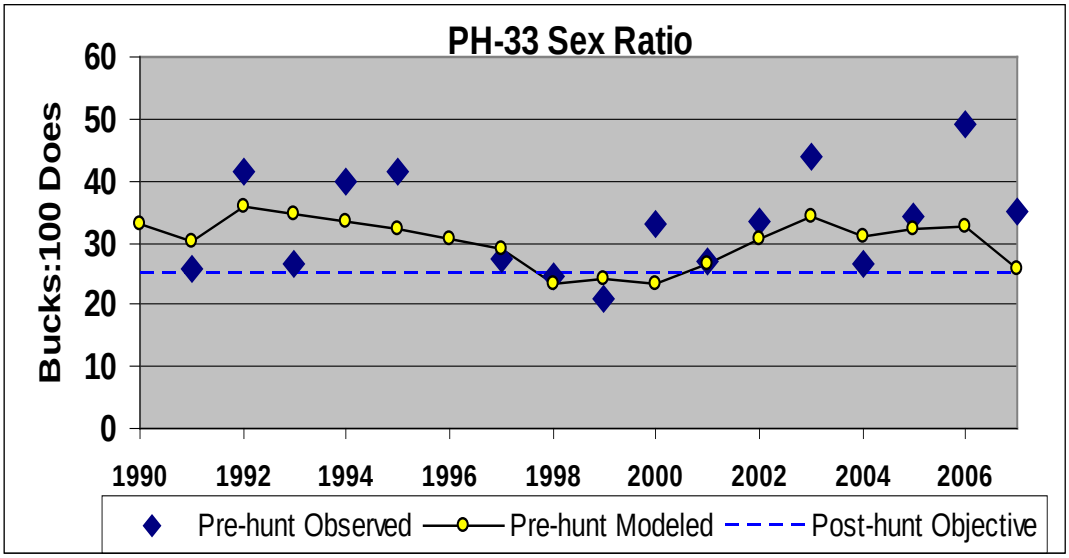

Figure 6. PH-33 Sex Ratios

Licenses

Rifle licenses in PH-33 have decreased significantly since 2002 due to low fawn recruitment reducing growth. In 2002, rifle buck and rifle doe licenses were set at 100 and 75, respectively. These numbers already represented a decrease from rifle license numbers in the late 1990s. However, maintaining the herd at objective following the drought/low fawn recruitment impacts required cutting doe rifle tags to 15 licenses and buck rifle to 35 for 2003. These rifle allocations have slowly gone back up, but have yet to reach levels from 1990-2002. Current rifle license levels for 2008 are 55 buck tags and 50 doe tags. Archery licenses are available on a statewide, unlimited basis. In 2007 all statewide pronghorn muzzleloading licenses became DAU-specified. In previous years muzzleloading licenses were allocated as limited, state-wide tags. Muzzleloader participation in PH-33 before licenses were DAU-specified was minimal; in only 4 of the previous 17 "statewide" years had a muzzleloader hunted the DAU. Since becoming specified, PH-33 muzzleloading licenses have been set at 5 buck and 5 doe.

Demand for pronghorn licenses in PH-33 has increased slightly, but the most pronounced effect on preference points has been the reduction in rifle license numbers. During the late 1990s doe rifle licenses were available as leftovers; currently doe rifle tags for residents require 0-1 preference points and buck rifle tags for residents require 1-2 preference points. If herd population growth continues with fawn ratios above 35:100 and license numbers increase in response, it is likely that preference points needed to draw both doe and buck rifle tags will decrease. Nearly all pronghorn that are currently available for harvest reside on private land where access can be difficult to obtain. It may be that public hunter discomfort with obtaining access, as well as the private-lands-only designation on all rifle hunting licenses has helped keep demand, and the annual inflation in needed preference points, to low levels relative to other pronghorn units in Colorado.

Harvest

Harvest in PH-33 has varied as a function of licenses issued. Throughout the 1990s doe and buck harvest tracked each other in nearly equal proportions (Figure 7).

The exception was 1996 when over 175 does were harvested but only 125 bucks. In nearly every year until 2000 buck harvest was at or just above doe harvest and ranged from around 75- 150 taken per year. Doe harvest during the 1990s was between 50 and 125, with the outlier high harvest year of 1996. Beginning in 2000 as an artifact of reduced license numbers, doe harvest dropped to around 50 for 3 years and then remained in the low teens through 2007. Buck harvest has also declined since the 1990s, with a low of only 38 bucks taken in 2003.

Nearly all pronghorn harvest in PH-33 comes from rifle hunters (Figure 8). Since 2003, both buck and doe rifle harvest have remained relatively low and relatively stable (~45 buck, ~10 doe), based on historic levels. The 2007 increase in overall buck harvest is mostly accounted for by high archery success. Average archery buck harvest has slowly quadrupled over the last 18 years from an average of 1.7 bucks killed per year during the 1990s, to record harvests of 10 and 17 bucks in 2006 and 2007, respectively. This may have to do with a combination of an increasing human population in the northern Front Range and more archers wanting to hunt an over-the-counter (OTC) unit close to home as well as a greater use of techniques such as hunting over waterholes. This increase in archery harvest does not seem to correlate with drier years, where early-season pressure near water sources can lead to high harvest.

Muzzleloading harvest has been negligible before 2007 (4 bucks total harvest in 17 years). This was due to very low participation; during the entire 17 "statewide" license years from 1989-2006 only 8 muzzleloaders hunted the DAU. However, with the DAU now specified, hunter numbers have increased and in 2007 four bucks were harvested by 4 hunters. This may be a one-year anomaly, but will require continued monitoring in coming years, as does the disproportionate increase in archery harvest, relative to rifle harvest and demand.

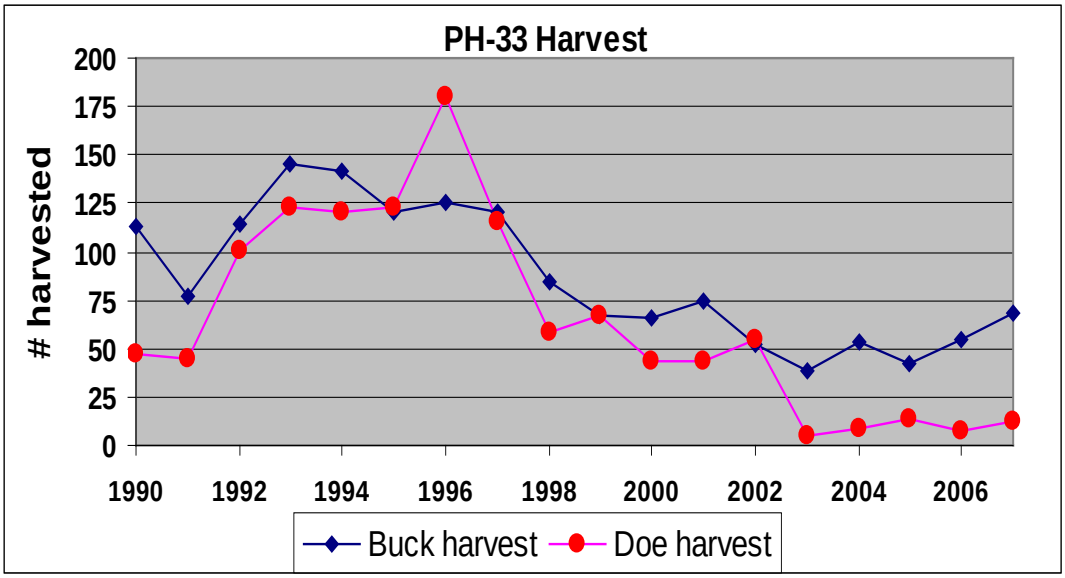

Figure 7. PH-33 Harvest

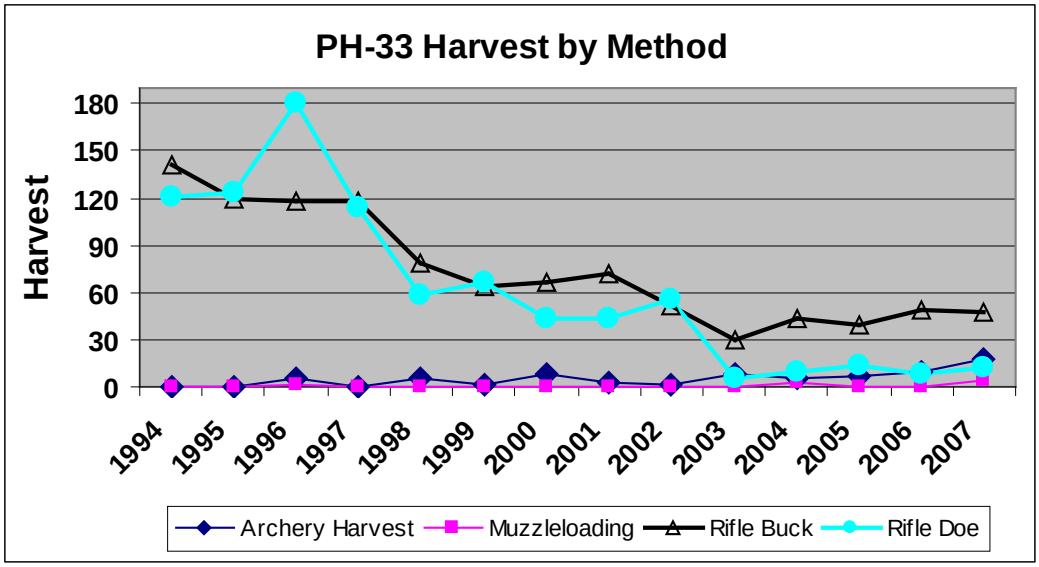

Figure 8. PH-33 Harvest by method of take

Success Rates

Rifle success rates in PH-33 have been relatively high, as is often the case with pronghorn in open country. Buck success has increased since 2000 and for the last 6 years has averaged around 90% (Figure 9). This higher buck rifle success rate in recent years is likely related to the decrease in hunter densities with lower license numbers. Doe rifle hunters have shown a trend of increasing success as well in the last 3 years, but to a lesser degree than buck hunters. Doe rifle success rates were above 90% in 2 of the last 3 years.

Muzzleloader success may improve as motivated hunters draw DAU-specified licenses for areas that they know, or can hunt successfully. Harvest survey results indicate that when muzzleloaders hunt PH-33, they tend to be successful; there is evidence of this in 2007 with 4 hunters killing 4 bucks. As discussed in the previous section, the situation will require monitoring as more data is obtained from PH-33 specified muzzleloading hunts in upcoming years.

Archery success hit a record high of over 45% in 2007. Archery success is effectively a buck success rate as the last doe killed by an archer was in 2000. There is a moderate trend of increasing archery success over the last 13 years in PH-33. Success rates in recent years are very high for archery, and as mentioned in the section above, deserve more years of monitoring to assure equity between methods of take and demand.

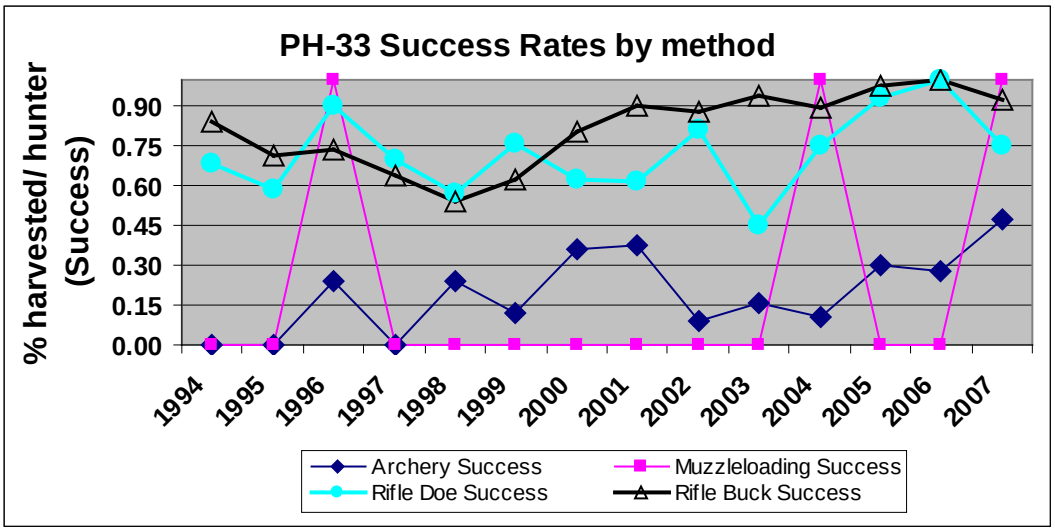

Figure 9. PH-33 Success rates by method of take

Disease

Disease is not an issue in PH-33. While chronic wasting disease has been detected in deer, elk and moose in the DAU, to date is has never been diagnosed in pronghorn.

Game Damage

There is no pronghorn game damage in DAU PH-33. In the last 24 years, only one damage claim ($4,000 for growing crops in 2000) has been submitted and paid.

Habitat Management

Recent habitat projects by municipalities and non-governmental organizations (NGOs) in PH-33 have focused on easement and fee title acquisitions. These land purchases have mostly been in pronghorn habitat and have helped to preserve some large tracts of range as undeveloped grassland. While the Northern Larimer County Habitat Partnership Program committee (NLCHPP) doesn't currently have any pronghorn-specific projects underway, the potential for funding does exist. Some of GMU 9 was historically used as domestic sheep range and there are some existing woven wire fences that once removed, could benefit pronghorn herd movement and migration.

CURRENT HERD MANAGEMENT

Current Post-hunt Population

Based on the PH-33 population model, as well as observed data from aerial inventories, the 2007 post-hunt population is estimated at 1,080 (see Figure 5). This represents a herd at the long-term population objective; current management is striving to keep the population at 1,100.

Current Sex/Age Composition

Annual computer modeling efforts project a 2007 pre-hunt sex ratio of 26 bucks: 100 does. The current 3-year average observed ratio is 39.5 bucks:100 does. The observed pre-hunt ratio in August of 2007 during aerial classification was 35 bucks:100.

The observed pre-hunt ratio is sufficient to reach the post-hunt objective of 25 bucks:100 does. The modeled ratio however, projects the herd with post-hunt buck numbers below objective.

Current Management Strategies

Since the current population size is at objective, the goal in management has been to continue to stabilize the population with consistent license levels. Given average recruitment levels, it is likely that some moderate increases in buck and doe licenses will be made to keep this population from growing. While there has only been one game damage payment in the last 24 years in PH-33, severe winter weather, as experienced in 2007-2008, may contribute to an increase in conflicts. Observations during the last winter suggest that several large groups of pronghorn are at times using a number of limited private pastures and this has lead to conflicts over forage with landowners. In one case during the winter of 2007-2008 hazing was used to disperse and move animals away from concentrations on calving pastures. Addressing problems on winter range with site-specific management techniques will continue to be used as the main tool after regular-season hunting options are finished.

Current Management Problems

There are no significant management problems in PH-33. The issue that seems to most directly impact landowners, hunters and management goals is one of hunter access. Since the majority of pronghorn habitat in the DAU falls under private ownership access to these animals requires permission. As management objectives are being met and all licenses are sold in the draw this hasn't become a problem for managers at this point. The recent purchase of significant acreage by the City of Fort Collins in northeastern GMU 9 may potentially provide an option for some increase in limited public access for hunting. Since the property is not yet open to the public and management plans haven't been finalized by the City, it is still unclear what role hunting will play in wildlife management on the property.

ISSUES AND STRATEGIES

Issue Solicitation Process

A public meeting was held in Wellington (north of Fort Collins) on August 8, 2007 to discuss pronghorn management in PH-33 (in conjunction with PH-36). The meeting was attended by 8 members of the public. The meeting was advertised in local media and on the DOW website for 30 days. A card was sent to PH-33 license applicants also informing them of the meeting and providing the website with a link to the DAU public survey (Appendix A). This survey was passed out in hardcopy to attendees at the meeting and was available for download for 30 days via the DOW website.

Once completed, the entire draft plan (with no preferred alternative) was posted from July 21 to August 21, 2008 on the DOW website for additional public comments. Copies of the draft plan were made available to the USFS, Larimer County and Northern Larimer County HPP committee.

Issue Identification

Two of the attendees were bowhunters and both mentioned that they enjoyed hunting DAUs with statewide archery licenses. Twelve completed surveys were returned for PH-33 (see Appendix A).

All but two of the survey respondents were hunters who had hunted either PH-36 or PH-33 in the last 5 years. More than half were from the Fort Collins area (inside the DAU) while the remaining 7 lived outside the DAU.

MANAGEMENT ALTERNATIVES DEVELOPMENT

Post-hunt Population Level

Population Alternative #1: 700-900 pronghorn (~25% reduction)

This alternative represents the smallest population size among the options. A short term increase in harvest would be used to reach the lower objective; once at this new population level, license numbers would be reduced below current levels. Preference points needed to draw a buck or doe license would likely increase.

Population Alternative #2: 1,000-1,200 pronghorn (status quo)

Assuming no large changes in observed biological data (herd size, fawn:doe ratios) this option would continue the management and license levels currently in place. Improved fawn recruitment would allow an increase in female licenses over the long-term. If winter conditions similar to 2007-2008 continue to occur, this population level may concern some landowners.

Population Alternative #3: 1,300-1,500 pronghorn (~25% increase)

This alternative would manage for the largest population size of the 3 options. Doe harvest would be reduced for a number of years until this 25% increase has been achieved. Once at the new objective, this option would allow for a greater number of both buck and doe harvest than currently available. Landowner concerns over forage loss would probably be increased with this option.

Herd Composition-Sex Ratio Objective Alternative

Composition Alternative #1: 15-20 bucks:100 does

This alternative would represent the lowest level of bucks in the population, and therefore the lowest level of buck maturity/horn size among the 3 options. This ratio would permit a small increase in buck hunting opportunity, but not enough to impact preference points dramatically.

Composition Alternative #2: 20-25 bucks:100 does (status quo)

This status quo alternative would represent the current level of buck hunting, buck maturity and horn size.

Composition Alternative #3: 25-30 bucks:100 does

This third alternative would require a reduction in the level of buck harvest to achieve this ratio increase. Given the relatively low level of buck harvest currently in place in PH-33 this would significantly impact preference points for rifle hunters. Assuming current levels of muzzleloader and archery buck harvest continue more

limiting on male harvest by these methods of take may be needed to achieve the increased ratio.

PREFERRED ALTERNATIVES

Post-hunt Population Level

Population Alternative #2: 1,000-1,200 pronghorn (status quo)

Herd Composition-Sex Ratio Objective Alternative

Composition Alternative #2: 20-25 bucks:100 does (status quo)

The Cherokee Park pronghorn herd is currently at the long-term objective of 1,100. Public, external agency, and DOW staff comments reflected the fact that this existing population objective is supported. The preferred alternative recommends a population range, surrounding the previous point objective. The public and agency outreach process also indicated that there was satisfaction with the current buck ratio. This ratio is presented as a range with the previous objective at the upper end. Opportunity for buck hunting should be the same or equal to what it has been previously over the last 10 years.

The CDOW will continue to work towards opportunities for public pronghorn hunting access, particularly in northern GMU 9.

APPENDIX A.
Survey form used for public input during DAU outreach process. Results and % of respondents selecting each response inserted into survey.

OPPORTUNITY FOR PUBLIC COMMENT

ON PRONGHORN MANAGEMENT

In Data Analysis Units PH-36 and PH-33
(Pronghorn Game Management Units 7 & 8- Laramie River and 9 & 191- Cherokee Park)

Dear Interested Citizen:

Pronghorn herds in Colorado are managed at the Data Analysis Unit (DAU) level. The management of each herd is guided by a herd specific management plan called a DAU plan. DAU plans describe herd population and management histories, population objectives and management strategies for a 10 year period. The DAU planning process is the CDOW method for incorporating the concerns and desires of the public with the biological capabilities of a specific herd. Public input is, therefore, a very important part of the DAU planning process.

Wildlife managers have begun the process of updating the DAU plans for GMUs 7 & 8 (Laramie River herd) and 9 & 191 (Cherokee Park herd). The CDOW is seeking your input on the future management of these herds. The information you provide will help the CDOW develop objectives and management strategies for pronghorn in northern Larimer County.

Please complete the following survey and return it to:

COLORADO DIVISION OF WILDLIFE
Attn: Jennifer Churchill
NE Region Service Center
6060 Broadway
Denver, CO 80216

Surveys must be received by the CDOW by August 22, 2007

The Laramie River pronghorn herd (PH-36) consists of Game Management Units (GMUs) 7 and 8. The Cherokee Park herd (PH-33) consists of GMUs 9 and 191. Both these DAUs are in northern Larimer County.

Figure 1: Pronghorn DAUs PH-33 and PH-36.

The Colorado Division of Wildlife manages big game herds to provide the public with hunting and viewing opportunities while minimizing conflicts and habitat damage. Often in order to do this, a balance is needed in both the total number of animals and the proportion of males (buck pronghorn) in the herd. Both management plans (DAU plans) will therefore, define 1) a population objective and 2) a male to female ratio objective (buck:doe-- see below).

Population Objectives: The Division strives to manage big game populations within both the biological and social carrying capacity of the herd. The biological carrying capacity is the number of animals that can be supported by the available habitat. The social carrying capacity is the number that will be tolerated by the people who are impacted by the herd. Both the PH-33 and PH-36 herds are currently at the previous long-term population objectives. When pronghorn populations are managed at levels below both the biological and social carrying capacity, people enjoy viewing, photographing and hunting while damage conflicts are minimized. As the number of pronghorn in an area increases, conflicts may arise due to auto/animal collisions and damage to agriculture, etc.

Question 1:
Would you like the number of **pronghorn** in **GMUs 7 & 8 (PH-36)** to:

6 of 12 (50%) INCREASE
4 of 12 (33%) SAME
2 0f 12 (17%) Don't Know

_____ Increase

_____ Stay the same

_____ Decrease

_____ Don't Know

Why?

Would you like the number of **pronghorn** in **GMUs 9 & 191 (PH-33)** to:

6 of 13 (46%) Increase
3 of 13 (23%) Same
1 of 13 (8%) decrease
3 of 13 (23%) don't know

_____ Increase

_____ Stay the same

_____ Decrease

_____ Don't Know

Why?

Male:Female Ratio Objective: Pronghorn herds can be managed to maximize buck hunting opportunity (which creates higher hunter numbers) or to maximize the maturity of bucks available for hunting (typically less hunters afield), or some compromise between the two. If the herd is managed to maximize the quantity of hunting opportunity, more buck hunting licenses are made available and buck hunters will be able to hunt more frequently, with less preference points. However, this results in fewer total bucks in the herd (lower buck:doe ratio) as well as fewer large/mature bucks. If a herd is managed to maximize the mature, larger-horned bucks, fewer buck licenses are issued in order to increase the number of bucks in the population (higher buck:doe ratio). As a result, the size of males harvested will be larger, but the frequency that hunters are able to hunt bucks decreases and the preference points needed to draw will increase. Therefore a trade-off exists between the number of licenses (amount of opportunity) and the size and maturity of bucks available for hunters.

Question 2:
Currently, DAU PH-36 (Laramie River) is managed for a 25 buck:100 doe sex ratio objective. Last year a minimum of 3-4 preference points were needed to draw a rifle buck tag in PH-36.

For the purposes of pronghorn hunting, should GMUs 7 & 8 be managed for:

6 of 11 (55%) status quo
3 of 11 (27%) quality
2 of 11 (18%) quantity

_____ Increased **quality** of hunting opportunity (higher buck to doe ratio, fewer hunters in the field, but more PP needed to draw a buck license)
_____ Increased **quantity** of hunting opportunity (lower buck to doe ratio, more hunters in the field, and easier to draw buck licenses)
_____ Status Quo (current ratio of 25:100 focuses on opportunity and low PP to draw)

Currently, DAU PH-33 (Cherokee Park) is managed for a 25 buck:100 doe sex ratio objective. Last year a minimum of 3 preference points were needed to draw a rifle buck tag in PH-33.

For the purposes of pronghorn hunting, should GMUs 9 & 191 be managed for:

6 of 13 (46%) status quo
5 of 13 (38%) quality
2 of 13 (15%) quantity

_____ Increased **quality** of hunting opportunity (higher buck to doe ratio, fewer hunters in the field, but more PP needed to draw a buck license)
_____ Maximum **quantity** of hunting opportunity (lower buck to doe ratio, more hunters in the field, and easier to draw buck licenses)
_____ Status Quo (current ratio of 25:100 focuses on opportunity and low PP to draw)

Question 3:

Do you hunt pronghorn in GMUs 7, 8, 9 or 191? 13/15 had hunted

Have you hunted pronghorn or applied for a pronghorn license in the last 5 years? 14/15 were hunters

Question 4:

Where do you live (circle one from the options below)?

6 of 15 (40%) FC area
7 of 15 (47%) outside DAU
2 of 15 (13%) inside DAU

APPENDIX B

Comments received during 30 days the draft DAU plan was posted on-line. Comments received from agencies and other stakeholders.

1) US Forest Service Canyon Lakes District

File Code: 2610
Date: August 11, 2008

Mr. Mark Leslie
Area Wildlife Manager
Colorado Division of Wildlife
317 W. Prospect
Fort Collins, CO 80526

Dear Mark:

This letter is in response to CDOW's request for comments on the Draft Pronghorn Management Plans for Data Analysis Unit PH-33 (Cherokee Park Herd) and PH-36 (Laramie River Herd), which we received on July 29, 2008.

From information presented in the plans, it appears that none of the Canyon Lakes Ranger District overlaps with the Cherokee Park herd range, and that any occurrence of the Laramie River herd on District lands is limited and would include only the edge of the delineated overall range. It appears that no winter range or concentration areas for the Laramie River herd overlap District lands. Consequently, it is assumed that these 2 pronghorn herds and CDOW management of them has little to no effect on District lands, and we do not have any comment on the proposed population size and herd composition alternatives presented in the plans.

Thank you for the opportunity to comment on your Draft Pronghorn Management Plans for PH-33 and PH-36. Should you have questions regarding this letter, please contact myself (970-295-6711) or Dale Oberlag (970-295-6765).

Sincerely,

/S/ Ellen L. Hodges
ELLEN HODGES
District Ranger