

# **HARDPAN PRONGHORN HERD MANAGEMENT PLAN**

## **DATA ANALYSIS UNIT PH-2**

**Game Management Units  
99 & 100**



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## DAU PH-2 (HARDPAN) EXECUTIVE SUMMARY

**GMU's:** 99 and 100

**Land Ownership:** 99% Private, 1% State

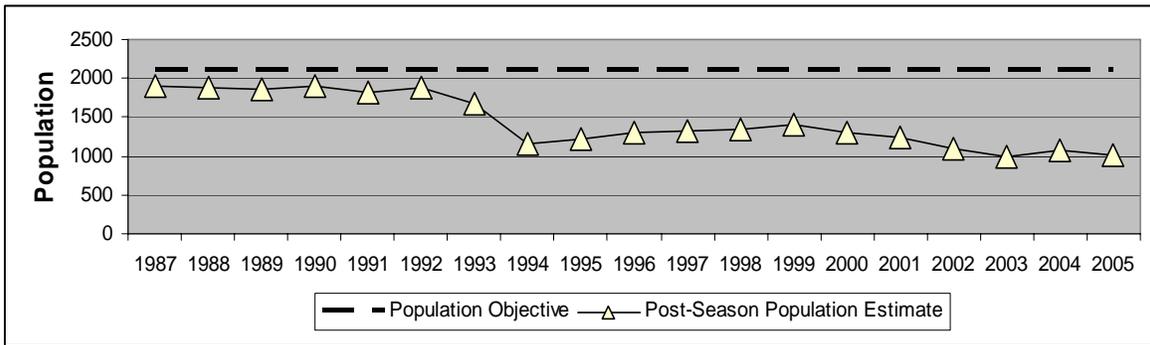
**Post-Season Population:**

*Previous Objective – 2,100; 2005 Estimate – 1,018; Current Objective – 1,400–1,600*

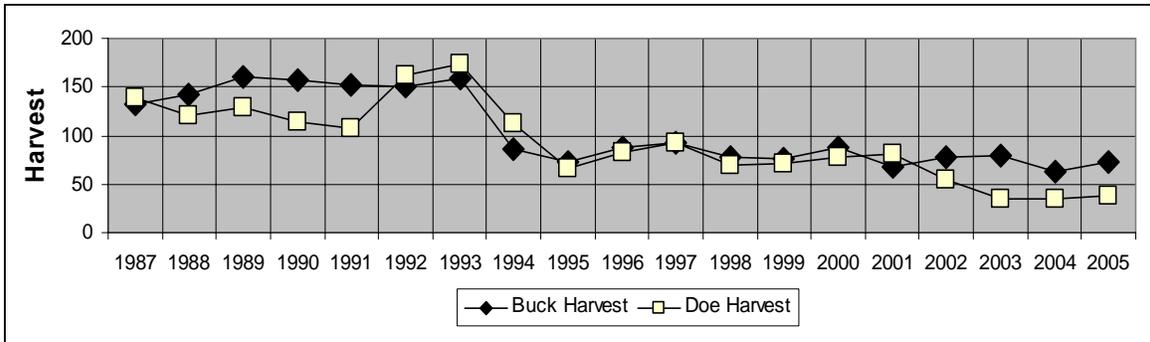
**Post-Season Sex Ratio (Bucks/100 Does):**

*Previous Objective – 30; 2005 Observed – 30; 2005 Modeled – 20; Current Objective – 25–30*

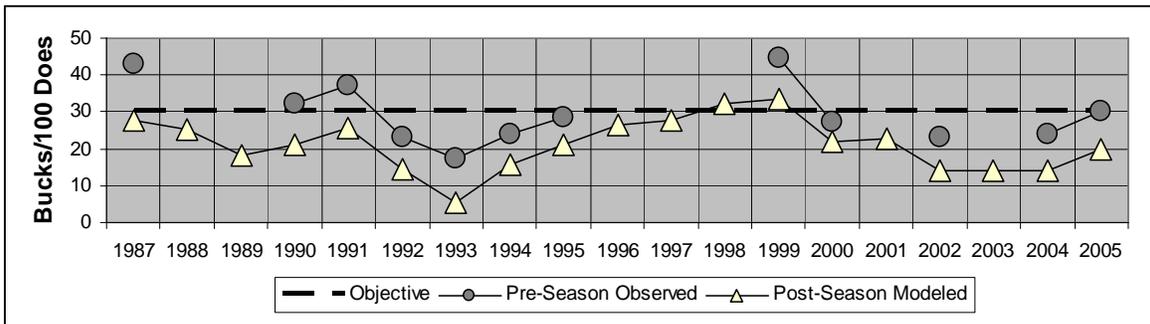
**Figure I. PH-2 Post-Season Population Estimate**



**Figure II. PH-2 Harvest**



**Figure III. PH-2 Post-Season Sex Ratios**



## **Background**

The current population and sex ratio objectives for the Hardpan Data Analysis Unit (DAU) were established in 1988 through the DAU planning process. This document and the population and sex ratio alternatives presented are the result of an update and revision of that DAU plan.

The pronghorn population in the Hardpan DAU has experienced a decline over the last decade from a high of approximately 1,875 in 1992 to a low of 985 animals estimated in 2003. The 5 and 10-year population estimate averages for the DAU are 1,082 and 1,208 pronghorn, respectively. Since 1987, the modeled post-season buck/doe ratio estimates have averaged 21 bucks/100 does ranging from 6 bucks/100 does in 1993 to 33 bucks/100 does in 1999. Observed fawn/doe ratios have varied from a low of 33 fawns/100 does in 1994 and 2005 to a high of 57 fawns/100 does in 1987 and has averaged 44 fawns/100 does.

## **Significant Issues**

Public comments supported reducing the population objective, but maintaining the current herd composition in the DAU. The public did not support maintaining the current population objective because of the potential for an increase in animal damage complaints and landowner intolerance. Likewise, changes in land use practices indicate that habitat conditions will not support a pronghorn population under the current objective. However, public input did not support reducing the herd composition objective.

Below average recruitment rates are a concern as the population has shown a decline over the past several years. High harvest combined with drought effects on fawn survival played a key role in suppressing this population. To address these concerns, licenses were reduced in 2003 and 2006. While changes in land use have resulted in a decrease in the pronghorn habitat, habitat conditions are sufficient to sustain a pronghorn population of the size recommended in this plan.

## **Management Alternatives**

The CDOW's preferred objectives for PH-2 are to manage for a post-season population of 1,400–1,600 with a modeled post-season herd composition 25–30 bucks/100 does. These objectives are in line with public comments and population performance in recent years. The Division is encouraged that the reduction in female harvest coupled with improved habitat conditions will allow the pronghorn population to increase to the preferred objective.

Other alternatives being considered in this DAU plan are: 1) reduce the population objective by 40% to 1,000–1,200 pronghorn, 2) increase the population objective by 25% to 2,400–2,600 pronghorn, 3) reduce the sex ratio objective to 20–25 bucks/100 does, and 4) increase the sex ratio objective to 35–40 bucks/100 does.

*This DAU plan was approved by the Colorado Wildlife Commission on January 11, 2007.*

# HARDPAN PRONGHORN MANAGEMENT PLAN DAU PH-2 (GMU's 99 & 100)

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## **INTRODUCTION AND PURPOSE**

The Colorado Division of Wildlife (CDOW) manages wildlife for the use, benefit, and enjoyment of the people of the state in accordance with the CDOW's Strategic Plan and mandates from the 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 (DAU's).

A Data Analysis Unit or DAU is the geographic area that represents the year-around range of a big game herd and includes all of the seasonal ranges of a specific herd while keeping interchange with adjacent herds to a minimum. A DAU includes the area where the majority of the animals in a herd are born, live, and die either as a result of hunter harvest or natural causes. Each DAU usually is composed of several Game Management Units (GMU's), but in some cases only one GMU makes up a DAU.

The purpose of a DAU plan is to provide a system or process which integrates the plans and intentions of the Division of Wildlife with the concerns and ideas of land management agencies and interested publics in determining how a big game herd in a DAU should be managed. In preparing a DAU plan, agency personnel attempt to balance the biological capabilities of the herd and its habitat with the public's demand for wildlife recreational opportunities. Various publics and constituents, including the U.S Forest Service, the Bureau of Land Management, hunters, guides and outfitters, private landowners, local chambers of commerce, and the general public are involved in determining DAU population and sex ratio objectives and related issues. Public input is solicited and collected by way of questionnaires, public meetings, and comments to the Wildlife Commission.

The primary decisions needed for an individual DAU plan are how many animals should exist in the DAU and what is the desired sex ratio for the population of big game animals e.g., the number of males per 100 females. These numbers are referred to as the DAU population and herd composition objectives, respectively. Secondly, the strategies and techniques needed to reach the population size and herd composition objectives also are selected. The selection of population and herd composition objectives drive important decisions in the big game season setting process, namely, how many animals must be harvested to maintain or move toward the objectives and what types of hunting seasons are required to achieve the harvest objective. These primary objectives are set for a 10-year period of time.

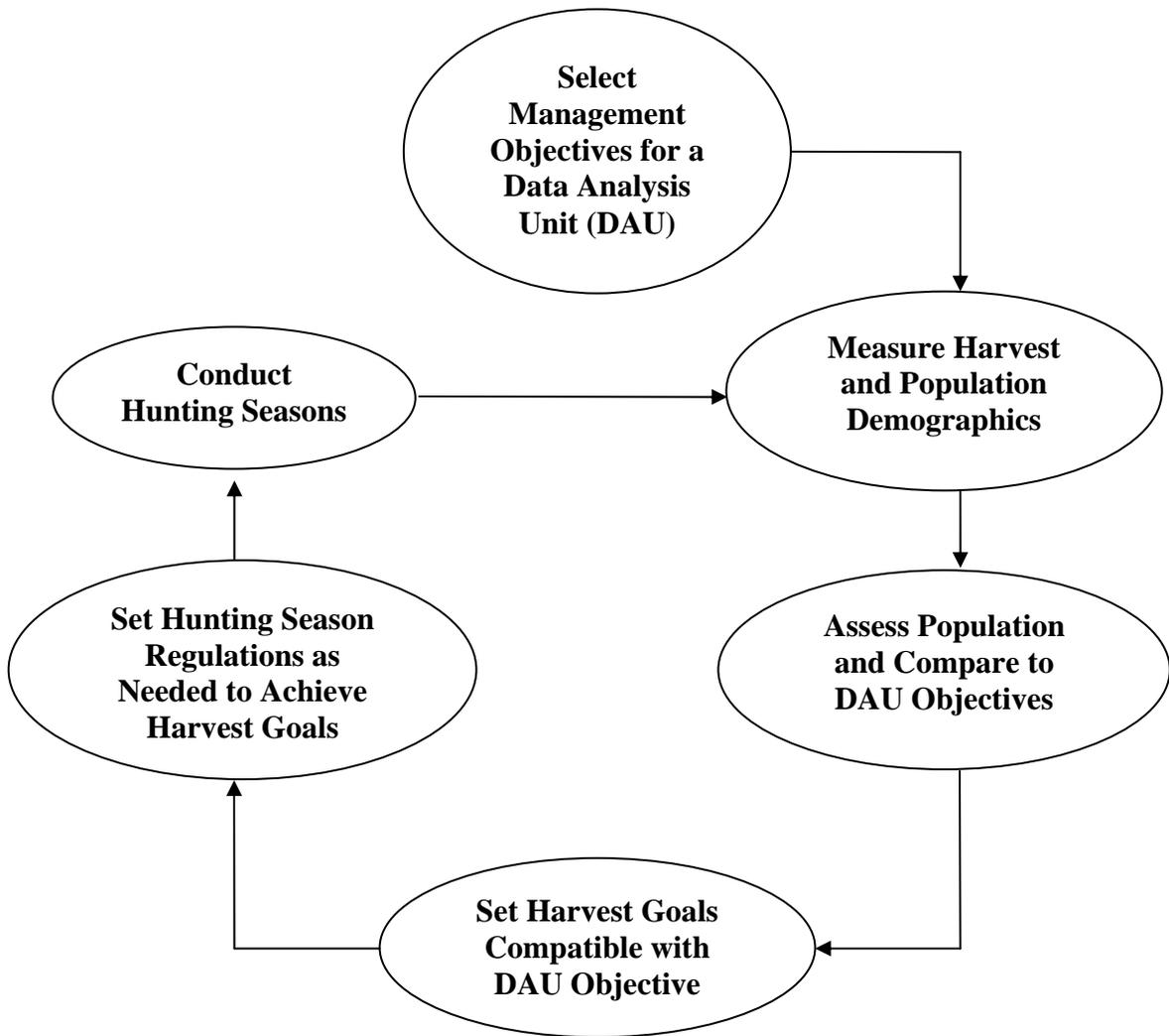


Figure 1. Colorado's Big Game Management by Objective Process.

## **HARDPAN DAU DESCRIPTION**

### **Location**

The Hardpan pronghorn DAU is located in northeastern Colorado in portions of Adams, Morgan, Washington, and Weld Counties (Figure 2). The DAU is bounded by I-76 and US 34 on the north; Colorado Highway 61 on the east; US 36 on the south; Colorado Highway 79 and 144<sup>th</sup> Ave., on the west; and on the south and west by Adams County Road 25N and 152<sup>nd</sup> Ave.. The DAU contains GMU's 99 and 100 encompassing approximately 2,710 square miles.

### **Habitat Composition**

There are several habitat types within the DAU, including dry cropland, irrigated cropland, tall-grass prairie, sandsage/mid-grass prairie, short-grass prairie, and Conservation Reserve Program (CRP) lands. Nearly 20% of the DAU is comprised of sandsage/mid-grass prairie sandhills. The sandsage/mid-grass prairie is part of a sandhill complex that runs along the northern boundary of the DAU. The sandsage/mid-grass prairie has remained stable with little being broken out for farming or development. Quality pronghorn habitat, primarily short-grass prairie, has decreased across the DAU due to their conversion to cropland and changing cropping practices that emphasize corn and domestic sunflowers as an alternative to a wheat-fallow system. The largest blocks of short-grass prairie are located in the south-central portion of the DAU and intermixed in the sandhill complexes along the northern boundary. There are 2 small riparian systems within the DAU; Beaver Creek and Bijou Creek.

### **Climate**

The climate in the DAU is characterized by hot, dry summers and recently, relatively mild winters. Annual precipitation ranges from 13–15 inches with most occurring during intense summer thunderstorms. Snowfall can be variable in the area, but recent winters have been dry with moderate temperatures.

### **Land Use**

Land ownership patterns within the Hardpan DAU are typical of eastern Colorado, with the majority of the area being in private ownership. The only notable exception is the Brush Prairie Ponds State Wildlife Area owned by the Colorado Division of Wildlife, which comprises <1% of the DAU. Land use within the DAU is almost exclusively agricultural based. Grazing by livestock is the primary influence on short-grass and sandsage/mid-grass prairie condition. Center pivot irrigation occurs primarily in the northwest and north-central portions of the DAU, including the sandhill complex. Corn, wheat, and alfalfa are the primary crops under pivot irrigation. On the western end of the DAU, residential development is encroaching into GMU 99, although to this point, little impact has occurred to pronghorn habitat.

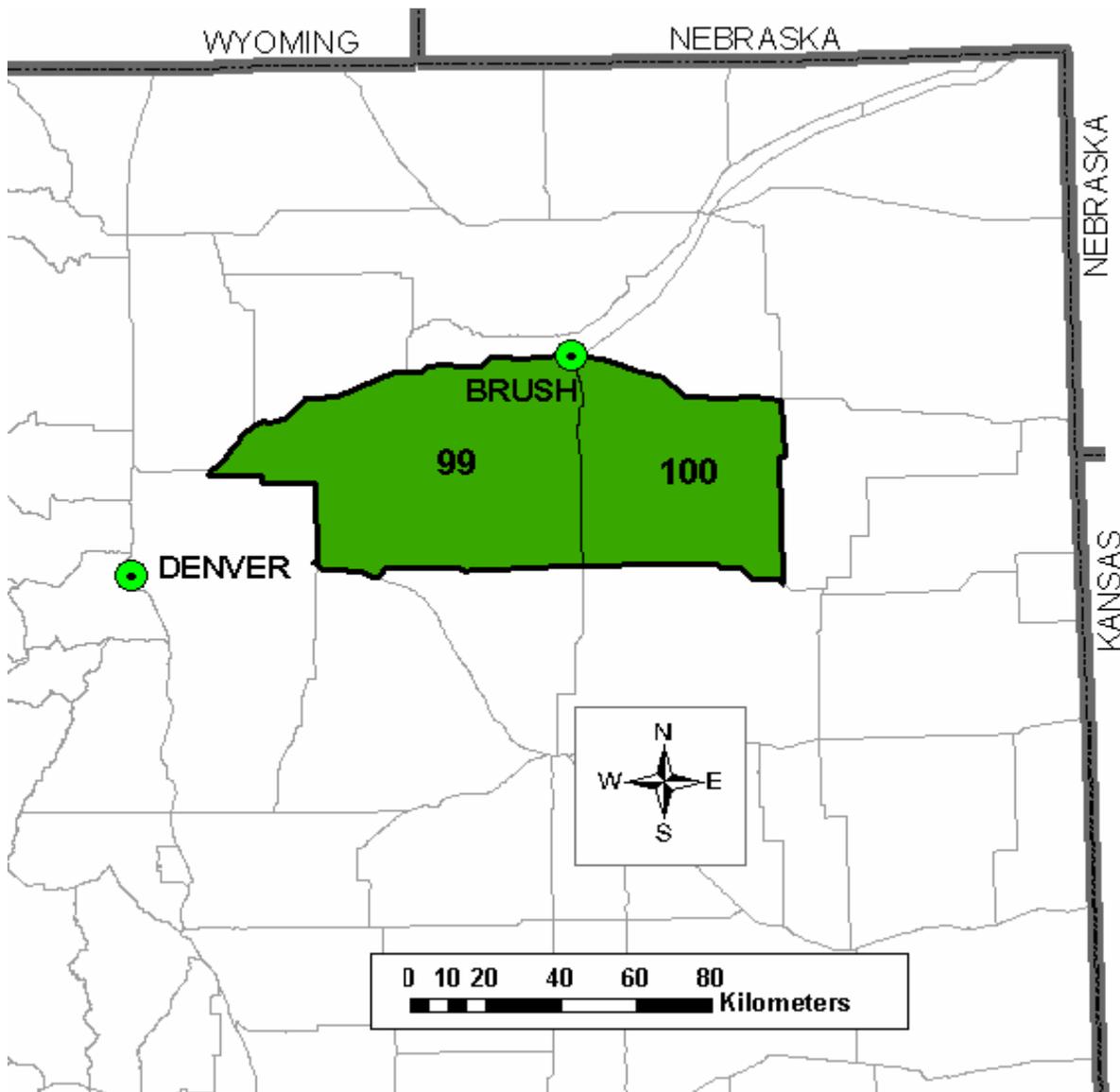


Figure 2. Geographic location of the Hardpan pronghorn DAU and its associated Game Management Units in northeast Colorado.

## HERD MANAGEMENT HISTORY

### **Pronghorn Distribution**

Pronghorn antelope are found throughout the DAU. The highest densities are in the southern portion of the DAU and are frequently associated with parcels of shortgrass rangeland in proximity to winter wheat or wheat fallow fields. Generally, pronghorn densities are lowest in areas of intense agricultural use. During the winter months, pronghorn often concentrate near green wheat and alfalfa fields, which can result in game damage complaints from landowners.

### **Post-Season Population Size**

Population numbers have declined during the last 18 years from a high of 1,875 in 1992 to 1,160 in 1994 (Figure 3). The largest decrease (40%) occurred in 1992-1994. A combination of low over-winter survival in 1992-93 coupled with a record harvest in 1993 was the primary factors for the decline. The population increased slightly during the mid to late 1990's to 1,405 in 1999. Since then severe drought conditions from 2001-2003 caused another decline to a low of 985 animals in 2003. The 2005 post-season population estimate is 1,018 pronghorn in this DAU. The 5 and 10-year population estimate averages for the DAU are 1,082 and 1,208 pronghorn, respectively.

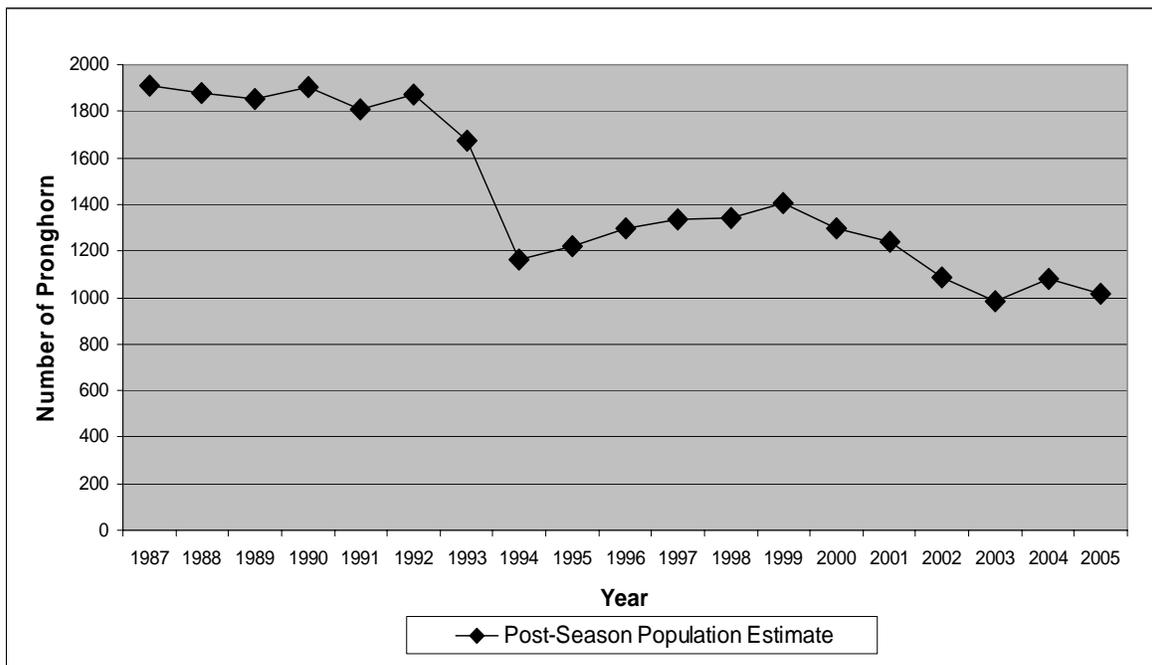


Figure 3. Post-season pronghorn population estimates for the Hardpan DAU, 1987-2005.

Estimating population numbers of wild animals over large geographic areas is a difficult and approximate science. The CDOW recognizes this as a challenge in our management efforts and attempts to minimize this by using the latest technology and inventory methodology available. Population estimates for pronghorn are derived using

computer model simulations that involve estimates of mortality rates, hunter harvest, and annual production. These simulations are then adjusted to align on measured pre-season age and sex ratio classification surveys and, in some cases, population estimates derived from line transect surveys.

The CDOW recognizes the limitation of the system and strives to do the best job with the resources available. As better information becomes available, such as new estimates of survival/mortality, wounding loss, sex ratios, density, or new modeling techniques and software, the CDOW will evaluate these new techniques and information and use them where appropriate. The use of new information may result in substantial changes in the population estimate or management strategies. Therefore, the population estimate presented in this document should be used as an index or as trend data and not as a completely accurate enumeration of the pronghorn in this DAU.

### **Post-Season Herd Composition**

Sex ratios, expressed as bucks per 100 does, and age ratios, expressed as fawns per 100 does, have been estimated by collecting classification data from aerial surveys in late summer. Observed sex and age ratios, along with harvest estimates are used in computer simulation models to project post-season sex ratios and population, determine license allocation, predict population changes, and assess impacts of reported harvest.

In the past 10 years, fiscal and personnel constraints have limited the number of aerial surveys that have been conducted in the Hardpan DAU. Since 1995, five years of observed data have been collected. Since 1987, the modeled post-season buck/doe ratio estimates have averaged 21 bucks/100 does ranging from 6 bucks/100 does in 1993 to 33 bucks/100 does in 1999 (Figure 4). The low modeled post-season buck:doe ratios are likely attributed to high harvest rates coupled with low survival rates in several years. Since 1987, management strategies and license allocations have been implemented to maintain this DAU at a post-season sex ratio objective of 30 bucks/100 does.

Observed fawn/doe ratios have varied from a low of 33 fawns/100 does in 1994 and 2005 to a high of 57 fawns/100 does in 1987 and has averaged 44 fawns/100 does (Figure 4). However, in 2002, fawn:doe ratios were the lowest in nearly 10 years, indicating the widespread drought may have adversely affected fawn recruitment in the DAU. Likewise, in 2005, severe and wide-spread hail storms in early and mid-July are suspected to have contributed to the low fawn:doe ratios observed in that year.

### **Harvest**

Over the last 19 years, pronghorn harvest has ranged from a high of 332 animals in 1993 to a low of 97 animals in 2004 (Figure 5). Average harvest since 1987 is 197 animals. The 1994 and 1995 harvests resulted from a 50% license reduction for the rifle season between 1993 and 1995, due to population concerns. Buck pronghorn harvest ranged from a low of 63 bucks in 2004 to a high of 160 in 1989 and 1993 (Figure 5). Since 1987, the average buck harvest is 112 animals. Doe harvest has ranged from a high of 154 animals in 1993 to a low of 29 in 2003 (Figure 5). Average doe harvest for the past 19 years was 92 animals. Archery and muzzleloading seasons exist within the DAU, although neither significantly impact pronghorn harvest, accounting for 3% of the annual harvest.

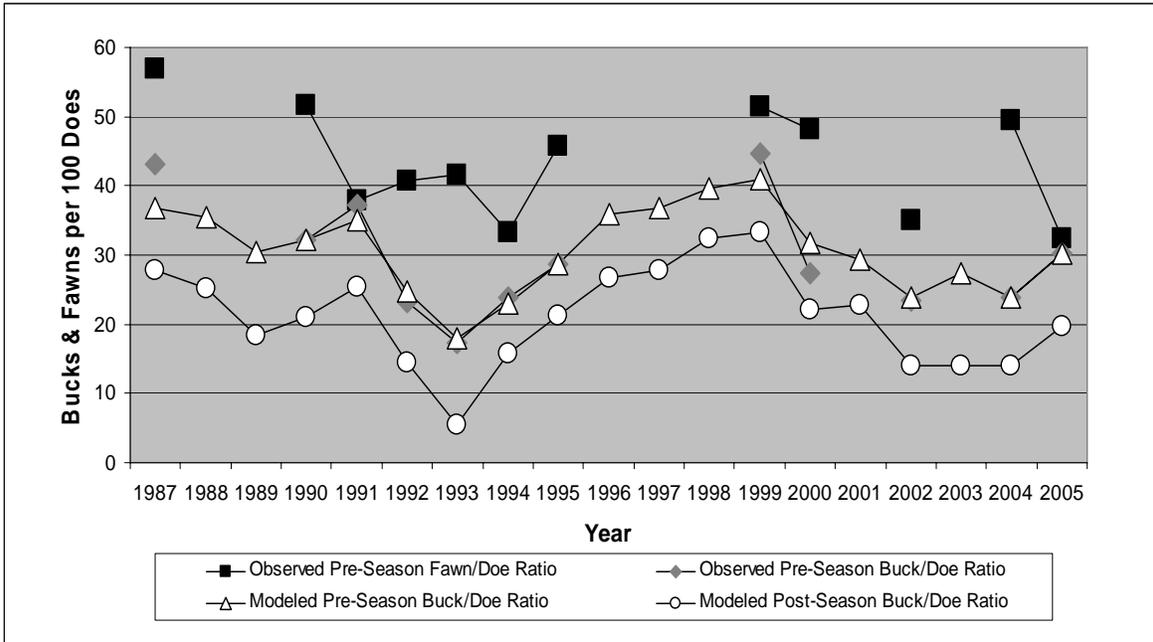


Figure 4. Observed pre-season buck/doe/fawn ratios and modeled pre- and post-season buck/doe ratio estimates for pronghorn in the Hardpan DAU, 1987–2005.

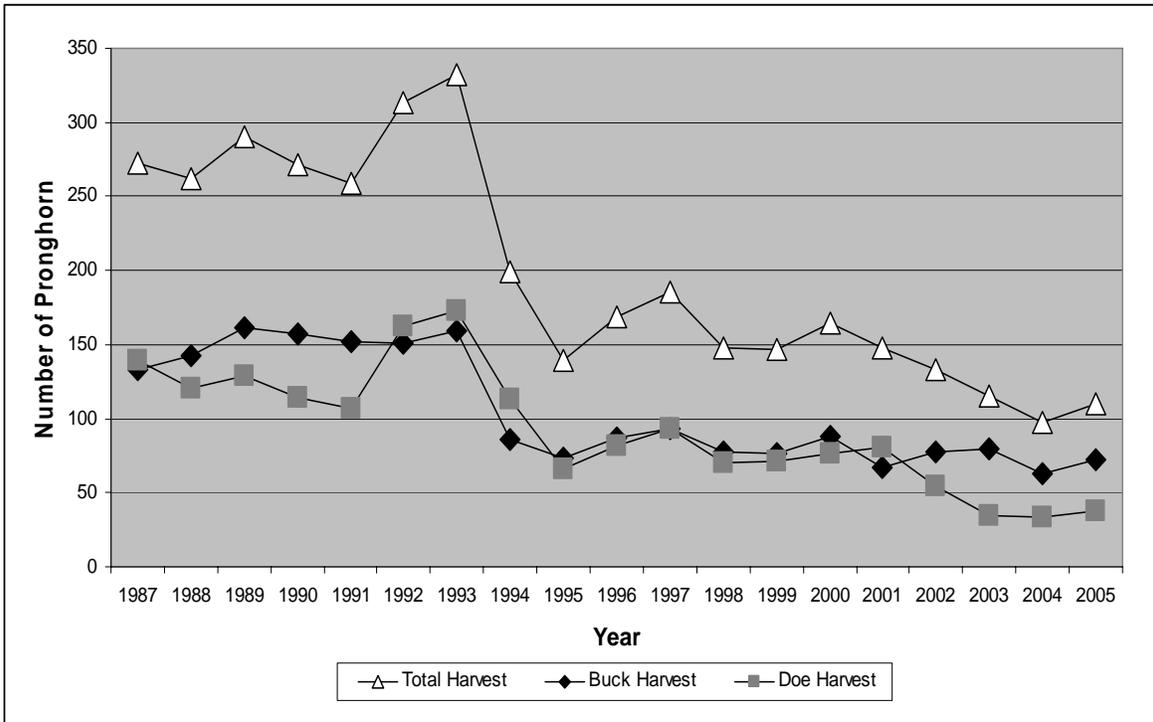


Figure 5. Total harvest and number of buck and doe pronghorn harvested in the Hardpan DAU, 1987–2005.

## Hunters

The DAU remains popular for buck hunting even though the population decline in 1993 resulted in substantial decreases in licenses in 1994 and 1995. In 2005, rifle buck licenses required 3 preference points to draw in GMU's 99 and 100 (Figure 6). Doe licenses were drawn with 1 point. Archery and muzzleloader licenses have remained unlimited in this DAU. Landowner preference licenses for bucks are over-subscribed in both GMU's and landowner applicants for doe tags have been over-subscribed in recent years.

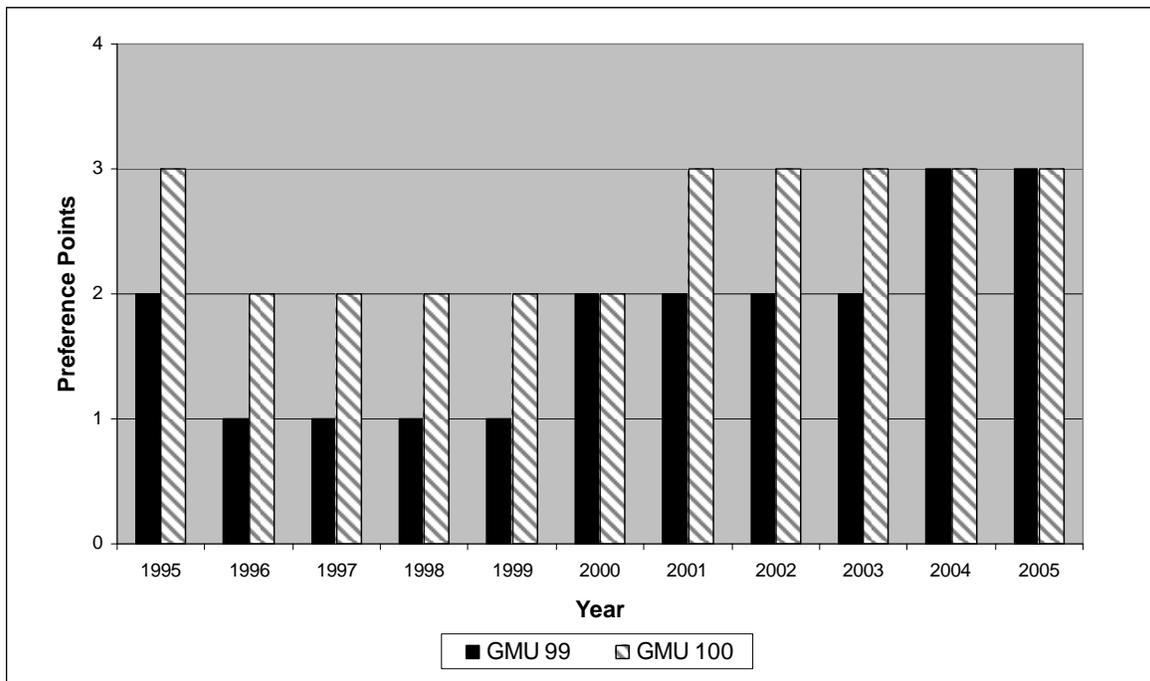


Figure 6. Number of preference points needed to draw a pronghorn buck license for the rifle season in the Hardpan DAU, 1995–2005.

The number of licenses has decreased from an average of 400-500 in the late 1980's and early 1990's to less than 200 per year recently (Figure 7). Since 1987, the number of buck licenses has varied from a high of 245 buck licenses for years 1988–1993 to a low of 105 buck licenses in 2003–2005 (Figure 7). The number of doe licenses ranged from a high of 265 licenses in 1993 to a low of 55 licenses for years 2003–2005 (Figure 7). In 1994 and 1995, buck and doe licenses were reduced by 50% because of poor over-winter survival in 1992–93 combined with the record harvest in 1993. In 2003, doe licenses for the regular rifle season were further reduced due to drought conditions that persisted in the DAU.

Success rates for the rifle season have not exhibited a downward trend and have averaged 60% (Figure 8). The 5 and 10-year average harvest success rates for buck pronghorn are 62% and 66%, respectively. The 5 and 10-year average harvest success rates for doe pronghorn are 58% and 57%, respectively.

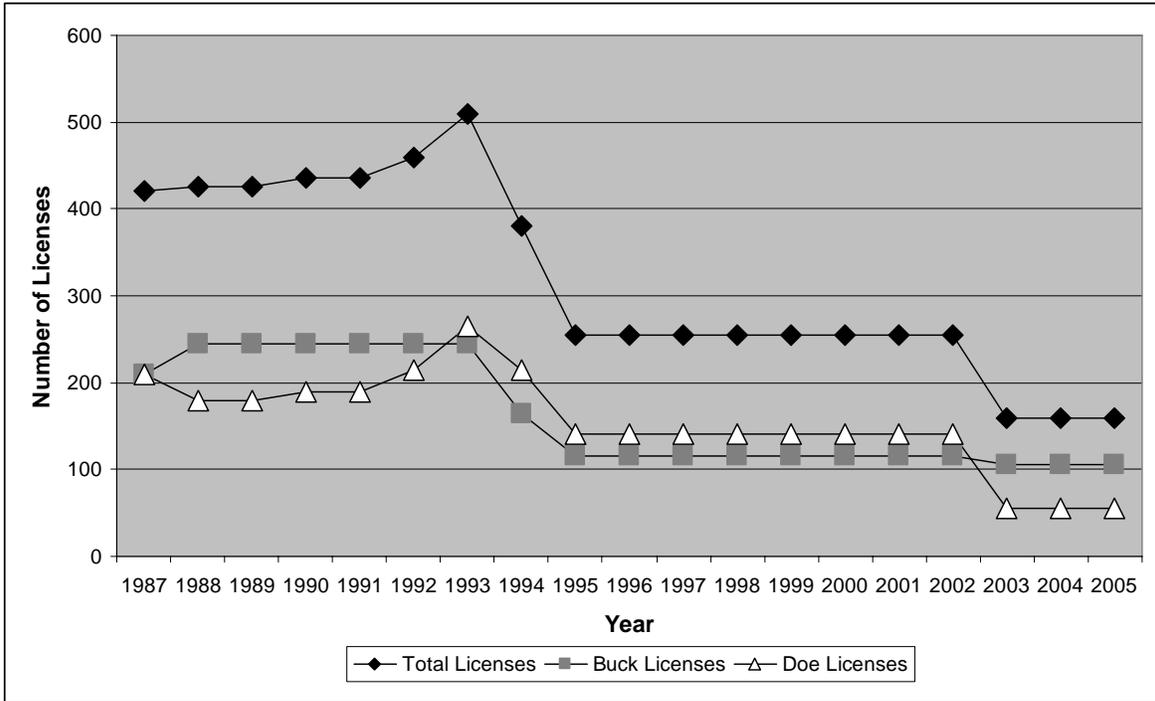


Figure 7. Total number of licenses and number of buck and doe pronghorn licenses allocated for the Hardpan DAU, 1987–2005.

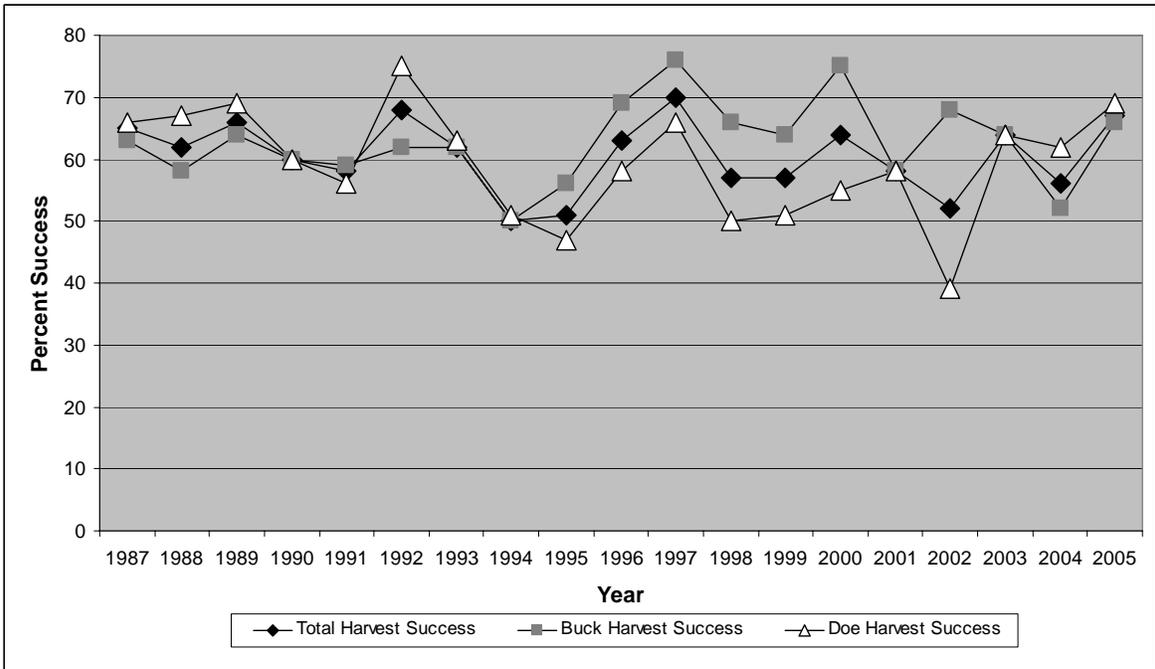


Figure 8. Total, buck, and doe pronghorn harvest success (%) in the Hardpan DAU, 1987–2005.

### **Past Management Strategies**

From 1967 through 1980, unlimited either-sex licenses were issued for rifle hunting. In 1980, licenses were changed to specified bucks and does which remained in effect until 1986. Since 1986, a limited number of buck and doe licenses have been issued for the rifle season for the entire DAU. Archery and muzzleloader licenses have remained either-sex and have not been limited in number in this DAU. Over the past 5 years, the average number of archery and muzzleloader hunters in the DAU was 30 and 2, respectively, resulting in a total harvest of 11 bucks and 0 does for archery during this time.

In 2003, license reductions were implemented, due to population concerns related to the severe drought conditions in 2002. Since 2002, licenses have been reduced by 37% in an effort to address the continued population decline.

## **CURRENT HERD MANAGEMENT**

### **Population and Sex Ratio Objectives**

The 2005 post-season estimate was 1,018 pronghorn. This estimate is well below the current post-season population objective of 2,100 pronghorn. The 2005 pre-season observed sex ratio was 30 bucks/100 does with a modeled post-season estimate of 20 bucks/100 does, also below the current post season objective of 30 bucks/100 does. Generally, an observed pre-season buck/doe ratio of at least 40 bucks/100 does is needed to maintain a post-season buck/doe ratio of 25–30 bucks/100 does.

### **Current Management Strategies**

The current management strategy for this DAU is to provide recreational hunting opportunities while maintaining pronghorn numbers within the tolerance of landowners. However, persistent drought conditions and the recent below-average fawn recruitment have negatively impacted the pronghorn population. Doe licenses were reduced in 2003 and again in 2006 in an effort to address the declining pronghorn population. More frequent and consistent collection of biological data will further improve our ability to monitor population changes over time.

### **Current Management Problems**

Over the last decade, the Hardpan DAU has undergone significant habitat changes which may have reduced pronghorn carrying capacity. This is primarily the result of changes in cropping practices in dryland crop production areas. In the past, these areas were normally farmed in a wheat fallow system. Quite commonly, a “two crops in three years” rotation is being used, which incorporates crops such as wheat, corn, and sunflowers in a much more intensive agricultural rotation. Because more pronghorn are found in rangeland settings and wheat-fallow areas than in tall-growing crop areas may indicate that the intense crop rotations has resulted in a reduction in the amount of pronghorn habitat and carrying capacity in the DAU. What is apparent is that the DAU will not support the number of pronghorn that were present in the late 1980’s and early 1990’s. Pronghorn damage is not a major issue in the Hardpan DAU with only 2 pronghorn damage claims

being filed in the past 20 years. However, landowner intolerance of antelope is and will continue to be a consideration in setting population objectives.

The persistence of drought conditions in this DAU has slowed the rate of land conversion in the recent past and range conditions have also deteriorated. Division field staff believes that the below-average fawn recruitment and subsequent population decline in recent years is primarily due to drought and poor habitat conditions that have persisted in this DAU and elsewhere in northeast Colorado. Buck and doe licenses during the rifle season were reduced for 2006 to address these concerns.

## **MANAGEMENT ISSUES AND STRATEGIES**

Public input was solicited at public meetings held on November 29 and 30, 2000 in Akron, CO and Brush, CO, respectively. The public meetings were advertised in the local papers of Akron, Brush, and Fort Morgan in northeast Colorado (Appendix A). Flyers advertising the public meetings were also distributed in places where they were likely to be seen by those affected by pronghorn management in this DAU. Copies of the draft plan were distributed to 24 local groups, including county commissioners, livestock associations, farm bureaus, conservation organizations, and land management agencies for review and comments. A draft of this DAU plan will be available at the Brush CDOW office and on the CDOW website for review.

Public comments indicated a desire to maintain or increase quality pronghorn hunting opportunities in this DAU (Appendix B). Also, public comments supported reducing the current long-term population objective. The primary issues in PH-2 are continuing to provide recreational hunting opportunities while managing the population at a more sustainable objective.

## **ALTERNATIVE DEVELOPMENT**

### **Post-Season Population Objectives**

The population objective is selected independently from the herd composition objective. The Division acknowledges that estimating wildlife populations is an inexact science and habitat conditions and carrying capacity vary with fluctuations in weather and trends in agriculture; therefore, the long-term population objective will be expressed as a range rather than a specific number.

Alternative 1: 1,000–1,200.

This represents nearly a 40% reduction from the old population objective but encompasses the current population estimate of 1,018. With good fawn production next season, increasing doe licenses will be necessary to maintain the population. Damage claims would remain negligible and hunting opportunities would remain near current levels. Minimal fiscal impacts are expected to individuals or businesses involved with pronghorn hunting in this DAU. There were no public comments that supported a reduction in pronghorn population objective of this magnitude.

Alternative 2: 1,400–1,600.

This represents a 25% reduction from the current population objective. Because the current population estimate is below this range, limited rifle doe hunting would continue for 3–5 years to reach objective, depending on fawn recruitment rates during that time. Damage complaints are expected to remain negligible under this alternative. Buck hunting opportunities would increase from the current level as the population increases to objective. Minimal fiscal impacts are expected under this alternative. Public comments supported managing for a reduced population objective.

Alternative 3: 2,000–2,200.

Maintain the long-term post-season population objective at its current level. Under this alternative, no rifle doe hunting would be implemented for at least 8–10 years, depending on fawn recruitment rates during that time. However, there is substantial evidence that there is neither landowner support nor adequate habitat to support a pronghorn population of this size. Damage claims and landowner intolerance are expected to increase under this alternative. There was no public support for maintaining the current long-term population objective.

### **Post-Season Herd Composition Objectives**

The following 3 sex ratio objectives are presented.

Alternative 1: 20–25 bucks/100 does.

Decrease the sex ratio objective to 20–25 bucks/100 does which is a 5–10 bucks/100 does reduction from the current objective. Under this alternative, quality hunting opportunities would remain at the current level. The number of buck licenses would remain at the current level for 1–2 years to meet objective, then licenses would be increased to slightly above the current buck license allocation. Public input did not support reducing the sex ratio objective.

Alternative 2: 25–30 bucks/100 does.

Maintain the sex ratio near the current objective of 25–30 bucks/100 does. This objective will continue to provide recreational hunting opportunities. Hunter satisfaction would likely remain stable and the demand for buck licenses would continue at its current pace with no fiscal impacts to individuals or businesses. Public comments support maintaining or improving quality hunting opportunities.

Alternative 3: 35–40 bucks/100 does.

Increase the sex ratio objective to 35–40 bucks/100 does which is a 5–10 bucks/100 does increase from the current objective. This alternative would result in an increase in the number of mature bucks in the population and quality hunting opportunities. Buck hunting opportunities would decrease because the number of buck licenses would be reduced to maintain objective. Under this alternative, the demand for buck licenses and hunter satisfaction would likely increase because of the increase in quality hunting opportunities. Public comments support managing for quality hunting opportunities.

## **PREFERRED OBJECTIVES AND ALTERNATIVES**

The CDOW's preferred objectives for PH-2 are to manage for a post-season population of 1,400–1,600 (**Alternative 2**) with a modeled post-season herd composition objective of 25–30 bucks/100 does (**Alternative 2**).

The majority of the public comments support reducing the pronghorn population objective in the Hardpan DAU. Game damage complaints have not been an issue thus far, and are not expected to significantly increase under the preferred alternative. Under this alternative, hunters can expect an increase in hunting opportunities once the objective is reached. Recent management actions taken to minimize doe harvest provide an encouraging outlook for recovering the pronghorn population in this DAU. This objective could be achieved within 3–5 years depending upon fawn recruitment. Thus, hunting opportunities should continue at the current level for the next few years if drought conditions abate.

Public comments strongly supported managing the Hardpan pronghorn herd to provide a level of quality buck hunting opportunities. Therefore, managing this DAU for 25–30 bucks/100 does will continue to provide the hunting public this opportunity. Division staff does not feel that increasing the sex ratio above 25–30 bucks/100 does can be supported without an unacceptable decrease in buck hunting opportunity because of the relatively low pronghorn numbers and past population performance in the DAU. The 2005 post-season modeled sex ratio was 20 bucks/100 does. Over the past 2 years, observed buck:doe ratios have been increasing. Division staff feels this increasing trend coupled with the 15% reduction in buck licenses implemented in 2006 will be adequate to achieve this sex ratio objective within 2–3 years. Buck hunting opportunities will continue at the current rate and are expected to increase as the population increases to objective. Despite the population being below objective, the Hardpan pronghorn herd continues to be a popular pronghorn hunting destination and the public has encouraged the Division to manage this population at a more sustainable level while continuing to provide buck hunting opportunities.

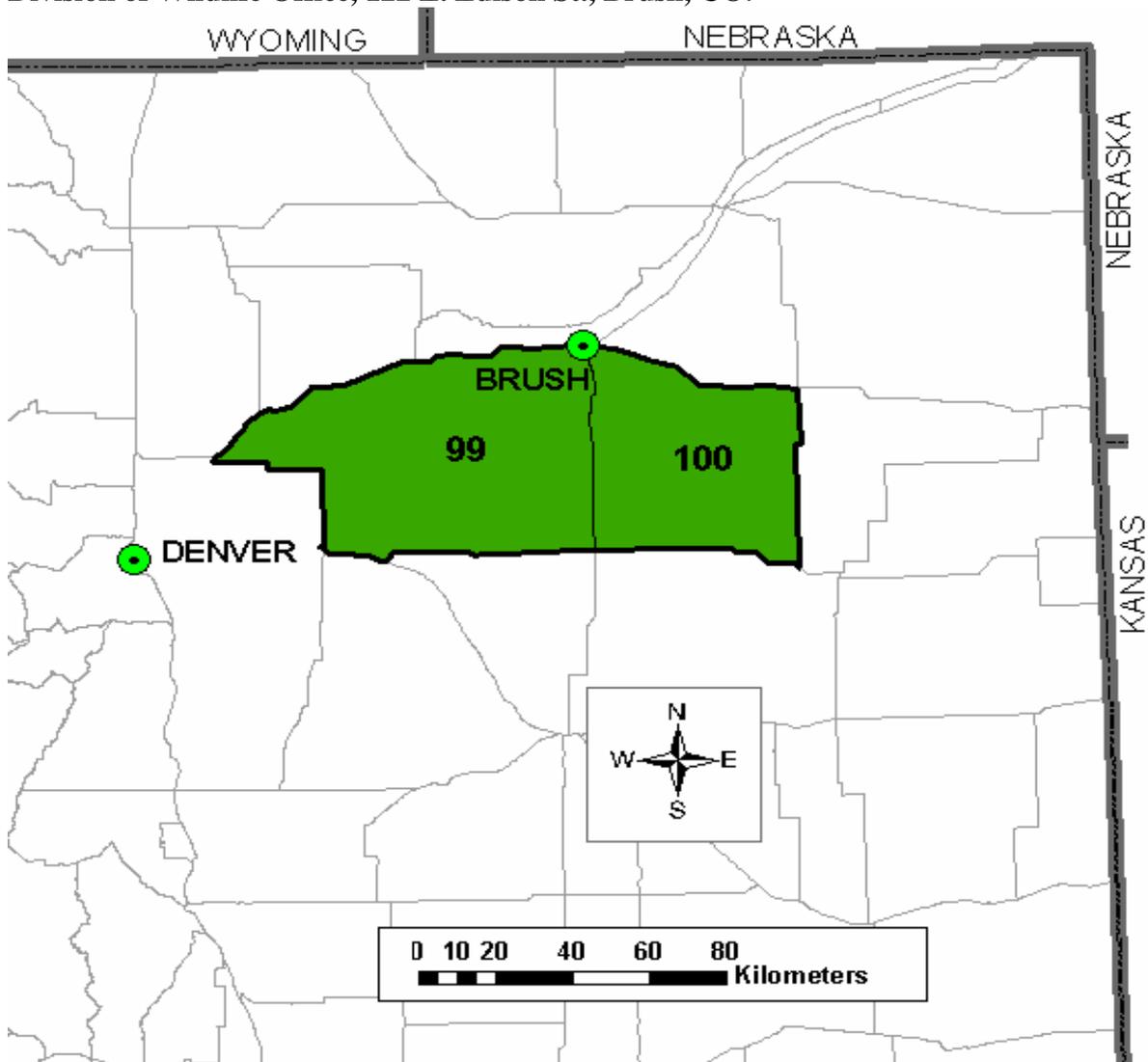
**APPENDIX A**  
**PUBLIC MEETING ANNOUNCEMENT**

# ANNOUNCEMENT OF PUBLIC MEETING

## COLORADO DIVISION OF WILDLIFE

### DAU PLANNING MEETING

The Colorado Division of Wildlife is currently writing a pronghorn management plan for Game Management Units 99 and 100 (see below). These units are managed together in a DAU, or Data Analysis Unit, which signifies a “herd” of pronghorn. DAU plans set future management direction with regards to total population size in the DAU, as well as the desired buck:doe:fawn ratio. Public input is requested for formulating new population objectives to guide management for the next 10 years, as well as, assist us in setting an overall population target. Public meetings are set for **November, 29th at 6:30 pm at the Akron Extension Office, 181 Birch, Akron, CO** and **November 30th at 6:30 pm at the Division of Wildlife Office, 122 E. Edison St., Brush, CO**.



**APPENDIX B**  
**PUBLIC COMMENTS**

## **AKRON PUBLIC MEETING COMMENTS FOR THE HARDPAN DAU**

- No comments were received at the Akron meeting.

## **BRUSH PUBLIC MEETING COMMENTS FOR THE HARDPAN DAU**

- Do not believe the pronghorn population is too high, but tendency to concentrate in the winter causes problems.
- Development is a concern on the west 1/3 of GMU 99. Denver International Airport has changed past use. Many of the new residents are intolerant of hunting pronghorn.
- Question the impacts of coyote predation on fawns, and interaction between deer and pronghorn.
- Population has declined over much of GMU 100, probably due to changes in farming practices.
- Weather in the recent past has not been favorable to pronghorn.
- Attribute the decline in pronghorn numbers in the early 1990's to bad weather.
- The means necessary to achieve the old long-term objective is not acceptable and landowners will not tolerate that many pronghorn.
- Pronghorn damage complaints should be closely monitored.
- A smaller population is probably the right thing to do, as long as, the quality buck hunting is not compromised.