SANDHILLS PRONGHORN HERD MANAGEMENT PLAN

DATA ANALYSIS UNIT PH-4

Game Management Units
93, 97, 98, 101, & 102

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DAU PH-4 (SANDHILLS)
EXECUTIVE SUMMARY

GMU's: 93, 97, 98, 101 and 102 **Land Ownership:** 99% Private, 1% State

Post-Season Population:

Previous Objective – 600; ***2004 Estimate*** – 410; ***Current Objective*** – 550–650

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

Previous Objective – 25; ***2004 Observed*** – 56; ***2004 Modeled*** – 26; ***Current Objective*** – 25–30

Figure I. PH-4 Post-Season Population Estimate

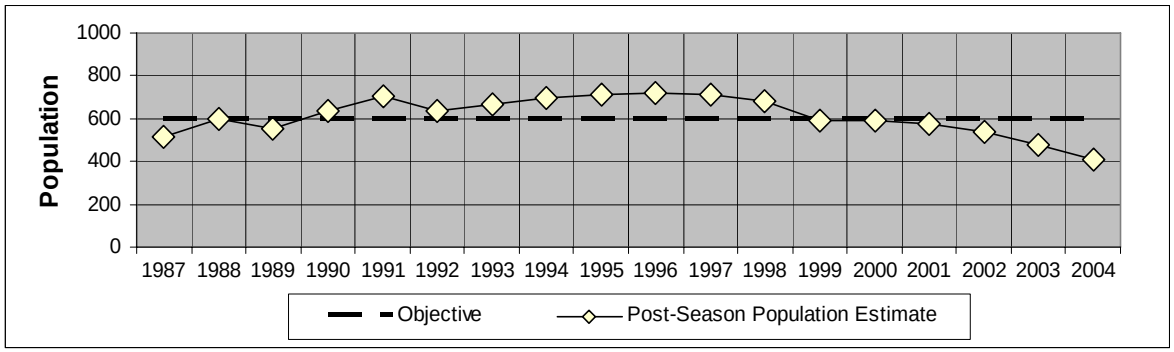


Figure II. PH-4 Harvest

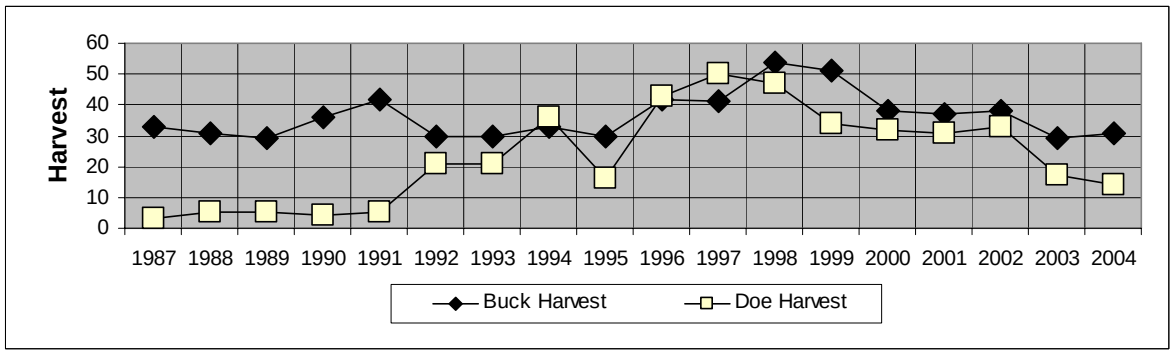
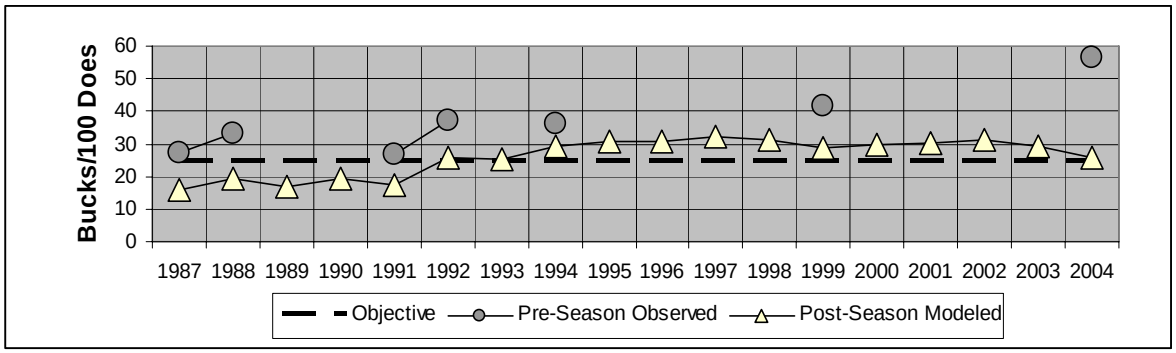


Figure III. PH-4 Post-Season Sex Ratios



Background

The current population and sex ratio objectives for the Sandhills 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 Sandhills DAU has experienced a decline over the last decade from a high of approximately 720 in 1996 to a low of 410 animals estimated in 2004. The 5 and 10-year population estimate averages for the DAU are 517 and 600 pronghorn, respectively. Since 1987, the modeled post-season buck/doe ratio estimates have averaged 26 bucks/100 does ranging from 16 bucks/100 does in 1987 to 32 bucks/100 does in 1997. Observed fawn/doe ratios have varied from a low of 27 fawns/100 does in 2004 to a high of 67 fawns/100 does in 1988 and has averaged 42 fawns/100 does.

Significant Issues

Public comments emphasized maintaining the current population objective and maintain or improve quality hunting opportunities in the DAU. The public did not support increasing the population objective because of the possible increase in animal damage complaints and landowner intolerance. Also, public input did not support reducing the herd composition objective.

Low recruitment rates have been a concern as the population has shown a steady decline over the past several years. High doe 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 2005. In 2005, the Colorado Division of Wildlife (CDOW) discontinued issuing doe licenses for the pronghorn rifle season in this DAU. While habitat conditions in this DAU are not of the quality that is found in a shortgrass dominated landscape, they are sufficient to adequately sustain a pronghorn population of the size recommended in this plan.

Management Alternatives

The CDOW's preferred objectives for PH-4 are to manage for a post-season population of 550–650 with a modeled post-season herd composition 25–30 bucks/100 does. Public comments supported maintaining the current pronghorn population objective and continue to manage the Sandhills pronghorn herd to provide quality buck hunting opportunities. The Division is encouraged that the management actions taken in recent years to minimize female harvest coupled with improved habitat conditions will recover the pronghorn population.

Other alternatives being considered in this DAU plan are: 1) reduce the population objective by 25% to 400–500 pronghorn, 2) increase the population objective by 25% to 700–800 pronghorn, 3) reduce the sex ratio objective to 20–25 bucks/100 does, and 4) increase the sex ratio objective to 30–35 bucks/100 does.

This DAU plan was approved by the Colorado Wildlife Commission on May 4, 2006.

SANDHILLS PRONGHORN MANAGEMENT PLAN
DAU PH-4 (GMU's 93, 97, 98, 101, & 102)

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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. Secondarily, 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.

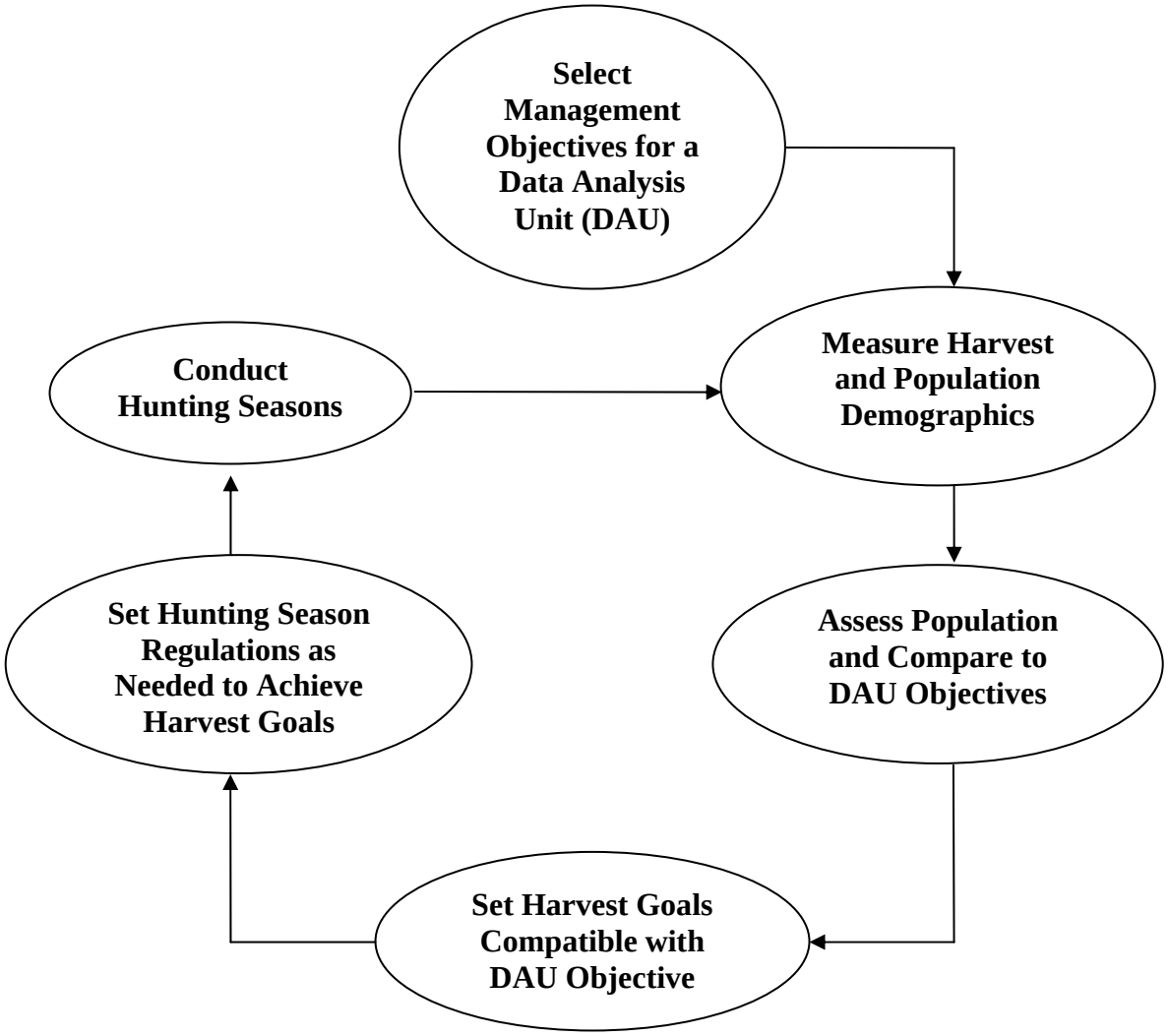


Figure 1. Colorado's Big Game Management by Objective Process.

SANDHILLS DAU DESCRIPTION

Location

The Sandhills pronghorn DAU is located in northeastern Colorado in portions of Logan, Morgan, Phillips, Sedgwick, Washington, and Yuma Counties (Figure 2). The DAU is bounded by I–76 and the Nebraska border on the north; the Nebraska and Kansas borders on the east; US 36 on the south; and US 34 and Colorado Highway 61 on the west. The DAU contains GMU's 93, 97, 98, 101, and 102 encompassing approximately 4,755 square miles.

Habitat Composition

There are several habitat types within the DAU, including dry cropland, irrigated cropland, sandsage/mid-grass prairie, short-grass prairie, Conservation Reserve Program (CRP) lands, cottonwood-riparian bottoms, and dry canyons. Nearly 50% of the DAU is comprised of sandsage/mid-grass prairie sandhills. The sandsage/mid-grass prairie is part of two sandhill complexes that run through the DAU. One extends along the entire northern boundary of the DAU and the other runs from the southwest corner of the DAU, northeast to the Nebraska border. 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 adjacent to river corridors and intermixed in the sandhill complexes along the northern boundary and in the southwest corner of the DAU. There are 5 primary riparian systems with the DAU; the North Fork of the Republican River, Black Wolf Creek, Dry Willow Creek, Frenchman Creek, and the Arikaree River.

Climate

The climate in the DAU is characterized by hot, dry summers and recently, relatively mild winters. Annual precipitation ranges from 13–21 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 Sandhills DAU are typical of eastern Colorado, with the majority of the area being in private ownership. Notable exceptions include the South Tamarack State Wildlife Area, and several smaller parcels owned by the Colorado Division of Wildlife, which comprise <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 throughout the DAU, including the sandhill complexes. Corn, wheat, and alfalfa are the primary crops under pivot irrigation.

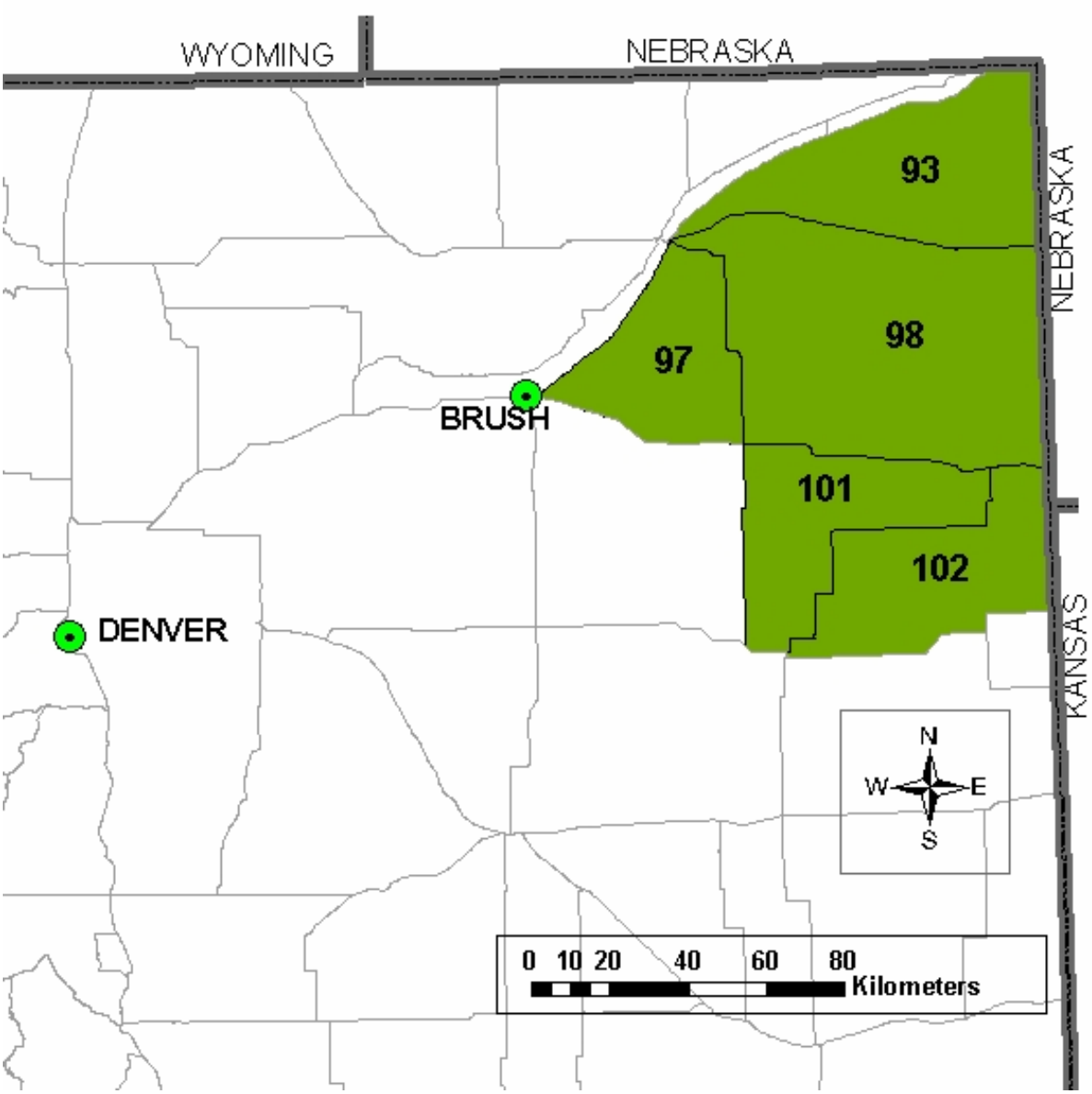


Figure 2. Geographic location of the Sandhills pronghorn DAU and its associated Game Management Units in northeast Colorado.

HERD MANAGEMENT HISTORY

Pronghorn Distribution

Pronghorn antelope are found throughout the DAU. The highest densities are 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

The pronghorn population in the Sandhills DAU has never reached densities like those found in populations living in shortgrass dominated habitat. The pronghorn density in the Sandhills DAU has historically been 5–10 times lower than neighboring pronghorn DAU's. Currently, the density in PH-4 is 4 pronghorn/100 sq. km, which is substantially lower than the densities in PH-2 (14 pronghorn/100 sq. km), located directly to the west, and PH-1 (42 pronghorn/100 sq. km) located directly north and west of PH-4. Extremely low numbers in the late 1940's prompted Game and Fish personnel to transplant 27 animals to 2 sites in Yuma County in 1950 and 1951. Later documentation indicated that one of the transplants was a failure, while the other release was showing very low fawn recruitment.

Low fawn recruitment has been a concern in this DAU as the pronghorn population has declined from a peak of 781 animals in 1974. In the early 1990's, the population increased to an estimated 720 pronghorn in 1996 (Figure 3). Since then the population has declined to a low of 410 animals estimated in 2004 (Figure 3). Because of the limited years of observed data in the Sandhills DAU, the population models did not reveal the downward trend that occurred in the late 1990's, until a few years after. Therefore, harvest objectives were not appropriately adjusted which lead to several years of overharvesting. This was followed by several years of severe drought that has also played a key role in further suppressing the pronghorn population in this DAU. The 5 and 10-year population estimate averages for the DAU are 517 and 600 pronghorn, respectively.

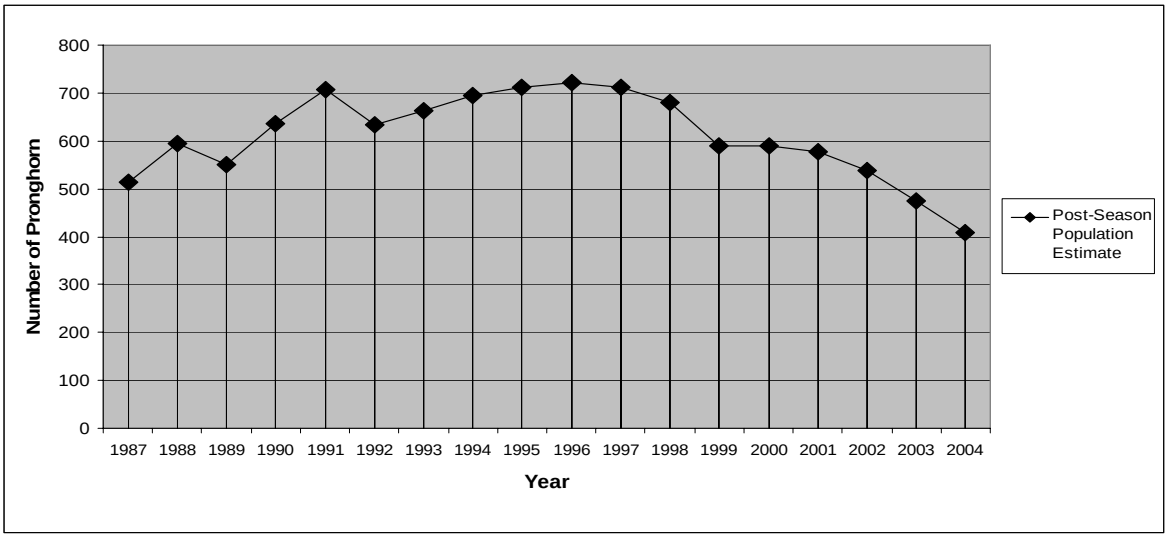


Figure 3. Post-season pronghorn population estimates for the Sandhills DAU, 1987–2004.

Estimating population numbers of wild animals over large geographic areas is a difficult and approximate science. The CDOW recognizes this as a serious 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 counts 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 18 years, fiscal constraints and low pronghorn densities have limited the number of aerial surveys that have been conducted in the Sandhills DAU. Since 1987, seven years of observed data have been collected. Since 1987, the modeled post-season buck/doe ratio estimates have averaged 26 bucks/100 does ranging from 16 bucks/100 does in 1987 to 32 bucks/100 does in 1997 (Figure 4). Since 1987, management strategies and license allocations have been implemented to maintain this DAU at a post-season sex ratio objective of 25 bucks/100 does.

In 1999 and 2004, the Division conducted aerial surveys throughout the Sandhills DAU. In 1999, habitat conditions were good and 277 pronghorn were classified with a buck/doe/fawn ratio of 42/100/34. In 2004, drought conditions were persisting for the 3 straight year and only 134 pronghorn were classified with a buck/doe/fawn ratio of 56/100/27. The decline in the number of pronghorn classified was most evident in GMU's 97 and 98. In 1999, there was 152 pronghorn classified between the 2 GMU's compared to 16 classified in 2004. The high observed buck/doe ratio in 2004 is because in GMU's 93, 97, and 98, 50% of the observations were bucks, which artificially inflated the buck/doe ratio for the DAU. Classification data collected in 2005 aligned more closely with model predictions, which also indicates that the 2004 observed buck/doe ratio was biased high.

Observed fawn/doe ratios have varied from a low of 27 fawns/100 does in 2004 to a high of 67 fawns/100 does in 1988 and has averaged 42 fawns/100 does (Figure 4). However, in 2004, fawn:doe ratios were the lowest in nearly 2 decades, indicating the widespread drought may continue to adversely affect fawn recruitment in the DAU.

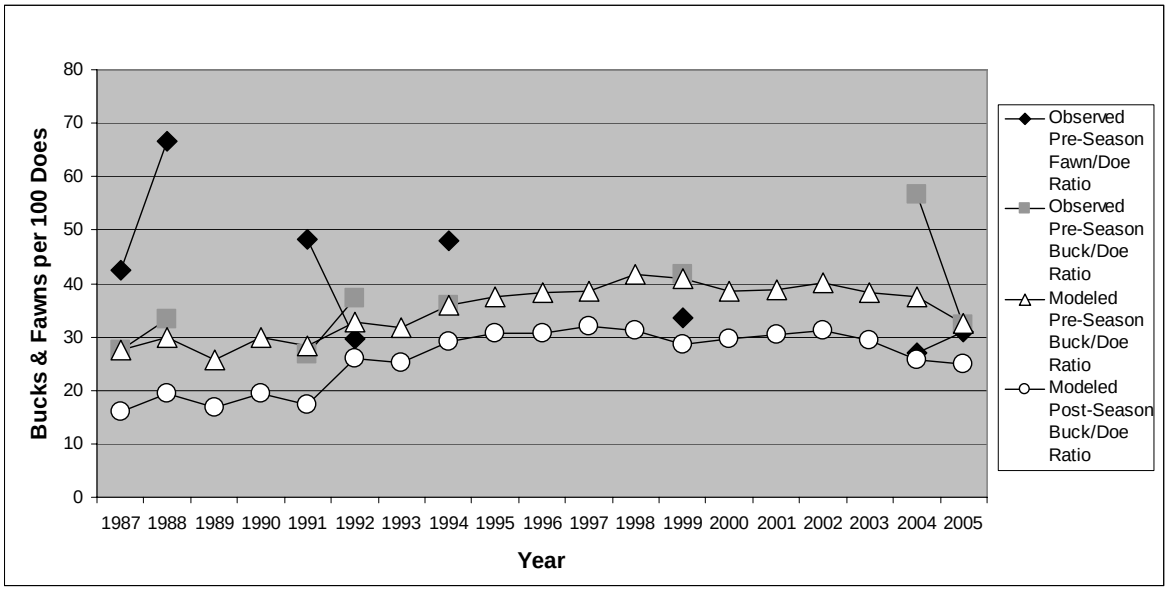


Figure 4. Observed pre-season buck/doe/fawn ratios and modeled pre- and post-season buck/doe ratio estimates for pronghorn in the Sandhills DAU, 1987–2005.

Harvest

Over the last 18 years, pronghorn harvest has ranged from a high of 101 animals in 1998 to a low of 34 animals in 1989 (Figure 5). Average harvest since 1987 is 60 animals. Antlered harvest ranged from a low of 29 bucks in 1989 and 2003 to a high of 54 in 1998 (Figure 5). Since 1987, the average buck harvest is 36 animals. Doe harvest has ranged from a high of 50 animals in 1997 to a low of 3 in 1987 (Figure 5). Average doe harvest for the past 18 years was 22 animals. Archery and muzzleloading seasons exist within the DAU, although neither significantly impact pronghorn harvest, accounting for about 3% of the total annual harvest.

Hunters

Most of the DAU remains popular for pronghorn buck hunting, despite the population being significantly below objective. In 2004, rifle buck licenses required 3 preference points to draw in GMU's 97, 98, and 102, while GMU 101 required 4 preference points to draw a rifle buck license (Figure 6). Doe licenses were drawn with zero points. Archery and muzzleloader licenses have remained unlimited in this DAU. Landowner preference licenses for bucks are over-subscribed in all GMU's, but landowner applicants for doe tags have been under-subscribed in most years.

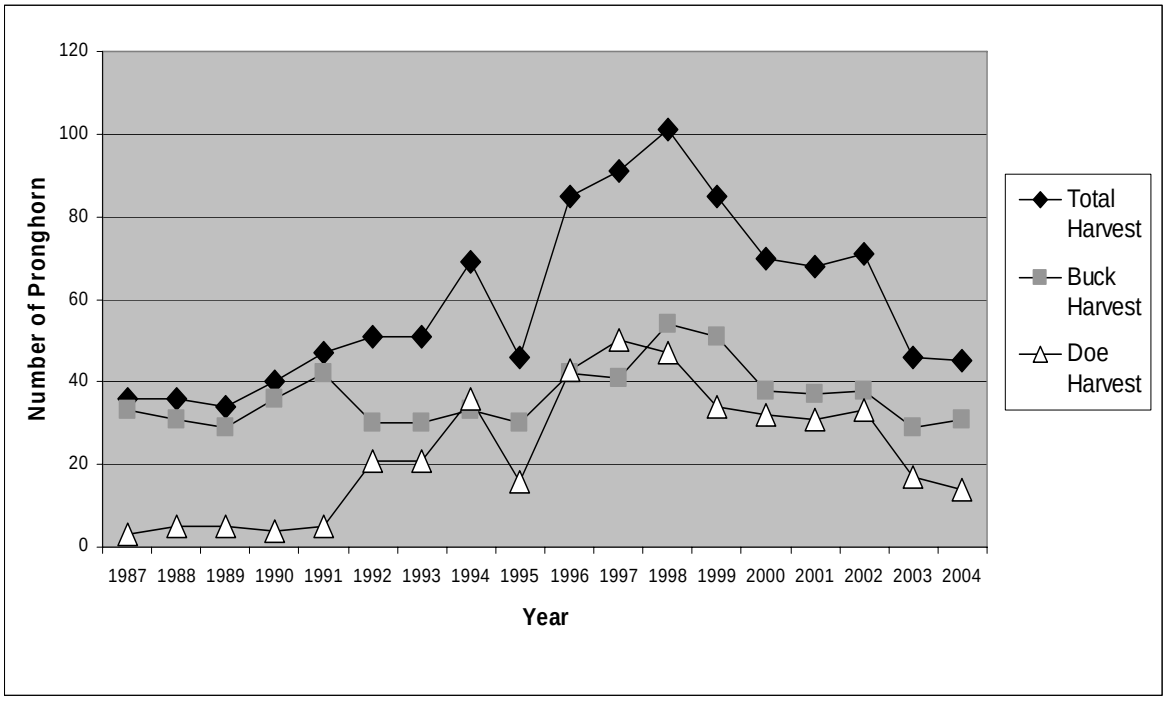


Figure 5. Total harvest and number of buck and doe pronghorn harvested in the Sandhills DAU, 1987–2004.

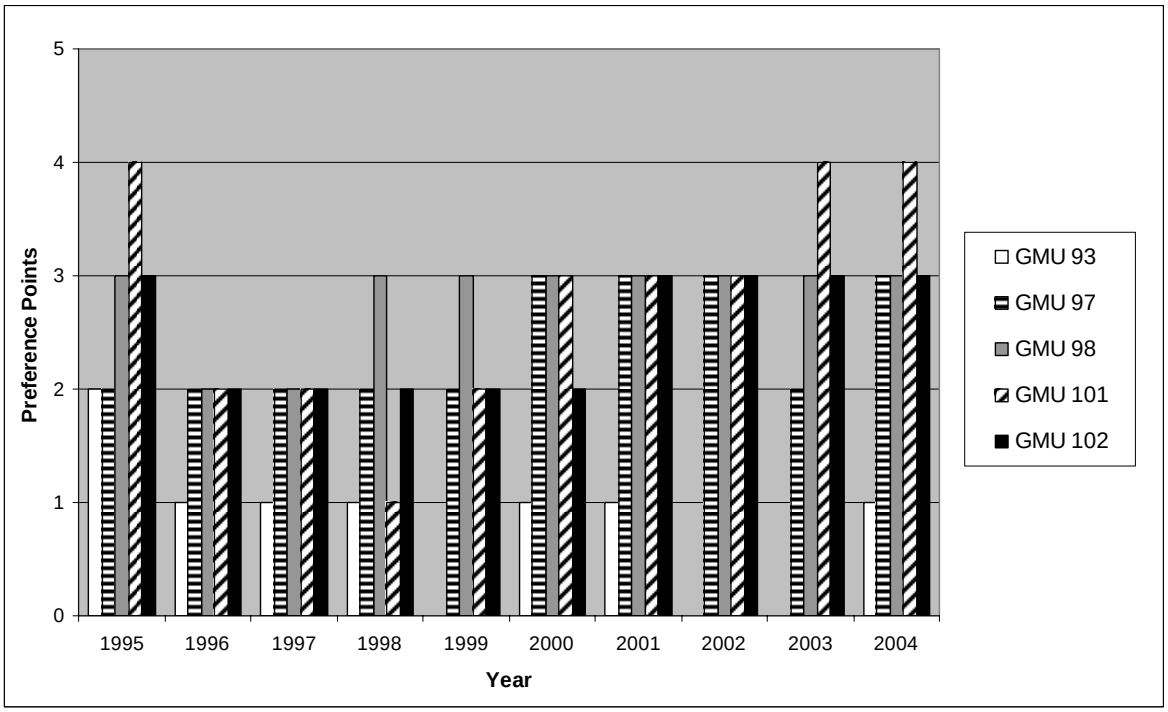


Figure 6. Number of preference points needed to draw a pronghorn buck license for the rifle season in the Sandhills DAU, 1995–2004.

The number of hunters has varied from 45 in 1987 to 139 in 2002 depending on the number of limited licenses available (Figure 7). Since 1987, the number of buck licenses has varied from a high of 60 buck licenses in 1997, 1998, and 2002 to a low of 30 buck licenses in 1992 and 1993 (Figure 7). The number of doe licenses ranged from a high of 80 licenses in 1998 to a low of 5 licenses for years 1987–1991 (Figure 7). In 2003, doe licenses were reduced by 50% because of drought conditions that persisted in the DAU. In 2005, doe licenses for the regular rifle season were eliminated to further address the continued population decline.

During the 1990's, success rates for the rifle season averaged 83% (Figure 8). In the last 5 years success rates have declined, averaging 63% and hunter success in 2002 and 2003 for the rifle season was 61%; the lowest in over 15 years. The 5 and 10-year average harvest success rates for antlered pronghorn are 61% and 70%, respectively. The 5 and 10-year average harvest success rates for antlerless pronghorn are 43% and 52%, respectively.

Past Management Strategies

From 1967 through 1980, the season structure was either-sex for rifle hunting in this DAU. In 1980, most of the DAU was changed to buck hunting only, while GMU 97 changed to specified: bucks and does until 1992. Since 1992, a limited number of buck and doe licenses have been issued for the rifle season for the entire DAU. In 2005, the DAU was changed to buck hunting only for the rifle season. Archery and muzzleloader licenses have remained either-sex unlimited in this DAU. Over the past 5 years, the average number of archery and muzzleloader hunters in the DAU was 18 and 3, respectively.

In 2003, license reductions were implemented, due to population concerns related to the severe drought conditions in 2002. The failure of the population to increase after doe licenses were reduced by 50% along with the continued drought conditions in the DAU indicated that further reductions in licenses were necessary. Therefore, in 2005, doe licenses were not issued for the pronghorn rifle season. Since 2002, licenses have been reduced by 64% in an effort to address the continued population decline.

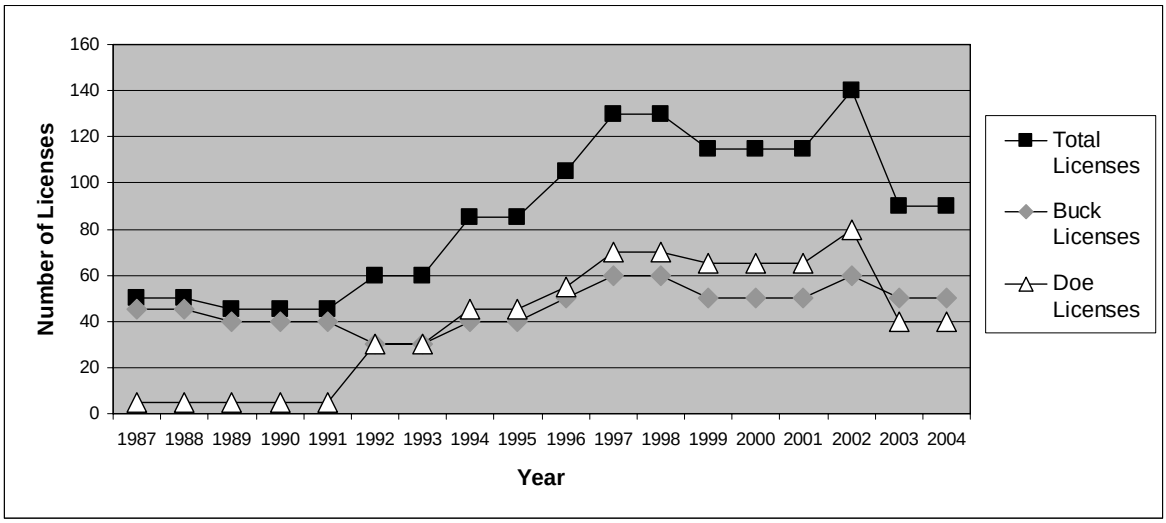


Figure 7. Total number of licenses and number of buck and doe pronghorn licenses allocated for the Sandhills DAU, 1987–2004.

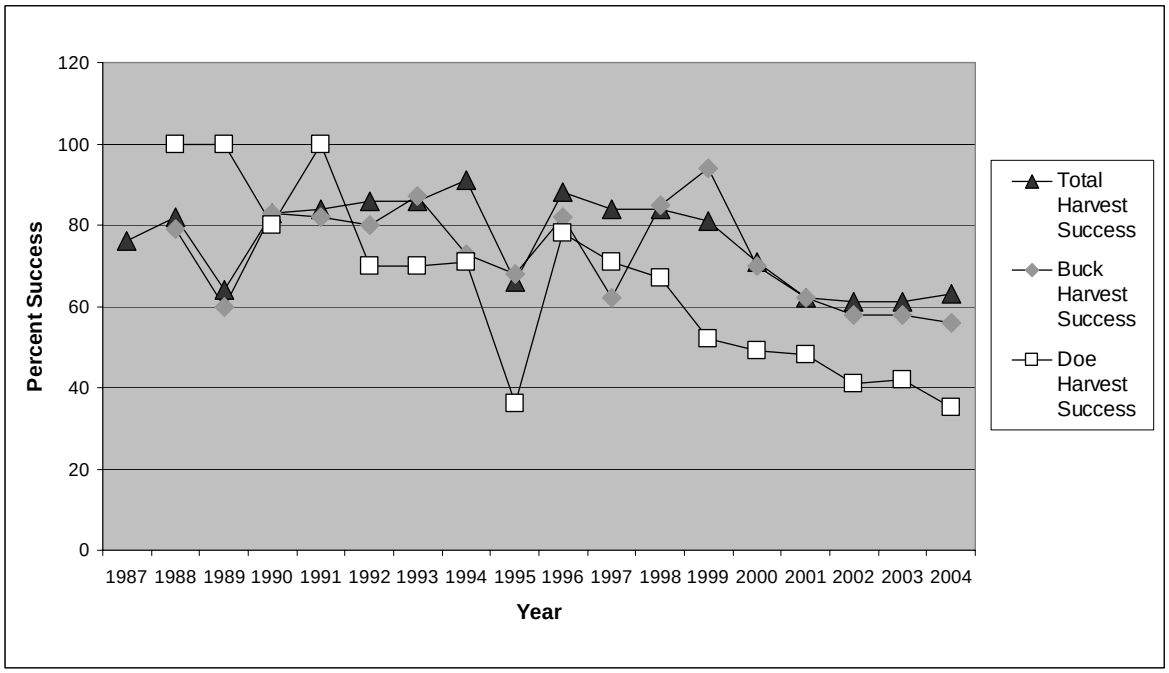


Figure 8. Total, buck, and doe pronghorn harvest success (%) in the Sandhills DAU, 1987–2004.

CURRENT HERD MANAGEMENT

Population and Sex Ratio Objectives

The 2004 post-season estimate was 410 pronghorn. This estimate is below the current post-season population objective of 600 pronghorn. The 2004 pre-season observed sex ratio was 56 bucks/100 does with a modeled post-season estimate of 26 bucks/100 does. The current post-season sex ratio objective for the DAU is 25 bucks/100 does. Generally, an observed buck/doe ratio of at least 40 bucks/100 does is needed to maintain a post-season buck/doe ratio of 25 bucks/100 does depending upon fawn recruitment rates. It is believed that the 2004 observed buck/doe ratio was biased high because of low numbers of pronghorn observed in several GMU's and over 50% of those observations were bucks, which artificially inflated the overall observed buck/doe ratio.

Current Management Strategies

The current management strategy for this DAU is based on providing recreation hunting opportunities while maintaining pronghorn numbers within the tolerance of landowners. However, persistent droughts conditions and poor fawn recruitment have negatively impacted the pronghorn population. Doe licenses were reduced in 2003 and again in 2005 when no doe licenses were issued for the rifle season in an effort to address the declining pronghorn population in the Sandhills DAU. 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 Sandhills DAU has undergone some habitat changes. This is primarily the result of conversion of shortgrass and midgrass rangelands to irrigated cropland, as well as, the conversion of dryland agriculture to pivot irrigation. 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 do not provide adequate habitat for pronghorn. Pronghorn damage is not an issue in the Sandhills DAU with only 1 pronghorn damage claim being filed in the past 20 years. However, landowner intolerance of antelope is and will be a major factor 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 low fawn recruitment and subsequent population decline is primarily due to drought and poor habitat conditions that have persisted in this DAU and elsewhere in northeast Colorado. Doe hunting during the rifle season was eliminated for 2005 to address these concerns.

MANAGEMENT ISSUES AND STRATEGIES

The primary purpose of the DAU planning process is to determine objectives for the size and structure of the pronghorn population. Input for the DAU planning process has been solicited through a public meeting held on March 15, 2005 in Yuma, CO, which was sponsored and attended by the Republican River Habitat Partnership Program (HPP) committee. The public meeting was advertised in the local papers of Yuma, Wray, Sterling, Akron, Brush, and Fort Morgan in northeast Colorado (Appendix A). Furthermore, a draft of the DAU plan will be available at the Brush CDOW office and copies will be distributed to the Republican River HPP committee, land management agencies, and conservation organizations for review and comments.

Public comments indicated a desire to maintain or increase quality pronghorn hunting opportunities in this DAU (Appendix B). Also, public comments supported maintaining the current long-term population objective. The primary issues in PH-4 are continuing to provide recreational hunting opportunities while recovering the declining population through antlerless license reductions.

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: 400–500.
This represents a 25% reduction from the old population objective but encompasses the current population estimate of 400–500. With good fawn production next season, limited doe licenses in selected GMU's may be needed to maintain the population. Damage claims would remain negligible and hunting opportunities would remain at current levels. Minimal fiscal impacts are expected to individuals or businesses involved with pronghorn hunting. Public input was not supportive for reducing the pronghorn population objective.

Alternative 2: 550–650.
Manage the post-season population towards the current objective of 550-650. Since the current population estimate is below this range, no rifle doe hunting would be implemented for 4–5 years to reach objective, depending on fawn recruitment rates during that time. Doe licenses would be necessary once objective is reached. Damage complaints are expected to remain negligible. Buck hunting opportunities would increase from the current level as the population increases to objective. Some fiscal impact is expected during the years that rifle doe hunting is discontinued. Public comments support managing for the current population objective.

Alternative 3: 700–800.
Increase the long-term post-season population objective by 25% (700–800) from the current objective. Under this alternative, no rifle doe hunting would be implemented for 8–10 years, depending on fawn recruitment rates during that time. However, there are indications 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. Some fiscal impact is expected during the years that rifle doe hunting is discontinued.

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 bucks/100 does reduction from the current objective. This objective would result in a decline in quality hunting opportunities. The number of buck licenses would be increased for the first 1–2 years to meet objective, then licenses would be reduced 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 at 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 supported a slight increase from the current sex ratio objective.

Alternative 3: 30–35 bucks/100 does.
Increase the sex ratio objective to 30–35 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. There would likely be negative fiscal impacts to individuals and businesses from the long-term reduction in the number of buck licenses.

PREFERRED OBJECTIVES AND ALTERNATIVES

The CDOW's preferred objectives for PH-4 are to manage for a post-season population of 550–650 (**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 maintaining the pronghorn population objective in the Sandhills DAU. Game damage complaints have not been an issue thus far, and are not expected to increase under the preferred alternative. Under this alternative, hunters can expect an increase in hunting opportunities once the objective is reached. Division staff were encouraged by the improvement in habitat conditions in 2005 and this coupled with the recent management actions taken to minimize doe harvest provides an encouraging outlook for recovering the pronghorn population in this DAU. This objective could be achieved within 4–5 years depending upon fawn recruitment. Thus, hunting opportunities will continue at the current level for the next few years.

Public comments strongly supported managing the Sandhills pronghorn herd to provide some 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 is warranted in this DAU because of the low pronghorn population and the added reduction in buck licenses that would be required to maintain a higher sex ratio objective. The 2004 post-season modeled sex ratio was 26 bucks/100 does. Therefore, no management actions are necessary to maintain this objective. Quality buck hunting opportunities will continue at the current rate and are expected to increase as the population increases to objective. Despite the low population, the Sandhills pronghorn herd continues to be a popular pronghorn hunting destination and the public has encouraged the Division to continue to take the management actions necessary to return this pronghorn population to objective levels while providing quality hunting opportunities in PH-4.

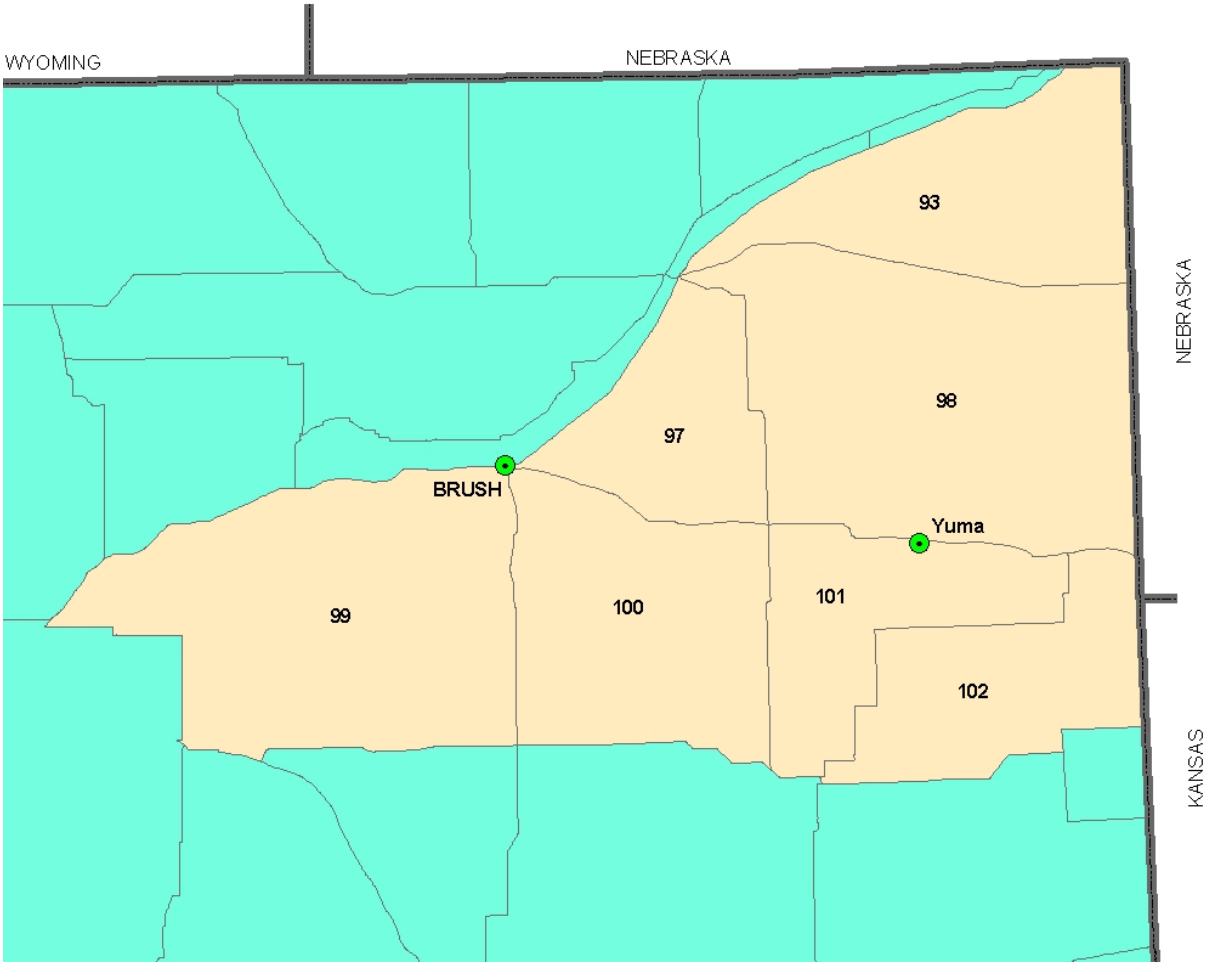
APPENDIX A

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 93, 97, 98, 101 and 102 and 2 deer management plans, one for Game Management Units 93, 97, 98, 99 and 100 and one for Units 101, and 102 (see below). These units are managed together in a DAU, or Data Analysis Unit, which signifies a "herd" of pronghorn or deer. 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. A public meeting is set for **March 15th at 6:00 pm at the Yuma Community Center, 421 E. 2nd, Yuma, CO.** For more information, contact Marty Stratman at (970) 842-6314.



APPENDIX B

PUBLIC COMMENTS

YUMA PUBLIC MEETING COMMENTS FOR THE SANDHILLS DAU

- Continue to manage the pronghorn population to meet the current population objective and maintain at that level. PUBLIC-(All)

- The pronghorn population objective should not be reduced. Public-(All)

- Keep the buck/doe ratio at or above the current objective. PUBLIC-(All)

- The buck/doe ratio should not be reduced; this will reduce quality hunting opportunities. PUBLIC-(Majority)

- Increase quality hunting opportunities. Public-(Two people)

- Pronghorn damage complaints should be closely monitored. HPP Committee