SOUTH PLATTE RIVER DEER HERD MANAGEMENT PLAN

DATA ANALYSIS UNIT D-44

Game Management Units
91, 92, 94, 96, & 951

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DAU D-44 (SOUTH PLATTE RIVER)
EXECUTIVE SUMMARY

GMU's: 91, 92, 94, 96, and 951 **Land Ownership:** 98% Private, 2% Public

Post-Season Population:

Previous Objective – 2,000; ***2008 Estimate*** – 3,600; ***Current Objective*** – 3,500–3,800

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

Previous Objective – 35; ***2007 Observed*** – 35; ***2007 Modeled*** –35; ***Current Objective*** – 35–40

Figure I. D-44 Post-Season Population Estimate

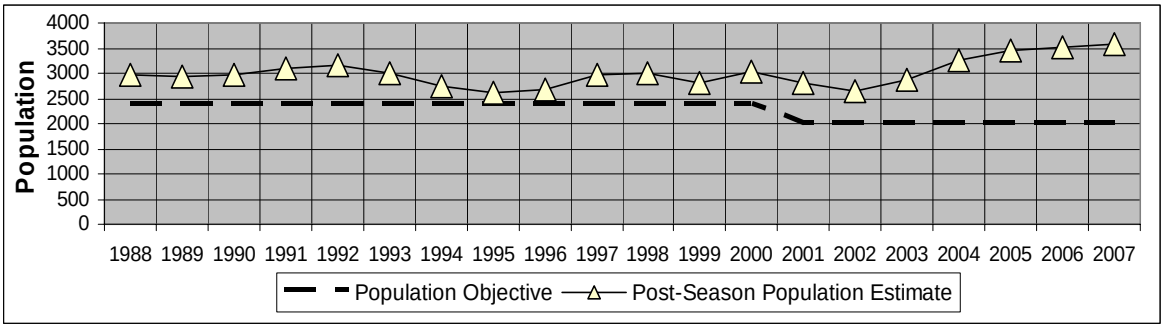


Figure II. D-44 Harvest

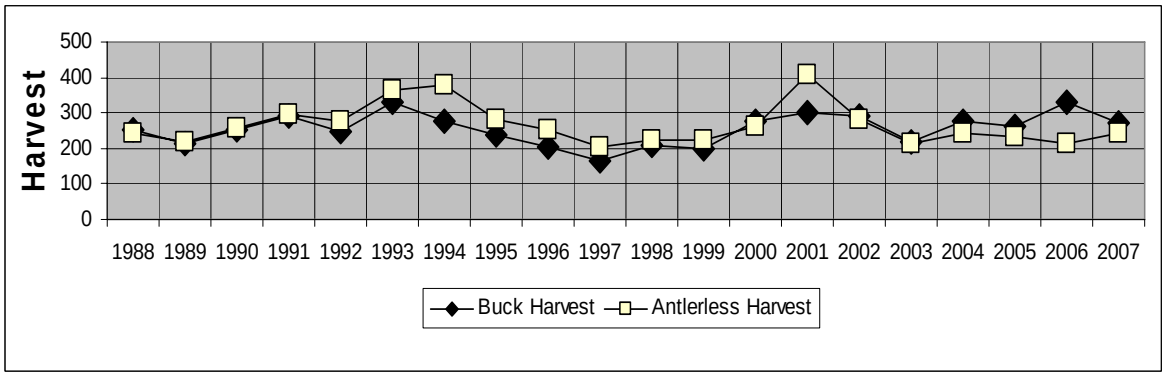
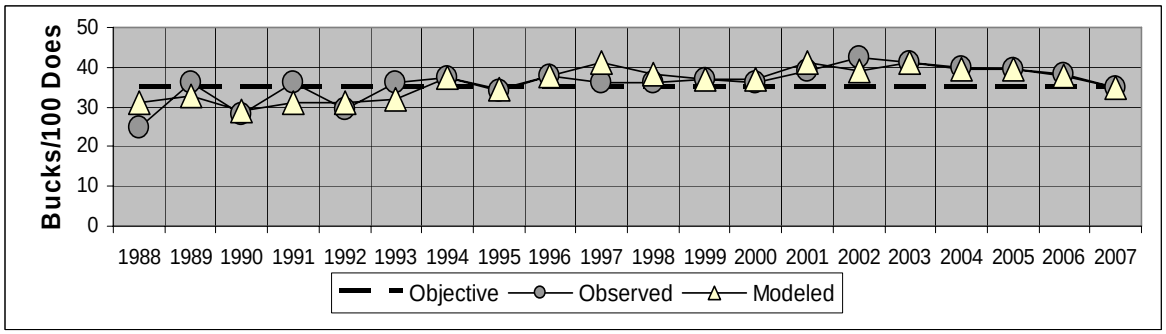


Figure III. D-44 Post-Season Sex Ratios



Background

The current population and sex ratio objectives of 2,000 deer and 35 bucks/100 does were established for the South Platte River Data Analysis Unit (DAU) in 2001 through the DAU planning process. Because of excellent survey conditions with complete snow cover in 2006 and 2007, over 2,700 deer were classified each year demonstrating that the deer population was substantially above objective. This prompted the decision to reevaluate the current deer management plan. This document and the population and sex ratio alternatives presented are the result of an update and revision of that DAU plan.

Over the past 20 years, estimated deer numbers have ranging from a high of 3,600 in 2007 to a low of 2,600 deer in 1995. The 5 and 10-year estimate averages are 3,300 and 3,100 deer, respectively. Since 1988, the buck/doe ratio has ranged from a low of 25 bucks/100 does observed in 1988 to a high of 42 bucks/100 does observed in 2002. Over the last 5 years, the buck/doe ratio has averaged 39 bucks/100 does.

Significant Issues

Over the past 10-15 years, private hunting leases for ducks, geese, and deer along the South Platte River have steadily increased and many of these lands are now inaccessible to most hunters. Thus, nearly all public lands open to hunting have experienced an increase in the number of users to the point that crowding has become a concern. In addition, aerial surveys have shown that deer routinely concentrate on private lands due to the high hunting pressure on public lands and limited access and hunting pressure on private land. In an effort to increase deer harvest on private lands in the central and eastern portions of the DAU, Private-Land Only (PLO) buck and then doe licenses were issued for the late-plains rifle season in GMU's 91, 92, and 96 beginning in 2000 and 2005, respectively. Thus far, the addition of PLO licenses has improved deer harvest on private lands to meet overall population and sex ratio objectives.

Management Alternatives

The CDOW's preferred objectives for D-44 are to manage for a post-season population of 3,500–3,800 with an observed post-season sex ratio of 35–40 bucks/100 does. The majority of public input supported maintaining the current population level and managing the deer herd to provide quality buck hunting opportunities. However, landowner input from GMUs 91, 92, and 96 supported reducing the population, while comments from GMUs 94 and 951 in the western portion of the DAU supported increasing deer numbers. Therefore, to maintain the population at the current level, deer numbers would be reduced in GMUs 91, 92, and 96, while simultaneously increasing deer numbers in GMUs 94 and 951 by the same proportion. The 2007 post-season observed sex ratio was 35 bucks/100 does, therefore, no change to current management strategies are necessary to maintain this objective.

Other alternatives considered in this DAU are: 1) reduce the population by 20% to 2,800–3,100 deer, 2) increase the population by 20% to 4,200–4,500 deer, 3) reduce the sex ratio objective to 30–35 bucks/100 does, and 4) increase the sex ratio objective to 40–45 bucks/100 does.

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

SOUTH PLATTE RIVER DEER MANAGEMENT PLAN
DAU D-44 (GMU's 91, 92, 94, 96, & 951)

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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 (DAUs).

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 (GMUs), 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 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.

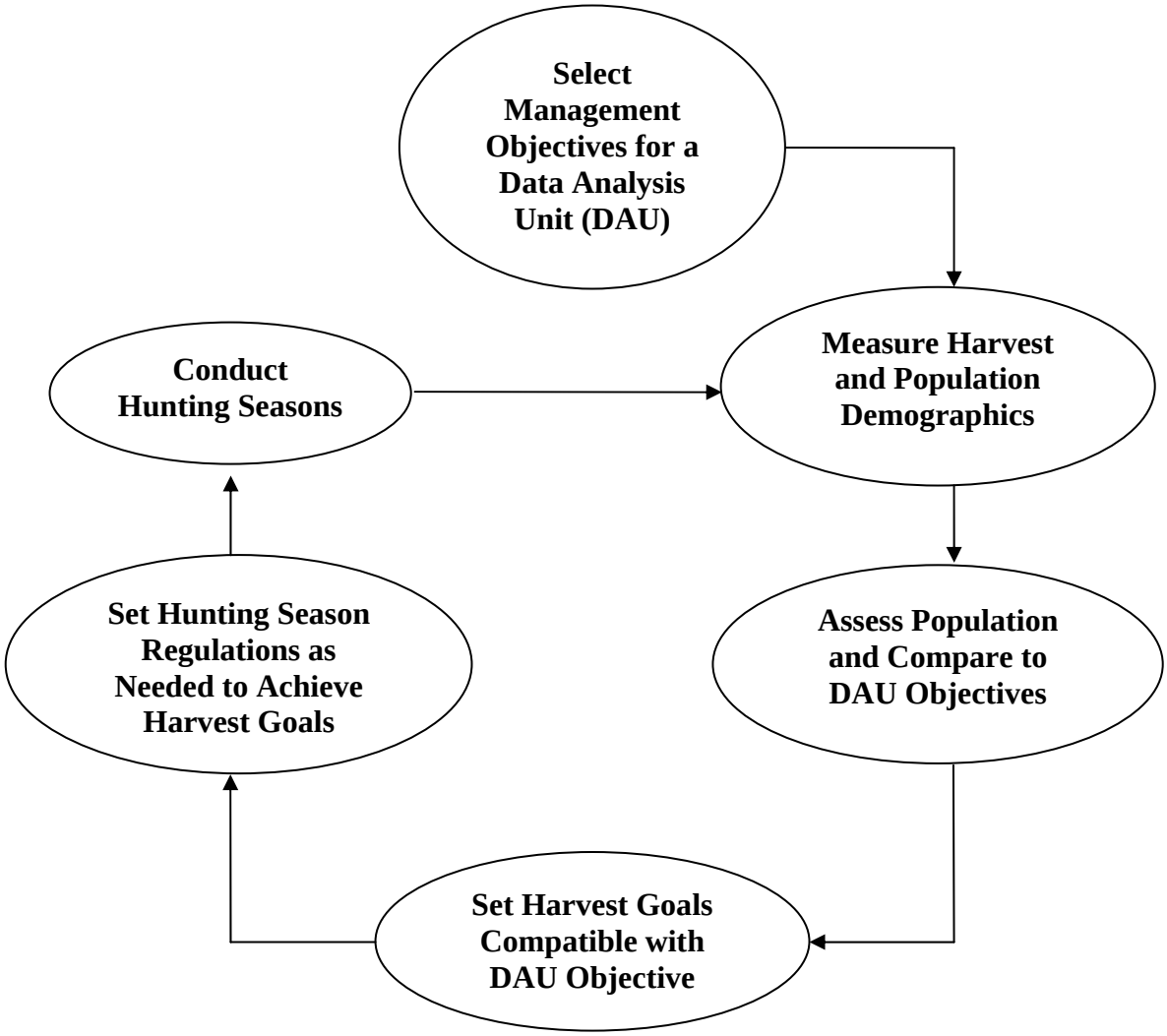


Figure 1. Colorado's Big Game Management by Objective Process.

SOUTH PLATTE RIVER DAU DESCRIPTION

Location

The South Platte River DAU is located in northeast Colorado (Figure 2). The DAU is bounded on the north by Colorado Highway 14, U.S. Highway 85, Colorado Highway 392, Weld County Road 68, Morgan County Roads 0, GG, 2, Colorado Highway 144, Morgan County Roads W.5, 13.5, W, 28, W.5, Colorado Highway 71, 2nd street in Snyder, CO, Morgan County Road W.7, Washington County Road 58, Logan County Roads 17.7 and 6, U.S. Highways 6 and 138 and the Nebraska border; on the east and south by Interstate 76 and Colorado Highway 7 and on the west by Interstate 25. The DAU contains GMUs 91, 92, 94, 96, and 951 and encompasses approximately 1,684 square miles.

Habitat Composition

Three habitat types, irrigated cropland, sandsage/mid-grass prairie, and cottonwood riparian, dominate the landscape, comprising 65%, 20%, and 10% of the habitat composition, respectively, in the DAU. Other habitat types that can be found include dry cropland, short-grass prairie, and Conservation Reserve Program (CRP) lands.

In GMUs 91, 92, and 96 in the central and eastern portions of the DAU, cottonwood riparian and associated irrigated cropland comprise 85-90% of the habitats. In the western GMUs of 94 and 951, irrigated cropland and sandsage/mid-grass prairie are the dominant habitat features, comprising 60% and 25% of the habitats, respectively. The South Platte River is the primary riparian drainage and extends throughout the DAU. Other drainages include Big Thompson and Cache La Poudre Rivers, Bijou Creek, Lost Creek, and St Vrain Creek.

Climate

The climate in the DAU is characterized by hot, dry summers and relatively mild winters. Annual precipitation ranges from 13–16 inches with most occurring during intense summer thunderstorms. Snowfall can be variable in the area, but recent winters have been dry with moderate temperatures. The exception being the winters of 2006–07 and 2007–08 when colder temperatures and above average snowfall were recorded.

Land Use

The majority of land in the South Platte River DAU is in private ownership. Most of the public land is managed by the CDOW, with the State Land Board and Bureau of Reclamation also having several small holdings. Public lands comprise about 2% of the DAU, with 89% of the acreage being located in GMUs 91, 92, and 96 in the eastern half of the DAU. Land use is a combination of agriculture and recreation and it continues to shift farther towards recreation than agricultural production, predominantly on forested lands adjacent to the South Platte River. Frequently, private land is purchased or leased for deer and waterfowl hunting, often to the exclusion of other uses. Both center pivot and flood irrigation occur throughout the DAU. Corn, alfalfa, and sugar beets are the primary crops under irrigation. On the western end of the DAU in GMU 94, both commercial and residential development are impacting deer habitat.

Most of the habitat changes within the South Platte River corridor have been beneficial to deer, as in the case of Conservation Reserve Program (CRP) and continued cropping practices that emphasize corn and alfalfa. However, the decline in the amount and duration of livestock grazing within the riparian corridor over the past 30 years has produced the most significant changes. The once common practice of grazing livestock in riparian areas year-round has slowly changed to more rotational or seasonal grazing patterns and, in many cases, complete exclusion of livestock. This change in grazing practices has dramatically increased the amount of cover throughout the South Platte River corridor. Consequently, habitat quality for deer, especially white-tailed deer, has steadily increased and will likely persist if agricultural cropping systems continue to emphasize corn and alfalfa production.

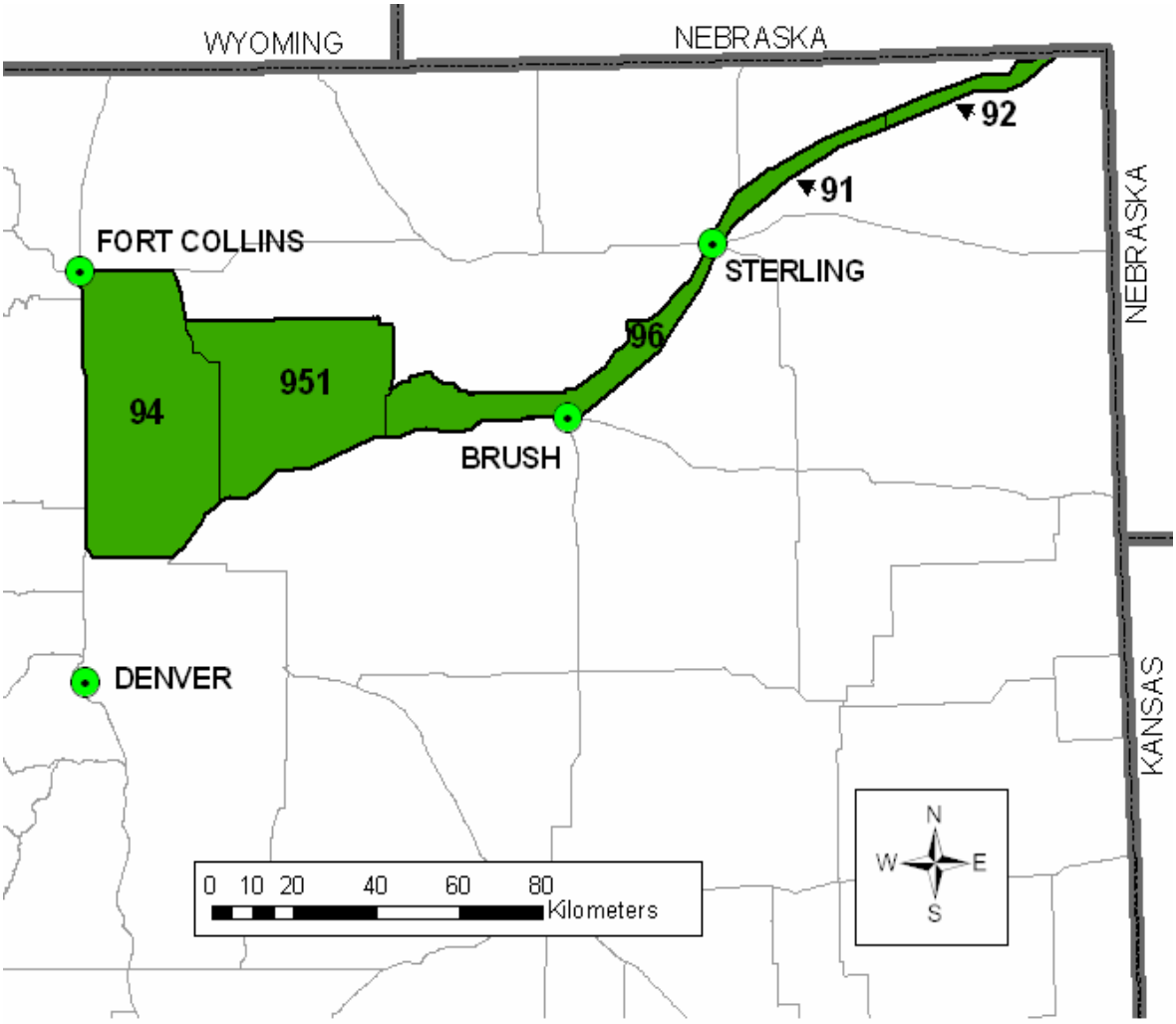


Figure 2. Geographic location of the South Platte River deer DAU and its associated Game Management Units in northeast Colorado.

Deer Distribution

Prior to 1960, Colorado's eastern plains were almost exclusively populated by mule deer. White-tailed deer became reestablished in the South Platte River corridor during the middle of the last century and have slowly increased in numbers and distribution. The decline in the amount and duration of livestock grazing and changes in river flows (reduced spring flows and associated scouring) over the past 30 years has dramatically increased the amount of cover within the South Platte River riparian corridor, which likely created the mechanism for white-tailed deer to proliferate and expand throughout the DAU.

Although, both species are found throughout the DAU, mule deer are more prevalent in the open habitat settings found in the western GMUs of 94 and 951, while white-tailed deer are most numerous in the central and eastern GMUs of 91, 92, and 96, which primarily encompass just the South Platte riparian corridor. Based on 2006 and 2007 aerial surveys, a ratio of nearly 9:1 whitetail to mule deer was observed in GMUs 91, 92, and 96, while the ratio in the western GMUs of 94 and 951 was about 1:1 whitetail to mule deer. While most white-tailed deer are residents of D-44, some move out of the DAU into adjacent uplands, just prior to fawning season. As corn crops are harvested in the fall and winter approaches, most white-tailed deer return to the South Platte River corridor.

HERD MANAGEMENT HISTORY

Post-Season Population Size

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 deer are derived using computer model simulations that involve estimates of mortality rates, hunter harvest, and annual production. These simulations are then adjusted to align with measured post-season sex ratios, as well as, minimum deer numbers in benchmark years such as 1992, 2006, and 2007.

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 approximation and not as a precise enumeration of deer in this DAU.

Estimated deer numbers for the South Platte River have remained fairly stable over the last 20 years except for a recent increase that began in 2003. The population has ranged from an estimated high of 3,600 in 2007 to a low of 2,600 deer in 1995 (Figure 3). The DAU has experienced normal population fluctuations associated with weather conditions, hunting pressure, and population dynamics. The 5 and 10-year population estimate averages for the DAU are 3,300 and 3,100 deer, respectively.

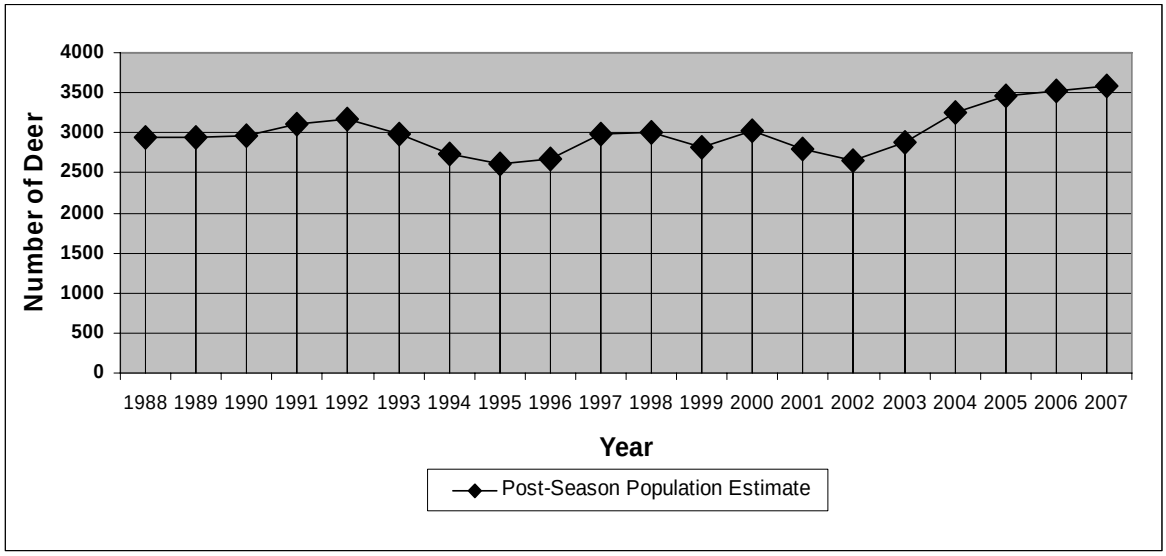


Figure 3. Post-season deer population estimates for the South Platte River DAU, 1988–2007.

Over the past 20 years, optimal aerial survey conditions with 100% snow cover have rarely occurred, with 1992 being the exception when 3,166 deer were classified. Since that time, only 4 years have had significant snow cover, with the remaining years having little or no snow cover. Since 1992, the number of deer classified from aerial surveys has consistently ranged from 1,400–1,800 deer. However, in 2006 and 2007, complete snow cover and cold temperatures again made for sighting a high proportion of the deer herd and 2,767 and 2,738 deer were classified, respectively. Because the number of deer classified was greater than the estimated population for the DAU, population models were adjusted to account for the high number of deer observed. This model adjustment revealed the estimated deer population was substantially above the long term objective approved in 2001 with Chronic Wasting Disease in mind. The 2007 estimated population was 3,600 deer for the South Platte River DAU and the current population objective is 2,000 deer.

Deer are not evenly distributed among the GMUs along the South Platte River. The Division estimates that 65–70% of the deer population resides in GMUs 91, 92, and 96 in the central and eastern portion of the DAU. These estimates are based on a combination of aerial survey data, historic harvest, and CDOW field staff observations.

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 classifying deer on aerial and ground surveys. Aerial surveys are preferred because more animals can be classified over a large area in a shorter amount of time, reducing bias often associated with ground counts. However, higher costs and unsatisfactory weather conditions do not allow their use every year. Over the past 20 years, 13 aerial surveys have been conducted, including 5 in the last 6 years. Observed sex and age ratios, along with harvest estimates are used in computer simulation models to estimate deer numbers, predict population trends, and assess impacts of reported harvest.

Since 1988, harvest objectives and corresponding licenses numbers have been designed to maintain the post-season sex ratio at the objective of 35 bucks/100 does. Since that time, the observed and modeled sex ratios have averaged 36 bucks/100 does ranging from 25 bucks/100 does observed in 1988 to 42 bucks/100 does observed in 2002 (Figure 4). Over the last 5 years, the buck/doe ratio has averaged 39 bucks/100 does, thus, providing hunters with more quality buck hunting opportunities. Public comments supported maintaining the sex ratio at the current level.

Observed fawn/doe ratios have varied from a low of 47 fawns/100 does in 2001 to a high of 87 fawns/100 does in 1987 and has averaged 64 fawns/100 does over the past decade (Figure 4). In 2001, fawn:doe ratios were lower than normal, indicating the widespread drought may have adversely impacted fawn recruitment in the DAU.

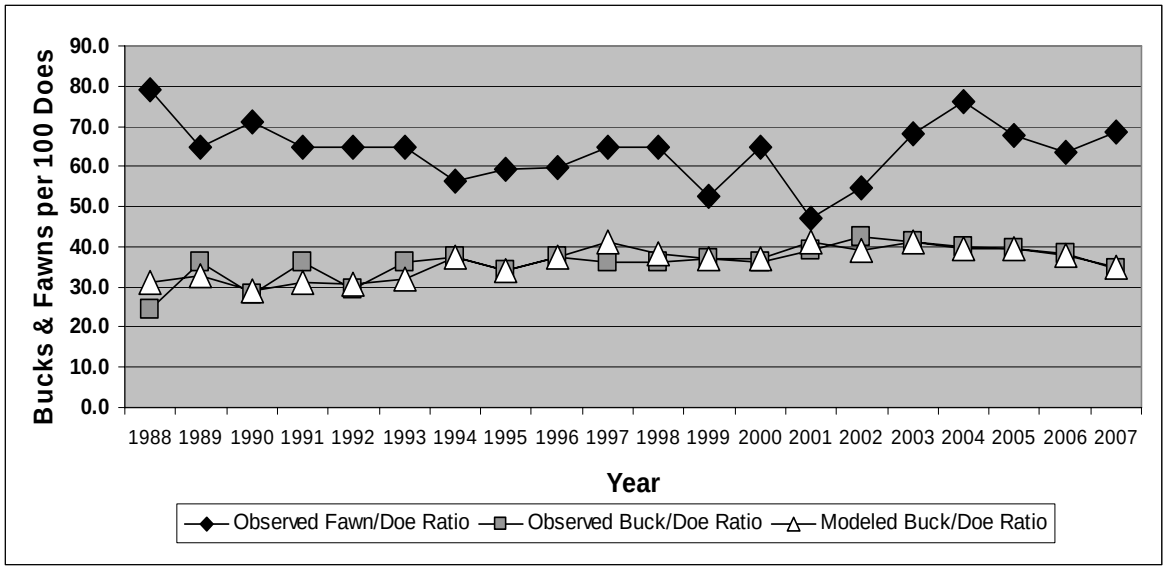


Figure 4. Observed post-season fawn/doe ratios estimates and observed and modeled buck/doe ratio estimates for the South Platte River DAU, 1988–2007.

Harvest

Achieving harvest objectives in this DAU is dependent on the progression of corn harvest. In wet years, or when significant precipitation falls in October, corn harvest does not progress to the point of moving deer into the riverbottom, where they are more accessible to hunters during the regular plains rifle season. But in most years, corn harvest is well underway by the opening of the regular plains rifle season and good deer harvest is obtained. The late-plains rifle season is rarely impacted by corn harvest conditions and consistently results in good harvest. The two rifle seasons account for the majority of the deer harvest in the DAU, with archery and muzzleloader seasons contributing significant opportunity (38%), but less harvest (30%).

Over the last 20 years, harvest has ranged from a high of 693 animals in 1993 to a low of 371 in 1997 (Figure 5). Average harvest for the past 10 years is 518 animals. There have been two peaks in deer harvest in the past 20 years (Figure 5), the first occurred in 1993 and 1994 to reduce the population after 3,166 deer were classified from aerial flights

in 1992. The second peak occurred in 2001 when, in addition to hunter harvest, CDOW-led culling efforts harvested an additional 216 deer to assess Chronic Wasting Disease (CWD) distribution and prevalence in the DAU. Antlered harvest has ranged from a low of 166 bucks in 1997 to a high of 330 in 1993 and 2006. Average buck harvest for the past 10 years is 264 animals. Antlerless harvest has ranged from a high of 406 does in 2001 to a low of 205 in 1997. Average doe harvest for the past 10 years is 254 animals.

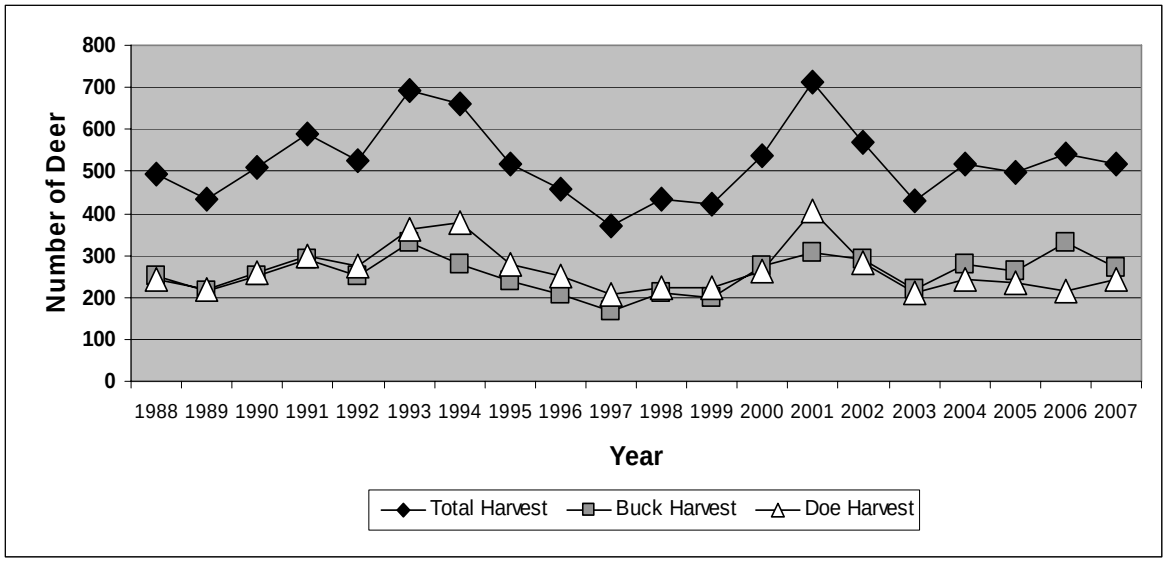


Figure 5. Total harvest and number of antlered and antlerless deer harvested in the South Platte River DAU, 1988–2007.

Hunters

The South Platte River is a popular hunting destination, due to the amount of public land and the possibility of harvesting a mature buck. As a result, the demand for antlered licenses exceeds the supply in most GMUs. In 2007, both regular and late season rifle buck licenses required 2 preference points to draw in GMUs 91 and 96 and 1 point in GMU 92 (Figure 6). PLO rifle buck licenses, available only in GMUs 91, 92, and 96 for the late-plains season, were drawn with zero points in 2007 (Figure 6). Landowner preference licenses for bucks are over-subscribed in GMUs 91, 92, and 96 for both rifle seasons and in GMU 951 for the late rifle season, but landowner applicants for doe licenses are under-subscribed in all GMUs for either season. Doe licenses for either season are drawn with zero points. In 2007, either-sex archery licenses required 1 preference point to draw in GMUs 91 and 96, while the remaining GMUs took 0 points. Muzzleloader licenses are less difficult to draw than archery either-sex or rifle buck licenses, taking 0 points.

Over the last 20 years, the number of hunters has varied from 920 in 1992 to 1,243 in 1994 depending on the number of limited licenses allocated and, prior to 1998, the number of over-the-counter licenses purchased (Figure 7). Since 1988, the number of rifle buck licenses has varied from a high of 455 buck licenses in 2007 and 2008 to a low of 230 buck licenses in 1996 (Figure 7). The number of rifle doe licenses ranged from a high of 630 licenses in 2008 to a low of 335 licenses in 1989 (Figure 7).

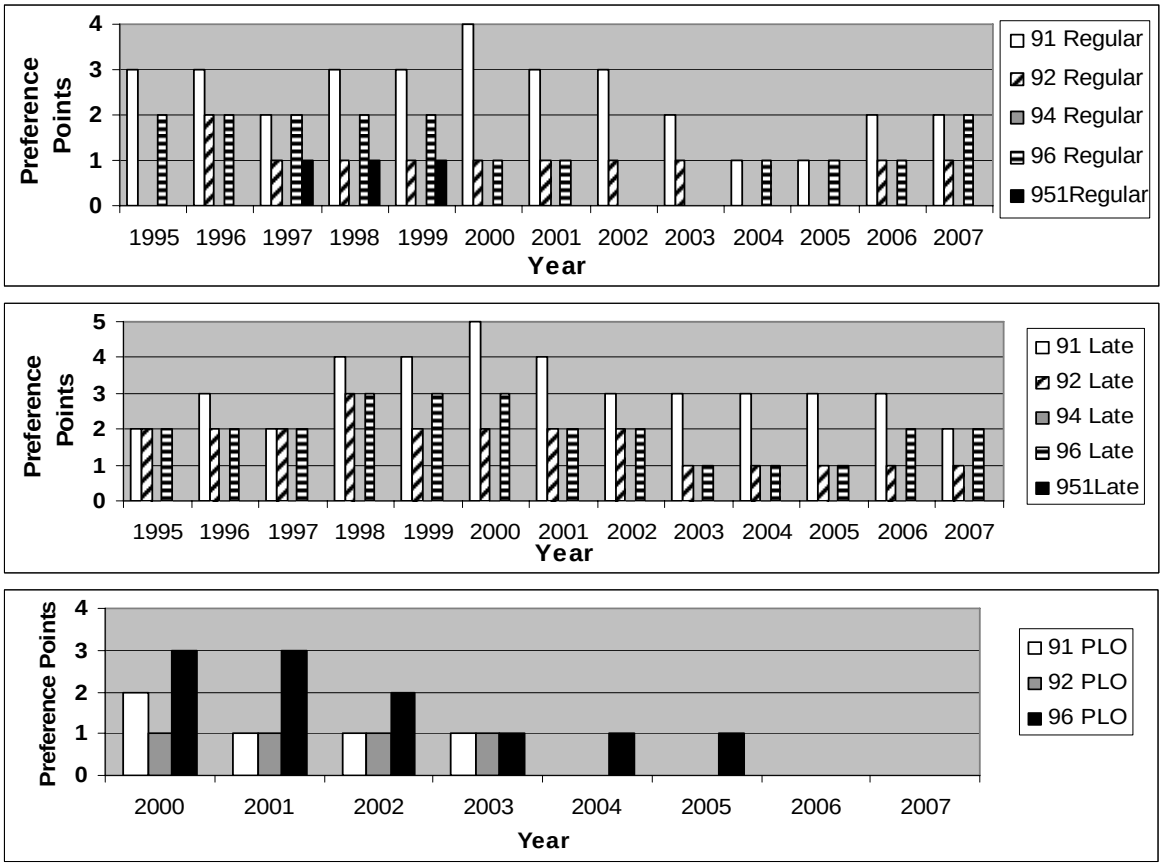


Figure 6. Number of preference points needed to draw a buck license for the regular and late-plains rifle seasons (1995–2007) and a Private-Land Only (2000–2007) buck license in the South Platte River DAU.

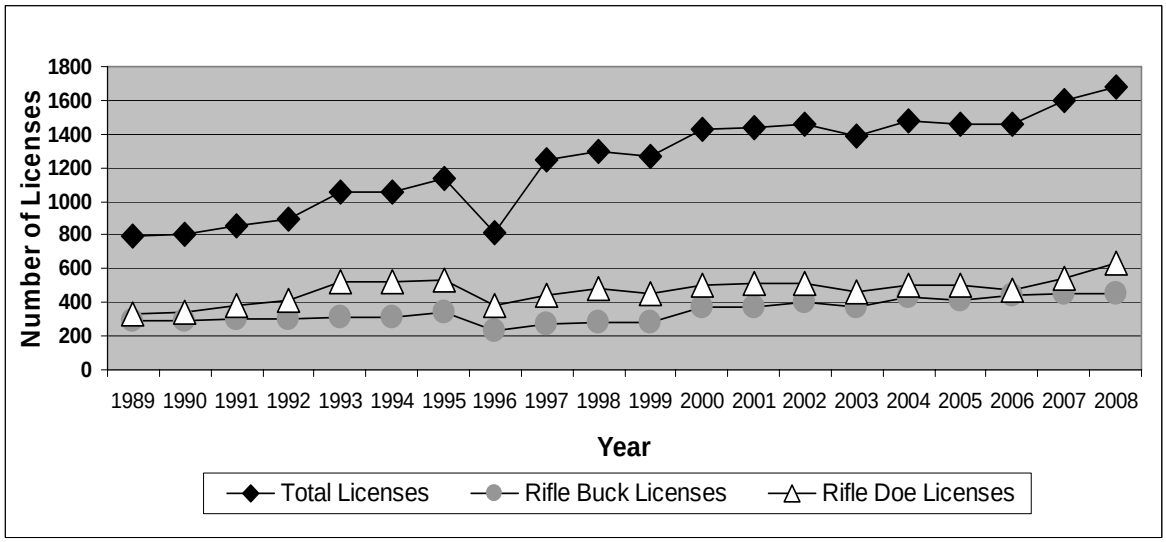


Figure 7. Total number of licenses and number of buck and doe rifle licenses allocated for the South Platte River DAU, 1989–2008.

Harvest rates are based on the number animals harvested/number of licenses allocated. These rates are used in determining license allocations because they take into account both hunter success and the estimated number of license holders that do not hunt. Thus, harvest success rates are generally lower than hunter success rates and provide a more appropriate measure for predicting harvest. Therefore, only harvest rates are presented.

Harvest rates for all methods of take generally range between 45–50%, but success varies with weather conditions and progression of crop harvest. Prior to 1995, harvest rates averaged 54%. Since then, the average harvest rate has declined to 43%. CDOW field personnel believe this decline is due to the growing difficulty in obtaining hunter access to private land. Since the early 1990s, private hunting clubs and leases have increased along the South Platte River. Many of these lands are no longer accessible to the general hunter. Prior to 1995, the average harvest rates for rifle buck and doe hunting was 64% and 70%, respectively. Since then, harvest rates have declined to 54% and 50% for rifle buck and doe hunting, respectively. Harvest rates for rifle buck hunting have ranged from a high of 71% in 1991 to a low of 43% in 2007 (Figure 8). The 5-year average harvest rate for antlered deer is 51%. Harvest rates for rifle doe hunting have ranged from a high of 75% in 1991 to a low of 44% in 1998 and averaged 49% over the last 5 years (Figure 8).

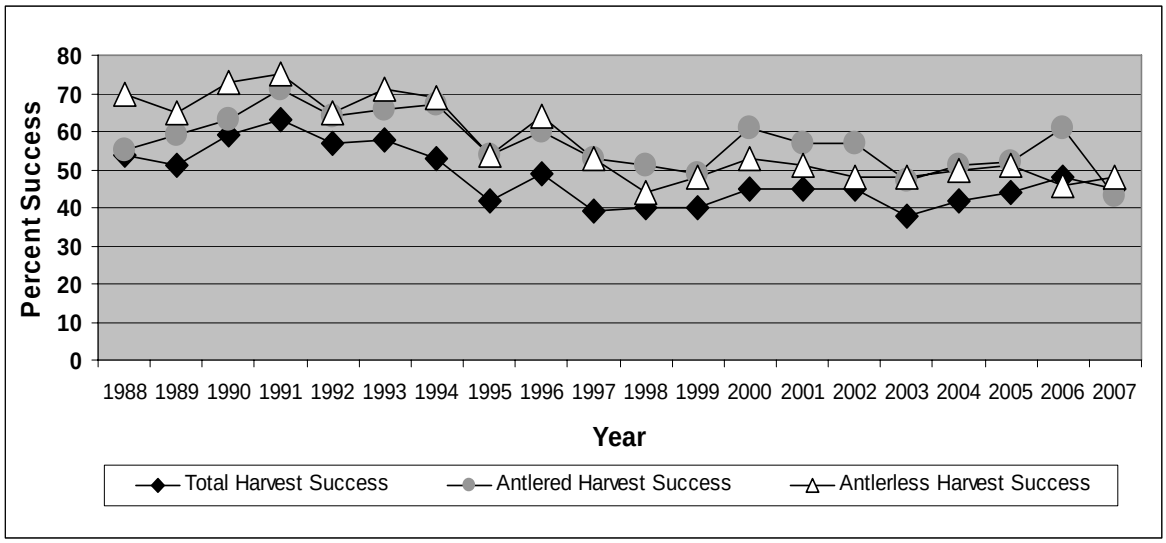


Figure 8. Total, antlered, and antlerless deer harvest success (%) in the South Platte River DAU, 1988–2007.

Past Management Strategies

In this DAU, a limited number of licenses have been issued for the regular and late-plains rifle seasons since 1983. Muzzleloader licenses were unlimited in number throughout this DAU through 1994. Since 1995, muzzleloader licenses have been limited in GMUs 91, 92, and 96, while GMUs 94 and 951 continued to offer over-the-counter muzzleloader licenses until 1997. Either-sex archery licenses have been limited in number in GMUs 91, 92, and 96 since 1983, while GMUs 94 and 951 continued to offer over-the-counter archery licenses until 1998. Since 1998, all deer hunting licenses for the South Platte River DAU have been limited in number and available only through the drawing.

The late-plains rifle season was established in the South Platte River DAU in 1983 to provide additional hunting days to more effectively achieve harvest objectives and reduce crowding, especially on public lands, by spreading the hunting pressure across two seasons. Prior to 1983, achieving harvest objectives in this DAU was dependent on a single rifle season and the progression of corn harvest. Consequently, achieving adequate harvest via the regular rifle season alone was sometimes problematic and highly variable. Therefore, substantial increases in license numbers were necessary to offset years of poor deer harvest, which created crowding issues. Since the establishment of the late-plains rifle season, achieving harvest objectives has been more consistent and the effects of corn harvest conditions and crowding have been reduced.

Since 1983, licenses have been allocated between the regular and late-plains deer seasons in this DAU to meet harvest objectives and distribute hunting opportunities. More recently, PLO buck and then doe licenses were issued for the late-plains rifle season in GMU's 91, 92, and 96 beginning in 2000 and 2005, respectively, to increase deer harvest on private land in those units.

CURRENT HERD MANAGEMENT

Population and Sex Ratio Objectives

The current DAU population objective is 2,000 deer and the sex ratio objective is 35 bucks/100 does. The 2007 post-season estimate was 3,600 deer, which is 80% above the current population objective. The current sex ratio estimate is 35 bucks/100 does and the 5-year average is 39 bucks/100 does which is 10% over the current sex ratio objective of 35 bucks/100 does.

Current Management Strategies

Since 2001, deer licenses have been allocated for the South Platte River DAU to manage the population at 2,000 deer. However, because of excellent snow conditions in 2006 and 2007, over 2,700 deer were classified each year which revealed the population was much higher than previously estimated. This prompted the CDOW to reevaluate the South Platte River deer herd management plan and gather public input to determine if new population and sex ratio objectives should be established based the revised estimated population size.

Current Management Problems

Irrigated corn and alfalfa fields provide important food sources for both deer species, which can result in high concentrations of animals and game damage complaints from landowners. Landowner intolerance of deer numbers, especially from agricultural producers, has become an increasing concern in the central and eastern GMUs of 91, 92, and 96. At current population levels, deer damage in these GMUs has averaged 1–2 deer damage claims filed annually. Over the past 10 years, seventeen (17) deer damage claims have been filed with 8 coming from one landowner in GMU 96. With the exception of the one landowner, there have been 6 other claims filed in GMU 96 and 3 in GMU 91. No deer damage claims have been filed in GMUs 92, 94, and 951 over the past 10 years.

In the past, privately owned lands were more accessible to the general hunter. Over the past 10 years, private hunting leases for ducks, geese, and deer along the South Platte River have steadily increased and many of these lands are inaccessible to most hunters. Thus, nearly all public lands open to hunting have experienced a steady increase in the number of users and crowding on public lands has become a concern. In an effort to increase deer harvest and provide a mechanism to reduce concentrations of deer on private lands in the central and eastern portions of the DAU, PLO buck licenses were issued in 2000 followed by PLO doe licenses in 2005 for the late-plains rifle season in GMU's 91, 92, and 96.

Thus far, the addition of PLO licenses has improved deer harvest on private lands in GMUs 91, 92, and 96. However, continued increases in the number of PLO doe licenses in these units for the late-plains rifle season may eventually become ineffective if significant increases in doe harvest are needed to improve deer distribution and meet overall population objectives. Therefore, the Division may explore other management strategies in these GMUs such as creating PLO season choice doe licenses. This license would be modeled after licenses currently being used to manage deer herds in Nebraska. This license would be valid during all seasons and hunters would only be restricted by the legal methods of take for each season. This would provide more time and equal opportunity for all deer hunters to harvest an antlerless deer.

Chronic Wasting Disease

The South Platte River deer DAU is part of the endemic area for CWD infection and CWD has been a factor in deer management since 2001. CWD has been found in both mule deer and white-tailed deer and local areas of CWD concentration are found in all GMUs. The first CWD positive deer were found in 1997 in GMUs 91, 96, and 951. From 1996–2000, the average CWD prevalence rate determined from various surveillance methods was approximately 1.1% for the entire DAU and GMU prevalence ranged from 0% in GMU 92 to 3.5% in GMU 951. Sample size also varied by GMU ranging from 122 in GMU 94 to 189 in GMU 96 during that same 5-year period. Prior to 2002, CWD had not been detected in GMU 92. In March 2002, GMU 92 produced its first CWD positive animal that was found in surveillance culling operations.

The 3 and 5-year average prevalence rates for CWD from hunter submitted samples in mule deer are 8.1% and 4.7%, respectively. Since 2002, CWD prevalence in mule deer has increased from a low of 1.8% in 2002 to a high of 10% in 2005. However, the number of hunter submitted samples declined from 114 in 2002 to 43 in 2006. Conversely, CWD prevalence in white-tailed deer has remained fairly stable since 2002. The 3 and 5-year average prevalence rates for white-tailed deer are 3.1% and 3.0%, respectively, despite a similar decline in sample size from hunter submissions during that same time. The number of hunter submitted samples for white-tailed deer declined from 260 in 2002 to 98 in 2006. Testing hunter harvested deer will continue to be the primary surveillance method for CWD in the South Platte River deer herd.

MANAGEMENT ISSUES AND STRATEGIES

The primary purpose of the DAU planning process is to determine objectives for the size and composition of the post-season deer population. Input was solicited through public meetings held on August 28, 2007 in Sterling, CO, August 30, 2007 in Fort Morgan, CO, and September 4, 2007 in Greeley, CO. The public meetings were advertised in the local papers of Julesburg, Sterling, Akron, Brush, Fort Morgan, Greeley, Loveland, Fort Collins, and Denver in northeast Colorado (Appendix A).

In addition, all 2006 first-choice deer license applicants for D-44 were notified of the public meetings via postcards and encouraged to complete an online survey (Appendix B). Furthermore, a draft of this DAU plan was available on the CDOW website and at the Brush, Fort Collins, Loveland, and Denver CDOW offices for public comment and copies were distributed to land management agencies and conservation organizations for review.

The majority (45%) of public comments and mail survey respondents emphasized a desire to manage for quality deer hunting by maintaining the current sex ratio estimate (Appendix C, D). Nearly, 80% of respondents supported maintaining or increasing quality buck hunting in this DAU.

Overall, the current population estimate for the DAU appears acceptable to the general public with 47% of respondents supporting herd management at the current population level (Appendix C, D). However, there were differing opinions between the eastern and western portions of the DAU. Seventy percent (70%) of landowner comments, specific to GMUs 91, 92, and 96, strongly favored a reduction in deer numbers while only 30% supported maintaining the current population level. Despite many hunters stating there are plenty of deer in the central and eastern portion of the DAU, 52% favored maintaining the current population level with only 23% supporting a reduction in these units. In contrast, the lower deer numbers in GMUs 94 and 951 was a concern expressed by landowners and hunters and 74% favored an increase in deer numbers in those units. These opposing management philosophies among GMUs can be accommodated by reducing deer numbers in the eastern GMUs and proportionately increasing deer numbers in the western GMUs, thus maintaining the current population level and satisfying the differing public desires.

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: 2,800–3,100.
Reduce the long-term post-season population by 20% from the current estimate of 3,600. Initially, this alternative would result in an increase in deer hunting licenses, but once deer numbers are reduced to objective, hunting opportunity would decline from the current

level. This strategy could decrease hunting opportunities for both bucks and does in the long-term unless there was a strong density dependent response resulting in increased fawn production and survival. Reducing the deer population to this objective would require increases in antlerless licenses over the next 2–3 years. Public input was not supportive for reducing the overall deer population below the current level.

Alternative 2: 3,500–3,800.
Maintain the post-season population at the current level of 3,500–3,800. Under this alternative, the demand for buck licenses will continue to be greater than the supply in some GMUs and the number of preference points needed to draw a license will increase at the current rate. Damage complaints are expected to remain low. Maintaining deer numbers at the current level would allow the current hunting opportunities to continue with no fiscal impacts to individuals or businesses. The majority of public input supported maintaining the overall deer population at the current level.

Alternative 3: 4,200–4,500.
Increase the long-term post-season deer population by 20% to 4,200–4,500 deer. This objective will provide more buck and doe hunting opportunities. Increases in the number of antlerless licenses will be necessary once this objective is reached. However, achieving harvest objectives under this alternative may become increasingly difficult given the limitations in hunter access to private lands. This in turn could increase crowding issues on public lands and deer concentrations on private lands. Although habitat conditions are favorable for supporting more deer, landowner tolerance in GMUs 91, 92, and 96 will not support more deer than are currently present, which would likely result in increased numbers of damage complaints in those areas. Hunter success should remain at or above current levels under this alternative. The majority of public comments did not support increasing the deer population above the current level.

Post-Season Herd Composition Objectives
The following 3 sex ratio objectives are presented.

Alternative 1: 30–35 bucks/100 does.
Reduce the sex ratio objective to 30–35 bucks/100 does which is a 5–10 bucks/100 does decrease from the current level. The current estimated sex ratio is above this objective; therefore an increase in buck licenses would be necessary to maintain this sex ratio objective. This objective would maintain limited quality buck hunting opportunities. Public comments were not in favor of reducing the buck/doe ratio below the current level.

Alternative 2: 35–40 bucks/100 does.
Maintain the sex ratio objective at the current level of 35–40 bucks/100 does. This objective will continue to provide quality buck hunting opportunities. The majority of public comments supported maintaining the buck/doe ratio at the current level.

Alternative 3: 40–45 bucks/100 does.
Increase the sex ratio objective to 40–45 bucks/100 does. The current estimated sex ratio is slightly below this range; therefore, a reduction in the number of buck licenses would be necessary to achieve and maintain this objective. This objective will provide more quality buck hunting opportunities than are currently available. Under this alternative, the demand for buck licenses would likely increase with the increased number of mature bucks in the population coupled with the reduction in annual buck licenses issued that would be necessary to maintain this objective. The majority of public comments did not support managing the overall buck/doe ratio above the current level.

PREFERRED OBJECTIVES AND ALTERNATIVES

The CDOW's preferred objectives for D-44 are to manage for a post-season population of 3,500–3,800 (**Alternative 2**) with an observed post-season herd composition objective of 35–40 bucks/100 does (**Alternative 2**).

The majority of the public comments support maintaining the current deer population level in the South Platte River DAU. However, landowner input from GMUs 91, 92, and 96 supported reducing the population because of the higher number of deer that reside in these units where landowner intolerance and game damage complaints are a growing concern. In contrast, public input from GMUs 94 and 951 in the western portion of the DAU supported increasing deer numbers in those units. Game damage complaints in the western portion of the DAU have not been significant thus far. Therefore, to maintain the population at the current level, deer numbers would be reduced in GMUs 91, 92, and 96, while simultaneously increasing deer numbers in GMUs 94 and 951 by the same proportion. Game damage throughout the DAU is not expected to increase under this alternative.

Public comments supported managing the South Platte River deer herd for quality buck hunting opportunities. The 2007 post-season observed sex ratio was 35 bucks/100 does and the 5-year average is 39 bucks/100 does. Therefore, no management actions are necessary to maintain this objective.

APPENDIX A

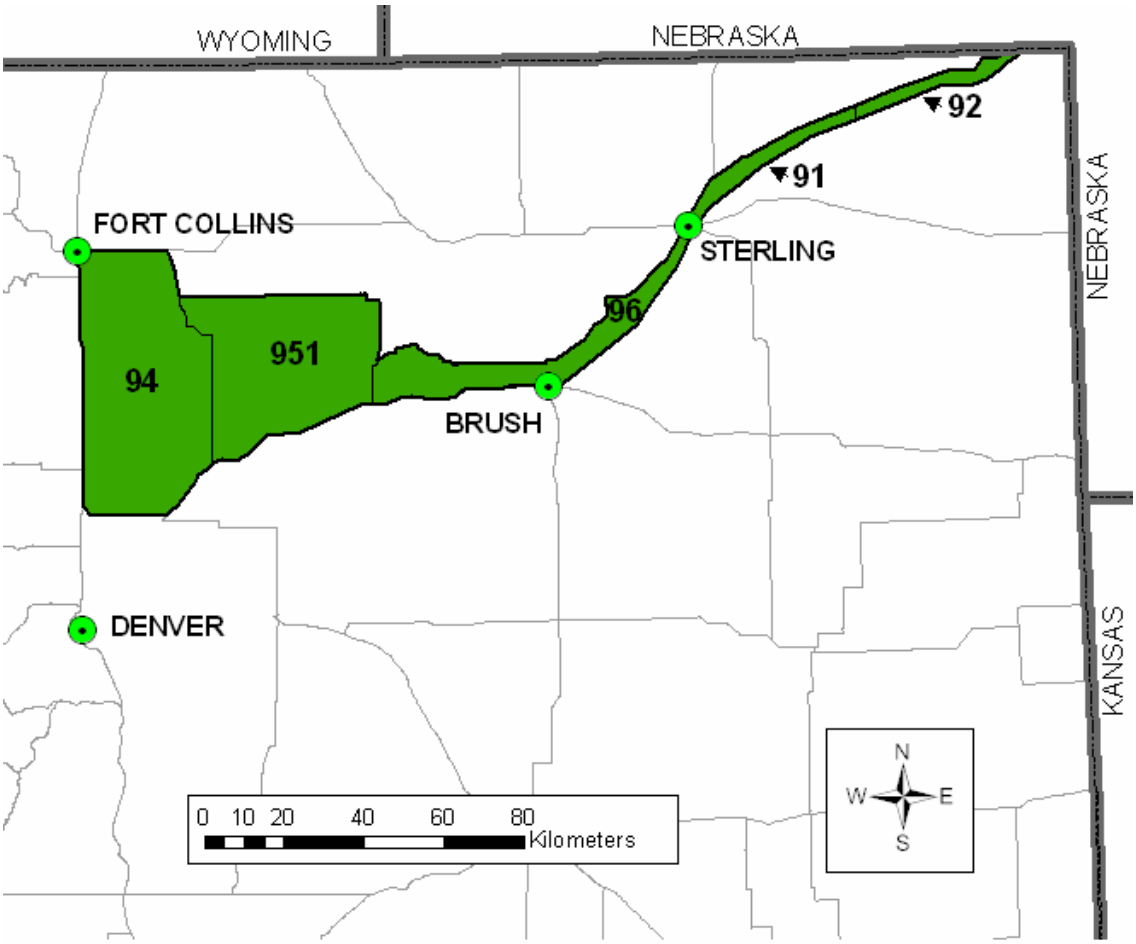
PUBLIC MEETING ANNOUNCEMENT

Public Meeting Notice to Gather Input on Deer Management in GMUs 91, 92, 94, 96, and 951 along the South Platte River

The Colorado Division of Wildlife (DOW) will hold public meetings in Sterling, Fort Morgan, and Greeley to gather input on deer herd management in the South Platte River Data Analysis Unit, which comprises Game Management Units 91, 92, 94, 96, and 951. The meetings will be held from 7–9 p.m., August 28 at the Ramada Inn, Hwy 6 & I-76, in Sterling, August 30 in the Founders Room at the Morgan Community College, 920 Barlow Rd. in Fort Morgan, and 6–8 p.m. September 4 at the Farr Branch in the Weld County Library, 1939 61st Ave, in Greeley.

The Division is seeking public input to establish population and herd composition (buck/doe ratio) objectives for the next 10 years. "Getting public input is imperative to creating a balanced 10-year herd management plan for this deer herd," said Larry Budde, area wildlife manager for the DOW. "We hope that landowners and folks who have hunted this area will come and let us know what their thoughts and experiences have been in the GMUs."

The Colorado Division of Wildlife is the state agency responsible for managing wildlife and its habitat, as well as providing wildlife related recreation. The Division is funded through hunting and fishing license fees, federal grants and Colorado Lottery proceeds through Great Outdoors Colorado.



APPENDIX B

MAIL SURVEY

OPPORTUNITY FOR PUBLIC COMMENT

ON DEER MANAGEMENT

In Data Analysis Units D-44
Deer Game Management Units 91, 92, 94, 96, and 951

Dear Interested Citizen:

Deer 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 Colorado Division of Wildlife's (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 deer management plan for the South Platte River area and Game Management Units (GMU) 91, 92, 94, 96, and 951 for deer. The CDOW is seeking your input on the future management of this herd. The information you provide will help the CDOW develop objectives and management strategies for deer in this area.

Please complete the following survey and return it to:

COLORADO DIVISION OF WILDLIFE
Attn: Marty Stratman
122 E. Edison St.
Brush, CO 80723

Surveys must be received by the CDOW by October 02, 2007

The Colorado Division of Wildlife manages this deer herd 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 (bucks) in the herd. This management plan (DAU plan) will therefore, define 1) a population objective and 2) a male to female ratio objective (buck:doe).

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. The D-44 deer herd is currently above the previous long-term objective. When deer populations are controlled at levels below both the biological and social carrying capacity, people enjoy viewing, photographing and hunting deer while deer/human conflicts are minimized. As the number of deer in an area increases, conflicts with people may also increase. These conflicts can be auto/animal collisions, impacts to gardens or yards, damage to agriculture, etc. To control herd numbers to meet population objectives the CDOW will either increase or decrease the number of doe licenses available.

Question 1:
Would you like the number of **deer** in GMUs 91, 92, 94, 96 and 951 to:

_____ Increase

_____ Stay the same

_____ Decrease

_____ Don't Know

Why?

Male:Female Ratio Objective: Deer herds can be managed to maximize hunting opportunity or to maximize the quality buck hunting. Quality is typically identified by fewer hunters in the field and larger bucks. If a herd is managed to maximize quality, there will be more mature/large bucks and fewer buck licenses are issued in order to increase the number of bucks in the population (higher buck:doe ratio). If a herd is managed to maximize hunting opportunity, more buck licenses are made available and buck hunters are able to hunt more frequently. As a result, there are less bucks in the herd (lower buck:doe ratio) and fewer mature/large bucks. Typically, there is a trade-off between the number of licenses (opportunity) and the size and maturity of bucks (quality) available to hunters. However, in D-44 most of the deer that make up the herd within the DAU are found on private property. It is important to recognize that private landowners play an important role in management of big game herds in this DAU. Access to animals on private property can influence both hunter opportunity and buck:doe ratios. Increasing licenses may not increase opportunity if hunters cannot access deer on private property within the DAU. Large, mature (quality) bucks can result even if buck licenses are increased if access to private property in the DAU is limited.

Question 2:
For the purposes of **Deer** hunting, should GMUs 91, 92, 94, 96 and 951 be managed for:

_____ Increased **quality** of hunting opportunity (higher buck:doe ratio, fewer hunters in the field, but more difficult to draw a buck license)
_____ Maximum **quantity** of hunting opportunity (lower buck:doe ratio, more hunters in the field and easier to draw buck licenses)
_____ Status Quo

Question 3:
Do you hunt deer in D-44? Yes No

Question 4:
Do you live in D-44? Yes No

Question 5:
If you own property in D-44, How much (please circle)?
D-44 (GMU's 91, 92, 94, 96, 951)

<160 acres
160-639 acres
640-1199 acres
1200-2399 acres
2400-3999 acres
4000+ acres

Question 6:
Which GMU are you most concerned or interested in?
(Check all that apply)

_____GMU 91
_____GMU 92
_____GMU 94
_____GMU 96
_____GMU 951

Please provide additional comments on the future management of DAU D44 below.

APPENDIX C

MAIL SURVEY RESULTS

MAIL SURVEY RESULTS
FOR
SOUTH PLATTE RIVER DAU

Total Survey Respondents – 102 **Landowners – 27** **General Hunters – 75**

Question #1 (Population Objective)

Increase **– 35%**
Decrease **– 18%**
Stay the Same **– 47%**

Question #2 (Sex Ratio Objective)

Increase **– 34%**
Decrease **– 21%**
Stay the Same **– 45%**

Question #3 (Do You Hunt in D44)

Yes – **87%**
No – **13%**

Question #4 (Do You Live in D44)

Yes – **36%**
No – **64%**

Question #5 (Acres Owned by Landowner)

<80 acres – **(5)**
80–159 – **(9)**
160–319 – **(2)**
320–639
640–1000 – **(3)**
1000+ – **(8)**

Question #6 (Comments specific to Game Management Unit(s))

GMU 91 **– 29, 22%**
GMU 92 **– 32, 24%**
GMU 94 **– 10, 8%**
GMU 96 **– 32, 24%**
GMU 951 **– 29, 22%**

APPENDIX D

PUBLIC MEETING COMMENTS

SUMMARY OF COMMENTS
FROM
STERLING, FORT MORGAN, AND GREELEY
PUBLIC MEETINGS FOR SOUTH PLATTE RIVER DAU

Sterling

- Manage the buck/doe ratio at the current level.
- Satisfied with buck hunting opportunities and ability to drawing a license.
- Concerned there are too many deer in some areas causing crop damage.
- Should provide more youth hunting opportunities.
- Reduce the deer population by 10-15% in eastern GMUs to reduce crop damage.
- Landowner intolerance of crop damage by deer is growing in GMUs 91, 92, and 96.
- Surveillance for CWD should continue.

Fort Morgan

- Satisfied with buck hunting opportunities and ability to draw a license in GMU 96.
- Plenty, if not too many, deer and good quality of bucks in GMU 96.
- Dissatisfied with buck/doe ratio in GMU 951.
- Quality buck hunting should be improved in GMUs 94 and 951.
- Deer numbers in GMUs 94 and 951 are too low and should be increased.

Greeley

- Deer numbers in GMUs 94 and 951 are too low and should be increased.
- Quality buck hunting should be improved in GMUs 94 and 951.
- Dissatisfied with buck/doe ratio in GMU 951.
- Provide more tools for larger landowners to harvest does.