

DATA ANALYSIS UNIT PLAN

Executive Summary

DAU: D-28, ARKANSAS RIVER

GMU's: 122, 125, 126, 127, 130, 132, 137, 138, 139, 146

Current Population Estimate: 3613

Old Population Objective: 3600

New Population Objective: 3600

Current Sex Ratio: 24 bucks/100 does

Old Sex Ratio Objective: 43 bucks/100 does

New Sex Ratio Objective: 43 bucks/100 does

Changes from current objectives/management:

There are no changes to the current management objectives. The alternative chosen in 1988 is still acceptable for the current plan for both population level and sex ratio.

Significant issues raised from the public and how the plan addresses those issues:

Most comments received from the public involvement process dealt with policy or political issues dealing with hunting rather than biological issues. Major herd management issues concern a desire for more large mule deer bucks and what can be done about reducing whitetail deer numbers. The general feeling is that whitetails are out competing mule deer and pushing them out of traditional mule deer areas. To address these concerns a separate whitetail deer only license has been suggested which may reduce or hold in check whitetail numbers and would reduce some pressure on mule deer bucks allowing them to grow larger. DAU objectives for population and sex ratio will remain as defined in 1988. More information is needed before a whitetail only license season is proposed by the CDOW.

ARKANSAS RIVER DATA ANALYSIS UNIT

DEER MANAGEMENT PLAN

D-28

GAME MANAGEMENT UNITS

122, 125, 126, 127, 130, 132, 137, 138, 139, 146

Prepared For:

THE COLORADO DIVISION OF WILDLIFE

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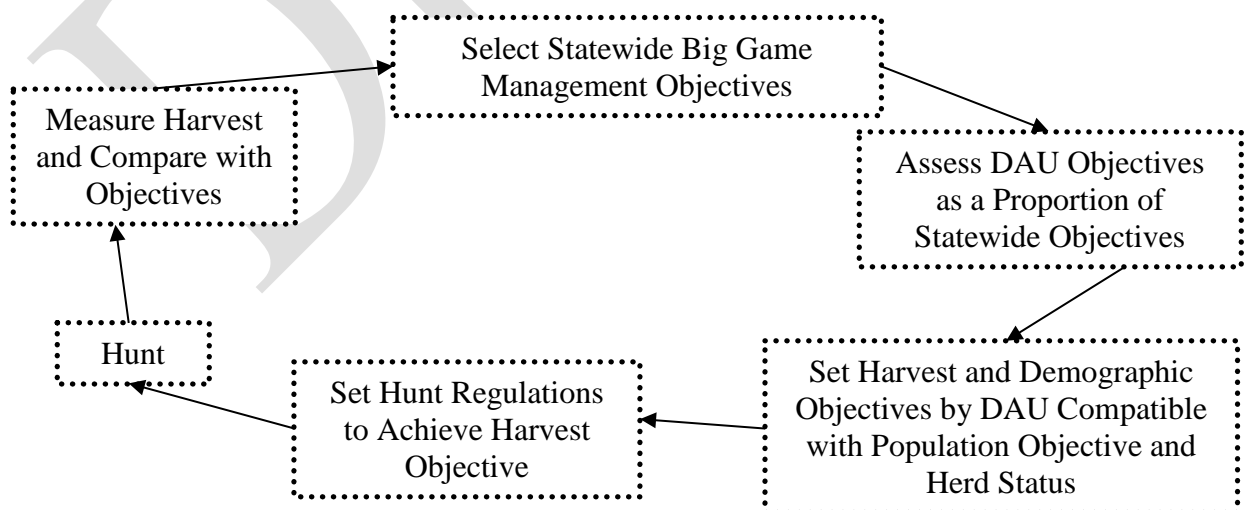
DATA ANALYSIS PLANS AND OBJECTIVES

Historically, big game seasons were set by tradition and/or political whims rather than by current wildlife population levels or habitat conditions. This is still the case to some extent however, with today's advances in technology and information exchange, the public is demanding more accountability for wildlife management. To meet this demand for accountability, the Division of Wildlife (DOW) has established objectives for individual herds of big game animals. These herds are managed at the Data Analysis Unit (DAU) level. Individual herds are managed for long term population objectives as well as desired buck:doe:fawn ratios. These objectives are established for five year intervals determined by historic population levels tempered with current conditions. The plans are currently being developed for the 2005 long term objectives based on public input, land use changes and game damage conflicts.

Each DAU is composed of one or many Game Management Units (GMUs) managed for a specific herd of animals. The boundaries of the DAU are generally defined by geographic features which minimize animal movement into or out of the DAU. The approach used to manage a DAU relies on the short and long-term demographics and size of a big game herd. Annual information on each herd is collected, then analyzed, and decisions are made for the upcoming hunting seasons. This cycle repeats on an annual basis with the number of available hunting licenses adjusted to meet yearly herd objectives for sex ratio and population size. These plans are designed to meet both the public's desires for wildlife based recreation and the Division of Wildlife's Long Range Plan Goals, while at the same time minimizing human/wildlife conflicts.

Colorado's Objective Cycle of Big Game Management and Harvest

(Adapted from Conolly in Walmo 1981, pp263)



Members of the general public, clubs, organizations, and governmental entities are provided many avenues for input into the DAU planning process. Opportunities to comment are provided at public meetings, through written requests, through personal contacts between DOW personnel and these groups, and by attending Wildlife Commission meetings. All comments and suggestions received will be considered and applied to these management plans where feasible and pending approval of the plan by the Wildlife Commission.

ARKANSAS DAU

DAU Physical Description

Arkansas DAU is located in southeastern Colorado (Figure 1). Boundaries include; highway 94 and highway 287 and highway 40 on the north; the Kansas State line on the east; Baca County road M and highway 160 on the south; and on the west by Chacuaco Creek, the Purgatoire River, highway 109, and highway 71. The DAU includes ten game management units and covers approximately 6834 square miles. The geography of Arkansas River DAU is varied and includes; cedar breaks, canyon lands, short grass prairie, agriculture and pasture lands. There are several drainages across the DAU, with the Arkansas River and Purgatoire River being the most prominent. The climate of the area is characterized by long, hot dry summers and mild winters with severe thunderstorms and occasional severe blizzards normal.

The Arkansas River DAU is primarily private land. The majority of public land within the DAU is found on the Comanche National Grasslands and is administered by the USFS. There are limited amounts of land controlled by the Bureau of Land Management (BLM) and the State Land Board (SLB) with grazing rights leased to private ranchers. The Colorado Division of Wildlife (CDOW) manages limited public lands around the Great Plains Reservoirs and along the Arkansas River. Land controlled by government agencies accounts for only 10% of the DAU. Most of the public land is found in the southern half of the DAU on the Comanche National Grasslands.

Land use (both public and private) is almost exclusively agricultural. Livestock grazing occurs on private land, the Comanche National Grasslands, BLM, and SLB properties. Farming methods consist of both dryland and irrigated crops with alfalfa, wheat, corn and milo being the predominant crops produced.

Land use in the DAU has not changed significantly in recent times. Development is not currently a significant threat to deer habitat. The major changes would be in varieties of crops planted and a slight increase in center pivot irrigation systems. Total acres of dryland farming has decreased with up to 30% of eligible land in some counties enrolled in the Conservation Reserve Program (CRP). CRP has provided a “refuge” for many species of wildlife and deer have adapted quite well to the cover offered in CRP fields. This may be one factor in the spread of whitetail deer throughout the DAU.

POPULATION DYNAMICS

Deer Distribution

Deer are found throughout the DAU with concentrations occurring on or near river or creek drainages. Some areas of high intensity row crop agriculture are frequented by deer especially in late summer, fall and winter. This tendency to concentrate in agricultural fields has led to game damage complaints in the past, especially on corn fields. Other areas of deer concentration causing concern from landowners is in windbreaks, shelter belts, and homesites where the deer eat the trees or break trees by rubbing their antlers on them.

Deer Population Size

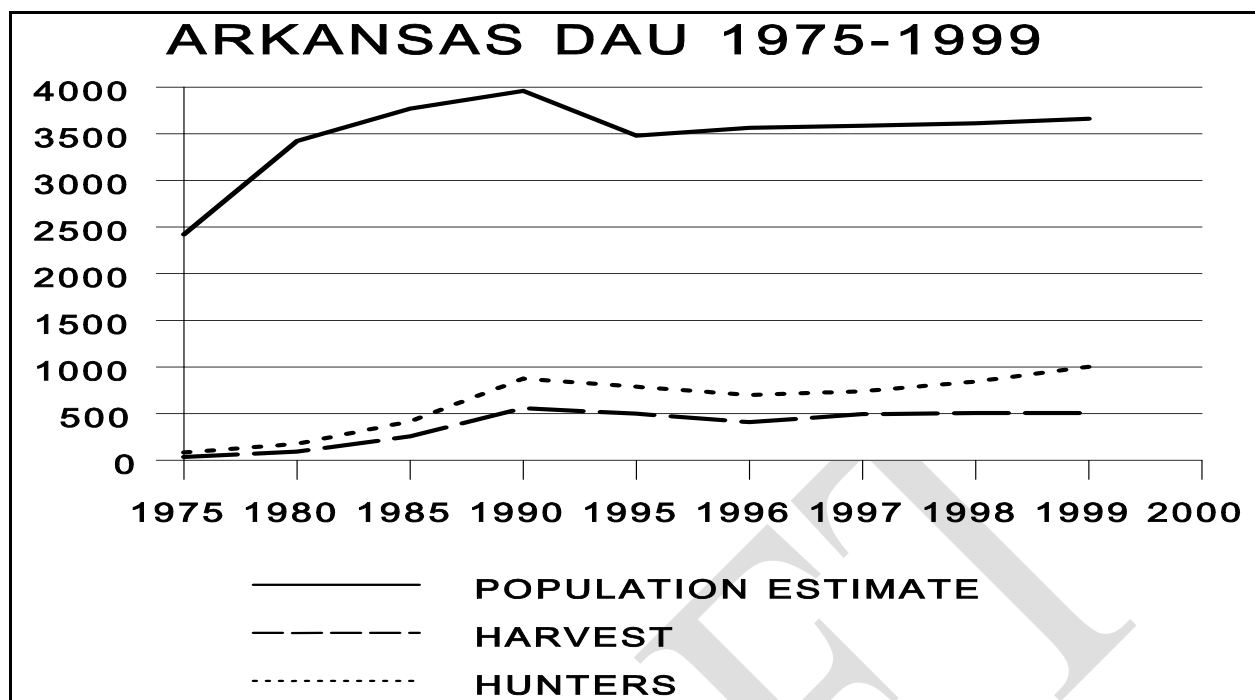
The deer population in D-28 increased steadily until it peaked in 1989 with a total post-hunt estimate of 4159. Beginning in the late 1980's deer license numbers were moderately increased to counter the growing herd. By 1993 the DAU population objective had been attained and since that time license numbers have been allocated to maintain the goal of 3600 deer. The current population is estimated at 3613 deer. (See Figure 2 for population data).

Deer Harvest

Deer harvest has varied from a low of 30 animals in 1977 to a high of 583 in 1994. The peak doe harvest occurred in 1991 with 245 females and young harvested. Buck harvest peaked in 1994 with 398 bucks taken. Beginning with the first established deer season hunting has always been for either sex or specified by sex. Beginning with the 1999 hunting season archery deer licenses will be limited for the first time. Limited muzzleloading licenses will also be available specified for either buck or doe. (See Figure 2 for harvest data).

Hunting Pressure

Hunting pressure on the Arkansas River DAU has increased substantially in recent years. Demand for unlimited archery licenses increased 135% between 1997 and 1998. Southeastern Colorado has gained a reputation as a trophy whitetail hotspot and is drawing hunters from across the country. This, combined with southeast Colorado's notoriety for trophy mule deer, has brought a growing number of outfitters and trophy hunters to D-28. Hunters applying for rifle buck licenses can expect to draw with 0-3 preference points depending on which unit they select. Doe licenses are typically drawn with 0-1 preference points and most years there are leftovers available. One of the factors behind the amount of hunting pressure utilized in individual units is the amount of game damage complaints received from landowners. Higher license numbers have been allocated to areas with the highest density of deer, or to areas receiving the greatest number of damage complaints.



HERD MANAGEMENT

Current budget constraints limit flying the Arkansas River DAU to once every three years. Due to the low density of deer found on the table lands, and difficulty using quadrat methods to survey deer in this area, the only portion of D-28 surveyed is the Arkansas River channel and adjacent riparian zones. During these flights, which occur in January, herd population and herd composition data is gathered. Using a helicopter and up to four observers the river channel is worked in a zig-zag pattern at 1/8 to 1/4 mile intervals. The buck:doe:fawn ratio and population trend is derived from these counts. Additional herd data is obtained from harvest surveys.

This data is either entered into the POP II population modeling program (Fossil Creek Software, 1992 v.7.03, Fort Collins, CO) or into a spreadsheet population modeling program (Dr. Gary White, Colorado State University, Fort Collins, CO). From these models and observed data, a herd composition and total herd population projection can be made based on the number and type of hunting licenses offered.

Current Conditions

The post-hunt population estimate for 1998 is 3613 deer, which is 13 deer over the long-term population objective of 3600 deer. Current buck:doe ratio is estimated at 24 bucks per 100 does which is below the objective of 43 bucks per 100 does. Management is geared toward reaching the buck:doe ratio while maintaining the population at the current DAU objective.

Issues and Strategies

Recent game damage complaints have been localized in the north eastern portion of the DAU

and in limited areas along the Arkansas River. Due to the potential for high crop damage in agricultural areas the deer population will be kept moderately low. Limited doe permits will be utilized to control population levels and buck hunting opportunity will continue at levels necessary to maintain a healthy herd and provide quality hunting. Hazing devices and dispersal hunts will be used to move deer away from problem areas.

Major issues gathered from public input:

1. Want more large mule deer bucks
2. Need to increase mule deer numbers
3. Need to decrease whitetail numbers

Issue number one can be addressed by increasing the buck:doe ratio to 43 bucks per 100 does which is the current DAU objective. One alternative to increase the number of mule deer would be to reduce the number of whitetails with a “whitetail only” season which could address issues two and three simultaneously. The idea of having a separate whitetail only season has been brought up before and could have some merit. However, before such a season is proposed and instated, there needs to be much research done to determine if the average hunter can differentiate the difference between whitetails and mule deer under field conditions and whether this type of season would accomplish the objectives it would be designed for.

Additional benefits of a separate whitetail season would be to remove more whitetails from the population while reducing pressure on mule deer bucks. This would allow a higher percentage of mule deer bucks to attain the greater antler width desired by many hunters. If this alternative season is attempted, it should be tried on a very limited basis until a proper scientific evaluation can be made on the success or failure of the alternative.

Alternative Development

Announcements (Appendix A) for combined deer and antelope public input meetings concerning DAU planning were made in several ways. Flyers were distributed locally to businesses and individuals and hung in locations frequented by those likely to be interested in such plans. These same announcements were run in; the Lamar Daily News, the Tri-State Trader, the Baca Weekly, the Plainsman-Herald, the Lajunta Tribune-Democrat, and the Burlington Record. Copies of the announcement and comments received from the DAU planning meetings can be seen in Appendix A.

Additionally, letters requesting DAU plan input along with the flyer announcing the upcoming meetings were mailed to fifty-four clubs, organizations, sportsmen’s groups, natural resource agencies, and grazing associations. From this mailing effort a grand total of zero responses were received at the Lamar office of the CDOW. Copies of the letter, along with names and mailing addresses of those receiving a letter, can be seen in Appendix A.

All public input has been received and considered. Based on external comments received from

the public meetings and internal comments from CDOW personnel, the current long-term population goals and sex ratio objectives will not be modified. Since no comments were received requesting an increase or decrease in deer population levels, or change in population demographics, the current DAU goals and objectives will remain in place. No written comments were received concerning this DAU plan.

Preferred Alternative

The preferred alternative, and the original alternative chosen when the plan was written in 1988, is for a post-hunt population level of 3600 deer. The preferred buck:doe ratio is 43 bucks per 100 does, also the same as originally accepted in 1988.

Table 1. Population Alternatives Provided (These are the same alternatives discussed when the original plans were written and the same currently offered).

D-28, ARKANSAS RIVER

<u>Alternative number</u>	<u>Population Level</u>	<u>Bucks/100 Does</u>	<u>Approximate # of Licenses</u>
1	3060	23	807
	3060	33	733
	3060	43	560
2	3600	23	953
	3600	33	864
	3600	43	660
3	3960	23	1045
	3960	33	951
	3960	43	728
4	4320	23	1138
	4320	33	1033
	4320	43	792

*** Alternative chosen

APPENDIX A

COMMENTS RECEIVED FROM PUBLIC MEETINGS AND WRITTEN REQUESTS

DRAFT