TRINIDAD DATA ANALYSIS UNIT
D-32

GAME MANAGEMENT UNITS
85, 140, 851

DEER MANAGEMENT PLAN

PREPARED FOR
THE COLORADO DIVISION OF WILDLIFE

BY
ALLEN VITT

April 2007

D-32 DATA ANALYSIS UNIT PLAN
Executive Summary

GMUs: 85, 140 and 851
Land Ownership: 85% Private, 6% State, 5% USFS, 2% BLM
Current Posthunt Population: Objective: 9,800-10,800 **2006 Estimate:** 5,900
Previous Posthunt Population Objective: 12,000
Current Posthunt Sex Ratio (Bucks/100 Does) Objective: 25-29 bucks
Previous Posthunt Sex Ratio (bucks/100 Does) Objective: 40
2006 Observed: 44 **Modeled:** 30

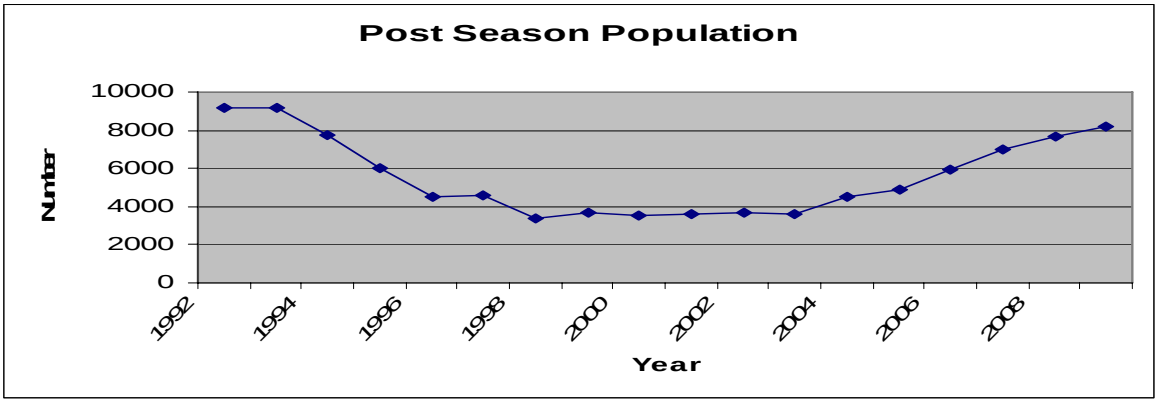

Figure 1. D-32 Post-hunt population Estimate

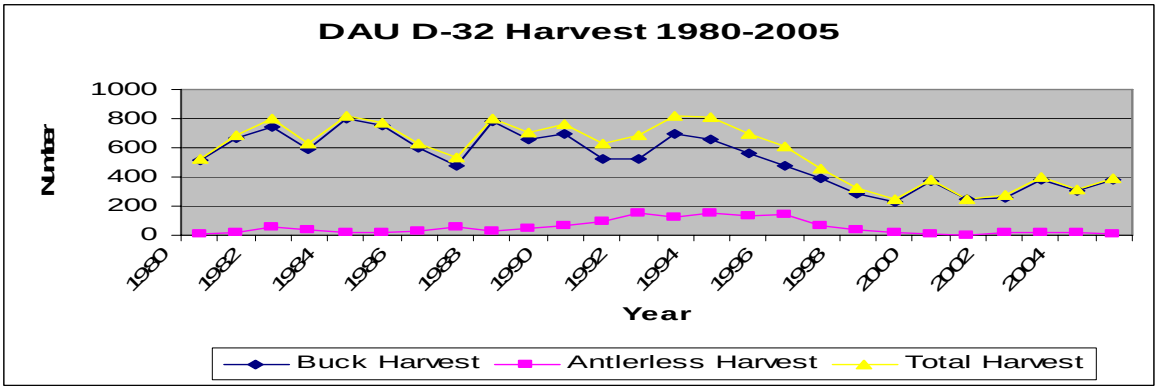

Figure 2. D-32 Harvest

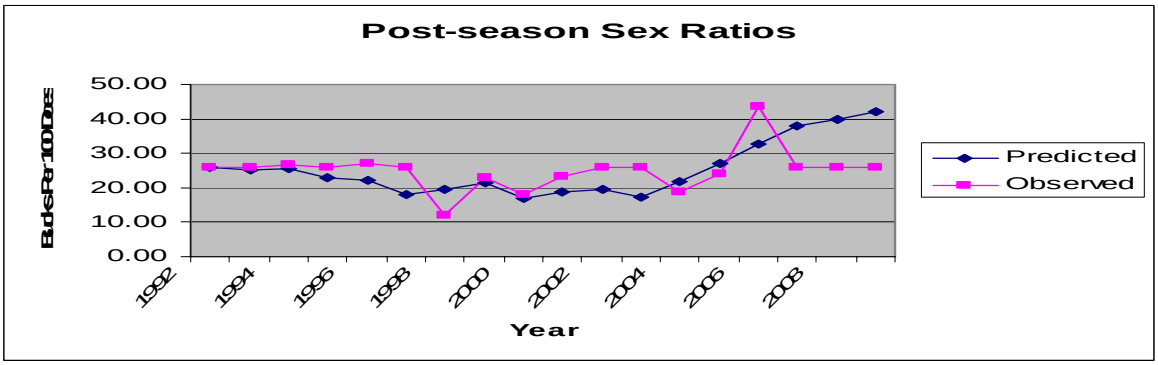

Figure 3. Posthunt Bucks/100 Does

D-32 Background

The Division of Wildlife adopted a population objective of 12,000 deer in 1987 for DAU D-32, at that time the estimated post-season population was close to 10,300 deer. The deer population has declined since that time. Antlerless harvest has been confined to private land only hunts in GMU's 85, and 140 where winter concentrations of deer were damaging habitat and causing game damage to private property. A limited amount of Ranching for Wildlife antlerless licenses were available to the public hunters until the 2005 season when they were removed. There have not been any antlerless licenses available in the DAU since that time. The current sex ratio was also adopted in 1987, at 40 bucks per 100 does it would be considered a "trophy" management DAU. Since the Wildlife Commission has not classified this DAU as eligible for "trophy" management the sex ratio objective will have to be reduced to a level below 29 bucks per 100 does.

This population has been declining since 1985, with very low numbers of antlerless licenses available, less than 45 for the entire DAU since 1998. Historically low post-season fawn/doe ratios have indicated that recruitment into the yearling class is low, slowing the population increase expected from the elimination of antlerless harvest. Post season fawn/doe ratios in 2005 improved remarkably indicating a change in the habitat. It is too soon to determine if this is a one time increase in fawn/doe ratios or a trend of an increasing deer herd. Land use changes, a large increase in the elk population, habitat maturation, weed competition, methane development, and housing development have had an effect on habitat quality and quantity effectively lowering the carrying capacity of the DAU. A reduction in competition for forage along with an increase in habitat quality is necessary in order to increase recruitment and fawn survival. Habitat improvement projects alone may not be adequate to offset the loss of habitat to private property and methane development. Decreasing the population objective increases the probability of obtaining a compensatory response in recruitment and survival.

Several large fires have burned in the DAU since 2002, including the Spring Fire and the James M John Fire (33,000 acres in both Colorado and New Mexico) and the Mericio Canyon Fire (3825 acres). Deer populations in these areas have been seeing a slight increase when compared to the rest of the DAU.

D-32 Significant Issues

The issues and concerns identified during the public input process reveal a concern for the decline in the deer population and the reduction of deer habitat in the face of continued housing and methane development. Private land access is another concern voiced in the public survey.

Declining deer population – The apparent decline in the deer population in this DAU is a significant concern. The reason for the decline is unknown at this time, but is likely the result of several factors; increasing elk herds competing for the available forage, habitat maturation, increased natural mortality due to predation, nutritional deficiencies and starvation, and many other possible causes.

Housing Development – In the last decade, this DAU has seen a rapid development of housing in areas that were once part of deer ranges. Ranches have sub-divided and natural habitats have been permanently altered or eliminated. This includes direct loss of habitat and effective loss of habitat due to harassment from people and pets.

Methane Development – Methane development within the DAU began in the in the late 1980's but did not become have a large impact to the deer habitat until extraction techniques improved in the late 1990's. Since that time development has increased dramatically with wells being drilled on a average density of six wells per section. With the corresponding maintenance and drilling human activity levels have shown the same dramatic increase. Road densities have increased substantially in those areas affected by methane development within the DAU.

Private land access – With over 86% of the DAU in Private ownership hunter access is a continuing concern in the DAU. The Division of Wildlife has purchased 38,000 acres and leased 6,314 acres since the DAU plan was written in 1987 to help with hunter access in the area.

Current management practices limiting the availability of buck licenses should continue and antlerless harvest should remain restricted.

Sportsmen are concerned about the decline in the deer population and supported a reduction in the population objective to the level expressed by option number 2. There is also significant public concern related to predators and habitat quality and quantity.

The final recommendation will be presented after public review and comment.

CDOW Recommendation to the Wildlife Commission

Population Objective

The CDOW recommendation is to manage this deer population within the range of 9,800-10,800 animals representing an 18% decrease from the previous population objective. The current estimated population is 3,900 (40%) animals below this population objective.

The current long term population objective for D-32 is 12,000 deer. The public and landowners have supported the drop in the population objective.

This herd has been slowly increasing under very conservative management strategies. The population is currently about 51% below the 1987 objective of 12,000 and is 40% below the new objective. Post-season fawn/doe ratios have been low, averaging 51.5 from 1992-2002, but have been improving with an average of 78.6 from 2003-06. This is probably a result of increasing habitat quality because of several large acreage fires that have burned through important deer winter range.

Habitat loss and maturation are two of the substantial problems that managers must overcome before this population can reach an objective of 10,800 animals, and it is unlikely that habitat improvement projects will successfully offset the loss of habitat from these problems.

The recommended long-term population objective is 9,800-10,800, trying to strike a balance between the publics' desires to increase the deer population and in an effort to improve recruitment and survival.

Sex Ratio Objective

The CDOW recommendation is to manage the sex ratio objective within a range of 25-29 bucks per 100 does. During the past several years modeled sex ratios have climbed above this level and maintenance at this level would not require any reductions in license numbers.

Management Strategy

The DAU management strategy recommendation by the CDOW is status quo. Current management practices limiting the availability of buck licenses should continue and antlerless harvest should remain restricted. If the population does climb above the new population objective a limited amount of antlerless harvest would be desirable and allow some flexibility in damage situations.

This D-32 DAU Plan was finalized by the Colorado Wildlife Commission on May 3, 2007.

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Historically, big game seasons were set by tradition and/or political whims. Seasons that resulted did not reflect what was occurring with wildlife populations or habitat. To a degree big game seasons are still traditional and/or political, but in a response to a growing demand for finite wildlife resources, the Division of Wildlife must be more accountable. Managing our wildlife resources by management objectives creates accountability. The Division's Long Range Plan provides direction and broad objectives for the Division to meet a system of policies, objectives and management plans such as the Data Analysis Unit Plan, and directs the actions the Division takes to meet the legislative and Commission mandates.

DAU's are used to manage populations of big game animals. Each DAU is established to contain a discrete population of animals utilizing geographic boundaries that minimize movements between DAU's. Each DAU may contain from one to 10 or more Game Management Units (GMU) to which specific management practices are applied to reach the DAU population and sex ratio goals. DAU management plans are designed to support and accomplish the objectives of the Division of Wildlife's Long Range Plan and meet the publics' needs and desires for their wildlife recreation while minimizing human/wildlife conflicts. The DAU planning process is designed to incorporate public demands, habitat capabilities, and herd capabilities into a management scheme for the big game population (Figure 4). The public, sportsmen, federal land use agencies, landowners and agricultural interests are involved in the determination of the plans objectives through goals, public meetings, comments on draft plans and the Colorado Wildlife Commission.

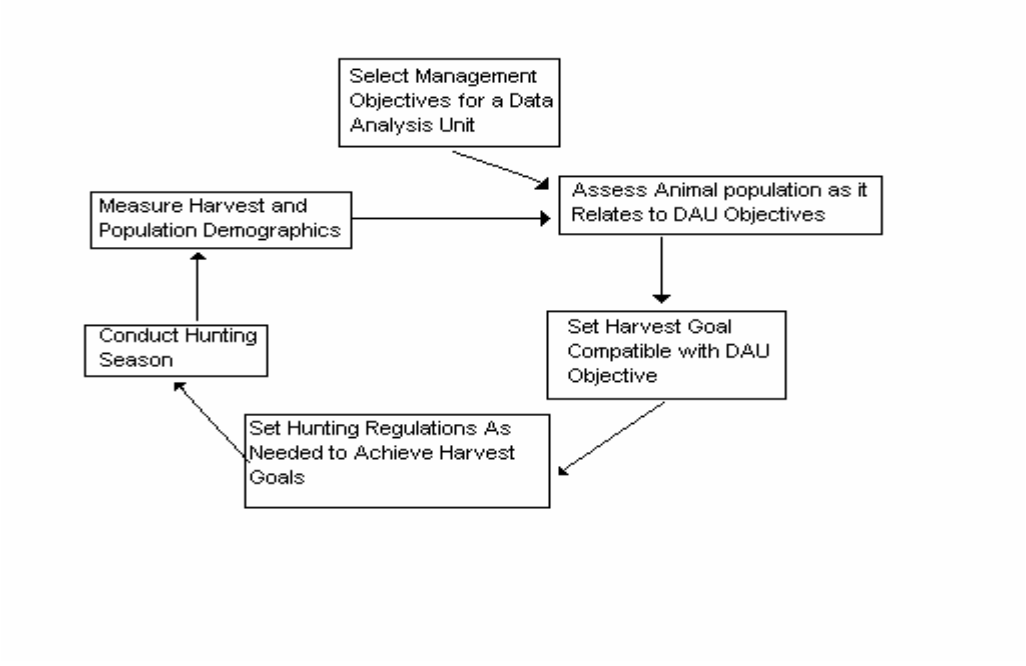

Figure 4. Colorado's Object Cycle of Big Game Management and Harvest.

Individual DAU's are managed with the goal of meeting herd objectives. This is accomplished by gathering herd data and putting it into a spreadsheet model (DEAMAN) to get a population projection. The input parameters for the model include harvest data which is tabulated from hunter surveys, sex and age composition of the herd which is acquired from aerial counts and mortality factors such as wounding loss and winter severity which are generally acquired from field observations. Once these variables are entered into the population modeling program a population estimate is obtained. The resultant computer population projection is then compared to the herd objective and a harvest is calculated to align the population with the herd objective.

TRINIDAD DATA ANALYSIS UNIT

PHYSIOGRAPHY

The Trinidad DAU is located in south central Colorado and lies within portions of Las Animas and Huerfano Counties (Figure 5). It consists of Game Management Units (GMU's) 85, 140 and 851. The DAU is bounded on the north by US highway 69, Interstate 25 and Colorado 160; on the east by Colorado 389; on the south by the New Mexico and Colorado State line; and on the west by the Sangre de Cristo Divide, Huerfano County Roads #570 and #572 (Pass Creek Road) and Huerfano County Road #555 (Muddy Creek Road).

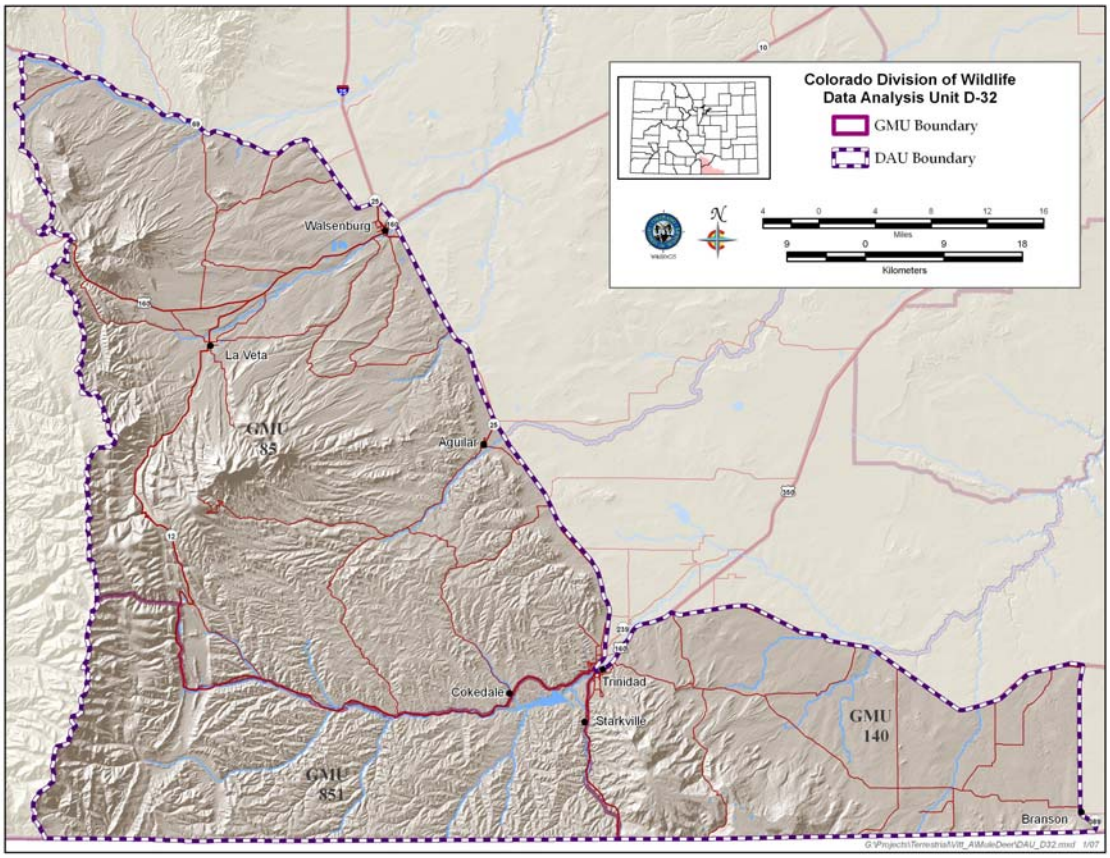

Figure 5. Mule Deer DAU D-32

This DAU covers 2,044 square miles ranging in elevation from 14,047 feet at the summit of Culebra Peak to about 5,364 feet where San Francisco Creek flows under Colorado 160. Topography ranges from flat short-grass prairie to rolling hills, steep foothills with cliffs, to mountain meadows, and steep ridges to alpine meadows. Two mountain ranges, the Culebra range of the Sangre de Cristo Mountains and the Raton Mesa complex dominate the area. Higher elevations may receive in excess of 20 inches of moisture while lower elevations may receive less than 6 inches, with precipitation falling mainly as winter snow and spring and summer rains. Major rivers in D-32 include the various forks

of the Purgatorie River, Cuchara River, Raton Creek, Frijole Creek, San Francisco Creek and the Apishapa River

Of the 2,070 square miles in D-32 the Division of Wildlife controls about 71 square miles (Spanish Peaks, Lake Dorothey, Bosque del Oso and James M. John State Wildlife Areas) which is approximately 3.4% of the DAU, the U. S. Forest Service controls 109 square miles (5.2%), the Bureau of Land Management 46 square miles (2.2%), the State Land Board 66 square miles (3.1%), and 1,772 square miles is in private ownership (85.6%). (Figure 6)

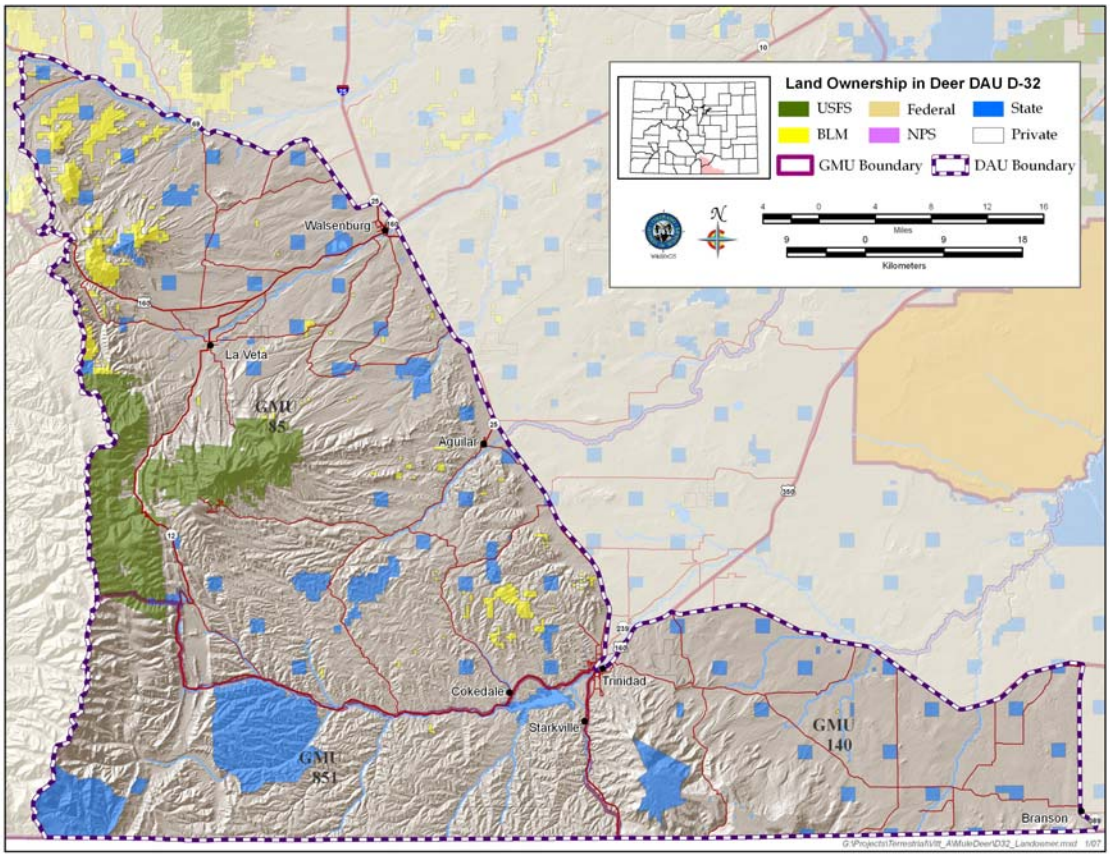

Figure 6. Land Ownership in DAU D-32

Approximately 99.8% of D-32 (2,066 square miles) is deer habitat of which approximately 244 square miles (11.8%) is open to the public for managed hunting (Figure 7). The Division of Wildlife currently possesses the recreational lease on 6,314 acres of State Land Board property in this DAU (<10 square miles). These leased properties include Aguilar TV hill (500 acres) in Las Animas County; Black Hawk (1511 acres), Guillermo Ranch (2118 acres), Little Sheep Mountain (640 acres), Schultz Canyon (960 acres) and South Middle Creek (585 acres) in Huerfano County. Predominate biotic communities are: alpine tundra, sub-alpine conifer, montane conifer, montane shrub, mountain meadow and plains grassland.

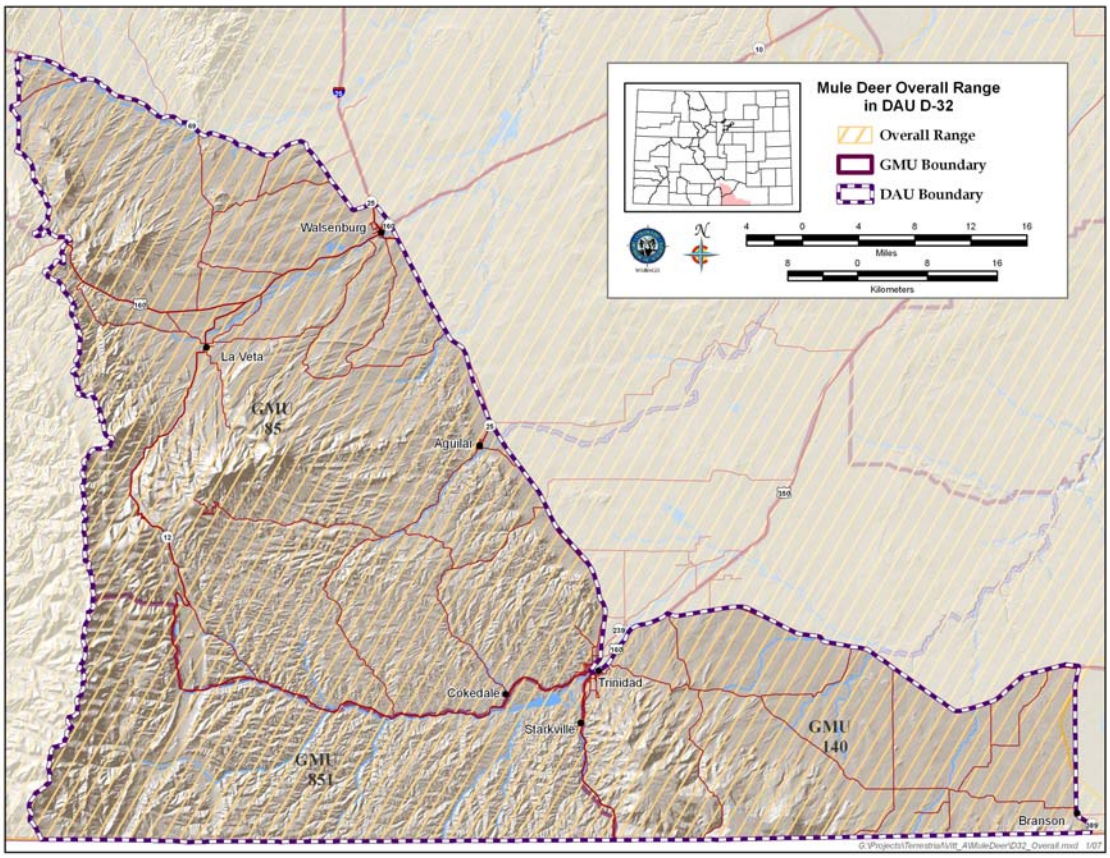

Figure 7. Mule Deer Overall Range in DAU D-32

Agriculture is the predominate land use in the Trinidad Deer DAU with livestock grazing, primarily cattle and horses, occurring throughout the DAU on native rangeland. Irrigated hay and alfalfa occurs along many rivers with the majority of row crops confined to small farms. Large ranches are being developed into 40 acre or smaller "ranchettes". Habitat loss to development and a decline in habitat quality will be the major concerns in the future for this DAU.

POPULATION DYNAMICS

Deer Distribution

Deer generally occupy the entire DAU from the grassland\shrub and pinion\juniper areas of the foothills through all vegetative zones up to the alpine tundra during the summer and early fall. Another distinct population of deer spends the majority of the year in the riparian and agricultural areas at lower elevations throughout most of the drainages described above. Deer movement to winter range is dictated by weather with snow and limited forage availability driving the deer to winter range (Figure 8). For those animals that summer in the mountainous part of the DAU the migration moves east to the lower elevation winter ranges. Many areas of this DAU have little distinction between overall range and winter range, with the deer in the agricultural and riparian areas wintering in

the same areas they occupied during the rest of the year. Wind and mild winter weather will often open up south facing slopes and influence deer movements into many areas within the DAU not necessarily classified as winter range.

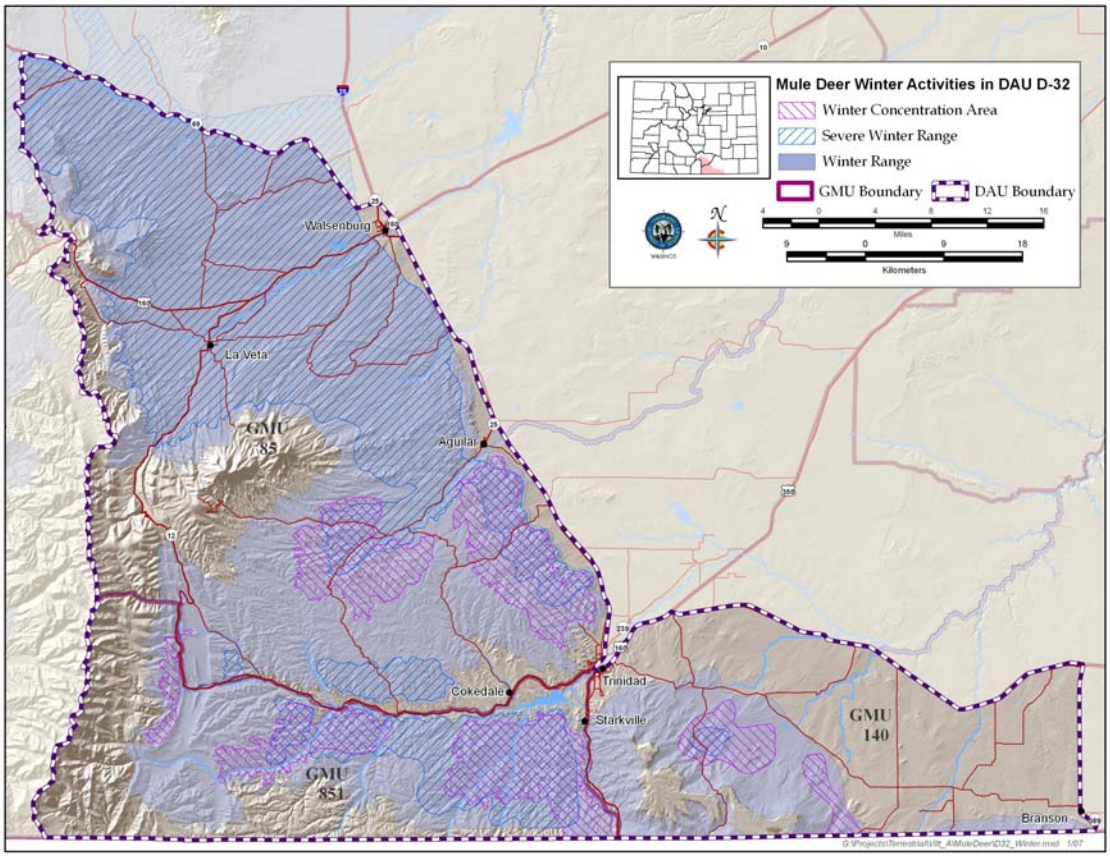

Figure 8. Mule Deer Winter Range in DAU D-32

Herd Management History

Prologue

The total number of animals in a big game population fluctuates throughout the year. Normally, the population peaks in the spring just after the birth of the young. Populations then decline throughout the year as natural mortality and hunting seasons take animals from the population. Traditionally, the CDOW uses post-hunt populations (immediately after the conclusion of the last regular hunting season, usually in late November) as a frame of reference when we refer to the size of a population of deer. In this manner we have established a reference point and can eliminate confusion when referring to populations.

Realistically, deer population objectives are determined by a combination of variables that are woven together in a manner best suited to satisfy all the demands in order to arrive at a final objective number. The variables involved include biological data,

economic, political and recreational considerations, along with domestic livestock concerns and vegetative considerations to name some of the most prominent factors. Population objectives are often set at a level consistent with the herds' maximum sustained yield (MSY). However, it is very difficult to determine the ranges' MSY and carrying capacity.

Post-hunt populations referred to in this plan have been generated by computer simulation. A brief discussion concerning population assessment is contained in a *Population Assessment Procedure Overview* at the end of this section.

Generally mild winters and available year-round food supplies have allowed the deer population to remain in optimum habitat during the winter months. Historical management of the deer herd in the DAU has included limited doe licenses, mainly concentrated in GMU 85, with Private Land Only doe licenses being used in most GMU's prior to the last 7 years to reduce deer conflicts in the agricultural areas. Modifications in statewide season structure, changes in license numbers after 1999 and the limited doe and private land only doe hunts have been the only management changes instituted within the DAU.

Post-hunt population size is defined by spreadsheet population modeling using the DEAMAN program provided by Dr. Gary White at Colorado State University. DEAMAN uses population and herd composition data acquired during post-hunt aerial surveys and may change as new information becomes available. Since 1988 the population goal has been 12,000 animals, resulting in a density of 6 deer per square mile of mule deer habitat. Post-hunt population estimates indicate the DAU has been severely below objective for the past 12 years. Population numbers and sex ratios are derived from field observations and harvest data.

Post-hunt Herd Composition

Post-hunt herd composition data was acquired by aerial surveys in GMU 140, performed in December or January following the regular big game hunting seasons. These aerial surveys are conducted on an annual basis, except for the three years when weather or the availability of funds prevented the flights, since 1984. The remaining GMU's have relied on field observations and the DEAMAN model for herd composition information. As flight monies become available different areas of the DAU are being surveyed to improve the collected sex and age ratio data.

At the present time plans are to survey many of these areas in a manner consistent with other DAU's and establish trend counts to gather the required data. It is generally accepted that buck/doe ratios are higher than the observed ratios while the fawn/doe ratios are fairly accurate. Aerial surveys are subject to variability due to weather, snow cover, sample size and observers. Aerial surveys in GMU 140 showed age ratios average 57 over the period from 1982 through 2005 with a high of 92 fawns/100 does observed in 2004 and a low of 38 in 1983. Observed buck/does ratios have averaged 21 bucks/100

does from 1982-2005 with a high of 44 bucks/100 does in 2003 and a low of 12 bucks/100 does in 1989 and 1998.

Statewide deer seasons have varied in season length and the implementation of antler point restrictions. These changes have put different harvest pressures on the male segment of the population. From 1980 until 1985 deer seasons were generally short with any buck being legal. Between 1985 and 1999 there have been longer seasons and a variety of antler restrictions imposed on deer. In 1999 the wildlife commission decided that all deer hunting license allocation was to be through the drawing process to allow the Division of Wildlife better control of our hunting harvest and attempt to slow the statewide decline in deer populations. At this same time doe harvest was curtailed in any DAU that was under its population objective except for very limited circumstances. The observed buck/doe ratio between 1988 and 1998 averaged 20 bucks/100 does. The observed post-hunt buck/doe ratio between 1999 and 2005 was 25 bucks/100 does. The current long-range buck/doe ratio objective is 40 bucks per 100 does.

Hunter harvest is affected by various variables including: hunter pressure, the availability of antlerless permits, season structure, weather, hunting access and the deer population size. Harvest from 1980 to 2005 ranged from a low of 245 in 2001 to a high of 820 in 1984 and has averaged about 502 since 1990, with buck harvest averaging 436 (Figure 9). Since the wildlife commission elected to totally limit deer licenses in 1999 harvest has averaged 322 animals, with buck harvest averaging 309 animals.

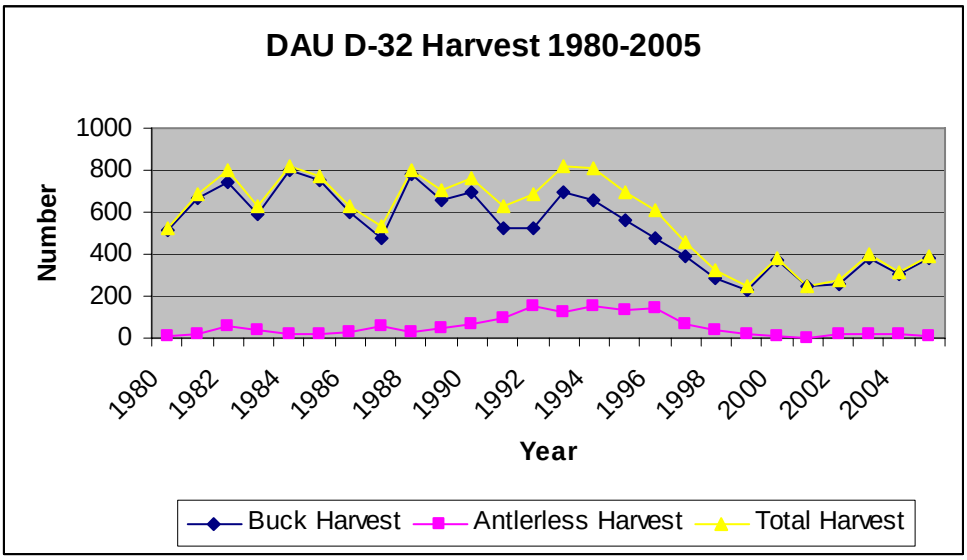

Figure 9. DAU D-32 HARVEST, 1980-2005

The yearly success rate for all manners of take within the DAU averaged 41% from 1988 to 2004, with a low of 26% in 1998 (Figure 10).

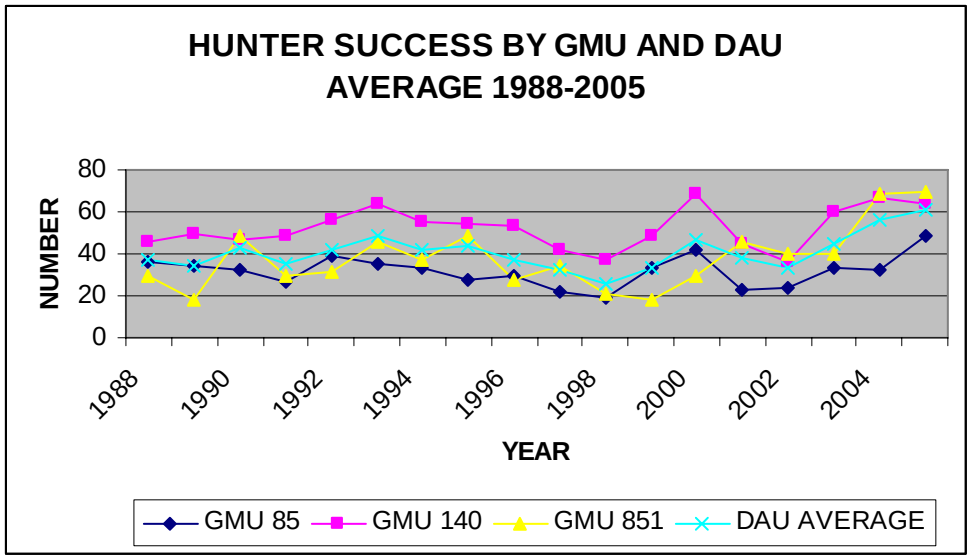

Figure 10. HUNTER SUCCESS BY GMU AND DAU AVERAGE, 1988-2005

The number of hunters from 1988 to 1999 ranged from a low of 1,507 in 1998 to a high of 2,253 in 1994 with recent years (1999-2005) averaging about 817 (Figure 11). It may be noted that a general over-all decline in the number of hunters has occurred since 1995, with a noticeable decrease in 1999, the year deer licenses ceased being available over-the-counter and became totally limited.

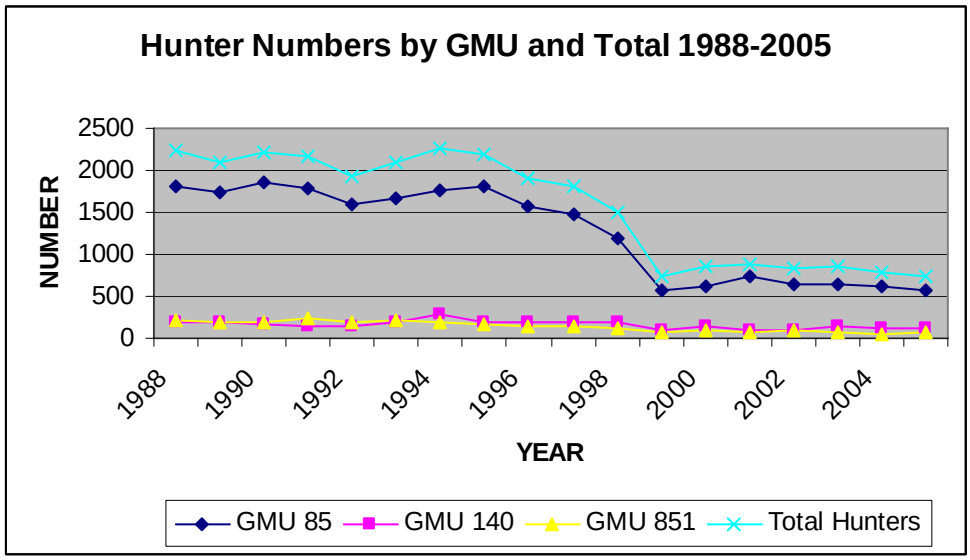

Figure 11. HUNTER NUMBERS BY GMU WITH DAU TOTAL, 1988-2005

CURRENT HERD MANAGEMENT STATUS

The 2005 post-hunt population estimate for the Trinidad DAU is approximately 4,700 deer. This is below the long-tern objective of 12,000 animals.

The long-term sex ratio is 40 bucks/100 does. The number of bucks per 100 does has increased from 15 bucks/100 does in 1989 to the current observed ratio of approximately 25 bucks/100 does.

Current Management Problems

The accurate determination of actual herd size is difficult in this DAU because of lack of population information. Harvest information along with partial aerial surveys and field observations have been the only inputs into the models with a reasonable degree of accuracy. Natural mortality can play a large role in the herd size, but there is little information on its influence for this DAU. The lack of information on natural mortality in this area has made modeling the population difficult. For modeling purposes fawn survival data from the survival study north of the DAU has been used. Habitat conditions and quality are similar to this DAU and survival estimates are considered to be similar.

Issues and Strategies

The most important aspect of the DAU planning process is obtaining input from all segments of the public. In order to accomplish this, the CDOW held open public meetings to gather recommendations on the goals and objectives of the DAU plan.

In 2007 the CDOW held two public meetings in order to obtain issues and concerns. Public meetings were held in Trinidad on February 26, 2007 and in La Veta on February 28,2007. There were 18 attendees in Trinidad and 21 in La Veta. Information presented included past management in E-33, the objectives of the DAU plan and several population and sex ratio alternatives for consideration. Questionnaires were handed out and mailed to select landowners in the area along with being handed out at the public meetings. This resulted in 46 questionnaires being returned. The results of the landowner and public meeting questionnaires are summarized in Appendix B.

In December of 2006 200 questionnaires were distributed to randomly selected successful license holders that held deer hunting licenses in the 3 GMU's in an effort to sample preferences regarding the DAU objectives, of those 6 were returned with address problems. We received a total of 62 responses to the questionnaire from sportsmen, landowners, environmental concerns, outfitters and interested individuals. A summary of the results of the questionnaire are presented in this report as Appendix A.

Issues and Concerns

1. Declining deer population – The apparent decline in the deer population in this DAU is a significant concern. The reason for the decline is unknown at this time, but is likely the result of several factors; increasing elk herds competing for the available forage, habitat maturation, increased natural mortality due to predation, nutritional deficiencies and starvation, and many other possible causes.

2. Housing Development – In the last decade, this DAU has seen a rapid development of housing in areas that were once part of deer ranges. Ranches have sub-divided and natural habitats have been permanently altered or eliminated. This includes direct loss of habitat and effective loss of habitat due to harassment from people and pets.
3. Methane Development– Methane development within the DAU began in the in the late 1980's but did not become have a large impact to the deer habitat until extraction techniques improved in the late 1990's. Since that time development has increased dramatically with wells being drilled on a average density of six wells per section. With the corresponding maintenance and drilling human activity levels have shown the same dramatic increase. Road densities have increased substantially in those areas affected by methane development within the DAU.
4. Private land access – With over 86% of the DAU in Private ownership hunter access is a continuing concern in the DAU. Trespass issues and private landowner rights were identified as problems in the area especially in GMU's 140 and 851. The Division of Wildlife has purchased 38,000 acres and leased 6,314 acres since the DAU plan was written in 1987 to help with hunter access in the area.

DEVELOPMENT OF ALTERNATIVES

The primary purpose of this DAU plan is to determine long-term post-hunt population and herd composition objectives. Herd composition is determined by fawn/doe and buck/doe ratios. Fawn/doe ratios are determined by many environmental factors, of which wildlife managers have no control. On the other hand, buck/doe ratios can be directly controlled by management options. Listed below are a few of the many possible alternatives that could be considered to accomplish these objectives.

Each alternative includes a brief discussion of management variables that would probably occur for that population level. Generally, the lower the population objective the lower the investment needs to be in habitat improvements. With the lower population objectives habitat restoration efforts would only be needed to offset habitat loss from housing development. As the objective increases, larger investment in habitat restoration needs to be initiated, both to offset housing development and to increase habitat quality to improve fawn survival and herd health. Habitat Management practices' vary in labor intensity, costs and life expectancy of each practice. Individual practices that should be considered include prescribed fires, fertilization, seeding, water development, livestock exclusionary fencing, timber and brush management, travel management, and others.

Game damage problems, although closely tied to the severity of the winter, would probably decrease under the lower population alternatives, and may increase with increasing population levels. Higher population levels, on the other hand, will also support a higher hunter harvest, increase hunter opportunity and increase the fiscal benefits to local economies. A population objective that involves reducing the number of hunting licenses by 10% will also reduce the economic benefits to the state and local

counties involved by approximately 10%. The population objectives below are examples of management objectives.

Population Objective

1. **Maintain the current population objective of 11,000-12,000 deer.**

   General discussion – This is the current long-term objective. The 2003 post-season population estimate is 4,500 deer which is approximately 60% below the long-tern population objective. This objective would result in a density of about 6 deer per square mile of deer habitat. Even with the continued habitat improvement throughout the area this population objective may be unrealistic, with the continued loss and maturation of the remaining deer habitat in the area.
   Game Damage – Game damage problems have the potential of increasing above current levels with a population increase above the current estimated population.
   Habitat Improvement – Large scale habitat improvement projects would be needed to improve large areas of deer habitat and to resolve distribution problems and overall range health.
   Season Framework – The regular season could be maintained as it is structured for the 2007 hunting season. Even with the continued suspension of antlerless licenses until the population objective has been met, the overall effect would be an increase in hunter opportunity and an increase in sustained harvest from current levels.
   Fiscal Impacts – Increased fiscal benefits to local and state economies would be realized.

2. **Decrease current population objective by 15% to 9,800-10,800 deer.**

   General Discussion – This was the most favorable option with the public. A 15% reduction of the current population objective (12,000 deer) would result in a population objective of 9,800 to 10,800 deer. This is 217% above the 2006 post-hunt population estimate and results in a density of about 5 deer per square mile of deer habitat.
   Habitat Improvement and Game Damage – Habitat improvement would be needed in conflict areas and to offset any further habitat loss from housing development. Game damage would remain near current levels.
   Season Framework- The season framework could be maintained as it structured for the 2007 hunting season. Harvest and hunter opportunities would remain at the current levels until the population increases to the population objective. Antler-less harvest would continue to be curtailed until the population objective is obtained.
   Fiscal Impacts – There would be little or no change in this parameter.

3. **Reduction of the population objective by 25% to 8,000-9,000 deer.**

General Discussion – While this was the least popular response from the public this alternative has the largest chance for success. A 25% reduction of the current population objective (12,000 deer) would result in a population objective of 8,000-9,000 deer. This is 177% above the 2005 post-hunt population estimate and results in a density of 4 deer per square mile of habitat.
Habitat Improvement and Game Damage – Habitat improvement would be needed in conflict areas and to offset any further habitat loss from housing development. Game damage would remain near current levels.
Season Framework- The season framework could be maintained as it structured for the 2007 hunting season. Harvest and hunter opportunities would be reduced from current levels until the population increases to the population objective. Antler-less harvest would continue to be curtailed until the population objective is obtained.
Fiscal Impacts – There would be little or no change in this parameter.

Herd Composition

General Discussion- - The current buck/doe ratio is 40 bucks/100 does which is moderately higher than the current projected ratio of 25 bucks/100 does. To raise the buck/does ratio a reduction in numbers of antlered hunting licenses would be required, while an increase in licenses would decrease the ratio. Habitat, Game Damage and Season Structure impacts will not change because of the changes of buck/doe ratios, only fiscal impacts and antler "Quality" so those impacts will not be addressed here.

1. **Reduce the current post-hunt sex ratio objective to 25-29 bucks/100 does**

General Discussion – A reduction of the current buck/doe ratio to below 30 bucks per 100 does is required because the DAU has not been selected to be managed as a quality DAU. This is slightly above the current buck / doe ratio and would require a reduction in antlered licenses. This alternative would allow a larger number of bucks to survive successive hunting seasons allowing a larger portion of the mature bucks to be carried over to the next hunting season. Most bucks harvested at this level are 2.5-3.5 years old with a few in the older age classes. All hunters will be drawing licenses on a first choice basis with 2 to 3 preference points required before drawing a license.
Fiscal Impacts – There would be a slight reduction in license and associated hunting related revenue.

2. **Decrease current post-hunt sex ratio objective to 20-25 bucks/100 does**

General Discussion – This is the current observed post-season sex ratio objective. License numbers would remain at current levels and hunters would be able to draw licenses on a first choice basis with 0 or 1 preference points required to draw a license.
Fiscal impacts – The number of hunters would be remain at current levels resulting in no changes to license and associated hunting related revenues.

Appendix A: 2006 Hunter Questionnaire results

Survey Purpose and Intent

The purpose of this questionnaire was to assess public attitudes toward mule deer management in the Trinidad DAU, specifically in Game Management Units 85, 140 and 851. The Colorado Division of Wildlife (CDOW) is responsible for developing mule deer population management plans for the Trinidad and La Veta areas.

In Colorado, big game populations are managed for specific geographic areas, called Data Analysis Units (DAU). The DAU plan analyzes information for two primary decisions: 1) how many animals should the DAU support, and 2) what is the herd's most appropriate male to female ratio, better known as the sex ratio. The DAU planning process examines the biological capabilities of the deer and elk herds, and public preferences. An appropriate balance of each is sought and reflected in the herd objectives, which are set for a five year period of time. Annual hunting seasons are then designed with the intent of keeping the population at or near the selected herd objectives.

Public input is an important part of the DAU planning process. It is vital that public desires are integrated into these plans so that established goals are widely accepted and biologically sound. In an attempt to maximize public input, a questionnaire was developed and distributed to interested publics.

In the development of DAU plans, results of surveys such as this one are considered along with other forms of input the CDOW receives from land management agencies and the public, via public meetings, letters, phone calls, and testimony before the Colorado Wildlife Commission. All public input is integrated with other significant elements in making the final selection of a preferred alternative for population and composition (male/female ratios) objectives for the deer herd in GMUs 85, 140 and 851. The Colorado Wildlife Commission makes final determination on the herd objectives which will then be in effect for five years.

Methods

The target population for the study consisted of residents of the Trinidad and La Veta areas, individuals owning land this area, and individuals who hunted deer in the affected GMU's.

Surveys were mailed to a random sample of hunters selected from the successful license list for hunters that held a 2006 deer hunting license in the appropriate GMU's. All surveys had a postage paid envelope attached with instructions for return mailing. 200 questionnaires were distributed within the appropriate GMUs. 62 questionnaires were completed and returned for a response rate of 31%. An additional questionnaire was mailed to 52 landowners in the effected area. XX questionnaires were returned for a response rate of XX%.

Note: This survey effort is not a "scientific study" in the strictest sense of the term. While efforts were made to obtain a significant mix of residents, landowners, and hunters, the sample is not a representative cross-section of the target population. "Representativeness" refers to the extent to which relevant populations were included in a study and whether or not a probabilistic sampling scheme was used.

Results

Results are presented in two sections. "Survey Highlights" summarizes the important results of this survey, particularly as they apply to the DAU plan objectives. The "Summary of Open-ended Comments" categorizes the additional comments received and provides insight into the main issues that people thought were important for the CDOW to consider.

The actual results of the survey may be reviewed at the Pueblo Service Center by contacting Allen Vitt, Terrestrial Biologist at 719-561-5306.

SURVEY HIGHLIGHTS

ABOUT THE RESPONDENTS

X Of the 62 respondents, 69% are Colorado residents and 31% are non-residents.

X Of the 62 respondents, 18 live in the DAU's listed. 33% own or lease property in the DAU's, with an average of 790 acres.

DEER

X People are very interested and concerned about the mule deer population in the Trinidad area. The majority of respondents (67%) are "very interested" in seeing mule deer in the area, and 87% are "very interested" in hunting deer. Fifty percent of respondents indicated they were "very interested" in learning more about deer management, and 50% are "very interested" in providing input for (or participating in) decisions about deer management in the Trinidad area.

X Concerns about mule deer welfare are issues that interest people. Forty-eight percent of respondents were "very concerned" about the reduction in deer habitat due to increased human population development; 44% were "concerned" or "very concerned" about predation on deer by coyotes, bears, and mountain lions; and 40% were "very concerned" about the potential of starvation of deer during winter.

X The majority of respondents (52%) indicated they would like to see the population objective remain at 12,000 deer with 20% favoring an increase in the population objective and 28% favoring a decrease in the deer population objective.

X The majority of respondents (84%) want to see a buck:doe ratio of 25-29 bucks per 100 does. Equal numbers of the remaining respondents want to see either and increase above 29 bucks per 100 does, or a decrease below 20 bucks per 100 does.

X Regarding mule deer management by CDOW, 46% of respondents thought CDOW are doing a "good" job, 33% of respondents thought CDOW are doing a "poor" to "fair" job and 21% of respondents thought the CDOW are doing a "very good" to "excellent" job of managing deer in the Trinidad area.

X Fifty-one percent of hunters were "slightly or very satisfied" with their past mule deer hunting experiences in the Trinidad area, 18% were neutral and 31% were "very or slightly dissatisfied" with past deer hunting experiences.

X People were divided over the issue of hunter crowding. Twenty-three percent felt "extremely to moderately" crowded, 23% felt "slightly" crowded and 53% felt "not crowded at all" while hunting deer in the Trinidad area.

X The majority of respondents rated the quality of hunting in the Trinidad area as "fair" to "good" (67%).

X In the Trinidad DAU, 34% of respondents indicated "obtaining meat" was the most important factor when deer hunting; for 29% it was to "get a trophy" deer, and for 19% it was "few contacts with other hunters". Eighteen percent responded that "hunting close to

home" was the most important factor when deer hunting.

X When asked about conflicts with ATV's the majority of respondents replied that they did not have any conflicts with ATV's. Those people that did mention conflicts noted that resource damage, ATV's off of marked trails and noise were the primary problems.

SUMMARY OF OPEN-ENDED COMMENTS

At the end of the questionnaire, people were asked to provide additional comments they would like to make about mule deer in the Trinidad and La Veta area. Numerous comments were received. These comments provide insight into the main issues that are important to people in deer management. The comments were analyzed by categorizing them into like groups and reporting the number of comments in each group. Comments were grouped into 10 categories, reported below; the number of comments received for each category is enclosed by parentheses. The categories are listed in descending order based on the number of comments received.

1. Issues that affect hunting opportunity such as changes in hunting regulations, licensing, quality aspects. (9 comments)

   % Split GMU 140 from the rest of the units to better manage hunter numbers.

   % I think we need a four- point antler restriction in all seasons.

   % I would like to reduce the number of public land deer licenses.

   % Allow deer hunting during the fourth season and create an earlier season.

   % Issue more archery licenses and lower the number of rifle licenses.

   % control the cost of licenses, hunting is becoming a rich mans sport.

2. Issues related to the quality and quantity of deer and elk habitat (8 comments)

   % Give incentives and instructions for individuals to improve deer habitat.

   % Help the smaller rancher not only the larger ones.

   % Improve and spend more money on deer habitat.

4. Deer population issues (7 comments)

   % The deer population seems to have been increasing the last 3-4 years.

   % Increase the deer herd.

   % Manage for trophy bucks.

   % Increase the number of bucks and balance the buck to doe ratio

5. Deer limited license issues (7 comments)

   % The restrictions on deer licenses have helped the buck/doe ratio.

   % Issue a limited number of doe licenses.

   % Issue either-sex deer licenses valid on private land.

6. Issues relating to predator control and how it may impact deer and elk populations (6 comments)

There is concern that predators including coyotes, mountain lion and black bear, are killing a significant portion of the deer population. The general feeling is that the CDOW should take action to reduce the number of predators.

% Coyote population needs to be reduced.

% Manage the cats I have seen more evidence of an increasing lion population.

% Issue a lion license with the deer license.

7. Hunting access issues, including the use/misuse of all-terrain vehicles. (5 comments)

% Don't further restrict ATV's use.

% Allow hunter the opportunity to use ATV's to get game out.

% Landowners don't let you hunt but still complain about damage.

% Too many deer in town they won't move out to public land.

% Increase the amount of public land in the area.

8. Miscellaneous Comments (3 comments)

% Wildlife officers are underpaid.

% Get rid of the $25.00 preference point fee, it is biased against people that cannot hunt every year.

% Allow landowners to supplemental feed during bad conditions.

9. Issues related to public land management and impacts to hunting (2 comments)

% Reduce the number of cattle on public lands. We can't hunt private land so why should they be allowed to graze public land.

% Public land should be better marked, issue a GMU map with the public land printed on it.

10. Some landowners prefer a preference system in obtaining a deer licenses (1 comment)

% Increase the number of licenses for landowners.

Appendix B: 2007 Landowner and Public Meetings Questionnaire results

Results

Results are presented in two sections. "Survey Highlights" summarizes the important results of this survey, particularly as they apply to the DAU plan objectives. The "Summary of Open-ended Comments" categorizes the additional comments received and provides insight into the main issues that people thought were important for the CDOW to consider.

The actual results of the survey may be reviewed at the Pueblo Service Center by contacting Allen Vitt, Terrestrial Biologist at 719-561-5306.

SURVEY HIGHLIGHTS

ABOUT THE RESPONDENTS

X Of the 49 respondents, 98% are Colorado residents and 2% are non-residents.

X Of the 49 respondents, 38 live in the DAU's listed, for an average of 36 years. 61% own or lease property in the DAU's, with an average of 3,378 acres.

DEER

X People are very interested and concerned about the mule deer population in the Trinidad area, 46% were "very interested" in watching or photographing deer. The majority of respondents (69%) are "very interested" in seeing mule deer in the area, and 65% are "very interested" in hunting deer. Forty-six percent of respondents indicated they were "very interested" in learning more about deer management, and 40% are "very interested" in providing input for (or participating in) decisions about deer management in the Trinidad area.

X Concerns about mule deer welfare are issues that interest people. Sixty percent of respondents were "very concerned" about the reduction in deer habitat due to increased human population development; 52% were "very concerned" about predation on deer by domestic dogs; 46% were "very concerned" about predation on deer by coyotes, bears, and mountain lions; and 50% were "very concerned" about the potential of starvation of deer during winter.

X The majority of respondents (50%) indicated they would like to see the population objective remain at 12,000 deer with 29% favoring a decrease in the population objective to 9,500 and 24% favoring a decrease in the deer population objective to 10,500.

X The majority of respondents (41%) want to see a buck:doe ratio of 25-29 bucks per 100 does. The remaining respondents want to see either and increase above 29 bucks per 100 does (10%), or a decrease below 20 bucks per 100 does (23%).

X Regarding mule deer management by CDOW, 37% of respondents thought CDOW are doing a "good" job, 30% of respondents thought CDOW are doing a "fair" job and 17% of respondents thought the CDOW are doing a "very good" job of managing deer in the Trinidad area.

X Forty-four percent of hunters were "slightly or very satisfied" with their past mule deer hunting experiences in the Trinidad area, 22% were neutral and 34% were "very or

slightly dissatisfied" with past deer hunting experiences.

X People were divided over the issue of hunter crowding. Thirty-three percent felt "moderately" crowded, 30% felt "slightly" crowded and 30% felt "not crowded at all" while hunting deer in the Trinidad area.

X The majority of respondents rated the quality of hunting in the Trinidad area as "fair" to "good" (73%).

X In the Trinidad DAU, 33% of respondents indicated "hunting close to home" was the most important factor when deer hunting; for 21% it was to "get a trophy" deer, and for 19% it was "obtaining meat". Twelve percent responded that "few contacts with other hunters" was the most important factor when deer hunting.

X When asked about conflicts with ATV's the majority of respondents replied that they did not have any conflicts with ATV's. Those people that did mention conflicts noted that resource damage, ATV's off of marked trails and noise were the primary problems.

SUMMARY OF OPEN-ENDED COMMENTS

At the end of the questionnaire, people were asked to provide additional comments they would like to make about mule deer in the Trinidad and La Veta area. Numerous comments were received. These comments provide insight into the main issues that are important to people in deer management. The comments were analyzed by categorizing them into like groups and reporting the number of comments in each group. Comments were grouped into 10 categories, reported below; the number of comments received for each category is enclosed by parentheses. The categories are listed in descending order based on the number of comments received.

1. Issues that affect hunting opportunity such as changes in hunting regulations, licensing, quality aspects. (7 comments)

   % Close GMU 140 to deer hunting, there are few deer.

   % I think we need a four- point antler restriction in all seasons.

   % Have a three-point restriction on bucks.

   % Decrease the number of seasons.

   % Move the hunting season until after the rut so the larger bucks can breed the does.

2. Deer population issues (4 comments)

   % The deer population seems to have been increasing the last 3-4 years.

   % Increase the deer herd.

   % Increase the number of bucks and balance the buck to doe ratio.

   % Move more deer into the area.

3. Miscellaneous Comments (3 comments)

   % Poaching is still an issue in the area.

   % Stop landowners from making money off of our game animals.

4. Hunting access issues. (3 comments)

   %Increase the amount of public land in the area.

   % Work with landowners to encourage hunting on private land.

5. Issues relating to predator control and how it may impact deer populations (3 comments)

   % Shoot more lions.

   % Spend more money on predator control.

   % Introduce more natural predators.

6. Issues related to the quality and quantity of deer habitat (2 comments)

% Give incentives and instructions for individuals to improve deer habitat.

% Controlled burns are needed to improve the deer habitat.

7. Deer limited license issues (1 comment)

% Lower the number of licenses issued

Appendix C: Press release announcing public meetings on DAU plans.

News from the Colorado Division of Wildlife

Contact Name: Michael Seraphin

TRINCHERA GAME MANAGEMENT MEETINGS

The Colorado Division of Wildlife (DOW) is holding public meetings to discuss deer and elk management for the areas around Trinidad, La Veta and Fort Garland. The purpose of these meetings is to discuss the management of deer and elk in GMU's 83, 85, 140 and 851.

Meetings will be held in Trinidad on February 26th at the Trinidad State Junior College multi-purpose room and in La Veta on February 28th at the La Veta Community Center. Both meetings are 7-9 p.m.

The DOW manages big game hunting by dividing specific areas into what are known as Data Analysis Units or DAU's. Those large areas are further divided into smaller geographical areas called Game Management Units or GMU's.

This is a continuation of the DAU planning process and is a chance for public opinion to be incorporated into the DOW herd planning process. Items that will be discussed are the herd population and herd composition objectives that will govern license setting and policy issues for the next ten years.

People who cannot attend the meetings can send written comments to Allen Vitt at the DOW at 600 Reservoir Rd., Pueblo, CO 81005.

For more news about Division of Wildlife go to:
http://wildlife.state.co.us/news/index.asp?DivisionID=3

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