

CIMARRON DEER HERD MANAGEMENT PLAN DATA ANALYSIS UNIT D-40

GAME MANAGEMENT UNITS 64 and 65



REVISED BY
ALYSSA KIRCHER
WILDLIFE BIOLOGIST
COLORADO PARKS AND WILDLIFE
2300 S. TOWNSEND AVE, MONTROSE, CO 81401

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EXECUTIVE SUMMARY

Cimarron Mule Deer Herd (DAU D-40)	GMUs: 64, 65
2020 post-hunt population: 6,400 deer	
2020 post-hunt buck ratio: 26 bucks per 100 does (estimated 3-yr average)	
Previous Objectives (2007-2021): 13,500-15,000 deer; 25-30 bucks per 100 does	
Proposed Objective (2022-2032): 6,800-8,300; 25-30 Bucks per 100 Does	

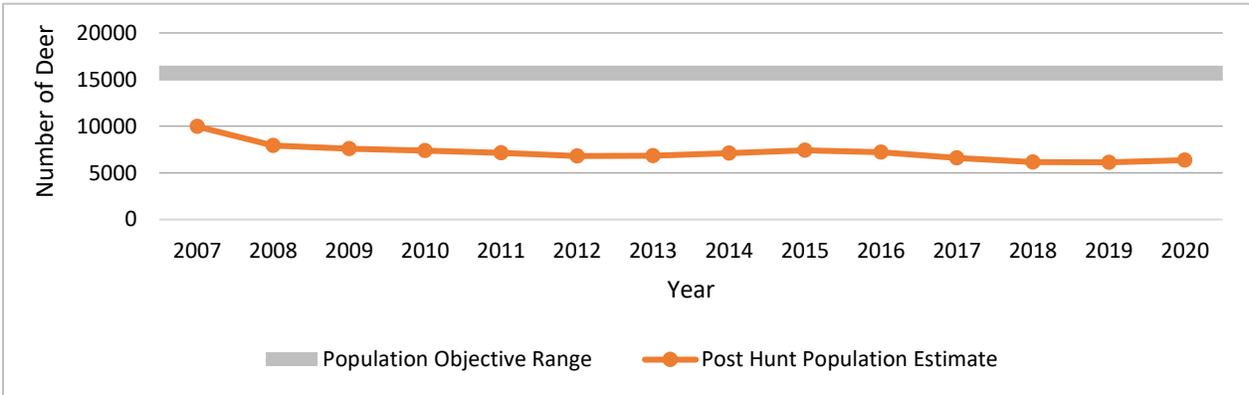


Figure 1. Deer DAU D-40 estimated post-hunt population and current objective range: 2007-2020.

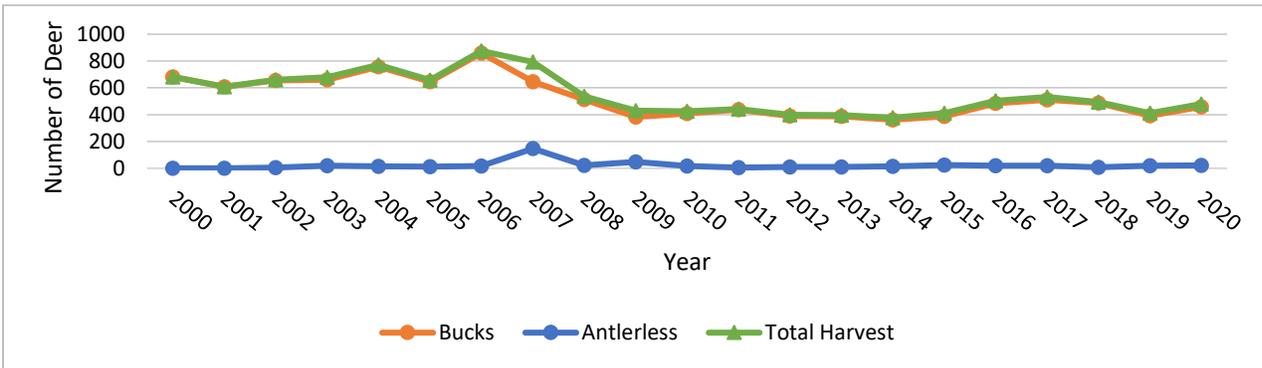


Figure 2. Deer harvest in D-40: 2000-2020.

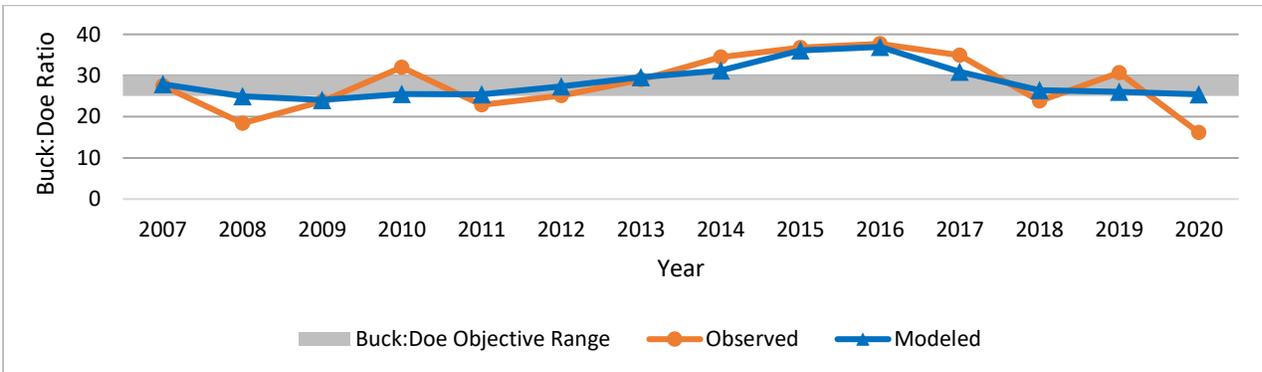


Figure 3. Deer DAU D-40 observed and modeled post-hunt buck ratio (bucks:100 does): 2007-2020.

Background Information

Data Analysis Unit (DAU) D-40, the Cimarron mule deer management area, consists of Game Management Units (GMU) 64 and 65. GMUs 64 and 65 were historically managed for unlimited hunter opportunity until 1999 when all deer licenses became limited statewide and licenses were reduced by 75% in an effort to recover ailing mule deer populations. Additionally, in 1998, rifle doe hunting was eliminated on public lands due to the persistent decline of this deer herd. Currently, either sex licenses are available in D-40 for the special Chronic Wasting Disease (CWD) management/youth opportunity hunt occurring in mid-August in portions of GMUs 62, 64, and 65 that have higher prevalence of CWD. Antlerless deer damage licenses are offered to landowners every year to mitigate impacts of deer on private lands.

From 1989 to 2007, the D-40 deer population declined steadily from approximately 14,300 to 9,900, coinciding with decreases in December fawn:doe ratios (74:100 in 1989 to 56:100 in 2007). Perhaps aided by landscape-scale habitat restoration efforts, the population has stabilized since 2007 and the 2020 post-hunt population estimate is 6,400 with an observed post-hunt buck ratio of 26 bucks:100 does and an observed December fawn ratio of 61 fawns:100 does. The proposed post-hunt population objective for D-40 is 6,800-8,300 deer. This would be a moderate increase in deer populations. The proposed observed post-hunt buck ratio objective is 25-30 bucks:100 does.

The long-term population decline of this deer herd over the previous 30-40 years is likely attributed to an overall decrease in carrying capacity across the landscape for a variety of reasons. Suitable winter range has declined as a result of increased development and recreation. Increased vehicle traffic has limited connectivity between seasonal habitats within the DAU. Long-term drought conditions have also contributed to the degradation of high quality mule deer habitat with less cover and limited forage. Low survival and decreased fawn recruitment could be results of these anthropogenic and environmental influences.

Persistently declining deer populations on the Uncompahgre Plateau and across the west have triggered multiple actions from CPW and other agencies and organizations. CPW limited license numbers and established the Uncompahgre Plateau (D-19), adjacent to D-40, as an intense deer study area beginning in 1997 to monitor winter fawn survival and annual doe survival to better inform management of deer populations on the Plateau and in similar habitats across southwestern Colorado. During this same time period, the Uncompahgre Plateau Project was developed to increase cooperation and planning between state and federal agencies to improve deer and elk habitat on, and around, the Uncompahgre. CPW also conducted a summer fawn mortality study; a research project evaluating the impacts of winter habitat condition on doe and fawn survival; a research project to assess the effects of habitat improvement projects on doe and fawn survival; and a 10-year mountain lion study to evaluate the predator/prey dynamics between mountain lions and mule deer.

Significant Issues

Fawn recruitment (survival of a fawn from birth to one year of age) in this herd has been low for the last three decades (Pojar and Bowden 2004). Populations are slowly recovering due to low recruitment. A variety of factors are likely contributing to poor recruitment in this herd. As previously mentioned, suitable winter range habitat has diminished due to land conversions and human development. Non-wildlife friendly fences have been erected as development has increased in these units. Migration corridors have been impeded by exclusion fencing designed to

keep wildlife off highways, but inadvertently fragment their habitat and resources. Additionally, outdoor recreation has increased dramatically over the last decade and can have many impacts including loss of effective habitat, changes in seasonal migration patterns and potentially lower survival rates. Overgrazing by domestic livestock and persistent drought have decreased the quality of habitat across the landscape as well.

Additionally, CWD was first detected in D-40 in 2017. The overall prevalence from 2017 to 2020 was 4.9% DAU-wide, based on intensive testing of harvested deer, roadkill deer, and deer that were removed from the population because they were displaying symptoms of the disease. It is important to note that collecting nonrandom samples, like suspect deer, likely inflates the prevalence rate and does not necessarily represent true prevalence in the field. When only considering harvested deer sampled from 2017 to 2020, the prevalence drops to 1.7%. Although prevalence is low, CPW is taking preventative management actions to limit the spread of CWD. CPW created a private land disease management hunt in portions of 62, 64, and 65 during late summer/early fall months when only resident deer are located in the Uncompahgre Valley. These deer have higher prevalence than migratory deer summering at higher elevations on the Cimarron Mountains. By targeting low elevation, resident deer in mid-August, hunters can target deer that are more likely to transmit CWD to high elevation deer when they migrate to the valley during the winter months. Moreover, CPW has increased buck licenses to decrease spread since adult male deer are more likely to contract CWD. Proactive CWD management will be a crucial part of the D-40 herd management plan (HMP).

Management Objectives

The population models that CPW uses have been updated since the previous herd management plan was established in 2007. Adjusting the population estimate to more accurately represent the true population size is the first objective for the new herd management plan. Moreover, because of low estimated populations and the desire to increase deer populations, CPW offers very few antlerless deer licenses; therefore, management is limited to adjusting buck license numbers. If populations increase, more doe licenses can be offered. To manage CWD, CPW plans to continue the disease management hunt and potentially increase licenses if prevalence increases. The buck ratio will also be managed carefully to a ratio of 25 bucks:100 does to limit CWD prevalence.

Management Alternatives

In Data Analysis Unit D-40, three alternatives are being considered for the post-hunt population size and three alternatives for the buck ratio objectives (Table 1):

Table 1. Population and herd composition objective alternatives for the D-40 deer herd.

Population Objective Alternatives:		Buck Ratio Objective Alternatives:	
4,900 to 6,400 (midpoint 5,700)	(1) Approximately 10% decrease in 2020 population estimate	20 to 25 bucks per 100 does	(1)
6,200 to 7,700 (midpoint 7,000)	(2) Updated population estimate with similar management objective from 2007 HMP (10% increase population)	25 to 30 bucks per 100 does	(2) CPW Proposed Objective-status quo from 2007 HMP
6,800 to 8,300 (midpoint 7,500)	(3) CPW Proposed Objective- Approximately 17% increase in 2020 population estimate	30 to 35 bucks per 100 does	(3)

CPW Proposed Objectives:

Post-Hunt Population

The proposed management objective for D-40 is a population of 6,800 to 8,300 mule deer. This objective range allows CPW to increase the population, but also manage the spread of Chronic Wasting Disease by having flexibility to increase buck licenses. Eventually, if carrying capacity and populations increase, more hunting opportunity will result.

Post-Hunt Buck Ratio

The proposed buck ratio will keep management the same as the previous herd management plan objective of 25-30 bucks per 100 does. The objective allows for a balance of opportunity for hunters, while simultaneously allowing CPW to keep CWD prevalence in check. There was little support in the stakeholder survey to decrease the buck ratio and increasing the buck:doe ratio could increase the spread of CWD.