

TRINCHERA AND SAND DUNES (SANGRE DE CRISTO MOUNTAINS) DEER HERD MANAGEMENT PLAN REVISION DATA ANALYSIS UNIT D-56 (Previous D-31 and D-37 combined) Brent Frankland, Wildlife Biologist, Monte Vista

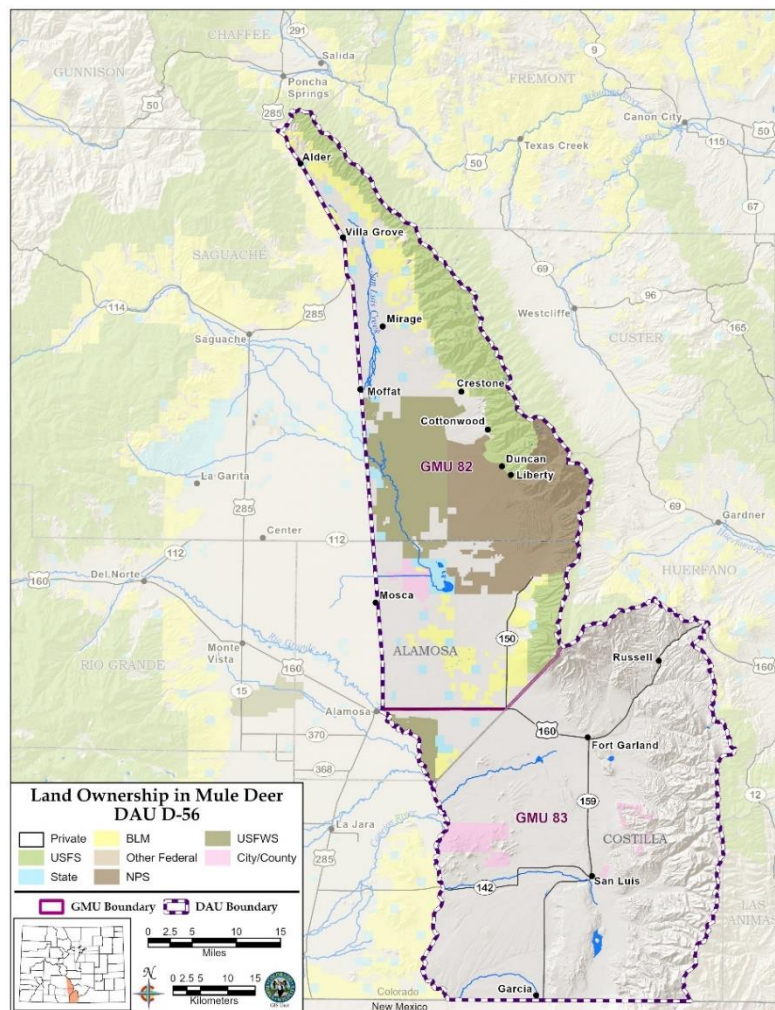
GMUs: 82 and 83

Last HMP Approved Year: D-31 in 2010, D-37 in 2021

Post-hunt Population: Previous Objective: D-31 - 2,000-2,500, D-37 - 2,300-3,000; 2022 Estimate: D-56 3,400

Preferred Alternative: Maintain a combined population objective of 4,300-5,500 deer

Post-hunt Sex Ratio (bucks:100 does): Previous Objective: D-31 - 35-40, D-37 - 25-29; 2022 observed: D-31 - 30; 3-yr average modeled: 41; D-37 - 28; 3-yr average modeled: 31
Preferred Alternative: 30-35 bucks:100 does



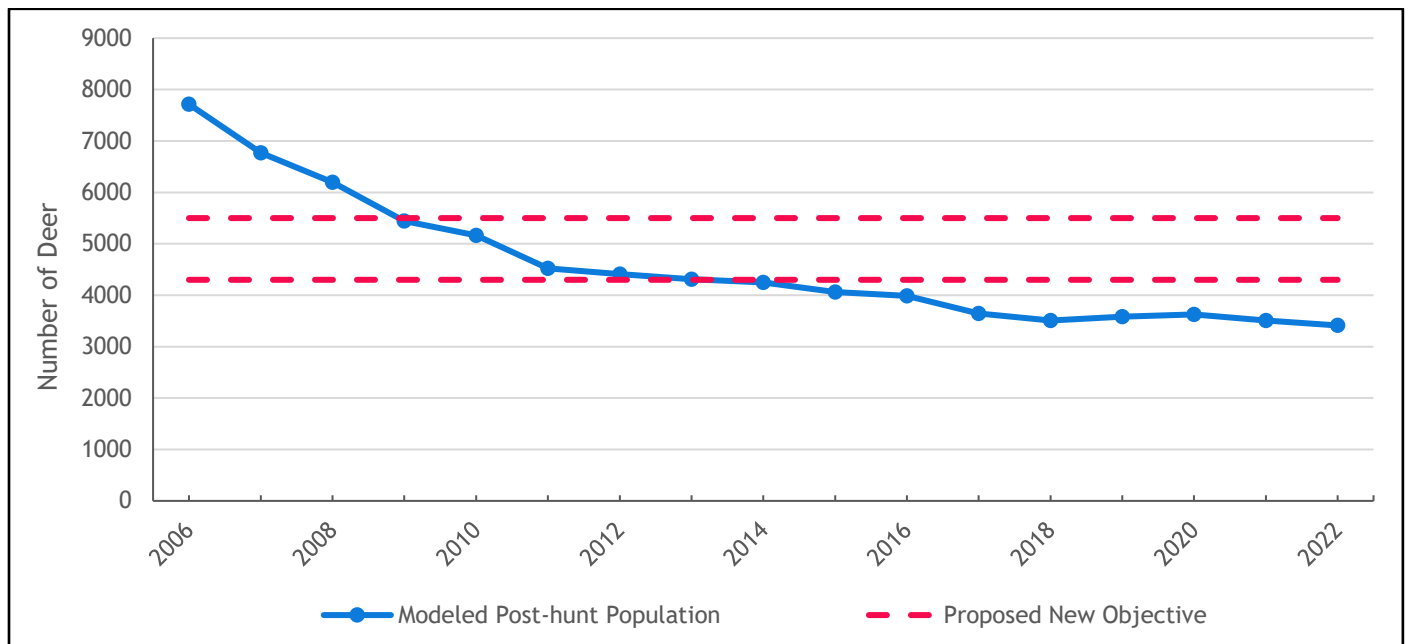


Figure D56-1. Deer DAU D-56 modeled post-hunt population and objective range, 2006-2022.

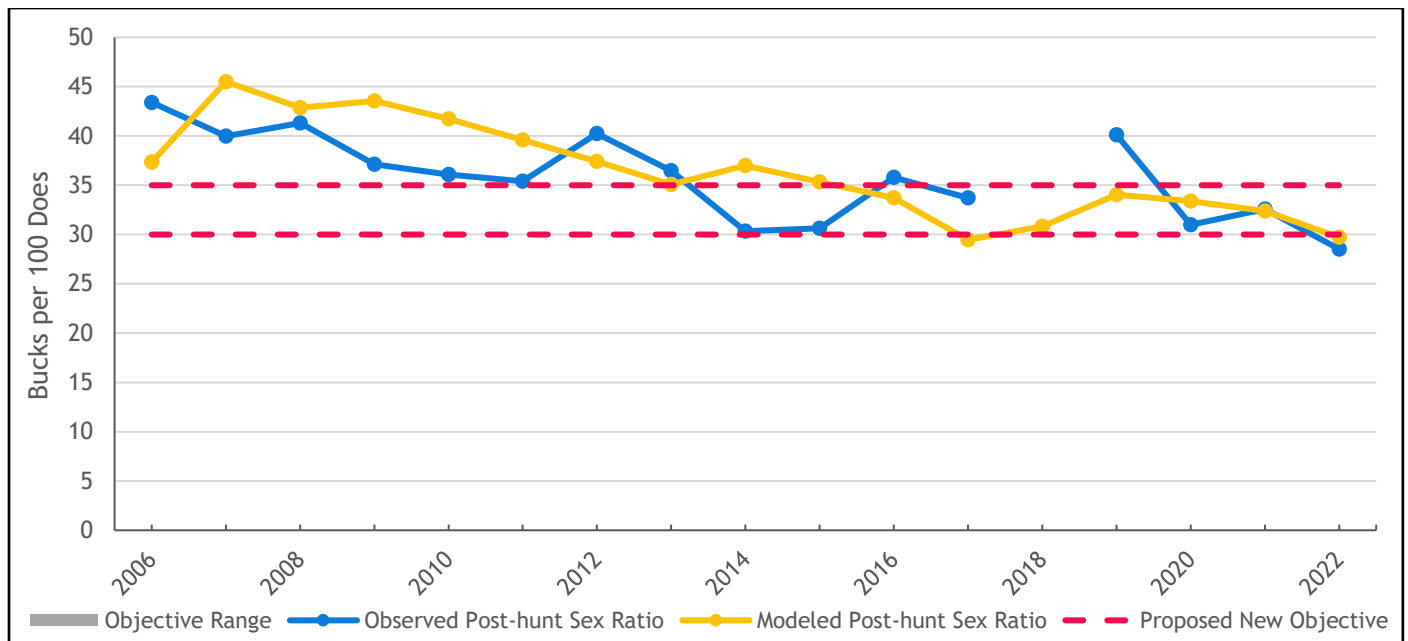


Figure D56-2. Deer DAU D-56 observed and modeled post-hunt sex ratio (bucks:100 does), 2006-2022.

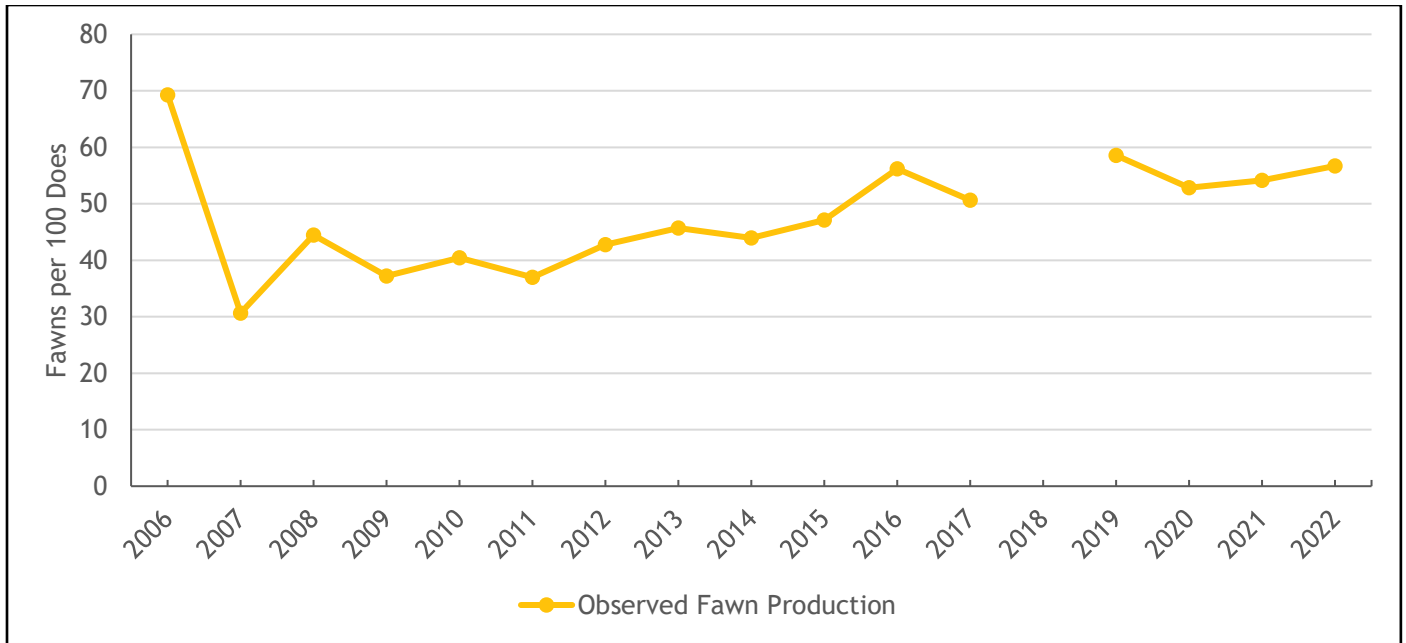


Figure D56-3. Deer DAW D-56 fawn production (observed post-hunt fawns:100 does ratio, 2006-2022).

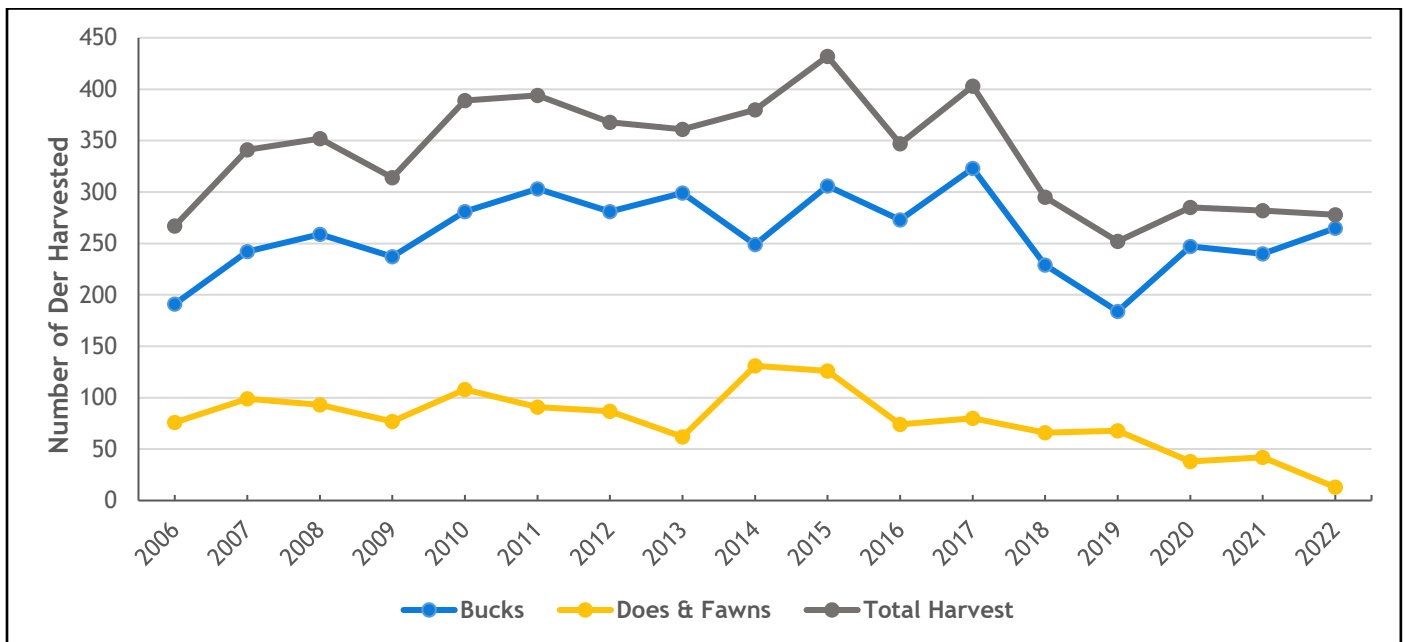


Figure D56-4. Deer harvest estimates in D-56, 2006-2022.

Background Information

After careful consideration, CPW decided to combine two past adjacent DAUs, namely D-31 and D-37, into a single DAU, now referred to as D-56. The reason to combine the two DAUs into one larger geographical DAU is for CPW to model and manage the mule deer more efficiently on the east side of the San Luis Valley. In the past, poor DAU boundaries and sporadic data collection resulted in potentially underestimating the population in GMU 83 (southern herd) and potentially overestimating the population in GMU 82 (northern herd). The previous D-31 mule deer herd is in the southeastern region of the San Luis Valley, while the previous D-37 mule deer herd is in the northeastern region. This newly proposed DAU (geographic area) D-56 comprises the combined past D-31 and D-37 DAUs, each of which consists of a single Game Management Unit (GMU), 82 (in D-37), and 83 (in D-31), with an approximate area of 2,339 square miles. The mule deer winter range within D-56 includes roughly 657 square miles, whereas the summer range encompasses about 922 square miles. Portions of Alamosa, Saguache, and all of Costilla counties comprise the entire area. Public land constitutes about thirty-six percent of the DAU, while roughly sixty-four percent is privately owned.

Before 2006, the previous D-31 (GMU 83) and D-37 (GMU 82) herd population estimates fluctuated annually; however, there were several years in which CPW did not collect inventory data, or the data collected may have needed to be more accurate. Modeling the D-56 population from 2006 indicates it dropped from about 7,700 deer to almost 3,500 in the late 2010s. Since then, the population has remained relatively stable. In 2021, CPW updated the D-37 Herd Management Plan (HMP) population objective to allow for growth in GMU 82. Most mule deer hunters responding to the 2022 Big Game Harvest Survey for the GMU 82 were “somewhat satisfied” with the number of deer; however, a significant proportion would prefer to see more animals in the area. From the survey, most hunters would like to see an increase in the population over the next ten years.

On the contrary, CPW last revised the D-31 HMP in 2010, intending to stabilize the population estimate within the objectives at the time and allow for growth. According to the 2022 Big Game Harvest Survey, most deer hunters were relatively satisfied with the number of deer in GMU 83. However, the hunters would like the population to stay relatively stable over the next ten years with a slight increase. Nonetheless, the mule deer herd in GMU 83 is not evenly distributed; it is primarily located in the northern portion of Costilla County on private land, particularly in the fall and winter. Furthermore, the movement of animals between GMU 82 and 83 is known to occur.

Since 2006, the observed post-hunt sex ratios in GMUs 82 and 83 have also fluctuated considerably. Much of the fluctuation may have been due to annual inconsistent sightability factors and the distribution of animals with varying weather conditions, combined with movements across GMU boundaries. CPW raised the sex ratio objective in GMU 82 in 2021 to 25-29 bucks:100 does to manage for more mature bucks than the previous (2010) HMP while still allowing for hunter opportunities on public land. Since implementing the objectives for GMU 82, the observed sex ratio has been at the upper end of the desired range. Alternatively, GMU 83's observed sex ratio has been within or slightly lower than the objective range set in 2010. The area south of Hwy 160 is predominantly privately owned, making managing precisely to a desired sex ratio objective challenging. Nonetheless, the hunting community, private property owners, and CPW personnel would like to maintain management for a more mature buck population within GMU 83. Thus, CPW intends to manage for a slightly lower buck ratio in GMU 82 while providing improved public hunting opportunities and managing for a higher buck ratio in GMU 83 because of land ownership constraints and safety concerns. Thus, a median overall D-56 objective of 30 - 35 bucks:100 does is preferred.

For this revised HMP, modeling the combined northern (GMU 82) and the southern (GMU 83) mule deer populations within the larger geographical context, the modeled sex ratio dropped from the late 2000s (at approximately 45 buck:100 does) to the late 2010s (to around 29 bucks:100 does). Since then, the modeled sex ratio has remained relatively stable within the newly revised D-56 sex ratio objective range.

Before CPW limited buck licenses in 1999, the annual buck harvest in GMU 82 averaged approximately 220 animals. From that time through to 2006, the reduction in licenses resulted in an average harvest of 75 animals, but the sex ratio rose rapidly. To curb the rising sex ratio, CPW started increasing the buck licenses in 2007. Thereafter, CPW incrementally increased the licenses to reduce the sex ratio to the objective range set in 2010 and again in 2021. As for GMU 83, until 2021, management of license numbers was predominantly controlled by private landowners, most notably the Trinchera Ranch, under a "Ranching For Wildlife" (RFW) agreement with oversight by CPW. The private landowners controlling hunter access made it extremely challenging for CPW to achieve the desired harvest. In addition, since 2022, the Trinchera Ranch has withdrawn from the RFW program, resulting in fewer animals being harvested, particularly does. Before 2010, the buck harvest in GMU 83 averaged approximately 180 bucks, and 80 does. Since implementing the previous HMP in GMU 83, the buck harvest dropped to about 120 animals and doe harvest to 70 animals, with only 13 does harvested in 2022. For the entire geographic area for this HMP, the average harvest since 2010 is around 270 bucks, and 70 does, with significantly less doe harvest in 2022. However, the harvest is not evenly distributed throughout the DAU D-56 area, particularly in GMU 83. Most of the harvest in GMU 83 occurs in the northern area of Costilla County.

Additionally, license management is notably different between GMUs 82 and 83. For this new D-56 HMP, the mule deer in both GMUs will continue to be managed separately, as they have previously been under separate DAUs. The differences in management are due to the vast amount of private land that encompasses the southern half of D-56 in GMU 83, constraining precise local management. CPW will continue to allocate licenses to manage for increased hunter opportunity and lower buck ratios in GMU 82 and lower license allocation and higher buck ratios in GMU 83, just as in the past. The overall buck ration objective in D-56 will be the middle ground of these two ratios. CPW will also continue to provide depredation doe licenses as needed, which predominantly takes place south of Hwy 160.

Over the past ten years, the combined hunting-season success rates throughout D-56 have averaged 66%. However, harvest success rates are skewed between those in GMU 82, at approximately 46%, and those in GMU 83, at more than 86%. The harvest success differences between the northern and southern populations are likely due to deer distribution and available access. An example is the average archery success since 2013 in GMU 82 is about 16%; in contrast, the archery success in GMU 83 is around 69%. Comparatively, the harvest success in GMU 82 during the second and third rifle seasons is approximately 50% but more than 86% in GMU 83. Conversely, the harvest success rates do not vary significantly in the later fourth rifle season, when the animals are typically at lower elevations of the Sangre de Cristo mountain foothills; GMU 82 average success over the past ten years is about 81%, and GMU 83 success is around 72%. Since 2013, the muzzleloader season's success has fallen between the rifle and archery seasons, averaging 35% in GMU 82 and 89% in GMU 83.

Management Concerns

Significant factors that may limit the D-56 population are the quantity and quality of winter range habitat. The winter range continues to diminish slowly, with increased development on private land and competition with domestic livestock fragmenting the range. Similarly, summer recreational activities continue to increase throughout the DAU but are restricted somewhat in the Costilla County portion of the area due to it being predominantly privately owned. The various anthropogenic impacts may affect distribution, reproduction, and fawning efforts, restricting population growth. Deer numbers dropped rapidly during the late 2000s until about 2011; the decrease continued but was considerably less until around 2018. The cause of the decline is unknown, but CPW attributed the cause to one or more of the following:

- 1) Interspecific competition with an increasing elk herd for limited resources.
- 2) Habitat succession limits the amount of quality habitat and forage available.
- 3) Record droughts from 1999 through 2004.
- 4) Potential illegal harvest of animals, particularly in GMU 83.

Nevertheless, since 2018, the population has stabilized but is trending below the objective range for this HMP.

Mule deer are not a significant problem on agricultural land in the northern half of the DAU, and depredation concerns are minimal. In contrast, the DAU's southern half is primarily under private ownership. Several large undeveloped residential subdivisions exist within the private land but with an established road infrastructure. Many private parcel owners are not on their property during hunting seasons when numerous hunters take advantage of the landowner's absence by hunting on these properties without their permission. Although this is illegal, hunters risk harvesting animals without the landowner's presence, thus avoiding trespass charges. The trespass concerns have created significant issues between hunters, landowners, and CPW from a human-safety aspect, illegal harvesting of wildlife, and the potential destruction of private property. To address issues, CPW will continue providing game damage and dispersal licenses to private landowners. Localized problems may result from restricted mule deer distribution during the winter months. Nevertheless, private landowners who experience mule deer depredation concerns can access various management tools CPW offers. Similarly, CPW will address the trespass problems on a case-by-case basis.

Management Alternatives

In 2010, CPW considered two alternatives for the post-hunt population size objectives and three alternatives for the post-hunt sex ratio objectives in Data Analysis Unit D-31:

Table D31-1. Proposed population objective ranges for the 2010 D-31 HMP.

Post-hunt Population Objective Alternatives:	
2,000 to 2,500	(1) Status Quo - Approved
2,500 to 3,000	(2) Approximately 20% increase in objectives

Table D31-2. Proposed buck ratio objective ranges for the 2010 D-31 HMP.

Post-hunt Buck Ratio Objective Alternatives:	
25 to 30 Bucks per 100 does	(1) Decrease buck ratio objective by approximately 10 bucks per 100 does
35 to 40 Bucks per 100 does	(2) Status Quo - APPROVED
45 to 50 Bucks per 100 does	(3) Increase buck ratio objective by approximately 10 bucks per 100 does

In 2021, CPW updated the D-37 post-hunt population size and sex ratio relative to the context current at the time:

Table D37-1. Proposed population objective ranges for the 2021 D-37 HMP.

Post-hunt Population Objective Alternatives:	
2,200 to 3,000	(1) Approximately 20% increase in objectives - APPROVED

Table D37-2. Proposed buck ratio objective ranges for the 2021 D-37 HMP.

Post-hunt Buck Ratio Objective Alternatives:	
25 to 29 Bucks per 100 does	(1) Increase buck ratio objective by approximately 5 bucks per 100 does - APPROVED

For this HMP, D-56, combining the previous approved DAUs 31 and 37 and the higher and lower points of the past objectives:

Table D56-1. Proposed population objective ranges for the 2024 D-56 HMP.

Post-hunt Population Objective Alternatives:	
4,300 to 5,500	(1) Combination of previous objectives

Table E56-2. Proposed buck ratio objective ranges for the 2024 D-56 HMP.

Post-hunt Buck Ratio Objective Alternatives:	
30 to 35 Bucks per 100 does	(1) Combination of previous objectives

Post-hunt Population

The preferred management objective range for D-56 is to combine the previously approved objectives set for the northern population (GMU 82) in 2021 and the southern population (GMU 83) established in 2010 to an overall post-hunt **population of 4,300 to 5,500 mule deer**. CPW proposes monitoring and modeling the entire DAU as one entity; however, management will continue to differ between the mule deer in GMU 82 and GMU 83 based on land ownership, accessibility to the animals, and human safety concerns. The goal is to increase and maintain the herd through prudent management within the preferred objective range, simultaneously allowing for hunter opportunities within CPW control. The objective range allows the best balance and flexibility for managing the herd, recreational opportunities, minimizing agricultural conflicts, maintaining habitat carrying capacity, and creating a safe environment. Management for the life of this HMP would use the strategies mentioned below.

Post-hunt Sex Ratio

Similar to the population objective range, the preferred sex ratio objective range for the D-56 mule deer herd is to combine the previously approved objectives set for GMU 82 in 2021 and GMU 83 set in 2010 to an overall median post-hunt objective range of **30-35 bucks per 100 does**. The range supports most stakeholder desires, preferring a slightly higher sex ratio objective in GMU 83, where licenses are highly limited, and a lower sex ratio in GMU 82, where hunting opportunities are greater and there is more accessibility to the animals. The preferred range allows for the best balance between satisfactory hunting experiences and the desired hunting opportunities throughout the DAU.

Public Involvement

In 2020, CPW provided a draft HMP document for D-37 (Sand Dunes Deer Herd) to the public for a 30-day review. In addition, CPW sent the draft plan to the Bureau of Land Management (BLM), Baca National Wildlife Refuge (BNWR), Greater Sand Dunes National Park and Preserve (GRSA), local county commissioners, the local Habitat Partnership Program (HPP) committee, and the United States Forest Service (USFS) for review and commentary. The draft allowed all constituents to participate in the public process, including non-consumptive recreationists, hunters, landowners, local stores, or business owners. In 2009, CPW held a public meeting in Alamosa, CO, for the D-31 HMP (Trinchera Deer Herd), where local constituents representing different community stakeholder groups attended the meeting. CPW also provided a draft HMP online for a 40-day public review and to solicit feedback. Similar to the D-37 HMP, CPW sent a draft of the D-31 HMP to the local HPP committee and county commissioners. CPW's feedback from public involvement during the past HMP processes was that they were somewhat pleased with deer management in the areas. Most constituents would prefer to see more mule deer in the entire geographic area of D-56. However, CPW needs to be cautious about increasing the mule deer population in GMU 83 without increasing the distribution of the animals. CPW has re-examined and considered biological herd capabilities and social-political tolerance for this updated HMP. CPW will provide this updated HMP online for a 30-day public review; however, as stipulated earlier, there will be no changes to current management conducted in GMU 82 and GMU 83 within the DAU, and individual GMU management will remain separate.

Preferred Management Objectives:

Post-hunt Population

The preferred management objective for D-56 is a post-hunt herd **population of 4,300 to 5,500 mule deer**, aiming to maintain current management separately in the northern and southern populations and allow the overall herd to grow to the objective range. This objective range provides the best balance for managing the deer herd, hunting recreational opportunities, minimizing agricultural conflicts, and maintaining acceptable habitat-carrying capacity.

Post-hunt Sex Ratio

The preferred post-hunt sex ratio objective range for the entire D-56 mule deer herd is attaining a median objective range to encompass the current sex ratio objectives in GMU 82 and GMU 83 to **30-35 bucks per 100 does**. The range supports most stakeholder desires, preferring management towards a slightly higher sex ratio in GMU 83 and a lower sex ratio in GMU 82 of the DAU. Establishing a median objective range for the current northern and southern population allows CPW flexibility to manage the different areas within the DAU safely, effectively, and within the needs and constraints of local constituents. The preferred range allows for the best balance between satisfactory hunting experiences, the desired hunting opportunities, and reducing human safety concerns.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population - CPW will continue collecting annual inventory data and managing to the preferred mule deer population objectives. The population should persist as long as fawn recruitment remains strong and public land doe hunting licenses are minimal. The Trinchera Ranch may decide at some stage within the timeframe of this HMP to re-enlist into the RFW

program, at which additional buck and doe harvest may take place. However, reenlistment is unknown and not currently within the Ranch's management plans. CPW will address potential reenlistment if requests emanate. Tools to control private land depredation issues will remain in place. CPW will consider public land doe harvest opportunities once the population estimate reaches the upper region of the preferred objective range or a significant deterioration in habitat conditions occurs.

Post-hunt Sex Ratio - CPW will maintain current and separate management of buck-hunting opportunities in GMU 82 (northern population) and GMU 83 (southern population) to sustain the observed and predicted sex ratio within the overall DAU preferred objective range. After that, CPW will monitor the D-56 entire herd and individual populations within to balance buck-hunting opportunities and the mature buck level relevant to the objective range. CPW will be mindful of maintaining a higher adult buck population in GMU 83 with the restriction of licenses, human safety concerns, and improved hunting opportunities in GMU 82. Expected harvest from the buck licenses should sustain an acceptable mature buck population and stakeholder satisfaction within the preferred objective range. The objectives, particularly in the GMU 82, should reduce the risk of CWD from the higher sex ratio levels CPW has observed in the past.

CPW Commission Approved Objectives:

Post-hunt Population

Pending

Post-hunt buck ratio

Pending