Sand Dunes Deer D-37 Herd Management Plan Extension

Game Management Unit 82

Revised By

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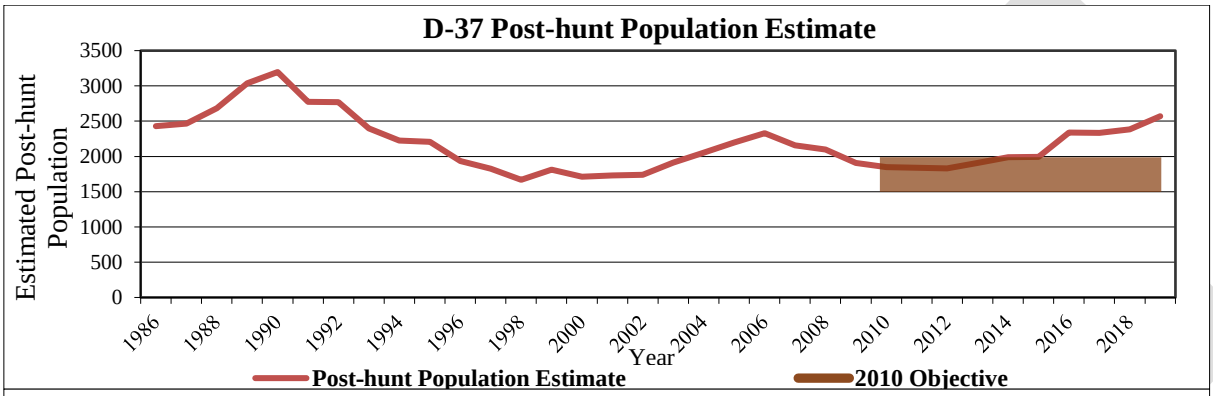
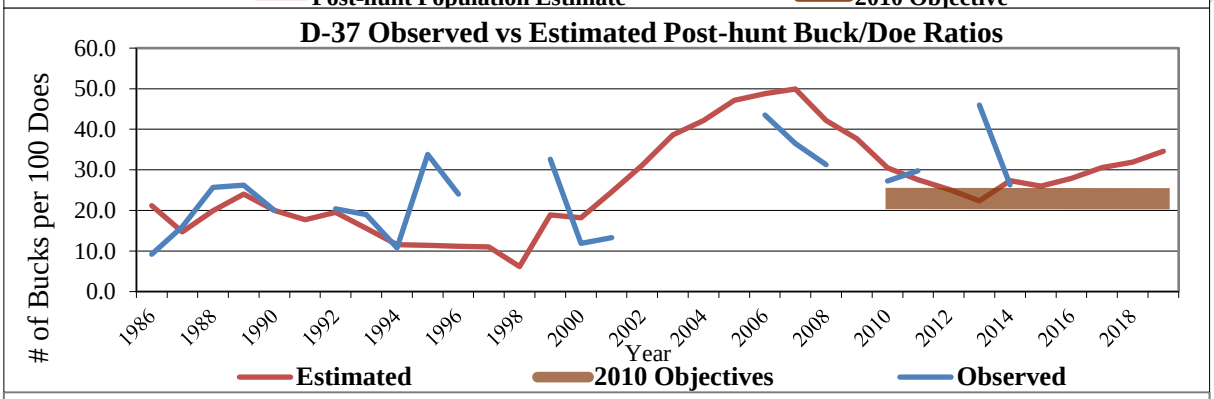
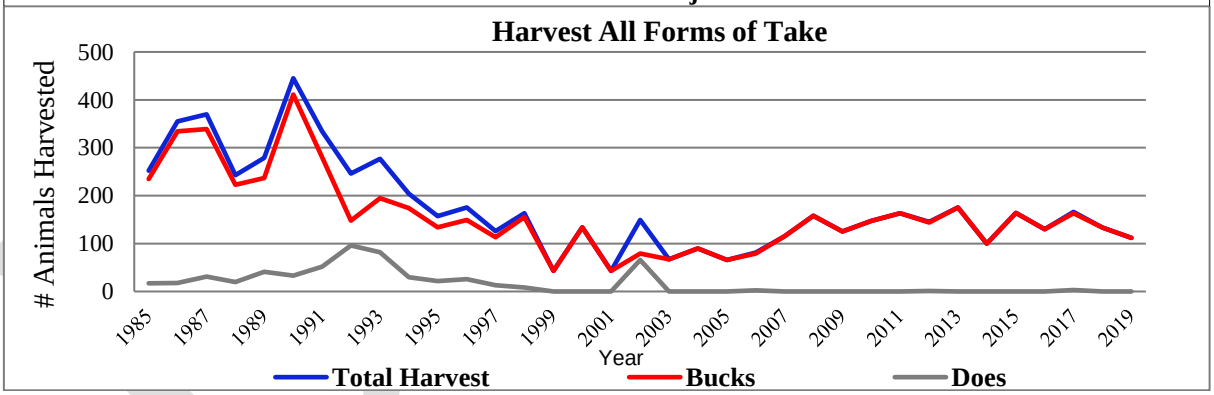
Sand Dunes Deer D-37 HMP Extension Executive Summary

GMU: 82	**Land Ownership:** 10% BLM, 20% GRSA, 19% USFS, 12% USFWS, 8% State Land Trust, 3% CO State, and 29% Private.
2019 Post-hunt Population Estimate: 2,570	**Post-hunt Sex Ratio (Bucks to 100 Does):** 36 (Observed 3-yr. average).
2010-2020 (Previous Herd Plan Objectives):	1,500 to 2,000 deer; 20-25 Bucks per 100 Does.
2020-2030 (Preferred Herd Plan Objectives):	2,300 to 3,000 deer; 25-29 Bucks per 100 Does.







The D-37 mule deer herd is in the northeastern region of the San Luis Valley. The DAU (geographic area) comprises a single Game Management Unit, GMU 82, approximately 1,088 square miles. Mule deer winter range within the DAU includes roughly 203 square miles, whereas summer range encompasses about 310 square miles. Portions of Alamosa and Saguache counties make up the entire area. Public land constitutes about 71% of the DAU, while the private sector owns almost 29% of the area.

The estimated post-hunt population size for D-37 reached its peak at almost 3,200 animals in the early 1990s. Since then, the population declined to roughly 1,600 animals in 1998. The population remained relatively stable until 2002, then climbed through to 2006. Thereafter, the population declined through to 2012, likely due to reduced fawn ratios. Since 2012, with a recovery in observed fawn recruitment, the population appears to be increasing.

The observed sex ratio was relatively stable until 1999, around 22 bucks per 100 does. Since then, the sex ratio has climbed through to 2019, reaching approximately 36 bucks per 100 does. The sex ratio has been above the objective range since 2006. Most stakeholders, who have asserted their opinions and desires to local field personnel, would prefer a slightly higher sex ratio objective in the DAU. A higher objective would reduce the need for an aggressive harvest on the buck population.

Before CPW limited buck licenses in 1999, the annual buck harvest averaged approximately 223 animals. Over the past ten years, buck harvest has averaged about 143 animals yearly. With a rising observed sex ratio, CPW began increasing the buck license numbers slightly from 2008, particularly in the second and third rifle seasons. The addition of buck licenses was to reduce the buck population to the objective range. However, harvest from the increased licenses may not have been sufficient, and the sex ratio continues to rise. A more aggressive buck harvest may be necessary.

CPW also removed all doe licenses from 1999. The exception was in 2002, during which CPW implemented a doe harvest because of the drought conditions. Before 1999, doe harvest averaged about 35 animals per year. Over the past ten years, the only doe hunter-harvest occurred from private land conflict issues.

The combined hunting season success rates from 2010 to 2019 have averaged around 48%. However, harvest success rates are skewed between the archery, muzzleloader, and rifle seasons. The average archery success since 2010 is around 18%. Second and third rifle season success rates have averaged almost 54%, and the fourth rifle season success has averaged about 83% over the past ten years.

The two most significant factors limiting the D-37 population are the quantity and quality of winter range habitat. CPW field personnel have observed relatively high fawn recruitment over the last ten years. The strong fawn recruitment is encouraging for the growth of the population. Winter range habitat continues to diminish with increased development on private land and competition with domestic livestock. The reduction in the winter range may restrict population growth. In addition, the D-37 sex ratio has been trending above the present objective range. CPW detected a low prevalence of CWD in the neighboring DAU (D-34), which raises concerns for the heightened sex ratio.

Mule deer are not a significant problem on agricultural land in the DAU, and any depredation concerns are minimal. CPW continues to provide game damage and dispersal licenses to private landowners to address issues. Localized problems may result from restricted mule deer distribution during the winter months. Private landowners who experience mule deer depredation issues can access various management tools offered by CPW; each is dealt with individually.

Preferred Objectives:

Post-hunt Population

The preferred management objective for D-37 is a **population of 2,300 to 3,000 mule deer**, aiming to increase the population.

Three-year Average Observed Post-hunt Sex Ratio

The preferred post-hunt sex ratio objective for this herd is to increase the current objective to **25-29 bucks per 100 does**. This range supports the desires of the stakeholder community. A higher objective would reduce the need for an aggressive harvest from what CPW has observed recently. The preferred range would continue to allow for satisfactory hunting experiences and the desired hunting opportunities.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – Managing to the preferred mule deer population objective, CPW will collect annual inventory data for the models to function more accurately and conduct appropriate management. As long as fawn recruitment remains strong without public land doe hunting licenses, the population should continue to grow. Tools to control private land depredation issues will stay in place. CPW would consider doe harvest opportunities once the population estimate is within the upper region of the objective range or a significant deterioration in habitat conditions occurs.

Post-hunt Sex Ratio – CPW will increase buck-hunting opportunities until the observed sex ratio falls within the preferred objective range. After that, CPW will monitor the herd closely to maintain a balance between buck hunting opportunity and a mature buck level within the preferred objective range. Harvest from these licenses should sustain the desired adult buck population at acceptable levels and maintain stakeholder satisfaction. This preferred objective would also help reduce the risk of CWD from the sex ratio levels CPW has observed in recent years.

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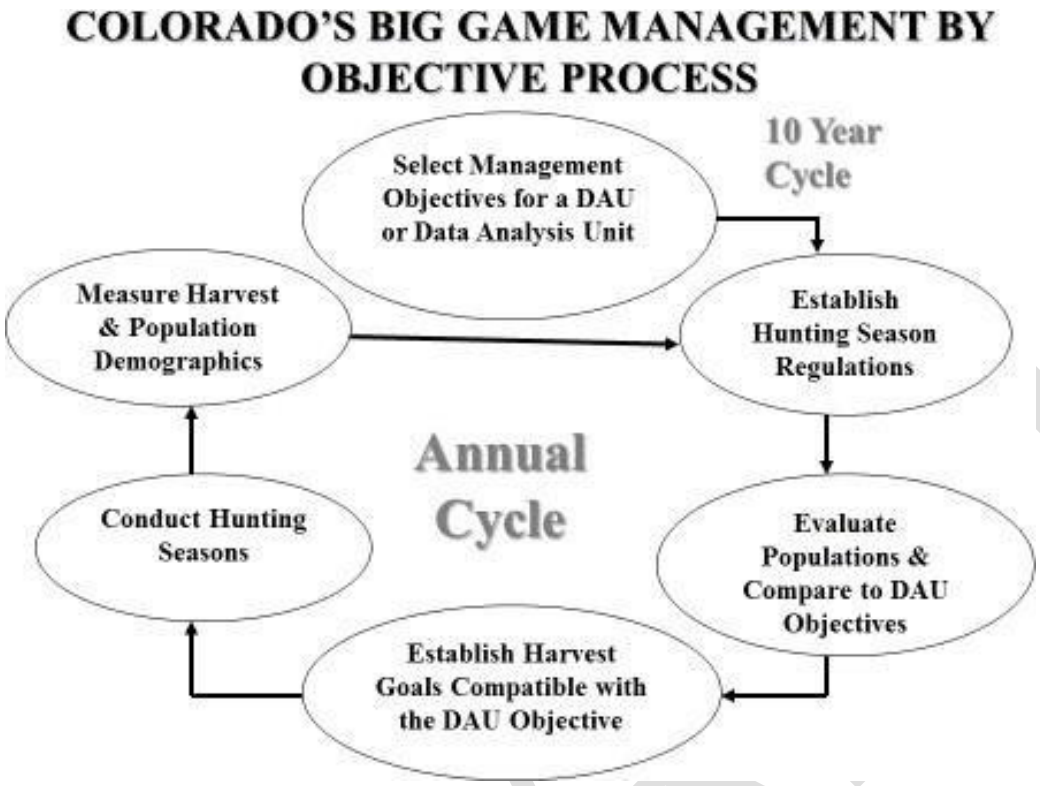

Figure 1. The objective process used by Colorado Parks and Wildlife to manage big game populations on a DAU basis.

Colorado Parks and Wildlife (CPW) writes Herd Management Plans (HMPs) for big game populations in specific geographic areas represented as Data Analysis Units (DAUs). A DAU comprises one or more Game Management Units (GMUs). The area also represents the year-round distribution of a specific big game herd. CPW manages big game populations using a "management by objective" approach. This management style guides a cycle of data collection, data analysis, and the resulting decision-making processes (Figure 1). HMPs establish long-range (10-year) management objectives and describe how CPW proposes accomplishing these in a specific DAU. A significant outcome is the availability of hunting seasons for big game harvest opportunities.

CPW designed the HMP process to use big game harvest as a tool to achieve the identified objectives. This method incorporates public desires, habitat capabilities, and herd biological capabilities into the final management strategy. The general public, hunters, commissioners, federal land management agencies, private landowners, and agricultural interests are involved in developing the HMP objectives. Biologists from CPW use input from all stakeholders to contemplate the preferred objectives. Finally, they go through the Colorado Parks and Wildlife Commission (PWC) approval process before implementation.

CPW manages individual herds to meet the specific HMP objectives. Biologists compile data and transfer it into population models to derive population estimates. The parameters used in the models include harvest data calculated from hunter surveys, sex and age composition collected from aerial flight inventories, and mortality factors. Mortality factors comprise roadkill reports, wounding-loss estimates, and deaths from winter-severity received during field observations. Thereafter, biologists compare the computed population estimates to the herd objectives. CPW then establishes the number of hunting licenses to manage the population to the preferred objectives.

Description of the Data Analysis Unit (DAU) D-37

Location

The Sand Dunes mule deer herd is located in south-central Colorado, in the northeast region of the San Luis Valley (SLV). This herd comprises a single game management unit, GMU 82 (Figure 2). The Sangre de Cristo Mountains bound the DAU on the eastern side, US Highway 160 and the Alamosa-Costilla County line on the southern side, Colorado Highway 17 and US Highway 285 on the western side, and the divide between the Arkansas drainage and the San Luis Valley to the north. D-37 is approximately 1,088 square miles in area, containing roughly 203 square miles of winter range and about 310 square miles of summer range. The DAU comprises portions of Alamosa and Saguache counties. Primary drainages in the area are the Crestone Creek, Deadman Creek, Medano Creek, Rito Alto Creek, Sand Creek, San Isabel Creek, and San Luis Creek.

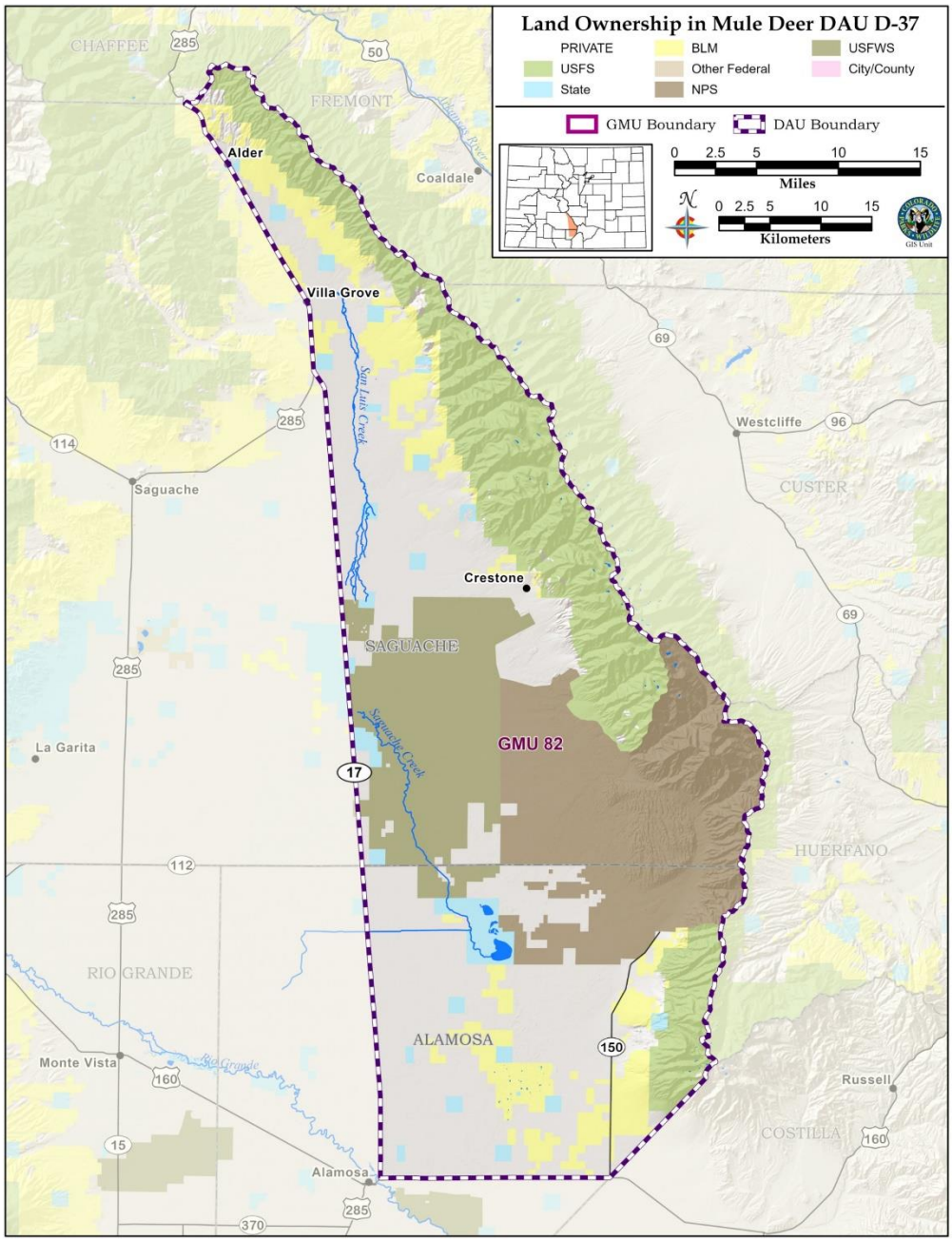

Figure 2. Geographical boundaries and land ownership for the D-37 (GMU 82) mule deer herd in southwestern Colorado.

Landownership, Climate, and Vegetation

The entire unit has an elevation ranging from around 7,500 ft. on the valley floor to over 14,000 ft. in the Sangre de Cristo Mountains. Public land makes up about 71% of the DAU, and almost 29% of the DAU area is privately owned (Figure 2, Table 1).

At the lower elevations, grassland, shrub, and agriculture are predominant. As the elevation increases, precipitation levels become higher, and the vegetation changes to oakbrush, pinyon-juniper, and ponderosa pine. After that, Douglas fir and white fir combined with extensive stands of aspen groves flourish. Engelmann spruce, lodgepole pine, and subalpine fir become predominant between 9,500 and 12,500 feet in elevation. Alpine tundra prevails above 12,500 feet in elevation.

	Summer Range	Winter Range	Winter Concentration Areas	Severe Winter Range	Total DAU D-37 Area
Total Area within the DAU	**29%**	**19%**	**6%**	**10%**	**100.0%**
BLM	**2%**	**5%**	**2%**	**3%**	**10%**
Colorado State (CPW)	**0%**	**0%**	**0%**	**0.0%**	**<1%**
US Fish and Wildlife Service (USFWS)	**0%**	**<1%**	**0%**	**<1%**	**12%**
State Land Trust	**0%**	**<1%**	**0%**	**<1%**	**7%**
National Park Service (NPS)	**6%**	**3%**	**1%**	**3%**	**20%**
Private	**3%**	**6%**	**2%**	**3%**	**29%**
State Land Board (SLB)	**<1%**	**<1%**	**<1%**	**<1%**	**3%**
US Forest Service (USFS)	**18%**	**4%**	**1%**	**1%**	**19%**

Table 1. Land ownership in the summer range, the winter range, the winter concentration areas, and the severe winter range for the D-37 mule deer herd.

D-37 has a highland or mountain climate, with cool summers and cold winters. Heavy snowfalls can occur, especially at higher elevations. The Sangre de Cristo mountain range is in the San Juan Mountain rain shadow, resulting in drier conditions. Total precipitation at the Sangre de Cristo Mountains' higher elevations can vary annually between 20 and 40 inches. Precipitation comes mostly in the form of winter snow. The foothills receive 10-12 inches, while the valley floor gets 6-8 inches annually; the valley is considered a high desert environment.

Habitat Resources

The most significant limiting resources for the D-37 mule deer herd are the quantity and quality of winter range habitat. Quality forage is essential in winter range and production areas for successful mule deer survival (Figure 3). The unit's winter range does not contain exceptionally high-quality forage, with limited mountain browse species available to mule deer during the winter. As the winter conditions deteriorate, the need for food and cover force deer into the pinion-juniper woodlands, with insufficient browse and understory forage, or onto agricultural fields.

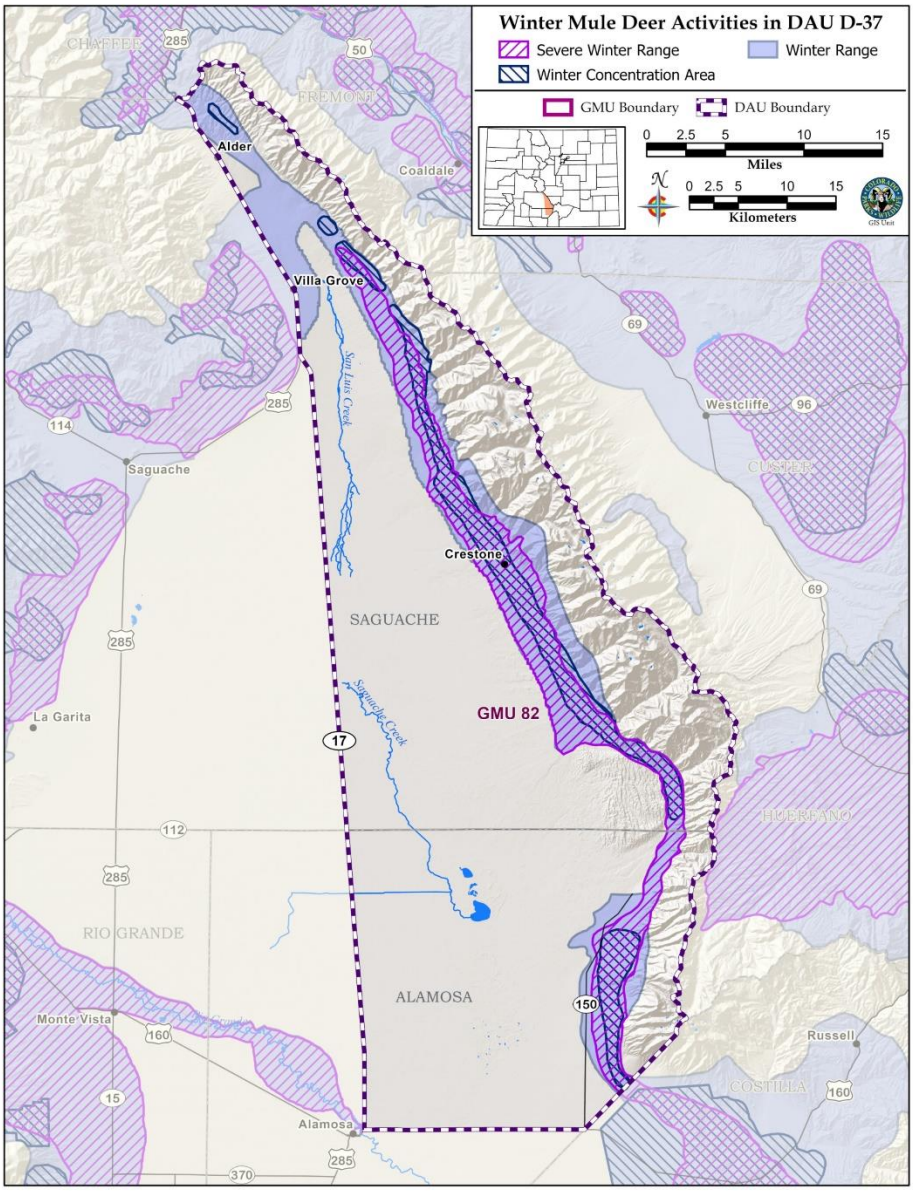

Figure 3. Winter range, severe winter range, and winter concentration areas for the D-37 mule deer herd. (For definitions: https://cpw.state.co.us/learn/Maps/CPW-Public-GIS-Species-Activities-Definitions.pdf#search=winter%20range%20definition).

Mule Deer Range and Movement

Mule deer usually distribute throughout the mountain range of the DAU during the summer and early fall. In contrast, deer are situated along the foothills amongst the grassland-shrub, pinyon-juniper woodlands, or oak brush vegetation types during the winter months. Drainages in the area provide limited water resources; however, native vegetation in these riparian regions provides the majority of quality forage. Mule deer typically move to the lower elevations of the west-facing slopes during the late-fall and early-winter migration. The timing depends on the winter severity and residual forage availability. The movement to summer range is elevational and dependent on snow-meltage. Mule deer migration takes place during the spring, summer, and early fall months.

Herd Management History

The narrow strip of winter range with diminished forage quality is insufficient to support higher mule deer numbers in D-37. Past management of the deer herd included limiting doe licenses from 1990 through 1993. Field observations and CPW population models indicate that the herd has declined since the early 1990s. Modification in statewide season structure, restricting doe hunts, and limiting buck licenses have been the only management changes instituted in the DAU. Large tracts of private land, public land with restricted access, and steep topography have reduced hunter access and success rates. The DAU has an early season, high altitude rifle hunt extending into the neighboring GMUs 86 and 861, increasing hunting opportunities.

Post-hunt Population Size

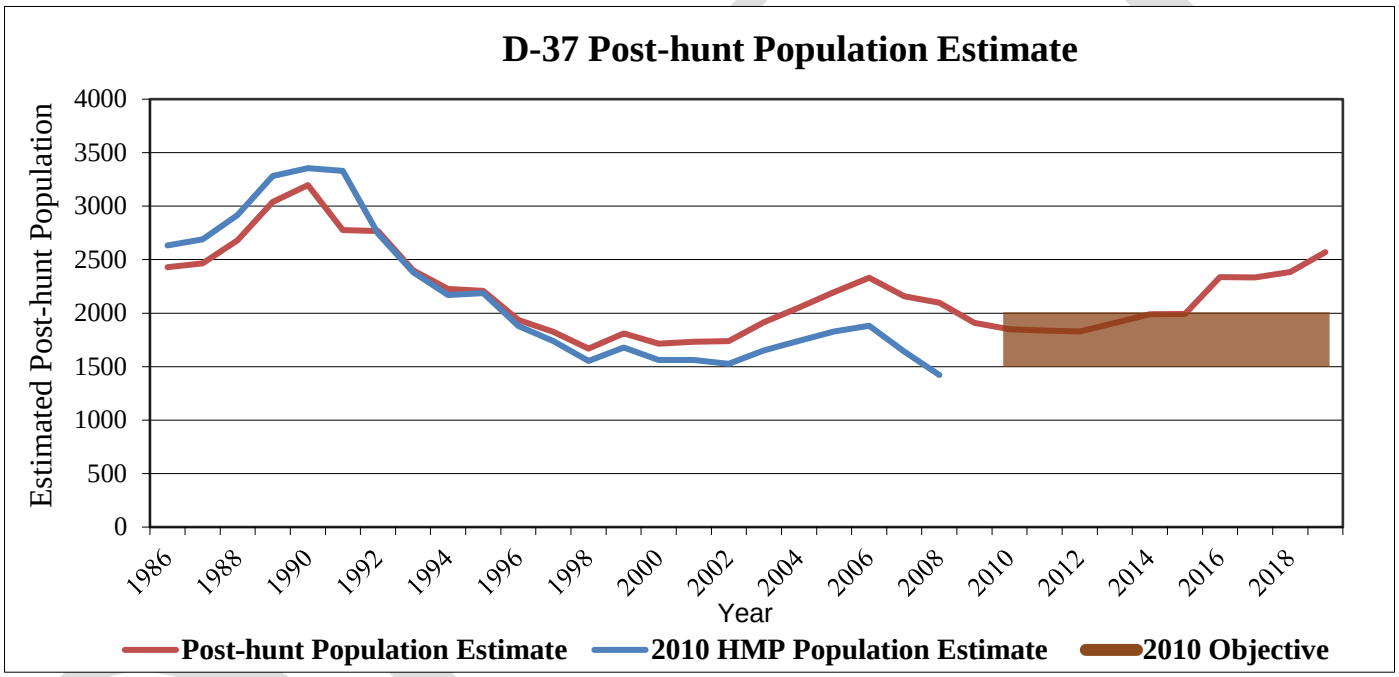

Figure 4. D-37 post-hunt population estimate from 1986 to 2019.

CPW uses a computer modeling process to estimate the size of mule deer populations in each DAU. The computer modeling programs used by biologists have transformed since the early 1970s. The most recent change occurred in 2006, with CPW embracing a spreadsheet instrument. Modeled post-hunt population estimates are generated by solving the best fit between observed vs. predicted post-hunt sex and age ratio data. Biologists make changes as new or improved information becomes available. Computer modeling is not an exact science and may not produce a precise final number. Observed post-hunt sex and age ratio samples vary annually. The variance may be due to weather, drought conditions, animal distribution, or flight time limitations. Variation makes alignment between observed and predicted values difficult because the models work to align the ratios over time. In D-37, biologists compare the observed 3-year average sex ratio to the preferred objective range for management actions and hunting license allocation.

Established population objective range alternatives rely significantly on the population estimates when revising the HMP. Population modeling is an evolving process whereby modeled estimates can change over time based on additional data or improved methodology. When modeled estimates change, irrespective of an actual change in the population, it is reasonable to adjust population objectives relative to the latest modeled estimate with a Commission-approved HMP adjustment. The basis of harvest based population management is to increase female harvest when a population exceeds the objective, decrease female harvest when a population is below objective, and maintain female harvest when a population is at the objective. Because population objectives are only meaningful in the relative context of the population estimates available at the time CPW establishes the objectives, an adjustment maintains the objectives' integrity. The adjustment is based on the fundamental criteria of whether there are too many, too few, or the desired number of animals in the population. Therefore, if we improve modeled estimates, it may be necessary to adjust the population objectives accordingly.

CPW prepared the previous HMP for D-37 in 2010, and the Commission adopted it in July 2010. The spreadsheet model used to prepare that plan used data from 1986 to 2008, sixteen years with data, and seven years in which CPW collected no inventory data. The spreadsheet model accumulates data (primarily post-hunt age and sex ratios, harvest, and survival rates from the DAU) annually and builds a good representation of the population historically, but less so presently. As CPW adds more data in the future, the model should continue to refine the estimates through that period.

For D-37, there are two issues: almost a third of the years have missing data for the model to work with, and the current year estimate is the least accurate point. Missing data results from years in which CPW did not inventory the herd. There have been no changes made to the model since 2010, except that CPW has added data annually. In 2010, the model estimated the current population to be approximately 1,500 deer. In 2019 (34 years since CPW began collecting inventory data, 22 years with full and 12 with partial data), the model estimates that 1,800 mule deer were needed in 2010 to sustain the documented harvest while resulting in the observed post-hunt sex ratio.

Based on the stakeholder input in 2010 and the model at that time, CPW established a new population objective range of 1,500-2,000 mule deer. The updated objectives included the current estimate at the time, and the public were generally satisfied with the number of mule deer and hunting opportunities. In retrospect (2020 model), there is more likely to have been 1,800 mule deer on the ground then, approximately 25% more than estimated. CPW does not recommend adjusting the previous objective range based on current data and models, because public input gathered to date indicates a desire for more deer than we currently have, and the previous HMP is ten years old. Instead, to place the population and model in the current context, CPW proposes allowing the population to grow from 1,800 mule deer (current model estimate of deer present in 2010) to between 2,300-3,000 deer. This proposal would oppose a larger increase represented by a 2010 estimate of 1,500 mule deer increasing to 2,300-3,000 in the proposed population objective.

According to the current model (2019), the estimated post-hunt population size for D-37 reached its peak at almost 3,200 animals in the early 1990s (Figure 4). Since that time, the population declined to approximately 1,600 animals in 1998. The population remained relatively stable until 2002 and then climbed through to 2006. The population declined through 2012; however, this was likely because of reduced fawn ratios and not harvest. Since 2012, with a recovery in observed fawn recruitment, the population appears to be increasing.

The average estimated mule deer population size throughout the 1990s was approximately 2,280 animals (Table 2). Subsequently, through the 2000s, the population dropped slightly, and CPW believes it averaged almost 2,000 animals. Drought conditions may have exacerbated a decline in the herd in the early 1990s and again in the late 2000s. From 2010 until the present, the mule deer population estimate has averaged about 2,100 animals with an increasing trend.

Management Herd		1990s	2000s	2010s	2010 Post-hunt Population Management Objective
	Model	Population Average	Population Average	Population Average	
D-37 Mule Deer Sand Dunes	2009	2,300	1,650	N/A	
D-37 Mule Deer Sand Dunes	2019	2,280	1,980	2,100	1,500 - 2,000

Table 2. Approximate population averages for the 1990s, 2000s, and 2010s determined from the population model for 2009 and 2019.

Post-hunt herd Composition

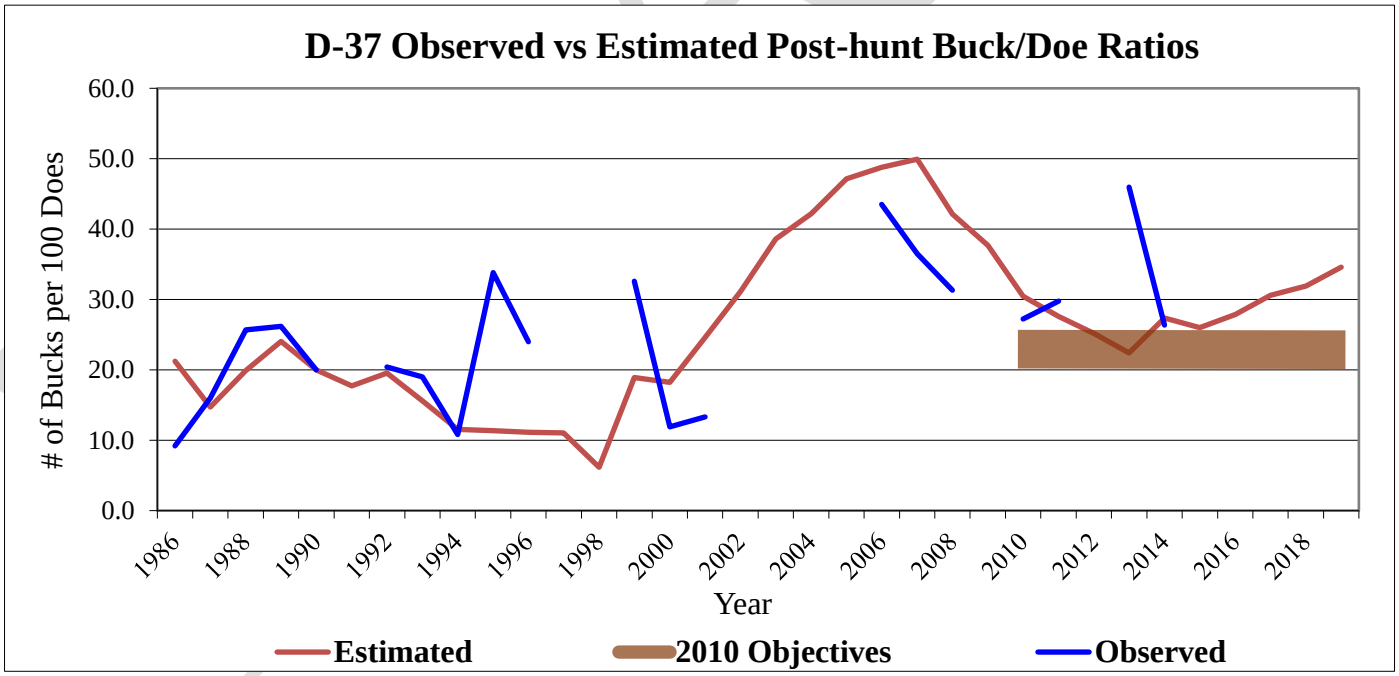

Figure 5. D-37 observed vs. estimated post-hunt sex ratios from 1986 to 2019.

CPW uses aerial classification surveys to gather observed post-hunt herd composition data. These surveys usually take place in winter, January for D-37, using a helicopter. The classification flights do not result in a population census, but a sample large enough (10-40%) to establish the DAUs age and sex ratios. CPW determines the sex ratio objectives by comparing the post-hunt population estimate to the calculated three-year-average sex ratios combined with stakeholder desires. Since 1986, CPW has not collected inventory classification data for several years. Nevertheless, averaging the observed sex ratios helps stabilize annual fluctuations. The mechanisms to determine the herd status relevant to the objectives should be consistent throughout the life of the HMP.

The D-37 observed sex ratio was relatively stable until 1999, hovering around 22 bucks per 100 does. The observed sex ratio rose slightly in 1997 (to approximately 27 bucks per 100 does), but then dropped and continued declining until 2002 (about 16 bucks per 100 does). Through 2019, the observed sex ratio has increased, reaching roughly 36 bucks per 100 does; it has been above the objective range since 2006. CPW has been cautiously increasing buck licenses since 2008, endeavoring to reduce the rising sex ratio. The incremental increases in buck licenses do not appear to have been successful. A more aggressive buck harvest may be necessary.

A rising sex ratio in D-37 may cause concern relating to chronic wasting disease (CWD). Adult males (> two years old) are more likely to contract CWD (Miller and Conner, 2005). Furthermore, data collected throughout Colorado supports that CWD is generally higher in males than in females (Colorado Parks and Wildlife, 2018). Miller and Fischer (2016) suggested by increasing male to female ratios, or the adult male age ratio could facilitate CWD persistence. In 2019, CPW estimated a low (< 1%) prevalence of CWD in D-34, the Wet Mountain deer herd, on the Sangre De Cristo mountains' east side. CWD's presence in a neighboring unit supports the proposal to maintain sex ratio objectives below the observed data over the next ten years.

Harvest

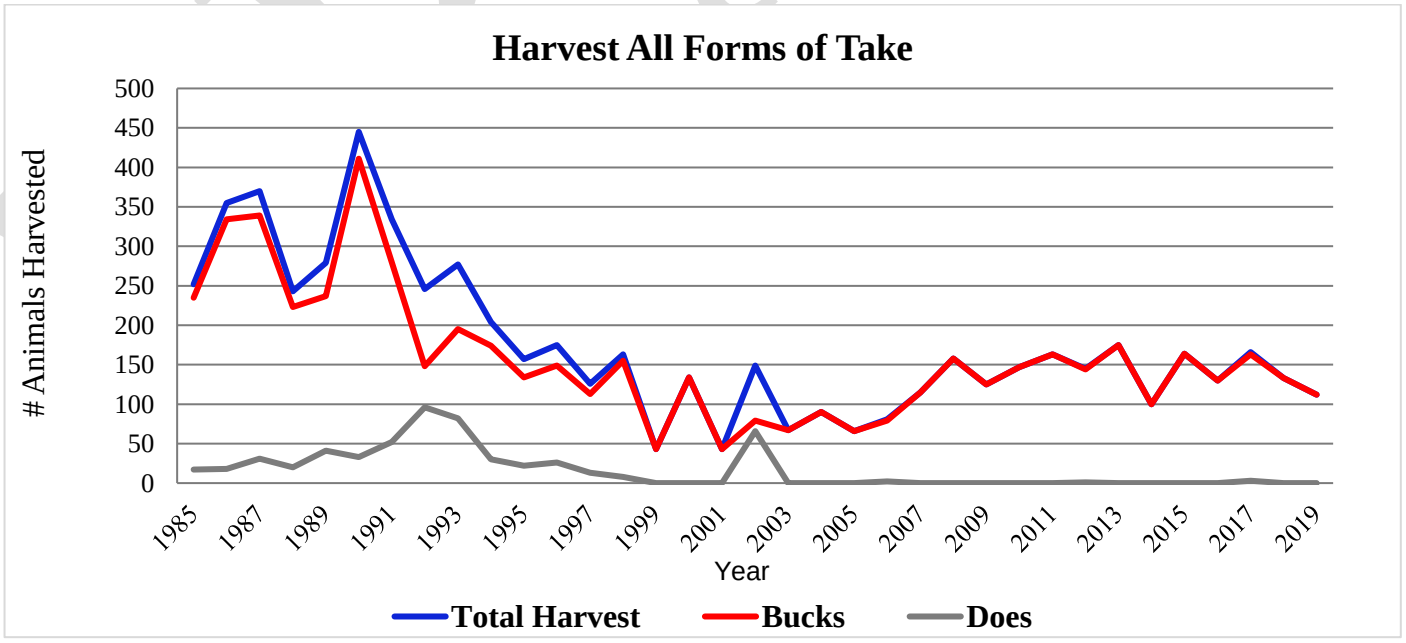

Figure 6. D-37 Total harvest, buck harvest, and antlerless harvest from 1985 to 2019.

Harvest success is primarily affected by the number of licenses issued, season structure, weather, and population size. In D-37, buck licenses became limited in 1999. Before that, the annual buck harvest averaged roughly 223 animals (Figure 6). With a rising observed sex ratio from 2002 through 2019, CPW began cautiously increasing the buck licenses from 2008, particularly in the second and third rifle seasons. The addition of buck licenses was to reduce the sex ratio to the objective range. The increase in these licenses resulted in curtailing the initial rapid rise of the sex ratio. However, harvest from the increased licenses may not have been sufficient, and the sex ratio continued to rise above the objective range. Over the past ten years, the annual buck harvest has averaged about 143 animals; the highest was 175 bucks in 2013, and the lowest was 100 bucks in 2014.

CPW removed all doe licenses in 1998. Before the removal of these licenses, the annual doe harvest averaged approximately 35 animals. Despite that, in 2002, CPW provided doe licenses because of the severe drought conditions. During that year, hunters harvested 66 does. Since 2010, game damage related harvest has been insignificant, with one doe in 2012 and three does in 2017.

The combined hunting-season success rates from 2010 to 2019 have averaged approximately 48%. However, harvest success rates are skewed between the archery, muzzleloader, and rifle seasons. The average archery success since 2010 is around 18%, with a low of 6% in 2018 and a high of 27% in 2016. Comparatively, the second and third rifle seasons have averaged roughly 54%, and the fourth rifle season success has averaged about 83% over the past ten years. Since 2010, the muzzleloader season success has fallen between the rifle and archery seasons, almost 35%.

Current Herd Management Status

Summary of Current Conditions

The current post-hunt population estimate of almost 2,600 animals is above the objective range. The population trend had been relatively stable from 2009 to 2015, hovering around 2,000 animals (Figure 4). Subsequently, from 2015 the model-estimated population has been increasing. The upward trend may reflect increased fawn:doe ratios observed during the winter classification periods. The only doe harvest in the DAU had resulted from game damage issues.

Observed fawn-to-doe ratios fluctuate annually. CPW believes that variation in annual precipitation may affect these fluctuations. Management by CPW has little control over this. Variables, such as weather, forage quality, forage availability, water resources, predation, or disease, may have higher impacts on reproduction and fawn recruitment than management actions.

Since 2002, the observed sex ratio has also increased, remaining a lot higher than the current objective range. From 2006, the observed sex ratios fluctuated considerably. The most recent (2019) observed sex ratio of approximately 44 bucks per 100 does is one of the highest recorded on record. CPW set the objectives in 2010 to provide desirable buck hunting opportunities and sustain a relatively mature buck population. Increasing the adult buck population may generate higher license limitations. Concerningly, raising the sex ratio or the mature buck age structure may simultaneously increase CWD transmission risk. On the contrary, reduced sex ratios may provide improved hunter opportunity.

Current Management Concerns

The two most significant factors limiting this population are the quantity and quality of winter range habitat. CPW field personnel have observed relatively high fawn recruitment over the last ten years. The strong fawn recruitment is encouraging for the growth of the population. Nonetheless, the winter range continues to diminish, with increased development on private land and competition with domestic livestock. The reduction in the winter range may restrict the growth of the population. The DAU experienced severe droughts during the late 1990s and again in the early 2000s. Forage conditions declined because of the lack of moisture. CPW provided doe licenses in 2002 to prevent population growth during the droughts and excessive forage herbivory.

The modeled population estimate has been increasing since 2015. Fawn recruitment also appears to have been rising. The rising fawn recruitment and negligible doe harvest may have resulted in a growing population estimate. However, the estimate remains above the current objective range.

CWD is a potential threat to the health and viability of the D-37 mule deer herd. To date, CPW has had no mule deer test positive in the D-37 herd. CPW bases this information on an average of less than one animal tested per year over the previous ten years through all DAUs in the SLV. In 2019, D-34 (Wet Mountain mule deer herd) on the east side of the Sangre de Christo mountain range had a CWD prevalence of less than 1% of the male population tested. In 2020, CPW implemented mandatory CWD testing of all mule deer in the SLV. Over a few years, the testing results should allow CPW to determine the CWD status and its prevalence more accurately. If any mule deer test positive for CWD in D-37 from the mandatory testing, CPW may need to re-address future mule deer management. Management actions would depend on the CWD results and risk to other ungulates, such as elk.

Mule deer are not a significant problem on agricultural land in the DAU, and any accompanying depredation concerns are minimal. CPW is authorized to provide game damage and dispersal licenses to private landowners to address any issues, should they arise. Localized problems may result from restricted mule deer distribution during the winter. Private landowners who experience mule deer depredation issues accept the ability to access various management tools CPW offers. CPW will deal with future concerns on an individual basis.

The development of private lands is a growing concern in the DAU; however, it is less of a threat than other areas of Colorado. There are potential impacts on the mule deer populations from further development: a) loss of limited habitat, b) redistribution of animals from historic winter range, and c) migration and movement barriers created by increasing road and fence establishment. Given the San Luis Valley's agricultural-based economy, development occurs slowly, generally focused around current municipalities. The development of private land within the winter, fawning, or production

range could be a problem throughout the DAU. The threat from low-density residential development depends on the amount and distribution of private land and the area used for ranching. Johnson et al. (2016) analyzed a 40-year relational and correlative study. The study looked at land-use changes from 1970 to 2010 and the impacts on mule deer populations in DAUs throughout Colorado. In D-37, the proportion of "undeveloped" private land (0 housing units/acre) has decreased from 22% to 6%. The reduction has been relatively steady since 1970. During the timeframe 1970 to 2010, the development of rural land (< 82 acres/housing unit) belonging to the private sector has more than tripled. This development occurred predominantly between 2000 and 2010, from approximately 47,600 acres to 63,200 acres. A significant increase in suburban development (4-82 acres/housing unit) has also taken place in the DAU from about 1,586 acres in 1970 to almost 8,604 acres in 2010. The overwhelming majority of the suburban development took place in the mule deer winter range.

Oil, gas, geothermal, and solar energy development and their potential impact on wildlife are a concern throughout western states. Exploration of energy development continues in the San Luis Valley (SLV). To date, no cost-effective gas, oil, or geothermal extraction techniques are available to justify commercial expansion. Currently, the threat of oil and gas development to the mule deer population in D-37 remains low. Proposals for solar power development have increased. Saguache County has approved a few private land segments in the DAU for solar-panel establishment or expansion. These developments have had no detrimental effects on mule deer or other wildlife because of their location. Solar-panel power companies have predominantly installed their facilities away from mule deer habitat, in greasewood vegetation dominated areas. If the expansion of solar energy development or oil and gas extraction becomes lucrative, their impact could affect the limited mule deer winter range and population viability.

Public Involvement

CPW provided an initial draft document online to the public for 30 days. CPW also sent the draft to the BLM, the BNWR, the GRSA, local county commissioners, the local Habitat Partnership Program (HPP) committee, and the USFS for commentary and feedback. The draft allowed all constituents, including non-consumptive recreationists, hunters, landowners, local stores, or business owners, to participate in the public process.

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Management Strategies

The Herd Management Plan's primary purpose is to determine the long-term (typically 10-years) post-hunt population and sex ratio objectives. The objectives are a basis for setting hunting licenses and as an annual management reference. Management actions can usually manipulate sex ratios, whereas age ratios are more likely affected by environmental or biological factors.

When updating HMPs, population objectives may need to be adjusted to fit more accurately with updated model estimates. CPW provides an objective range to allow for flexibility in management. The bases for management flexibility are uncontrolled environmental or biological effects on the mule deer herd or its habitat. These impacts could emanate from extreme weather events, droughts, severe winters, disease outbreaks, forest fires, or other agency management actions.

Habitat improvement in the DAU may be crucial for sustaining a viable deer population. The financial and physical investment effort needed for habitat improvement would likely be lower with lower population objectives. As the population increases, the investments required may be more significant. Habitat improvements may vary in labor intensity, cost, size, and life expectancy of the projects. CPW proposes habitat improvement practices such as prescribed fires, fertilization, seeding, water-retention facility implementation, fencing, timber management, travel management, or range management. Private land game-damage problems would likely decrease under lower population objectives or with public-land habitat improvements.

Private-land conflict issues may intensify if the mule deer population size increases or if the public-land habitat deteriorates. Heightened population levels may benefit hunter harvest success. In addition, increased numbers of mule deer may help satisfy hunter demand and increase fiscal benefits to state and local economies.

Private land game damage issues are usually correlated with winter severity and mule deer distribution. Increased deer numbers can occupy healthy landscapes, but only when their distribution minimizes conflict. CPW will retain various tools to address potential game damage issues. Public land habitat improvement and increasing water retention efforts could enable deer to withstand years of lowered precipitation levels. Working with partner agencies in habitat improvement and enhancement projects may help maintain a healthy, viable mule deer population.

A rising population also has the potential of increased highway motor-vehicle collisions. CPW will work cooperatively with CDOT to reduce animals involved in vehicle collisions as much as possible. Increasing signage and deploying other traffic warning mechanisms could significantly reduce animal-vehicle collisions.

Post-hunt Population Objective

CPW proposes no change in management for the D-37 mule deer herd. The intent is to maintain management to stabilize the population and sustain it within the preferred objective range. That would support a post-hunt population objective of **2,200 to 3,000 deer**. This objective range allows the best balance for managing the herd, recreational opportunities, minimizing agricultural conflicts, and maintaining habitat carrying capacity. Once the population estimate stabilizes within the objective range or trends towards the upper level, CPW may conservatively implement public-land doe licenses. Implementing these licenses depends on the population status and productivity of the herd. CPW will continue providing damage and dispersal licenses to address private land conflicts. Collaborative efforts towards habitat improvement and water retention efforts will continue on public land, particularly in low deer density areas. Habitat improvements may promote distribution from private property and sustain a viable mule deer population on public land.

Herd Sex Ratio Composition – (Three-year-average observed number of bucks per 100 doe ratio)

CPW proposes raising the sex ratio objective range for the D-37 mule deer herd. Most stakeholders, who have asserted their opinions and desires to local field personnel, would prefer a slightly higher sex ratio objective in the DAU. A higher objective would reduce the need for an aggressive harvest on the buck population in a relatively small mule deer herd. Stakeholders are also concerned about the risk of CWD with an increased buck population, especially at the levels that CPW has observed recently. Thus, the preferred sex ratio objectives would increase to **25 - 29 bucks per 100 does**. Annual management would strive to maintain the sex ratio composition within this range. Currently, the observed sex ratio is above this range. Initial management would entail providing enough buck licenses to reduce the sex ratio to the newly established objective range, while simultaneously reducing CWD risk. The proposed range creates the best balance between the hunting experience and harvesting a desired mule deer buck in the DAU.

Public Input and Preferred Objectives

CPW provided a draft version of the HMP to the public for a 30-day review period. The local biologist analyzed all public responses to the draft document to determine the preferred objectives. CPW also examined response letters from the BLM, the BNWR, the GRSA, the local HPP committee, and the USFS. CPW field personnel continue to hear directly from many hunters and private landowners. Biologists also evaluated biological herd capabilities, land tolerance levels, and other factors mentioned earlier.

CPW attempted to solicit as much public feedback and comments as possible, with the resources available. After combining feedback from the public and partner agencies on the draft document, the overwhelming consensus is to maintain the mule deer population objective within the current context, allowing for herd growth and expansion. The outcome would be reflected by adjusting the preferred population objective to 2,300 to 3,000 mule deer.

CPW is grateful to the Bureau of Land Management (BLM), which manages a significant portion of the mule deer winter range, for their response to the draft. They approved the proposed population objectives. After thoroughly reviewing the draft document, the BLM indicated their agreement with the current and emerging ecological constraints on the D-37 herd. They believe the future success of the D-37 herd depends to an extent on reducing the E-11 elk herd population level. The agency notes, “continued interspecific competition with elk and the reduction of habitat resources could lead to a partial population collapse from exceeding local carrying capacity.” They acknowledge the current cooperative work with CPW on habitat improvement projects, but the area urgently needs a continued habitat-monitoring program. Such a program would significantly help quantify carrying capacity and assist CPW herd management decisions. Future management actions would likely alleviate any adverse effects.

CPW is also grateful to the Greater Sand Dunes national park and Preserve (GRSA) for offering feedback on the draft document. The GRSA has noted that they support the preferred population objective range of 2,300 to 3,000 mule deer. They are not concerned about resource damage by mule deer within the park. They also do not plan to implement any mule deer management actions. If circumstances, such as the detection and increase in CWD changes, the agency will collaborate with CPW to determine future management decisions. The GRSA also approves maintaining management towards the preferred sex ratio objective range of 25 to 29 bucks per 100 does.

CPW sincerely appreciates feedback provided by the US Forest Service (USFS) on the draft D-37 HMP. The USFS specified their support for the preferred population objective range (2,300 to 3,000 mule deer). They do not expect any significant conflicts with an expansion in herd numbers to the preferred objective range. The agency recognizes that the quantity and quality of winter range are critical limiting factors for the mule deer population. They also suggest that private land development could be an essential limiting factor. The DAU carrying capacity should increase by implementing additional habitat improvement projects. The USFS agrees with management towards the preferred sex ratio range (25 to 29 bucks per 100 does). They recognize that these objectives would support the desires of the stakeholder community. The range would provide an equal opportunity between the recreational experience and harvesting a mature buck, potentially reducing CWD risk from recently observed sex ratio levels.

The US Fish and Wildlife Service (USFWS), which manages the Baca National Wildlife Refuge (BNWR), provided commentary on the D-37 HMP, for which CPW is extremely grateful. The agency alleges that they get deer on the refuge in smaller groups for short periods. Thus, they support the preferred population objective range of 2,300 to 3,000 mule deer. The BNWR is not concerned about mule deer resource damage because of ungulate enclosures they have constructed to protect riparian habitats within the refuge. The BNWR also supports the preferred sex ratio objective range of 25 to 29 bucks per 100 does.

The Mount Blanca HPP committee discussed the HMP on November 16, 2020. They gave their full support of the preferred population objective of 2,300 to 3,000 mule deer and sex ratio objective of 25-29 bucks per 100 does. The committee believes that the winter habitat is constrained by topography, periodic drought conditions, ranching development, and interspecific competition with other ungulates, particularly elk. Even with these constraints, the committee does not expect game damage issues to increase significantly. They acknowledge CPW having resources in place should conflicts arise.

Thus, for D-37, the **Preferred Population objective is 2,300 to 3,000** mule deer, and the **Preferred Sex Ratio objective is 25 to 29 bucks per 100 does**. CPW staff re-evaluates management towards the accepted objectives annually. Management towards these objectives will occur for the next ten years under current conditions unless they become socially or biologically unacceptable. If so, CPW may address the objectives in an earlier timeframe.

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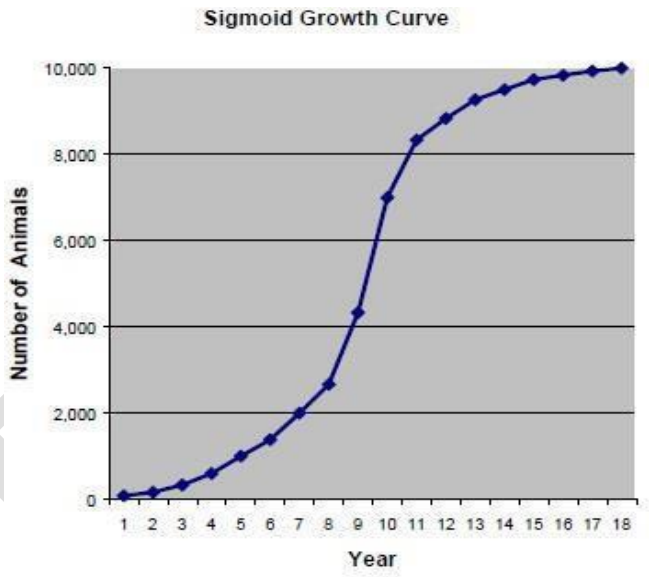
Miller, M.W., and J. R. Fischer. 2016. The first five (or more) decades of chronic wasting disease: Lessons for the five decades to come. *Transactions of the North American Wildlife and Natural Resources Conference* 81: *in press.* Available online at: *http://cwd-info.org/wp-content/uploads/2018/12/81st-NAWNRC-Transactions_FINAL-CWD-Excerpt.pdf*.

Appendix A. Population Dynamics and Managing for Maximum Sustained Yield

Numerous studies of animal populations, including species such as mice, rabbits, and white-tailed deer, have shown that the populations grow in a mathematical relationship referred to as the "sigmoid growth curve" or "S" curve (right). There are three distinct phases to this cycle. The first phase occurs while the population level is still very low and is characterized by a slow growth rate and a high mortality rate. This occurs because the populations may have too few animals, and the loss of even a few of them to predation or accidents can significantly affect the population.



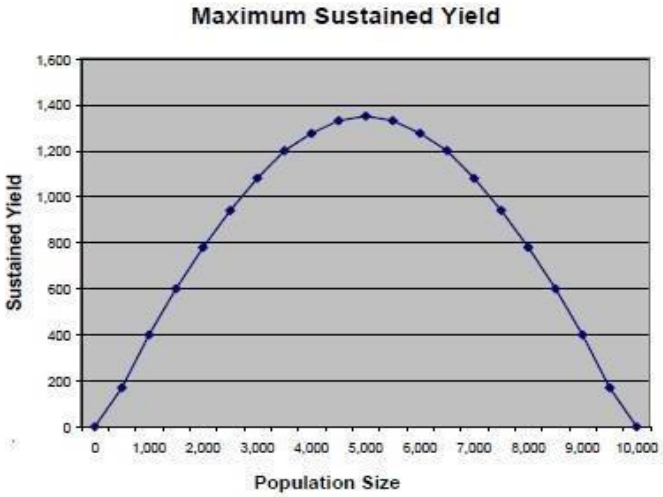
The second phase occurs when the population number is at a moderate level. This phase is characterized by a very high reproductive and survival rate. During this phase, food, cover, water, and space (habitat) is not a limiting factor. In addition, during this phase, animals such as white-tailed deer have been known to successfully breed at six months of age and produce a live fawn on their first birthday, and older does have been known to produce 3-4 fawns that are very robust and healthy. Survival rates of all the deer (bucks, does, and fawns) are at maximum rates during this phase.

The final or third phase occurs when the habitat becomes too crowded, or habitat conditions become less favorable. During this phase, the quantity and quality of food, water, cover, and space become scarce due to the competition with other members of the population. This phase is characterized by a decrease in reproduction and survival. In addition, during this phase, white-tailed deer fawns can no longer find enough food to grow to achieve a critical minimum weight that allows them to reproduce; adult does will usually only produce 1-3 fawns; and survival of all deer (bucks, does, and fawns) will decrease. During severe winters, large die-offs can occur due to the crowding and lack of food. The first to die during these situations are fawns, then bucks, followed by the adult doe. The severe winters thus affect the future buck to doe ratios by favoring more does and fewer bucks in the population. Also, since the quality of a buck's antlers is somewhat dependent upon the quantity and quality of his diet, the antlers are stunted during this phase. If the population continues to grow, it will eventually reach a point called "K" or the maximum carrying capacity. At this point, the population reaches an "equilibrium" with the habitat. The number of births each year equals the number of deaths; therefore, to maintain the population at this level would not allow for any "huntable surplus." The animals in the population would be in relatively poor condition, and when a severe winter or other catastrophic event occurs, a large die-off is inevitable. A recent example of such a population die-off occurred in the relatively un-hunted Northern Yellowstone elk herd during the severe winter of 1988-89. This winter followed the forest fires of the summer of 1988 that raged in the National Park.

What does all this mean to the management of Colorado's big game herds? It means that if we attempt to manage for healthy big game herds, we should attempt to hold the populations at about the middle of

the "sigmoid growth curve." Biologists call this "MSY" or "maximum sustained yield." At this level, which is exactly half the maximum population size or "K", in this example it would be 5,000 animals, the population should provide the maximum production, survival and available surplus animals for hunter harvest. In addition, at this level, range condition should be good to excellent, and range trend should be stable. Game damage problems should not be significant, and economic return to the local and state economy should be at the maximum. This population level should produce a "win-win" situation to balance sportsmen and private landowner concerns. A graph of a hypothetical deer population showing sustained yield (harvest) potential vs. population size is shown (right). Notice that as the population increases from 0 to 5,000 deer, the harvest also increases.

However, when the population reaches 5,000 or "MSY", food, water, and cover become scarce, and the harvest potential decreases. Finally, when the population reaches the maximum carrying capacity or "K" (10,000 deer in this example), the harvest potential will be reduced to zero. Also, notice that it is possible to harvest exactly the same number of deer each year with 3,000 or 7,000 deer in the population. This phenomenon occurs since the population of 3,000 deer has a much higher survival and reproductive rate compared to the population of 7,000 deer. However, at the 3,000 deer level, there will be less game damage and resource degradation.



Actually, managing deer and elk populations for MSY on a DAU basis is difficult, if not impossible, due to the amount of detailed information required because of the complex and dynamic nature of the environment. In most cases, we would not desire true MSY management even if possible, because the number and quality of bulls and bucks are minimized. However, the concept of MSY is useful for understanding how reducing densities and pushing asymptomatic populations towards the inflection point can stimulate productivity and increase harvest yields. Knowing the exact point of MSY is not necessary if the goal is to conservatively reduce population size to increase yield. Long-term harvest data can be used to gauge the effectiveness of reduced population size on harvest yield.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
San Luis Valley Field Office
1313 East Highway 160
Monte Vista, Colorado 81144

In Reply Refer To:
6521 (COF03000, TLA)

23 November 2020

Brent Frankland,
Terrestrial Wildlife Biologist
0722 South Road 1 East
Monte Vista, CO 81144

Dear Mr. Frankland,

Thank you for the opportunity to comment on the proposed D-37 and E-11 Herd Management Plans. As the agency providing the majority of crucial winter range for big game in the San Luis Valley, we thought it important to provide comments on any changes Colorado Parks and Wildlife may implement. The San Luis Valley Field Office (SLVFO) has a strong commitment to providing quality wildlife habitat as one of our important "multiple uses".

After reviewing the draft D-37 and E-11 plans, we agree with the many current and emerging ecological constraints identified by CPW when considering elk and deer herd objectives for this area, including increasing fragmentation from development, increasing recreation pressure, limited winter range and forage availability, prolonged drought, game damage issues, disease, and competition with other wild ungulates.

The BLM agrees with increasing D-37 buck-hunting opportunities until the observed sex ratio falls within the newly established preferred objective range of 25-29 bucks per 100 does in an effort to be proactive in reducing the spread and proliferation of Chronic Wasting Disease (CWD). We also agree with not increasing herd objectives (post-2019 data/model rectification) in D-37 and E-11, specifically aiming to decrease the rising E-11 elk population of roughly 5,900 animals back down to the herd objective of 3,000-4,000 animals. The BLM has observed a marked increase in Elk use and resource damage at Blanca Wetlands. We believe reducing the E-11 population to herd objectives will be a difficult endeavor due to elk distribution to Baca National Wildlife Refuge (BNWR) and Great Sand Dunes National Park (GRSA) when the hunting seasons begin. Considering additional E-11 herd management strategies may be necessary to reduce interspecific competition with the D-37 mule deer herd, especially given the ongoing drought and the potential, but undocumented, impacts of reduced quality and availability of winter forage on public lands.

Although not explicitly stated in the HMP, the long-term success of the D-37 herd is partially contingent on the successful reduction of the E-11 herd to objective levels. We believe that

continued interspecific competition with elk and the reduction of habitat and resources available to the D-37 herd could lead to a partial population collapse from exceeding the carrying capacity.

The draft HMPs list winter range forage availability and quality as the limiting factors to herd size. Therefore, continued habitat partnership projects between CPW and the BLM will be critical to improve availability of browse and to ensure the long-term health and stability of both herds. The BLM and CPW are currently working together on wild ungulate habitat improvement projects via vegetation treatments on BLM land within the D-37 and E-11 DAUs. Because of the uncertainties regarding ecological constraints, we believe a program to monitor habitat conditions is warranted, particularly to determine if population objectives need to be adjusted to fit more accurately with updated model estimates and to assist in quantifying carrying capacity. However, the BLM does not have the funding to implement a monitoring program specific to wild ungulates.

If you have any questions regarding this matter, please contact me at (719-239-0494).

Sincerely,

MELISSA GARCIA

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Date: 2020.11.23 08:37:49 -07'00'

Melissa S. Garcia
Field Manager
San Luis Valley Field Office

CC Rick Basagoitia, Area Wildlife Manager

United States Department of Agriculture
Forest Service
Rio Grande National Forest
Divide Ranger District
13308 West Highway 160
Del Norte, CO 81132
(719) 657-3321 TDD 657-6038

Date: October 26, 2020

Brent Frankland
Terrestrial Wildlife Biologist
Colorado Parks and Wildlife

Thank you for the opportunity to comment on the Draft DAU Plans for D-37 and E-11. The Rio Grande National Forest appreciates your continued commitment of involving the land management agencies within the boundaries of the DAUs.

Mule Deer

The preferred management objective for D-37 is a population of 2,300 to 3,000 mule deer, aiming to increase the population. This objective increases the post-hunt season objective from the 2010-2020 plan and aligns it more with the 2019 post hunt observed population estimate of 2,570.

The preferred post-hunt sex ratio objective for this herd is to increase the current objective to 25-29 bucks per 100 does over the previous plan.

Both the population and sex ratio objectives ranges support the desires of the stakeholder community including the RGNF. The range would continue to allow for satisfactory hunting experiences and the desired hunting opportunities.

There are currently no known conflicts with mule deer and those lands within the DAU associated with mule deer. Current management appears to be adequate. It is interesting to note that even with the extremely limited doe licenses in the last two decades, that the population has increased, but only by fairly small incremental amounts. This limited increase supports the thought that the quality and quantity of wintering range along with private development are the key limiting factors on this population.

The RGNF supports the approval of the revised 2020-2030 DAU D-37 Management Plan.

Elk

The preferred management objective for E-11 is to remain at a population of 3,000 to 4,000 elk (same as 2010-2020 objective) and to decrease the current population which is currently estimated at 5,900.

The expected post-hunt sex ratio would remain at 17-23 bulls per 100 cows. This range continues to support the desires of the stakeholder communities including the RGNF. It also allows for a satisfactory hunting experience with the desired hunting opportunities, reducing the potential risk of CWD disease.

There are several drainages on the Forest currently with noticeable overuse by elk, most notably Deadman Creek on the Saguache Ranger District.

The E-11 elk herd continues to increase. Controlling the population through harvest has been difficult because of the BNWR, the GRSA, and private lands where hunting does not occur or is restricted. The Rio Grande National Forest supports CPW's continued efforts to help reduce the population and sex ratio and distribute elk throughout the DAU.

The additional pressure from the BNWR, GRSA, private landowners, and the Nature Conservancy should allow hunters' access to elk. Harvest from these licenses should reduce the sex ratio, distribute the animals, and maintain stakeholder satisfaction.

The RGNF supports the approval of the 2020-2030 DAU E-11 Management Plan.

Sincerely,

/s/ Dale Gomez
Dale Gomez
RGNF Wildlife and Fisheries/Range Program Lead
Rio Grande National Forest

Appendix D

United States Department of the Interior
NATIONAL PARK SERVICE

Great Sand Dunes National Park and Preserve
11500 State Hwy. 150
Mosca, CO 81146

November 16, 2020

CPW Colleagues,

I am writing on behalf of Great Sand Dunes National Park and Preserve to comment on the Colorado Parks and Wildlife 2020 D-37 Deer and E-11 Elk herd management plans.

Deer:
Great Sand Dunes National Park and Preserve has not observed resource concerns associated with mule deer populations within the park; therefore, we do not have any objections to the proposed objectives that would allow the mule deer herds to grow to 3,000 animals unit wide. Great Sand Dunes is not planning management actions on mule deer herds within the park. If circumstances change or CWD or other issues arise, the park would seek to collaborate with our State partners to determine what is best for the resource. Mule deer on the National Preserve are hunted per the regular state seasons prescribed by Colorado Parks and Wildlife. Great Sand Dunes supports the CPW objectives for managing mule deer within D-37 unit wide and on portions of D-37 within Great Sand Dunes National Preserve.

Elk:
Great Sand Dunes National Park and Preserve supports CPW's population objectives of 3,000-4,000 elk for E-11. Under the park's Ungulate Management Plan (UMP), Great Sand Dunes is currently collaborating with CPW to redistribute elk from sanctuary areas within the park to protect resources identified in the UMP. As the park intensifies these redistribution efforts over the next few years in cooperation with CPW, it is our hope that our efforts will make more animals available to hunters by denying elk refuge during hunting seasons. Through our combined efforts, this redistribution will contribute to CPW's ability to manage E-11 at biologically sustainable levels. We do not have any goals to manage elk at a specific sex-ratio but would support CPW if such management became necessary to control CWD within E-11. Elk on the National Preserve are hunted per the regular state seasons prescribed by Colorado Parks and Wildlife. Great Sand Dunes supports the CPW objectives for managing elk within E-11 unit wide and on portions of E-11 within Great Sand Dunes National Preserve.

Dewane Mosher
Biologist

Pamela Rice
Superintendent

United States Department of the Interior

FISH AND WILDLIFE SERVICE
69812 Co. Rd. T
Crestone, Colorado 81131

In Reply Refer to:
FWS/IR05/IR07

November 23, 2020

Brent Frankland, Terrestrial Wildlife Biologist
Colorado Parks and Wildlife, Area 17
0722 South Road 1 East Monte Vista, CO

Dear Mr. Frankland,

We are writing this letter on behalf of the U.S. Fish and Wildlife Service (Service), in response to your request for comments on the proposed updates for Herd Management Plans (HMPs) for deer and elk in GMU82. Thank you very much for this opportunity to provide feedback.

SAND DUNES DEER D-37 HERD MANAGEMENT PLAN EXTENSON

Deer associated with the Sand Dunes Deer D-37 Herd occasionally venture on to the northeastern corner of the Baca National Wildlife Refuge (Baca Refuge), and usually are only in this small portion of the refuge for a short time. We have constructed ungulate exclosures to protect sensitive riparian habitats from the browsing deer and other ungulates here. As such, we support Colorado Parks and Wildlife's (CPW) proposed increase to the herd objectives from 1,500-2,000 deer to 2,300-5,000, knowing that the most recent estimate shows they are currently within that range. In addition, we support CPW's proposed increase in the buck/doe ratio from 20-25 bucks per 100 does to 25-29 bucks per 100 does.

SAND DUNES ELK E-11 HERD MANAGEMENT PLAN EXTENSON

As stated in CPW's SAND DUNES ELK E-11 HERD MANAGEMENT PLAN EXTENSON (E-11 Plan), elk from this herd (E-11) frequent the San Luis Valley floor including the Baca Refuge. The Service understands that many animals in the E-11 herd are attracted to the Baca Refuge during Summer months because the habitats there, primarily wet meadows, provide optimal calving habitat for the elk. In addition, the Service also understands that the Baca Refuge which remains largely closed to public access, can become refugia for elk during hunting seasons. We feel it is important to note, however, that Service staff have and continue to work diligently with CPW to address the issue of elk using the refuge as sanctuary during hunting seasons. In 2016 the Service implemented the carefully designed *San Luis Valley National Wildlife Refuge Complex Migratory Game Bird, Big Game, and Upland Game Hunt Plan* (Hunt Plan), with primary objectives of; protecting sensitive habitats on the refuge, providing quality public hunting opportunities, and assisting CPW in meeting herd (E-11) objectives. In addition to providing public hunter access on over half the refuge, the plan also allows for agency (CPW or Service) actions (including lethal) on the entire refuge, designed to redistribute elk on the landscape to protect sensitive habitats and/or to distribute elk to areas where more harvest by public hunters can be effected. The Service continues to manage the elk hunting program on the Baca Refuge adaptively, as to ensure that the above mentioned objectives can best be met. In addition, the Service has prompted CPW and the Mt. Blanca Habitat Partnership Committee (Mt. Blanca HPP) to take steps to assist in our attempts to prevent elk from congregating on portions of the refuge closed to hunting due to safety and conflict concerns.

The Service fully supports CPW's proposed population objective of 3,000-4,000 elk and a sex ratio of 17-23 Bulls per 100 cows in the Sand Dunes E-11 Herd Management Plan Extension, and looks forward to continued collaboration with CPW, Mt. Blanca HPP and the Great sand Dunes National Park in working to meet these objectives.

Thank you again for this opportunity to provide feedback. If you have any questions, please contact Project Leader Vaughn or myself.

Best Regards,

Ron Garcia
Refuge Manager
Baca National Wildlife Refuge

Sharon Vaughn
Project Leader
San Luis Valley National Wildlife Refuge Complex

November 20, 2020

Brent Frankland
Colorado Parks and Wildlife
0722 S. CO Rd 1 East
Monte Vista, CO 81144

RE: Mount Blanca Habitat Partnership Program Comments - DAU D-37

Dear Brent:

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity for input into big game management in their areas. The diverse makeup of the Mount Blanca HPP committee (3 livestock growers, Forest Service, BLM, USFWS, CPW and sports persons representatives) provide a good cross section of local interests to review DAU proposals and respond accordingly for CPW consideration.

HPP has two purposes; to resolve big game wildlife (deer, elk, pronghorn, moose) conflicts with agricultural landowners and to assist CPW to meet game management objectives for those same species. From those perspectives, the Mount Blanca HPP committee has discussed your presentation, reviewed the draft alternatives and offer these comments for consideration.

The Mount Blanca HPP committee is in agreement with the following comments pertaining to proposals for the population range and sex ratio objectives for the above DAU plan.

The Mount Blanca committee supports the draft alternative to increase the objective for the number of animals within this DAU and within our committee area. Currently, the population is above the objective, and CPW proposes to increase that objective to match the current population. Increasing the population objective to match the population levels should not create more conflicts.

The Mount Blanca committee also discussed the proposed sex ratio alternative. We support raising the current sex ratio objective to provide larger bucks for sportsmen to pursue. We understand the current observed sex ratio is above the current objective and would need to be reduced. Reducing the observed sex ratio to meet objectives will help to reduce the risk of CWD while still providing satisfactory hunting opportunities.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The Mount Blanca committee has worked with both public land managers and private landowners to improve the quality and quantity of the habitat in DAU D-37. Adequate habitat is critical to meeting game management objectives and we remain committed to maintaining and improving habitat in this area.

Our committee is confident about CPW being able to achieve the proposed objectives due to:

- Winter range in this DAU is limited, but CPW will work with public land agencies to implement habitat improvement projects on public land. Federal land managing agencies place a high priority on habitat improvement and we feel confident that we will be able to work with them to achieve valuable habitat projects and increase the quality and quantity of winter range for deer.

- CWD is a concern, but CPW will be working to lower the observed sex ratio to meet their objectives, which will help to reduce CWD prevalence. We are reassured that CPW has implemented mandatory CWD testing, because we feel that this will give us a better understanding of CWD prevalence in this DAU. If the testing reveals high rates, we trust that CPW will adjust their management plans to further help reduce those rates.

- We have worked with numerous landowners who want to implement improvements for big game on their property.

Thank you for the presentation and the opportunity to provide these comments.

Sincerely,

Mike Maldonado

Mike Maldonado, Chair
Mount Blanca HPP Committee