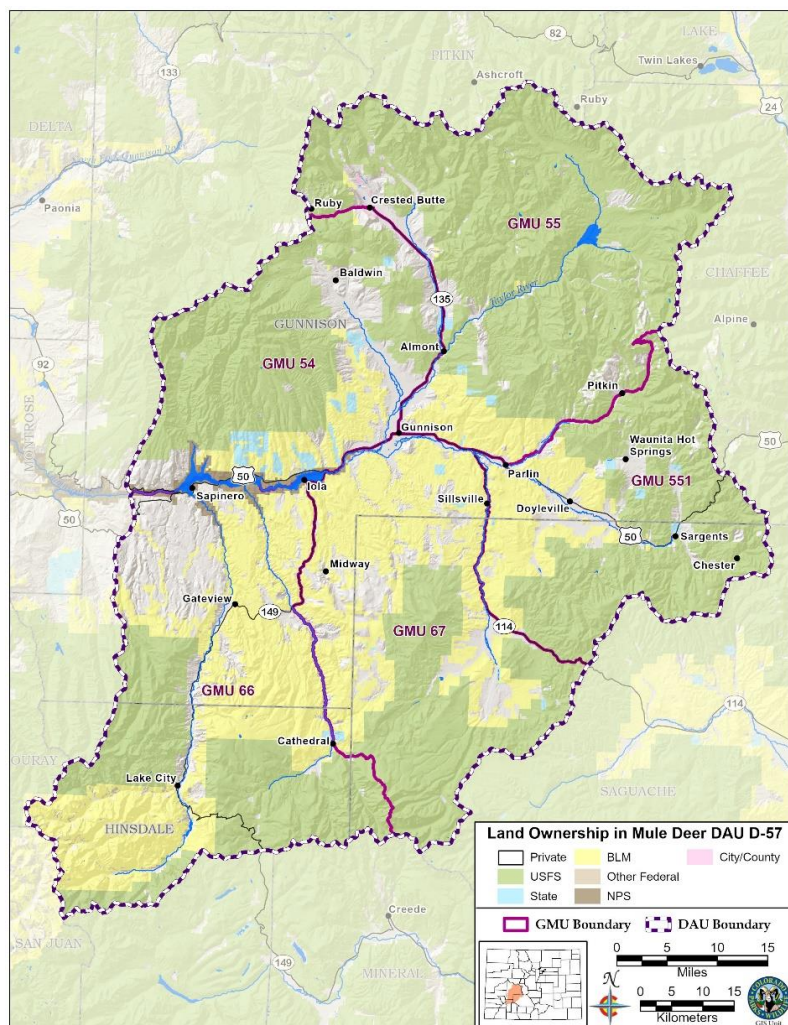


GUNNISON BASIN MULE DEER HERD MANAGEMENT PLAN DATA ANALYSIS UNIT D-57

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October 2023

Gunnison Basin Deer Herd (DAU D-57)	GMUs: 54, 55, 66, 67, and 551
Post-hunt Population: Previous Objective: 15,400-16,900 (combined D-21, D-22, D-25) 2022 Estimate: 18,900 Preferred Alternative: <u>17,000-20,000 deer</u>	
Post-hunt Sex Ratio (bucks:100 does): Previous Objective: 35-40 2022 observed: 50; modeled: 48 Preferred Alternative: <u>35-40</u>	



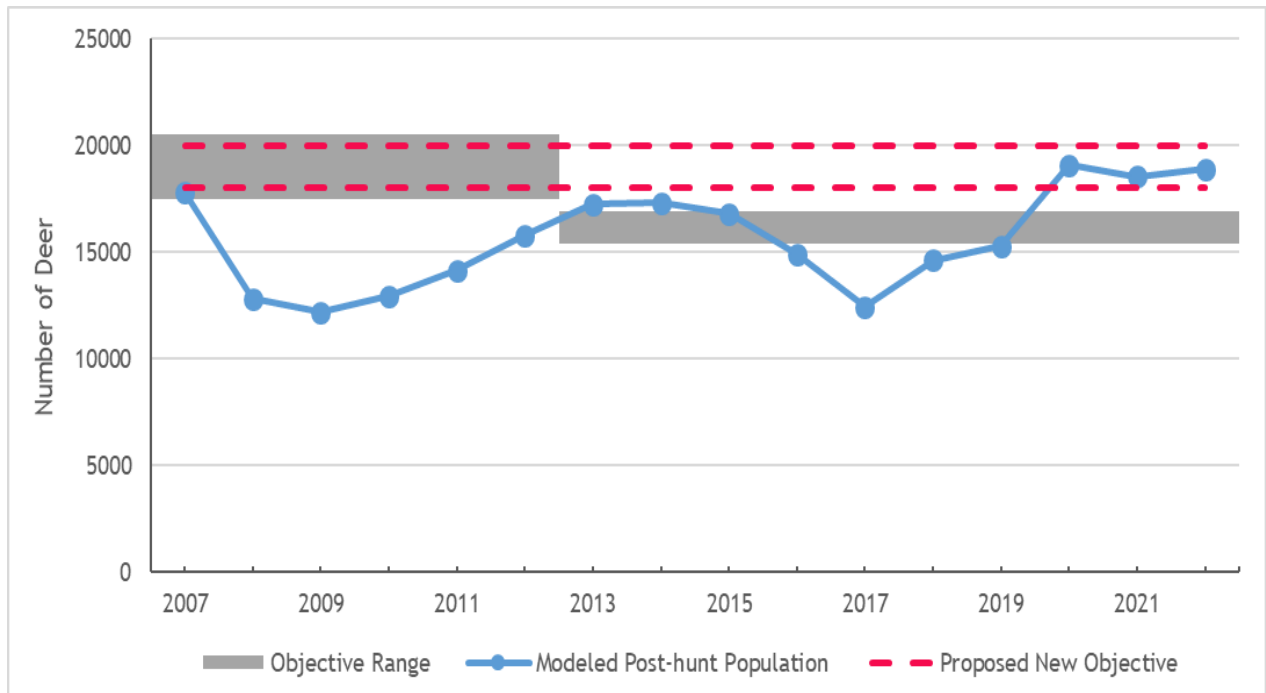


Figure D57-1. Deer DAU D-57 modeled post-hunt population estimate and objective range, years 2007-2022.

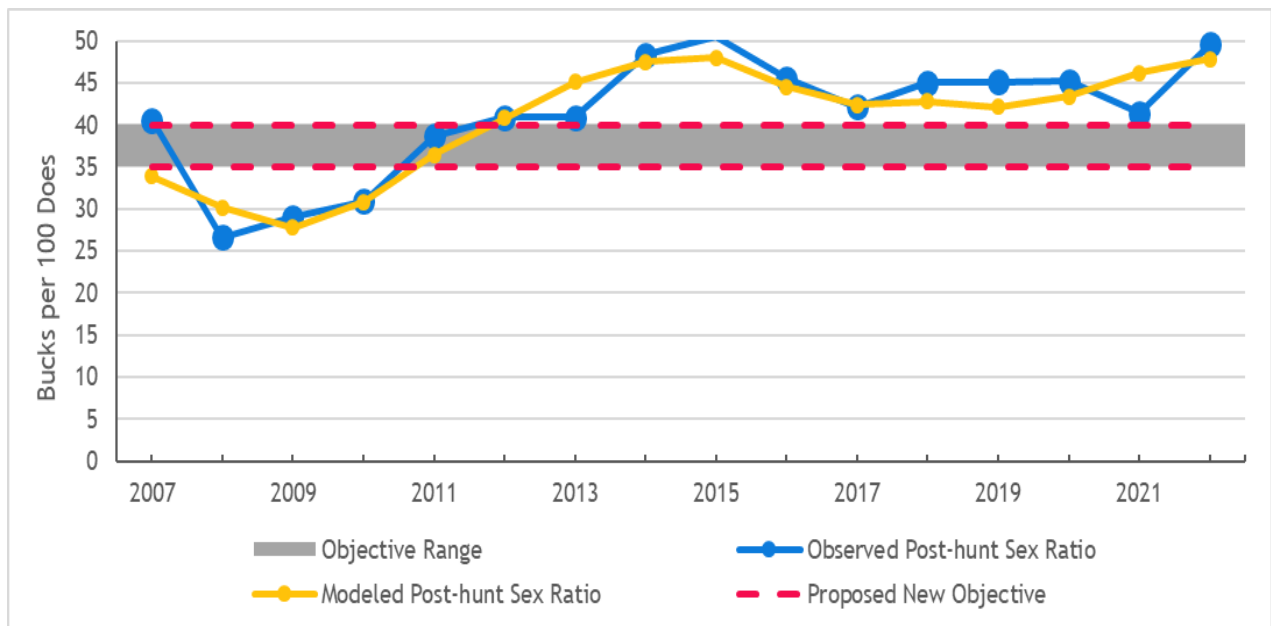


Figure D57-2. Deer DAU D-57 observed and modeled post-hunt sex ratio (bucks:100 does), years 2007-2022.

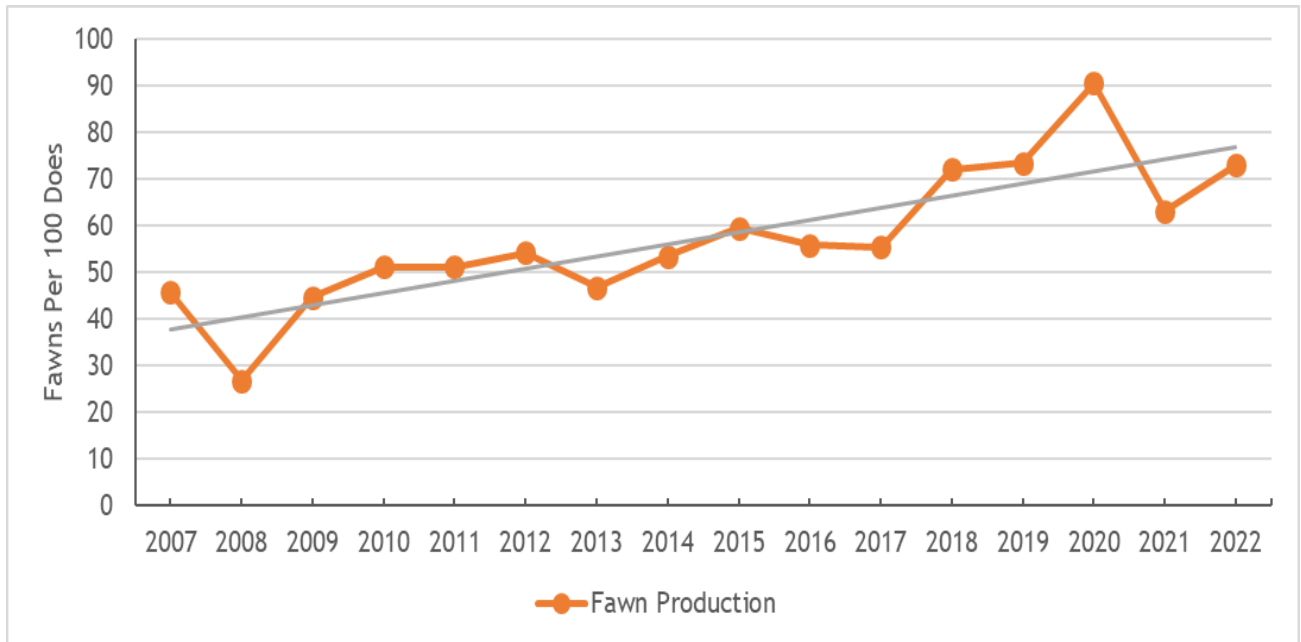


Figure D57-3. Deer DAU D-57 fawn production (observed post-hunt fawns:100 does, years 2007-2022).

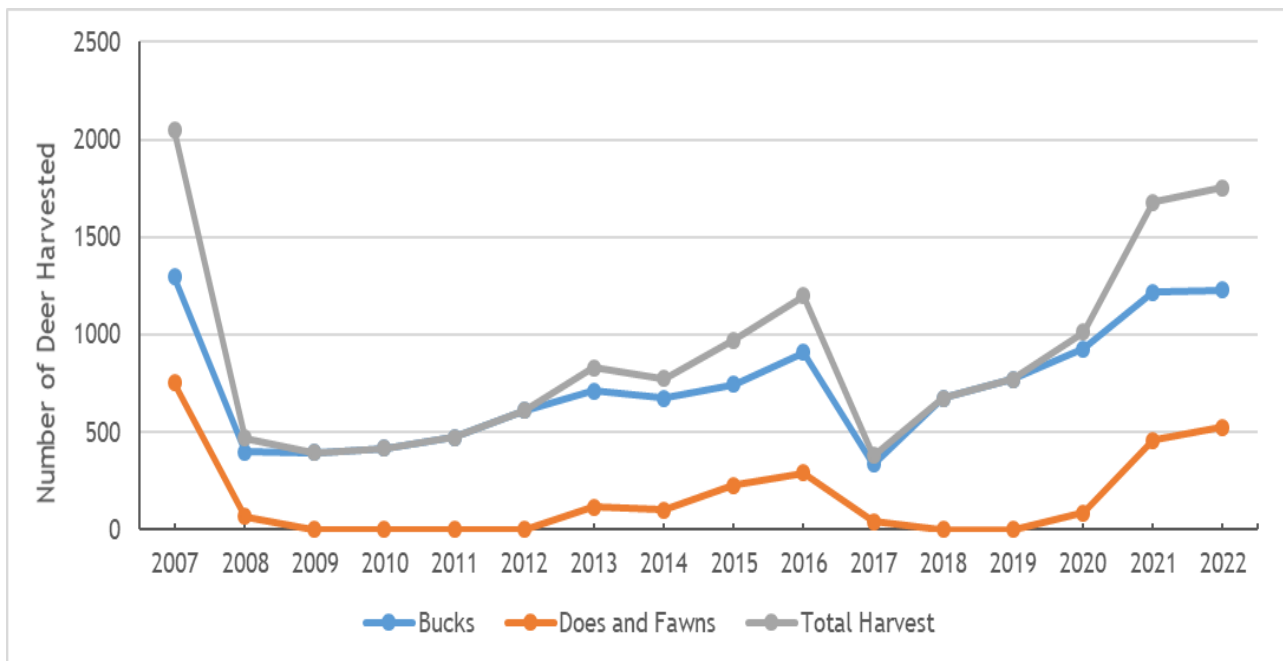


Figure D57-4. Deer harvest estimates in D-57, years 2007-2022.

Background Information

The Gunnison Basin Deer Population is now designated as Data Analysis Unit (DAU) D-57. It is located in southwest Colorado and encompasses Game Management Units (GMUs) 54, 55, 66, 67, and 551. The DAU is 3,589 square miles and includes portions of Gunnison, Hinsdale, and Saguache counties. The DAU is bounded on the north by the Gunnison-Pitkin Co. line, on the east and south by the Continental Divide, and on the west by the Hinsdale-San Juan Co. line, Hinsdale-Ouray Co. line, Cimarron River-Henson Creek divide and Big Blue Creek-Little Cimarron River divide, U.S. 50, Big Blue Creek, and Curecanti Creek. The towns of Gunnison, Crested Butte, and Lake City are located within the DAU. Land ownership in the DAU is 56% U.S. Forest Service, 25% Bureau of Land Management, 16% private, 1% National Park, and 1% CPW and State Land Board. Historically, this DAU has been managed as three DAUs: D-21, D-22, and D-25. Following discussions both internally and with the local community and stakeholders, CPW staff have decided to combine the three DAUs into one larger DAU encompassing the Gunnison Basin to better and more efficiently manage what is biologically one large deer population. Nearly 15 years of radio collar monitoring supports this new management paradigm.

The previous post-hunt population objectives for D-21, D-22, and D-25 were set in 2013 at 5,000-5,500 for both D-21 and D-22, and 5,400-5,900 for D-25. These populations suffered a significant winter-related die-off during the winter of 2007/2008, and to a lesser extent during the winter of 2016/2017, but have since rebounded to a current combined deer population estimate of approximately 18,900 deer (Figure D57-1). Based on a comprehensive assessment of biological data, and following engagement with hunters and other stakeholders such as the local Habitat Partnership Program (HPP) committee and the Gunnison Wildlife Association (GWA), CPW staff are proposing a new population objective of 17,000-20,000, which spans the post-hunt 2022 estimate. This objective would be an increase from the previous combined population objective of 15,400-16,900 deer for the current combined D-21, D-22, and D-25 DAUs.

The previous post-hunt buck:doe ratio objectives for D-21, D-22, and D-25 were set in 2013 at 35-40 bucks per 100 does. The average observed post-hunt buck ratio from 2007 to 2022 for these three DAUs was 41 bucks:100 does with a range of 27-50 (Figure D57-2). The observed three-year (2020-2022) average of 45 bucks:100 does is above the post-hunt buck:doe ratio objective for these three DAUs. CPW staff recommends that the sex ratio objective for DAU D-57 remain at 35-40 bucks:100 does.

Post-hunt fawn ratios and recruitment may be a good indicator of habitat conditions, herd health, and herd size relative to carrying capacity. Observed post-hunt fawn ratios averaged 57 fawns:100 does (range 27-90) between 2007 and 2022 (Figure D57-3). Above average fawn:doe ratios have been observed in the Gunnison Basin over recent years with concomitant population growth. In 2022 the observed five-year post-hunt average was 74 fawns:100 does.

Buck harvest has averaged 737 animals since 2007, but has varied greatly, with a low of 338 bucks harvested in 2017 and a high of 1,295 in 2007 (Figure D57-4). In 2022, the five-year average buck harvest was 964 animals. Success rates for hunters do not vary greatly, with the number of bucks harvested driven primarily by population size and the number of licenses available. Public land and private-land-only antlerless licenses are allocated in this DAU and licenses fluctuate depending on population size relative to the objective. Since 2007,

antlerless harvest (does and fawns) has averaged 167 animals annually, ranging from zero following harsh winters resulting in population declines, to 754 in 2007 (Figure 5). A combined estimate of 525 does and fawns were harvested in 2022.

Big game hunter survey data indicates that hunters are generally satisfied with their deer hunting experience across the Gunnison Basin, but there is some desire to see a slight to moderate increase in the deer population. In the winter-driven system of the Gunnison Basin, hunter preferences and experience must be weighed against habitat considerations and the biological and socio-political carrying capacity of the landscape. Furthermore, Gunnison Basin hunters also indicated by a 3-1 margin that they prefer to be able to hunt mature bucks even if it means hunting less often. All buck licenses in the Gunnison Basin, and across Colorado, were limited in 1999. A variety of hunting seasons and opportunities are presently available across D-57, including archery and muzzleloader seasons during the month of September, as well as three regular rifle seasons across the months of October and November. CPW's Big Game Season Structure policy mandates season dates and timing, and is evaluated and updated every five years.

Significant Issues

Many issues surround mule deer management in the Gunnison Basin, and they generally fall into either a biological or socio-political category. Many of the issues raised during this planning process were similar to those discussed in 2012 during the previous planning effort. There are multiple important factors influencing mule deer population dynamics in the Gunnison Basin other than hunter harvest. Some of those factors include, but are not limited to, winter and drought severity, habitat availability and condition, fragmentation, competition with elk, increasing traffic volumes on local highways, and overall human development and expansion. A significant concern in D-57 is cumulative impacts on mule deer habitats, including winter range, migration corridors, production areas, and high-elevation summer ranges, due to human encroachment and anthropogenic influence. Exurban development continues throughout the DAU, impacting open lands supporting seasonal mule deer habitat. Outdoor recreation has increased dramatically, fragmenting habitat and diminishing effectiveness. Managers and the public remain concerned over the cumulative and prolonged impacts of development and associated land uses, decreasing the quality and quantity of available habitat, thus potentially reducing animal carrying capacity. Future actions to protect and enhance habitat will be essential for maintaining the Gunnison Basin deer population.

Like many places in the Rocky Mountain West, spring and summer ranges in D-57 are more expansive than the limited winter range. Most winter range areas occur many miles from summer range and can only be reached following lengthy migrations. Winters may be severe in the Gunnison Basin and the quantity and quality of winter habitat is arguably the primary limitation for herd productivity and sustainability in this region. Although superbly adapted to Rocky Mountain climates, mule deer in the Gunnison area are periodically subjected to severe winters which may result in significant mortality. The winters of 1978-79, 1983-84, 1996-97, 2007-08, and 2016-17 are recent examples of how unforgiving winters may be in the area. Dramatic population fluctuations are no longer acceptable to the general public and big game hunters, based on the emotional response to seeing large numbers of animals die and the potential impacts on hunt quality and opportunity. The same may be said for local economic interests that rely on predictable levels of wildlife-related tourism. CPW maintains a policy

pertaining to feeding big game animals during severe winters, and supplemental feeding programs have been initiated during four of the five winters previously mentioned with variable success. The winter of 2007-08 was particularly severe and had lasting repercussions.

Mule deer management in the Gunnison Basin is ultimately constrained by severe winters, and the ecological carrying capacity of winter range. During harsh winters, big game in the Basin tend to congregate along highway corridors, particularly along US Highway 50, making them extremely visible and vulnerable to vehicle collisions. Highway traffic volumes have increased markedly over the last 10 years, and will likely continue to increase into the future. Animals in declining body condition paired with excessive roadkill, often leads to advocacy for CPW-led supplemental feeding operations. In addition, there is a lengthy history of winter feeding and baiting efforts in Gunnison, which has led to an expectation for such programs, despite their questionable efficacy and considerable cost. Determining a precise winter carrying capacity across D-57 has proven challenging in the past, and capacity may change annually based on the current year's conditions. While many hunters desire to see more animals across the landscape, wildlife managers must remain conscious of habitat capacity when setting HMP objectives. The hunting community and the general public should not expect supplemental feeding programs during severe winters, and instead should direct their advocacy toward habitat conservation and mitigation for seasonal conflicts, including wildlife-vehicle collisions. Furthermore, Chronic Wasting Disease (CWD) has not yet been detected in the Gunnison Basin, but occurs in neighboring DAUs to the north, west, and south. Future management and discussions related to supplemental feeding or baiting programs should include ongoing consideration of CWD presence and prevalence, with efforts made to avoid the expansion and proliferation of the disease into D-57.

A key element of mule deer management is the public's desired level of hunting opportunity. Some hunters prefer to hunt every year, whereas others would wait five or more years to hunt in a highly sought-after unit. Some hunters forego multiple years of hunting in order to build preference points, while others are willing to buy expensive landowner vouchers to hunt every year. Mature mule deer bucks remain one of the most sought-after big game animals in the western United States, and hunters continuously seek opportunities to hunt mature deer. Demand for limited deer licenses in the Gunnison Basin remains high. For the 2023 rifle seasons, the average number of preference points (across D-57) required to draw an antlered license for a Resident or a Non-Resident was as follows: Second Rifle- 1 Res/4 Non-Res; Third Rifle- 7 Res/15 Non-Res; Fourth Rifle- 12 Res/22 Non-Res. The trade-offs of maintaining mature bucks and high buck:doe ratios while providing reasonable hunting opportunities continues to be discussed and debated amongst constituents.

Management Alternatives

Three post-hunt population objective alternatives were considered for D-57:

Table D57-1. Proposed and recommended population objective ranges for the D-57 revised 2024 HMP.

Population Objective Alternatives:	
17,000 to 20,000 (midpoint 18,500)	(1) Moderate increase from previous combined D-21, D-22, and D-25 population objectives, but congruent with current population estimate of 18,900 deer
16,000 to 19,000 (midpoint 17,500)	(2) Slight increase from previous combined D-21, D-22, and D-25 population objectives, but congruent with current population estimate of 18,900 deer
15,000 to 18,000 (midpoint 16,500)	(3) Status Quo of combined D-21, D-22, and D-25 population objectives, but below the current population estimate of 18,900 deer.

Three post-hunt sex ratio objective alternatives were considered for D-57:

Table D57-2. Proposed and recommended sex ratio objective ranges for the D-29 revised 2024 HMP.

Sex Ratio Objective Alternatives:	
40-45	(1) Increase in the proposed objective range
35-40	(2) Status Quo (Maintain current sex ratio)
30-35	(3) Decrease in the proposed objective range

Management Objectives

CPW staff recommend an increase to the D-57 population objective from the previous D-21, D-22, and D-25 DAU Plan objectives of 15,400-16,900 deer. A revised population objective of 17,000-20,000 is generally congruent with the current population estimate of 18,900 deer. Winter range availability and severe winters are the limiting factors for this mule deer population, therefore increasing the objective beyond 20,000, based on current population estimates, is not advisable. Game damage is minimal in the Gunnison Basin and would continue to be addressed as needed through existing management tools including PLO hunt codes or targeted damage hunts. The majority of hunters who responded to CPW surveys in 2021 and 2022 indicated that they are satisfied with their current hunting experience, but would like to see a slight or moderate increase in the population. Increasing the population objective through this planning process supports that desire by maintaining the D-57 deer herd at or slightly above the current estimate of nearly 19,000 deer.

The post-hunt buck:doe ratio objectives for D-21, D-22, and D-25 were all set at 35-40 bucks per 100 does in 2013. CPW staff propose to keep the same objective for the combined D-57 DAU. Most Gunnison Basin deer hunters who responded to CPW surveys in 2021 and 2022 were generally satisfied with the number of bucks in the population, and prefer to hunt mature bucks as opposed to hunting every year. This relatively high buck:doe ratio objective ensures that mature bucks are maintained within the population, although hunter selectivity, technology, and information sharing all contribute to what hunters may see across the landscape during annual hunting seasons.

Stakeholder Outreach

Each year, a random sample of big game hunters are selected to participate in post-season harvest surveys to derive annual harvest estimates. In addition to their primary harvest survey, hunters may choose to answer several questions exploring their satisfaction with various aspects of their hunt. CPW has referred to these as “opt-in” questions. In 2022, 1,016 respondents (out of 2,814 hunters) answered these opt-in questions for the D-57 hunting units. Overall, hunters were generally satisfied with their hunting experience and the number of deer they saw, but wanted to see a slight to moderate increase in the deer population. Hunters also preferred hunting mature bucks (higher buck ratio) over hunting more often (lower buck ratio) by a 3-1 margin. Hunter crowding was an issue in some GMUs, and less so in others. These opt-in survey results have proven useful for evaluating Herd Management Plan objectives, and exploring hunter attitudes toward current and future management.

Area 16 CPW staff regularly engage with various constituents, both formally and informally, in discussions about mule deer management in the Gunnison Basin. CPW staff met with the Gunnison Wildlife Association and the Gunnison Basin HPP committee in August 2023 to discuss management alternatives related to this Herd Management Plan revision. The draft D-57 HMP will be sent to local county commissioners, the USFS, and the BLM. The HMP will be posted on the CPW website for 30 days, allowing stakeholders to comment on the alternatives in the plan.

CPW Commission Approved Objectives:

Post-hunt Population

Pending

Post-hunt buck ratio

Pending