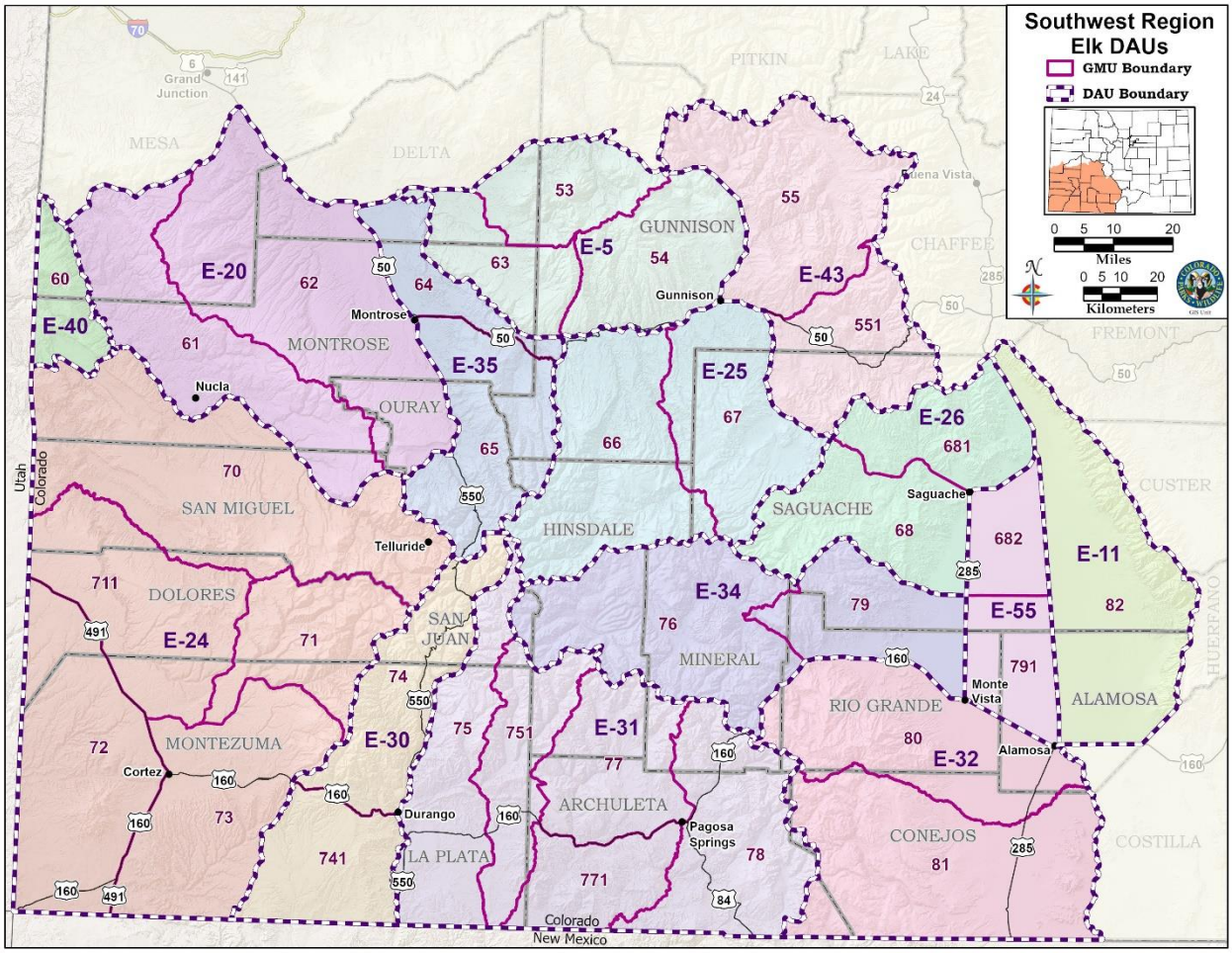
Draft Elk Herd Management Plans

Colorado Parks and Wildlife

Southwest Region



PREPARED FOR
COLORADO PARKS AND WILDLIFE

BY
SOUTHWEST REGION WILDLIFE BIOLOGISTS

This plan was approved by the Colorado Parks and Wildlife Commission on XXXX XX, 2023

Executive Summary

Rocky Mountain Elk (elk) are a true conservation success story. By the early 1900s elk populations were in such steep decline they were nearly extirpated across their western ranges. The Colorado Gold Rush of 1858–59 ushered in a period of intense exploitation that did not cease until the early 1900s, when Colorado began enacting strict hunting regulations to conserve its remaining elk. Colorado's elk population estimate in 1910 was only 500 to 1,000 animals, with the largest remaining herds located in the Gunnison and White River watersheds. The diminishing elk herds prompted Colorado to halt elk hunting throughout most of the state from 1903 to 1933. From 1912 to 1928, the Colorado Department of Game and Fish (the predecessor to Colorado Parks and Wildlife) reintroduced 350 elk from Jackson Hole, Wyoming, into fourteen areas, including the Hermosa Creek drainage north of Durango in 1912. During the 1930s, after elk populations had rebounded, the state trapped elk from abundant herds in southwest Colorado and transplanted them to other states to begin new herds. These conservation efforts have successfully restored this species throughout its historic range. Today, Colorado maintains a herd of approximately 300,000 elk, the largest population in North America.

Colorado's current elk populations are iconic and known throughout the United States and the world. Hunting and angling, and other wildlife-related recreation, contribute over $5 billion annually to Colorado's economy. Funds generated by big game hunting license sales are used in the conservation of Colorado's wildlife in numerous ways, including habitat improvement and conservation projects that benefit a diversity of species. However, elk populations in southwest Colorado currently face numerous threats, including habitat loss and fragmentation to development on public and private lands, increasing recreation pressure and recreational development, traditional and renewable energy development and production, increased highway traffic, loss of connectivity across the landscape as migration and travel corridors are restricted or blocked, conflict with agricultural interests, disease, and decline in habitat quality related to persistent drought and climate change. All of these threats are compounded by booming human population growth across Colorado. These challenges present elk and wildlife managers with an uncertain future as we work to manage and conserve elk populations, other wildlife species, minimally fragmented and secure wildlife habitats, and naturally functioning ecosystems for generations to come.

Elk have been widely studied in Colorado and elsewhere. Colorado Parks and Wildlife (CPW) currently has ongoing research studies designed to evaluate the impacts of increasing recreation pressure occurring on public lands on elk behavior, movements, and distribution, as well as factors affecting elk recruitment (pregnancy and birth rates, neonatal survival and cause of mortality) across Colorado. CPW is also instituting elk monitoring areas in several herds across the state in an effort to learn more about elk survival, habitat use, movements, and migration patterns. Monitoring will begin in the winter of 2022/2023 and be conducted annually. In addition, CPW and partnering organizations have initiated thousands of conservation easements to protect private lands from future development. CPW and partner organizations are also continually engaged with federal and state land management agencies and private landowners to promote habitat improvement projects that benefit elk and other wildlife species. All of these ongoing efforts help ensure a future for elk and other wildlife in Colorado. Conservation of Colorado's big game herds and overall wildlife habitat protection are among CPW's highest priorities[1].

[1] https://cpw.state.co.us/Documents/About/StrategicPlan/CPWStrategicPlan.pdf

The Herd Management Plans (HMPs) contained in this document will guide management of the 14 elk herds occurring in the Southwest Region for a 10-year period through 2033. In sum, these 14 elk herds contain an estimated 122,000 elk, representing about 41% of the statewide total population estimate of 300,000 elk. Of the 14 draft HMPs contained herein, CPW staff are proposing extensions of recently approved management objectives for 11 them. HMP extensions are recommended when CPW staff believe a continuation of the previous objectives, course of management actions, and strategies are supported for a given herd. Therefore, we are not proposing any changes to objectives or management approach for 11 of these HMPs, all of which were approved by the Parks and Wildlife Commission within the last few years. Extensions have reduced public levels of involvement compared to full HMP revisions, as those processes were recently completed. CPW is proposing revising HMPs for the remaining three herds, which include new management objective alternatives, whose current management objectives are more than 10 years old (Table 1). Revisions include public involvement and may result in changes to any aspect of the plan including the numerical objectives (such as population and sex ratio objective ranges) and management approach (increasing, maintaining, or reducing). Therefore, population objectives or management strategies may be modified.

Management objectives established in these plans must abide by statutes and policies set forth by CPW's Big Game Season Structure, CPW's Strategic Plan, the Parks and Wildlife Commission, and the Colorado State Legislature. The primary purpose of HMPs is to establish management objectives for each herd in terms of a desired population size range and observed sex ratio (bulls:100 cows) range. The management alternatives selected in these plans will drive annual elk license setting decisions. License setting and the resultant annual harvest modulate elk population numbers to meet population and sex ratio objectives. Each plan also describes additional strategies and techniques that will be used to achieve the desired herd objectives. The goal for the ten-year term of these plans is to manage to the most appropriate population level within the objective range based on climatic patterns, habitat conditions, forage availability, and public desires. CPW may consider revisiting an HMP prior to the end of the ten-year term of the plan if outstanding circumstances arise and a revision is deemed necessary.

Local CPW staff have conducted extensive public and stakeholder outreach to inform the various proposed management objective alternatives for each HMP. Evaluation of newly available optional hunter satisfaction data from annual hunter harvest surveys as well as meetings with the public, local governments and organizations, and other stakeholders have guided development of these plans and management alternatives. In addition, this draft plan was posted on the CPW website and advertised with press releases from November 17, 2022 – December 20, 2022 for another public comment period to evaluate the proposed objective alternatives. This draft plan will be presented to the Parks and Wildlife Commission on January 25, 2023 for final review, comment, and approval.

Table 1. Population and management status of 14 elk herds occurring in SW Colorado.

DAU	Elk Herd	Current Herd Management Plan Approved	Current Population Objective	2021 Post-hunt Population Estimate	Current Bull Ratio Objective	3-Yr Avg Observed Bull Ratio	Proposed Population Objective	Proposed Bull Ratio Objective
E-05	**West Elk Mountains**	2018	7,800-8,800	6,700	23-28	15	Extension	Extension
E-11	**Sand Dunes**	2021	3,000-4,000	5,800	17-23	38	Extension	Extension
E-20	**Uncompahgre Plateau**	2006	8,500-9,500	12,500	16-20	21	**11,000-15,000**	**20-25**
E-24	**Disappointment Creek**	2020	21,000-24,000	19,500	12-20	15	Extension	Extension
E-25	**Lake Fork**	2017	6,000-7,000	6,500	23-28	17	Extension	Extension
E-26	**Saguache**	2019	4,000-4,800	4,800	18-22	22	Extension	Extension
E-30	**Hermosa**	2020	7,500-9,000	6,100	15-25	15	Extension	Extension
E-31	**San Juan Basin**	2020	25,000-28,000	23,600	12-20	12	Extension	Extension
E-32	**Lower Rio Grande**	2018	11,500-13,000	12,800	18-21	17	Extension	Extension
E-34	**Upper Rio Grande**	2022	6,000-8,000	7,300	20-25	29	Extension	Extension
E-35	**Cimarron**	2022	6,000-9,000	7,700	20-25	20	Extension	Extension
E-40	**Paradox**	2008	900-1,100	1,400	25-30	25	**1,200-1,600**	**25-30**
E-43	**East Gunnison Basin**	2001	3,000-3,500	6,700	25	21	**6,200-7,200**	**23-28**
E-55	**Northern San Luis Valley Floor**	2006	0	0	0	0	Extension	Extension

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Introduction and Purpose

Colorado Parks and Wildlife (CPW) manages big game for the use, benefit, and enjoyment of the people of the State following CPW's Strategic Plan (2015). Elk management is also determined by mandates from the Colorado Parks and Wildlife Commission (PWC) and the Colorado Legislature. Colorado's wildlife species require careful and increasingly intensive management to accommodate the many varied public demands and growing human impacts. CPW uses a "Management by Objective" approach to managing the State's big game populations (Figure 1).

Figure 1. Management by Objective process used by Colorado Parks and Wildlife to manage big game populations by Data Analysis Unit (DAU).

The Management by Objective approach provides a data-driven process to achieve population objectives established for each Data Analysis Unit (DAU) established by the Herd Management Plan (HMP). A DAU is a geographic area that includes the year-round range of a big game herd. The DAU includes the area where most animals in a herd are born, live, and die. DAU boundaries are delineated to minimize the interchange of animals between adjacent DAUs. The geographic area may be divided into several Game Management Units (GMUs) to distribute hunters and harvest within a DAU.

The primary purpose of HMPs is to establish population size and bull ratio (i.e., the number of males per 100 females) objectives for each DAU. The HMP also describes the strategies and techniques that will be used to reach these objectives. During the HMP planning process, CPW solicits and collects public input through questionnaires, public meetings, and comments to CPW staff and the PWC. CPW's mission as wildlife stewards is integrated with the concerns and ideas of various stakeholders, including the State Land Board (SLB), the Bureau of Land Management (BLM), United States Forest Service (USFS), Habitat Partnership Program (HPP), agricultural producers, city and county governments, hunters, guides and outfitters, private landowners, local chambers of commerce, Southern Ute Indian Tribe (SUIT), Ute Mountain Tribe (UMT), and the public. In preparing an HMP, agency personnel attempt to balance the biological capabilities of the herd and its habitat with the public's demand for wildlife

recreational opportunities. HMPs are approved by the PWC and are reviewed and updated approximately every 10 years.

The purpose of these HMPs is to set estimated population and observed bull ratio objectives for elk herds in southwest Colorado from 2023-2033 with the expectation that they will be reviewed and updated in 2033.

Common Management Issues and Strategies

Elk populations in the 14 elk herds existing in the Southwest Region of Colorado peaked at a combined high population estimate of 140,000-145,000 elk in the early 2000s. Since that time, these elk populations have generally declined, sometimes intentionally via female harvest, in an effort to adjust for habitat loss or declining habitat condition or in many instances to address game damage conflicts arising on private and public lands. However, these declines have been exacerbated by drought, increasing anthropogenic use of the landscape, and reduced calf survival over the past 20+ years. The current combined population estimate for the southwest elk herds is 122,000 elk. Acceptance for higher elk population sizes has generally increased over the last decade. Wildlife enthusiasts, landowners, and hunters often support increases in population objectives (Appendix A: 2021 Elk Hunter Attitude Survey). However, how many elk Colorado can support in the future given current and expanding levels of anthropogenic disturbance and influence is currently in question.

Habitat Loss

Colorado's population has increased from 1.3 million people in 1950 to 4.3 million people in 2000 to 5.8 million people in 2021. The human population on Colorado's western slope is projected to grow by another 67% between 2020 and 2050 (US Census Bureau, 2021), presenting increasing pressures on wildlife and the habitats they rely on. With a growing human population comes increased housing developments, infrastructure, traffic, and recreation activities. Factors such as competition with livestock, fences, vehicle collisions, and predation all contribute to elk population declines; however, habitat loss and fragmentation stemming from residential, recreational, and industrial development - compounded by the long-term effects of human population growth and climate change - present the greatest risks to Colorado's elk population. For example, calf recruitment (calves surviving to one year of age) in the southwest portion of Colorado has declined in recent years and lags behind the rest of the state (Figure 3). CPW is currently researching the factors influencing calf recruitment rates in Colorado, which likely include persistent drought, increasing recreation pressure on public-land calving grounds, declining quality and availability of winter ranges due to human development, and other factors such as predation.

Altering habitat quality and quantity through land use activities can have significant and long-term impacts (both positive and negative) on big game habitats and populations (Johnson et al., 2016). Examples of habitat alteration include, but are not limited to, land use conversion from agriculture to residential, habitat type change by natural causes such as wildfires, habitat quality change as a result of domestic grazing practices, habitat fragmentation, and climate change. Recreation and energy development, which are occurring at unprecedented levels in Colorado, are two examples of human uses on the landscape that increasingly overlap with, fragment, and negatively impact big game habitats. Colorado has a network of roads that total 85,400 miles. Road construction directly removes available habitat, results in

population loss from road kills, and has indirect effects on ungulate migration patterns and behavior. Roads are continually expanding into elk range from housing, energy development, and recreation.

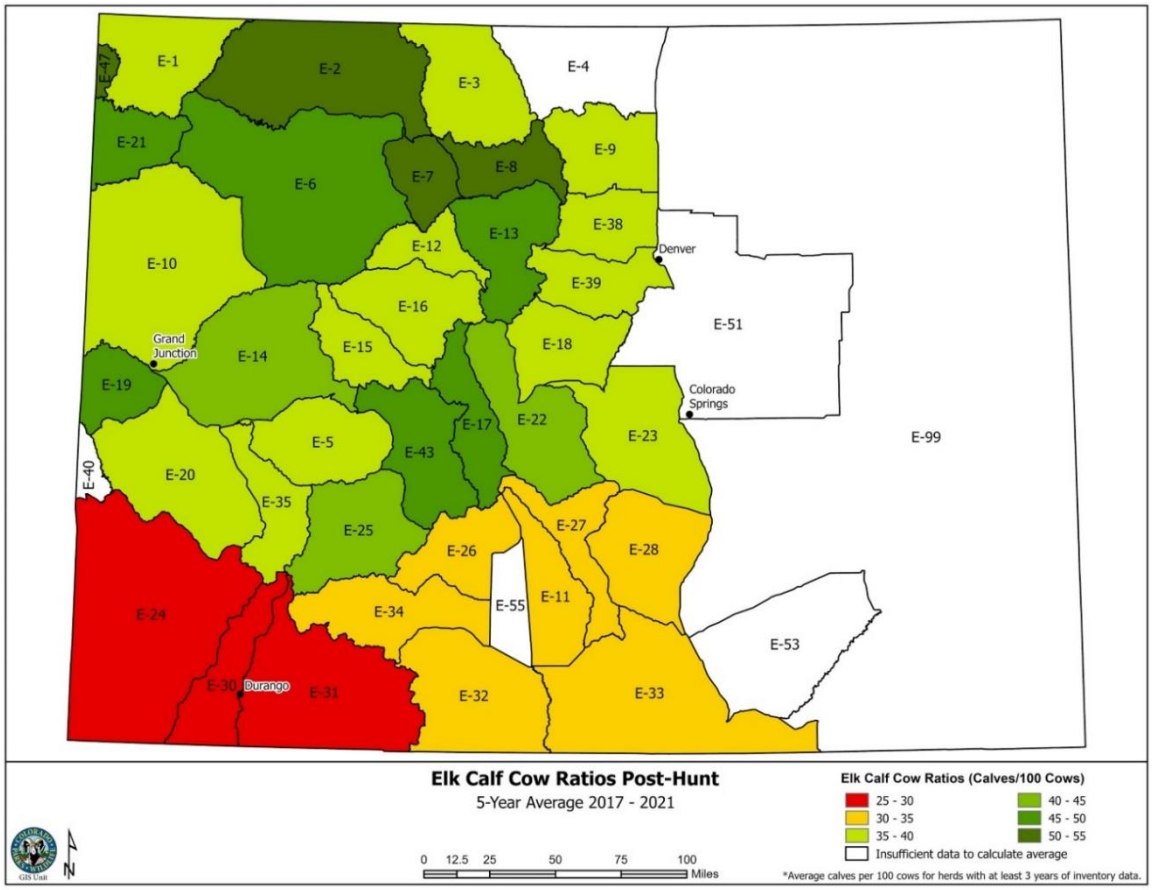


Figure 3. Average post-hunt (winter) calf:cow ratios for Colorado elk herds, 2017-2021.

The above impacts have cumulatively resulted in the direct loss of habitat available to elk and other wildlife. Furthermore, the direct loss of wildlife habitat is often amplified in the indirect losses that occur due to noise pollution, disturbance, and the overall fragmentation of remaining habitat. Habitat fragmentation and reduced connectivity is of increasing concern as Colorado elk attempt to navigate through their annual cycles between seasonal ranges. The connectivity between the available habitat that is left is fractured, impacting the quality of habitat elk use through their life cycle from summer to winter ranges. Ultimately, these impacts and ongoing habitat loss will reduce Colorado's carrying capacity for the renowned elk population we presently support.

Recreation

Elk preferentially use areas devoid of motorized activity and require large blocks of non-motorized habitat for security (Rowland et al., 2000). Numerous studies also indicate elk avoid popular human recreation areas (Wisdom et al., 2018). This avoidance results in habitat compression and loss of functional habitat. Due to avoidance of human activities associated with roads and trail based recreation (atvs, mountain biking and hiking), elk increase their daily activity levels and movements which reduces the time spent feeding or resting (Cuiti et al., 2012, Naylor et al., 2009, Wisdom et al., 2004). This increased energy expenditure,

decreased forage intake, and displacement to areas with poorer quality forage results in a decrease in body condition, which affects individual health, survival and reproduction (Bender et al., 2008, Johnson et al., 2014). Human-induced disturbance can also reduce calf survival and recruitment (Phillips and Alldredge 2000; Shively et al., 2005). Additionally, elk may move to lower-elevation private-lands due to the intensive recreation activity occurring in higher-elevation public-land habitats. These research results are particularly concerning given a 2022 analysis indicating that 40% of the most critical elk habitats in Colorado are already affected by recreational trail use (Theodore Roosevelt Conservation Partnership, 2022). To ensure that essential habitats remain connected and usable for elk and other big game animals, CPW recommends the following when planning for recreation infrastructure:

- When planning new trails or trail improvements, federal land management agencies should consult the 2021 Trails with Wildlife in Mind Guide (Trails with Wildlife in Mind Task Force 2021) to aid in management decisions.
- Avoid the highest-priority elk habitats when planning recreation infrastructure, wherever possible.
- Limit the density of motorized and non-motorized roads and trails in important wildlife habitats.
- Seasonal closures should be considered to benefit elk and other wildlife in the winter months and during calving when they are most vulnerable.
- Strategic seasonal closures of motorized routes should be considered during annual hunting seasons to promote big game use of, and fidelity to, public lands where they are available for harvest.

Preserving contiguous swaths of the sagebrush, grassland, mountain shrub, and forest landscapes that elk rely on for habitat, and facilitating safe passage along migration and movement routes - within and between seasonal ranges - are priorities for wildlife and land managers in Colorado as well as other western states. CPW relies heavily on federal land management agencies as well as private property owners to conserve and enhance habitats for elk and other wildlife species. In 2017 and 2018, several secretarial orders issued by the U.S. Department of Interior (DOI) directed federal land managers to work with states to protect big game species and their habitat within the region. Secretarial Order (SO) 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories, and SO 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors, respectively, provided direction to federal land managers for improving access to lands for recreational activities, particularly hunting and fishing. SO 3362 also directed DOI agencies to improve habitat quality to ensure the long-term viability of big game and other wildlife populations, particularly migration corridors and sensitive winter ranges for elk, deer, and pronghorn. A variety of solutions are being considered at all levels of government and by private sector stakeholders to better protect big game winter range, and migration and movement routes. These policies aim to foster collaboration, expand data collection and research, incentivize participation in habitat connectivity programs, and implement targeted infrastructure solutions.

Private Land Refuges/Elk Distribution

Across Southwest Colorado, the issue of elk refuging in areas where they are inaccessible for management has markedly increased over the last several decades. Refuge areas are often privately owned lands, however lands under federal jurisdiction (e.g. National Parks), or lands within local municipal boundaries where hunting is limited or precluded are also common refuge areas for elk. Of particular concern is the year-round anthropogenic influence on

federal public land elk habitats across southwest Colorado, which is contributing to institutional refuging behavior within regional elk populations. With ubiquitous refuging comes a variety of challenges to resource managers and landowners, including the inability to manage population numbers, density dependent population affects, localized habitat degradation, increased game damage/agricultural conflict, diminished hunter satisfaction, and local economic impacts. Colorado Parks and Wildlife, in tandem with federal land managers and local communities, must strive to maintain fidelity of public lands for the Regional elk populations. The conservation of large blocks of properly functioning and secure elk habitat will be integral to maintaining robust elk populations on public lands where they are accessible to the average public land elk enthusiast. Long-term planning should include comprehensive discussions of overall land-use and development strategies, travel management, recreational access and intensity, grazing prescriptions, habitat maintenance and enhancement, and hunting management prescriptions. The current trends related to elk refuging should be of the utmost concern across constituents, and if not addressed, may ultimately result in decreased opportunities for hunting and wildlife watching across southwest Colorado.

Chronic Wasting Disease

University scientists studying captive mule deer in facilities west of Fort Collins, CO, first recognized Chronic Wasting Disease (CWD) in the 1960s. Within a few years thereafter, symptomatic CWD cases were diagnosed in free-ranging deer and elk in northcentral Colorado and southeastern Wyoming. By the early 1990s, the growing number of documented cases compelled early attempts to estimate infection rates (prevalence) by sampling harvested and vehicle-killed deer and elk. Applying diagnostic advances that afforded more accurate detection of infected animals, surveys in the late 1990s revealed that CWD already was well-established in much of northeastern Colorado and southeastern Wyoming. This disease occurs in deer, elk, and moose. Infections are much less common in elk and moose than in deer. CWD is an infectious prion (misfolded protein) disease that effects the nervous system over approximately three years (Miller and Fischer, 2016). CWD can spread from the host by direct contact or through resources shared with an infected individual. To add to the complexity, prions can last for many years in the environment, further challenging management. This disease is 100% fatal, and a treatment has not yet been developed. CPW developed a CWD Response Plan in December 2018 to address growing concerns of increasing spread throughout the state (CPW, 2018). This plan contains management actions and recommendations to control CWD prevalence while managing towards population and sex ratio objectives. As of the completion of this document in 2023, at least 40 of Colorado's 54 deer herds (74%) are known to be infected with CWD; at least 17 of 42 elk herds (40%) and 2 of 9 moose herds (22%) also are infected. Infection rates vary between herds. In general, deer herds tend to be more heavily infected than elk herds living in the same geographic area (Figures 4 and 5).

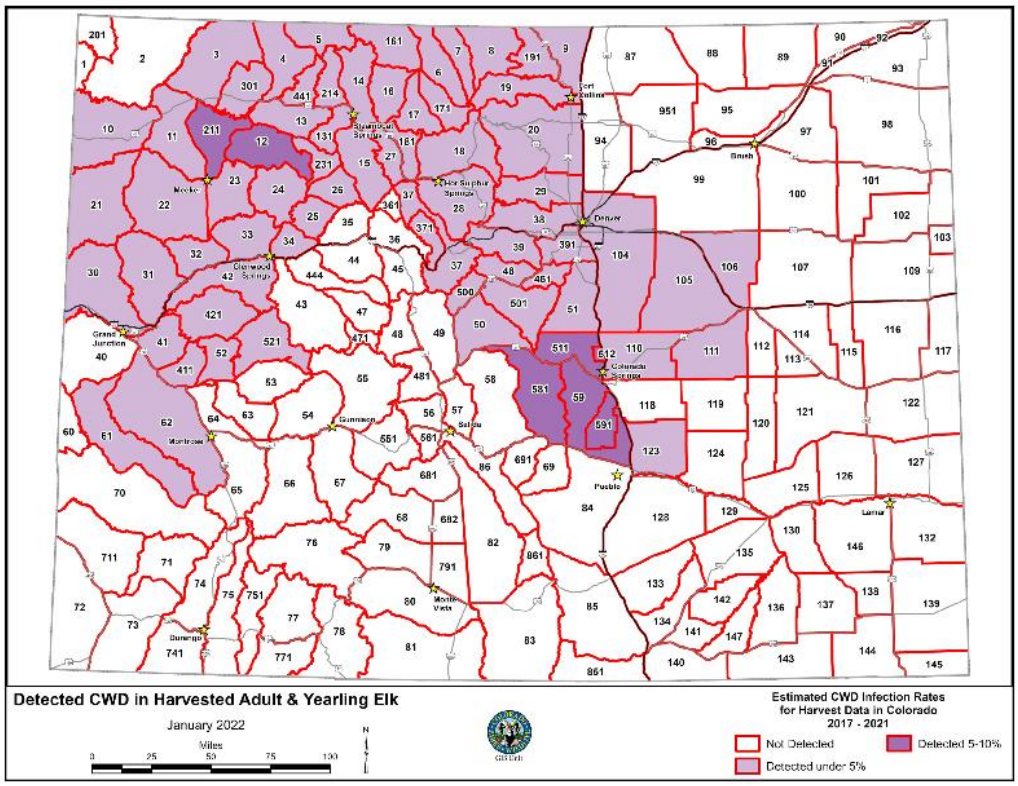


Figure 4. Chronic Wasting Disease infection rates in Colorado elk herds.

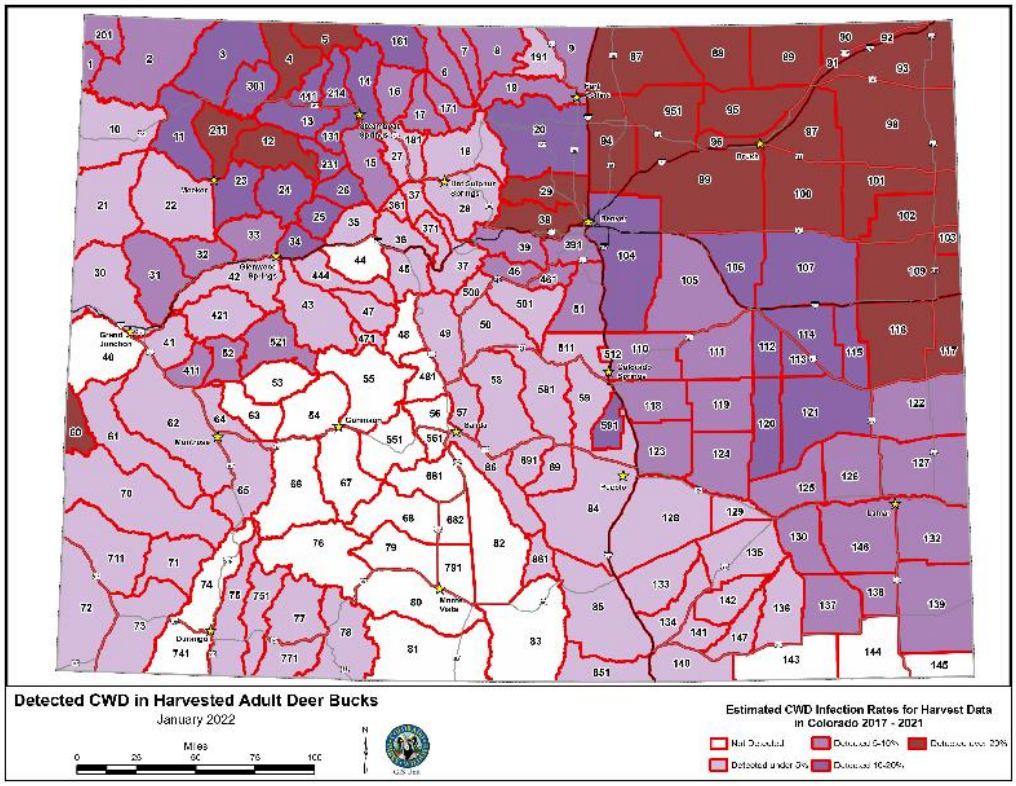


Figure 5. Chronic Wasting Disease infection rates in Colorado deer herds.

Collaboration with Stakeholders

Wildlife management is affected by many environmental and external anthropogenic factors, often with no easy solutions, and requires collaboration and compromise. CPW will remain engaged with various stakeholders, including local and Tribal governments, federal land management agencies, private landowners, local land conservancies, conservation organizations, hunters and wildlife enthusiasts, and others, to proactively manage Colorado's natural resources and wildlife habitats. These relationships and collaborations ensure elk and other wildlife remain across Colorado's landscapes for generations to come. Colorado would not be the same without its iconic elk herds, and it is incumbent upon the citizens of Colorado to altruistically work together to promote the continued existence of elk and other wildlife. By protecting and enhancing elk country, we ensure a future for many other wildlife species, and maintain some of the wild places and spaces that make Colorado special.

The Brunot Agreement of 1873

In 1873, the confederated bands of Utes ceded a large portion of their 1868 reservation to the Federal government under a treaty commonly known as the "Brunot Agreement." This ceded area – or "Brunot Area" – is approximately 3.7 million acres of the San Juan Mountain region of southwest Colorado and includes many of the herds in this herd management planning document (Figure 6). Included within the 1873 Agreement was an important provision reserving for the Utes the right to "hunt upon said land so long as the game lasts and the Indians are at peace with the white people." Despite the continued loss of lands, the corresponding reduction in the size of the Ute reservation, and the relocation of certain Ute bands outside of Colorado – this reserved right within the Brunot Area has remained undiminished to this day. In 2008, the Southern Ute Indian Tribe entered a new agreement – this time with the State of Colorado – addressing the Tribe's exercise of its long-held Brunot Area hunting and fishing rights. The Ute Mountain Ute Indian Tribe entered into a similar agreement with the State of Colorado in 2013. These agreements – or Memorandums of Understanding (MOUs) – detail how the Tribes and State approach Brunot Area hunting, fishing, and wildlife law enforcement, and expresses the intent of Tribal and State governments to work cooperatively towards the long-term conservation of wildlife within the Brunot Area. With the completion of the MOUs, Tribal Members can exercise the Tribe's long-held rights to hunt and fish within the Brunot Area in accordance with regulations established by the Tribes and State.

Working in tandem with our Tribal neighbors is of utmost importance to CPW as we cooperatively manage wildlife species, including elk, migrating seasonally across political boundaries. Annual meetings, harvest reporting, and open communication have allowed CPW and the Tribes to collaborate on population monitoring, radio collaring efforts, and habitat improvement and habitat connectivity efforts. Tribal lands provide vital winter ranges and other seasonally important habitats for a variety of wildlife, and the partnership between CPW and the Tribes is vital for future wildlife conservation in southwest Colorado (see Appendix B: Southern Ute Indian Tribe Comment Letter, on pg 100).

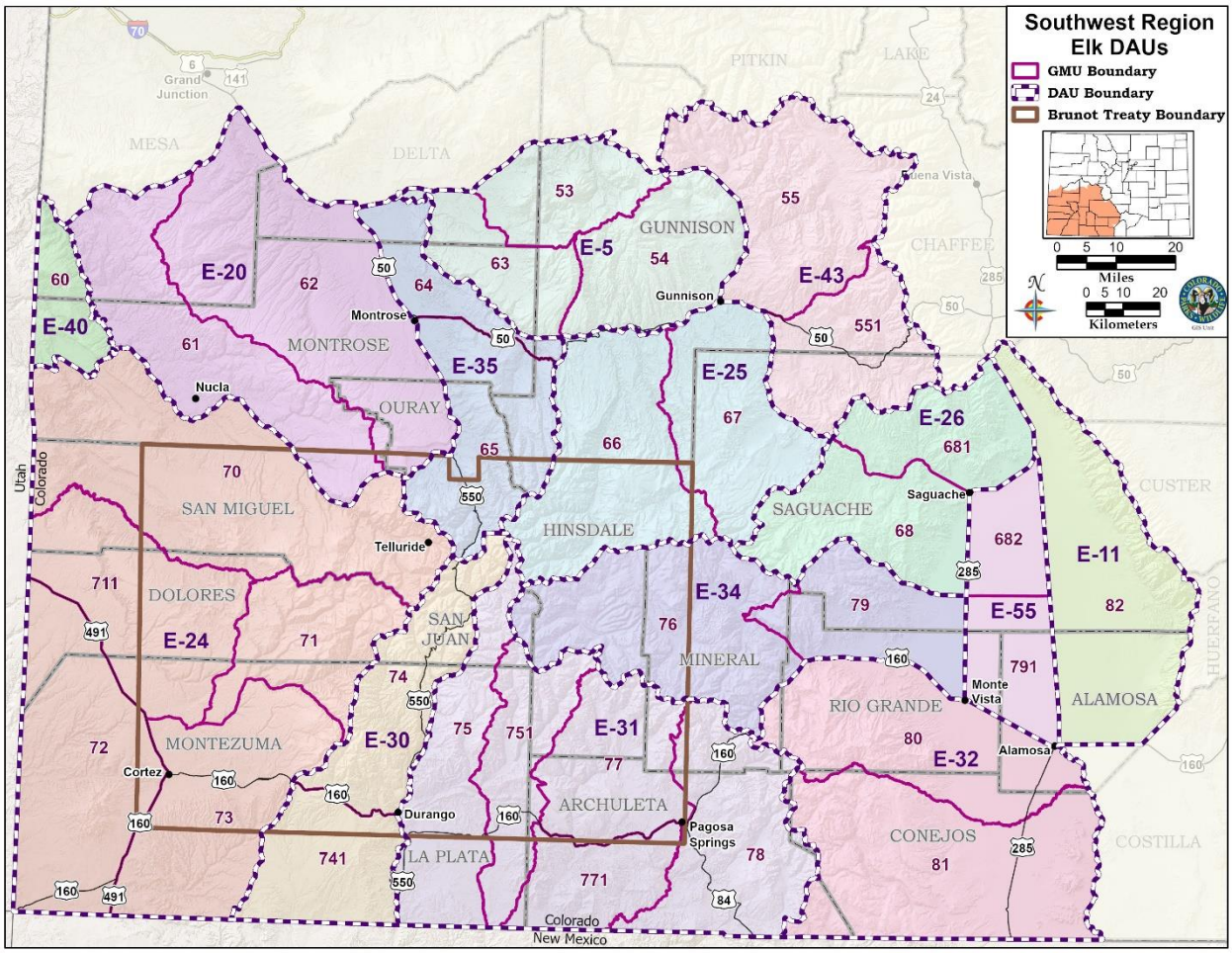
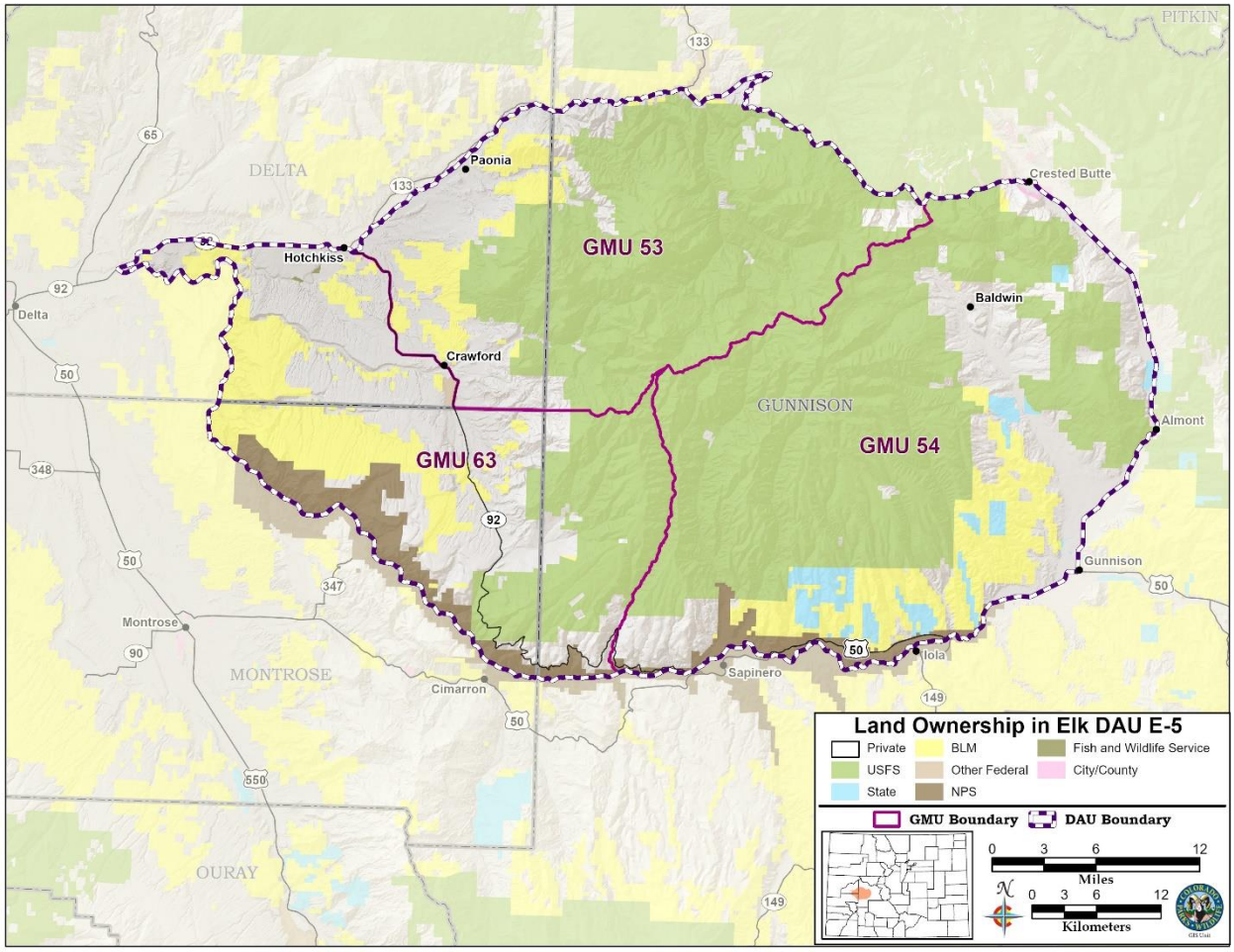


Figure 6. The Brunot Treaty area, established in 1873 as an agreement between the Southern Ute Indian Tribe, Ute Mountain Ute Indian Tribe, and the US Government preserving hunting and fishing rights for Ute tribal members.

WEST ELK MOUNTAINS ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-05
Kevin Blecha, Wildlife Biologist, Gunnison

GMUs: 53, 54, 63 Last HMP Approval Year: 2018
Post-hunt Population: 7,800 – 8,800; 2021 Estimate: 6,700. **Preferred Alternative: Extend the current population objective of 7,800 - 8,800 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 23-28; 2021 observed: 15; modeled: 21 **Preferred Alternative: Extend the current sex ratio objective of 23-28 bulls:100 cows**



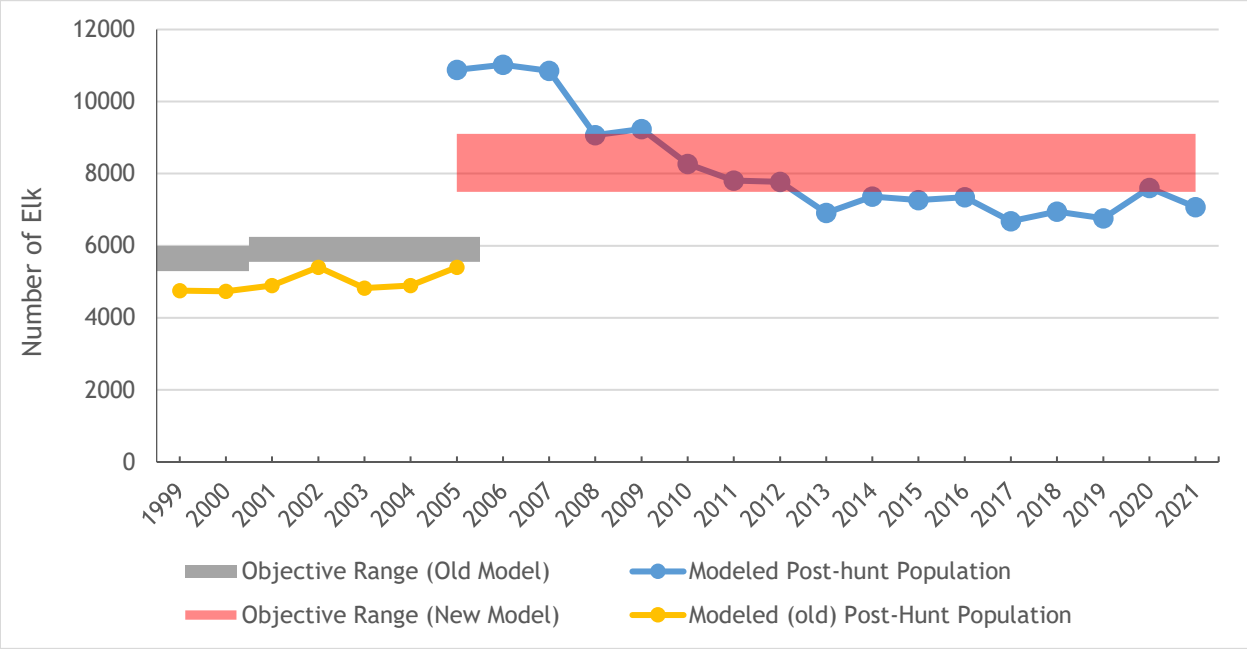


Figure E05-1. Elk DAU E-05 modeled post-hunt population and objective range, years 1999-2021. Transitioning to new population estimation model in 2006 shifted the objective range.

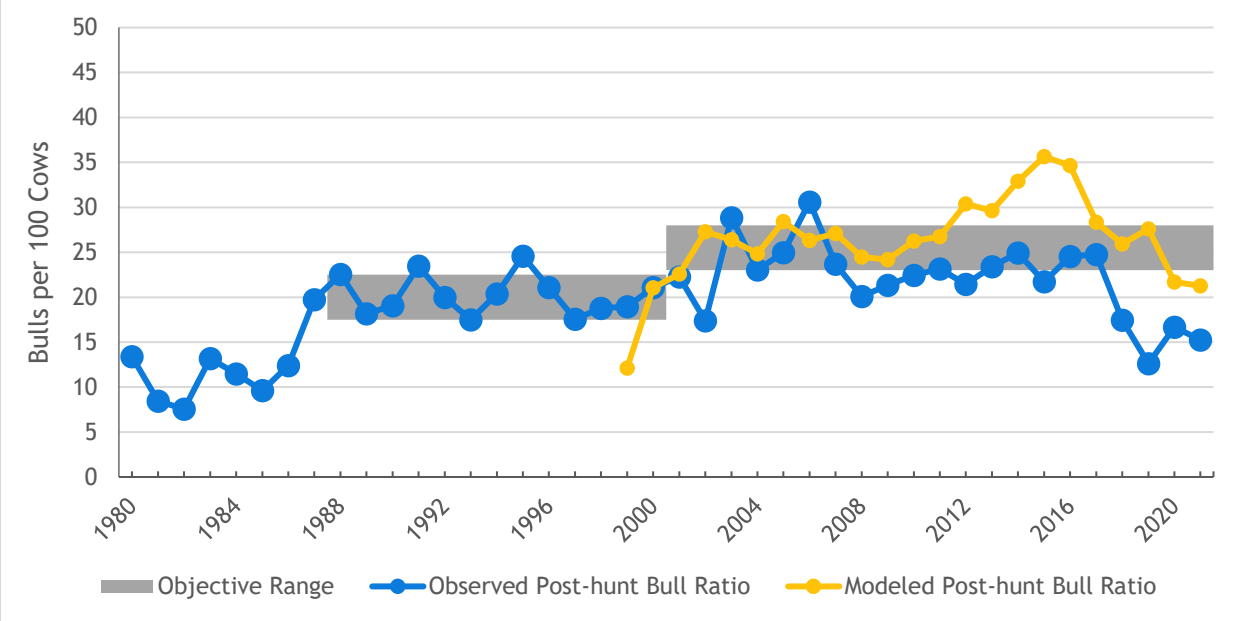


Figure E05-2. Elk DAU E-05 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021.

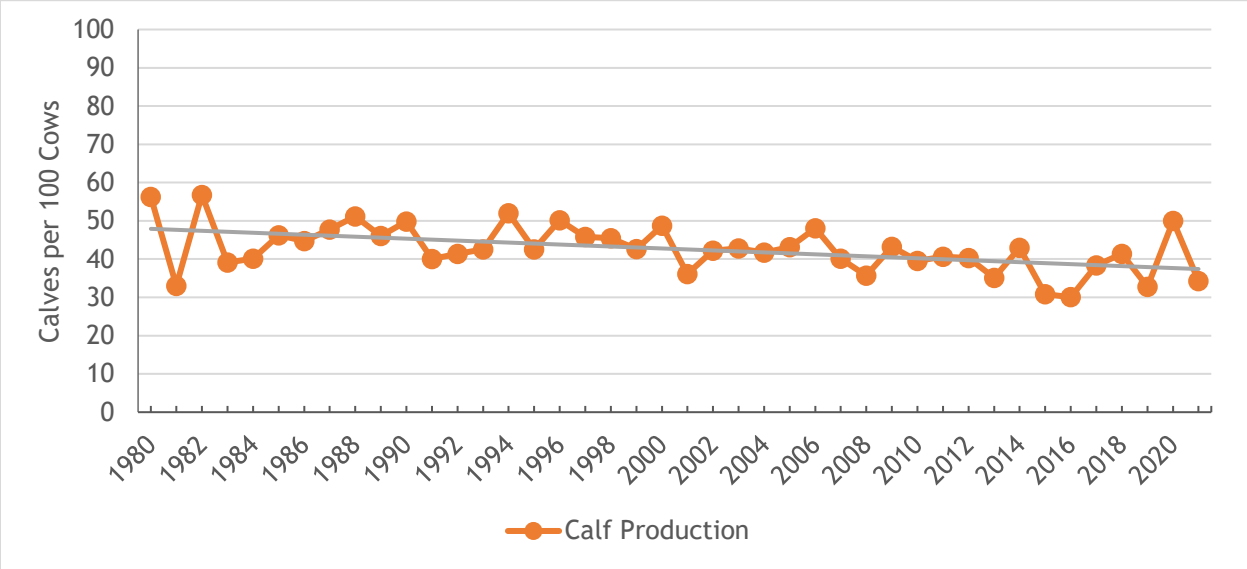


Figure E05-3. Elk DAU E-05 calf production (observed post-hunt calves:100 cows ratio), years 1980-2021.

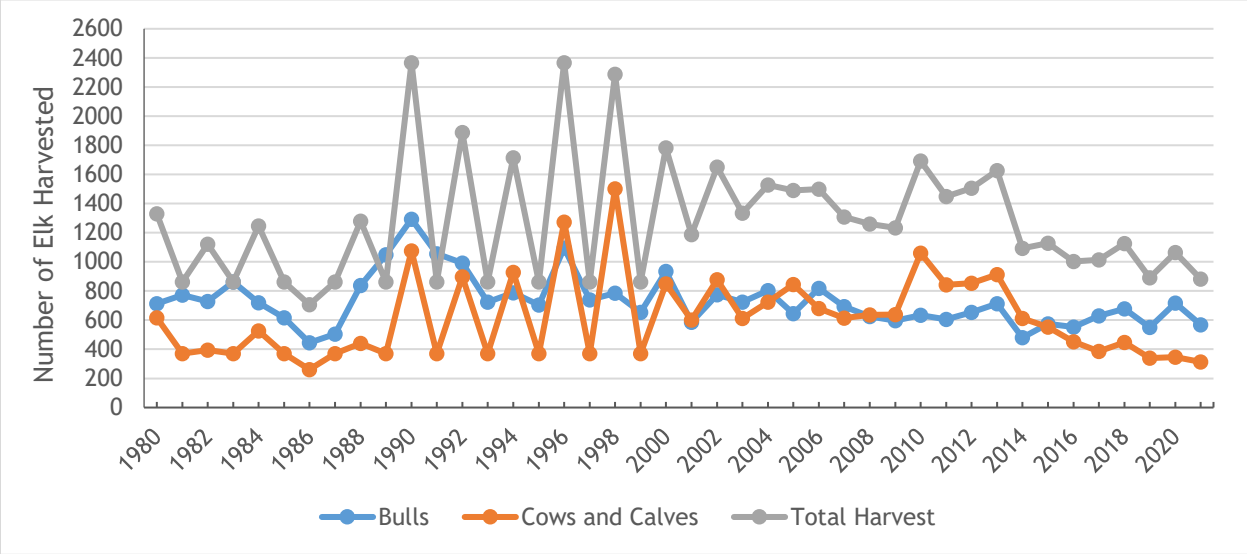


Figure E05-4. Elk harvest estimates in E-05, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-05 is 1,351 square miles in southwestern Colorado and includes parts of Gunnison, Delta, and Montrose Counties. DAU E-05 consists of Game Management Units (GMUs) 53, 54, and 63. Land ownership in DAU E-43 is 26% private, and 73% public (US Forest Service, Bureau of Land Management, National Park Service and the State of Colorado). There are three wilderness areas within the DAU: West Elk Wilderness, Black Canyon of the Gunnison Wilderness, and Gunnison Gorge Wilderness.

Elk occur throughout the DAU, but migratory behaviors determine spatial and temporal disproportionalities in density across the three GMUs of the DAU. A vast proportion (approximately 70%) of GMU 54 wintering elk reside in neighboring units (53, 63, and 521) during the summer and early fall seasons. However, the movements from these units into GMU 54 are not equal; a much lower (<10%) proportion of elk that winter in GMUs 53 and 63 move into GMU 54 during the summer and early fall season. Prior to 2017, GMU 54 constituted its own DAU (E-41), while GMU 53 and 63 constituted E-52. The uneven GMU-specific residency patterns spurred the merging of E-41 and E-52 to create the present day E-05 DAU.

The 2018 HMP post-hunt population objective was established at 7800 - 8800 elk (Figure E05-1). That plan established that the elk population size was to increase by 17% from the 2016 post-hunt population size estimate of 7150 elk to approximately 8400. Furthermore, to fit differences in stakeholder desires across the GMUs, the plan determined that the population increases would occur most in GMU 54, a moderate amount in GMU 53, and no increase in GMU 63. Current population size models predict a 2021 post-hunt elk population of approximately 8,500 animals.

The average observed post-hunt sex ratio between 1986 (the first year the 4-point antler restriction was implemented) and 2021 was 21 bulls:100 cows. The average observed post-hunt sex ratio from 2018 to 2021 was 16 bulls:100 cows (Figure E05-2). The observed three-year (2019-2021) average of 15 bulls:100 cows fits within the expected post-hunt sex ratio range for OTC herds, but is lower than the long-term average. The 2018 – 2021 calf ratio was 40 calves per 100 cows. This calf ratio has declined by approximately 6 calves per 100 cows in a 40-year period; the 1980-1989 average was 46 calves per 100 cows (Figure E05-3).

The number of hunters, specifically cow hunters, have fluctuated over time and are used to manipulate the population size. In the late 1990s the average annual cow harvest of 800-1000 was used to reduce the E05 population in response to agricultural conflicts. Most recently (2018-2021), 333 cow elk were harvested annually and represents the lowest average number of cow elk harvested in any three-year period of E-05's 41-year data set (Figure E05-4). This low cow harvest is anticipated to help bring the population size within the objective range.

Significant Issues

Habitat loss is likely occurring in E-05 due to increased pressures of residential and recreation uses of the land, similar to the rest of the Southwest Region of Colorado. Additionally, ranchers have expressed concerns about high elk population sizes in the Upper Gunnison Basin (DAUs E-5, E-25, E-43) which triggered massive reductions in elk population size in past years (Figure E05-4: 1990 – 2001). Concerns have been raised by some stakeholder groups on competition between cattle, elk, and the federally threatened Gunnison sage-grouse.

Crowding issues are becoming a growing concern in E-05, especially in GMU 53 and 54. GMU 54 intersects a major destination for deer hunters and other outdoor recreationists. In the recent four years, elk have concentrated in lower elevations during the rifle seasons. The large concentrations of elk have attracted large masses of OTC bull elk rifle hunters and caused conflicts for law enforcement staff. In GMU 53, access points to public lands are limited, thus trailheads and roadsides can be very crowded, especially during GMU 53's OTC archery season.

Although elk game damage claims in E-05 are not occurring, agricultural-elk conflicts do occur. Pro-active management solutions for elk conflicts in the Gunnison Basin are also attempted or carried out via the local Habitat Partnership Program committee.

Elk refuge issues occur on private lands and in Black Canyon of the Gunnison National Park. Having access to land for hunting is one of the top concerns for GMU 54 and GMU 63 hunters based on surveys conducted for the 2018 E-05 HMP. The private land refuge concerns are particularly pronounced in the NW portions of GMU 54.

Management Alternatives

Three post-hunt population objective alternatives were considered in 2018 for E-05 (Table E05-1):

Table E05-1. Proposed population objective ranges considered in 2018 for the E-05 HMP.

Post-hunt Population Objective Alternatives:	
7,000 to 8,000 (midpoint 7,500)	(1) Approximately 10% increase of the current population objective
7,800 to 8,800 (midpoint 8,300)	**(2) 2018 post-hunt estimate +/- 500 elk (STAFF PREFERRED)**
8,600 to 9,600 (midpoint 9,100)	(3) Approximately 10% decrease of the current population objective

Table E05-2. Proposed spatial distribution objectives for the 2018 E-05 HMP.

Post-hunt Population Objective Alternatives:
(1) Cow licenses are allocated disproportionally among the three GMUs to redistribute elk to GMUs desiring higher elk population sizes (CPW staff preferred)
(2) Cow licenses are allocated spatially among the GMUs according to 2006-2017 inter-GMU proportions.

Under current management with OTC bull licenses in E-05, managing the number of bulls:100 cows toward an objective is impossible. Therefore, given the sex ratios observed historically in E-05, the expected sex ratio objective range proposed for E-05 is 23-28 bulls:100 cows. Therefore, given the sex ratios observed historically in E-05, the expected sex ratio objective range proposed for E-05 is 23-28 bulls:100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process. This range would allow for improved opportunity and varied age classes of bulls in the population, similar to that in neighboring E-25, where bull license allocations are limited in number.

Management Objectives

CPW's staff-preferred objective is to extend the E-05 management objectives approved in the 2018 HMP (range of 7,800 to 8,800 elk). Continuing to manage toward the current population size of elk will not increase conflicts with agriculture producers in E-05. Also, based on the spatial distribution objectives, increases should be most pronounced in GMU 54, moderate amount in GMU 53, and no increase should occur in GMU 63.

No changes to bull:cow ratios would be made with this plan given the current unlimited OTC licensing strategy. However, CPW staff's preferred objective for the bull ratio would be set at a range of 22 – 28 bulls:100 cows if E-05 was to ever be managed as a limited licensed unit.

Strategies for addressing management issues and achieving objectives

After four years of trying to achieve a population size objective of 7800 – 8800 elk in E-05, it is possible that little progress has been made in increasing the population size despite cutting cow elk license numbers. Thus, more cow elk license reductions may need to occur to boost the population size. While manipulating cow license numbers is the primary method for changing population size, other factors such as low calf recruitment make it more difficult to increase population size. However, given the long life of elk, near-future increases in population size may just be lagging behind a few years. As for manipulating the elk herd numbers specifically in GMU 54 (largest increase), 53 (moderate increase), and 63 (no increase), cow elk license number manipulations should be GMU-specific.

Stakeholder Outreach

In 2017, an extensive stakeholder outreach process was conducted, which included a set of public scoping meetings, three public input surveys, a 30-day open comment period of the draft plan, followed by CPW commissioner deliberations and testimony from the public to the commission (Appendix E05-A). Given how little the elk population has changed, there is no reason to believe that stakeholder opinions have greatly changed since the public was last engaged.

CPW Commission Approved Objectives:

Post-hunt Population

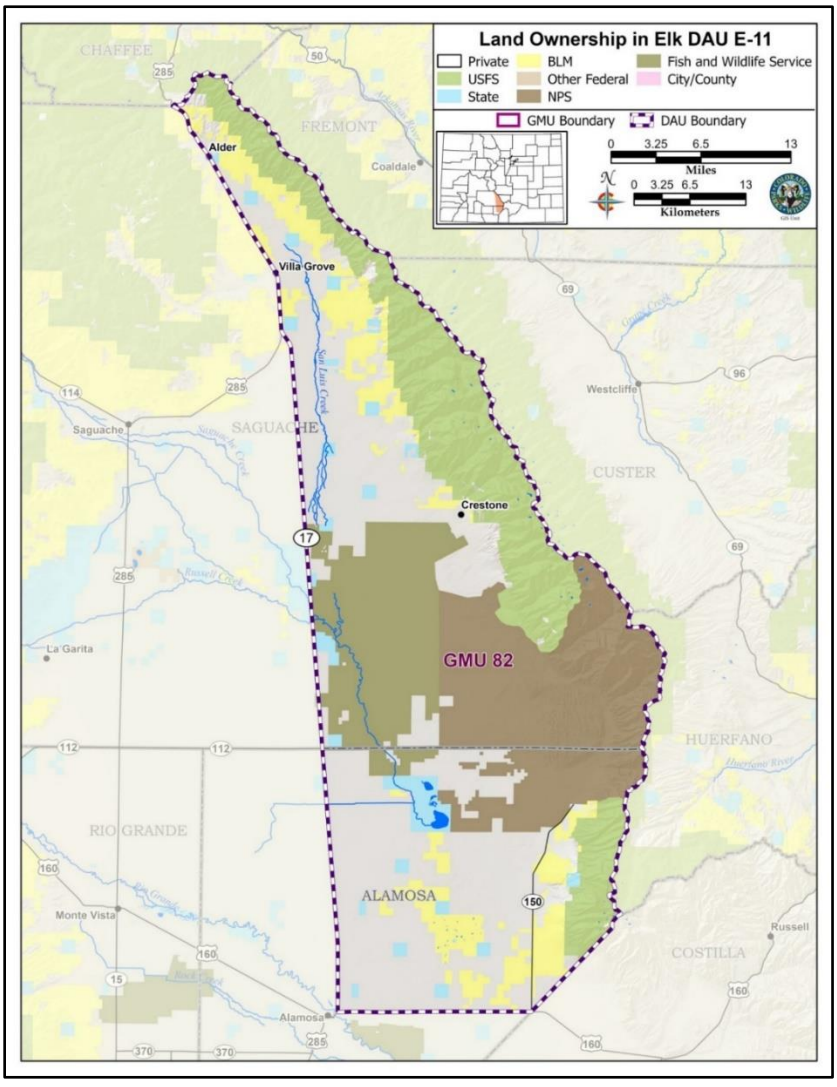
Pending

Post-hunt bull ratio

Pending

SAND DUNES ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-11
Brent Frankland, Wildlife Biologist, Monte Vista

GMU: 82 Last HMP Approval Year: 2021
Post-hunt Population: Previous Objective: 3,000-4,000; 2021 Estimate: 5,800. **Preferred Alternative: Extend the current population objective of 3,000-4,000 elk**
Post-hunt Sex Observed Ratio (bulls:100 cows): Previous Objective: 17-23; 2021 observed: 27; 3-yr average modeled: 38. **Preferred Alternative: Extend the current sex ratio objective of 17-23 bulls:100 cows**



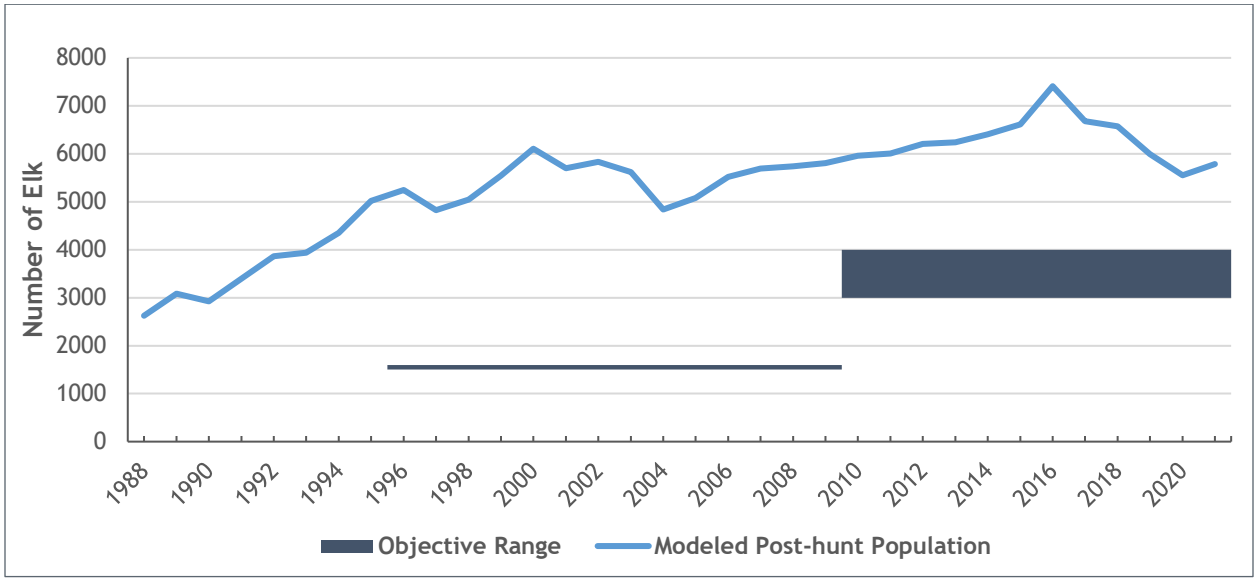


Figure E11-1. Elk DAU E-11 modeled post-hunt population and objective range, 1988-2021.

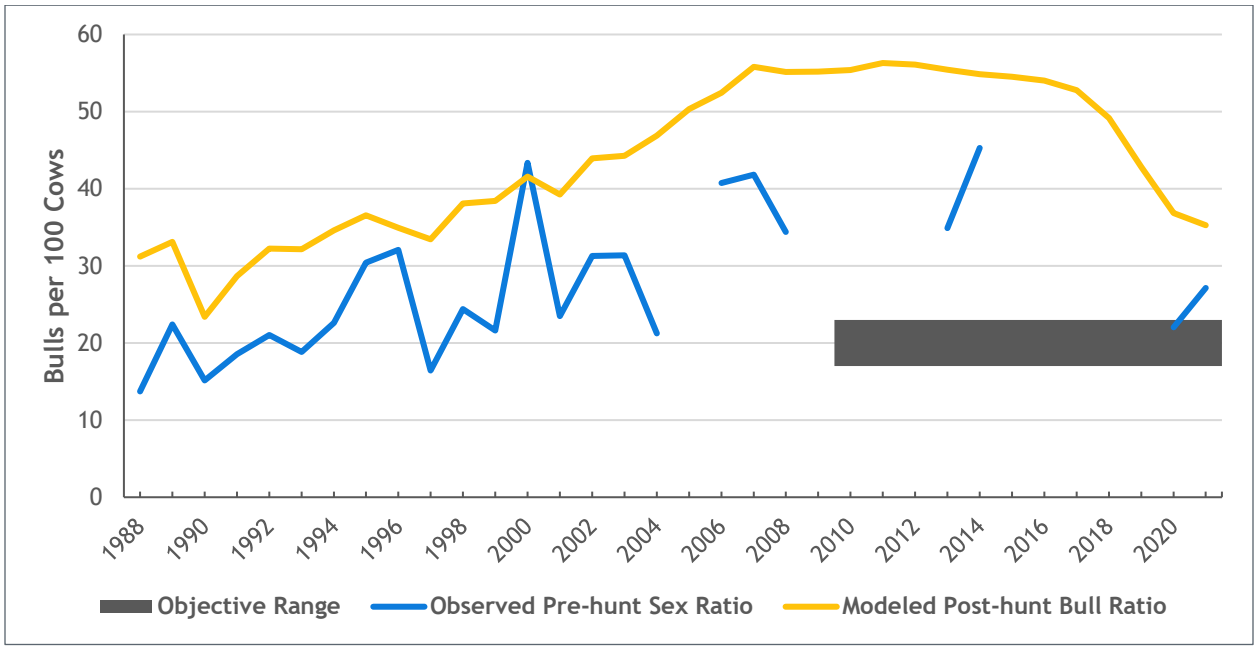


Figure E11-2. Elk DAU E-11 observed and modeled post-hunt sex ratio (bulls:100 cows), 1988-2021.

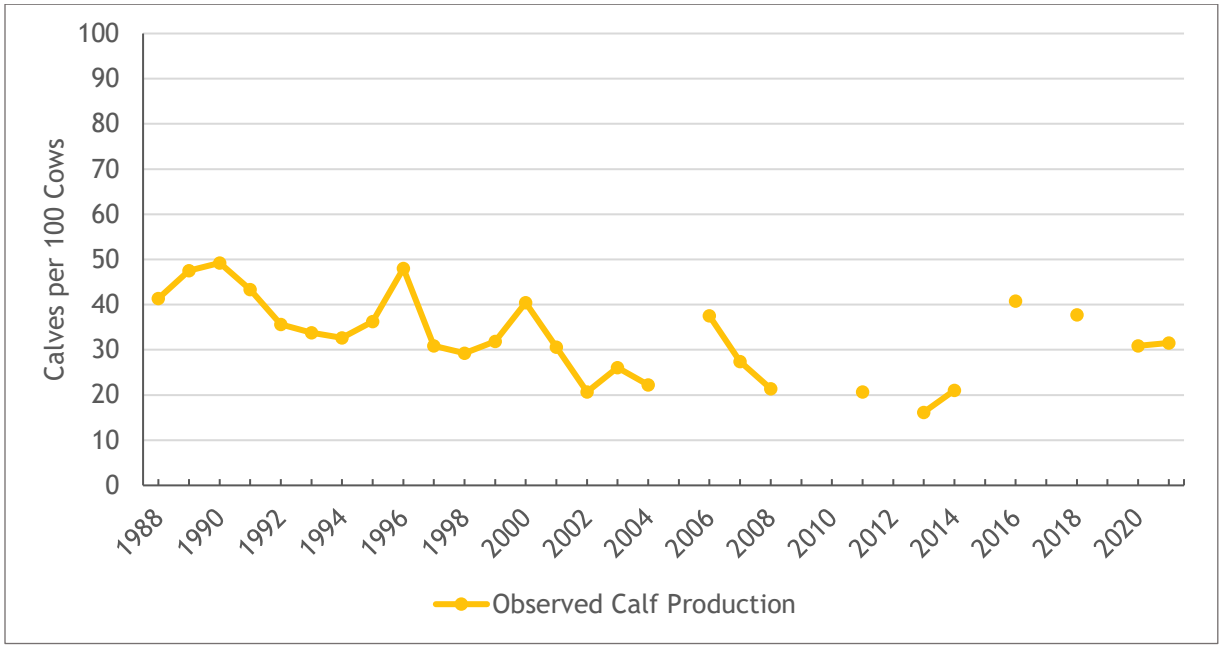


Figure E11-3. Elk DAU E-11 calf production (observed post-hunt calves:100 cows ratio, 1988-2021).

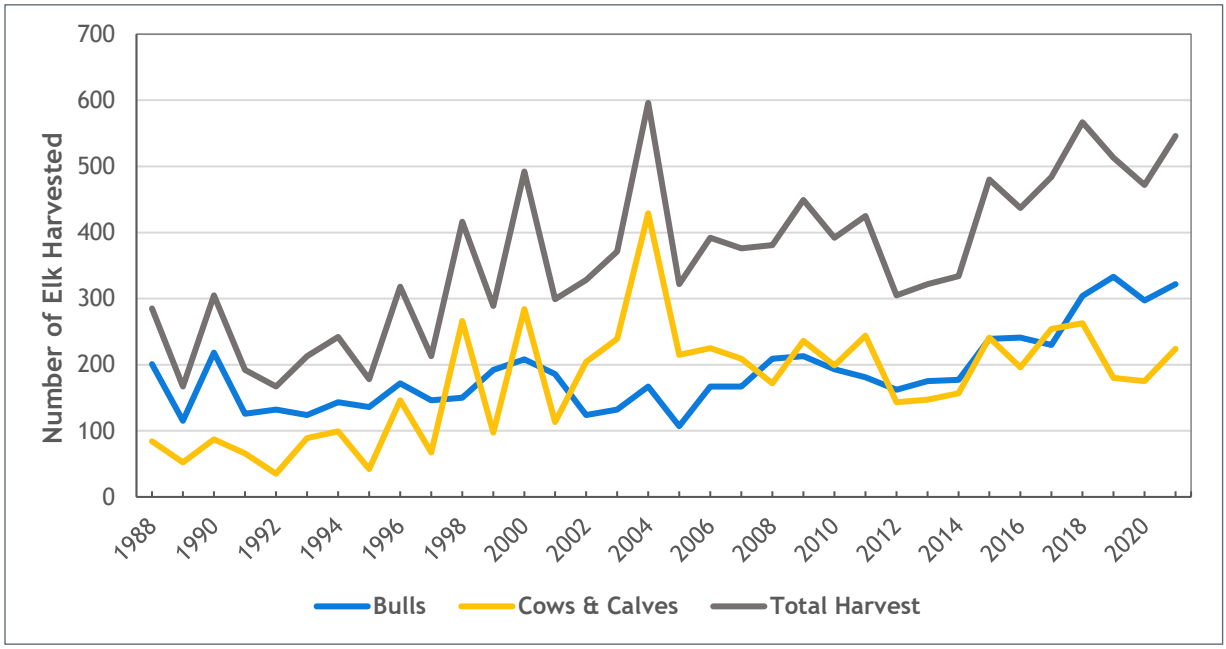


Figure E11-4. Elk harvest estimates in E-11, 1988-2021.

Background Information

The E-11 elk herd is in the northeastern section of the San Luis Valley. The DAU (geographical area) comprises a single Game Management Unit, GMU 82, approximately 1,088 square miles. Elk winter range within the DAU includes roughly 526 square miles, whereas the summer range encompasses about 803 square miles. Portions of Alamosa and Saguache counties make up the entire area. Public land constitutes about seventy-one percent of the entire DAU, while the private sector owns almost twenty-nine percent of the area.

E-11 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 higher elevations of the Sangre de Cristo Mountains can vary annually between 20 and 40 inches, mainly as winter snow. The foothills receive 10-16 inches, while the valley floor gets 6-8 inches annually.

The estimated post-hunt population size for E-11 reached its peak, about 7,400 animals, in 2016. From 2000 to 2004, the population declined almost to the upper end of the current objective range. Reduced calf recruitment and drought conditions combined with high antlerless harvest may have been the cause. Thereafter, the population climbed through to 2016; since then, it has been heading on a downward trend. However, the 2021 post-hunt population estimate remains above the upper end of the 2020 objective range.

The E-11 observed sex ratios had increased steadily since the early 1990s. In 2014, the observed sex ratio reached its highest point since Colorado Parks and Wildlife (CPW) began collecting classification data for this herd in the late 1980s. In 2019, to increase management efforts towards reducing the E-11 population and sex ratio, CPW implemented an extended fall bull- and cow-hunt season, and the early summer bull-hunt, on private land in the DAU. The additional pressure ought to distribute elk to more accessible public land. The 2020 expected sex ratio objectives remain far below the 3-year average observed ratio. Thus, managing towards the expected sex ratios should continue providing abundant hunting opportunities and a desirable mature bull population.

Elk harvest success in E-11 depends heavily on hunters getting access to the animals. Significant numbers of elk move to the US Fish and Wildlife Service (USFWS) property, also known as the Baca National Wildlife Refuge (BNWR) and the Great Sand Dunes National Park and Preserve (GRSA) when the hunting seasons begin, reducing hunter access. Significant numbers of elk also move onto private agricultural lands. Bull harvest averaged approximately 160 animals from 1988 through 2009. From 2010 through 2019, the average bull harvest rose to about 224 animals, and since CPW set the previous objectives, the average bull harvest has risen to almost 310 animals. Most antlerless harvest is limited, except during the archery either-sex season and on private land in E-11. Cow harvest rose significantly from 1988 through 2004; since then, it has been relatively stable, averaging around 190 animals. However, cow harvest should increase with additional pressure through the GRSA Ungulate Management Plan, implemented in 2021.

E-11 is an over-the-counter (OTC) unit during the archery season for either-sex and second and third rifle seasons for bulls on public land. Public-land success rates for all seasons in this DAU are relatively low (approximately 20%) and have remained the same since 1988. In contrast, rifle success on private land tends to be higher at about 75% because dispersal and

private-land-only (PLO) licenses are available when elk congregate in large groups on crops. PLO licenses allow hunters with landowner permission to harvest animals on private land only.

The E-11 elk herd remains well above the desired objective range. Controlling the DAU population through harvest has been challenging because of the restricted or no hunting areas of the BNWR, the GRSA, and private land. CPW and local partner agencies are concerned about the herd's adverse impact on marginal and sensitive vegetation, particularly along riparian areas. The large elk herd may create interspecific pressure on other ungulates, potentially exceeding the DAUs carrying capacity. CPW would like to continue reducing the population and sex ratio and distribute the elk throughout the DAU. The GRSA implemented an elk management strategy – an Ungulate Management Plan – in 2021. The Plan's goals should help reduce the number of elk utilizing the winter range within the Park and distribute the animals to more accessible public land.

Game damage issues continue to occur in the DAU. Beginning in 2019, CPW deals with most private land depredation issues through a voucher system allowing elk to be on private land. The harvest comes from an extension of the fall-bull and cow-hunt season and the early summer bull-hunt, facilitating the reduction of the population and sex ratio and distributing elk from private land.

Public Involvement

In 2020, CPW provided a 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 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. CPW has again examined and considered biological herd capabilities and social-political tolerance for this HMP Extension.

Management Alternatives

Post-hunt Population

The preferred management objective for E-11 is to extend the 2021-approved population objective of 3,000 to 4,000 elk. CPW proposes continuing the aggressive harvest management on the E-11 elk herd. The objective is to decrease and maintain the current population within the preferred objective range. The objective range allows the best balance for managing the herd, recreational opportunities, minimizing agricultural conflicts, and maintaining habitat carrying capacity. Management for the life of this HMP would use the strategies mentioned below.

Expected Three-year Average Observed Post-hunt Sex Ratio

CPW proposes no changes to the expected sex ratio range for the E-11 elk herd. With E-33 being an OTC unit, the expected post-hunt sex ratio would remain at 17-23 bulls per 100 cows. The range continues to support the desires of the stakeholder community. It also allows for a satisfactory hunting experience with the desired hunting opportunities, reducing the potential risk of CWD disease. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – To achieve the preferred elk population objective, CPW will continue collecting annual inventory data for the models to function accurately and conduct appropriate management. CPW will also continue pursuing different strategies and working with partner land management agencies to allow hunters access to the elk herds. Continued pressure on the entire herd is critical to encourage increased distribution and harvest, particularly from partner agencies. CPW will aggressively pursue preventative measures for depredation issues. Hunter harvest success should increase by distributing the elk off the BNWR, GRSA, and private land to more accessible locations. Agricultural land depredation issues should also decrease with the reduced assembling of large elk groups.
Expected Post-hunt Sex Ratio – CPW will pursue management towards reducing the observed sex ratio by providing abundant hunting opportunities. The agency will continue working closely with federal partners and landowners to promote the harvest and distribution of elk concentrations. CPW will also attempt to manage the bull population by minimizing dispersal to high depredation areas on private land. The additional pressure from the BNWR, GRSA, private landowners, and the Nature Conservancy should allow hunters access to the elk on public land. Harvest from these licenses should reduce the sex ratio and distribute the animals while maintaining stakeholder satisfaction.

CPW Commission Approved Objectives:

Post-hunt Population

Pending

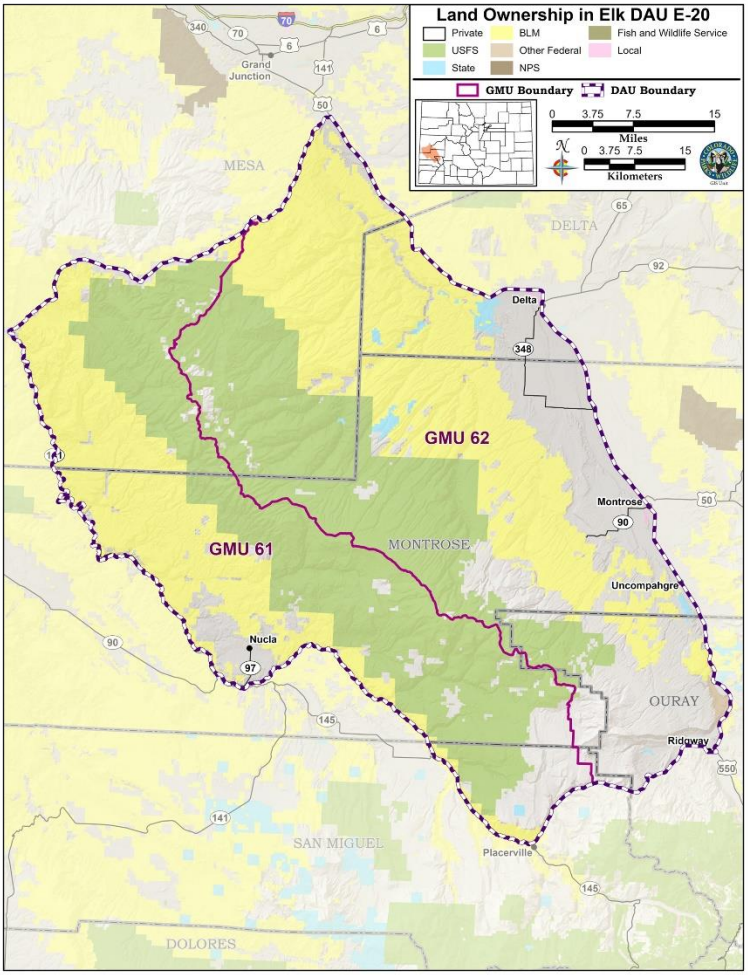
Post-hunt bull ratio

Pending

UNCOMPAHGRE PLATEAU HERD MANAGEMENT PLAN REVISION
DATA ANALYSIS UNIT E-20

Alyssa Kircher, Wildlife Biologist, Montrose

GMUs: 61 and 62 Last HMP Approval Year: 2006
Post-hunt Population: Previous Objective: 8,500-9,500; 2021 Estimate: 12,500. **Preferred Alternative: Increase population objective to 11,000-15,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 16-20; 2021 observed: 29; modeled: 21. **Preferred Alternative: Increase sex ratio objective to 20-25 bulls:100 cows**



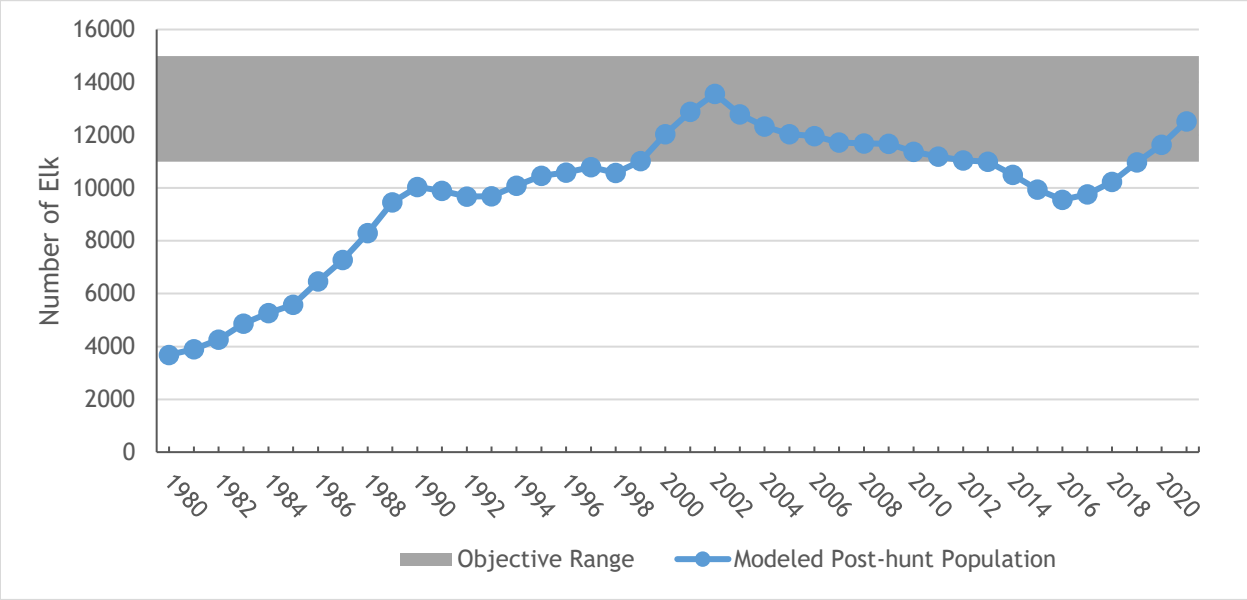


Figure E20-1. Elk DAU E-20 modeled post-hunt population and objective range, years 1980-2021.

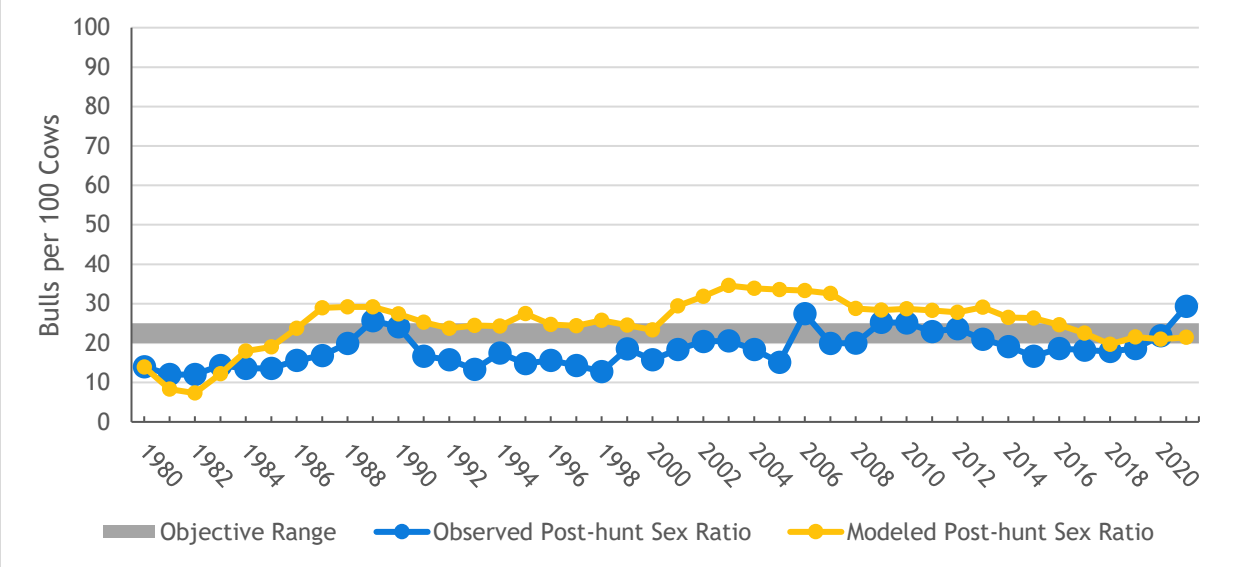


Figure E20-2. Elk DAU E-20 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021.

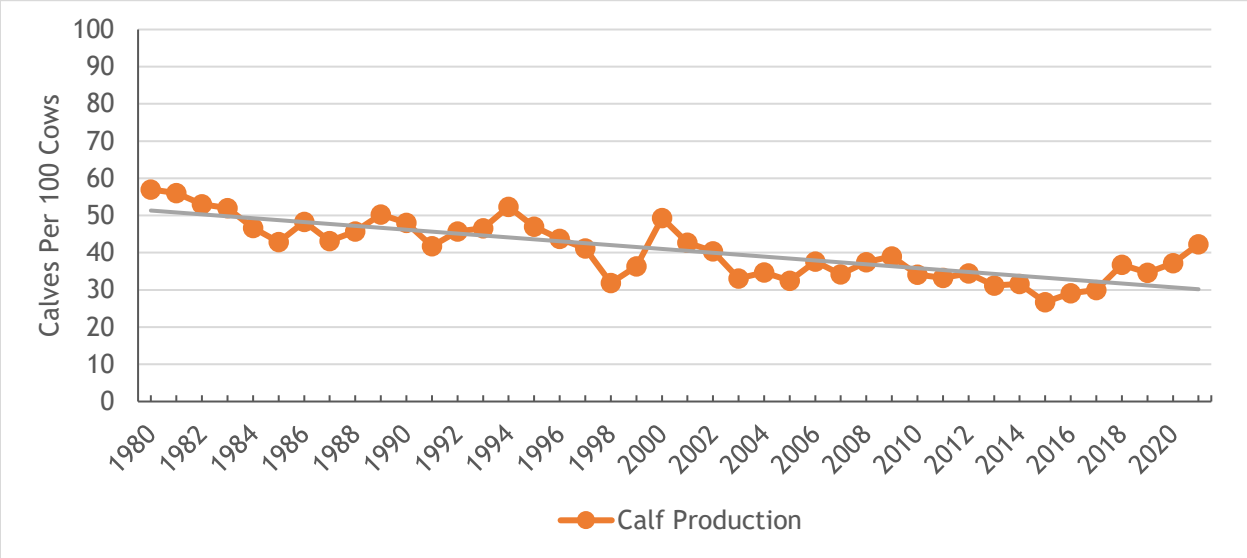


Figure E20-3. Elk DAU E-20 calf production (observed post-hunt calves:100 cows ratio, years 1980-2021)

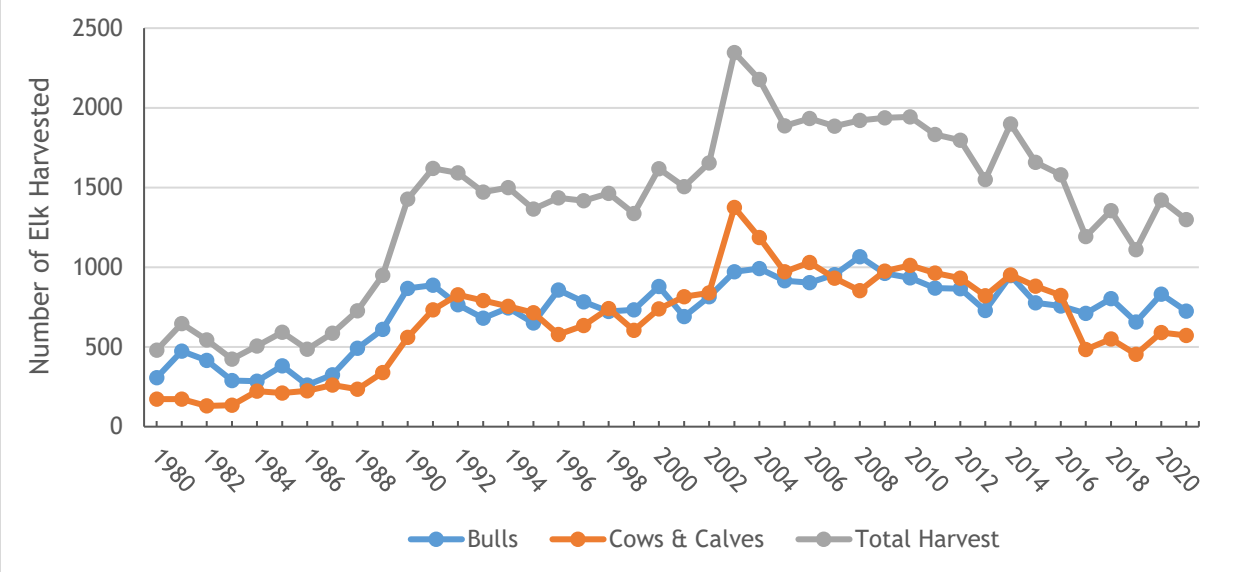


Figure E20-4. Elk harvest estimates in E-20, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-20 encompasses 2,301 square miles of the Uncompahgre Plateau in southwestern Colorado, including parts of Delta, Mesa, Montrose, Ouray, and San Miguel Counties. DAU E-20 consists of Game Management Units (GMUs) 61 (923 mi^2) and 62 (1,378 mi^2). The Uncompahgre Plateau consists of a relatively flat summit that runs northwest from Ridgway to the Unaweep Canyon. Terrain is steeper on the unit 61 side than the unit 62 side. Elevations range from 4,570 ft along the Dolores River near Gateway to 10,338 ft at the summit of Horsefly Peak on the southeast end of the Plateau. Landownership in the unit consists of 37% U.S. Forest Service, 38% Bureau of Land Management, 24% private land, and 1% state land. Vegetative communities in E-20 range from pinyon-juniper woodlands, ponderosa/mountain shrub, and aspen and mixed spruce-fir forests at the highest elevations on the Plateau. Agricultural use in E-20 includes cultivated crop production and orchards on irrigated private lands below 6,000 ft in the Uncompahgre Valley and Nucla area, alfalfa and grass hay production primarily on irrigated private lands below 7,500 ft, and livestock grazing throughout most of the DAU on private and public lands. Additional land use includes recreation, mining reclamation, and timber harvest.

The majority of elk tend to stay within the boundaries of E-20. There is some movement to Piñon Mesa (GMU 40) northwest of the Uncompahgre Plateau and across the Dallas Divide to the San Juan Mountains (GMU 65) in the summer months. Movement of elk between units 61 and 62 is common throughout most of the year depending on snow depth. The majority of the elk on the Uncompahgre Plateau can be found above 8,000 ft during the summer months, but with recent drought conditions, some can be found year-round on private lands in the lower elevations. During the breeding season in September and early October, most elk remain at fairly high elevations and in close proximity to dense cover. Fall hunting pressure begins pushing the elk to lower elevations. Depending on snowfall, many elk move back to higher elevations after the hunting season. In normal winters, most of the elk can be found in the Gambel's oak/mountain shrub/manzanita community-type between 7,500-8,500 ft. Quality winter range is limited in E-20, causing concern for wildlife managers as the elk population increases, limiting carrying capacity on public lands and increasing pressure on private lands.

The current post-hunt population is estimated at 12,500. This elk herd has increased over the last five years (Figure E20-1). This population peaked in 2002 and declined until 2017 when populations started to recover. This decline was primarily related to the large increase in cow harvest starting in 2003 to control population growth. Once cow harvest was reduced in 2017, populations rebounded. The modeled sex ratio has averaged 21 bulls to 100 cows since 2017 (Figure E20-2). Observed sex ratios have steadily increased since 2017 to a high of 29 bulls to 100 cows in 2021; the highest ratio since 2009. The average observed calf:cow ratio since 2017 has been 36 calves to 100 cows (Figure E20-3). The calf:cow ratio in 2021 was 42:100, which was the highest ratio since 2001.

GMU 61 has been managed as a quality elk hunting unit with limited licenses and greatly reduced hunting pressure for antlered elk since 1983. In contrast, GMU 62 has been managed as an unlimited, over-the-counter (OTC) license unit for bull elk hunting and is one of the most heavily hunted OTC units in Colorado. In 2021, licenses in unit 61 required 0-27 preference points depending on the season and residency status. The early rifle season (EE061E1R) is the unit's most coveted license, requiring 20 points for residents and 27 points for nonresidents in 2021. Limited licenses in unit 62 are drawn out at one point or less. Harvest for both units combined has been similar over the last five years (Figure E20-4).

Significant Issues

Winter forage condition in E-20 has declined in recent years most likely because of persistent drought conditions and competition with livestock and other wildlife. Hunting pressure has also changed over the last ten years, with demand increasing during archery seasons and decreasing during OTC rifle seasons. This demand is changing elk distribution on the landscape and the timing of when animals are moving to lower elevations to escape hunting pressure, putting further strain on the winter range. Outdoor recreation has also increased dramatically over the last decade and can have many impacts, including loss of effective habitat, changes in seasonal migration patterns, and potentially lower survival rates.

Game damage complaints have decreased in recent years compared to the early 2000s. Most game damage is managed through distribution management hunts and the use of prevention materials on private lands. There is increasing concern as drought conditions persist or a hard winter occurs, it will push elk onto private lands as winter range carrying capacity decreases on public lands, potentially increasing game damage issues.

Additionally, Chronic Wasting Disease (CWD) is present in both deer and elk populations in E-20, but the disease is not expected to be a significant issue in the short term. This disease occurs in deer, elk, and moose. CWD is an infectious prion (misfolded protein) disease that effects the nervous system over approximately three years. CWD can spread from the host by direct contact or through resources shared with an infected individual. To add to the complexity, prions can last for many years in the environment, further challenging management. This disease is 100% fatal and a treatment has not yet been developed. In 2021, CWD was first detected in harvested elk in GMU 61 during mandatory testing. Prevalence was 1.4% in 2021 and is not expected to grow rapidly.

Management Alternatives

Three post-hunt population objectives are being considered for E-20 (Table E20-1):

Table E20-1. Proposed and approved population objective ranges for the revised 2023 E-20 HMP.

Population Objective Alternatives:	
11,000 to 15,000 (midpoint 13,000)	**(1) Preferred- Stable population within the proposed objective range, but allow management flexibility if drought or range conditions improve to increase populations slightly**
13,000 to 17,000 (midpoint 15,000)	(2) Approximately a 20% increase in the current population estimate to the midpoint of the proposed objective range
8,500 to 9,500 (midpoint 9,000)	(3) Status Quo (no change in the current objective range would require approximately 28% decrease in current population estimates)

The proposed expected sex ratio is 20-25 bulls per 100 cows. Under current management with OTC bull licenses in GMU 62, it is not possible to manage for more than 25 bulls:100 cows within the DAU. The three-year observed sex ratio is 23 bulls:100 cows, which falls within the proposed range. Any sex ratio objective above 25 bulls:100 cows would require all antlered elk licenses in E-20 to be limited; therefore, an expected sex ratio range is proposed for OTC units where the sex ratio is more of a descriptive statistic rather than an objective range. This range will continue to allow for improved opportunity and varied age classes of bulls in the population. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Management Objectives

With limited carrying capacity due to drought, poor winter range conditions, increasing recreation, and the potential for increased game damage if a hard winter occurs, CPW plans to stabilize this herd near current population levels. The current population estimate fits within the proposed objective range. The proposed objective range of 11,000-15,000 allows for management flexibility if the drought lessens, allowing range conditions to improve and to support more elk on the landscape. Increasing this herd more than within the proposed objective range would likely negatively impact the already compromised range condition and increase game damage complaints. Decreasing this herd was not desired by CPW staff or stakeholders. Stabilizing this herd balances the need for maintaining quality habitat during drought conditions yet still allowing for similar hunting opportunities as in recent years.

Strategies for addressing management issues and achieving objectives
CPW can manage sex ratios and populations by increasing or decreasing licenses by total quota, by season, and by sex, depending on the objectives for each herd. This DAU is currently managed for maximum hunter opportunity in unit 62, which limits CPW's ability to limit hunting pressure and manage bull harvest or sex ratios. Unit 61 is a quality hunt unit with only limited licenses, making for complex management for the entire DAU. CPW can manage limited muzzleloader, first and fourth rifle, and antlerless licenses in unit 62. The management of these seasons can improve hunt quality and hunter distribution throughout the DAU during the limited seasons. One primary management strategy that could be applied to both units to keep this population stable would be to increase cow licenses as populations increase to the top of the objective range. Additionally, CPW will continue to offer game damage and private-land-only licenses to increase landowner tolerance and keep hunting pressure on private lands to redistribute elk on to public lands.

CPW regularly communicates with land management agencies such as the USFS and BLM, landowners, county governments, CDOT, and NGOs and will continue to collaborate with these government agencies and organizations to improve habitat carrying capacity.

Stakeholder Outreach

Hunters were randomly selected to complete the 2021 Elk Hunter Attitude Survey after the completion of their hunting seasons. There were 1,253-1,392 respondents that answered the opt-in questions for E-20. Overall, hunters wanted to see a moderate increase in the elk population and were satisfied with their hunting experience. The majority of respondents also did not feel crowded while elk hunting.

Letters and draft plans were sent to local county commissions and land management agencies for comment. CPW also sent the draft plan to the HPP committee to review during their August meeting and received a support letter. The HMP will be posted on the CPW website for 30 days allowing additional stakeholders to comment on the alternatives in the plan.

CPW Commission Approved Objectives:

Post-hunt Population
Pending
Post-hunt bull ratio
Pending

APPENDIX E20-A: Elk Survival Study

Evaluating factors influencing elk recruitment in Colorado
Principle Investigators: Nathaniel Rayl, Mat Alldredge, Chuck Anderson

CPW's Mammals Research Unit designed a survival study after hearing concerns about elk recruitment from wildlife managers throughout the state. In 2017, a study began in E-20 and E-33 to investigate low calf:cow ratios by collaring cows, calves, and neonates. As a comparison, in 2019, E-2 was added because this unit has high calf:cow ratios. This enabled researchers to further investigate how various habitats types, predators, disease, and weather influenced survival in local populations.

To gather survival information, every December, 6-month old calves are captured and collared with GPS collars. Every March, cow elk are captured, body condition measurements are taken, and the status of the cow's pregnancy is determined. If the cow is pregnant, she is outfitted with a GPS collar and a vaginal implant transmitter (VIT). The VIT is expelled from the body while birthing in the spring, allowing researchers to know when and where a neonate is born based on a temperature and light sensor. Researchers then go to the birth site, take various measurements, and collar the neonate. All mortalities are investigated thoroughly and survival rates are gathered for all ages of marked elk (Figure 5). This ongoing study will be invaluable to wildlife managers when determining license numbers in the spring and giving managers insight into herd health.

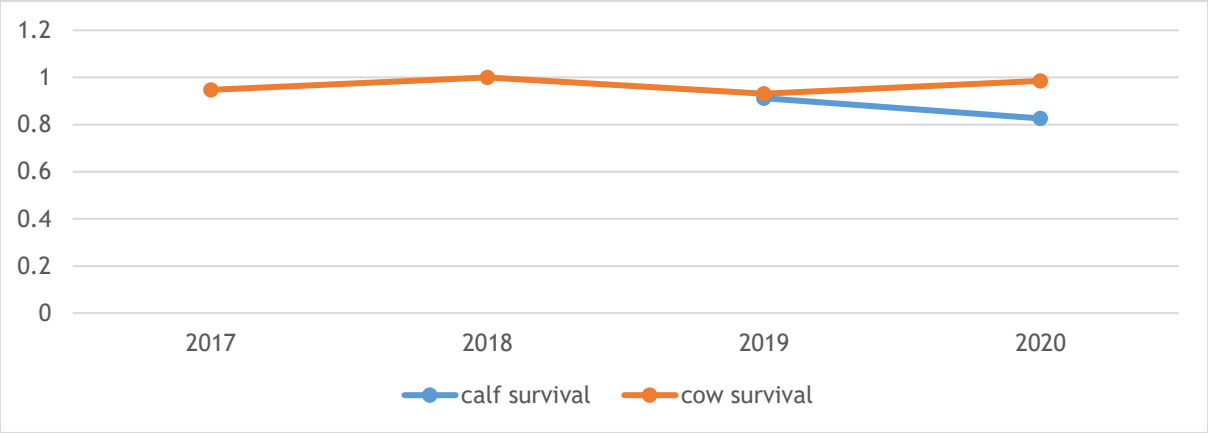
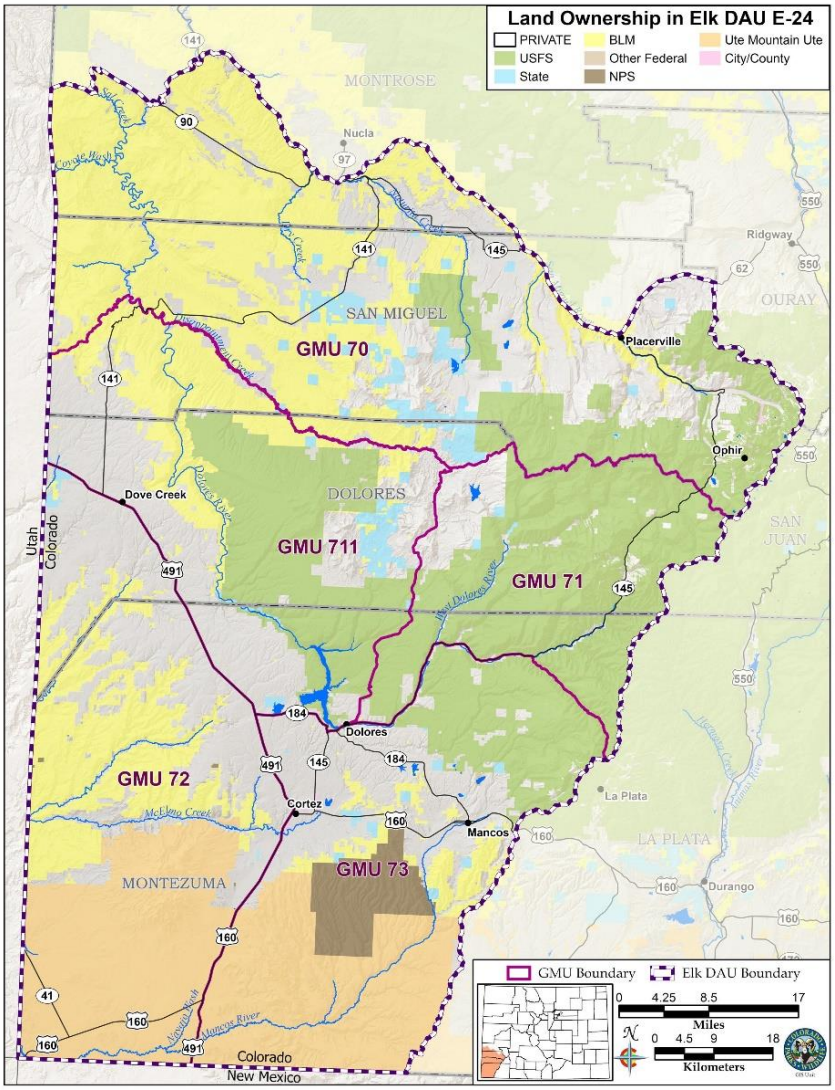


Figure E20-5. Survival rates for 6-month old calves and cows on the Uncompahgre Plateau from 2017-2020.

DISAPPOINTMENT CREEK ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-24
Brad Weinmeister, Wildlife Biologist, Durango

GMUs: 70, 71, 72, 73, and 711 Last HMP Approval Year: 2020
Post-hunt Population: Previous Objective: 21,000-24,000 elk 2022 Estimate: 19,500. **Preferred Alternative: Extend current population objective of 21,000-24,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Expected Ratio: 12-20 bulls:100 cows 2021 observed: 16; modeled: 17. **Preferred Alternative: Extend current sex ratio objective of 12-20 bulls:100 cows**



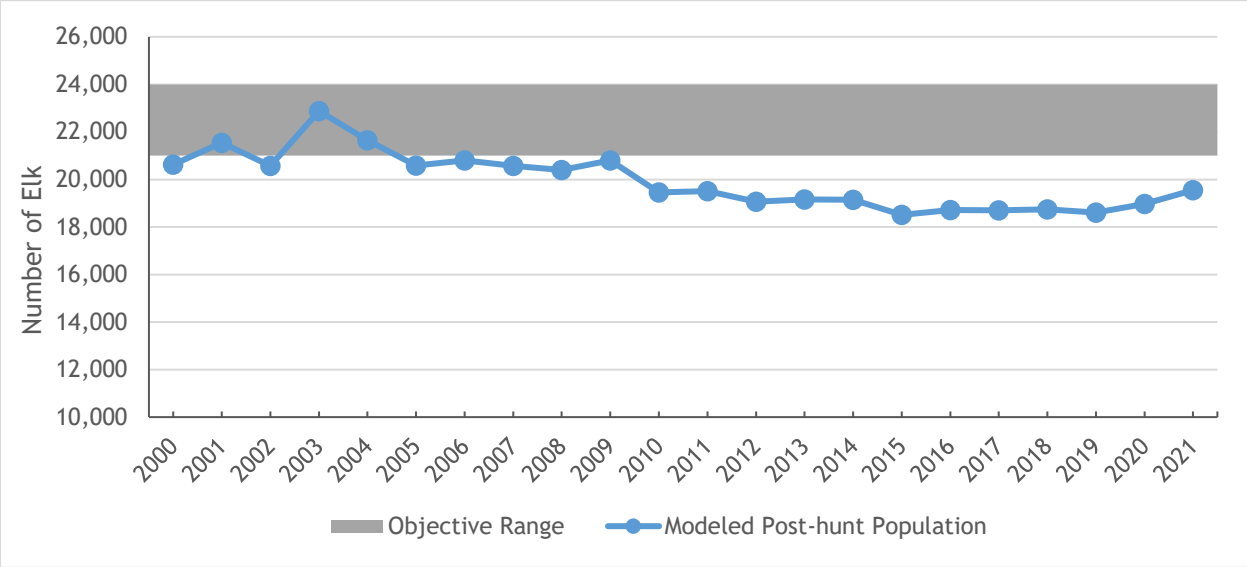


Figure E24-1. Elk DAU E-24 modeled post-hunt population estimate and objective range, years 2000-2021.

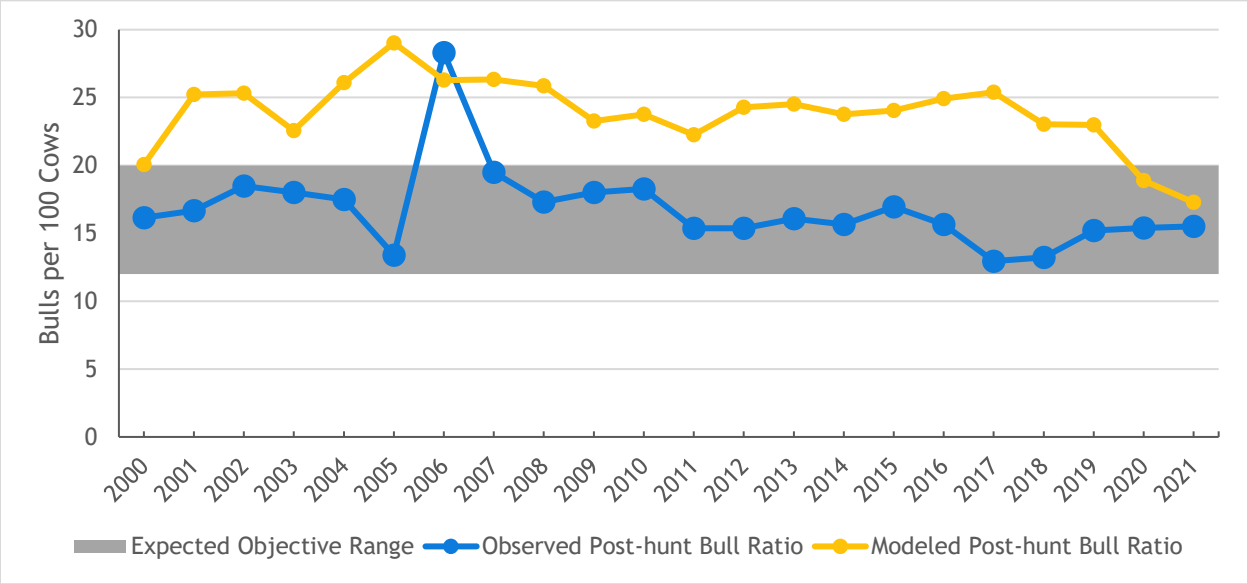


Figure E24-2. Elk DAU E-24 observed and modeled post-hunt sex ratio (bulls:100 cows), years 2000-2021.

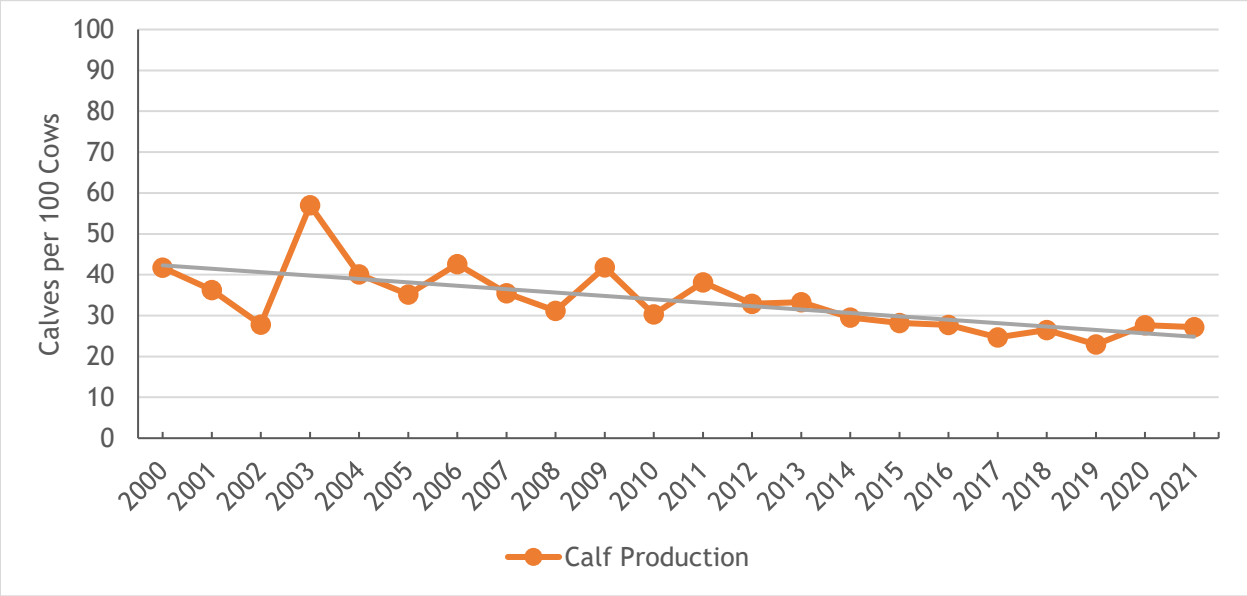


Figure E24-3. Elk DAU E-24 calf production (observed post-hunt calves:100 cows ratio, years 2000-2021).

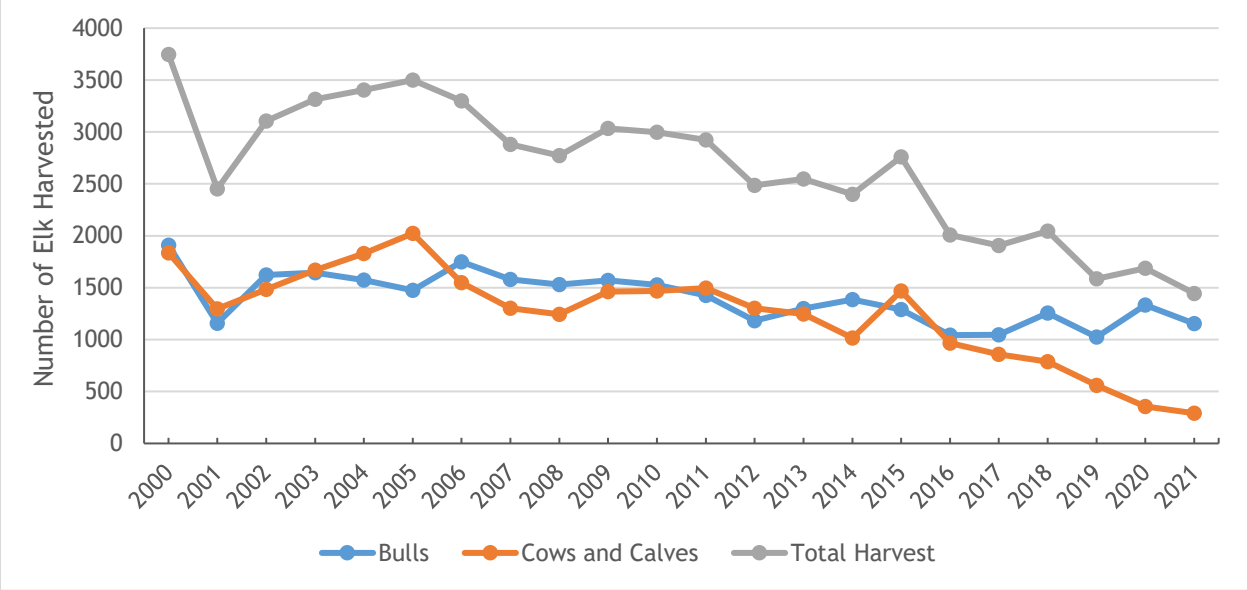


Figure E24-4. Elk harvest estimates in E-24, years 2000-2021.

Background Information

Data Analysis Unit (DAU) E-24 is located in southwest Colorado and includes the Dolores River basin and part of the San Miguel and San Juan River basins. It consists of Game Management Units (GMUs) 70, 71, 72, 73, and 711. It has an area of 4,724 square miles and encompasses portions of Dolores, Montezuma, Montrose, and San Miguel Counties. The towns of Mancos, Cortez, Dove Creek, Dolores, and Telluride are located within the DAU boundaries. Landownership in the DAU is 30% private, 27% Bureau of Land Management (BLM), 25% US Forest Service (FS), 15% Ute Mountain Ute Indian Reservation, 2% National Park, and 2% CPW and State Land Board (SLB).

The current post-hunt population objective of 21,000-24,000 elk was set in 2020. The E-24 herd reached its maximum in the early 2000s and has decreased since then (Figure E24-1). The population has remained stable over the last several years. The 2021 post-hunt population estimate was 19,500 elk.

The average observed post-hunt bull ratio from 2000 to 2021 was 17 bulls:100 cows (Figure E24-3). The observed three-year (2019-2021) average of 15 bulls:100 cows fits within the expected post-hunt bull ratio range for a herd with over-the-counter (OTC) bull licenses. Observed post-hunt calf ratios averaged 34 calves:100 cows (range 23–57) between 2000 and 2021. The calf ratio has steadily decreased over the past 20 years and in 2021 27 calves to 100 cows were observed. The three-year and five-year averages were the same at 26:100.

Bull harvest has remained consistent over the past ten years, averaging 1200 bulls per year. In an OTC unit this is suggestive of a stable population. The number is down from the high harvest of almost 2000 bulls in 2000 (Figure E24-2). The number of cow licenses in the DAU has decreased since 2015, resulting in a decrease in cow harvest.

A revision of the E-24 herd management plan was made in 2020. At that time, Colorado Parks and Wildlife staff and stakeholders felt that the previous objective was too low. The Colorado Parks and Wildlife Commission (PWC) approved an increase to the population management objective, resulting in a change in management strategies to increase the elk population. The proposed objective in this plan update keeps the current objective that was recently approved by the PWC.

The DAU is managed with over-the-counter, unlimited bull hunting in the second and third rifle seasons. Bull licenses are limited in muzzleloader, archery, first rifle, and fourth rifle seasons. As such, the sex ratio is not achieved through management efforts. Therefore, CPW presents an expected sex ratio instead of setting a sex ratio objective. The expected sex ratio approved by the PWC in 2020 is the same as what is proposed in this plan update.

Significant Issues
The greatest issue that the Disappointment Creek elk herd faces is the lack of calf recruitment. Calf to cow ratios have steadily decreased since 2006 and have been below 30 calves per 100 cows for past several years. The long-term average is 40:100. Low elk recruitment is experienced across southern Colorado and northern New Mexico. CPW is currently researching the issue to identify the cause and possible remedies.

Cumulative impacts to critical habitat, including winter range, migration corridors, production areas, and high elevation summer range, due to human population growth is a

concern in the DAU. Exurban development is occurring in Montezuma, Dolores, San Miguel, and Montrose counties and homes are replacing open lands currently supporting wintering elk. Energy well development and solar development have also increased in elk habitat on private and public lands. Lastly, outdoor recreation continues to grow, placing more people in areas used by elk. Increased recreational trails and recreation use is decreasing the amount of adequate habitat. Managers and the public are concerned over the cumulative and prolonged impacts of development and recreation, which is disrupting migration and decreasing the quality and quantity of habitat. Actions to enhance and protect critical elk habitat will be essential to increase the elk population.

Management Objectives

CPW plans to increase populations to meet stakeholder and CPW staff desires. The increase would help improve hunter and non-consumptive opportunities in the future. To meet the objective, recruitment issues would need to be identified and addressed. Also, habitat improvement and protection to mitigate the continual loss of habitat due to human population growth and encroachment would be needed.

Management Alternatives

Post-hunt population objective alternatives considered in 2020 for E-24 (Table E24-1).

Table E24-1. Proposed and approved population objective ranges considered in 2020 for the E-24 HMP.

Population Objective Alternatives:	
21,000 to 24,000 (midpoint 22,500)	**(1) Approximately 15% increase in the current population estimate at the midpoint of the proposed objective range**
18,000 to 21,000 (midpoint 19,500)	(2) Maintain current population size
24,000 to 27,000 (midpoint 25,500)	(3) Approximately 25% increase in the current population estimate at the bottom of the proposed objective range

The expected sex ratio for E-24 is 12-20 bulls per 100 cows. This is the current expected ratio and the one being proposed with this plan update. Any changes to the bull:cow ratio would require limiting bull licenses for all seasons which is outside the scope of this plan. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

CPW Commission Approved Objectives:

Post-hunt Population

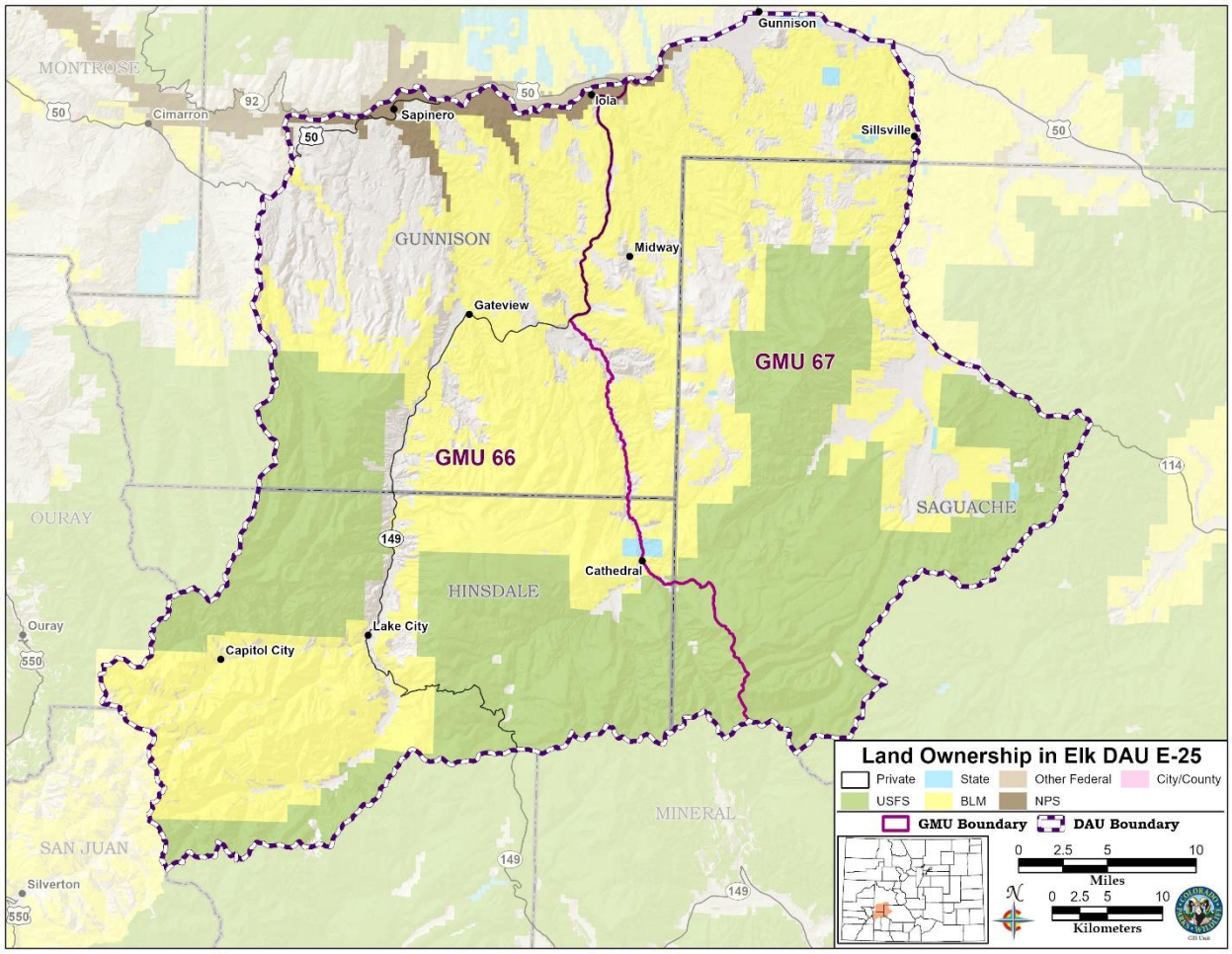
Pending

Post-hunt bull ratio

Pending

LAKE FORK ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-25
Kevin Blecha, Wildlife Biologist, Gunnison

GMUs: 66 and 67 Last HMP Approval Year: 2017
Post-hunt Population: Previous Objective: 6,000-7,000; 2021 Estimate: 6,500. **Preferred Alternative: Extend the current population objective of 6,000-7,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 23-28; 2021 observed: 21; modeled: 24 **Preferred Alternative: Extend the current sex ratio objective of 23-28 bulls:100 cows**



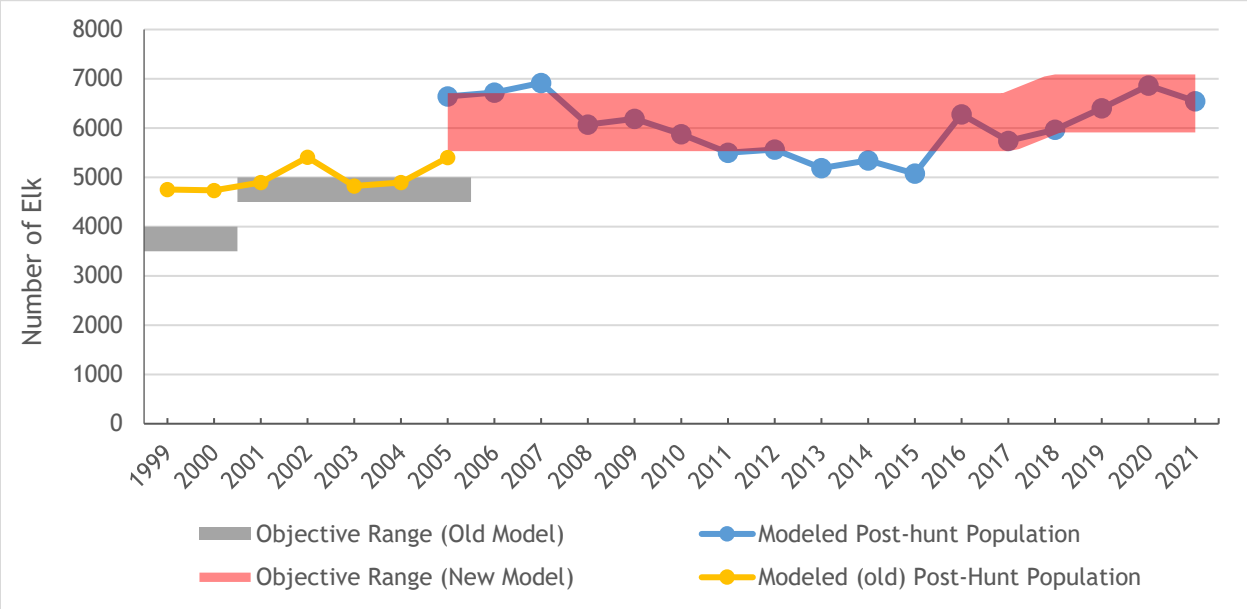


Figure E25-1. Elk DAU E-25 modeled post-hunt population and objective range, years 1999-2021. Transitioning to new population estimation model in 2006 shifted the objective range.

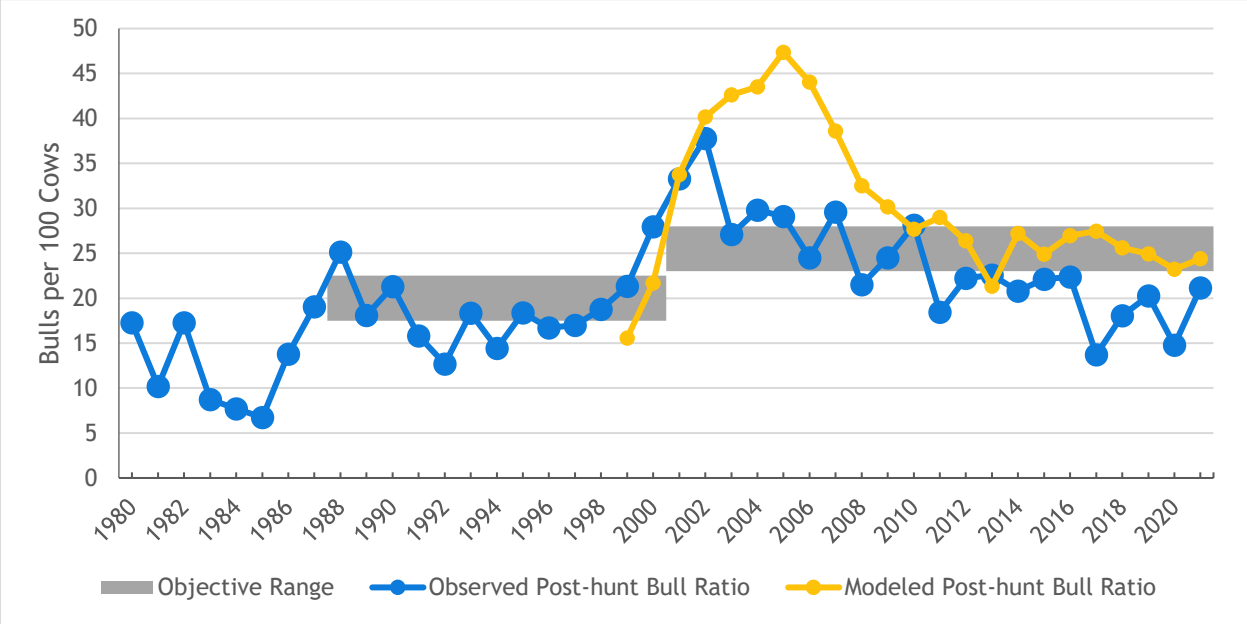


Figure E25-2. Elk DAU E-25 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021.

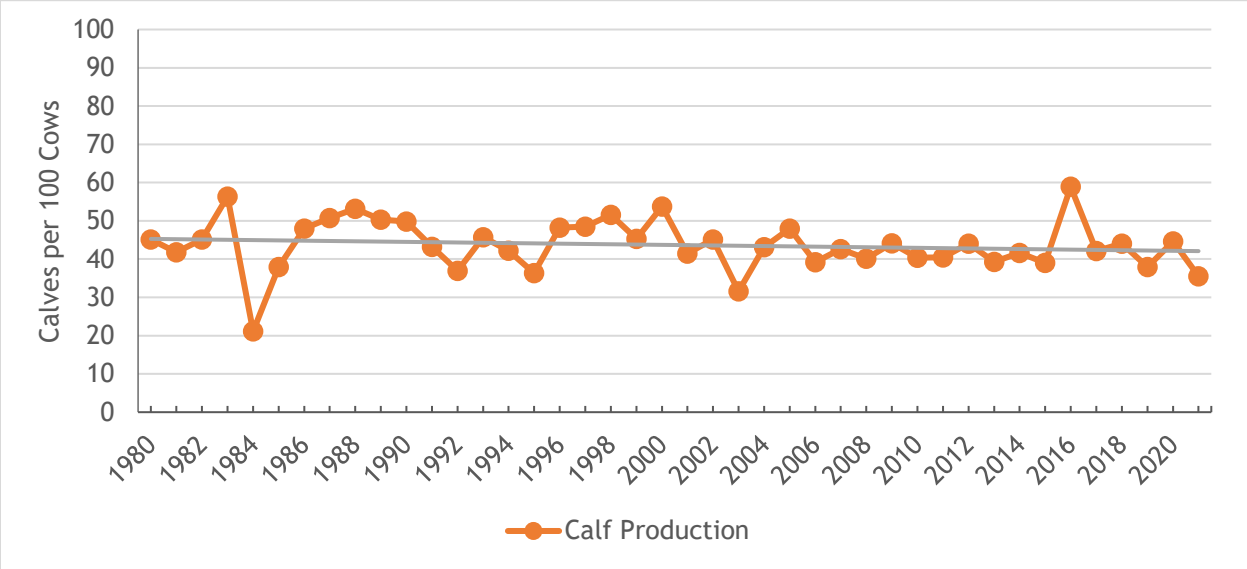


Figure E25-3. Elk DAU E-25 calf production (observed post-hunt calves:100 cows ratio, years 1980-2021).

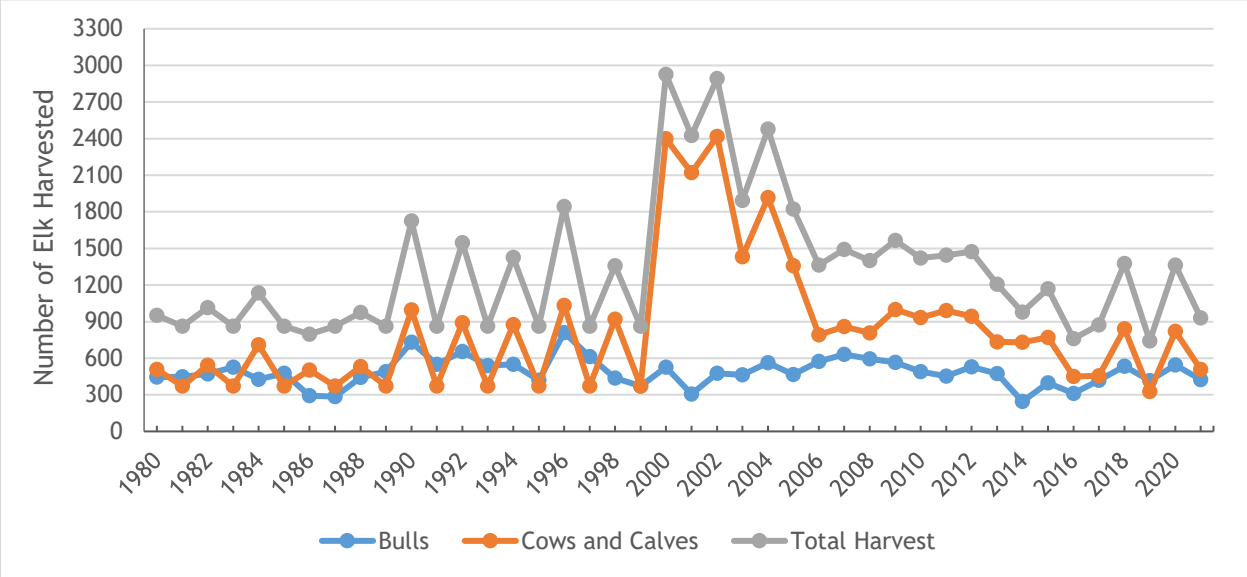


Figure E25-4. Elk harvest estimates in E-25, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-25 is 1,573 square miles in southwestern Colorado and includes parts of Gunnison and Hinsdale Counties. DAU E-25 consists of Game Management Units 66 (GMU; 899 mi^2) and 67 (674 mi^2) and includes the southern portions of the Upper Gunnison River Basin. Land ownership in DAU E-25 is 18% private, and 82% is public land managed by the US Forest Service, Bureau of Land Management, State of Colorado, and National Park Service. There are also three wilderness areas within the DAU: the La Garita Wilderness, Powderhorn Wilderness, and Uncompahgre Wilderness.

Elk occur throughout the DAU, with the highest summer densities in the higher elevations (montane and sub-alpine), and the highest winter densities in the lower elevations (sagebrush and sagebrush/forest interface). It is estimated that ~35% of the elk population utilizing E-25 winter ranges migrates into neighboring E-35 (~25%) and E-34 (~10%) during the summer.

The 2017 HMP post-hunt population objective was established at 6,000 – 7,000 elk (Figure E25-1). At the time of the 2017 adoption, the population size was estimated to be 5,700 elk. That plan established that the elk population size was to increase by 18% from the 2017 post-hunt population size estimate to approximately 6,500 elk (range of 6,000 – 7,000). Furthermore, the plan determined that the population would be increased slowly (over a five-year period) with a decrease in cow licenses. Based on retrospective modeled estimates calculated in September 2022, comparing average population sizes leading up to the plan (2015 – 2017) to the population estimates of 2019-2021, an approximate 16% increase has occurred.

Observed post-hunt calf ratios averaged 41 calves:100 cows (range 32-59) between 2017 and 2021 (Figure E25-3). The calf ratio has declined by approximately four calves per 100 cows over the last 40 years; the 1980 - 1990 average calf ratio was 45 calves:100 cows.

Since 2000, E-25 has been managed under a limited license strategy in which sex ratios can be managed via manipulations in bull license allocations. The average observed post-hunt sex ratio between 1986 (the first year the 4-point antler restriction was implemented) and 2021 was 22 bulls:100 cows. The average observed and modeled post-hunt sex ratio since the most recent plan was established (2017-2021) is 18 and 25 bulls:100 cows, respectively (Figure E25-2).

The number of hunters has fluctuated over time, much of which has been under the control of hunting season establishment and annual license numbers. Limited license numbers, and corresponding harvest of elk (Figure E25-4) have fluctuated rapidly with respect to changes in license numbers. From 2000–2005, CPW increased cow licenses to intentionally reduce elk population size and an average of 1,940 cow elk were harvested annually. An average of 643 cow elk were harvested in the other years spanning 1980 – 2021.

Significant Issues

Habitat loss occurs in E-25 due to increased pressures of residential and recreation uses of the land, and is similar to the rest of the Southwest Region of Colorado. Additionally, ranchers have expressed concerns about high elk population sizes in the Upper Gunnison Basin (DAUs E-5, E-25, E-43), which has triggered reductions in elk population size in past years (Figure E25-4: 1990 – 2001). Concerns have been raised by some stakeholder groups on competition between cattle, elk, and the federally threatened Gunnison sage-grouse.

Management Alternatives

Post-hunt population objective alternatives considered for the 2017 E-25 HMP (Table E25-1):

Table E25-1. Proposed and approved population objective ranges for the 2017 E-25 HMP.

Post-hunt Population Objective Alternatives:	
6,600 to 7,600 (midpoint 7,100)	(1) Approximately 10% increase in the current population estimate
6,000 to 7,000 (midpoint 6,500)	**(2) Objective range +/- 500 elk from the current population estimate - STAFF PREFERRED**
5,300 to 6,300 (midpoint 5,800)	(3) Approximately 10% decrease in the current population estimate

Table E25-2. Proposed and approved bull ratio objective ranges for the 2017 E-25 HMP.

Post-hunt Bull Ratio Objective Alternatives:	
25-30	(1) Increase bull ratio objective by approximately 2.5 bulls per 100 cows
23-28	**(2) Status Quo - STAFF PREFERRED**
20-25	(3) Decrease bull ratio objective by approximately 2.5 bulls per 100 cows

Management Objectives

CPW's staff preferred objective is to extend the E-25 population size and bull ratio objectives approved in the 2017 E-25 HMP. No changes to bull:cow ratios could be made with this plan given the current unlimited OTC licensing strategy.

Strategies for addressing management issues and achieving objectives

CPW staff would make cow and bull license number recommendations to maintain the population size and bull ratio within the objective range.

Stakeholder Outreach

The E-25 HMP revision conducted in 2016 (finalized in 2017) included an extensive outreach component (Blecha and Wenum 2017). See Appendix E25-A.

CPW Commission Approved Objectives:

Post-hunt Population

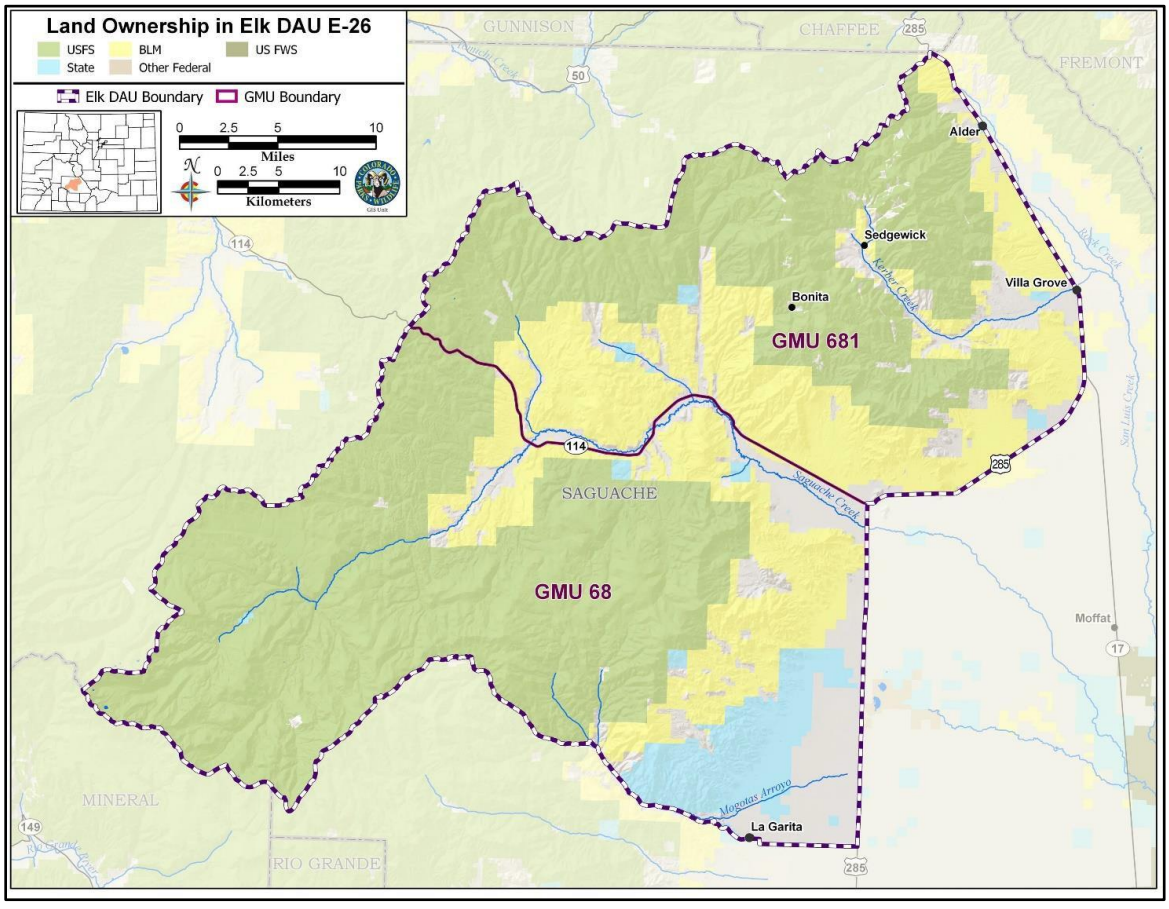
Pending

Post-hunt bull ratio

Pending

SAGUACHE ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-26
Brent Frankland, Wildlife Biologist, Monte Vista

GMUs: 68 and 681 Last HMP Approval Year: 2019
Post-hunt Population: Previous Objective: 4,000-4,800; 2021 Estimate: 4,800. **Preferred Alternative: Extend the current population objective of 4,000-4,800 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 18-22; 2021 observed: 14; 3-yr average modeled: 22 **Preferred Alternative: Extend the current sex ratio objective of 18-22 bulls:100 cows**



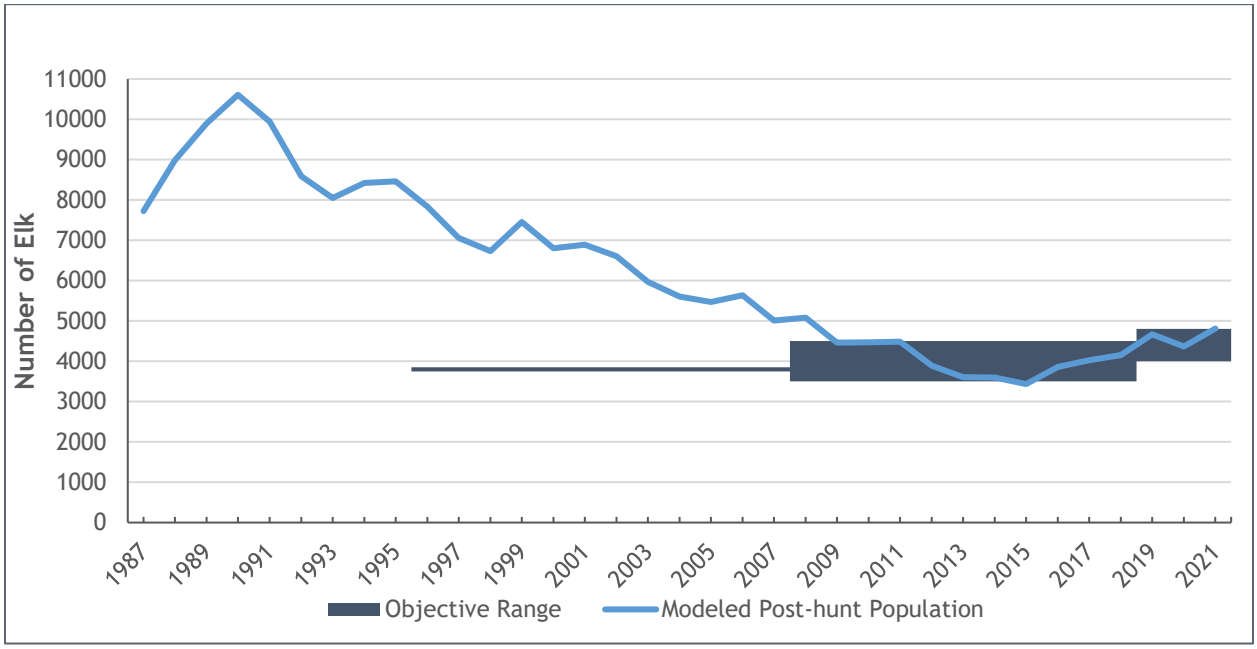


Figure E26-1. Elk DAU E-26 modeled post-hunt population and objective range, 1987-2021.

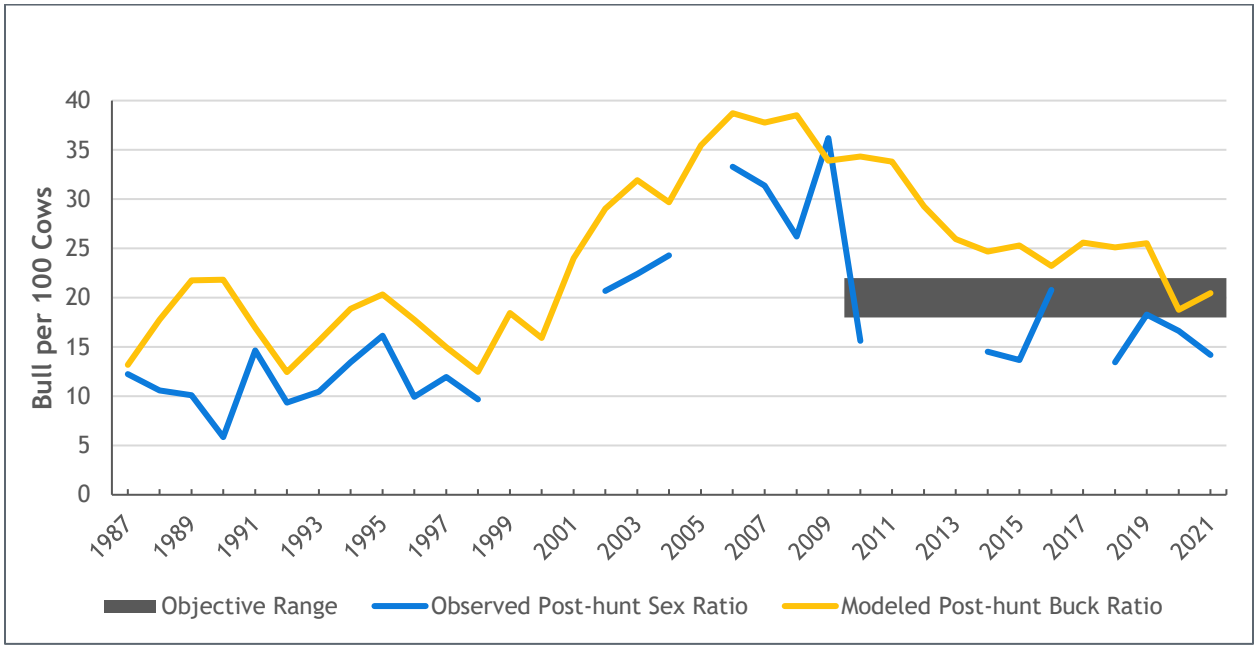


Figure E26-2. Elk DAU E-26 observed and modeled post-hunt sex ratio (bulls:100 cows), 1987-2021.

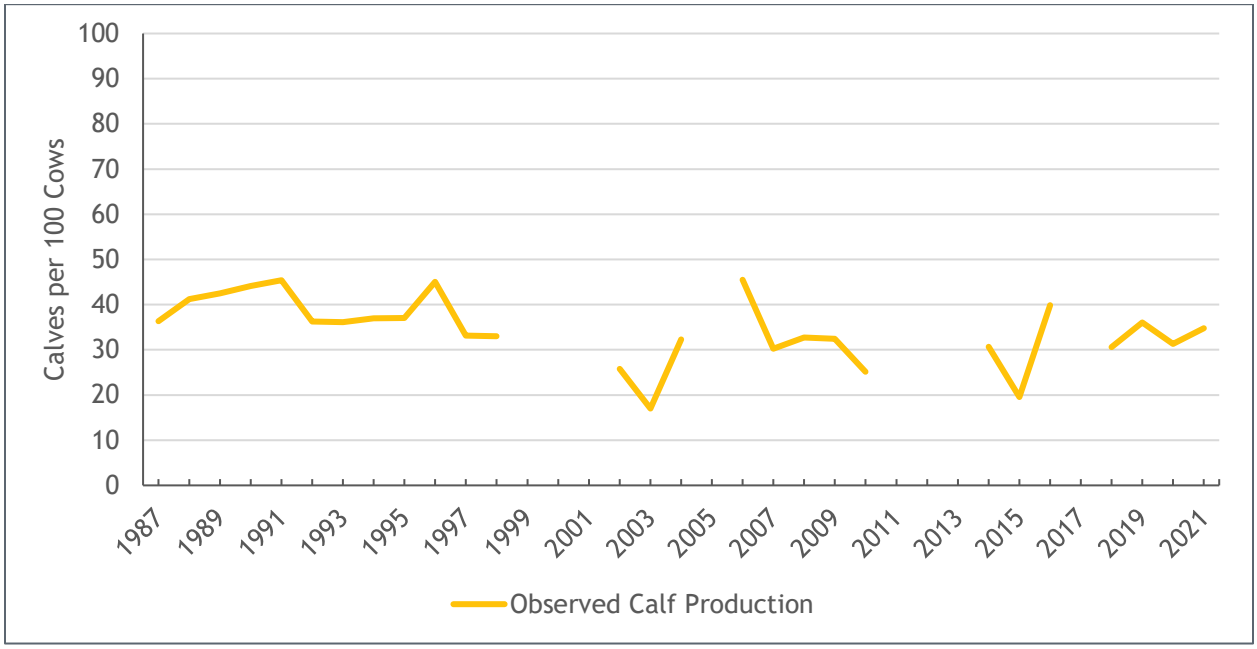


Figure E26-3. Elk DAU E-26 calf production (observed post-hunt calves:100 cows, 1987-2021).

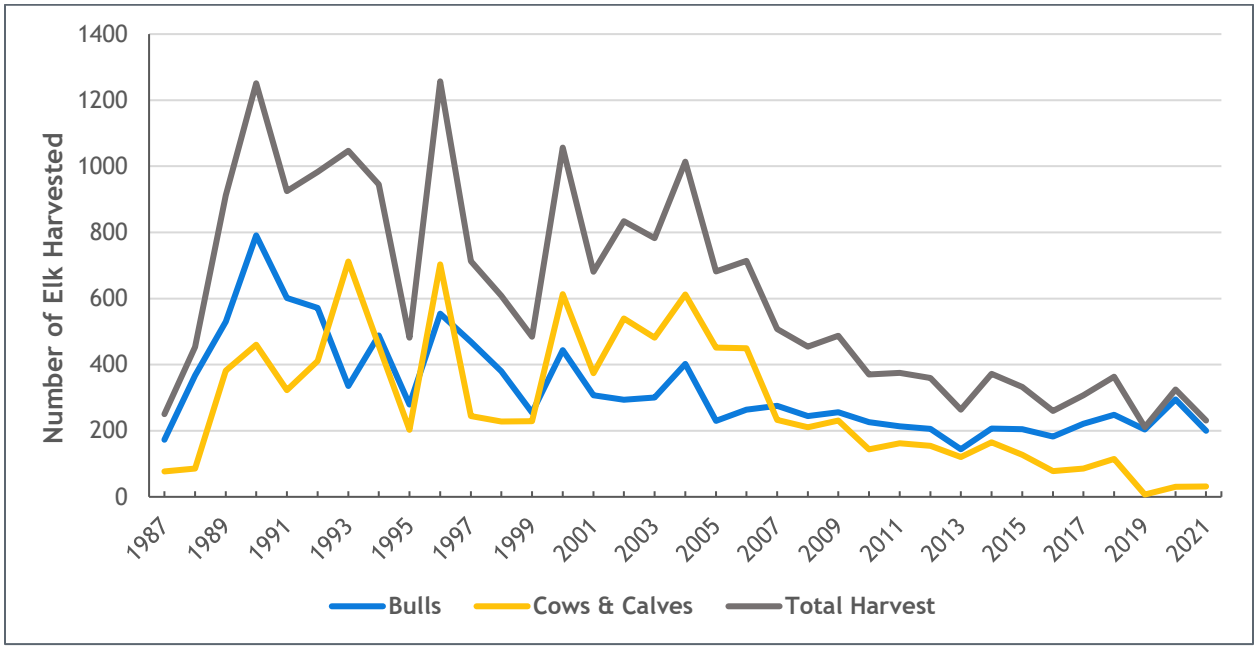


Figure E26-4. Elk harvest estimates in E-26, 1987-2021.

Background Information

E-26, the Saguache Elk Population, is located in the northwestern portion of the San Luis Valley in Colorado. The DAU comprises Game Management Units (GMUs) 68 and 681, approximately 1,047 square miles, and primarily encompasses Saguache County. Elk winter range within the DAU includes roughly 601 square miles, whereas the summer range encompasses about 768 square miles. Public land constitutes about eighty-eight percent of the DAU, while the private sector owns almost twelve percent of the area.

E-34 has a highland or mountain climate, with cool summers and cold winters. The higher elevation areas of the San Juan Mountains receive approximately 30-50 inches of precipitation annually, mainly as winter snow. The foothills receive 10-16 inches, while the valley floor, considered a semi-arid high-elevation desert, gets 6-8 inches annually. However, summer rain can significantly impact the growth of forage resources in the area.

The E-26 population was increasing during the late 1980s. In 1990, the population peaked at around 10,600 animals, during which CPW believed the herd had reached its socio-political carrying capacity after receiving increasing reports of depredation on private land. Wildlife managers began efforts to control the growing population by increasing the number of antlerless elk licenses. Increased harvest aimed at cows began in 1989 and continued through 2006 to reduce the population to acceptable levels. CPW reduced the cow licenses in 2007, reducing antlerless harvest as hunters located progressively fewer elk, and game damage complaints became minimal. In 2008, CPW set the preferred population objective at 3,500-4,500 elk. At the time, the public preference was to maintain the current population. The public wanted to curb the downward trend basing their decision on information CPW provided from the elk population model estimates. Even with the lower harvest rate, the population continued to decline. This downward trend brought the elk herd to its lowest level in 2015. In 2019, CPW re-evaluated the population objectives, and there was overwhelming consensus from the public to increase the objective range slightly. The intent was to improve the herd and raise the population to a sustainable and viable level. The public desired 2019 preferred population objective was 4,000 to 4,800 animals.

Since 1987, observed sex ratios have averaged 18 bulls per 100 cows. In 2008, CPW set the public preferred sex ratio objective at 18-22 bulls per 100 cows. In 2019, CPW re-evaluated the objectives, and being an over-the-counter (OTC) unit; the preferred sex ratio was to remain status quo at 18-22 bulls per 100 cows. The preferred sex ratio should continue to allow for hunter opportunities. The previous 5- and 3-year observed averages for bull ratios averaged around 16 bulls per 100 cows.

CPW has managed GMUs 68 and 681 as over-the-counter bull hunting units since 1987. Both units had relatively large numbers of antlerless licenses in the 1990s during regular and private land-only seasons. The agency also provided either-sex licenses in the first rifle season from 2003 to 2007. Harvest success in E-26 appears to be significantly influenced by weather and changes to elk distributional movements. Prior to the onset of the most previous objectives update in 2019, bull harvest averaged approximately 214 animals. Since then, and including the last couple of years since the update, the average bull harvest has increased slightly to 218 animals. In 2019, in response to a strong public request, cow licenses were reduced significantly for the population to recover from the downward trend since 1990 for all seasons. At the time, CPW informed the public that they would decrease cow licenses until the population increased to within the preferred objective range. After that, CPW would

conservatively implement additional cow licenses depending on the herd's growth and social-political tolerance pressures. Antlerless harvest from 2018 through 2019 averaged approximately 145 animals; however, since the reduction in 2019, antlerless harvest has averaged 23 animals.

Management Concerns

The primary issue the majority of respondents brought up in the 2019 re-evaluation of the objectives was the desire to have more elk on the landscape. From an environmental perspective, the main limiting factors for E-26 are the winter range conditions, forage and water availability, and human social tolerance on agricultural lands. According to the Rio Grande National Forest, forage availability in the summer range is not likely limiting, having received new information from their eco-logical condition assessment. Water availability and forage affect the amount of quality habitat available for elk year-round. Increased recreational activity in E-26 may also reduce usable habitat for elk. Depleted habitat resources could negatively influence elk recruitment and survival. As a result, elk and other ungulates, including mule deer and pronghorn, could be forced onto irrigated agricultural land with abundant forage and water resources. Elk movement onto private land caused numerous game damage issues in the past. Currently, CPW has enhanced tools to address depredation issues through redistribution efforts using dispersal applications offered to affected landowners.

Management Alternatives

In Data Analysis Unit E-26, CPW considered three alternatives in 2019 for the post-hunt population size and maintaining the expected post-hunt observed sex ratio for an OTC unit*:

Table E26-1. Proposed and approved population objective ranges for the 2019 E-25 HMP.

Post-hunt Population Objective Alternatives:	
3,200 to 3,800	(1) Status Quo
3,600 to 4,200	(2) Approximately 10%-20% population increase
4,000 to 4,800	**(3) Approximately 20%-40% population increase STAFF PREFERRED**

The expected post-hunt observed sex ratio for E-26, based on its current status as an OTC unit, is 18-22 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Public Involvement

In 2019, CPW selected the preferred alternatives after gathering input from a public meeting held in Saguache attended by 60 local constituents, an open public survey made available online for 30 days, and additional commentary from the public, the Rio Grande National Forest, the BLM and the HPP Committee after the draft document was made available online for 26 days. In addition, local biologists considered professional input from other Colorado

Parks and Wildlife personnel. CPW also examined and considered biological herd capabilities and social-political tolerance.

Preferred Management Objectives:

Post-hunt Population

The responses received during all public involvement processes in 2019, including feedback from partner agencies, suggest that the majority supported increasing the elk population in GMUs 68 and 681. The preferred alternative was a population objective of 4,000 to 4,800 elk, which allowed for an increase in the population by 20-40% at that time. The preferred objective from 2023 is to maintain the population objective, continue the current bull-hunting opportunities, and continue to increase cow licenses conservatively as the population expands relative to the objectives.

Post-hunt Sex Ratio

CPW has managed the E-26 herd as an OTC unit since 1987. In 2019, the expected sex ratio was 18-22 bulls per 100 cows. As the season structures change, CPW may expect a change in the "expected bull ratio." These ratios would remain the same from 2023 as those established in 2019, allowing for ample hunting opportunity in archery, second and third rifle seasons, and limiting the first and fourth rifle seasons

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – To increase and maintain the population within the objective range, CPW will need to control the antlerless licenses. The agency will increase cow licenses conservatively to prevent the population from rising too far above the upper end of the objective range. Game damage licenses will still be offered, if necessary, to reduce agricultural depredation issues should they arise.
Post-hunt Sex Ratio – Any expected changes in the E-26 sex ratios would entail changing the license season structure throughout the unit. CPW proposes that the same expected sex ratio remains in place from 2023 as the preferred alternative in 2019. E-26 is an OTC unit providing ample bull hunting opportunities, which could cause hunter overcrowding in the field. CPW will attempt to work with hunters to encourage hunters' distribution, preventing potential over-crowding issues; however, this may be extremely challenging.

CPW Commission Approved Objectives:

Post-hunt Population

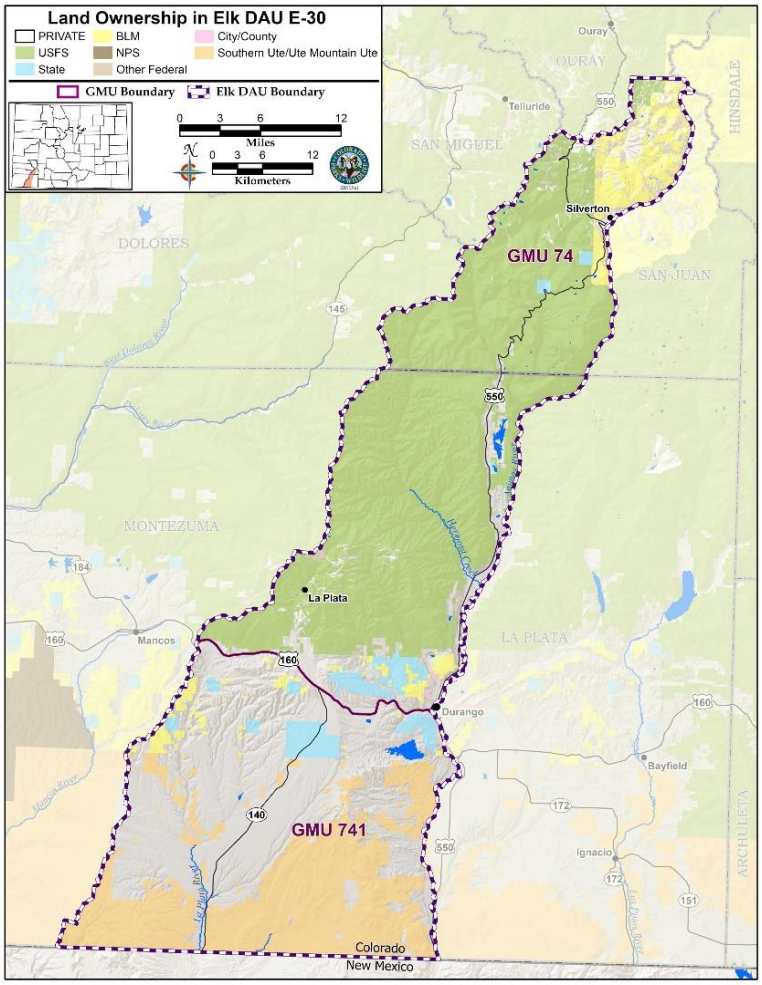
Pending

Post-hunt bull ratio

Pending

HERMOSA ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-30
Brad Weinmeister, Wildlife Biologist, Durango

GMUs: 74 and 741 Last HMP Approval Year: 2020
Post-hunt Population: Previous Objective: 7,500-9,000 2022 Estimate: 6,100. **Preferred Alternative: Extend the current population objective of 7,500-9,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Expected Ratio: 15-25 2021 observed: 14; modeled: 15. **Preferred Alternative: Extend the current sex ratio of 15-25 bulls:100 cows**



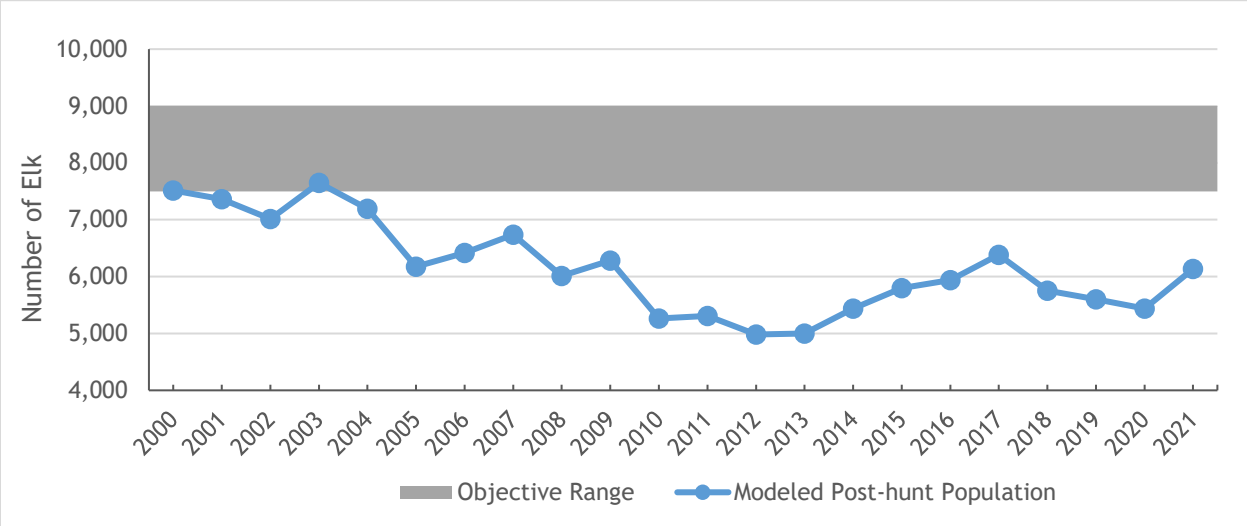


Figure E30-1. Elk DAU E-30 modeled post-hunt population estimate and objective range, years 2000-2021.

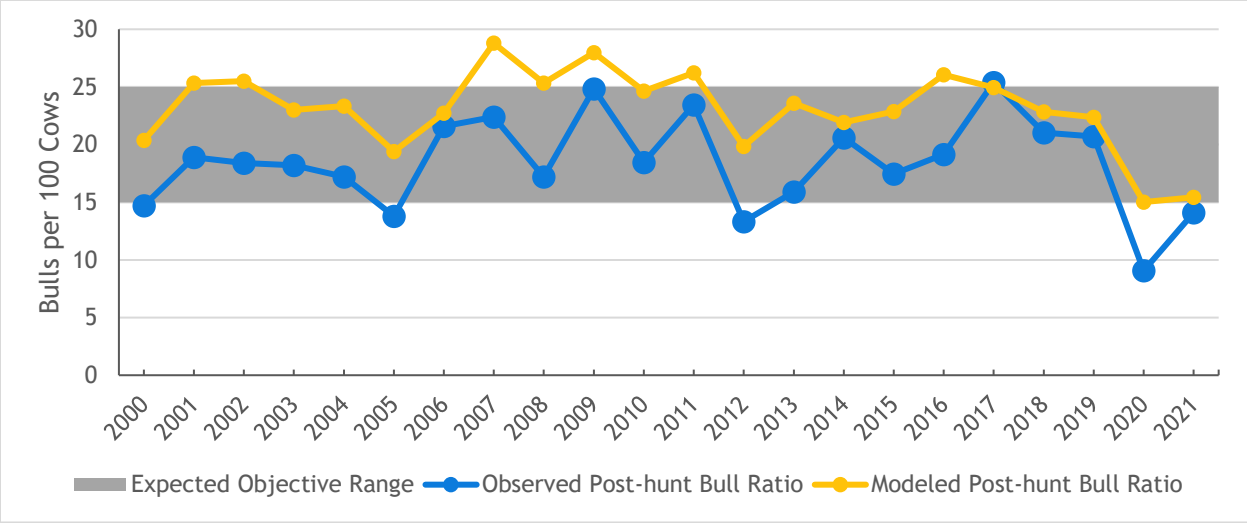


Figure E30-2. Elk DAU E-30 observed and modeled post-hunt sex ratio (bulls:100 cows), years 2000-2021.

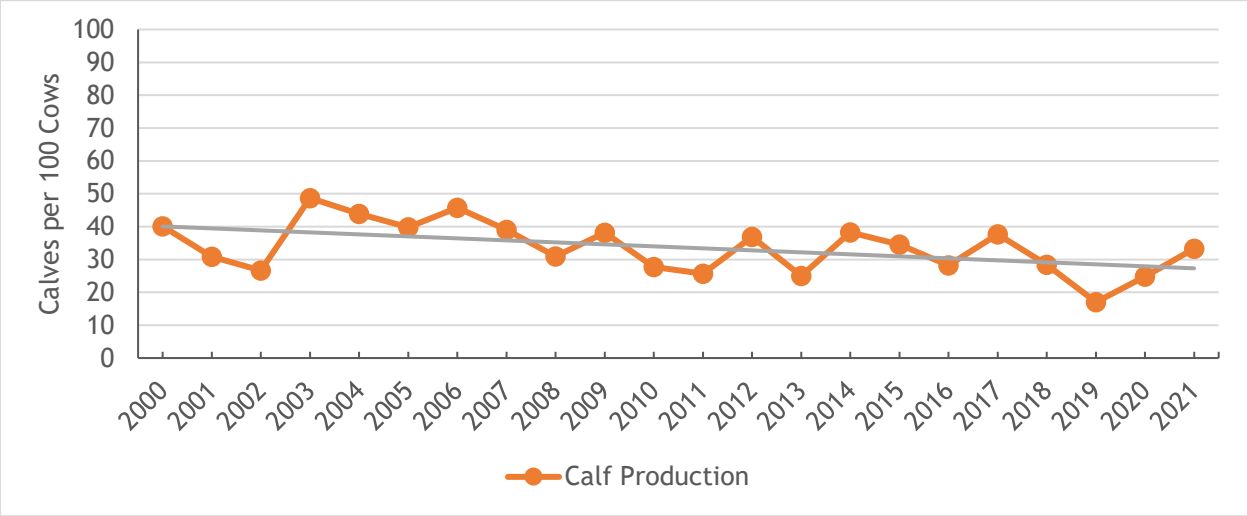


Figure E30-3. Elk DAU E-30 calf production (observed post-hunt calves:100 cows ratio, years 2000-2021).

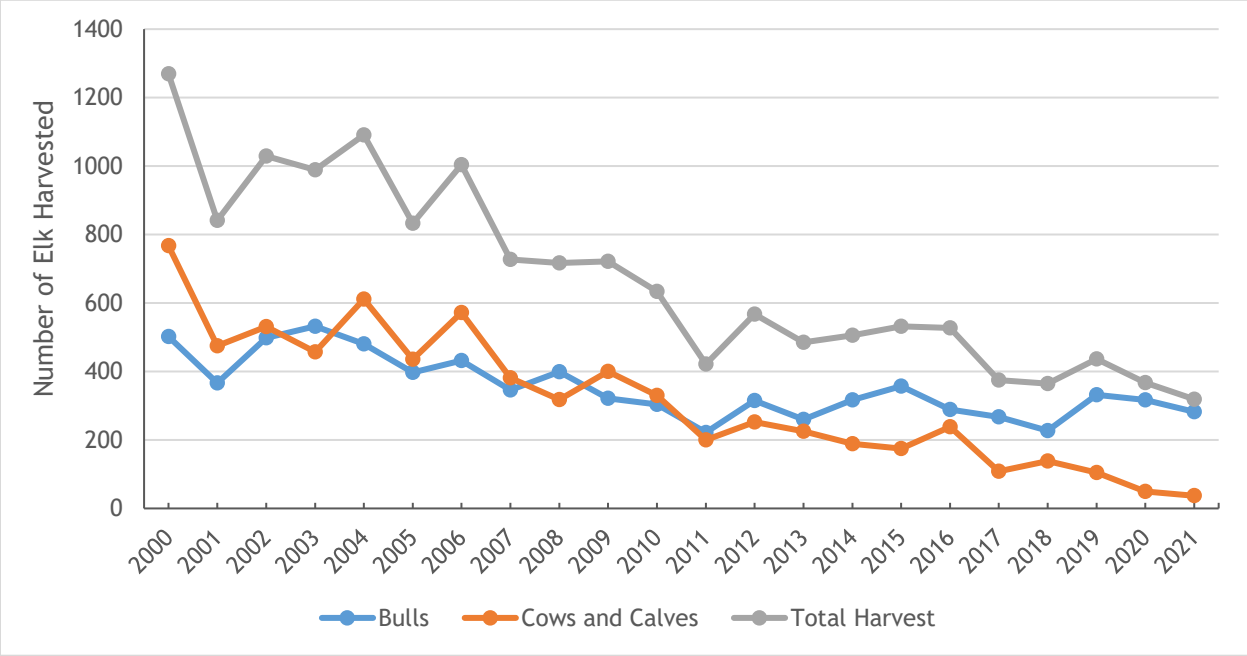


Figure E30-4. Elk harvest estimates in E-30, years 2000-2021.

Background Information

The Data Analysis Unit E-30 is located in Southwest Colorado, west of Durango, and contains GMUs 74 and 741. The DAU is 1,000 miles^2 and includes portions of La Plata and San Juan counties. The towns of Durango, Silverton, Hesperus, and Breen are included in E-30. Dominant geographical features are the La Plata Mountains on the west, the Animas River valley on the east, the Hermosa Creek and Upper Animas River watersheds to the north, and the Red Mesa/Fort Lewis Mesa area to the south. Land ownership is composed of US Forest Service (42%), Bureau of Land Management (5%), private land (33%), Southern Ute Tribal lands (17%) and state lands (3%).

The current post-hunt population objective of 7,500-9,000 elk was set in 2020. The E-30 herd reached its maximum in the early 2000s and has decreased since then (Figure E30-1). The population has remained stable over the last several years. The 2021 post-hunt population estimate was 6,100 elk.

The average observed post-hunt bull ratio from 2000 to 2021 was 18 bulls:100 cows (Figure E30-3). The observed three-year (2019-2021) average of 15 bulls:100 cows fits within the expected post-hunt bull ratio range for a herd with over-the-counter (OTC) bull licenses. Observed post-hunt calf ratios averaged 34 calves:100 cows (range 17–48) between 2000 and 2021. The calf ratio has steadily decreased over the past 20 years and in 2021 33 calves to 100 cows were observed. The three-year average was 27:100 and five-year average was 28:100.

Bull harvest has remained consistent over the past sixteen years, averaging 304 bulls per year. In an OTC unit this is suggestive of a stable population. This is down from the high harvest of 532 bulls, harvested in 2003 (Figure E30-2). The number of cow licenses in the DAU has decreased since 2015 which has resulted in a decrease in cow harvest.

A revision of the E-30 herd management plan was made in 2020. At that time Colorado Parks and Wildlife staff and stakeholders felt that the previous objective was too low. The Colorado Parks and Wildlife Commission (PWC) approved an increase in the population management objective. This resulted in a change in management strategies to increase the elk population. The proposed objective in this plan update keeps the current objective that was recently approved by the PWC.

The DAU is managed with over-the-counter, unlimited bull hunting in the second and third rifle seasons. Bull licenses are limited in muzzleloader, archery, first rifle, and fourth rifle seasons As such, the sex ratio is a result of hunting pressure and is not achieved through management efforts. Therefore, there is not a sex ratio objective, but an expected sex ratio. The expected sex ratio that The Commission approved in 2020 is the same as what is proposed in this plan update.

Significant Issues

The most significant issue that the Hermosa Elk Herd faces is the lack of calf recruitment. Calf to cow ratios have steadily decreased since 2006 and have been below 30 calves per 100 cows three of the past four years. The long-term average is 40:100. Low elk recruitment is experienced across southern Colorado and northern New Mexico. CPW is currently researching the issue to identify the cause and possible remedies.

Cumulative impacts to critical habitat, including winter range, migration corridors, production areas, and high elevation summer range, due to human population growth is a concern in the DAU. Exurban development is occurring in La Plata County and homes are replacing open lands that currently support wintering elk. Energy well development has also increased in elk habitat on private and public lands. Lastly, outdoor recreation continues to grow in La Plata and San Juan Counties, placing more people in areas used by elk. Increased recreational trails and recreation use is decreasing the amount of adequate habitat. Managers and the public are concerned over the cumulative and prolonged impacts of development and recreation, which is disrupting migration and decreasing the quality and quantity of habitat. Actions to enhance and protect critical elk habitat will be essential to increase the elk population.

Management Objectives

CPW plans to increase populations to meet stakeholder and CPW staff desires. This would help improve hunter and non-consumptive opportunities in the future. To meet the objective, recruitment issues would need to be identified and addressed. Also, habitat improvement and protection to mitigate for the continual loss of habitat due to human population growth and encroachment would be needed.

Management Alternatives

Two population objective alternatives were considered in 2020 for E-30 (Table E30-1):

Table E30-1. Proposed and approved population objective ranges for the 2020 E-30 HMP.

Population Objective Alternatives:	
7,500 to 9,000 (midpoint 8,250)	**(1) Approximately 20% increase in the current population estimate at the bottom of the proposed objective range**
6,000 to 7,500 (midpoint 6,750)	(2) Status Quo (Maintain current population)

The expected sex ratio for E-24 is 12-20 bulls per 100 cows based on its current status as an OTC herd. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

CPW Commission Approved Objectives:

Post-hunt Population

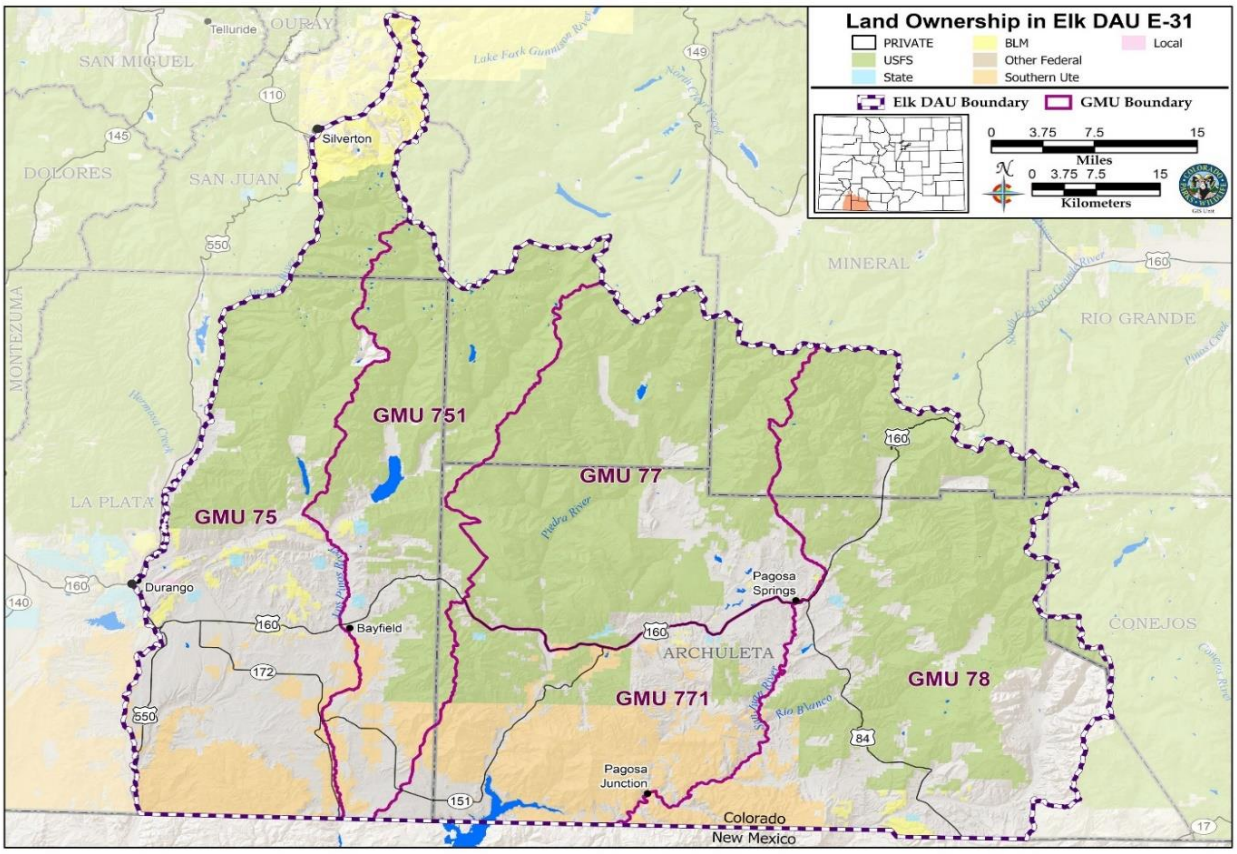
Pending

Post-hunt bull ratio

Pending

SAN JUAN BASIN ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-31
Brad Weinmeister, Wildlife Biologist, Durango

GMUs: 75, 77, 78, 751, and 771 Last HMP Approval Year: 2020
Post-hunt Population: Previous Objective: 25,000-28,000 2022 Estimate: 23,600 **Preferred Alternative: Extend the current population objective of 25,000-28,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Expected Ratio: 12-20 2021 observed: 13; modeled: 14 **Preferred Alternative: Extend the current sex ratio objective of 12-20 bulls:100 cows**



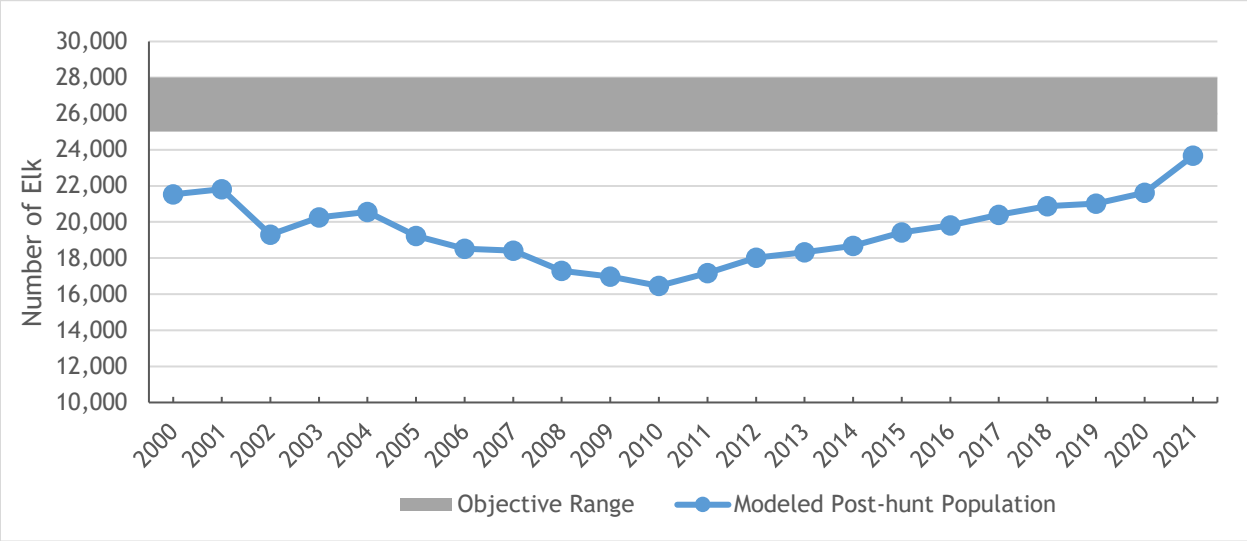


Figure E31-1. Elk DAU E-31 modeled posthunt population estimate and objective range, years 2000-2021.

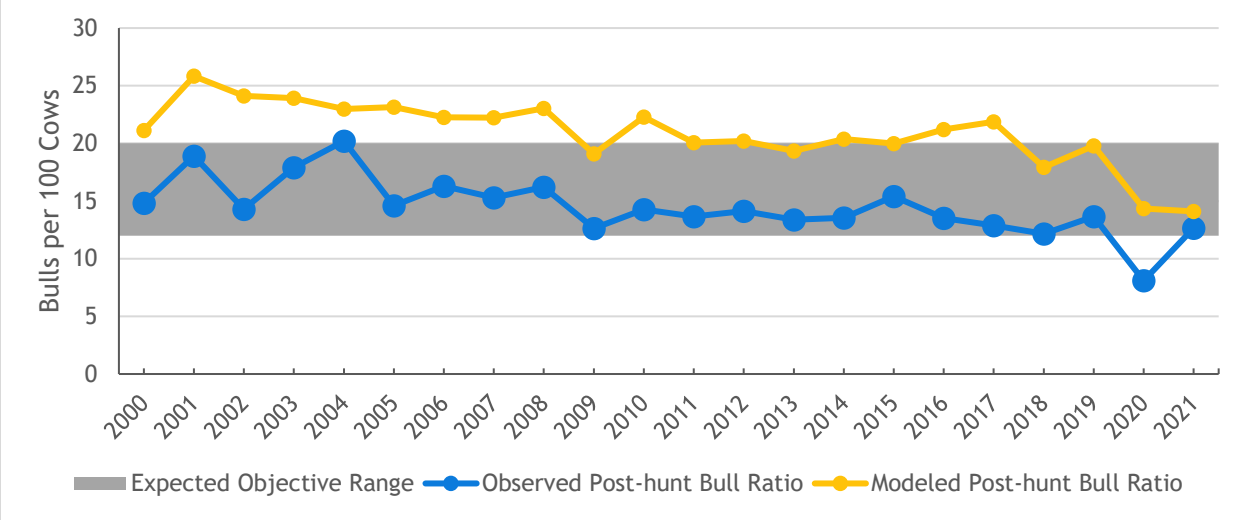


Figure E31-2. Elk DAU E-31 observed and modeled post-hunt sex ratio (bulls:100 cows), years 2000-2021.

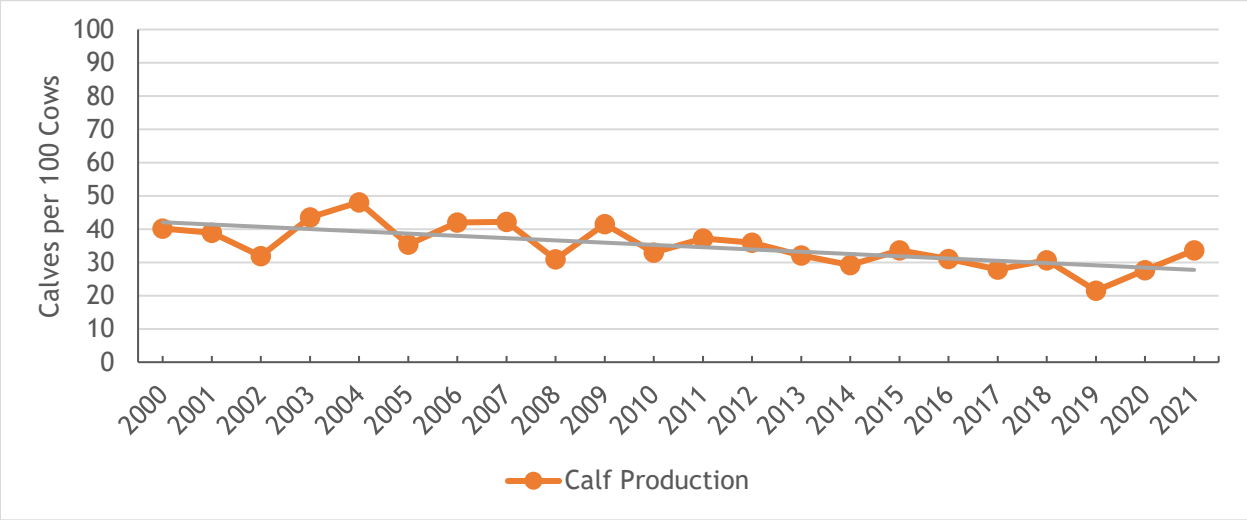


Figure E31-3. Elk DAU E-31 calf production (observed post-hunt calves:100 cows ratio, years 2000-2021).

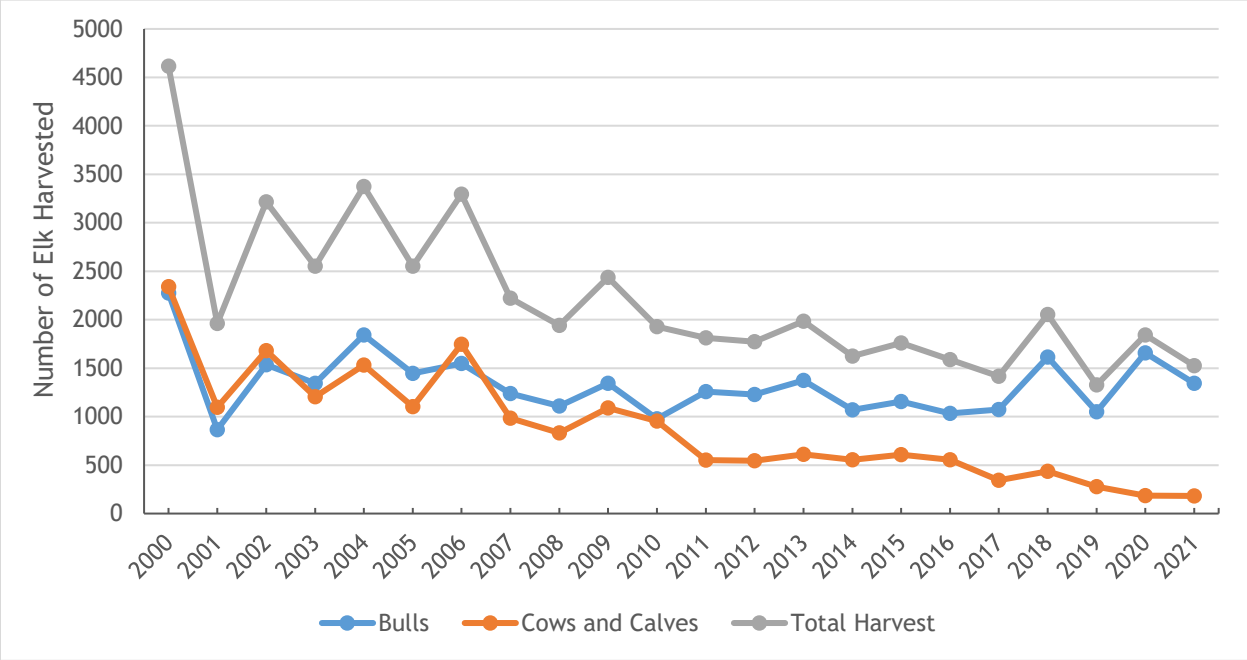


Figure E31-4. Elk harvest estimates in E-31, years 2000-2021.

Background Information

The San Juan Basin Elk Population consists of Data Analysis Unit (DAU) E-31. It is located in the southwest corner of Colorado and contains Game Management Units (GMUs) 75, 751, 77, 771, and 78. The DAU is 2,800 square miles and includes portions of La Plata, San Juan, Hinsdale, Mineral, and Archuleta counties. E-31 is bounded on the north and east by the Continental Divide, on the south by the New Mexico state line, and on the west by the Animas River and contains the towns of Durango, Bayfield, Ignacio, Allison, and Pagosa Springs. Land ownership is composed of U.S. Forest Service (55%), Bureau of Land Management (2%), private land (30%) and Southern Ute Tribal lands (12%)

The current post-hunt population objective of 25,000-28,000 elk was set in 2020. The E-31 herd reached its maximum in the early 2000s and then decreased over the next ten years (Figure E31-1). Since 2010 the population has increased slowly in large part due to decreased cow harvest. The 2021 post-hunt population estimate was 23,600 elk.

The average observed post-hunt bull ratio from 2000 to 2021 was 15 bulls:100 cows (Figure E31-3). The observed three-year (2019-2021) average of 12 bulls:100 cows is at the lower end of the expected post-hunt bull ratio range for a herd with over-the-counter (OTC) bull licenses. Observed post-hunt calf ratios averaged 35 calves:100 cows (range 22–48) between 2000 and 2021. The calf ratio has steadily decreased over the past 20 years and in 2021 34 calves to 100 cows were observed. The three-year and five-year averages were the same at 28:100.

Bull harvest has remained consistent over the past fifteen years, averaging 1336 bulls per year. This is suggestive of a stable population in an OTC unit. This is down from the high harvest of 2,300 bulls in 2000 (Figure E31-2). The number of cow licenses in the DAU has decreased since 2010 which has resulted in a decrease in cow harvest.

A revision of the E-31 herd management plan was done in 2020. At that time Colorado Parks and Wildlife staff and stakeholders felt that the previous objective was too low. The Colorado Parks and Wildlife Commission (PWC) approved an increase to the population management objective. This resulted in a change in management strategies to increase the elk population. The proposed objective in this plan update keeps the current objective that was recently approved by the Commission.

The DAU is managed with over-the-counter, unlimited bull hunting in the second and third rifle seasons. Bull licenses are limited in muzzleloader, archery, first rifle, and fourth rifle seasons. As such, the sex ratio is a result of hunting pressure and not achieved through management efforts. Therefore, there is not a sex ratio objective, but an expected sex ratio. The expected sex ratio that The Commission approved in 2020 is the same as what is proposed in this plan update.

Significant Issues

The most significant issue that the San Juan Basin Elk Herd faces is the lack of calf recruitment. Calf to cow ratios have steadily decreased since 2006 and have been below 30 calves per 100 cows several times during recent years. The long-term average is 40:100. Low elk recruitment is experienced across southern Colorado and northern New Mexico. CPW is currently researching the issue to identify the cause and possible remedies.

Cumulative impacts to critical habitat, including winter range, migration corridors, production areas, and high elevation summer range, due to human population growth is a concern in the DAU. Exurban development is occurring in La Plata and Archuleta Counties and homes are replacing open lands currently supporting wintering elk. Energy well development has also increased in elk habitat on private and public lands. Lastly, outdoor recreation continues to grow in La Plata and Archuleta Counties, placing more people in areas used by elk. Increased recreational trails and recreation use is decreasing the amount of adequate habitat. Managers and the public are concerned over the cumulative and prolonged impacts of development and recreation, which is disrupting migration and decreasing the quality and quantity of habitat. Actions to enhance and protect critical elk habitat will be essential to increase the elk population.

Management Objectives

CPW plans to increase populations to meet stakeholder and CPW staff desires. This would help improve hunter opportunities in the future. To meet the objective, recruitment issues would need to be identified and addressed. Also, habitat improvement and protection to mitigate for the continual loss of habitat due to human population growth and encroachment would be needed.

Management Alternatives

Post-hunt population objective alternatives considered in 2020 for E-31 (Table E31-1):

Table E31-1. Proposed and approved population objective ranges for the 2020 HMP.

Population Objective Alternatives:	
25,000 to 28,000 (midpoint 26,500)	**(1) Approximately 15% increase in the current population estimate at the midpoint of the proposed objective range**
22,000 to 25,000 (midpoint 23,500)	(2) Status Quo (Maintain current population)
28,000 to 31,000 (midpoint 29,500)	(3) Approximately 25% increase in the current population estimate at the midpoint of the proposed objective range

The expected sex ratio for E-31 is 12-20 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

CPW Commission Approved Objectives:

Post-hunt Population

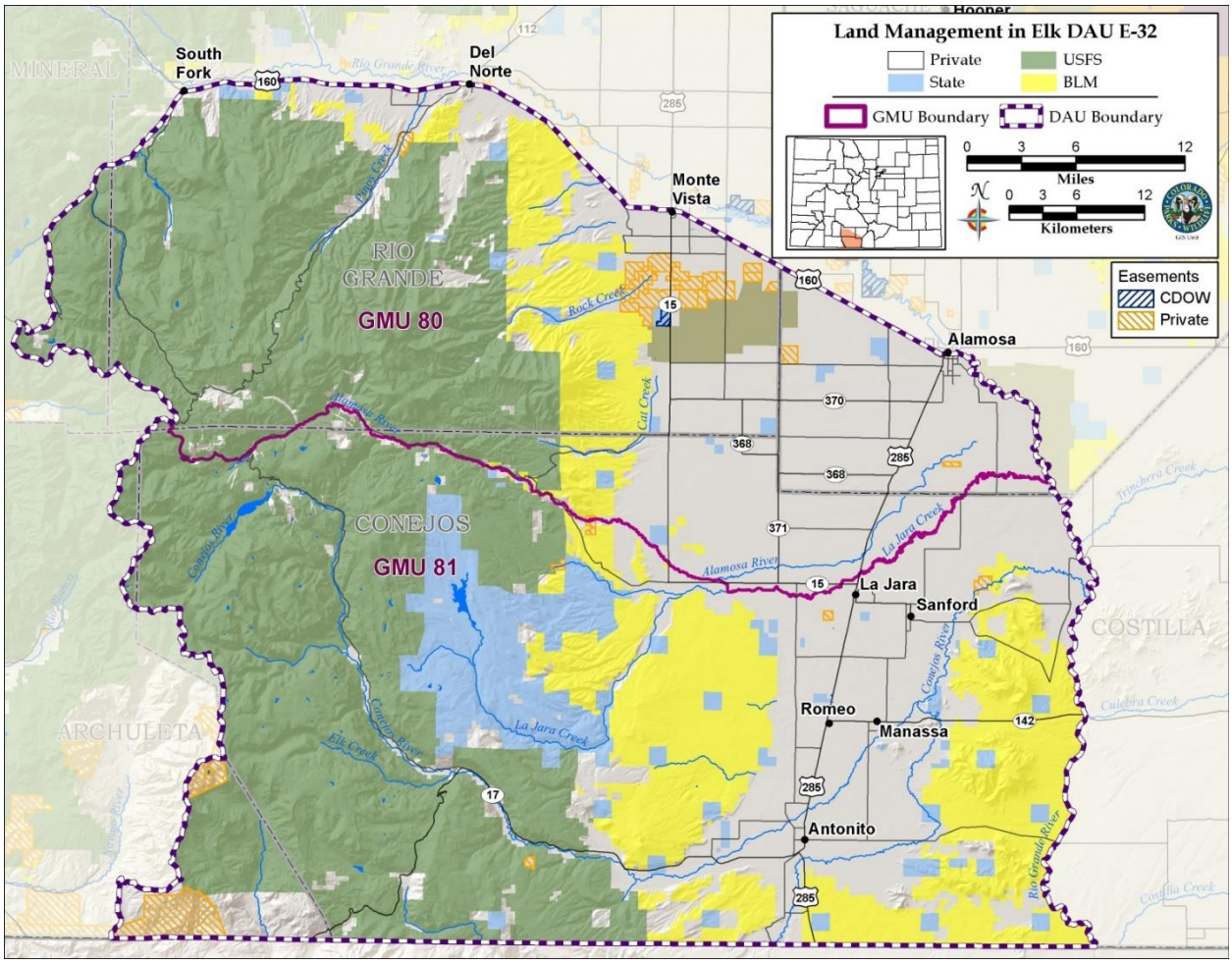
Pending

Post-hunt bull ratio

Pending

LOWER RIO GRANDE ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-32
Brent Frankland, Wildlife Biologist, Monte Vista

GMU: 80 and 81 Last HMP Approval Year: 2018
Post-hunt Population: Previous Objective: 11,500-13,000; 2021 Estimate: 12,800. **Preferred Alternative: Extend the current population objective of 11,500-13,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 18-21; 2021 observed: 17; 3-yr average modeled: 17 **Preferred Alternative: Extend the current sex ratio objective of 18-21 bulls:100 cows**



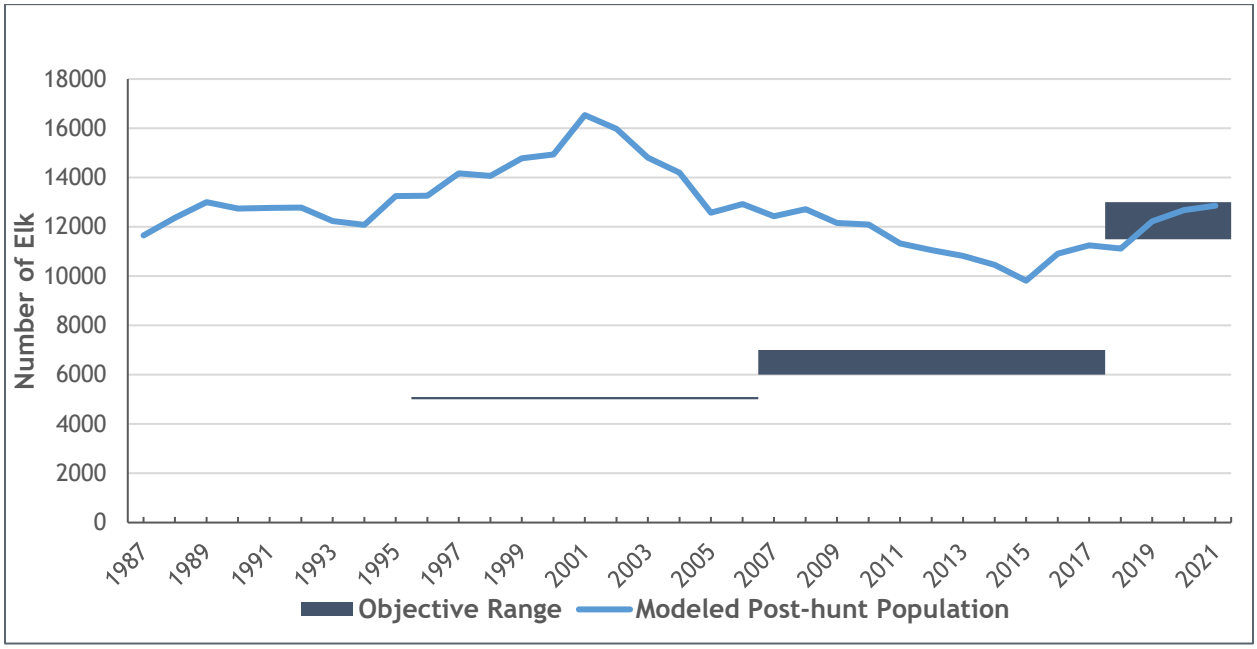


Figure E32-1. Elk DAU E-32 modeled post-hunt population and objective range, 1987-2021.

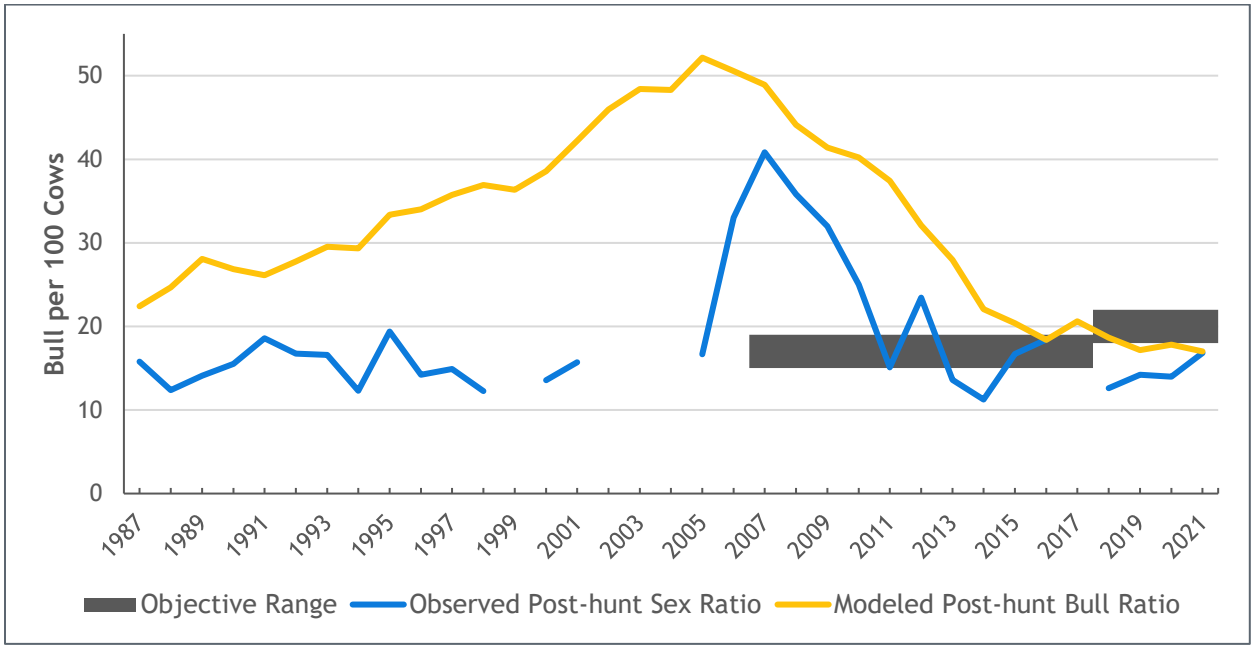


Figure E32-2. Elk DAU E-32 observed and modeled post-hunt sex ratio (bulls:100 cows), 1987-2021.

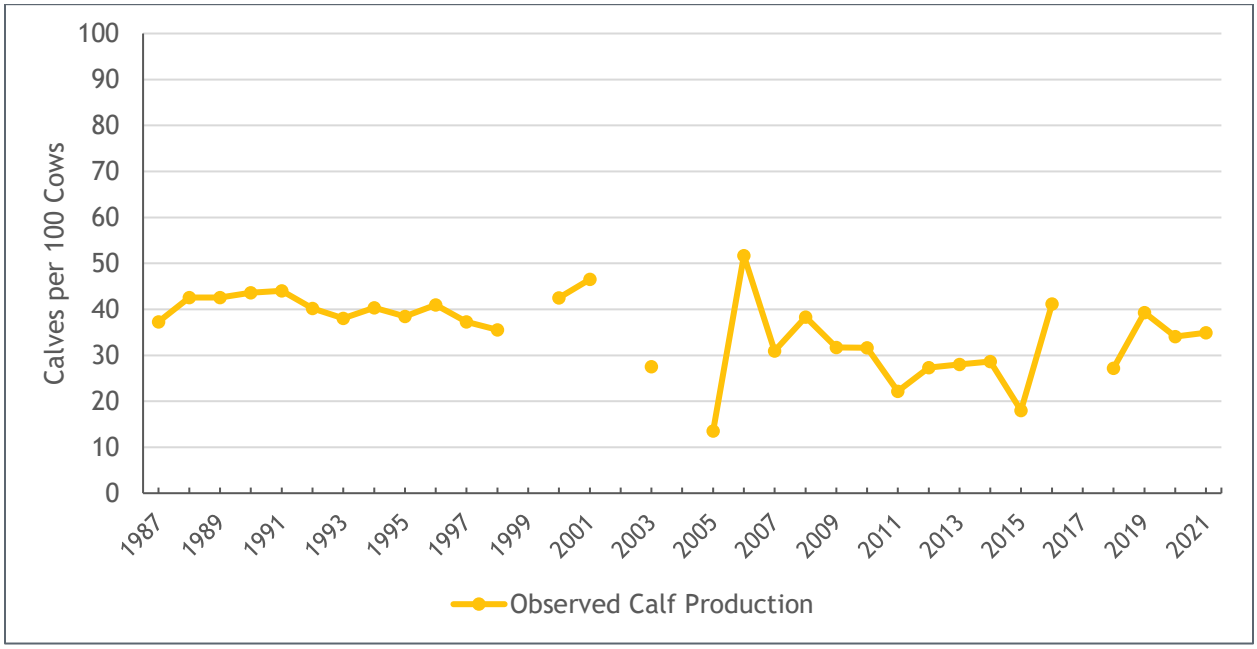


Figure E32-3. Elk DAU E-32 calf production (observed post-hunt calf:100 cow ratio, 1987-2021).

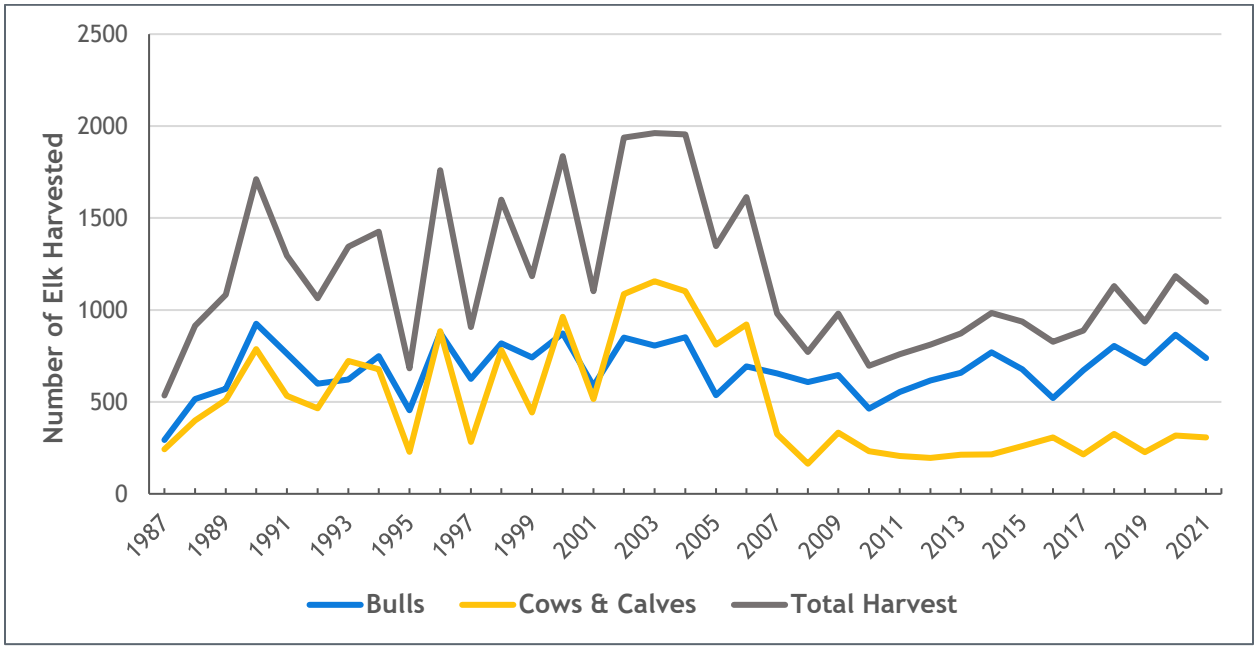


Figure E32-4. Elk harvest estimates in E-32, 1987-2021.

Background Information

The E-32 elk herd consists of Game Management Units (GMUs) 80 and 81 in the Southwest Region of the San Luis Valley. This DAU (geographical area) is approximately 2,100 square miles and encompasses portions of Alamosa, Rio Grande, Conejos, Mineral, and Archuleta Counties. Elk winter range within the DAU includes roughly 682 square miles, whereas the summer range encompasses about 897 square miles. Public land constitutes about eighty-three percent of the DAU, while the private sector owns almost thirty-five percent of the area.

E-32 has a highland or mountain climate, with cool summers and cold winters. The higher elevation areas of the San Juan Mountains receive approximately 50 inches of precipitation annually, mainly as winter snow. The foothills receive 12-16 inches, while the valley floor, considered a high desert environment, gets 6-8 inches annually

During the regular and private land-only seasons, the DAU had abundant antlerless licenses in the 1990s. CPW provided either-sex tags in the first rifle season from 2003 to 2007. Furthermore, before 2022, CPW managed E-32 as an over-the-counter bull hunting unit. However, beginning in Fall 2022, the archery season will be limited, but CPW will still offer ample licenses. The archery season limitation intends to allocate enough licenses that allow maximum sustainable hunting opportunities while balancing those opportunities with other hunting methods and the biological needs of the herd. The purpose of the archery season limitation is not to severely limit licenses to levels used in our “Quality” units.

The E-32 population started increasing during the early 1980s. In 1990, wildlife managers began efforts to control the growth by increasing the number of cow elk licenses because of increasing game damage issues on the valley floor. By 2001, the herd reached its peak population estimate, which CPW believes was above the social tolerance and habitat carrying capacity. The population estimate, based on the models at the time, started decreasing after 2001. In 1996 CPW set the preferred population objective at 5,000 elk and the sex ratio objective at 20 bulls per 100 cows. The objectives at the time expressed a desire by the public for fewer elk. CPW drastically increased cow licenses to reduce the population through hunter-harvest. The agency reduced the high cow license numbers in 2007 as hunters and back-country recreationists were locating fewer elk on the landscape. Landowners were also having significantly fewer depredation or conflict issues. With the high harvest rate, the population continued to decline. The downward trend brought the elk herd to its lowest level in 2015. In 2006, CPW increased the preferred population objectives to 6,000-7,000 elk, which expressed the stakeholder desire to maintain the current population. The agency based the objectives on elk population model estimates at the time; however, it was later determined that the models might have been underestimating the population. CPW also lowered the sex ratio to 15-18 bulls per 100 cows in 2006, continuing to allow for fantastic hunter opportunities.

Since 1987, the E-32 observed sex ratio averaged approximately 18 bulls per 100 cows. The previous five and three-year observed sex ratio averages have been around 15 bulls per 100 cows. CPW increased the 2006 preferred sex ratio objective range in 2018 to 18-21 bulls per 100 cows.

Harvest success in E-32 is likely influenced mainly by the weather. Bull harvest for ten years prior to the 2018 Herd Management Plan (HMP) averaged about 620 animals; however, the

average bull harvest has risen to approximately 780 animals since then. Cow harvest since the previous HMP has averaged around 270 animals, whereas for the decade prior to that, the average cow harvest was around 2010 animals.

From 2012-2014, CPW conducted quadrat abundance surveys throughout the DAU. The resulting field estimates determined from the surveys helped evaluate the realism of the modeled estimates. After accounting for sightability corrections, migratory elk in and out of state, and practical considerations in field surveys, the modeled estimates were reasonable. Using this revised information, CPW updated the preferred objectives for E-32 in 2018. Subsequently, CPW proposes no changes to the population or sex ratio objectives for the 2023 revised HMP.

E-32 Significant Issues

The main limiting factors for this herd are the winter range conditions and forage availability. According to the Rio Grande National Forest, forage availability in the summer range is not likely to be a limiting factor, based on new information from their ecological condition assessment. Water availability and forage affect the amount of quality habitat available for elk year-round. Increased recreational activity in E-32 may also reduce the useable habitat for elk. Depleted habitat resources negatively influence elk recruitment and survival. As a result, elk and other ungulates, including mule deer and pronghorn, could be forced onto irrigated agricultural land with abundant forage and water resources. The movement of large numbers of elk onto private land caused game damage issues in the past. CPW proactively addresses game damage issues through Monte Vista National Wildlife Refuge redistribution efforts and dispersal licenses for affected landowners.

Management Alternatives

CPW considered three alternatives for the post-hunt population size and three alternatives for the post-hunt sex ratio objectives for the 2018 E-32 HMP (Tables E32-1 and E32-2):

Table E32-1. Proposed and approved population objective ranges for the 2018 E-32 HMP.

Post-hunt Population Objective Alternatives:	
10,000 to 11,500	(1) Approximately 10% decrease in objectives
11,500 to 13,000	**(2) Status Quo STAFF PREFERRED**
13,000 to 14,000	(3) Approximately 10% increase in objectives

Table E32-2. Proposed and approved bull ratio objective ranges for the 2018 E-32 HMP.

Post-hunt Bull Ratio Objective Alternatives:	
15 to 18 Bulls per 100 cows	(1) Decrease bull ratio objective by approximately 2 bulls per 100 cows
18 to 21 Bulls per 100 cows	**(2) Status Quo - STAFF PREFERRED**
22 to 24 Bulls per 100 cows	(3) Increase bull ratio objective by approximately 2 bulls per 100 cows

The expected post-hunt observed sex ratio for E-32, based on its current status as an OTC herd, is 18-21 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Public Involvement

In 2018, CPW selected the preferred alternatives after gathering input from a public meeting in La Jara and Monte Vista, landowner and hunter surveys made available online for 30 days, and additional commentary from the public, the Rio Grande National Forest, the BLM, and the HPP Committee after the draft document was made available online for 30 days. In addition, local biologists considered professional input from other Colorado Parks and Wildlife personnel. CPW also examined and considered biological herd capabilities and social-political tolerance levels.

Preferred Management Objectives:

Post-hunt Population

The responses received during all public involvement processes in 2018, including feedback from partner agencies, suggest that the majority supported increasing the elk population objective in GMUs 80 and 81. The preferred alternative was a population objective of 11,500 to 13,000 elk, allowing for an increase in the population while maintaining realistic expectations for hunting opportunities. For 2023 and the next ten years, CPW proposes no changes to the objective range and will maintain management towards maintaining the population within the range.

Expected Post-hunt Sex Ratio

CPW managed the E-32 herd as an over-the-counter (OTC) unit from 1987 until the end of 2021. However, from 2022, the archery season will be limited. The second and third rifle seasons will remain OTC units for bulls only. Responses received during all the public involvement processes in 2018 suggested that most of the public preferred to see a slight increase in the number of bulls per 100 cows. Based on the selection of alternatives at the time, the preferred expected sex ratio was 18-21 bulls per 100 cows, allowing for a slight increase in the quality of mature bulls while still allowing acceptable hunting opportunities. For 2023 and the next ten years, CPW proposes no changes to the expected sex ratios and will maintain management towards supporting the population within the range.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – CPW needed to reduce and distribute cow licenses to earlier seasons after implementing the 2018 HMP, allowing herd growth. To accomplish the preferred objectives at the time, CPW conservatively allocated cow elk licenses with a reduction in all seasons. However, CPW continued providing private land hunts maintaining hunting pressure later in the year to reduce agricultural depredation issues. Moving forward, CPW will continue the same strategies for this updated HMP to maintain the herd within the preferred population objectives.

Expected Post-hunt Sex Ratio – In 2018, CPW reduced the bull licenses slightly during the limited first rifle seasons in an effort to raise the sex ratio slightly. The concerns for overcrowding, unlimited opportunities to harvest bulls and cows, and biological justification during the archery season resulted in limiting the archery hunt from 2022. Over-the-counter (OTC) bull hunting opportunities will continue during the second and third rifle seasons. These strategies should hold the herd sex ratio within the expected objective range.

CPW Commission Approved Objectives:

Post-hunt Population

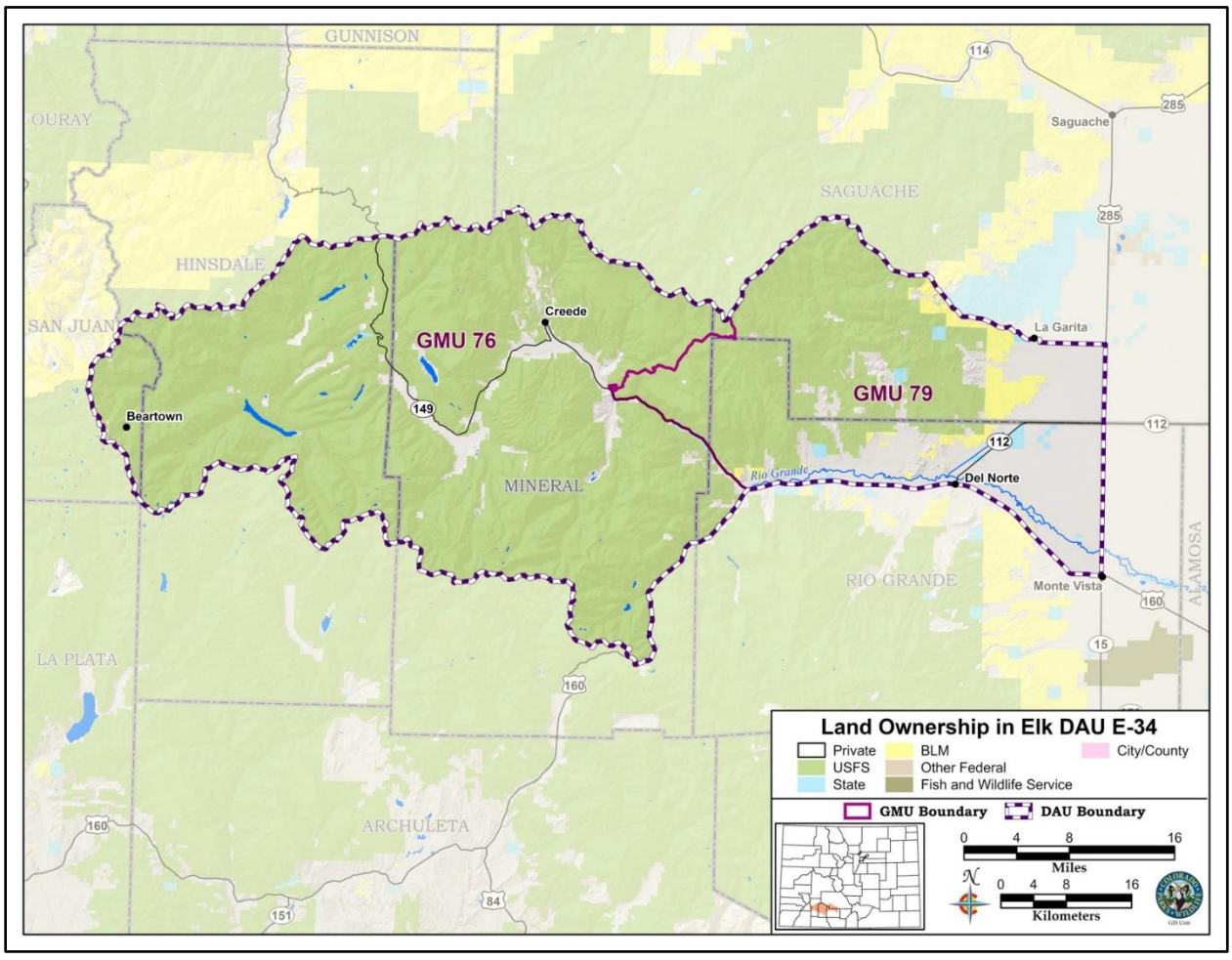
Pending

Post-hunt bull ratio

Pending

UPPER RIO GRANDE ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-34
Brent Frankland, Wildlife Biologist, Monte Vista

GMUs: 76 and 79 **Last HMP Approval Year: 2022**
Post-hunt Population: Previous Objective: 6,000-8,000; 2021 Estimate: 7,300. **Preferred Alternative: Extend the current population objective of 6,000-8,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 20-25; 2021 observed: 21; 3-yr average modeled: 29 **Preferred Alternative: Extend the current sex ratio objective of 20-25 bulls:100 cows**



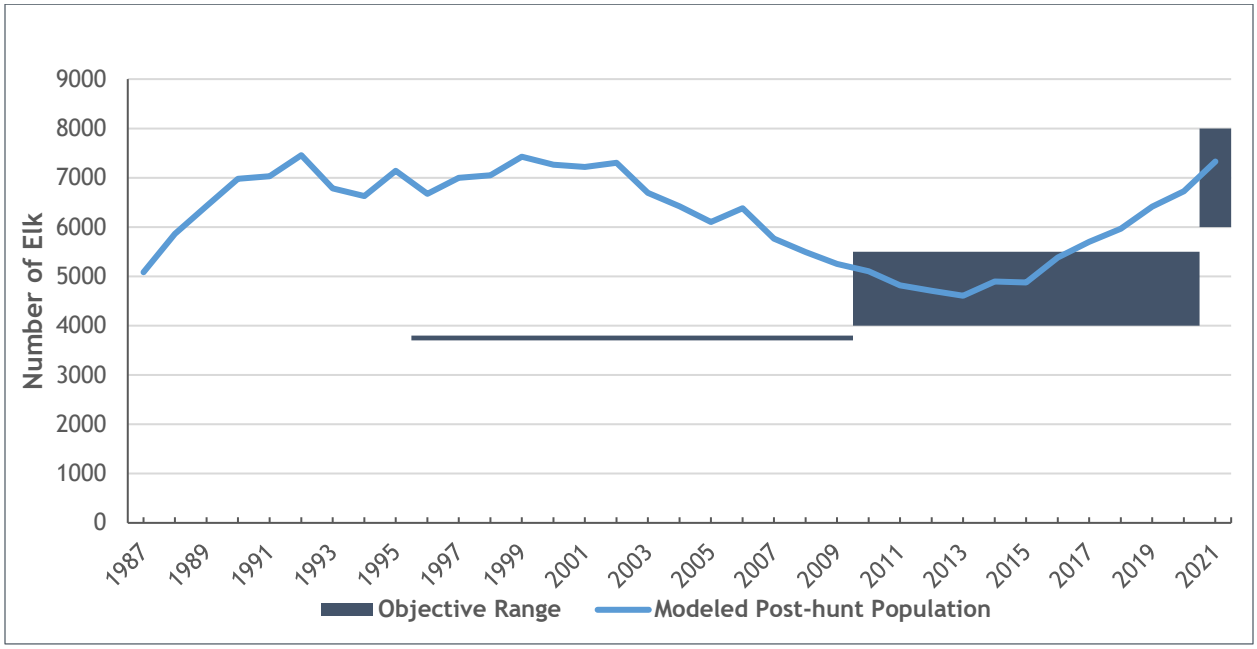


Figure E34-1. Elk DAU E-34 modeled post-hunt population and objective range, 1987-2021.

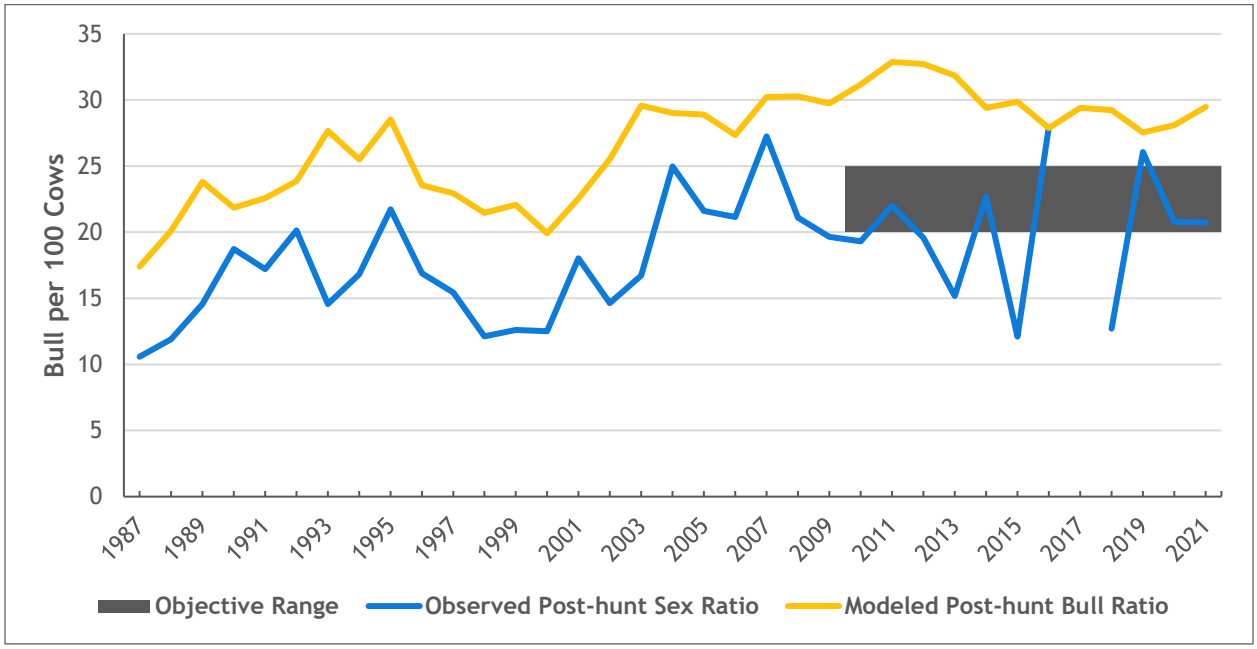


Figure E34-2. Elk DAU E-34 observed and modeled post-hunt sex ratio (bulls:100 cows), 1987-2021.

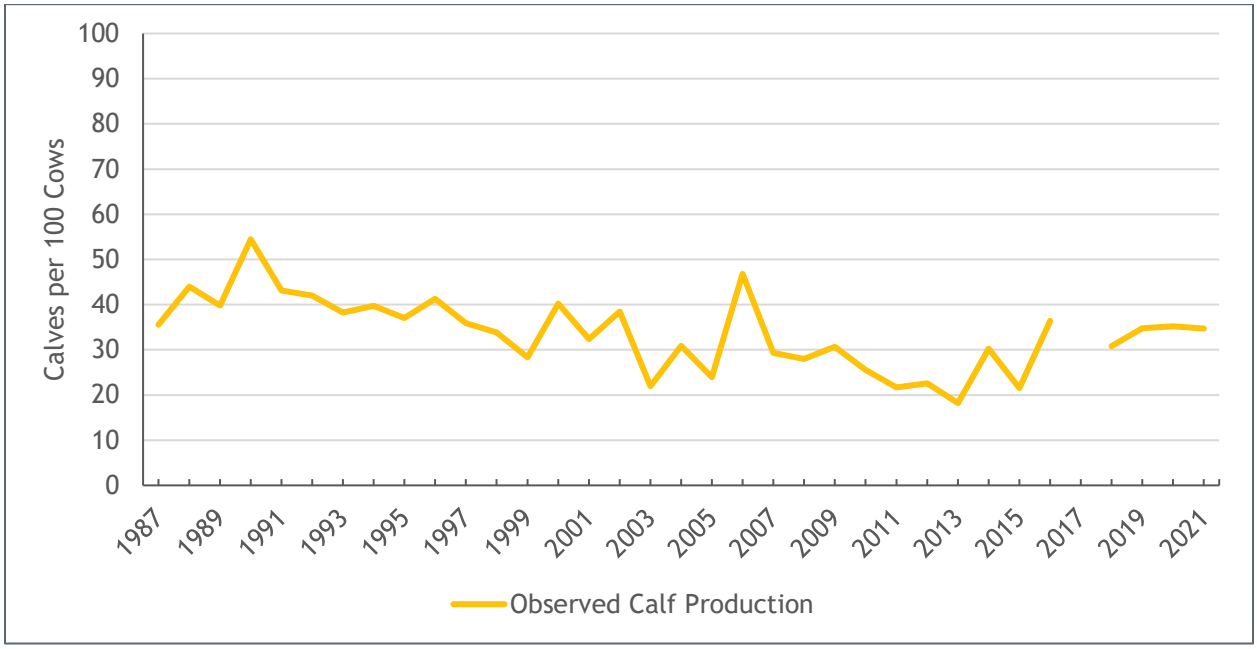


Figure E34-3. Elk DAU E-34 calf production (observed post-hunt calves:100 cows ratio, 1987-2021).

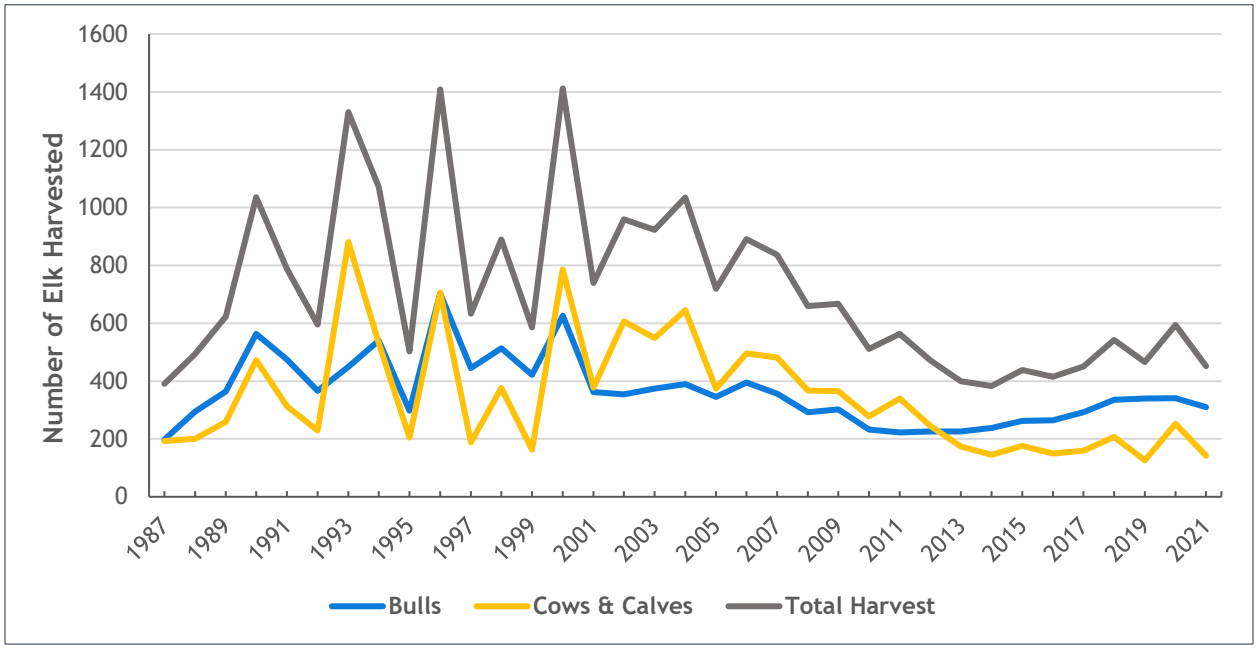


Figure E34-4. Elk harvest estimates in E-34, 1987-2021.

Background Information

The E-34 elk herd is in the western region of the San Luis Valley. The DAU (geographic area) comprises Game Management Units (GMUs) 76 and 79, approximately 1,478 square miles. Elk winter range within the DAU includes roughly 569 square miles, whereas the summer range encompasses about 999 square miles. Portions of Hinsdale, Mineral, Rio Grande, Saguache, and San Juan counties make up the entire area. Public land constitutes about eighty-three percent of the DAU, while the private sector owns almost seventeen percent of the area.

E-34 has a highland or mountain climate, with cool summers and cold winters. The higher elevation areas of the San Juan Mountains receive approximately 50 inches of precipitation annually, mainly in the form of winter snow. The foothills receive 12-16 inches, while the valley floor, considered a high desert environment, gets 6-8 inches annually.

The average population size of E-34 remained relatively stable throughout the 1990s at just over 7,000 animals, continuing into the early 2000s. Subsequently, the population trend dropped to its lowest level in 2013 at approximately the mid-point of the objectives set in 2010. The population has been on an upward trend to its current estimated level of more than 7,000 animals since 2013, which is above the high end of the population objective range.

The E-34 observed sex ratios have fluctuated considerably since the early 1990s. Most of the variation in this DAU has been due to locating bull groups within the limited flight time. In 2016, the observed sex ratio reached its highest point since Colorado Parks and Wildlife (CPW) first recorded classification data in the late 1980s (approximately 28 bulls per 100 cows). The model-estimated sex ratio has been relatively stable, averaging roughly 29 bulls per 100 cows over the previous five years. The previous sex ratio objective range remains feasible for sustaining an acceptable mature-bull population while simultaneously allowing reasonable hunting opportunities. Hunters in GMU 76 reap the majority of the mature-bull population harvested; however, as the winter conditions progress, many mature bulls migrate over the Continental Divide to neighboring units or the higher elevations of GMU 79.

Bull harvest in E-34 averaged 409 animals from 1987 through 2009. Since 2010, the average bull harvest has dropped to 271 animals. Comparatively, cow harvest averaged 374 animals between 1987 and 2010. From 2006 to 2012, hunters harvested more cows than bulls; CPW believes the excessive cow harvest may have contributed to the decline in population. Since 2013, cow harvest has averaged 151 animals. Currently, CPW limits all hunting in GMU 76. In GMU 79, licenses are limited except during the archery either-sex over-the-counter (OTC) season and on private land east and south of Colorado Highway 112.

The OTC archery either-sex season in GMU 79, unlimited in license numbers since 2015, has been associated with an increasing number of hunters. Archery success rates in GMU 76 have been trending upward since 2005, averaging about thirty-nine percent after implementing the previous HMP. In contrast, the average archery success rate has been four percent in the same timeframe. The increasing number of archery hunters in GMU 79 likely influences success rates. The earlier rifle seasons usually have higher success in GMU 76, with the Early-October Rifle season achieving almost eighty percent success and the First Rifle season about fifty-one percent success. Conversely, the GMU 79 rifle and muzzleloader seasons have had less than ten percent average harvest success.

Management Concerns

The principal factors limiting the E-36 population are the amount of precipitation impacting the quantity and quality of forage, essential in the winter range and production areas. The winter range continues to diminish with increased development on private land and competition with domestic livestock. Similarly, summer recreational activities continue to increase throughout the DAU. The various anthropogenic impacts on the summer and winter range could alter elk distribution, reproduction, and calving, ultimately restricting population growth. Alternatively, the increased forage availability resulting from the 2013 West Fork Complex Fires may support a more robust elk herd, influencing elk migration. Spruce beetle kill has significantly reduced tree cover throughout an enormous portion of the DAU. The reduction in tree cover has allowed for substantial swathes of understory forage to proliferate. The proliferation in forage may have additionally supported elk herd expansion over the last few years. However, forage availability could be detrimentally impacted by severe drought conditions, as in the early 2000s. Conversely, reducing tree cover during severe winters could be perilous to elk survival.

The E-34 population estimate has been above the previous objective range since 2016 and is currently around 7,000 animals. CPW would need to render significant effort to reduce the population to the previous objectives if they were to remain; this would likely entail providing additional cow licenses in GMUs 76 and 79 for all seasons. However, local stakeholders have not favored proposals to increase cow licenses in the past. An increase in objectives would incorporate the most recent population estimate, although CPW may temporarily and conservatively provide additional cow harvest opportunities to curtail the upward population trend.

Game damage issues continue to occur in the DAU, particularly along the Rio Grande in GMU 79. Since 2019, CPW has handled most depredation issues by providing vouchers to landowners permitting elk harvest east and south of Colorado Highway 112. The additional pressure should also help distribute the animals to hunter-accessible public land. Depredation concerns are minimal in GMU 76; however, CPW continues to evaluate and provide game damage licenses to private landowners in GMU 79 north and west of Colorado Highway 112 as needed.

Management Alternatives

In the planning process for the 2022 E-34 HMP, CPW considered four alternatives for the post-hunt population size and three alternatives for the post-hunt sex ratio objectives:

Table E34-2. Proposed population objective ranges for the 2022 E-34 HMP.

Post-hunt Population Objective Alternatives:	
3,500 to 5,000	(1) Approximately 10-12% decrease in objectives
4,000 to 5,500	(2) Status Quo
5,000 to 7,000	(3) Approximately 25-27% increase in objectives
6,000 to 8,000	(4) Approximately 45-50% increase in objectives APPROVED

Table E34-2. Proposed bull ratio objective ranges for the 2022 E-34 HMP.

Post-hunt Bull Ratio Objective Alternatives:	
18 to 23 Bulls per 100 cows	(1) Decrease bull ratio objective by approximately 2 bulls per 100 cows
20 to 25 Bulls per 100 cows	(2) Status Quo - APPROVED
23 to 28 Bulls per 100 cows	(3) Increase bull ratio objective by approximately 2 bulls per 100 cows

The expected post-hunt observed sex ratio for E-34, based on its current status as an OTC herd, is 20-25 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Public Involvement

In the summer of 2021, CPW held a local public meeting in Creede, CO. Local constituents representing different community stakeholder groups attended the meeting. Most attendees were pleased with elk management in the DAU. In addition, CPW provided an initial draft online to the public for 30 days. CPW also sent a draft to the BLM, local county commissioners, the Habitat Partnership Program (HPP) committee, and the U.S. Forest Service for commentary and feedback. The draft allowed all constituents to participate in the public process, including non-consumptive recreationists, hunters, landowners, local stores, or business owners.

Preferred Management Objectives:

Post-hunt Population

The preferred post-hunt population objective range for E-34 in 2022 was 6,000 to 8,000 elk, aiming to stabilize the population and sustain the herd at its current estimated population level. The preferred objective range provides the best balance for managing the herd, hunting recreational opportunities, minimizing agricultural conflicts, and maintaining habitat carrying capacity. CPW proposes the same preferred population objective range for 2023.

Post-hunt Sex Ratio

The E-34 preferred post-hunt sex ratio objective range in 2022 was 20-25 bulls per 100 cows. Most stakeholders have been relatively satisfied with their hunting experience and the level of bull maturity observed within the herd. The preferred range creates the best balance between the desired hunting experience and harvesting a mature bull elk in the DAU. Thus, CPW proposes keeping the preferred sex ratio objective range status quo from 2023.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – CPW will continue collecting annual inventory data and manage to the preferred elk population objectives. Cow hunting opportunities may initially increase slightly to curb the upward trend in population growth. Once the estimated population stabilizes within the objective range, CPW may consider conservatively providing cow licenses to maintain the population within the preferred range. The herd's ability to be maintained within the preferred objective range during the next ten years is conceivable as long as calf

recruitment and forage availability remain strong. Tools to control private land depredation issues will remain in place. CPW may consider additional cow harvest opportunities if the population estimate increases towards the upper levels of the objective range or significant deterioration in habitat conditions occur.

Post-hunt Sex Ratio – GMU 76 will remain a limited unit for all hunting seasons, whereas GMU 79 will maintain the limited muzzleloader and rifle seasons and continue the OTC archery season. Once the estimated sex ratio falls within the preferred objective range, CPW may restrict licenses based on the average sex ratio performance. Bull licenses would likely remain the same, allowing for the desired maturity and satisfactory harvest opportunities.

CPW Commission Approved Objectives:

Post-hunt Population

Pending

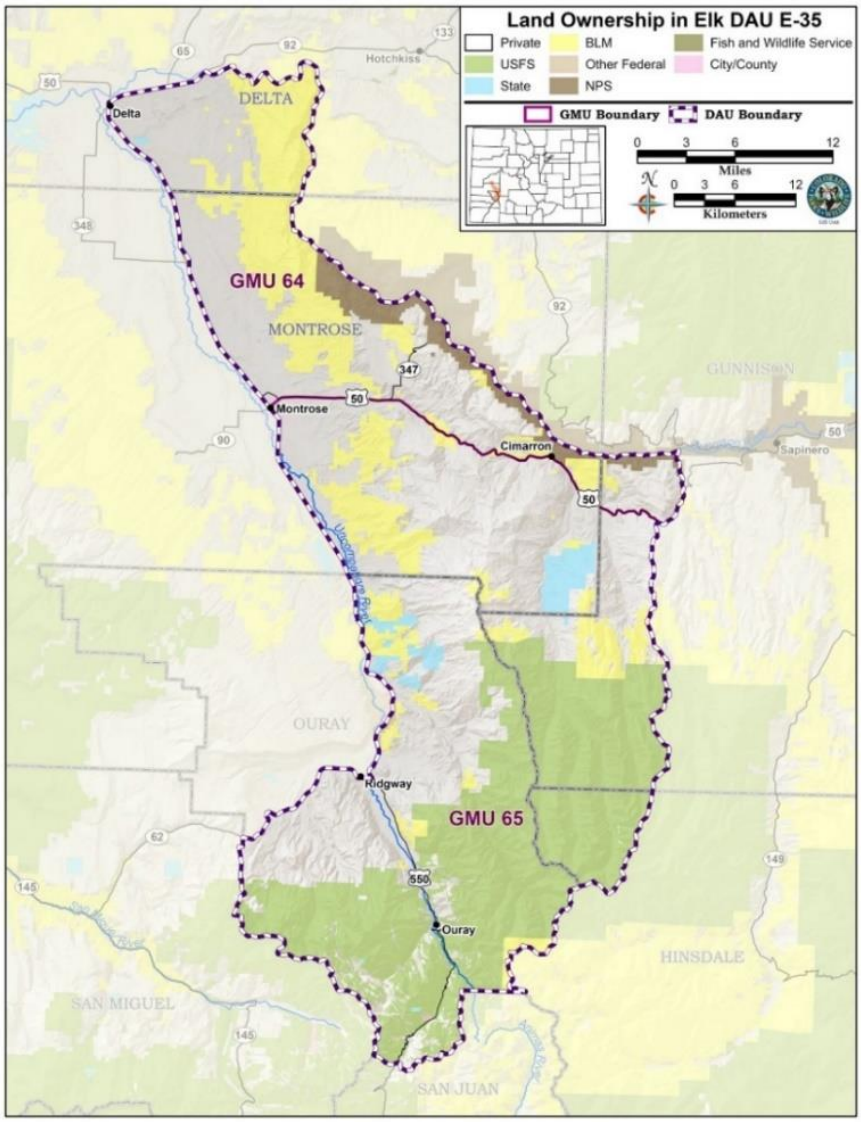
Post-hunt bull ratio

Pending

CIMARRON ELK HERD MANAGEMENT PLAN EXTENSION
DATA ANALYSIS UNIT E-35

Alyssa Kircher, Wildlife Biologist, Montrose

GMUs: 64 and 65 Last HMP Approval Year: 2022
Post-hunt Population: Previous Objective: 6,000-9,000; 2021 Estimate: 7,700. **Preferred Alternative: Extend the current population objective of 6,000-9,000 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 20-25; 2021 observed: 21; modeled: 23. **Preferred Alternative: Extend the current sex ratio objective of 20-25 bulls:100 cows**



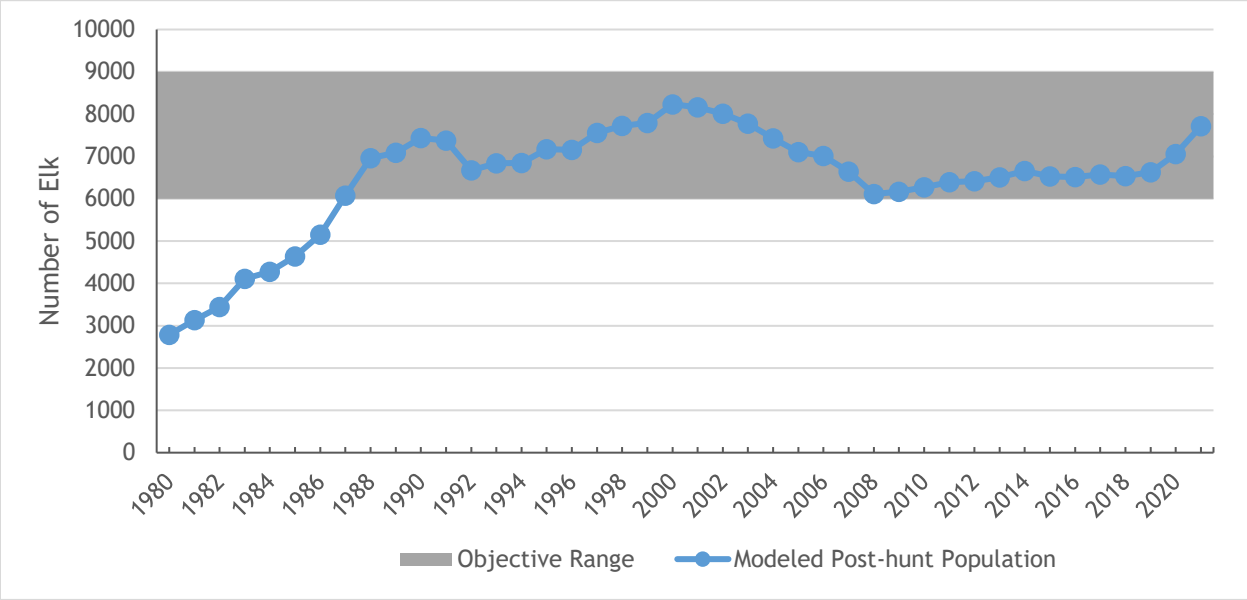


Figure E35-1. Elk DAU E-35 modeled post-hunt population and objective range, years 1980-2021.

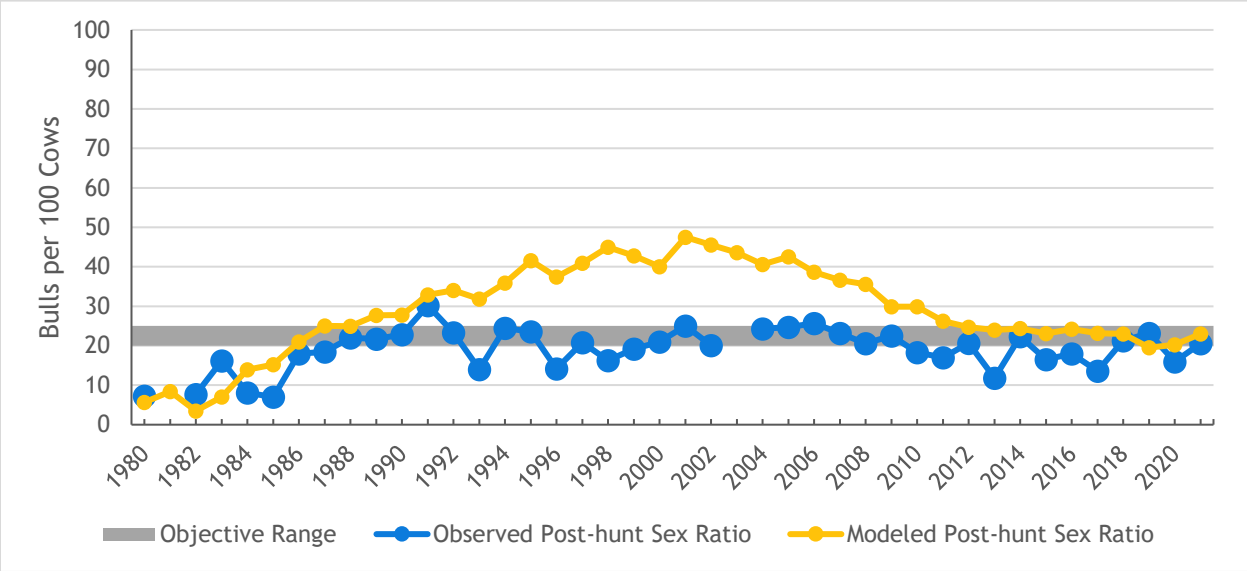


Figure E35-2. Elk DAU E-35 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021.

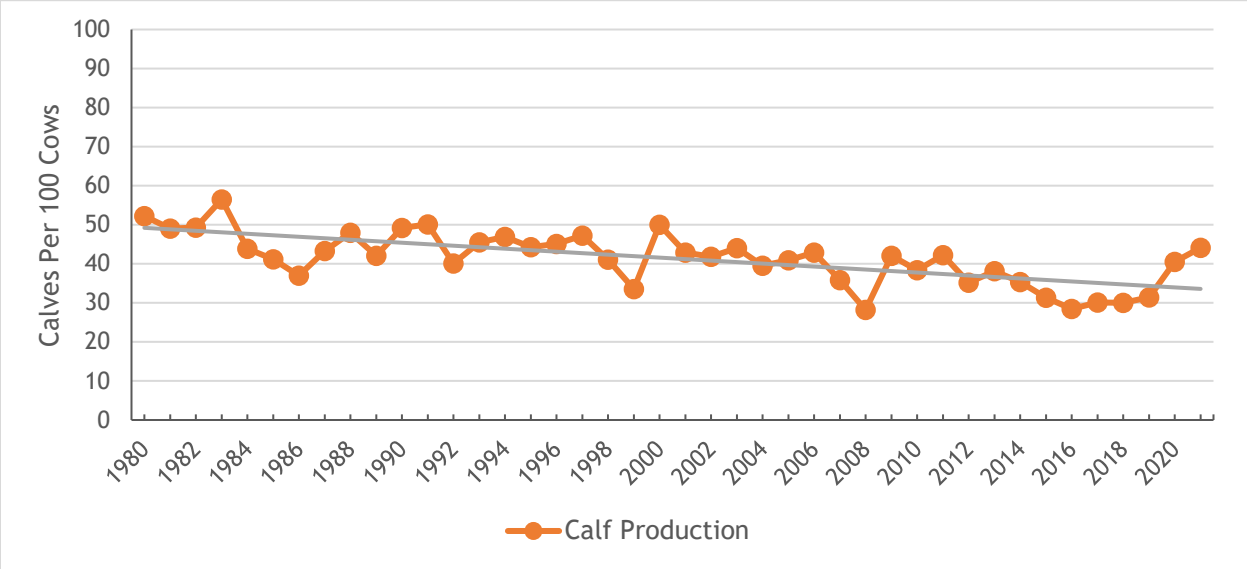


Figure E35-3. Elk DAU E-35 calf production (observed post-hunt calves:100 cows ratio, years 1980-2021).

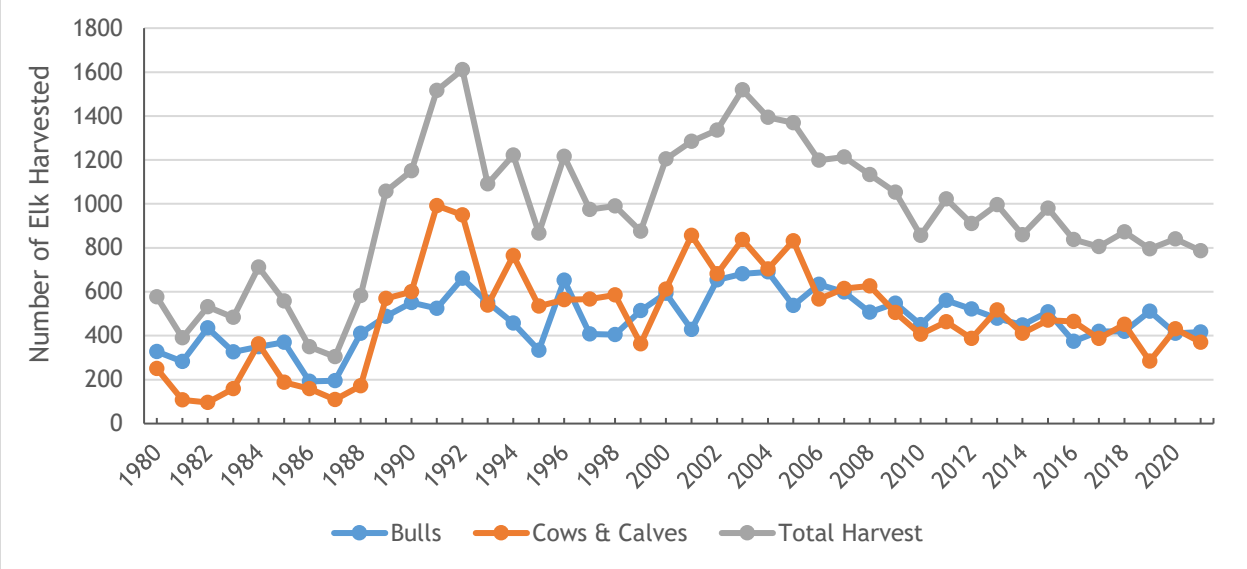


Figure E35-4. Elk harvest estimates in E-35, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-35 is 941 square miles in southwestern Colorado and includes parts of Delta, Gunnison, Hinsdale, Montrose, and Ouray Counties. DAU E-35 consists of Game Management Units 64 (GMU; 269 mi^2) and 65 (672 mi^2) and includes parts of the Uncompahgre, Gunnison, and Cimarron River drainages. Land ownership in DAU E-35 is 50% private, 29% US Forest Service, 17% Bureau of Land Management, 3% National Park Service, and 2% state-owned property. There are also two wilderness areas within the DAU: the Uncompahgre Wilderness (~99,000 acres of USFS and 3,400 acres of BLM) and Mount Sneffels Wilderness (16,500 acres of USFS).

Elk are found throughout the DAU, but occur in their highest densities in in the summer months in higher elevations comprised of aspens, spruce, Douglas fir and occasionally Gambel's oak. In the winter months, large concentrations of elk occupy agricultural fields in the valley paralleling US Hwy 550 and the Uncompahgre River. Elk also concentrate on private lands south of CO Hwy 62 as well. Important wintering areas for elk in GMU 64 include the Bostwick Park area, the Black Canyon National Park, Poverty Mesa, and Fitzpatrick Mesa. In GMU 65, important wintering areas include the Cimarron and Billy Creek State Wildlife Areas, the area between Onion Creek and Cow Creek, and Miller Mesa to West Dallas Creek.

The 2007 post-hunt population objective was 5,000-5,500 elk. This plan was updated and approved by the Parks and Wildlife Commission (PWC) in 2022 with a new objective of 6,000-9,000 elk. The E-35 herd declined after peaking in the early 2000s but stabilized around 2010, and, over the last five years has increased gradually (Figure E35-1). The 2005 post-hunt elk population for E-35 was estimated to be 6,200. The 2021 post-hunt population estimate was 7,700 elk.

The average observed post-hunt sex ratio between 1986 (the first year the 4-point antler restriction was implemented) and 2005 was 21 bulls:100 cows. The average observed post-hunt sex ratio from 2005 to 2021 was 20 bulls:100 cows (Figure E35-2). The observed three-year (2019-2021) average of 20 bulls:100 cows fits within the expected post-hunt sex ratio range for an OTC herd. Observed post-hunt calf ratios averaged 36 calves:100 cows (range 28–44) between 2005 and 2021 (Figure E35-3). The 2021 calf ratio was 44 calves:100 cows, the highest observed calf ratio since 2000 (Figure E35-3).

The number of hunters has increased since the 2007 HMP revision, yet harvest has declined slightly (Figure E35-4). Models have also been updated with additional data and improved techniques. As a result, Colorado Parks and Wildlife (CPW) staff and stakeholders felt that the 2007 objective was too low. In 2022, CPW recommended and the PWC approved managing the E-35 herd for a moderate increase (10-25%) of the elk population. The recommended expected sex ratio is 20-25 bulls:100 cows because E-35 is over-the-counter (OTC), or unlimited, for archery and second and third rifle seasons.

Significant Issues

Habitat capability in E-35 for elk is difficult to assess, but previously declining calf:cow ratios and poor condition of some winter ranges due to drought and overgrazing are likely limiting population growth. Additionally, outdoor recreation has increased dramatically over the last decade and can have many impacts including loss of adequate habitat, changes in seasonal

migration patterns, and potentially lower survival rates. Continued development within the DAU and increased recreational use will likely further reduce habitat capability in the future.

Another management issue in E-35 is the number of elk refuging on private lands year-round, making it difficult for hunters to find elk on public land. Many of the ranches in the Cimarron area have limited to no hunting access allowing elk to harbor on private land throughout the hunting seasons. Unfortunately, most of these ranches are not interested in increasing hunting pressure, or properties are too large for a few hunters to effectively redistribute elk back to public lands.

Although game damage claims in E-35 are not excessive, complaints about elk fence and forage damage and elk competition with livestock are common. Game damage complaints have increased on the Montrose County side of the DAU, while complaints on the Ouray/Gunnison County sides have declined. The last five years have produced relatively mild winters, but drought conditions still exist, leading elk to refuge on private property in the winter months where water and forage are more plentiful.

Management Alternatives

Post-hunt population objective alternatives considered for the 2022 E-35 HMP (Table E35-1):

Table E35-1. Proposed population objective ranges for the 2022 E-35 HMP.

Population Objective Alternatives:	
6,000 to 9,000 (midpoint 7,500)	**(1) Approved-Approximately 15% increase in the current population estimate at the top of the approved objective range**
5,000 to 5,500 (midpoint 5,250)	(2) Status Quo (no change in the current objective range would require approximately a 30% decrease in current population estimates)
3,500 to 6,500 (midpoint 5,000)	(3) Approximately 17% decrease in the current population estimate at the top of the proposed objective range

The expected post-hunt observed sex ratio for E-35, based on its current status as an OTC herd, is 20-25 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Management Objectives

CPW plans to increase populations to meet stakeholder and CPW staff desires. This would help improve hunter opportunity in the future, but more steps need to be taken manage elk refuging on private land. Decreasing this herd would be difficult if CPW was to manage to the other alternatives. The demand for limited licenses is already lower than the quota offered for some licenses currently, so increasing the quotas would not necessarily increase harvest or decrease the population with the unbalanced distribution of elk in E-35. It would also make encountering animals on public lands more difficult since increased pressure could cause elk movements onto private lands which do not allow hunting.

Strategies for addressing management issues and achieving objectives

The population in E-35 has variable calf recruitment, an increase in development and recreation, a decline in habitat quality due to drought, competition with livestock, and a lack of connectivity. These impacts have resulted in slow population growth for the last decade.

CPW can manage sex ratios and populations by increasing or decreasing licenses by total quota, by season, and by sex, depending on the objectives for each herd. With OTC licenses in this herd, managing to a sex ratio objective is difficult. Focusing on limited and antlerless licenses are some ways CPW can manage to the population objective rather than the sex ratio. Lowering antlerless licenses in the short-term may help increase populations toward the approved objective range. Antlerless game damage licenses would still be available for landowners to deter elk from causing more damage and increase landowner tolerance. Limited season licenses will continue to be offered at a similar rate, or potentially increased on private land, to keep the sex ratio near the lower end of the expected sex ratio objective range, if possible. Additionally, black bear and mountain lion license will be managed to keep populations in check. CPW regularly communicates with land management agencies such as the USFS and BLM, landowners, county governments, CDOT, and NGOs and will continue to collaborate with these government agencies and organizations. These agencies can help with large-scale habitat management projects and regulate recreation on public lands, which could bolster elk populations on public lands.

Stakeholder Outreach

Surveys designed with hunters and landowners in mind were sent on 17 September 2021 with an input period ending on 29 October 2021. Emails with a link to the online survey were sent to 3,080 first-choice applicants and license holders from 2017-2020. An additional 20 survey request emails were sent to landowners and outfitters that have expressed interest in herd management. There were 558 respondents to the survey giving us a comprehensive view of stakeholder thoughts and opinions. Overall, the public was interested in seeing a moderate increase in elk. Thoughts on crowding were similar, with all responses showing the variety of hunting experiences available in the DAU.

The draft HMP for E-35 was sent to local county commissioners in Delta, Gunnison, Montrose, Hinsdale, and Ouray Counties. CPW met with Montrose and Ouray County commissioners in-person to discuss plans and answer any questions. Draft plans were also sent to the USFS, the BLM, and Backcountry Hunter and Anglers (BHA). CPW also presented the draft plan to the HPP committee on 10 November 2021. The HMP was posted on the CPW website for 30 days (15 October 2021-15 November 2021), allowing stakeholders to comment on the alternatives in the plan.

CPW Commission Approved Objectives:

Post-hunt Population

Pending

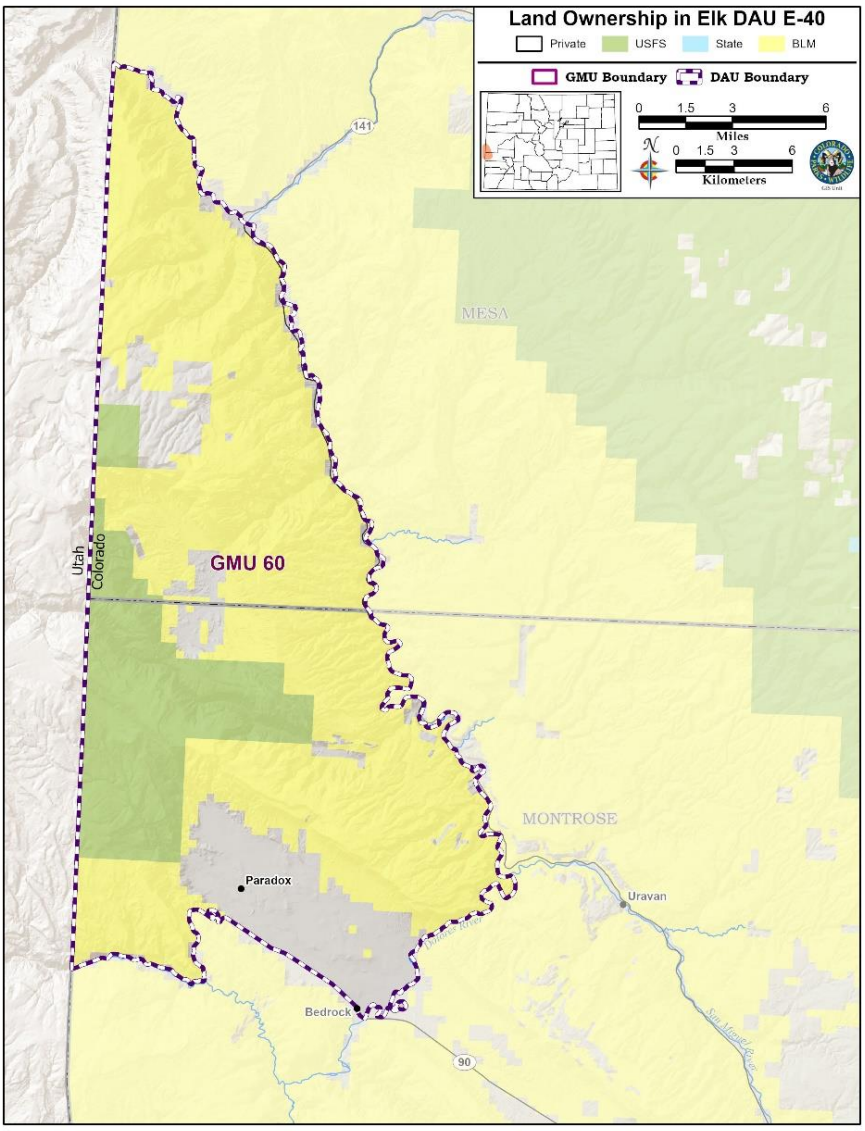
Post-hunt bull ratio

Pending

PARADOX ELK HERD MANAGEMENT PLAN REVISION
DATA ANALYSIS UNIT E-40

Alyssa Kircher, Wildlife Biologist, Montrose

GMU: 60 Last HMP Approval Year: 2008
Post-hunt Population: Previous Objective: 900-1,100; 2021 Estimate: 1,400. **Preferred Alternative: Increase the population objective to 1,200-1,600 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 25-30; 2021 observed: 21; modeled: 27. **Preferred Alternative: (Status quo) 25-30 bulls:100 cows**



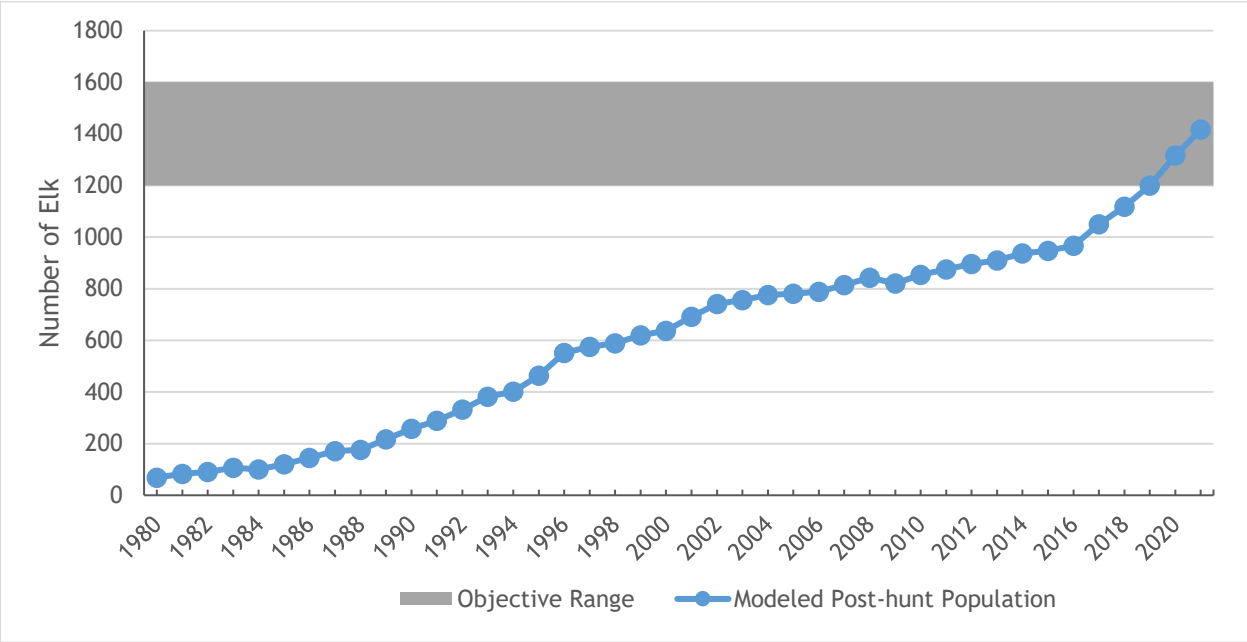


Figure E40-1. Elk DAU E-40 modeled post-hunt population and objective range, years 1980-2021.

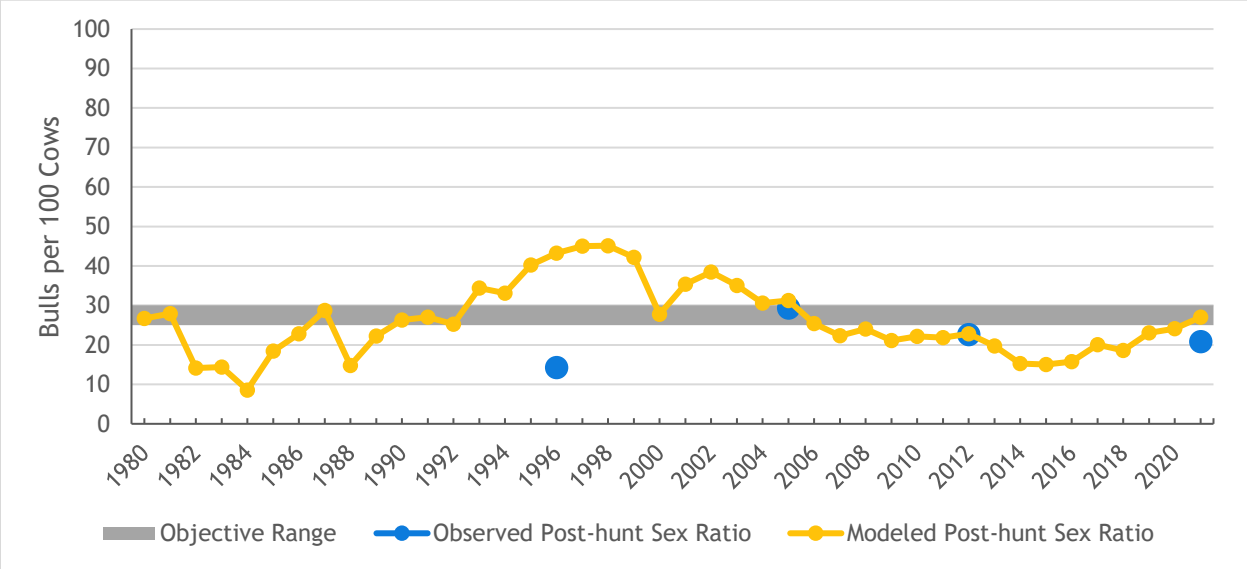


Figure E40-2. Elk DAU E-40 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021 (note: this herd is not classified every year).

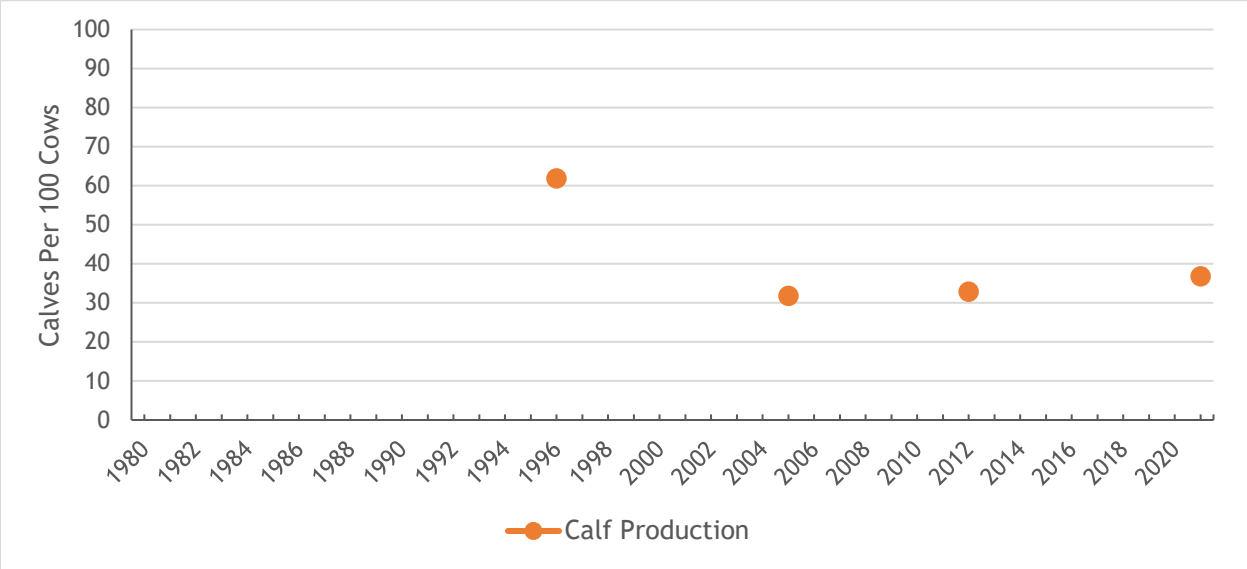


Figure E40-3. Elk DAU E-40 calf production (observed post-hunt calves:100 cows ratio, years 1980-2021. Note: this herd is not classified every year).

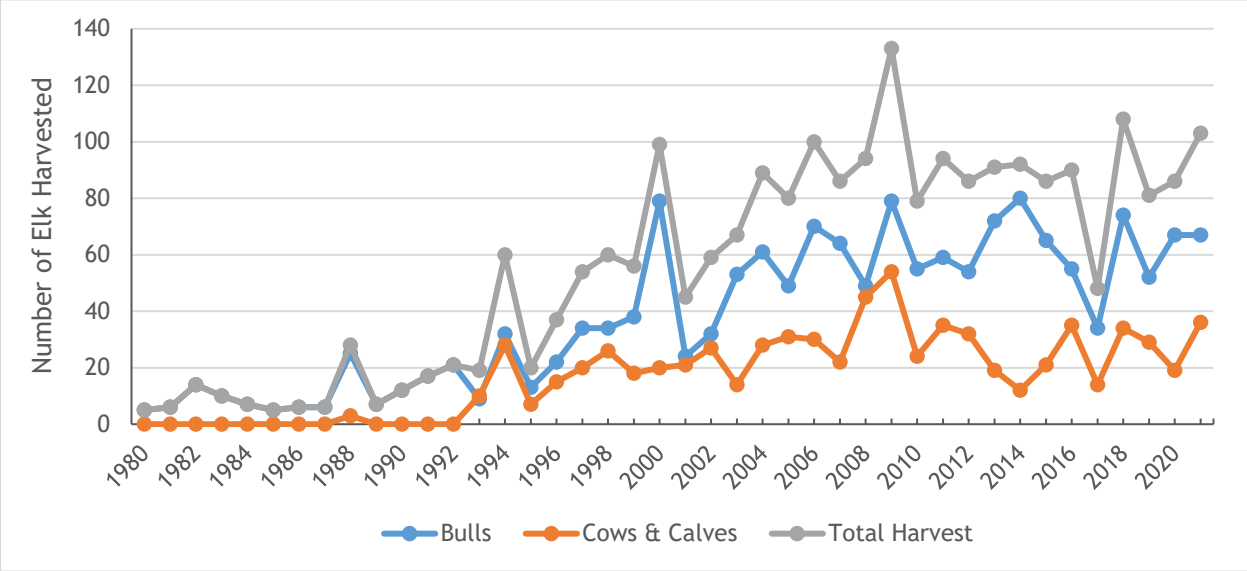


Figure E40-4. Elk harvest estimates in E-40, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-40, the Paradox elk herd, consists of Game Management Unit (GMU) 60 along the Utah state-line and includes parts of Montrose and Mesa Counties. The landownership in this unit consists of 65% Bureau of Land Management, 18% U.S. Forest Service, and 18% privately owned.

Plant communities are diverse within the DAU, based on the changes in elevation from 4,500 ft in the desert shrub communities around Gateway and the Dolores River to the Ponderosa pine and mountain shrub areas in the upper elevations above 8,000 ft on the west end of the DAU. Agricultural areas and cultivated croplands within the DAU occur primarily in the Paradox Valley, Sinbad Valley, Gateway area, and along the Dolores River.

E-40 consists of mostly winter range, with most summer range being utilized on the Utah side of the La Sals. In the spring, most elk move to higher elevations in the La Sal mountains following the retreating snowline and green-up. Although some elk remain at low elevations year-round, the majority of elk in the Paradox area can be found above 8,000 ft during the summer months. During the breeding season, most elk remain at fairly high elevations and in close proximity to dense cover. Fall hunting pressure begins pushing the elk to lower elevations. By the end of the hunting season in November, elk usually concentrate in the pinyon-juniper and mountain shrub zones below 8,000 ft.

This population has been growing steadily over the past 30 years (Figure E40-1). The estimated post-hunt population was 1,400 elk in 2021. Demographics for GMU 60 are difficult to assess because big game migrates between Utah and Colorado, depending on snow levels in the La Sals. Therefore, this herd is not classified annually, unlike many other herds throughout Colorado. There have been four classifications flights in GMU 60 since 1980, making it difficult to acquire accurate bull:cow and calf:cow ratios. GMU 60 was last classified in 2021, where CPW observed a bull:cow ratio of 21:100 and a calf:cow ratio of 37:100 (Figures E40-2 and E40-3). This was the first time the unit had been classified since 2012. The modeled sex ratio was 27:100 in 2021 and the modeled three-year average sex ratio was 25:100. Sex ratios are estimated between 25 to 30 males per 100 females partially due to Utah's quality elk management.

Unit 60 has historically been managed for hunter opportunity as an unlimited, over-the-counter (OTC) license unit for bull elk hunting; however, Utah manages the La Sals, directly West of GMU 60, as a quality elk unit. License allocation has remained stable over the last decade (Figure E40-4). Limited licenses exceed second choice demand and many go as leftover licenses.

Significant Issues

Habitat capability in E-40 for elk is difficult to assess, but based on poor winter forage condition due to the drought, the fact that most of the GMU is winter range, and a large proportion of the elk migrate into the unit from Utah, the population will vary from year to year. This movement makes managing this herd difficult.

Although claims for elk damage in E-40 are not excessive, complaints from landowners and permittees about elk competition with livestock and damage to crops are not uncommon, particularly in the Paradox valley where elk are utilizing alfalfa fields and cornfields. Limited

demand for private-land-only (PLO) licenses impedes CPW's ability to manage game damage through harvest.

Additionally, Chronic Wasting Disease (CWD) is present in Colorado and Utah. This disease occurs in deer, elk, and moose. CWD is an infectious prion (misfolded protein) disease that effects the nervous system over approximately three years. CWD can spread from the host by direct contact or through resources shared with an infected individual. To add to the complexity, prions can last for many years in the environment, further challenging management. This disease is 100% fatal and a treatment has not yet been developed. The local mule deer population has tested positive in GMU 60, but thus far, elk have remained negative. The prevalence rate in all harvested deer sampled over the last three years was 21%. There were only 24 samples during this time, so estimates may be slightly inflated. CWD is present in the elk and deer populations in unit 61, to the east, and present in the deer populations in unit 70, the unit to the south. CWD has not been detected in either species in GMU 40, to the north. Utah Division of Wildlife Resources has detected CWD in both deer and elk in the La Sal Mountains across the border from Colorado. Prevalence may be increasing there as well as in Colorado. Unfortunately, although CPW can use harvest to manage the spread, CWD will be an ever-present issue in Colorado's big game populations.

Management Alternatives

Post-hunt population objective alternatives being considered for E-40 (Table E40-1):

Table E40-1. Proposed population objective ranges for the E-40 revised 2023 HMP.

Population Objective Alternatives:	
1,200 to 1,600 (midpoint 1,400)	**(1) Preferred- Stable population within the proposed objective range**
900 to 1,100 (midpoint 1,000)	(2) Status Quo (no change in the current objective range would require approximately 29% decrease in the current population estimate)
1,700 to 2,100 (midpoint 1,900)	(3) Approximately 36% increase in the current population estimate to the midpoint of the proposed objective range

The expected sex ratio for E-40, based on its current status as an OTC herd, is 25-30 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process.

Management Objectives

CPW plans to stabilize this herd within the proposed objective range. The current population estimate fits within this range. With limited carrying capacity due to drought, poor conditions on winter range, and pending CWD spread, increasing this herd is not logical. Game damage would likely escalate in Paradox Valley with an increasing elk herd and CPW would like to limit big game impacts on private land. Decreasing this herd, would be difficult because of constant variation in herd size and the lack of demand for limited licenses. Stabilizing the herd to the best extent possible will keep game damage complaints low, CWD prevalence in check, and maximize hunting opportunities.

Strategies for addressing management issues and achieving objectives

E-40 has unique management challenges with constant movement between Colorado and Utah. Because of this, this unit is not classified and managed like other units throughout the state. CPW will continue to manage this herd for maximum hunting opportunity and economic benefit, while also limiting game damage.
CPW can manage sex ratios and populations by increasing or decreasing licenses by total quota, by season, and by sex, depending on the objectives for each herd. With OTC licenses in this herd, managing to a sex ratio objective is difficult. Focusing on limited licenses and antlerless licenses are some of the ways CPW can manage to the population objective rather than the sex ratio. CPW will continue to offer game damage licenses and private-land-only licenses to increase landowner tolerance and keep hunting pressure on private lands to redistribute elk on to public lands. As the population reaches the top of the objective range, more limited licenses may be offered to offset a growing population size. Additionally, licenses may need to be reallocated by season or increased depending on CWD prevalence.

CPW regularly communicates with land management agencies such as the USFS and BLM, landowners, county governments, CDOT, and NGOs and will continue to collaborate with these government agencies and organizations to improve habitat carrying capacity.

Stakeholder Outreach

Hunters were randomly selected to complete the 2021 Elk Hunter Attitude Survey after the completion of their hunting seasons. There were 89-111 respondents that answered opt-in survey questions for unit 60. Overall, respondents wanted a moderate increase in the elk population and most respondents were satisfied with their hunting experience. Crowding also did not seem to be an issue in this unit for all seasons combined.

We will send letters and draft plans to the local county commissions and land management agencies for comment. CPW also sent the draft plan to the HPP committee to review during their August meeting and received a support letter. The HMP will be posted on the CPW website for 30 days allowing additional stakeholders to comment on the alternatives in the plan.

CPW Commission Approved Objectives:

Post-hunt Population

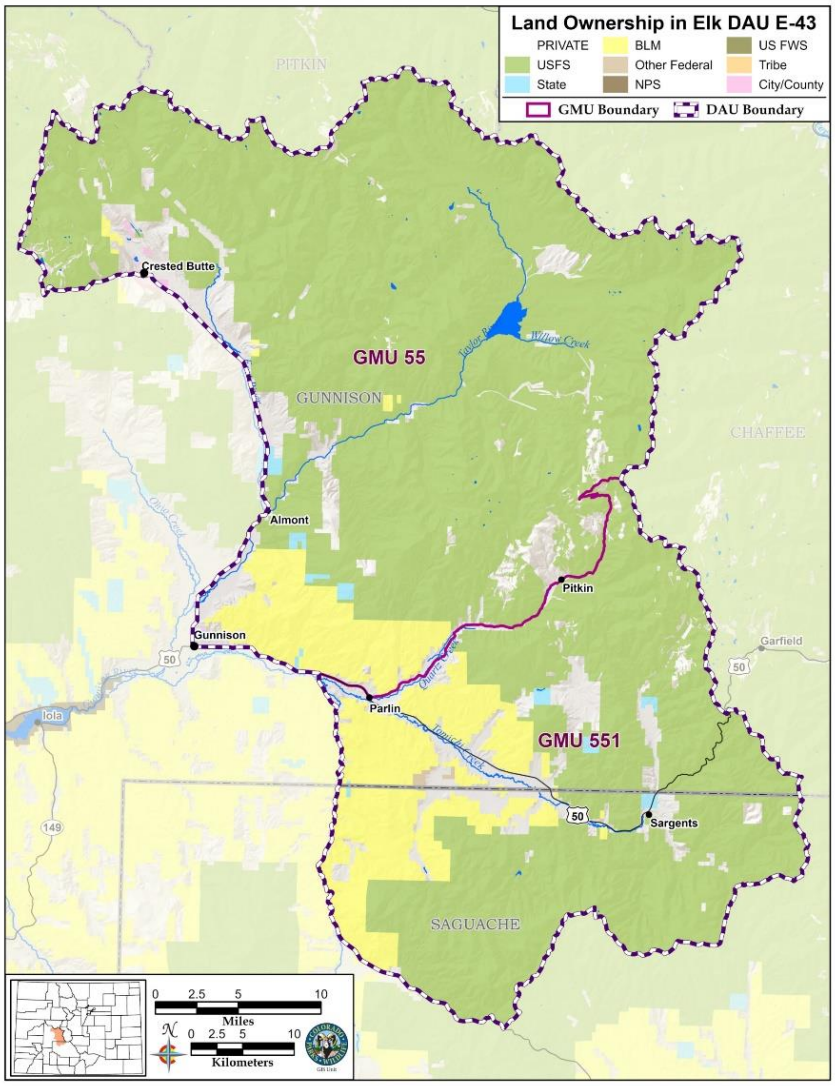
Pending

Post-hunt bull ratio

Pending

EAST GUNNISON BASIN ELK HERD MANAGEMENT PLAN REVISION
DATA ANALYSIS UNIT E-43
Kevin Blecha, Wildlife Biologist, Gunnison

GMUs: 55 and 551 Last HMP Approval Year: 2001
Post-hunt Population: Previous Objective (old model): 3,000-3,500; 2021 Estimate (new model): 6,700. **Preferred Alternative: Increase the population objective to 6,200-7,200 elk**
Post-hunt Observed Sex Ratio (bulls:100 cows): Previous Objective: 25; 2021 observed: 21; modeled: 26 **Preferred Alternative: (Status quo) 23-28 bulls:100 cows**



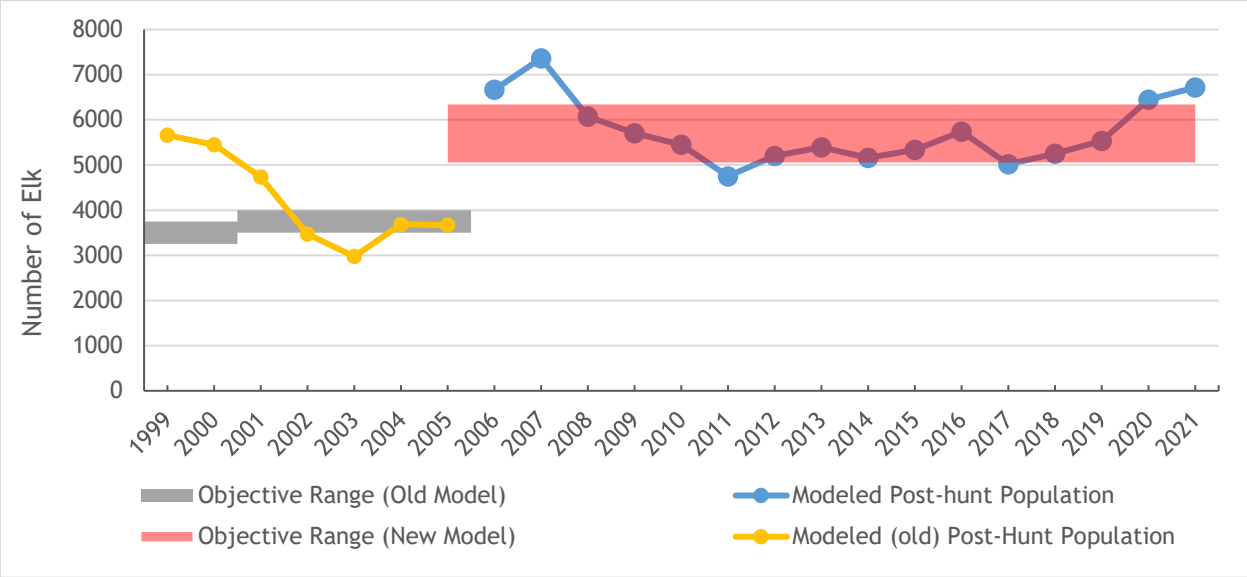


Figure E43-1. Elk DAU E-43 modeled post-hunt population and objective range, years 1999-2021. Transitioning to a new population estimation model in 2006 shifted the objective range.

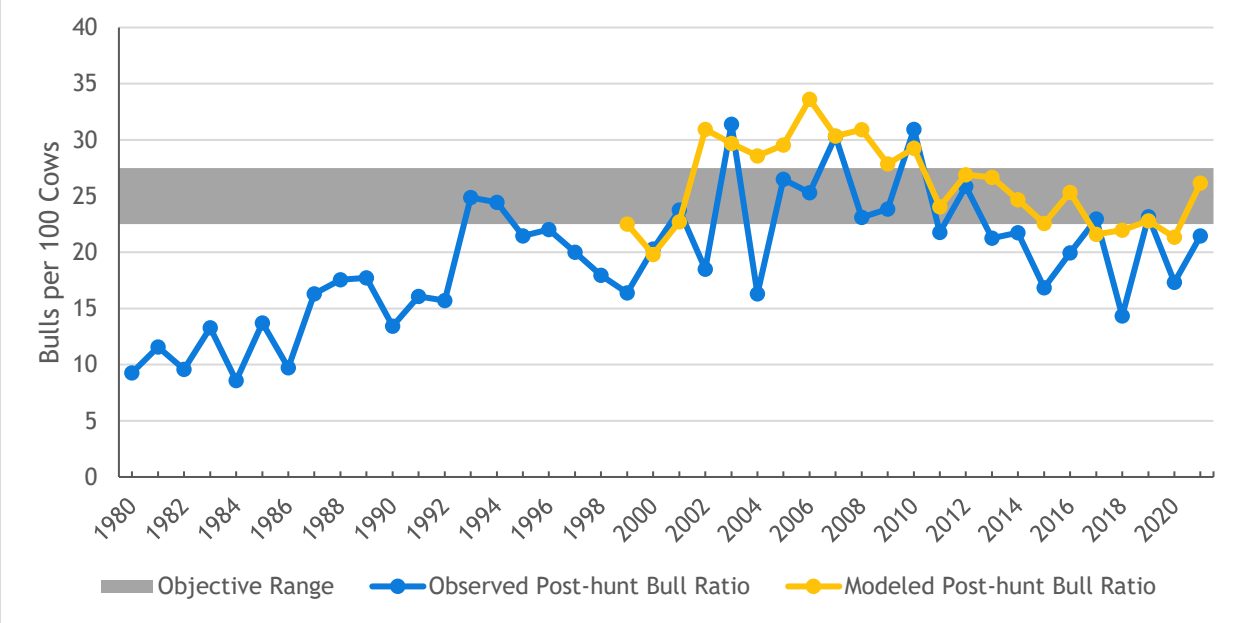


Figure E43-2. Elk DAU E-43 observed and modeled post-hunt sex ratio (bulls:100 cows), years 1980-2021.

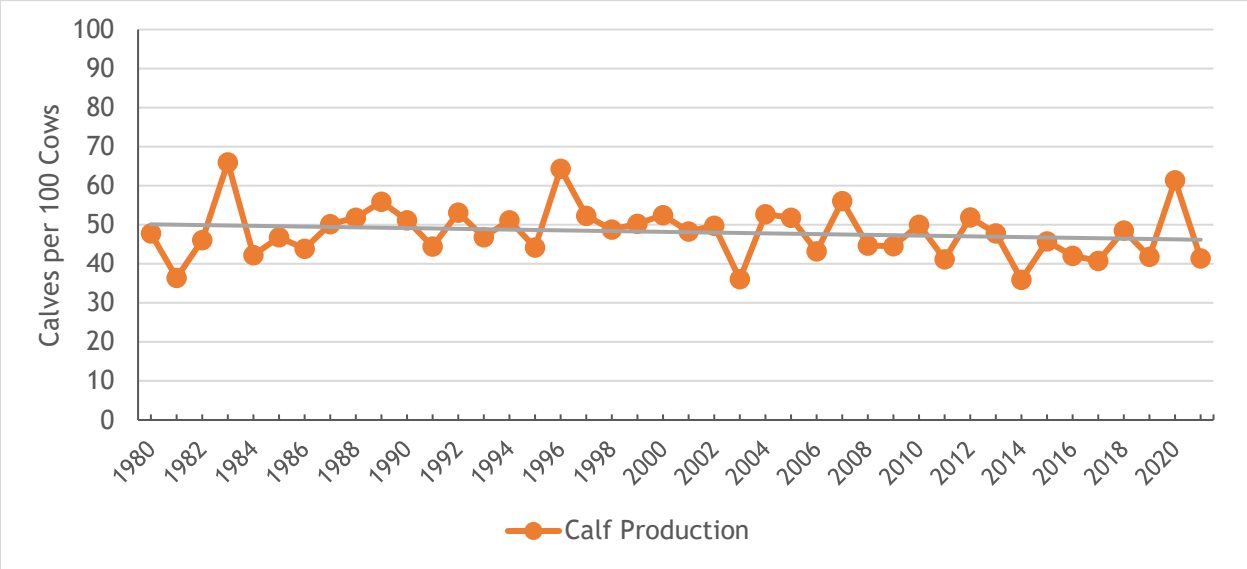


Figure E43-3. Elk DAU E-43 calf production (observed post-hunt calves:100 cows ratio, years 1980-2021).

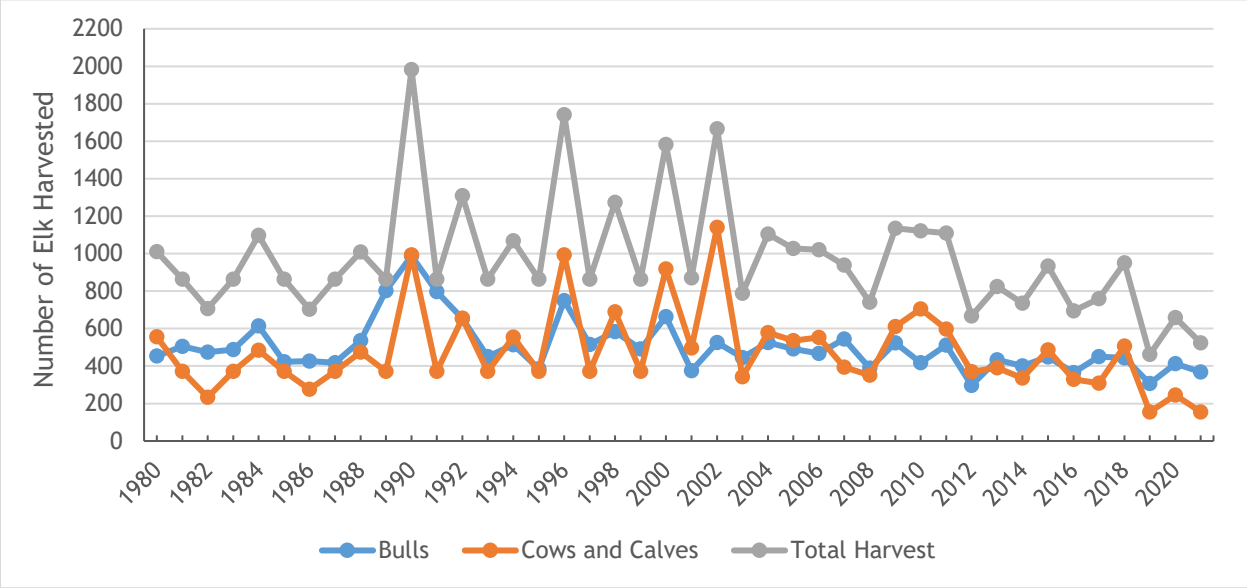


Figure E43-4. Elk harvest estimates in E-43, years 1980-2021.

Background Information

Data Analysis Unit (DAU) E-43 is 1,431 square miles in southwestern Colorado and includes parts of Gunnison and Saguache Counties. DAU E-43 consists of Game Management Units 55 (GMU; 886 mi^2) and 551 (545 mi^2) and includes the eastern portions of the Upper Gunnison River Basin. Land ownership in DAU E-43 is 11% private, 76% US Forest Service, 12% Bureau of Land Management, and 1% owned by other entities. There are also three wilderness areas within the DAU: the Marron Bells Wilderness, Fossil Ridge Wilderness, and Collegiate Peaks Wilderness.

Elk occur throughout the DAU, with the highest summer densities in the higher elevations (montane and sub-alpine), and the highest winter densities in the lower elevations (sagebrush and sagebrush/forest interface). It is estimated ~30-50% of the population utilizing E-43 summer ranges migrates into neighboring E-26 mid-winter. During harsh winters, 50-70% of the E-43 population moves into E-26. A significant migration network spanning >70 miles connects elk summer and winter ranges in the Upper Gunnison basin to the winter ranges of Saguache Creek in the Upper Rio Grande River basin.

The 2001 post-hunt population objective was 3000 - 3500 elk (Figure E43-1). At the time of the 2001 plan adoption, the population size was estimated to be 4,700 elk. Then in 2006, the population estimation method was improved. Since 2015, cow elk survival estimates (via telemetry collars) have been incorporated into modeling techniques. As of September 2021, the retrospective estimates for 2001 is 7,050 elk (Figure E43-1). Using retrospective population size estimates for the 1999 – 2005 period and corresponding published estimates, the adjusted population objective for the 2006 – 2021 period using the new model is 5,200 – 6100 elk (Figure 1).

The average observed post-hunt sex ratio between 1986 (the first year the 4-point antler restriction was implemented) and 2021 was 21 bulls:100 cows. The average observed post-hunt sex ratio from 2001 to 2021 was 23 bulls:100 cows (Figure E43-2). The observed three-year (2019-2021) average of 21 bulls:100 cows fits within the expected post-hunt sex ratio range for an OTC herd. Observed post-hunt calf ratios averaged 47 calves:100 cows (range 36–61) between 2001 and 2021 (Figure E43-3). The 2019-2021 average calf ratio was 48 calves:100 cows, which is also marked by a period of relatively low cow harvest and overall population growth (Figure E43-3).

The number of hunters has fluctuated over time, some of which has been under the control of regulation and license changes. In 2010, archery tags were shifted from over-the-counter (OTC) to limited draw only. OTC rifle (restricted to 2nd and 3rd season only) tag holders hunting in E-43 have ranged from 1626 (2010) to 3868 (2000), with a 1999-2021 average of 2,678 hunters. Limited license numbers, and the corresponding harvest of elk (Figure E43-4), have fluctuated rapidly with respect to changes in license numbers. An average of 418 (range 152 – 604) cow elk were harvested for the 2001-2021 period. For the 2001-2021, an average of 174 cows were harvested, and represents the lowest average number of cow elk harvested in any three year period of E-43's 41 year history. During the same 2001-2021 period, average harvest success (elk harvested per number of licenses allocated) was 17%, but 18% success was measured for 2019-2021. Thus, recent increases in E-43 elk population size are not only due to high calf:cow ratios, but likely also due to the reduction in cow licenses over the last three years.

Significant Issues

Habitat loss occurs in E-43 due to increased pressures of residential and recreation uses of the land, and is similar to the rest of the Southwest Region of Colorado. Additionally, ranchers have expressed concerns about high elk population sizes in the Upper Gunnison Basin (DAUs E-5, E-25, E-43) which has triggered massive reductions in elk population size in past years via some periods of intensive elk harvest (Figure E43-4: 1990 – 2001). Concerns have been raised by some stakeholder groups on competition between cattle, elk, and the federally threatened Gunnison sage-grouse.

The connectivity of habitats has been recently raised as a major issue to the E-43 elk herd. Telemetry studies conducted on elk movements in 2001 and then with GPS collars (2015 – 2022) have shown that a substantial portion of E-43 elk travel over the continental divide into neighboring E-26 on a mid-winter migration. The most important discovery occurred in the harsh winter of January 2017, when approximately 60-70% of the GPS-collared elk that normally winter north of Highway 50 in E-43, left their winter ranges to seek refuge in the milder conditions of the San Luis Valley (Saguache Creek drainage). As the sample size of collars has grown, it was discovered that approximately 30-50% of the E-43 population is moving out of the Gunnison Basin during even the average winter. In some cases, a portion of the elk summering on the far northern ends of E-43 (e.g., Gothic and Italian Mountains) will move >70 miles to the furthest southeastern winter ranges of the Saguache Creek drainage. Highway traffic volumes on the three major highways (Highways 50, 135, and 114) have been increasing since 2015. For elk to continue making this mid-winter migration movement, the highway system will need to remain permeable to these long-distance elk movements.

Crowding issues are becoming a growing concern in E-43, especially in GMU 55. GMU 55 intersects a major destination for deer hunters and other outdoor recreationists. In the recent four years, elk have concentrated in lower elevations during the rifle seasons. The large concentrations of elk have attracted large masses of OTC bull elk rifle (2nd and 3rd season) hunters and caused conflicts for law enforcement staff. A recent survey (August 2021) of elk hunters indicated support for implementing some type of license limitation in these 2nd and 3rd bull elk rifle seasons (Appendix Figure A.5).

Although elk game damage claims in E-43 are not occurring, ag/elk conflict complaints in the Tomichi Creek region occur, and are handled with damage hunts customized to when elk are occupying irrigated hay fields in early fall. Pro-active management solutions for elk conflicts in the Gunnison Basin are also attempted or carried out via the local Habitat Partnership Program committee.

Management Alternatives

Post-hunt population objective alternatives being considered for E-43 (Table E43-1):

Table E43-1. Proposed and approved population objective ranges for the E-43 revised 2023 HMP.

Post-hunt Population Objective Alternatives:	
6,900 to 7,900 (midpoint 7,400)	(1) Approximately 10% population increase based on the post-hunt 2021 population estimate.
6,200 to 7,200 (midpoint 6,700)	**(2) This objective range incorporates the 2021 post-hunt population estimate +/- 500 elk. STAFF PREFERRED ALTERNATIVE.**
5,500 to 6,500 (midpoint 6,000)	(3) Approximately 10% population decrease based on the post-hunt 2021 population estimate.

The expected post-hunt observed sex ratio for E-43, based on its current status as an OTC herd, is 23-28 bulls per 100 cows. This ratio would become the objective to manage toward, during the lifetime of this HMP, if licensing strategy was to change to a limited system via the CPW five-year Big Game Season Structure or other Commission process. This range would allow for opportunity and varied age classes of bulls in the population, and is similar to that in neighboring E-25, where bull license allocations are limited in number.

Management Objectives

CPW's staff-preferred objective is to manage the E-43 population size as status quo based on the 2021 post-hunt population size estimate, which would equate to a range of 6,200 to 7,200 elk (midpoint of 6,700 elk). However, this would constitute an 18% increase over the midpoint of the old (2001) population size objective that was adjusted for the change made in 2006 to the population estimation techniques. Between post-hunt 2020 and post-hunt 2022 (pending), the elk population size is estimated to have increased by approximately 15-20%. This increase slightly exceeds the averaged 12% desired increase expressed by hunters in the August 2021 survey of E-43 hunters, but recognizes that hunters were likely basing their opinions off the post-hunt 2020 population size estimates (Appendix: Table E43.A.3). Continuing to manage toward the current population size of elk will not increase conflicts with agriculture producers in E-43 (see above discussion on game damage concerns).

No changes to bull:cow ratios would be made with this plan given the current unlimited OTC licensing strategy. However, the CPW staff's preferred objective for the bull ratio would be set at 23 – 28 bulls:100 cows if E-43 was to ever be managed as a limited licensed unit. This is fitting to that observed historically, and that desired by most hunters in the August 2021 survey of E-43 hunters (Appendix: Figure A.4).

Strategies for addressing management issues and achieving objectives

This plan does not assist in addressing the E-43 management issues discussed and voiced by hunters. However, updating the herd management objectives to better fit the updated modeling methods and improved data stream (i.e., elk survival monitoring data) is beneficial to various processes that rely on knowing whether elk population sizes are within the objective ranges desired by stakeholders (i.e., annual license setting process, land use commenting).

Achieving a status-quo population size objective would be relatively simple in the initial years; CPW staff would likely make annual license recommendations to maintain the current (2021) post-hunt population size. An initial increase in cow licenses would likely occur to offset the high calf production observed in recent years. In future years, depending on whether the population's production performs well or poorly, or bearing some change in hunter harvest success, CPW staff would make cow license number recommendations that would either maintain the population size within the objective range by recommending changes in cow license numbers to ensure the population does not significantly exceed or go below the objective range.

Stakeholder Outreach

An opinion survey of past E-43 hunters 2015-2020 was conducted in August 2021 of which we received responses from 406 unique individual hunters. All tables and figures cited below can be found in the Appendix. When respondents were asked the reason why they hunt elk in E-43, the most important was to harvest wild game meat, followed by spending time in/with nature and family and friends, to contribute to wildlife management, to challenge oneself, to contribute to local economy (Table E43-A.1). Harvesting a trophy was the lowest ranked reason to hunt (Table E43-A.1). When respondents were asked about their satisfaction on seeing elk or harvest success, results were centered around 50% satisfaction, with archery hunters the most satisfied, and first and fourth season rifle hunters being the least satisfied (Table E43-A.2). When respondents were asked about their satisfaction on hunter crowding, results were centered just below 50% satisfaction, with archery and muzzleloader hunters being the least crowded and hunter crowding increasing as the four rifle seasons progressed into the fall (Table E43-A.3). When respondents were asked about a set of eight management issues, the most concerning was elk being inaccessible due to remote terrain or private land refuges. The next most concerning issue was the impacts of non-hunting recreation pressures on elk distribution, followed by impacts of hunting pressure on the distribution of elk, diseases negatively influencing the population, habitat quantity/quality, elk starvation in winter, predators influencing elk populations. The least of concern was human economic losses due to elk (Table E43-A.4). When asked whether elk distribution was a more important issue than elk abundance in E-43, the predominant answer was that distribution was indeed a larger issue (Figure E43-A.2).

Survey respondents were then asked whether they would like to see the E-43 elk population size decrease (at -17% or -35%), stay the same (0% change), or increase (at +17% or +35%) (Figure E43-A.3). Weighting the suggested percent changes by the number of respondents, the average population size change desired by E-43 hunters is +12.3% at the time this survey was conducted. Survey respondents were asked whether they wanted more hunting opportunities versus a higher quality hunting experience (e.g., less crowding and more bulls available), via a change in bull-to-cow ratios. The majority (68%) of hunters did not want to see a change, 25% would like to see an increase in bull ratios, and 6.4% would like to see a decrease in bull ratios (Figure E43-A.4).

E-43 hunter survey respondents were asked whether they would like to see a limit placed on the number of OTC rifle bull elk licenses. 31.5% strongly approved, 24% somewhat approved, 19% were neutral, 11.6% somewhat disapproved, and 14.0% strongly disapproved (Figure E43.A.5).

CPW Commission Approved Objectives:

Post-hunt Population

Pending

Post-hunt bull ratio

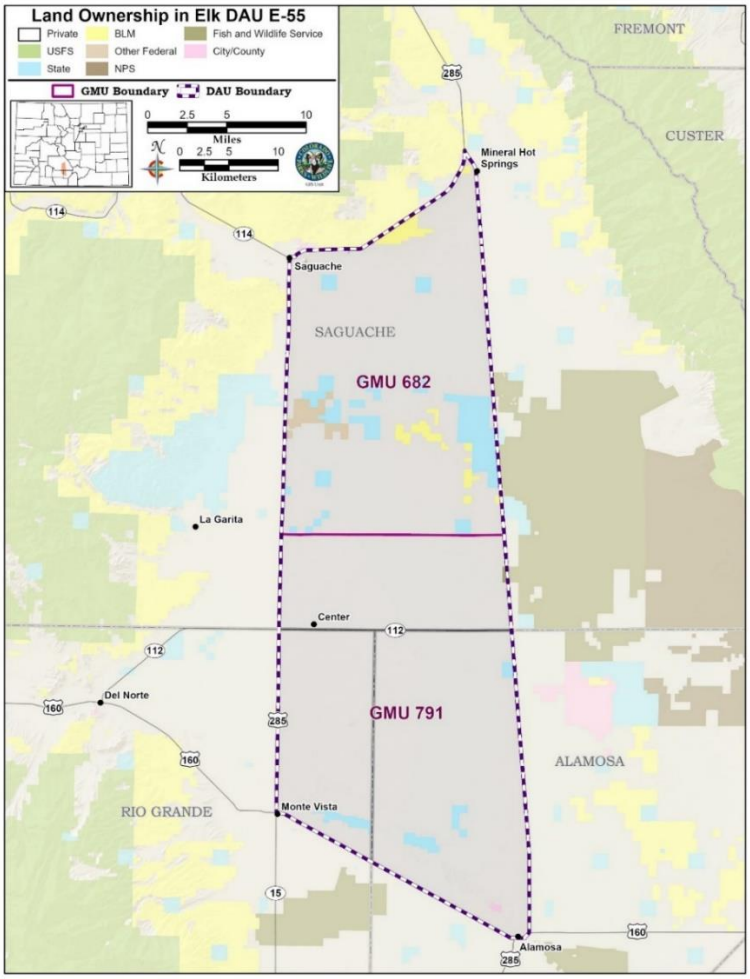
Pending

NORTHERN SAN LUIS VALLEY FLOOR ELK HERD MANAGEMENT PLAN EXTENSION

DATA ANALYSIS UNIT E-55

Brent Frankland, Wildlife Biologist, Monte Vista

GMUs: 682 and 791 Last HMP Approval Year: 2006
Post-hunt Population: Previous Objective: 0; Current Estimate: 0-1000, depending on year and season. **Preferred Alternative: Extend elk population objective of 0**
Post-hunt Sex Ratio (bulls:100 cows): Previous Objective: N/A; **Preferred Alternative: N/A**



Background Information

E-55 is in southern Colorado's central part of the San Luis Valley (SLV), north of Hwy 160. The SLV has one of the world's largest concentrations of centre-pivot irrigation farms. The Data Analysis Unit (DAU) or geographical area comprises Game Management Units (GMUs) 682 and 791, formerly the eastern section of GMUs 68 and 79. The area is approximately 582 square miles and encompasses portions of Alamosa, Rio Grande and Saguache Counties. Elk winter range within the DAU includes roughly 34 square miles, whereas the summer range encompasses about 206 square miles. Public land constitutes about eight percent of the DAU, while the private sector owns almost ninety-two percent of the area.

The majority of the DAU is under agricultural crop irrigation. Crops grown in the agricultural area include potatoes, barley, alfalfa, lettuce, spinach, carrots, wheat, marijuana, hemp, and canola. Nevertheless, the unit's small amount of native vegetation constitutes high desert shrubs comprised mainly of greasewood, saltbush, and rabbitbrush. The Rio Grande riparian corridor along runs along the southern portion of E-55. The valley floor is considered a high desert environment and averages approximately 6-8 inches of precipitation annually.

The elk population in E-55 varies annually between zero and a thousand animals; however, the numbers have increased since the previous Herd Management Plan in 2006. The variation depends heavily on forage availability on public land, particularly during winter. Residential elk are becoming more prominent, with a growing herd that moves between the Monte Vista Wildlife Refuge and the Rio Grande, and a different herd on the Russell Lakes State Wildlife Area.

Colorado Parks and Wildlife (CPW) has managed the animals within and out of the primary season structure. Several hunting options have become available to landowners after Wildlife Commission approval so that elk can be reduced or eliminated from these agricultural areas. Most of the hunting in E-55 focuses on pressurizing the animals, particularly during conflict periods, back to public land. Permission from landowners will still be required for hunters to access the animals, and hunters can usually achieve this through a voucher system. In addition, CPW provides special dispersal licenses on three State Wildlife Areas (Higle, Russell lakes, and the Rio Grande) under the authority of the Area Wildlife Manager.

Management Concerns

Charging hunters for private land access to hunt bull elk can be a significant source of income for some landowners. The impetus for income could provide several E-55 landowners with an incentive to harbour elk through the summer and maximize the amount they charge for elk hunting on their property. Hunters desire bulls with hardened antlers. However, by the time the antlers harden in August/September, the potential for crop damage has already occurred. To effectively discourage elk from using agricultural areas, hunting bulls while their antlers are still developing is necessary.

Hunters have expressed concern about landowners denying access to the general public and profiteering from trespass fees, while paradoxically, CPW suggests the elk have the potential to cause enormous damage claims, and reduction of the herd is needed. Simultaneously, several landowners are reluctant to open their properties to elk hunting providing access to public hunters. Some landowners question why CPW would want to eliminate elk from an area since people enjoy seeing concentrations of elk on the valley floor, while other landowners appreciate the opportunity to hunt elk on their properties.

Potatoes are a precious crop grown on agricultural land within E-55. Farmers produce seed potatoes that they market to other farmers, which must be free of disease and infections. Elk crossing commercial potato fields and entering certified seed potato fields creates significant risks of introducing disease agents or pests. If seed potatoes become contaminated, this could result in the loss of disease-free certification, and farmers may only market the crop as commercial potatoes at significantly reduced prices. The value of the crops could be substantially reduced with little or no loss in yield, leading to potentially costly damage claims if multiple fields or an entire farm is decertified due to an exceptionally virulent fungal infection. Furthermore, enormous damage claims could also result from other agricultural crop destruction.

Management Alternatives

Data Analysis Unit E-55 is managed for a population objective of zero elk and has no management alternatives other than continually reducing the herd to minimize agricultural conflicts.

Preferred Management Objectives:

Post-hunt Population

CPW has no objectives to maintain elk in E-55 due to limited hunting opportunities on this area's private land. Furthermore, potential license revenue would not offset the enormous damage claim. CPW will provide an abundance of hunting opportunities to facilitate the reduction of the E-55 population. It is unlikely that CPW entirely removes elk from the DAU; however, if pressure is maintained over time to discourage immigration, this should have positive and acceptable outcomes. CPW will continue monitoring the elk in E-55 to determine the extent of reduction efforts.

Post-hunt Sex Ratio

CPW has no objective to maintain elk in this DAU; consequently, there is no sex ratio objective. Because the hunting seasons target bull elk in the summer and cows in the fall and winter, some herd monitoring may be needed in the DAU to determine the effectiveness of the hunting pressure.

Strategies for Achieving the Preferred Objectives:

Post-hunt Population – There is a Private Land Only (PLO) antlerless elk season beginning August 15th and extending to February 28th. CPW considers August 15th the earliest date acceptable for hunting cow elk because of dependent young. CPW also provides an early PLO bull season in E-55. The early bull license permits hunters to harvest bulls soon after they move into the DAU in the spring, continuing until their antlers harden in late summer. The primary purpose of the summer bull season is to disincentive elk from moving into E-55 from surrounding areas. CPW is concerned with private landowners harboring mature bull elk with hardened antlers.

The E-55 PLO licenses are unlimited in number but require a voucher to purchase. As requested, individual landowners are issued several vouchers by their local District Wildlife Manager or the Monte Vista Service Center. Hunters are required to get permission from landowners with vouchers. Licenses for cow elk hunting in the three State Wildlife Areas within the DAU currently are authorized by the Area Wildlife Manager. CPW will authorize the sale of kill permits for situations where damage to high-value crops is imminent, and hunters are not immediately available to handle the problem.

CPW Commission Approved Objectives:

Post-hunt Population
Pending

Post-hunt bull ratio
Pending

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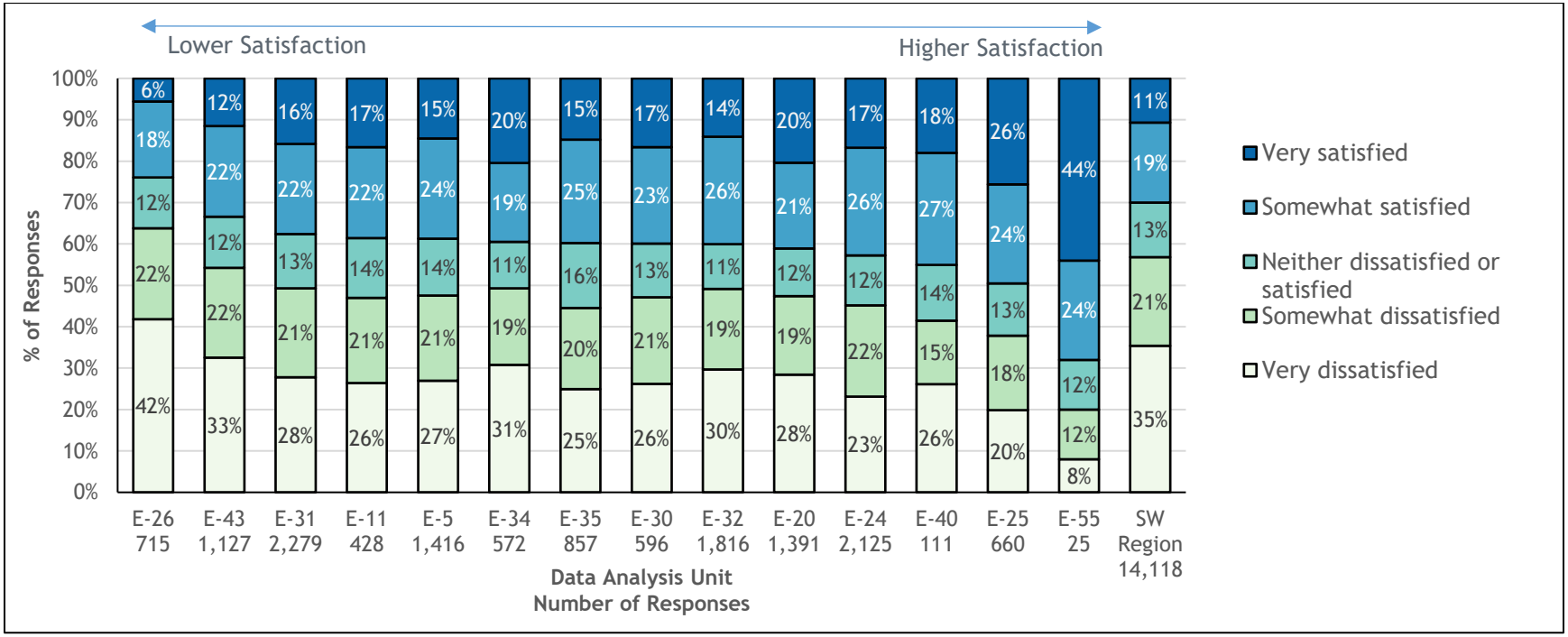
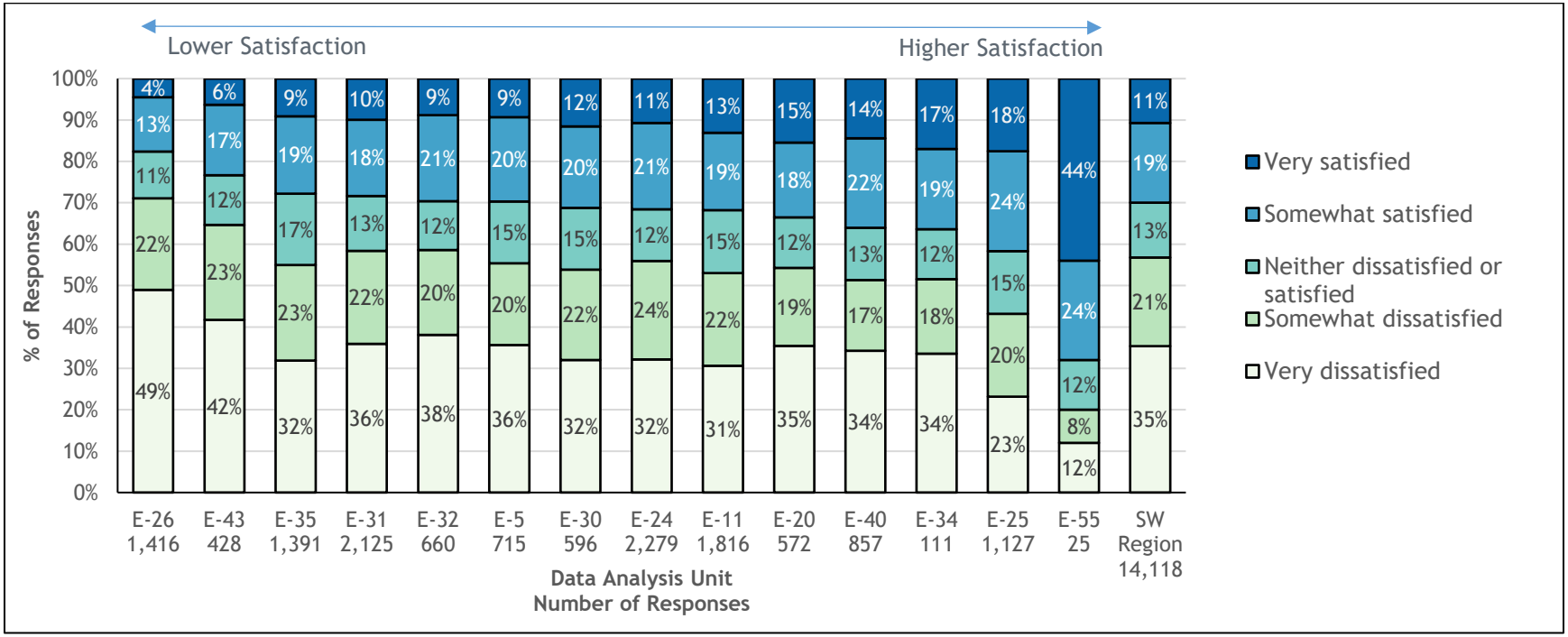
Appendix A. Results of the 2021 Elk Hunter Opt-In Survey

Optional hunter harvest input data was collected in 2021 to get an idea of what hunters thought of their experience hunting in the different DAUs. Of the 43,065 elk license holders surveyed in 2021, 89% of hunters opted in for the additional hunter harvest attitude survey. The 7 graphs below depict the hunters responses to 7 questions relating to their hunting experience and observations in the 14 different elk DAUs in southwest Colorado. The DAUs in each graph are ranked from less satisfied to most satisfied.

Question 1. How dissatisfied or satisfied were you with the ***total number of elk*** you saw in the unit you hunted during the 2021 elk season?

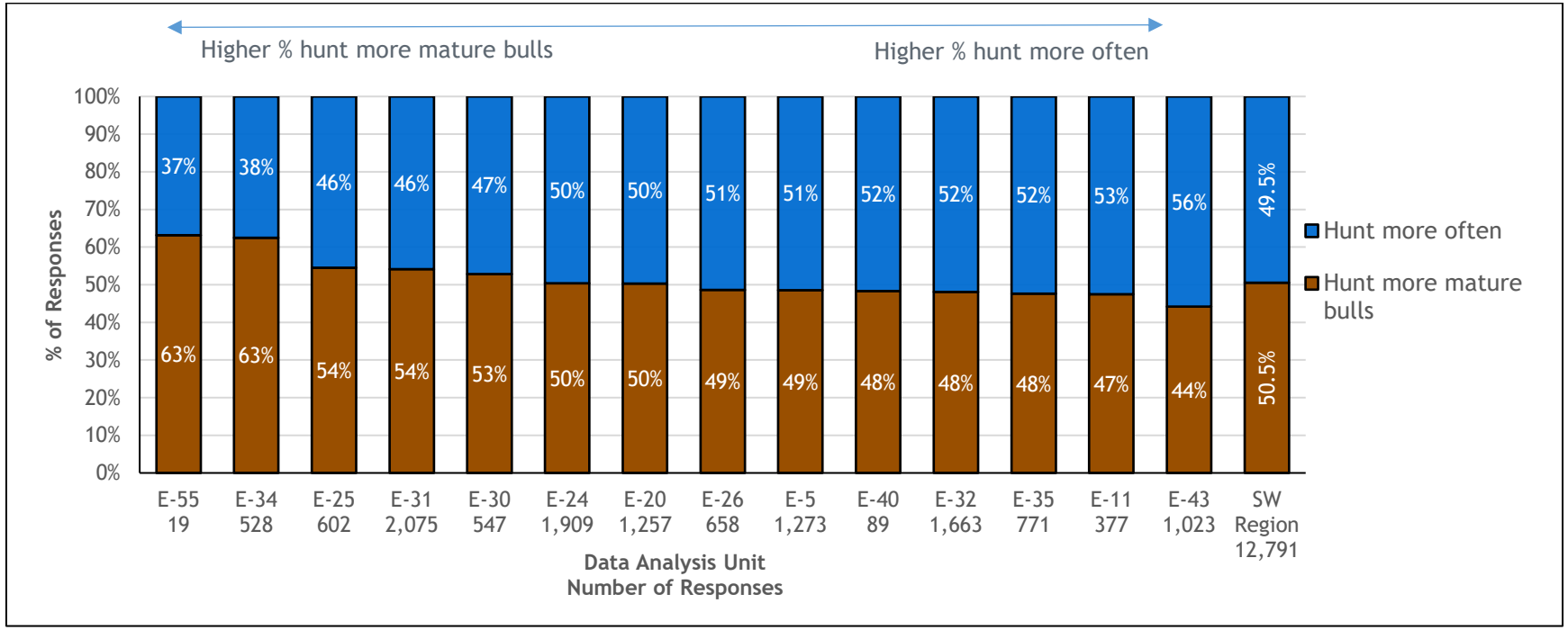


Question 2. Even if you were only hunting cow elk, how dissatisfied or satisfied were you with the ***total number of bulls*** you saw while hunting elk during the 2021 elk season?

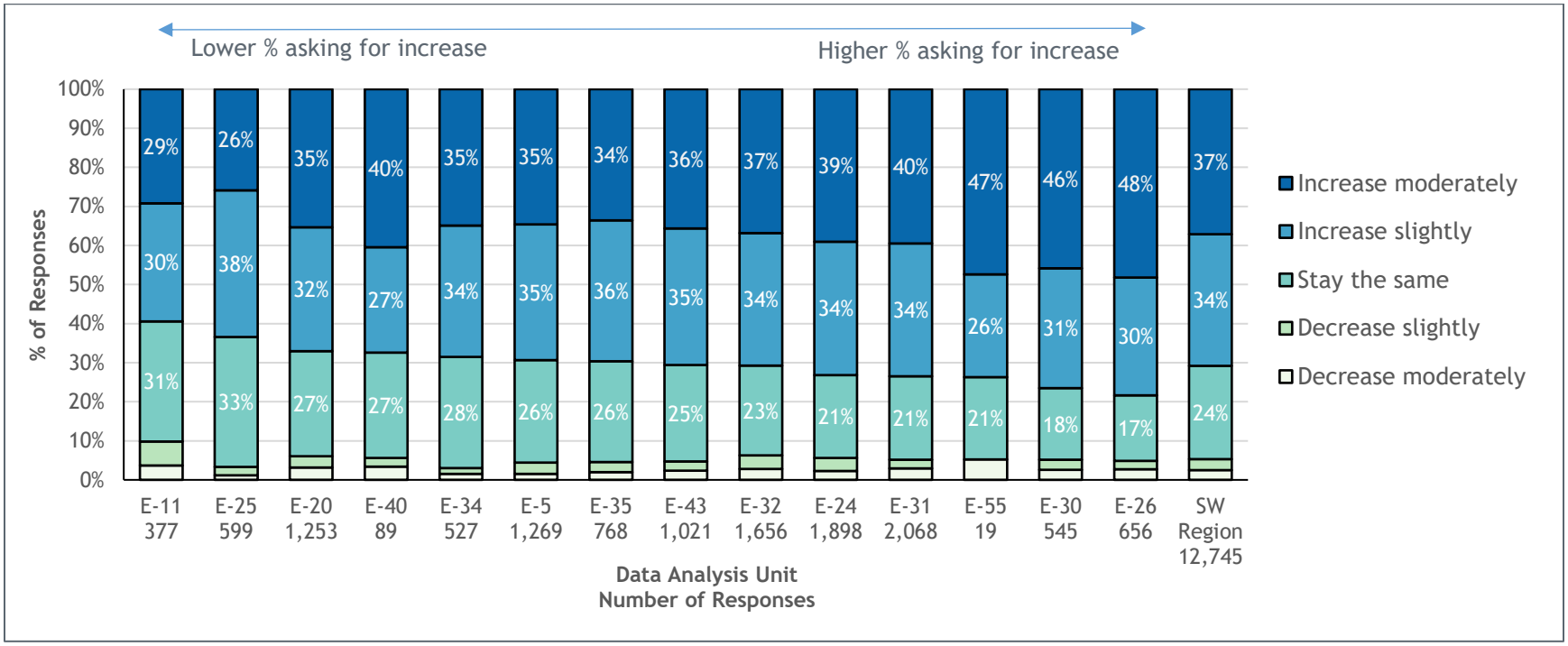


Question 3. Which statement comes closer to your own opinion:

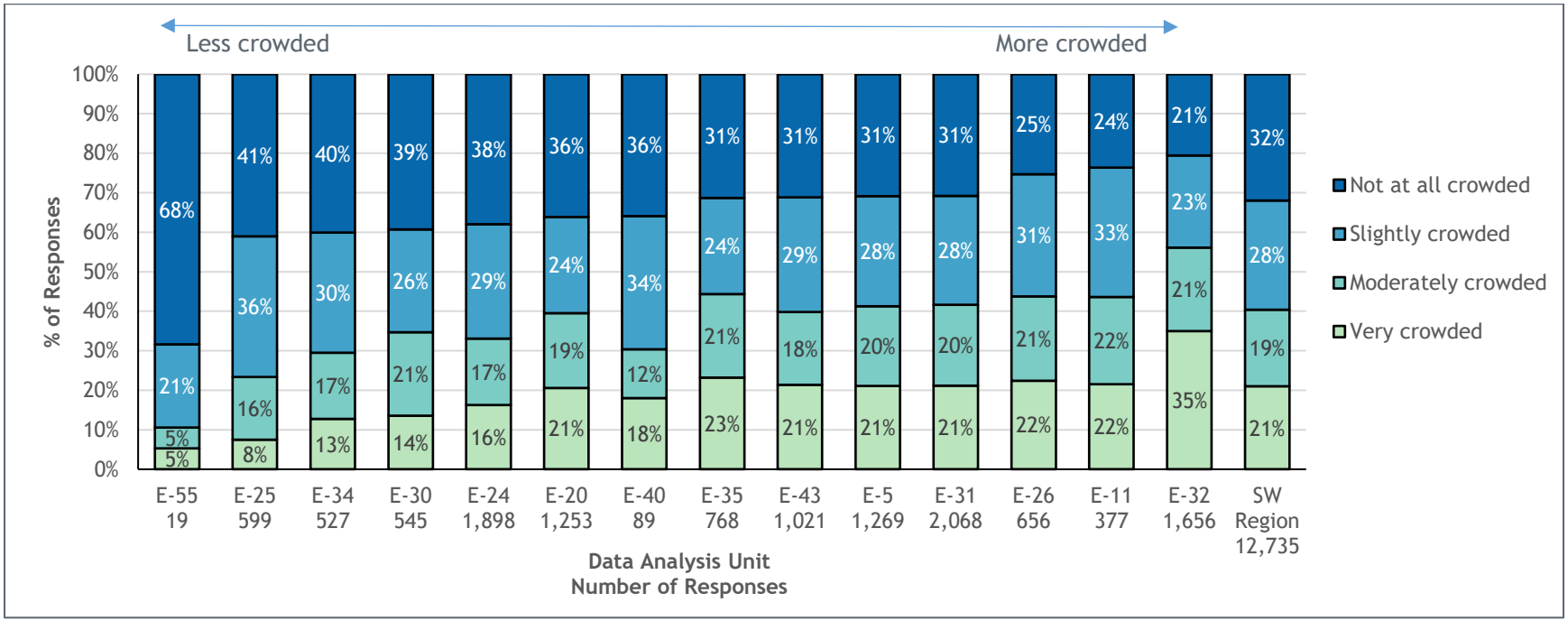
a) I want to be able to hunt elk as often as possible even if it means fewer mature bulls
b) I want to be able to hunt mature bulls even if it means I am able to hunt less often



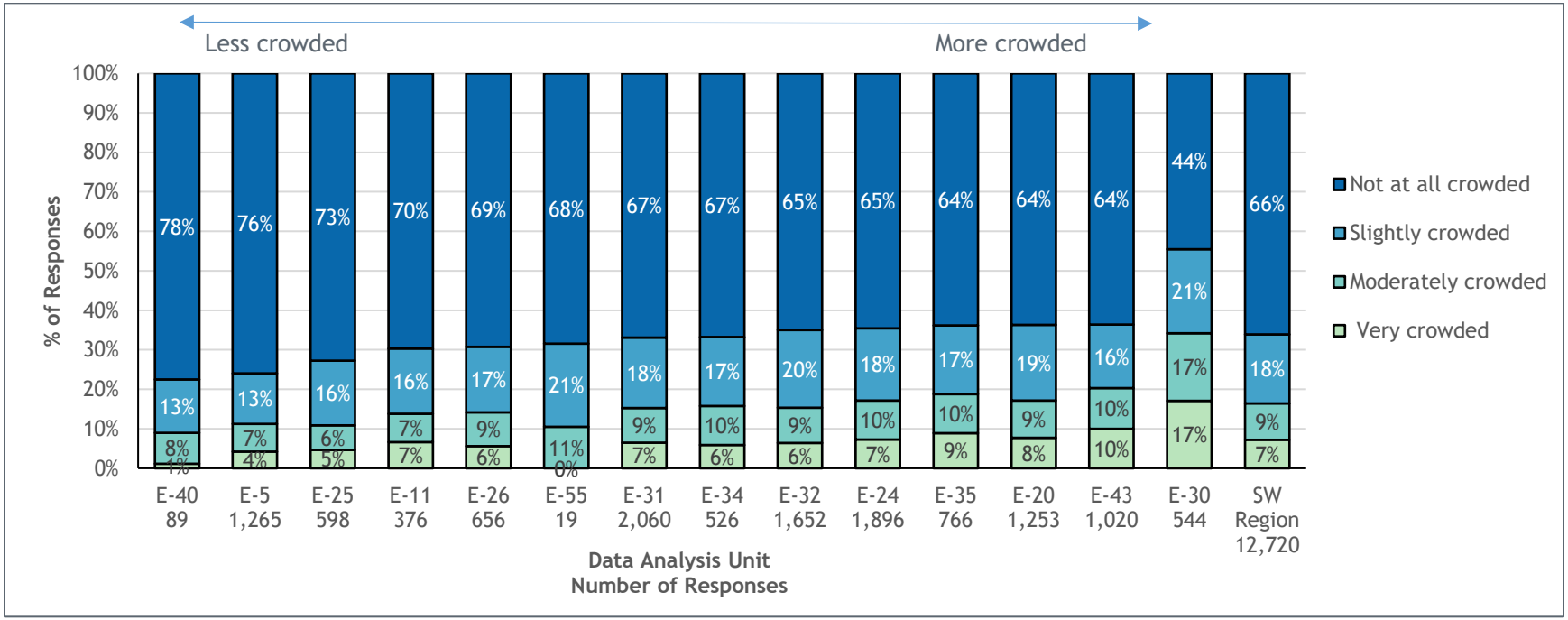
Question 4. Over the next ten (10) years, do you think that the ***elk population*** in the unit you hunted should ….



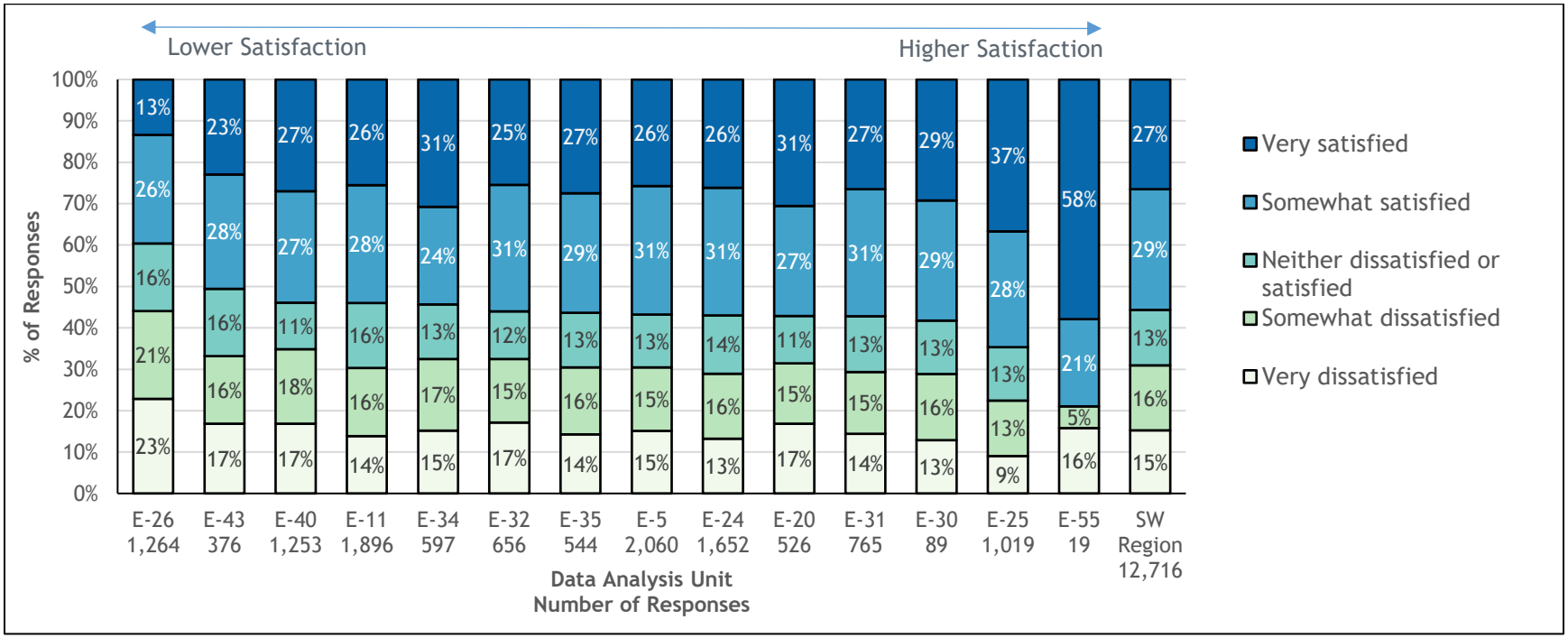
Question 5. To what extent did you feel ***crowded by other hunters*** while elk hunting in the unit you hunted in 2021?



Question 6. To what extent did you feel ***crowded by non-hunters (e.g., hikers, bikers, cross-country skiers, etc.)*** while in the unit you hunted elk in 2021?



Question 7. Overall, how dissatisfied or satisfied were you with ***your elk hunting experience*** in the unit you hunted in 2021?



Appendix B. Southern Ute Indian Tribe Comment Letter

SOUTHERN UTE INDIAN TRIBE

8 December 2022

Jamin Grigg
Senior Terrestrial Biologist
Colorado Parks and Wildlife
415 Turner Drive
Durango, CO 81303

Mr. Grigg,

Thank you for the opportunity to comment on the draft Southwest Colorado Elk Herd Management Plans (HMPs). As you are aware the wildlife resources in the southwest part of state are shared resources between the state of Colorado and the Ute Tribes that still inhabit their ancestral homelands. I was encouraged to see that the introduction section of the document included language referencing the Brunot Agreement and the MOUs that exist between the state of Colorado and the Ute Tribes on cooperative wildlife management within the Brunot Area. In my opinion the general public has very little knowledge of the Brunot Agreement or tribal involvement in wildlife management in the southwest part of the state and perhaps the language in the plan will educate some people.

There are fourteen HMPs covered in the draft document. Of those, approximately six Data Analysis Units (DAUs) fall completely within, or have significant area contained within either the Brunot Area and/or within the Southern Ute Indian reservation. These include E24, E25, E30, E31, E34, and E35. All six of the relevant HMPs, with the exception of E25 refence low calf recruitment as the greatest issue facing the herds. As a result, almost without exception, cow elk permits have been severely reduced and/or converted to List A licenses in these DAUs and in many cases over the counter (OTC) either-sex archery opportunities have been converted to limited, bull-only archery seasons. Both strategies are aimed at reducing pressure on cow elk to enhance the number of calves recruited, which should in turn begin growing the herds again. In the six HMPs mentioned above, the preferred strategy is to increase elk populations in five of them and to keep the population stable in one of them (E25). Of note, the previous E25 HMP called for increasing that population, which *did* happen and so this revision simply requests maintaining this higher number in E25.

As you know, Southern Ute tribal lands act as some of the last best winter range for elk in E30, E31, and E34. Our rangelands support thousands of elk from December, when they drop out of the San Juans, through April when they start their return trip to their high-country summer ranges. Over the years as calf recruitment problems became clear our agency ceased late season

cow hunts in solidarity with CPW efforts to reduce pressure on cow elk. Unfortunately, we haven't seen a regional turn-around in calf recruitment and so the overall elk herd hasn't started to increase yet either. Certainly, the key is figuring out why calf recruitment is ultimately so low. Tribal radio collaring efforts and analyses have shown that cow elk are getting pregnant at expected rates and at expected times, and that elk are birthing at expected rates and times as well. Then the question becomes, "why aren't more elk calves surviving to be recruited into the population?". Likely it is cumulative effects of climate change (reduced moisture and increased temperatures leading to habitat impacts like wildfires, and conversion to less palatable forage species), recreational and development impacts and perhaps even predator impacts. I look forward to hearing results from the CPW calf study in E20 to see what we can collectively learn about calf recruitment in the rest of the southwest.

In summary, we would like to see increased calf recruitment and growing elk herds both on the Southern Ute Reservation and within the Brunot Area. Therefore, we support the HMP objectives to continue to keep antlerless elk hunting opportunity low, and to continue to limit archery opportunities and to maintain them as bull-only hunts, or as List A cow hunts. While I understand it isn't within the scope of this HMP revision I would also request a review of the current state of OTC 2nd and 3rd season rifle hunts and the impacts those unlimited opportunities have on the overall health of the elk herds through hunter crowding alone.

Thank you for the opportunity to comment on these elk HMPs. This type of communication is vital to maintaining mutual respect and understanding between neighboring wildlife management agencies.

Sincerely,

Aran Johnson
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Southern Ute Indian Tribe
(970) 563-0130
ajohnson@southernute-nsn.gov

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Appendix C. Rocky Mountain Elk Foundation Comment Letter

ROCKY MOUNTAIN ELK FOUNDATION

December 20, 2022

Colorado Parks and Wildlife
Attn. Jamin Grigg
415 Turner Drive
Durango, CO 81303
jamin.grigg@state.co.us

The Rocky Mountain Elk Foundation (RMEF) appreciates the opportunity to comment on the Colorado Parks and Wildlife (CPW) Southwest Region's Elk Herd Management Plan.

The mission of RMEF mission is to ensure the future of elk, other wildlife, their habitat and our hunting heritage. We represent more than 225,000 members nationwide and more than 14,700 members in Colorado. Since its inception in 1984, RMEF has permanently conserved or enhanced more than 8.5 million acres of North America's most vital habitat for elk and other wildlife, including nearly 500,000 acres in Colorado. As such, RMEF has a vested interest in ensuring the sustained productivity of elk and other wildlife in Colorado.

RMEF recognizes the work that CPW has committed to updating the Elk Herd Management Plan. Much has been done already to help make this plan a success.

RMEF strongly supports the following principles in all plans/proposals related to elk management:

- Science–based wildlife management
- Healthy elk populations maintained at both biologically and socially sustainable levels
- Hunting as the primary tool for managing elk populations
- Impactful programs designed to increase hunter access to elk on both public and private lands
- Appropriate distribution of elk on public and private lands
- Maximizing hunting opportunity and quality
- Recognition of the role private landowners play in providing elk habitat during critical seasons
- Simplification of unnecessarily complex hunting regulations

In addition to the above recommended principals, RMEF provides the following specific plan recommendations:

- The Southwest Region's Plan is meant to guide elk herd management for the next 10 years. Given the continued population declines and extensive research being conducted

on calf recruitment, impacts of recreation, etc., RMEF recommends a review of objectives/goals prior to the 10-year established timeline.

- RMEF has supported research in this area for a number of years to better understand causes of declining populations. RMEF appreciates CPW's optimistic population objectives in order to ensure southwest CO elk herds can sustain future challenges.
- Where artificial concentrations of elk occur, RMEF supports strategic, spatial allocation of licenses to help redistribute elk to public land areas and increase populations in desired Game Management Units.
- If not already in use, RMEF recommends identifying goals/objectives for calf-cow ratios based on achieving future population objectives, in addition to other metrics. The use of recent research (DeCesare et al. 2012, Lukacs et al. 2018 and others) can help guide ratio management decisions.
- RMEF appreciates attention to disease as a major threat to elk populations and looks forward to further engagement with CPW on disease management.
- Wildlife habitat connectivity (big game migration corridors) is increasingly threatened by habitat loss and degradation as well as development activities in this area. RMEF recommends strategies to address challenges to big game movement corridors that includes management direction for conserving corridors across state, federal and private lands.
- RMEF appreciates the attention to recreational disturbance and recommends a strategic response (in coordination with other public land managers) to the increase in general outdoor recreation along with impacts to elk population dynamics, distribution, and hunting.
- Elk and many other wildlife species are sensitive to human travel patterns, especially motorized use. Research from the Starkey Project has done much to quantify effects of roads, trails, and associated motorized (Wisdom et al. 2005) and non-motorized traffic on elk (Wisdom et al. 2018). RMEF supports a balanced approach; multi-use activities occur year-round and RMEF recommends that CPW work with other land management agencies to provide access for those seeking varied experiences (primitive and roaded). However, RMEF also recommends reassessment of seasonal protection (during critical times) needed for elk and other wildlife from impacts of recreation (via roads, trails, and associated motorized and non-motorized traffic). Timing restrictions should be based on the best available science as well as site-specific factors (topography, available habitat, etc.)
- RMEF is very supportive of active management on our public lands to benefit wildlife habitat and fire risk management. Strategies for executing active forest management techniques such as prescribed burns, thinning, and other treatments helps prevent catastrophic wildfires and assists in long-term ecosystem resilience (Prichard et al. 2020, Schultz and Moseley 2019). In addition, managing natural ignitions can help achieve fuels and vegetation goals.
- Aspen stands represent a unique ecosystem, providing a variety of services. With aspen predicted to continue declining, RMEF suggests a focus on restoring prescribed fire treatments, excluding herbivores in clones that are impaired or in decline, and other tools that help improve aspen resiliency.

- Identified as a significant barrier to maintaining hunting and angling participants, access plays a critical role in ensuring the future of our hunting heritage (Eliason 2020). RMEF recommends CPW work with partners on access challenges where elk herds are trending over objective. Consideration of access needs should include close collaboration with federal and state agencies as well as key private landowners to improve or maintain access points that are important for managing wildlife.

RMEF appreciates the opportunity to review and comment on the CPW Southwest Region's Elk Herd Management Plan and stands ready to assist, as needed, in implementation.

Sincerely,

Karie Decker

Karie Decker
Director of Wildlife and Habitat

Appendix E05-A: Public Input on Draft E-05 Plan

Section 1: Scoping meeting live audience polling

Results of the live audience polling conducted at the two public meetings (Gunnison and Paonia: July 2017) are shown in the following tables. Results are pooled (n=43).

Question 1: Choose the option that best represent your interests in this elk herd:	Count responding (% of respondents)
Ag operator/landowner or land manager	7 (16%)
Business owner	1 (2%)
Elk Hunter	25 (58%)
Hunting Guide/Outfitting service industry	4 (9%)
Other	1 (2%)
Wildlife Watcher/non-hunting recreationist	4 (9%)
BLANK	1 (2%)

Question 2: Which season do you prefer to hunt elk?	Count responding (% of respondents)
Archery	16 (37%)
Muzzleloader	5 (12%)
Rifle	21 (49%)
BLANK	1 (2%)

Question 3: Rank the top 3 items most concerning to you in GMU 53 & 63, with 1 being the most important.	Score (#1 = 3 points, #2 = 2 points, #3 = 1 point)	% of potential score
Habitat quantity and/or quality	44	18%
Impacts of hunting recreation pressure on elk distribution	43	17%
Land being inaccessible to hunting (i.e. places where hunting is not allowed)	41	17%
Impact of non-hunting recreation on elk distribution	39	16%
Predators	36	15%
Conflicts between elk/ agriculture production	25	10%
Disease (i.e. CWD)	10	4%
Other	8	3%

Question 4: How would you like the elk population size to be managed over the next 10-15 years?	Count responding (% of respondents)
A: Increase back to 2000-2009 level	11 (26%)
B: Increase, but not as much as Option A	17 (40%)
C: Maintain current size	4 (9%)
D: Continue Decreasing	7 (16%)
BLANK	4 (9%)

Question 5: How satisfied are you with the number of bulls encountered when hunting (pick one)	Count responding (% of respondents)
Very Satisfied	1 (2%)
Satisfied	13 (30%)
Somewhat unsatisfied	16 (37%)
Very unsatisfied	6 (14%)
I don't hunt	3 (7%)
BLANK	4 (9%)

Section 2: Randomized hunter and landowner online survey

For the second survey, a randomly drawn set of hunters who recently applied for deer or elk hunting licenses (2013, 2014, 2015, and 2016 hunting seasons) were invited to partake in an internet based survey in August 2017. In addition to the sample of license applicants, a sample of landowners were drawn from county parcel data. Post-cards were sent out to a total sample of 4935 potential survey respondents for solicitation to take an online survey (Survey Monkey, Inc, Palo Alto, CA, USA). Of the pool of land-owners available, only those holding a cumulative land area greater than 20 acres were sent post-cards. 2.5% of the post-cards sent were returned as having undeliverable recipient addresses. Because the survey specific to GMUs 53 & 63 was also directed to those interested in deer management issues for a similar DAU planning process, respondents indicating they were solely interested in deer were filtered from the survey when applicable. Methods were established during survey development to ensure that unique responses were obtained (i.e., a respondent could only complete the survey once).

Removing respondents specific to the ongoing deer management plan survey for GMU 53 and 63, the overall response rate to the survey was 17.1% with surveys being completed by 609 individuals interested in elk management. Response rates varied slightly (9.8% - 24.8% depending on the respondent type and GMU:

Response Rate (and Count) by Respondent Type/Pool and GMU(s)			
	GMU 54	GMU 53 & 63	COMBINED
NON-RESIDENT	21.4% (125)	16.6% (84)	19.2% (209)
RESIDENT	16.2% (149)	11.3% (133)	13.5% (282)
ELK LICENSE APPLICANT	18.0% (263)	24.8% (175)	20.2% (438)
ELK LICENSE APPLICANT/LANDOWNER	25.6% (11)	14.4% (42)	15.9% (53)
LANDOWNER	13.4% (51)	9.8% (67)	11.1% (119)
COMBINED	16.8% (325)	16.9% (284)	*17.1% (609)*

The survey asked the following list of questions (1-16). Results and/or summary for each of the questions are also provided following each question:

Survey 2, Question 1. Which of the following best describes you:

> **(a)** Have hunted elk GMU 53, 54, or 63*, (**b**) Have applied for elk/deer licenses, but not yet had the opportunity to hunt in GMU 53, 54, or 63*, (**c**) Involved in the hunting service industry (hunting guide/outfitter) in GMU 53, 54, or 63, **(d)** Own or Manage private land in GMU 53, 54, or 63*, **(e)** Agricultural producer, **(f)** Wildlife watcher, **(g)** Other business owner, **(h)** Non-hunting outdoor recreationist (e.g., ATV/OHV rider, hiker, skier, mountain biker, antler collector)
>
> **Answer choices stating the GMU only contained the GMU(s) that the pool (GMU 53 & 63 pool and the GMU 54 pool) belonged to.*
>
> *The respondents' answers were summarized in the following table based on raw number and percentage of respondents. However, this information was primarily used for characterizing the various stakeholders answer choices and summaries in subsequent questions.*

	A) Have Hunted	B) Have applied for licenses, but not hunted	C) Hunting service industry (guide/outfitter)	D) Private Land Owner or Manager	E) Agriculture Producer	F) Wildlife Wacher	G) Other Business Owner	H) Non-Hunting Outdoor Recreationist
No	12.8% (94)	94.5% (692)	98% (717)	76.5% (560)	91% (666)	84.6% (619)	97.5% (714)	88.5% (648)
Yes	87.2% (638)	5.5% (40)	2% (15)	23.5% (172)	9% (66)	15.4% (113)	2.5% (18)	11.5% (84)

Survey 2, Question 2. Which unit are you most interested in:

(a) GMU 53*, **(b)** GMU 63*, **(c)** GMU 54**

**respondents from GMU 53 & 63 pool had opportunity to select both 53 and 63. The GMU 54 answer choice did not appear to those respondents in the GMU 53 & 63 pool of hunters and landowners.*

***This question did not appear to the GMU 54 pool of respondents, as a separate survey instrument was available to those hunters and landowners.*

The respondents' answers were summarized in the following table based on percentage and raw number (in parenthesis) of respondents. However, this information was primarily used for characterizing the various stakeholders answer choices and summaries in subsequent questions.

	Respondent Percentage (count)
Game Management Unit 53	21.6% (158)
Game Management Unit 63	17.8% (130)
Both Game Management Units 53 & 63	16.3% (119)
Game Management Unit 54	44.4% (325)
Grand Total	(732)

Survey 2, Question 3. Have you experienced any significant loss (i.e., fence damage, forage loss, hay loss, orchard loss, etc) from deer or elk in the past 10 years?*

(a) YES, from deer**, **(b)** YES, from elk, **(c)** YES, from both deer and elk**, **(d)** NO

**Only respondents who chose answer choice D (own or manage private land) from question 1 were allowed to answer.*

***respondents from GMU 54 pool were not presented with answer choices pertaining to deer*

Summary by percentage (and count) of landowner respondents

	All Combined	GMU 53	GMU 63	GMU 53 and 63 combined	GMU 54
NO	76.4% (126)	87.5% (79)	70% (47)	76.7% (28)	75.8% (28)
YES	23.6% (39)	12.5% (24)	30% (15)	23.3% (4)	24.2% (12)

Survey 2, Question 4. If you answered YES to previous question, what has been the solution for solving these agricultural damage issues?

(a) I generally tolerate the damage, **(b)** Submitted claims to the CPW Game Damage Program, **(c)** Applied for special hunts, **(d)** Sought help from the CPW Habitat Partnership Program, **(e)** Developed my own agricultural protection measures, **(f)** Increased hunting pressure during hunting seasons, **(g)** Other (please specify)

**Only respondents who chose answer choice D (own or manage private land) from question 1 were allowed to answer:*

Solution	Percent (raw count)
I generally tolerate the damage	57.6% (49)
Developed my own agricultural protection measures	12.9% (11)
Applied for special hunts	10.6% (9)
Increased hunting pressure during hunting seasons	5.9% (5)
Other	5.9% (5)
Submitted claims to CPW Game Damage Program	3.5% (3)
Sought help from the CPW Habitat Partnership Program	3.5% (3)

Survey 2, Question 5. Which of the following best describes hunting activities on your owned or managed property in GMU 53, 54, or 63? (Choose all that apply)

(a) No hunting is allowed, **(b)** Only myself, family and or friends are allowed to hunt, **(c)** Land is leased to outfitter/guide or we outfit guide on property, **(d)** Public is allowed to hunt with permission, trespass fee required, **(e)** Public is allowed to hunt with permission, no trespass fee is required, **(f)** Other (please specify)

**Only respondents who chose answer choice D (own or manage private land) from question 1 were allowed to answer:*

	All Combined	GMU 53	GMU 63	GMU 53 & 63 Combined	GMU 54
No Hunting Allowed	25.9% (51)	30% (12)	6% (3)	16.8% (22)	43.9% (29)
Me, Friends & Family Only Allowed	50.3% (99)	50% (20)	62% (31)	56.5% (74)	37.9% (25)
Leased for Hunting	4.6% (9)	0% (0)	8% (4)	6.1% (8)	1.5% (1)
Trespass Fee Required	1.5% (3)	5% (2)	2% (1)	2.3% (3)	0% (0)
Open to the Public With Permission	8.6% (17)	7.5% (3)	14% (7)	9.2% (12)	7.6% (5)
Other	9.1% (18)	7.5% (3)	8% (4)	9.2% (12)	9.1% (6)

Survey 2, Question 6. How important to you is each of the following reasons to hunt deer/elk in GMU 53, 54, or 63?*

(a) To spend time in nature and/or enjoy the time with family and friends, **(b)** To obtain wild game meat, **(c)** To contribute to wildlife management and conservation, **(d)**To contribute to the local community (e.g., financial benefits from hunters), **(e)** To obtain a trophy

**Answer choices could pertain to both deer and/or elk in the GMU 53 & 63 pool of respondents. Deer was not described in the GMU 54 survey answer choices, and thus GMU 54 respondents answers only applied to elk.*

Answer choices were ranked by calculating a weighted percent (Not important = 0 points, Slightly important = 1 point, Moderately important = 2 points, Very important = 3 points) for each reason independently. A weighted score was calculated by multiplying the number of respondents times the degree (points 0 – 3) they answered for. A total count was created by multiplying 3 times the total number of respondents answering. Dividing the weighted score by the total possible count produced the percentages presented below. 0% would indicate all respondents in the survey indicated that a particular reason was "Not Important", while a 100% would indicate the particular reason was "Very Important".

	GMU 54	GMU 53 & 63	All GMUs Combined
A) Nature, Family, & Friends	83.8%	80.6%	88.8%
B) Obtain Wild Game Meat	74.6%	63.4%	82.0%
C) Contribute To Wildlife Mgmt	70.0%	52.7%	75.9%
D) Local Economy	59.5%	46.6%	56.3%
E) Obtain Trophy	35.2%	40.0%	30.7%

Survey 2, Question 7. Overall, how satisfied were you with your experience while hunting elk in GMU 53, 54, or 63?

(a) Very unsatisfied, **(b)** Somewhat unsatisfied, **(c)** Neither unsatisfied nor satisfied, **(d)** Somewhat satisfied, **(e)** Very satisfied

Satisfaction Level	All combined	Land owner	Non-Land owner	Non-Resident	Resident	GMU 53	GMU 63	GMU 53 & 63	GMU 54	Archery	Muzzle loader	Rifle
Very unsatisfied	19.5%	21.2%	18.9%	18.1%	20.1%	14.5%	17.0%	16.0%	22.4%	16.0%	22.8%	20.5%
Somewhat unsatisfied	21.2%	19.2%	22.5%	17.0%	25.5%	19.1%	23.6%	22.1%	21.4%	20.2%	21.1%	22.0%
Neither unsatisfied nor satisfied	12.2%	15.4%	11.9%	12.4%	13.1%	13.6%	17.0%	15.0%	10.5%	9.6%	8.8%	12.8%
Somewhat satisfied	33.4%	29.8%	33.9%	34.0%	32.2%	36.4%	31.1%	34.7%	31.3%	37.2%	36.8%	32.0%
Very satisfied	13.7%	14.4%	12.9%	18.5%	9.1%	16.4%	11.3%	12.2%	14.3%	17.0%	10.5%	12.8%

Satisfaction values collapsed:

Satisfaction Level	All combined	Land owner	Non-Land owner	Non-Resident	Resident	GMU 53	GMU 63	GMU 53 & 63	GMU 54	Archery	Muzzle loader	Rifle
Unsatisfied	40.6%	40.4%	41.4%	35.1%	45.6%	33.6%	40.6%	38.1%	43.9%	36.2%	43.9%	42.5%
Neither unsatisfied nor satisfied	12.2%	15.4%	11.9%	12.4%	13.1%	13.6%	17.0%	15.0%	10.5%	9.6%	8.8%	12.8%
Satisfied	47.1%	44.2%	46.8%	52.5%	41.3%	52.7%	42.5%	46.9%	45.6%	54.3%	47.4%	44.8%

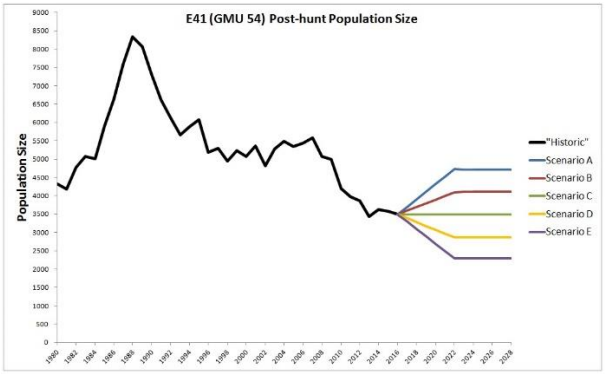
Survey 2, Question 8. Which method of take have you preferred when hunting elk in GMU 53, 54, or 63?

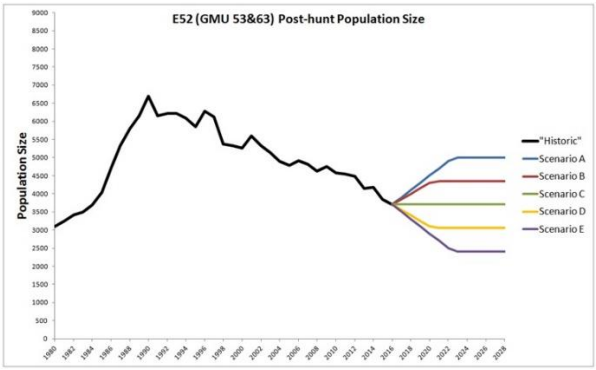
(a) Archery, **(b)** Muzzleloader, **(c)** Rifle, **(d)** No preference

	Non-Resident	Resident	GMU 53	GMU 63	Both GMU 53 & 63	GMU 54	All Combined
Archery	19.5%	12.8%	12.1%	16.8%	14.1%	17.3%	15.8%
Muzzleloader	13.1%	6.9%	12.9%	10.3%	8.2%	8.5%	9.6%
Rifle	62.9%	72.8%	69.8%	66.4%	68.2%	68.7%	68.4%
No preference	4.5%	7.5%	5.2%	6.5%	9.4%	5.4%	6.1%

Survey 2, Question 9. The historic trend of the elk population size in GMU 53 & 63 follows the black line in the chart below. Manipulating the elk population size can have short and long term effects, several of which are provided below:

Please read the scenario descriptions before answer the following question.
Disclaimer: Several of the "anticipated outcomes" listed below assume that elk biological variables, bull ratios, hunting success rates, and license demands do not change.





INCREASING elk population size can have these anticipated outcomes:

Short-term:
- Cow elk licenses decrease dramatically for the next ~5 years
- Reduces hunter crowding

Long-term:
- Cow licenses increase after objective is reached.
- More cow hunters will be required to maintain the elk population, thus more hunter crowding may occur.
- A greater opportunity to harvest bulls and cows may occur.
- Competition between other range-land animals may likely occur (domestic livestock, mule deer, sage grouse).
- Conflicts with landowners and agricultural operators may be more likely to occur.

Maintaining the elk population size (NO CHANGE) can have the following anticipated outcomes:

Short-term:
- Cow licenses may decrease slightly in order to make the current elk population trend stable.

Long-term:
- Competition between other range-land animals (domestic livestock, mule deer, sage grouse) may still occur and vulnerability of range-lands to drought and severe winter may still occur.

DECREASING elk population size will have these anticipated outcomes:

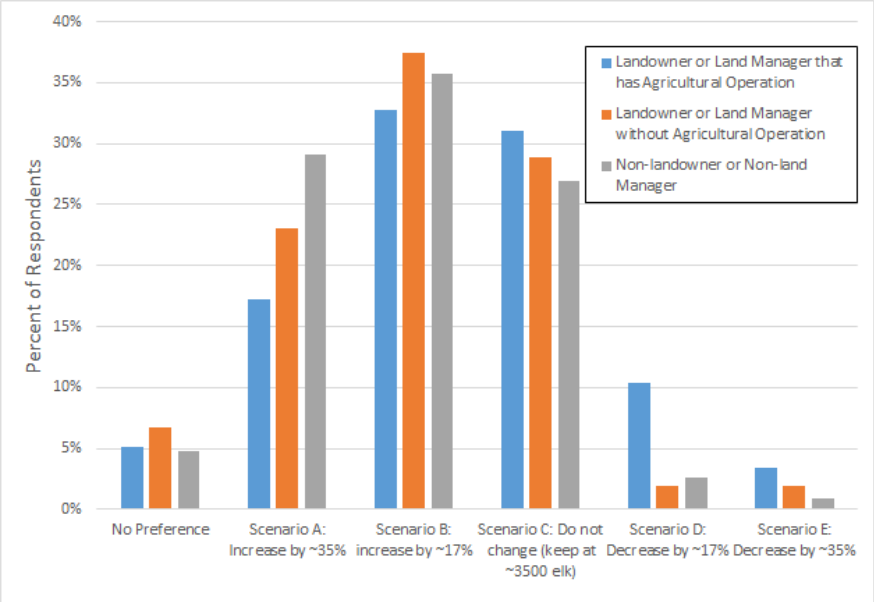
Short-term:
- Cow licenses increased for the next ~5 years
- Increases hunter crowding

Long-term:
- Cow licenses increase after objective is reached; fewer cow hunters may be required to maintain the elk population
- Very little hunter crowding may occur.
- Opportunity to harvest bulls and cows may be the least.
- Competition between other range-land animals may be less likely occur (domestic livestock, mule deer, sage grouse).
- Conflicts with landowners and agricultural operators will be less likely to occur

<u>Given the above scenarios and descriptions of anticipated outcomes:</u> during the next 10 years (2018 – 2029), how do you want the GMU 53, 54, & 63 elk population size to be managed?

(a) increase by ~ 35%, **(b)** increase by ~17%, **(c)** Do not change, **(d)** Decrease by ~17%, **(e)** Decrease by ~35%

Answer choices by percent of respondents and respondent type:



The following table shows n weighted average percent change in elk population size desired for each respondent type and GMU of interest. Overall, the public desired a positive percent change (increase in elk population) regardless of respondent type; a majority of the respondents wanted some increase in elk.

The weighted average percent change was calculated by multiplying the number of respondents for each of the five letter options above, by the desired percent change they desired (+35%, +17%, 0%, -17%, -35%). Those indicating no-preference were removed from the analysis.

	Weighted Percent Increase Desired in Population Size (respondent count)					
Respondent Type	Landowner with Ag Interests	Landowner without Ag Interests	Non Landowner	Non Resident Hunter	Resident Hunter	*All Combined*
GMU 54	15.1% (16)	17.7% (46)	19.2% (263)	19% (150)	18.5% (175)	*18.7% (325)*
GMU 53 Only	11.6% (11)	14.5% (23)	10.1% (75)	9.2% (44)	12.5 (65)	*11.1% (109)*
GMU 63 Only	1.9% (20)	5.8% (22)	8.1% (82)	5.9% (31)	6.3% (67)	*6.2% (98)*
GMU 53 & 63	6.6% (45)	11.9% (64)	11.5% (175)	9.1% (103)	10.5% (181)	*11.0% (284)*
All Combined	*9.1% (61)*	*14.4% (110)*	*16.2% (438)*	*15.1% (209)*	*15.2% (282)*	*15.2% (609)*

Survey 2, Question 10. High bull ratios often equate to having more older aged bulls and fewer other hunters on the landscape. However, having a higher bull ratio also means that hunting opportunity is decreased. During the next 10 years how would you like the bull ratio to be managed in GMU 53 & 63?

(a) Increased (want less hunting opportunity, but potentially more/larger bulls, less crowding), **(b)** Stay the same, **(c)** Decreased (I want more hunting opportunity, but potentially fewer/smaller bulls, more crowding), **(d)** No preference

Answer choices by percent of respondents and respondent type:

Respondent Type	A) Increase Bull Ratio	B) Stay the same	C) Decrease Bull Ratio	D) No preference
Landowner with Ag interests	51.1%	35.6%	4.4%	8.9%
Landowner without Ag interests	42.6%	44.3%	4.9%	8.2%
Non Landowner	35.9%	49.8%	6.5%	7.9%
Non-Resident Hunter	36.0%	53.3%	6.5%	4.2%
Resident Hunter	39.4%	44.2%	5.8%	10.6%
GMU 54 only	41.9%	42.6%	7.9%	7.6%
GMU 53 only	34.4%	58.9%	1.1%	5.6%
GMU 63 only	30.1%	51.8%	4.8%	13.3%
GMU 53 & 63 combined	33.0%	54.5%	3.9%	8.6%
All Combined	38.0%	47.9%	6.1%	8.0%

Survey 2, Question 11. How concerned are you about the following items:

(a) Habitat quantity or quality (not having enough habitat for deer and/or elk, other wild species, and/or domestic livestock), **(b)** Potential for deer and/or elk to starve during the winter, **(c)** Economic losses due to deer and/or elk (i.e., ag-production, gardens, fences), **(d)** Land not being accessible for hunting (i.e., places where elk hunting is not allowed), **(e)** Impacts of hunting recreation pressure on the distribution of deer and/or elk, **(f)** Impacts of non-hunting recreation (i.e., ATVs hikers, camping, antler collecting) on the distribution of deer and/or elk, **(g)** Disease (i.e., Chronic Wasting Disease) negatively effecting deer and/or elk populations, **(h)** Disease (i.e., Chronic Wasting Disease) transmission potential from wildlife to humans, pets, or livestock, **(i)** Predators effecting deer and/or elk populations, **(j)** Vehicle collisions with deer and/or elk

**Answer choices could pertain to both deer and/or elk in the GMU 53 & 63 pool of respondents. Deer was not described in the GMU 54 survey answer choices, and thus GMU 54 respondents answers only applied to elk.*

Answer choices were ranked by calculating a weighted percent (Not at all concerned = 0 points, Slightly concerned = 1 point, Moderately important = 2 points, Very concerned = 3 points) for each issue independently. A weighted score was calculated by multiplying the number of respondents times the degree of concern (points 0 – 3) they answered for. A total count was created by multiplying 3 times the total number of respondents answering. Dividing the weighted score by the total possible count produced the percentages presented below. 0% would indicate all respondents in the survey indicated that a particular issue was "Not at all concerning", while a 100% would indicate the particular issue was "Very concerning". Issues were ranked from 1 – 10 (second column) for each of the respondent types, with the most concerning issue highlighted in yellow.

	Weighted Percentage (out of 100%) and Ranking by Respondent Type											
Issue	All respondents combined		Landowners with Ag Interest		Landowners without Ag Interest		Non Landowners		GMU 53 & 63 combined		GMU 54 only	
A) Habitat Quantity Quality	67.1%	2	67.8%	1	76.9%	1	68.5%	2	65.2%	4	51.0%	5
B) Elk/Deer Starvation Potential	66.5%	4	62.2%	2	74.1%	2	67.4%	3	66.3%	2	54.4%	3
C) Ag-economic Losses	31.8%	10	42.2%	10	45.4%	10	31.9%	10	35.3%	10	44.7%	8
D) Hunting Land Innaccessible	68.5%	1	45.0%	9	61.1%	4	77.7%	1	65.3%	3	70.1%	1
E) Hunting Pressure Impacts on Elk Distribution	58.3%	5	56.7%	5	51.9%	7	60.0%	5	57.5%	6	44.5%	9
F) Non-Hunting Recreation Pressure Impacts on Elk Distribution	56.8%	6	61.1%	3	61.1%	5	57.6%	6	54.1%	7	53.1%	4
G) Disease Impacting Wild Ungulate Pops	66.6%	3	61.1%	4	71.8%	3	67.4%	4	68.9%	1	56.3%	2
H) Disease Transmission from Ungulates to Humans, Livestock, & Pets	51.3%	7	45.8%	8	51.9%	8	52.7%	7	53.0%	8	49.9%	6
I) Predator Impacts on Deer/Elk Populations	51.0%	8	54.4%	6	53.7%	6	52.1%	8	57.7%	5	48.5%	7
J) Wildlife-Vehicle Collisions	39.7%	9	46.1%	7	47.7%	9	38.4%	9	40.5%	9	43.8%	10

Survey 2, Question 12. Tell us how you feel about the following statement: "the problem isn't with too many or too few elk in GMU 53 or 63, it is the distribution (where elk occur) that is a problem"

(a) I do not agree or disagree, **(b)** Strongly agree, **(c)** Somewhat agree, **(d)** Somewhat disagree, we should probably change the number of elk, **(e)** Strongly disagree, the number of elk needs to be changed!, **(f)** No opinion or none of the above

Answer choices by percent of respondents and respondent type:

	Landowner with Ag interest	Landowner without Ag Interest	Non Landowner	GMU 53 only	GMU 63 only	GMU 53 & 63 combined	GMU 54 only	*All Combined*
I do not agree nor disagree	12.5%	15.1%	12.0%	19.8%	12.9%	15.2%	9.8%	12.5%
Strongly agree	20.8%	17.8%	31.2%	19.8%	24.7%	21.0%	35.5%	28.4%
Somewhat agree	47.9%	42.5%	37.2%	38.3%	49.5%	44.7%	33.2%	38.9%
Somewhat disagree; we should probably change the number of	10.4%	11.0%	10.5%	12.3%	5.4%	10.5%	10.6%	10.5%
Strongly disagree; the number of elk needs to be changed!	8.3%	13.7%	9.2%	9.9%	7.5%	8.6%	10.9%	9.8%

Survey 2, Question 13. What is your zip-code (please enter 5-digit zip)?

Respondents represented a variety of geographies, that were also captured a-prior in the list of post-card addresses solicited. Future analysis may utilize these addresses to extract geographic attributes of respondents.

Survey 2, Question 14. In what year were you born? (please enter 4-digit year)

Respondent Type	Average Age
Landowner with Ag Interests	58.2
Landowner without Ag Interests	60.8
Non-Landowner	51.4
All Combined	53.4

Survey 2, Question 15. Would you like to receive updates on this plan? (i.e., when a draft is released for public comment, notice of the plan's final approval) If so, please enter your email address here:

A total of 477 respondents (71% of those interested in elk) provided email addresses for notifying them on the updates of the plan.

Survey 2, Question 16. Please use the space below to provide any additional comments you may have about deer or elk management in GMUs 53, 54, and 63.

A total of 366 respondents (55% of those interested in elk) took the opportunity to provide written comments. These comments were all read and reviewed to glean any additional ideas for elk management strategies potentially implemented in this plan and for outside of this plan.

Section 3: General public online survey

Results of the third survey, "general public online survey" (Survey Monkey, Inc, Palo Alto, CA, USA) are summarized below in the following tables. Because the survey specific to GMUs 53 & 63 was also directed to those interested in deer management issues for a similar DAU planning process, respondents indicating they were solely interested in deer were filtered from the survey when applicable. Results of this survey are considered less rigorous, as it may not be representative of all interests or proportionally representative of any particular stakeholder group.

Survey 3, Question 1: *Answer choices by percent of respondents and respondent type:*

Question 1: How did you hear about this survey?	GMU 54	GMU 53 & 63	All GMUs Combined
CPW insider	50.0% (21)	50.8% (31)	50.5% (52)
From a friend	14.3% (6)	16.4% (10)	15.5% (16)
Newspaper	11.9% (5)	8.2% (5)	9.7% (10)
Other	23.8% (10)	24.6% (61)	24.3% (25)

Survey 3, Question 2: *Answer choices by percent of respondents and respondent type:*

Question 2: Which of the following best describes your interest in GMU 53, 54, or 63?	GMU 54	GMU 53 & 63	All GMUs Combined
Have hunted elk there	69% (29)	27.9% (17)	44.7% (46)
Have applied deer/elk licenses, but not yet had the opportunity to hunt there	16.7%(7)	29.5% (18)	24.3% (25)
Involved in the hunting service industry (hunting guide/outfitter)	9.5% (4)	3.3% (2)	5.8% (6)
Own or manage private land there	4.8% (2)	9.8% (6)	7.8% (8)
Agricultural producer (farm or ranch operator) there	0% (0)	3.3% (2)	1.9% (2)
Wildlife watcher	26.2% (11)	36.1% (22)	32.0% (33)
Other business owner	9.5% (4)	8.2% (5)	8.7% (9)
Non-hunting recreationist	21.4% (9)	23.0% (14)	22.3% (23)

Survey 3, Question 3*:

**respondents from GMU 53 & 63 pool had opportunity to select both 53 and 63. The GMU 54 answer choice did not appear to those respondents in the GMU 53 & 63 pool of hunters and landowners.*

***This question did not appear to the GMU 54 pool of respondents, as a separate survey instrument was available to those hunters and landowners.*

The respondents' answers were summarized in the following table based on percentage and raw number (in parenthesis) of respondents. However, this information was primarily used for characterizing the various stakeholders answer choices and summaries in subsequent questions.

Answer choices by percent of respondents and respondent type:

Question 3: Which unit(s) are you most interested in?	Percent (raw count)
GMU 53	11.7% (12)
GMU 63	3.9% (4)
Both GMU 53 & 63	35.0% (36)
GMU 54	38.8% (40)
BLANK	10.7% (11)

Survey 3, Question 4:

**Only respondents who chose answer choice D (own or manage private land) from question 2 were allowed to answer.*

***respondents from GMU 54 pool were not presented with answer choices pertaining to deer*

Summary by percentage (and count) of landowner respondents

Question 4: Have you experienced any significant loss (i.e., fence damage, forage loss, hay loss, orchard loss, etc) from deer or elk in the past 10 years?	GMU 54 (raw count)	GMU 53 & 63 (raw count)
NO	2	5
YES		2

Survey 3, Question 5:

Question 5: If you answered YES to previous question, what has been the solution for solving these agricultural damage issues?	Raw Count
Submitted claims to CPW Game Damage Program	1
Applied for special hunts	1
Sought help from the CPW Habitat Partnership Program	1

Survey 3, Question 6:

**Only respondents who chose answer choice D (own or manage private land) from question 2 were allowed to answer.*

***respondents from GMU 54 pool were not presented with answer choices pertaining to deer*

Summary by percentage (and count) of landowner respondents

Question 6: Which of the following best describes hunting activities on your owned or managed property in GMU 53, 54, or 63? (Choose all that apply)	GMU 54 (raw count)	GMU 53 & 63 (raw count)
No hunting is allowed	1	0
Only myself, family, and/or friends are allowed to hunt	0	5
Land is leased to an outfitter/guide or we outfit/guide on property	0	0
Public is allowed to hunt with permission, trespass fee is required	0	0
Public is allowed to hunt with permission, no trespass fee is required	1	0
Other	0	1

Survey 3, Question 7:

**Answer choices could pertain to both deer and/or elk in the GMU 53 & 63 pool of respondents. Deer was not described in the GMU 54 survey answer choices, and thus GMU 54 respondents answers only applied to elk.*

Answer choices were ranked by calculating a weighted percent (Not important = 0 points, Slightly important = 1 point, Moderately important = 2 points, Very important = 3 points) for each reason independently. A weighted score was calculated by multiplying the number of respondents times the degree (points 0 – 3) they answered for. A total count was created by multiplying 3 times the total number of respondents answering. Dividing the weighted score by the total possible count produced the percentages presented below. 0% would indicate all respondents in the survey indicated that a particular reason was "Not Important", while a 100% would indicate the particular reason was "Very Important".

Qustion 7: Rank the following from not important to most important	GMU 54	GMU 53 & 63	All GMUs Combined
A) Nature, Family, & Friends	78.1%	87.3%	82.6%
B) Obtain Wild Game Meat	83.8%	87.3%	85.5%
C) Contribute To Wildlife Mgmt	81.0%	84.8%	82.8%
D) Local Economy	53.3%	61.5%	57.2%
E) Obtain Trophy	41.7%	25.3%	33.8%

Survey 3, Question 8: *Answer choices by percent of respondents and respondent type:*

Question 8: Overall, how satisfied were you with your experience while hunting elk in GMU 53 or 63 or 54?	GMU 54	GMU 53 & 63	All GMUs Combined
Very unsatisfied	14.3% (5)	18.8% (3)	15.7% (8)
Somewhat unsatisfied	31.4% (11)	31.3% (5)	31.4% (16)
Neither unsatisfied nor satisfied	17.1% (6)	12.5% (2)	15.7% (8)
Somewhat satisfied	28.6% (10)	25% (4)	27.5% (14)
Very satisfied	8.6% (3)	12.5% (2)	9.8% (5)

Survey 3, Question 9:

The below graph categorized question 8 into three broad categories.

Answer choices by percent of respondents and respondent type:

Question 9: Overall, how satisfied were you with your experience while hunting elk in GMU 53 or 63 or 54?	GMU 54	GMU 53 & 63	All GMUs Combined
unsatisfied	45.7% (16)	50% (8)	47.1% (24)
Neither unsatisfied nor satisfied	17.1% (6)	12.5% (2)	15.7% (8)
satisfied	37.1% (13)	37.5% (6)	37.3% (19)

Survey 3, Question 10: *Answer choices by percent of respondents and respondent type:*

Question 10: Which method of take have you preferred when hunting elk in GMU 53, 54, or 63?	GMU 54	GMU 53 & 63	All GMUs Combined
Archery	8.8% (3)	26.7% (8)	17.2% (11)
Muzzleloader	0% (0)	10.0% (3)	4.7% (3)
Rifle	82.4% (28)	50% (15)	67.2% (43)
No preference	8.8% (3)	13.3% (4)	10.9% (7)

Survey 3, Question 11: Respondents were presented with the discussion and the different tradeoffs when managing the elk population size certain ways. See question 9 of section 2 in this appendix for the graphs and discussion provided.

Answer choices by percent of respondents and respondent type:

Question 11: Given the above scenarios and descriptions of anticipated outcomes: during the next 10 years (2018 - 2028), how do you want the GMU 53 & 63 or 54 elk population size to be managed?	GMU 54	GMU 53 & 63	All GMUs Combined
Scenario A: Increase by ~35%	40.5% (17)	24.6% (15)	31.1% (32)
Scenario B: increase by ~17%	23.8% (10)	32.8% (20)	29.1% (30)
Scenario C: Do not change (keep at ~3500 elk)	16.7% (7)	9.8% (6)	12.6% (13)
Scenario D: Decrease by ~17%	4.8% (2)	1.6% (1)	2.9% (3)
Scenario E: Decrease by ~35%	0% (0)	3.3% (2)	1.9% (2)
No Preference	14.3% (6)	27.9% (17)	22.3% (23)

Survey 3, Question 12: *The question read as: "High bull ratios often equate to having more older aged bulls and fewer other hunters on the landscape. However, having a higher bull ratio also means that hunting opportunity is decreased. During the next 10 years how would you like the bull ratio to be managed in GMU 53 & 63?"*

Question 12: During the next 10 years, how would you like the bull ratio to be managed in GMU 53 & 63 or 54?	GMU 54	GMU 53 & 63	All GMUs Combined
Increased (want less hunting opportunity, but potentially more/larger bulls, less	42.4% (14)	42.9% (12)	42.6% (26)
Stay the same	39.4% (13)	39.3% (11)	39.3% (24)
Decreased (I want more hunting opportunity, but potentially fewer/smaller	12.1% (4)	3.6% (1)	8.2% (5)
No preference	6.1% (2)	14.3% (4)	9.8% (6)

Survey 3, Question 13: **Answer choices could pertain to both deer and/or elk in the GMU 53 & 63 pool of respondents. Deer was not described in the GMU 54 survey answer choices, and thus GMU 54 respondents answers only applied to elk.*

Answer choices were ranked by calculating a weighted percent (Not at all concerned = 0 points, Slightly concerned = 1 point, Moderately important = 2 points, Very concerned = 3 points) for each issue independently. A weighted score was calculated by multiplying the number of respondents times the degree of concern (points 0 – 3) they answered for. A total count was created by multiplying 3 times the total number of respondents answering. Dividing the weighted score by the total possible count produced the percentages presented below. 0% would indicate all respondents in the survey indicated that a particular issue was "Not at all concerning", while a 100% would indicate the particular issue was "Very concerning". Issues were ranked from 1 – 10 (second column) for each of the respondent types, with the most concerning issue highlighted in yellow.

Question 13: How concerned are you about the following items:	Weighted Percentage (out of 100%) and ranking by respondent type					
	GMU 54		GMU 53 & 63		All GMUs Combined	
Habitat quantity or quality (not having enough habitat for elk/deer, other wild species, and/or domestic livestock)	67.6%	4	82.2%	1	57.0%	2
Potential for deer and/or elkÂ to starve during the winter	64.8%	5	78.0%	2	52.5%	3
Economic losses due to deer and/or elk (i.e., ag-production, gardens, fences)	27.8%	10	37.9%	10	6.3%	9
Land not being accessible for hunting (i.e. places where deer and/or elkÂ hunting is not allowed)	73.1%	2	71.1%	3	58.0%	1
Impacts of hunting recreation pressure on the distribution of deer and/or elk	74.3%	1	65.9%	4	36.3%	5
Impacts of non-hunting recreation (i.e., ATVs, hikers, camping, antler collecting) on the distribution of deer and/or elk)	71.3%	3	51.9%	7	33.3%	7
Disease (i.e., Chronic Wasting Disease)Â negatively affecting deer and/orÂ elk populations	64.8%	6	65.2%	5	37.5%	4
Disease (i.e., Chronic Wasting Disease) transmission potential from wildlife to humans, pets, or livestock	52.4%	8	47.4%	9	26.3%	8
Predators affecting deer and/or elk populations	55.2%	7	54.8%	6	33.8%	6
Vehicle collisions with deer and/or elk	34.3%	9	51.1%	8	6.2%	10

Survey 3, Question 14: *Answer choices by percent of respondents and respondent type:*

Question 14: Tell us how you feel about the following statement: "the problem isn't with too many or too few elk in GMU 53 or 63, it is the distribution (where elk occur) that is a problem"	GMU 54	GMU 53 & 63	All GMUs Combined
I do not agree nor disagree	8.6% (3)	16.1% (5)	12.1% (8)
Strongly agree	17.1% (6)	6.5% (2)	12.1% (8)
Somewhat agree	34.3% (12)	41.9% (13)	37.9% (25)
Somewhat disagree; we should probably change the number	8.6% (3)	9.7% (3)	9.1% (6)
Strongly disagree; the number of elk needs to be changed!	17.1% (6)	16.1% (5)	16.7% (11)
No opinion or none of the above	14.3% (5)	9.7% (3)	12.1% (8)

Question 15: What is your zip-code (please enter 5-digit zip)?

Respondents represented a variety of geographies, that were also captured a-prior in the list of post-card addresses solicited. Future analysis may utilize these addresses to extract geographic attributes of respondents.

Question 16: In what year were you born?	GMU 54	GMU 53 & 63	All GMUs Combined
Average of Age	51.6	53.3	52.5

Question 17: Would you like to receive updates on this plan? (i.e., when a draft is released for public comment, notice of the plan's final approval) If so, please enter your email address here:

A total of 55 respondents (54%% of those interested in elk) provided email addresses for notifying them on the updates of the plan.

Question 18: Please use the space below to provide any additional comments you may have about deer or elk management in GMUs 53, 54, and 63.

A total of 40 respondents (39%% of those interested in elk) took the opportunity to provide written comments. These comments were all read and reviewed to glean any additional ideas for elk management strategies potentially implemented in this plan and for outside of this plan.

Section 4: Attached Comment Letters

Letters received from the Gunnison County Stock Growers Association (8/2/2017), Montrose BLM Field Office (11/17/2017), Habitat Partnership Program (combined letter from North Fork and Gunnison Committees: 12/18/2017), Gunnison County Stock Growers Association (1/8/2018), and USFS Gunnison Ranger District (2/20/2018) are attached below.

Established 1894

GUNNISON COUNTY STOCKGROWERS ASSOCIATION, INC.

P.O. Box 1711 ◆ Gunnison, Colorado 81230

8/25/2017

AUG 2 9 2017

Colorado Parks & Wildlife/State Wildlife Commission
300 West New York
Gunnison, CO 81230

Dear Colorado Parks and Wildlife:

My name is Alphonse Taramarcaz, current President of the Gunnison County Stockgrowers Association. We are the oldest stockgrowers organization in Colorado and we continue to be one of the most active. Thank you for accepting our comments concerning your upcoming decision on elk numbers in Unit 54 (DAU E41). We do have concerns regarding the process for determining elk numbers for herd objective.

Following are our concerns:

1: Distribution has changed due to weather, recreation, and land use changes which has resulted in more use on private lands all year round.

2: Big game numbers must be adjusted due to distribution changes. We have seen extreme changes in big game distribution in the summer resulting in higher use on private lands.

3: Consideration must be given to past wildlife winter use areas such as Tomichi Dome with a renewed emphasis on protecting those areas in the winter as they play a key role in Big Game Distribution.

It is essential the elk populations be based first and foremost on the available land resources and distributions. We insist the Commission work closely with the USFS and BLM and affected landowners to determine the appropriate carrying capacity.

I have yet to meet a hunter who wanted less "Hunter Opportunity". Elk populations should not be based on hunters wanting more elk.

Thanks again,

Alphonse Taramarcaz

Email: goldeneagletrash@pcrs.net
Phone: 970-641-3230

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, Colorado 81401
www.co.blm.gov

Date: 11/17/2017

Re: Draft Elk Management Plan for Game Management Units 54, 53 and 63

Colorado Parks and Wildlife
Attn: Kevin Blecha,
300 W. New York Ave.
Gunnison, CO, 81230

Dear Mr. Blecha,

The Bureau of Land Management, Uncompahgre Field Office submits the following comments on the Draft Elk Management Plan for Herd E05 (Game Management Units 54, 53 and 63) (Draft Plan).

Comments on the Draft:
As with previous conversations with CPW biologists, the Uncompahgre Field Office has concerns about the winter and early spring distribution of elk behind the C-77 gate closure (western portion of GMU 63). The C-77 closure was implemented in 2004 to provide big game refuge during the winter months and decrease impacts to private lands from wintering big game, as well as provide protection for lekking Gunnison sage grouse in the early spring.

The closure has been highly successful in providing refuge for wintering elk. With public motorized access restricted from December to May annually, substantial wild ungulate populations will spend the majority of the winter on public lands on Green Mountain and Black Ridge. Studies have shown that elk remain on these winter ranges through the lek season and early nesting season until the motorized access restriction is lifted on 15 May annually[1, 2]. Elk winter concentration habitat directly overlaps with core Gunnison sage grouse habitat for the Crawford population. During mild winters with low snow depth, the number of elk using the core of Gunnison sage grouse habitat is concerning, and could be having impacts to this grouse population. BLM staff have regularly observed multiple very large herds (300-500 elk) per day behind the C-77 gate in late-winter to early-spring since about 2010.

Given that CPW has both elk and grouse population estimates, we recommend an analysis to see if there is an inverse relationship between elk and grouse population fluctuations. It appears that during the time period described in the Draft Plan that the elk populations were increasing (1984-1989, Draft Plan Fig 2) and the Crawford grouse population was declining (from 133 to 119 (See attached Figure 1), with the low point in 1993 of 97 birds. During the time period that the elk population was decreased intentionally in response to high elk numbers (1990 – 1998; Draft Plan pg 7), grouse populations in the Crawford area increased dramatically to their high of 239 birds in 2000. During the time period that the elk populations again increased (2003-2008), grouse populations were again on the decline (from 202 to 147 birds), with a continued decline to a low of 69 birds in 2012. From 2011 through 2013, CPW augmented this grouse population with 72 birds from Gunnison Basin, bringing the population back up to an estimate of 134 birds in 2017.

The Uncompahgre Field Office completed a vegetation assessment of the Crawford Gunnison sage grouse area to determine the suitability of habitat for grouse[3]. Generally, the area met habitat guidelines[4] for sagebrush height and shape, overall forb cover and height, and perennial grass cover and height (3.9"). Additionally, overall forb cover and composition are well within ecological site potential. Concerns for sage grouse habitat included low sagebrush

cover and that mean perennial grass height met **minimum** height guidelines. We observed a low composition of residual tall bunch grasses during early temporal periods (nesting/early brood rearing) of this study. Additionally, grass species composition was heavily favored by grass species that may not meet minimum heights in dry or drought years. Issues with vegetation condition in this area are affected by many factors: drought, domestic cattle and sheep grazing, and wild ungulate (mule deer and elk) grazing. Elk utilization of vegetation in late-winter to early-spring may be having impacts to grass cover and composition in the area. Especially during those mild winters where elk appear to congregate, remove residual cover in the late winter, and then graze early green grasses as they come out of dormancy in the early spring. Studies have shown that repeated heavy spring grazing contributes to both changes in plant species abundance and biodiversity in sagebrush steppe.[5,6]

Additionally, in contrast to the habitat guidelines for grass height (3.9"), there is growing consensus among the scientific community that 18cm (~7") grass heights correlate to increased habitat preference and nest success by sage-grouse [7, 8,9, 10, 11]. Recent studies of Gunnison sage-grouse have found that increases in grass heights are positively associated with increased nest survival rates[12]. These findings are consistent with previous studies which have correlated increased (residual) grass heights with increased nest survival rates for greater sage-grouse [13,14, 15]. Lateral cover provided by tall residual bunch grasses from the previous growing season, help to conceal nests from non-avian predators [6, 16, 17]. Conversely, the removal of residual grass has been found to negatively impact the quality of sage-grouse habitat[18], as residual grass is the predominant grass cover during nesting season[6,19]. Therefore, reducing residual grass cover can negatively affect the quality of sage-grouse habitat and nest fate[20].

Given our concerns for the Crawford Gunnison sage grouse population in GMU 63,

- We can support *License Allocation Objective Alternative 1* (Cow licenses are allocated disproportionally among the three GMUs, with proportionally higher number of limited cow elk licenses will be allocated in GMU 63).
- We would prefer to see *Population Objective Alternative 1* (0% change). However, we understand that the larger Herd E05 may be able to support the CPW preferred Alternative 2 (17% increase), while addressing distribution issues within GMU 63 through License Allocation Objective Alternative 1. We strongly encourage a full range of management options be employed to allow for the greatest proportion of the 17% increase in population occur in GMUs 54 and 53. BLM believes these areas offer either greater extents of winter range or less sensitive winter ranges where increased numbers of animals would have less impacts to sensitive resources.

We also recommend a joint effort between CPW and BLM to monitor and address issues of elk concentrations overlapping with sage grouse core habitats in the Crawford population. Given that the C-77 seasonal closure (Dec 1-May 15) appears to encourage elk to concentrate behind the gate during late-winter to early spring, when BLM begins travel management in this area, we may consider modifying the gate closure in favor of Gunnison sage grouse (generally, lekking/nesting season) to attempt to address this issue.

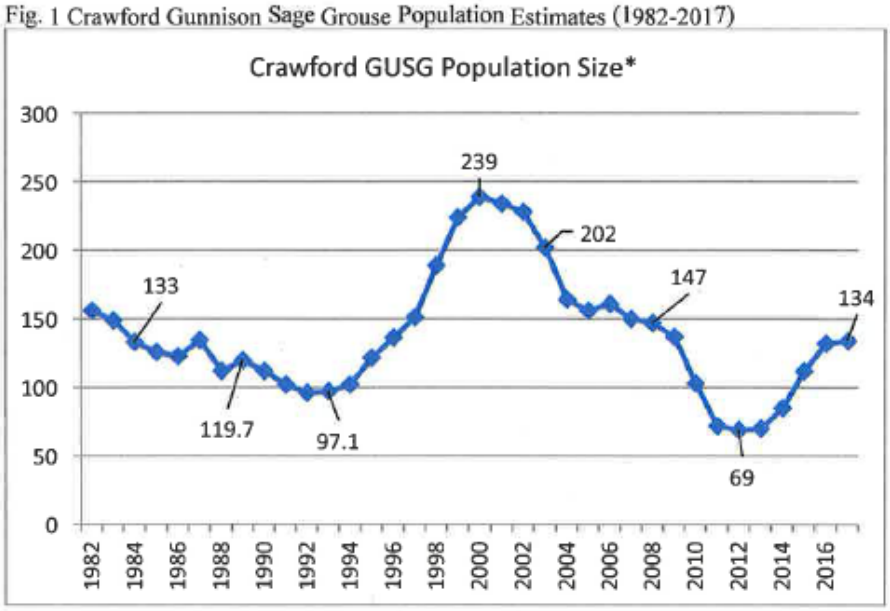
Thank you for the opportunity to submit these comments. BLM looks forward to finding solutions to these matters and to continue working with CPW as this planning process moves forward.

Sincerely,

Gregory Larson,
Field Office Manager

Enclosure
1 – Chart

Fig. 1 Crawford Gunnison Sage Grouse Population Estimates (1982-2017)



* Based on 5-year average

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December 18, 2017

Kevin Blecha, Terrestrial Biologist
Colorado Parks & Wildlife
300 W. New York Ave.
Gunnison, CO 81230

RE: North Fork of the Gunnison & Gunnison Basin HPP Committee comments on the West Elk Mountains Elk Herd (E05) Management Plan

Dear Mr. Blecha:

This letter is in response to your request for formal comment regarding the Colorado Parks & Wildlife E05 Herd Management draft plan. The Habitat Partnership Program (HPP) was created to help resolve wildlife conflicts, particularly those associated with fence and forage issues and to assist CPW in achieving game management objectives. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen representatives) provides a good cross-section of local interests to review DAU proposals and respond accordingly for CPW consideration.

The North Fork of the Gunnison and Gunnison Basin HPP Committees held special meetings on November 13th and December 11th to discuss elk population objectives for E05, and review the herd management plan alternatives. After careful consideration, the committees offer the following recommendations:

- The committees agree that the current elk population objective should be increased according to the collaborative objective (Alternative #2). This represents a 17% increase, resulting in a post-season population objective between 7800-8800 elk. The committees feel that this increase is modest enough that the proposed population objective will be sustainable, and well-received by the public. Additionally, the committees support a gradual population increase to achieve this objective over a period of years, such that near-current levels of hunting opportunity, hunter crowding, and license demand will be maintained.

- The North Fork Committee particularly feels that while population increases are desirable within the DAU, the majority of the increase should occur within GMU 54 only and would not support significant increases within GMUs 53 and 63. However, the Gunnison Basin HPP Committee, while supportive of the increase, is concerned that the proposed population increase within GMU 54 could exacerbate existing agricultural and access issues.

- To address these concerns, the committees strongly support a disproportional license allocation according to the CPW staff preferred alternative (Alternative #1), and would not support the proposed 17% population increase if the spatial allocation (Alternative #2) is selected. Uniform allocation of licenses across the

DAU will result in increased numbers of elk and associated conflicts within GMUs 53 and 63, where significant refuge issues and agricultural conflicts exist. However, using disproportional license allocation in addition to the current levels of DWM involvement, Game Damage resources, and HPP involvement, the committees feel that the elk can be appropriately distributed within lower conflict areas, and that landowner tolerance would be maintained as a result.

- The committee believes CPW's management strategies, including existing season structures, hunt codes, and game damage/distribution hunt license allocations, will be critical to the adaptive management of increased numbers of elk within known conflict areas in the Gunnison Basin and North Fork. Both HPP committees encourage CPW staff and offer their assistance to develop the changes in advance of the anticipated population increases and associated conflicts.

- The committees support managing the E05 bull ratio according to the status quo objective (Alternative #2). This represents an objective of 23-28 bulls per 100 cows, and a relative average between the two DAUs that were previously managed separately. The committees feel that this ratio is acceptable to the public as it should not result in decreased hunter opportunity or increased hunter crowding, and will be sustainable throughout the population increase.

Finally, there are currently ongoing elk research and monitoring efforts which both HPP committees have helped to fund. The study is anticipated to yield data which will help inform HPP decision-making processes and may also affect CPW's management strategies within the area.

The committees feel that these alternatives are reasonable and sustainable based on current range conditions, high landowner tolerance for big game, and the extensive public input gathered during this planning process.

Thank you for the opportunity to provide these comments.

Sincerely,

Cody Purcell (KR)

Cody Purcell, Chair

North Fork Gunnison HPP Committee

Nick Gallowich (KR)

Nick Gallowich, Chair

Gunnison HPP Committee

Cc J. Wenum

01/08/2018

County Stockgrowers Association

Comments on Elk Management Plan for Elk Herd E05

Dear Wildlife Commission,

Please accept our comments and thoughts regarding your upcoming decision for managing the E05 Elk Herd. We appreciate Colorado Parks and Wildlife outreach to our organization.

The Gunnison County Stockgrowers Association (GCSA) has a good working relationship with Colorado Parks and Wildlife on the State level as we continue legal efforts for the Gunnison Sage Grouse. GCSA has a good working relationship with the CPW local Gunnison office.

GCSA values these relationships and remains dedicated to working in this spirit.

We would like to see the following resolved before the Wildlife Commission makes a final decision on E05:

1. The federal agencies that are primarily responsible for providing habitat and forage for elk, BLM and USFS, need to have and share written documentation of their positons on elk numbers. If they support increased numbers they must show/document where there is excess grazing available and how they intend to work with CPW to get elk to graze those areas.
2. If the USFS and BLM support elk increases we need to have their written positions on how many additional hunters they anticipate in the field and justify support of this additional recreational use.
3. GCSA wants to know what percentage elk increase CPW is proposing for Unit 54. Herd E05 is proposing a 17% average elk increase, with more of the increase coming from Unit 54. How much more?
4. For discussion purposes assume approximately a proposed 20%-25% increase in elk numbers for Unit 54. GCSA needs to understand how CPW envisions keeping elk off private property during hunting seasons to accomplish the goal of increased hunter opportunity. Our concern is that this increase may only accomplish 20%-25% more elk congregating on private property.
5. We would like see a plan from CPW that shows what additional measures will be implemented as preparedness measures to manage/feed elk in the winter months. A significant amount of private ranch land is used by elk during the winters. The majority of ranchers are not offering to feed 20% - 25% more elk in the winter. CPW needs to

make its own accommodations for winter feed. Additionally, very few folks support starvation as acceptable.

6. GCSA needs to see conclusive and legally defensible documentation that additional elk competing for winter range will not have an adverse impact on the Gunnison Sage Grouse. The State of Colorado, Gunnison County, and Stockgrowers have spent too much time, energy, and money to take chances on this. We all need to be able to legally defend decisions when the US Fish & Wildlife Service or Environmental groups make the accusation "the USFS and BLM, along with State and Local entities, value increased hunter opportunity over Sage Grouse viability".
7. Stockgrowers also want to see a written statement from Gunnison County Commissioners addressing E05 elk management.

If other recreational interests (Biking, Motorized, Fishing, Hiking, Boating, etc.) circulated a poll, with the majority of the respondents being active participants in that specific recreational activity, predictably there would be desire for additional opportunity. That elk hunters want more hunting opportunity is no surprise. GCSA feels that because a specific recreation group desires additional opportunity, this community and all affected parties, including USFS, BLM, and Gunnison County, must fully vet proposals, with no obligation to providing increased opportunity.

GCSA recognizes the Wildlife Commission isn't required to address any of our mentioned items. Yet, we remain convinced and dedicated that our Gunnison Community (Stockgrowers included) is best served when we look at our basin as a whole and resist the temptation to pit competing interests or agencies. Collaborative is a word thrown around too often these days, but it applies here.

Gunnison County Stockgrowers respectfully ask the Wildlife Commission to give our concerns the weight they deserve. Ranching controls a large amount of private land that provides wildlife habitat well beyond elk and grouse. Ranching utilizes large areas of public lands in conjunction with wildlife. We are not here for the weekend, we are here for lifetimes. Stockgrowers are your partners.

Burt Guerrieri

GCSA Board Member, Past President

USDA United States Department of Agriculture Forest Service Gunnison Ranger District
216 North Colorado Street
Gunnison, CO 81230
970-641-0471
Fax: 970-642-4425

File Code: 2600
Date: February 20, 2018

J Wenum
Area Wildlife Manager
Colorado Parks and Wildlife
300 W. New York Ave
Gunnison, CO 81230

Dear J,

Thank you for the opportunity to provide input on the West Elk Mountains Elk Herd (E05) Management Plan. After consultation with our district and forest wildlife biologists and range management specialists, I have determined that Forest Service lands projected to be impacted by an increase in elk populations can withstand the proposed increase based on observed habitat conditions and forage production. While the proposed 17% increase applies to E05 and includes Game Management Units (GMU) 63, 53, and 54, we understand that this proposed increase for E05 is anticipated to result in a 24% increase on winter range in GMU 54. We agree with your management goals to improve elk distribution and encourage elk recolonization of areas in GMU 54 that currently appear void of elk, but once harbored many. This includes an area of primarily National Forest land between Red Creek and Ohio Creek.

One important landscape-scale change affecting habitat conditions within GMU 54 is a recent spruce beetle outbreak, affecting approximately 60 square miles of forest in the West Elk Mountains between 2006 and 2016. We do not yet understand how elk will respond to the spruce beetle epidemic. General observations by Forest Service staff indicate increased forage production within portions of the spruce-beetle impacted areas. If the perceived forage increase is occurring due to the landscape-scale spruce beetle disturbance, this may temporarily result in improved elk distribution and increased habitat capability during the summer-fall that could sustain an increase in population size.

As you are well aware, recreation is a significant driver for the Gunnison community. Elk hunting is a significant economic driver and contributor to recreation and wildlife conservation. We often think about the biological carrying capacity of habitat to support elk. Carrying capacity also equates to a social carrying capacity. We have not attempted to estimate how many additional hunters are anticipated once license sales go up as the elk population objective range is achieved. We anticipate fewer hunters will be on the landscape in the near-term as license sales are reduced to allow for the population increase. We cannot understate the important role the Forest Service plays in recreation management. This includes travel management work conducted each year addressing unauthorized, user-created routes. Effective travel management requires persistence to inform and educate recreationists, including hunters, on why this matters. We appreciate the support your staff have provided in travel management efforts. We look forward to coordinating future travel management work with Colorado Parks and Wildlife.

Undoubtedly, there are challenges to managing increased, diverse, and sometimes conflicting recreation uses. To manage the diverse recreation uses on the landscape in a compatible manner with elk management objectives, livestock grazing, and other Forest Service multiple use objectives, we often talk about sustainability. Sustainability equals trade-offs. Trade-offs are necessary to achieve desired objectives for all uses within the context of what the natural resources can support. We desire to see the hunting seasons and license allocation managed in such a way as to strike a sustainable balance of hunter numbers and distribution throughout the GMUs. We look forward to working with you to manage habitat in a way that is beneficial to elk distribution, providing hunting opportunities throughout E05, and particularly in GMU 54. This is important for a quality hunting experience and hunter opportunity, as well as sustainable recreation management.

In terms of livestock grazing management, the grazing allotments in GMU 54 include a combination of active cattle allotments, and closed or Forage Reserve status. Active allotments have multi pasture rotational grazing systems. Range condition on the grazing allotments within GMU 54 are rated good to excellent in riparian and uplands. This represents the vegetation composition and soil condition in mid-seral to climax ecological status. Livestock grazing utilization averages light to moderate use of current year's forage production in riparian areas and uplands. This is based on range inspections looking at stubble heights of desirable plants. Range condition would represent the quality of the habitat to sustain an elk herd. Current year's utilization and forage production would represent the amount of feed available for an elk herd to survive during the spring/summer/fall seasons. Analysis of range conditions and forage production indicate that a proposed 17% increase in elk herd size could be sustained by the habitat and feed available to them during the time of year they are on National Forest Lands.

In terms of Forest Service habitat management, we conduct riparian and wet meadow habitat restoration and prescribed burning on elk winter range and in habitat areas used by elk in transition during spring and fall. These activities have occurred within GMU 54 on Flat Top Mountain and north of Blue Mesa Reservoir in the Soap Creek, Red Creek and Rainbow Lake Road (Willow Creek drainage) areas. To be effective in having the desired influence on elk distribution patterns and elk habitat use, we coordinate with Colorado Parks and Wildlife, the Gunnison Basin Habitat Partnership Program, and other stakeholders on what areas should be prioritized for habitat treatments that support elk habitat improvement, big game and livestock forage production, and improved animal distribution.

The Forest Service plays a significant role and is an important partner in achieving desired objectives for elk management. We look forward to working with you on managing these resources.

Sincerely,

For

MATTHEW M. MCCOMBS
District Ranger

Appendix E11-A: Public Input on Draft E-11 Plan

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 Digitally signed by MELISSA GARCIA 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

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 E-11

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 keep the current population objective. We believe this alternative responsibly balances local range and habitat conditions with sportsmen desires and landowner concerns. We understand that the current population is above the objective and is still increasing, and we agree that the population needs to be reduced to meet the objective. There are concerns about the herd's impact on habitat in the area, as they tend to congregate in area with limited hunting such as the Baca National Wildlife Refuge and the Great San Dunes National Park. Reducing the population and improving the dispersal of animals is very important.

The Mount Blanca committee also discussed the proposed sex ratio alternative. We believe the current sex ratio objective is a good balance and provides ample hunting opportunity while also providing for a reasonable number of mature animals for those hunters who want to take a larger bull. We understand that the observed sex ratio is above the objective and needs to be reduced. Reducing the current observed sex ratio to meet the objective will reduce the risk of CWD and will lead to better distribution.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The Mount Blanca committee is working with both public land managers and private landowners to help improve elk distribution in DAU E-11. We have committed to partnering with

public agencies to implement a dispersal coordinator that will improve elk dispersal and increase harvest opportunities. Also, the committee is committed to maintaining and improving habitat in this area as opportunities arise.

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

- Refuge situations exist that prohibit hunting entirely or allow for only very limited hunting, which has made population management difficult in the past. However, public land agencies are making changes to allow controlled dispersal efforts. We are confident that this will help to manage the population.

- We have worked with numerous landowners who want to implement positive improvements for big game on their property. We will continue to work with landowners to increase hunting access on their properties where appropriate in order to help manage the population and reduce any conflicts they experience.

- Federal land managing agencies place a high priority on habitat improvement and our committee will work with them as opportunities for habitat projects arise.

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

Sincerely,

Mike Maldonado

Mike Maldonado, Chair
Mount Blanca HPP Committee

Appendix E20-A: Public Input on Draft E-20 Plan

September 12, 2022

Alyssa Kircher
Colorado Parks and Wildlife
2300 S. Townsend Ave
Montrose, CO 81401

RE: Uncompahgre HPP Comments - Uncompahgre (E20) HMP

Dear Ms. Kircher,

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity to provide input into big game management in their areas. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen 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 in meeting game management objectives for those same species. From those perspectives, the Uncompahgre HPP committee has reviewed the draft alternatives and offers these comments for consideration.

The Uncompahgre committee supports the draft alternative to increase the population range to 11,000 - 15,000 elk. This brings the population objective in line with the 2021 post-hunt population estimate and does not necessarily represent an increase in the number of elk currently on the landscape. Existing conflicts are more likely related to distribution of the herds in the area and not the overall population size. We believe this alternative responsibly balances local range and habitat conditions and landowner concerns. While sportsmen and some landowners have expressed a desire for more elk, the current conditions would likely not support an increase at this time. However, the proposed objective range offers wildlife managers the flexibility to increase or decrease the elk population in the future as habitat conditions allow.

The Uncompahgre committee also discussed the proposed sex ratio alternative. We believe the status quo sex ratio of 20-25 bulls per 100 cows is a good balance and provides ample hunting opportunity, while also providing for a reasonable number of mature animals for those hunters who want to take a larger bull. It is important to note that the two units within the DAU are managed separately, with Unit 61 being totally limited and Unit 62 offering OTC licenses. This factor makes the sex ratio difficult to manage consistently throughout the DAU due to variable hunting pressure and different expectations for trophy potential.

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

Sincerely,

Bobby Gray

Bobby Gray, Chair
Uncompahgre HPP Committee

MESA COUNTY

BOARD OF COMMISSIONERS

District 1 – Cody Davis 970-244-1605
District 2 – Scott McInnis 970-244-1604
District 3 – Janet Rowland 970-244-1606

November 22, 2022

Colorado Parks and Wildlife
Attn: Alyssa Kircher
2300 S Townsend Avenue
Montrose, CO 81401

Comments to be submitted via email to: alyssa.kircher@state.co.us

RE: Draft Herd Management Plans- Paradox Elk Herd and Uncompahgre Plateau Elk Herd

Dear Ms. Kircher:

Mesa County is appreciative of the cooperative relationship between Mesa County and Colorado Parks and Wildlife ("CPW"). We thank you for the opportunity to offer the following comments on the Draft Herd Management Plans for the Paradox Elk Herd and Uncompahgre Plateau Elk Herd.

While these herds have been increasing over the past several years, appropriate management of big game species across the state will look very different during the duration of these plans given the pending reintroduction of wolves to the Colorado landscape. Ensuring big game populations of elk, deer, and moose are stable and healthy should remain a top priority for CPW given the economic and socioeconomic contributions of hunting and wildlife viewing to not only the Western Slope, but also that of the state.

As detailed in the Mesa County Resource Management Plan, Mesa County supports the following Resource Management Objective:

> *Wildlife is managed sustainably using credible qualitative data and management plans are developed in coordination with Mesa County and other stakeholders*

And the following applicable Policy Statements:

4. Management plans will use independent scientific data to generate plans.
6. Support habitat monitoring efforts and refine available habitat data.
10. Signage should be used to notify the public of seasonal wildlife related closures (calving/fawning).
12. Support consultation, cooperation, and collaborative efforts to minimize impacts of vehicle collisions and highway fencing along county roads and highways within key wildlife migration corridors in Mesa County.
13. Develop monitoring programs that separate the use by species (e.g., wild horse, livestock, or wildlife) that can be used to inform management.

Further, we understand the need to manage the species on a larger scale, however, we also believe that it is important for all resource management plans to allow for adaptive management by local

resource managers, especially as quickly as localized conditions change and new science becomes available.

Thank you for your consideration of these comments.

Sincerely,

Cody Davis, Chair
Board of County Commissioners

Scott McInnis
Commissioner

Janet Rowland
Commissioner

CC: Mesa County Administration
Todd Starr, Mesa County Attorney
Kirk Oldham, Colorado Parks and Wildlife

Colorado Backcountry Hunters & Anglers
"The sportsmen's voice for our wild public lands, waters and wildlife"
www.backcountryhunters.org

Alyssa Kircher
Terrestrial Biologist
Montrose Area Office
Colorado Parks and Wildlife

November 28, 2022

Re: Public Comments on E20 and E40 Herd Management Plans

Thank you for reaching out to us during the public comment period on these two Herd Management Plans. I am submitting comments on behalf of the Colorado Chapter of Backcountry Hunters & Anglers (CO BHA) where I currently serve as the Central West Slope Regional Director. CO BHA represents over ten thousand conservation-minded hunters and anglers across the State of Colorado. Our mission is to ensure North America's outdoor heritage of hunting and fishing in a natural setting, through education and work on behalf of public lands, waters, and wildlife.

DAU E20 - Uncompahgre Plateau

E20 includes GMU 61 and 62. Land status within E20 is 75% public land which provides excellent access to public land elk hunting. GMU 61 has been managed as a quality elk hunting unit with limited licenses and greatly reduced hunting pressure for antlered elk since 1983. In contrast, GMU 62 has been managed as an unlimited, over-the-counter (OTC) license unit for bull elk hunting and is one of the most heavily hunted OTC units in Colorado. In 2021, licenses in unit 61 required 0-27 preference points depending on the season and residency status. The early rifle season (EE061E1R) is the most coveted license in this unit requiring 20 points for residents and 27 points for nonresidents in 2021. Limited licenses in unit 62 are drawn out at one point or less.

Based on our long-term experience in E20 as a group of former federal agency employees, public land hunters, and outfitters we agree with CPW's proposal to maintain population objective of 11,000-15,000 elk. We believe that past vegetation projects and wildfires on the BLM and Forest in combination with seasonal travel closures on the Uncompahgre Forest provide the winter range capacity to sustain those numbers. We also recognize CPW's concern that persistent drought has had impacts to forage production on all seasonal ranges, but we also are concerned about what the duration and intensity of livestock grazing on public lands is having on the quality and availability of residual forage for wildlife. We also believe that maintaining the population at this level would provide the necessary elk numbers to compensate for additional predation by wolves that are likely to occupy the Uncompahgre Plateau following their reintroduction while retaining our hunting opportunities.

As noted in the HMP, outdoor recreation has increased dramatically over the last decade and can have many impacts including loss of effective habitat, changes in seasonal migration patterns, and potentially lower survival rates. The impacts of recreation on elk behavior and distribution are well documented in the literature and acknowledged by the experiences of your local DWMs and agency biologists. We are also highly concerned over the very high and

increasing recreation activity, especially in unit 62 and the north end of 61. Many of those routes are located in high priority habitats and are displacing elk from their preferred habitats. We are hopeful that the revision of the GMUG Forest Plan will fully recognize this impact and provide specific direction to limit additional recreation development and use to maintain and improve habitat capacity and connectivity for elk and other wildlife.

As noted in the HMP, some issues are out of CPW control and rely on government agencies like the USFS and BLM, landowners, county governments, CDOT, and NGOs to help improve land management and improve habitat carrying capacity. We understand the complexities of working with other agencies and landowners to achieve wildlife goals. However, we think that CPW programs like HPP and the State trails program can have an influence on the priorities & direction those agencies take.

The preferred alternative for post-hunt sex ratios is to increase the bull to cow ratio from 16-20 bulls per 100 cows to 20-25 bulls per 100 cows. While we support this objective, it appears to us that the majority of those bulls are in the younger age class following the hunting seasons. We would like to see the age class for bull elk increase to improve the quality of the herd and hunting.

The HMP states that under current management with OTC bull licenses in GMU 62, it is not possible to manage for more than 25 bulls:100 cows within the DAU. Any sex ratio objective above 25 bulls:100 cows would require all antlered elk licenses in E-20 to be limited; therefore, an expected sex ratio range is proposed for OTC units where the sex ratio is more of descriptive statistic rather than an objective range. This range will continue to allow for opportunity and varied age classes of bulls in the population.

The HMP describes some management strategies possible to improve hunt quality and hunter distribution throughout the DAU during the limited seasons such as managing limited muzzleloader, first and fourth rifle, and antlerless licenses in unit 62. Another management strategy that could be applied to both units to keep this population stable, would be to increase cow licenses as populations increase to the top of the objective range. Additionally, CPW will continue to offer game damage licenses and private-land-only licenses to increase landowner tolerance and keep hunting pressure on private lands to redistribute elk on to public lands.

In addition to those strategies we strongly believe that CPW needs to limit archery hunting in unit 62, starting in 2023 and for sure by the next 5-year Big Game Season Structure. With the San Juan units getting limited and the Grand Mesa units likely becoming limited next year, the archery pressure in unit 62 will explode even more as those displaced hunters will simply seek out the next available and closest OTC unit; which would be unit 62. There are simply too many bow hunters on the landscape. It pushes the elk down even earlier which exacerbates CPW's concern about a growing elk herd creating conflict with private land owners through crop damage and competition with livestock. Hunter experience severely declines in quality and opportunity on elk because the elk have simply shut down. Limiting archery hunting will help reduce potential conflict, ease up excessive pressure on elk herds and provide a more quality experience while still providing ample opportunity.

In addition, we would like to have CPW consider improving the hunting experience in GMU 61 through changes to cow elk hunting seasons. It makes absolutely no sense that CPW overlaps a

low preference point cow hunt on top of bull hunts that require residents up around 15-16 points/years and nonresidents up to 25 years to draw. It's actually pretty disrespectful towa those hunters who've spent a third of their life waiting for a trophy opportunity only to have hunter drop a cow on opening morning and ruin the hunt for the bull hunter. Shooting cows of still-intact harems seriously impacts bull hunters seeking a mature bull as those mature bu quickly peel off the herds once they start getting shot at. It's an easy fix that gives everyone satisfactory outcome. We suggest that CPW eliminate cow hunting during the early and first rifle seasons in Unit 61 and offer cow hunting in the later rifle seasons.

DAU E40 – Paradox Elk Herd

E40 includes GMU 60, located on the border with the State of Utah. Land status in Unit 60 is 82% public land which provides excellent hunting access to hunting on public lands. The are contains large roadless areas in Roc Creek and the Sewemup Mesa Wilderness Study Area th provide opportunity for backcountry hunting. There is a high density of County and BLM/FS roads outside these roadless areas. Montrose County claims jurisdiction over all BLM road within Unit 60 whereas Mesa County does not. This has a profound influence on the level o maintenance those roads receive. The Gateway Resort is marketing year long use of these routes as well as new mountain bike and OHV trails. High route densities and increasing recreation activity on public lands is contributing to habitat compression and displacing elk f priority habitats.

CPW's preferred alternative is to increase the population objective to 1,200 to 1,600 elk and keep the status quo sex ratio of 25-30 bulls per 100 cows. Colorado manages this elk herd as over the counter (OTC) for bulls, limited cow and private land only (PLO) tags but "Limited licenses exceed second choice demand and many go as leftover licenses." On the other han Utah manages the same herd as a quality unit which allows elk to move away from higher pressure in Colorado during the hunting seasons.

Based on our review of CPW habitat data and our personal knowledge of the area, E40 consi primarily of winter range, with summer range in the higher elevations of the La Sal Mountair both States. In Colorado there are winter concentration areas in Paradox Valley/Carpenter ridge, North Cottonwood/John Brown canyon, and Dolores Point. The Paradox Valley is map as a resident population area with migration corridors overlapping private lands in Paradox a Sinbad Valleys. This results in chronic game damage to forage and crops on private lands. However, "There is limited demand for private-land-only (PLO) licenses, impeding CPW's abi to manage game damage through harvest".

As stated in the HMP "Stabilizing the herd to the best extent possible will keep game damag complaints low, CWD prevalence in check, and maximize hunting opportunity" Managemen strategies proposed in the HMP include 1) manage sex ratios and populations by increasing c decreasing licenses by total quota, by season, and by sex. 2) Continue to offer game damage licenses and private-land-only licenses to increase landowner tolerance and keep hunting pressure on private lands, and 3) As the population reaches the top of the objective range, n limited licenses may be offered to offset a growing population size.

We support the proposed population objective for E40 for the reasons stated in the HMP an also compensate for the impacts of increased recreation and the potential for increased

predation from wolves that may occupy the area following reintroduction in Colorado. We also support the management strategies proposed in the HMP. In addition, providing other incentives for private land owners in the Paradox Valley to permit additional PLO hunting should also be a priority for CPW to help alleviate game damage. We suggest having the Uncompahgre HPP committee explore possible land owner incentives or habitat improvement projects to encourage elk to utilize public lands as mitigation to game damage on their properties.

Craig Grother

Craig Grother
Regional Director, Central Western Slope
Backcountry Hunters & Anglers

The Sportsman's Voice for Our Wild Public Lands, Waters and Wildlife

United States Department of Agriculture | Forest Service | Grand Mesa, Uncompahgre and Gunnison National Forests | 2250 South Main Street
Delta, CO 81416
970-874-6600
TDD: 970-874-6660
Fax: 970-874-6698

File Code: 1560; 2600
Date: November 10, 2022

Alyssa Kircher
Wildlife Biologist
Colorado Parks and Wildlife
2300 S. Townsend Avenue
Montrose, CO 81401

Dear Alyssa:

The Grand Mesa, Uncompahgre and Gunnison National Forests (GMUG) appreciate the opportunity to provide comment on your draft plan for elk management in hunt units 61 and 62 (DAU E-20). The E-20 area is composed of 38% National Forest System lands managed land by the Norwood, Ouray and Grand Valley Ranger Districts. These lands provide year-round habitat for elk from summer habitats at the highest elevations to winter concentration areas in the lower elevations near the forest boundary. These lands are managed for the benefit of multiple uses, including wildlife habitat. The GMUG values Colorado Parks and Wildlife (CPW) coordination on habitat conditions, habitat management and habitat improvements in these areas.

The GMUG supports CPW's proposed increased population objective which would stabilize the E-20 herd population at current levels. The new proposed GMUG Forest Plan is expected to compliment herd management objectives in part by designating Wildlife Management Areas which limit the road and trail density in some of the key habitat areas for elk on the Uncompahgre Plateau and prioritizing habitat improvement projects.

If you have any further questions or concerns, please reach out to Dana Gardunio, Megan Eno or Bill Edwards, Ouray, Norwood and Grand Valley District Rangers respectively.

Sincerely,

CHAD STEWART
Forest Supervisor

cc: Megan Eno, Dana Gardunio, William Edwards

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, Colorado 80401

In Reply Refer To: 9266 (COS050)

Rd: Draft Uncompahgre Plateau Elk Herd (DAU E-20) Herd Management Plan

Alyssa Kircher
Wildlife Biologist
Colorado Parks and Wildlife
2300 S. Townsend Avenue
Montrose, CO 81401

Dear Alyssa:

The Bureau of Land Management (BLM) Uncompahgre Field Office (UFO) appreciates the opportunity to provide comments on your draft plans for elk management in hunt management units 61 and 62. The BLM provides habitat management for CPW mapped winter habitats for elk in these units and always appreciates local CPW cooperation with land use planning and habitat improvements in these areas.

The BLM UFO is committed to working cooperatively with CPW and have appreciated the partnership and opportunity to work together to protect big game within E-20 through the Electric Hills Modification EA. This area closure for the Electric Hills Recreation area resulted in approximately 1,100 acres of wintering habitat protection through implementing an area closure for the protection of big game during the winter months on the Electric Hills trail development proposal. Colorado Parks and Wildlife State Trails Program awarded funding to the Colorado Plateau Mountain Bike Trail Association to build 12 miles of singletrack in the Electric Hills trail system following the adoption of this area closure through the decision in the Electric Hills Modification EA. This project exemplifies the partnership that BLM is committed to ensuring to provide opportunities on this landscape in a way that protects and enhances CPW herd management objectives and achieves our corresponding agency multiple use mandates.

If you require any more specific information or have any questions, please don't hesitate to contact Suzanne Copping, UFO Field Office Manager, at (970)-240-5338 or scopping@blm.gov. For specific questions regarding big game habitat management on these units, please contact Emily Latta at 970-210-6636 or elatta@blm.gov.

Sincerely,

SUZANNE COPPING Digitally signed by SUZANNE COPPING Date: 2022.10.21 12:16:39 -06'00'

Suzanne Copping
Field Manager

Appendix E24-A: Comment Letters on Draft E-24 Plan (2020)

May 8, 2020

Brad Weinmeister
Colorado Parks and Wildlife
151 E. 16th St.
Durango, CO 81301

RE: Montelores & Uncompahgre HPP Comments - Disappointment Creek (E24) HMP

Dear Mr. Weinmeister,

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity to provide input into big game management in their areas. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen 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 Montelores and Uncompahgre HPP committees have discussed your presentation, reviewed the draft alternatives and offer these comments for consideration.

The Montelores and Uncompahgre committees support the draft alternative to increase the number of elk within this DAU by 15%. While there is some potential for increased conflict, particularly on private lands in winter range, the committees believe we have the resources necessary to address conflicts should they occur. Additionally, sportsmen and other stakeholders have expressed the desire to expand hunting opportunity. Increasing the population objective should ultimately result in a greater number of hunting licenses being issued in the future, and improve hunter satisfaction by increasing the number of elk observed on the landscape.

It is important to note that of the five Game Management Units within this DAU, only GMU 70 falls within the Uncompahgre committee area. This unit has historically contained higher numbers of elk due to difficult hunting access and uneven distribution compared to the rest of the DAU. The Uncompahgre committee feels that while a population increase is generally desirable within the DAU, the majority of the increase should hopefully occur in the other four GMUs within the Montelores committee area. Some small increases in conflict in the Uncompahgre committee area will be manageable through the joint efforts of the local DWMs, the CPW Game Damage Program, and the Uncompahgre HPP.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The Montelores and Uncompahgre committees have worked with both public land managers and private landowners to improve the quality and quantity of the habitat in DAU E24. Adequate habitat is critical to meeting game management objectives and, while we are concerned about the loss of critical winter range habitat, we remain committed to maintaining and improving habitat in this area.

Our committees recognize that CPW will face challenges in achieving the proposed population objective due to increased residential growth and public land recreation demands on important winter ranges, resulting not only in a loss of critical habitat but also habitat fragmentation and increased disturbances. However, the Montelores and Uncompahgre committees feel confident that our ongoing habitat improvement efforts in partnership with landowners and federal land managers, along with CPW's management strategies including revised season structures, hunt codes, and game damage/distribution hunt license allocations, will be sufficient to increase elk populations in spite of these difficulties.

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

Sincerely,

Eldon Simmons, Chair
Montelores HPP Committee

Bobby Gray, Chair
Uncompahgre HPP Committee

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Tres Rios Field Office
29211 Highway 184
Dolores, Colorado 81323

In Reply Refer To:
6840 (LLCOS01000)
CPW Draft Elk Herd Management Plans

April 21, 2020

Mr. Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Mr. Weinmeister:

Thank you for the opportunity to comment on the Colorado Parks and Wildlife Draft Elk Herd Management Plans for E-24, E-30, and E-31. The Bureau of Land Management (BLM) Tres Rios Field Office has appreciated our longstanding working relationship with Colorado Parks and Wildlife (CPW) and partnership in managing wildlife habitats in the Tres Rios Field Office.

In the draft herd management plan for E-24 you state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11%. You then go on to state "With a shrinkage of winter habitat we can epect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan, elk herd populations have remained relatively constant since 1998.

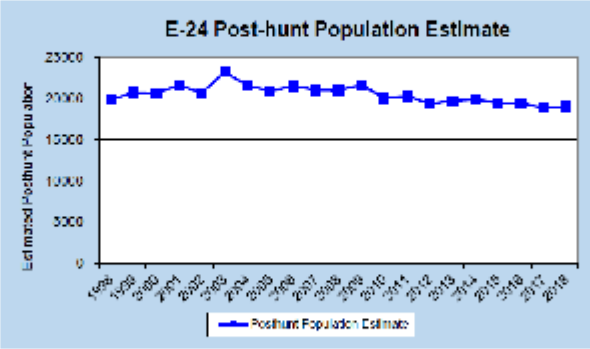

Figure 4. E-24 post-hunt population estimate from 1998 to 2018.

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COLORADO, NEW MEXICO, UTAH, WYOMING

In light of this information and to assist CPW in making management decisions within each herd area, the BLM Tres Rios would like to encourage CPW to gather utilization data in elk winter concentration areas. This data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter concentration areas, of which 39% is BLM and 39% is private surface. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter concentration areas are acceptable and can support any identified increase.

We applaud the research CPW has conducted looking at the impacts of increased habitat fragmentation on big game populations.

The Tres Rios Field Office has recently completed analysis of Transportation Area 1 (Montezuma, La Plata and Archuleta counties) on BLM lands and is beginning the analysis for Area 2. We look forward to working with CPW as a cooperating agency to identify areas where management can be improved for big game in the Tres Rios Field Office.

Sincerely,

/s/ Connie Clementson

Connie Clementson
Field Manager

cc: Nathaniel West, Wildlife Biologist

USDA United States Department of Agriculture Forest Service San Juan National Forest
15 Burnett Court
Durango, CO 81301
(970) 247-4874
Fax: (970) 375-2319

File Code: 2610
Date:

Brad Weinmeister, Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Dear Brad,

The San Juan National Forest (SJNF) appreciates the opportunity to comment on the Draft San Juan Basin Elk Herd Management Plans for Data Analysis Unit (DAU) E-24, E-30, and E-31. These DAUs overlap portions of the Dolores, Columbine, and Pagosa Ranger Districts. As stated in the Draft Plans, the primary decisions needed for individual Herd Management Plans (HMPs) are how many animals should exist in the DAU, and what is the desired sex ratio for the population of big game animals (e.g., the number of males per 100 females). The life of the plans are 10 years and may be revised in the 10-year timeline if conditions change.

As stated in the Draft HMPs, the following population objectives for each DAU are proposed. A preferred alternative will be proposed in the final HMPs and presented to the Colorado Parks and Wildlife Commission for adoption.

DAU E-24

Alternative 1: 17,000 – 20,000 elk post-hunt (current population)

Alternative 2: 20,000 – 23,000 elk post-hunt (15% increase)

Alternative 3: 22,000 – 25,000 elk post-hunt (25% increase)

DAU E-30

Alternative 1: 6,500 – 7,500 elk post-hunt (current population)

Alternative 2: 7,500 – 8,500 elk post-hunt (15% increase)

Alternative 3: 8,500 – 9,500 elk post-hunt (25% increase)

DAU E-31

Alternative 1: 21,000 to 24,000 (current population)

Alternative 2: 24,000 to 27,000 (15% increase)

Alternative 3: 26,000 to 29,000 (25% increase)

The Draft HMPs provide information on current herd status and management objectives, habitat resource and capabilities, herd management history, herd issues and strategies, and public involvement. As mentioned in the HMPs, NFS lands comprise 25% of DAU E-24, 42% of DAU E-30 and 55% of DAU E-31 with remaining lands consisting of Bureau of Land Management lands, private lands, Southern Ute Indian Reservation, Ute Mountain Ute Indian Reservation, National Park Service, Colorado Parks and Wildlife and State Land Board.

As described in the Draft HMPs, habitat loss through development is a significant issue across all three DAUs. A combination of urban, exurban, energy and recreational development is occurring on a significant portion of important habitat in all three DAUs and is a considerably larger problem near Durango and the Animas River valley and areas west of Pagosa Springs. Development of all types can pose a threat to blocking or cutting off migration routes and reducing their effectiveness, causes direct and indirect loss of habitat, and influences both carrying capacity and harvest management.

All three Draft HMPs describe winter range being a limiting factor for elk herds in the San Juan Basin. The HMPs also state that winter range is continually being lost due to development (residential, energy, and recreational) and will be lost at a greater rate with the expected human population growth. The Draft HMPs cite research by Johnson et al 2016, noting "with a shrinkage of winter habitat, we can expect to see declining recruitment rates and reduction in the elk population, currently the greatest issue for the San Juan Basin Elk herd."

The SJNF shares CPW's concerns with respect to population growth and habitat loss, particularly the direct, indirect, and cumulative impacts to elk winter range. As mentioned in the Draft HMPs, winter range, severe winter range and winter concentration areas occur on lands managed by the SJNF. The vegetation types present in these areas are primarily sagebrush, mixed mountain shrublands, mountain grasslands, pinyon juniper, Gambel oak, cottonwood riparian, ponderosa pine and aspen. As shown in the Draft HMP for DAU E-24, approximately 20% of the winter range, 6% of the severe winter range, and 22% of the winter concentration areas for elk occur on the SJNF. Approximately 25% of the winter range, 4% of the severe winter range, and 43% of the winter concentration areas for elk in DAU E-30 occur on the SJNF. Approximately 45% of the winter range, 53% of the severe winter range, and 42% of the winter concentration areas for elk in DAU E-31 occur on the SJNF. For all DAUs, the remaining portions of winter range occur on other jurisdictions. These percentages clearly show lands managed by the SJNF contribute important winter habitat and migration routes for the San Juan Basin elk herd. Continued loss or impact to winter range, particularly on private lands will further increase the importance of public land wintering habitat.

The SJNF recently completed a winter range habitat analysis for all three DAUs utilizing vegetation information from the Forest's Geographic Information System (GIS) database, CPW winter range GIS habitat layers from the 2019 all Species Activity Mapping database, and forage and cover values described by Towry (1987) to estimate habitat capability. The Forest's vegetation database provides information on Habitat Structural Stages (developmental stages of vegetation) as determined through stand exam surveys, field reconnaissance, satellite imagery, and other methods. The Forest's vegetation database also accounts for management activities (timber harvest, prescribed burns, road and trail construction, etc.) along with natural disturbances such as wildfires that affect structural conditions of forest vegetation, and therefore is an accurate reflection of current conditions.

As defined by Thomas (1979) "optimum deer and elk habitat is the amount and arrangement of cover and forage areas that result in the maximum possible proper use of the maximum possible area by the animals." In the Blue Mountains of Oregon, a ratio of 60 percent forage to 40 percent cover is optimum. This ratio has been widely adopted in many forested elk habitats across western states. Towry (1987) identifies the following Habitat Structural Stages (HSS) as having either forage or cover value in most habitats where forage availability in forested ecosystems is inversely related to the amount of tree over-story.

> Forage: 1) Grass-forb, 2) Shrub-seedling, and 3a) Sapling-pole <40% canopy cover (cc) 4a) Mature <40% cc, as highly valuable, and
>
> Cover: 3b) Sapling-pole 40-69% cc, 3c) Sapling-pole >69% cc, 4b) Mature 40-69% cc, 4c) Mature >69% cc, and 5) Old-growth as highly valuable.

Quantifying the ratio of forage to cover on NFS lands across each DAU was accomplished using the HSS information above. Our analysis does not distinguish which cover values provide forage and which forage values provide cover, nor does it distinguish between hiding cover and thermal cover. Additionally, the analysis represents vegetative conditions related to forage and cover, and not overall habitat quality or effectiveness. Consequently, winter range classifications that meet or exceed recommended forage to cover ratios may not necessarily meet or exceed optimum conditions for providing quality elk habitat.

As shown in Table 1, forage to cover ratio's for winter concentration and severe winter range in DAU E-24 are close to the recommended forage to cover ratios, with total winter range showing a slight inverse. Forage to cover ratios in DAU E-30 are the direct opposite of the recommended forage to cover ratios. Forage to cover ratios for total winter range and winter concentration habitat in DAU E-31 show an inverse of the recommended ratios, with severe winter range showing a ratio close to the recommended values.

Table 1. Winter Habitat on SJNF by DAU			
Winter Habitat Classification	**DAU E-24**	**DAU E-30**	**DAU E-31**
Winter range - forage	78,.77	14,970	83,490
Winter range -- cover	80,.01	43,195	130,966
Total winter range	158,278	58,165	214,456
Forage to cover ratio	**49:51**	**26:74**	**39:61**
Winter concentration - forage	26,764	4,339	50,013
Winter concentration - cover	16,734	14,787	55,866
Total winter concentration	43,498	19,126	105,879
Forage to cover ratio	**62:38**	**23:77**	**47:53**
Severe winter range - forage	10,354	987	28,227
Severe winter range - cover	6,122	2,686	25,422
Total severe winter range	16,476	3,673	53,649
Forage to cover ratio	63:37	**27:73**	**53:47**

The primary purpose of this analysis was to display existing elk winter range across lands managed by the SJNF in each DAU, display the Forest's contribution to elk wintering habitat across the San Juan Basin, demonstrate where management should continue to improve winter habitat for elk, and provide information for CPW consideration in determining elk population carrying capacity based on available winter range habitat capability on NFS lands. The Forest recommends CPW conduct winter range habitat analyses on other jurisdictions, by partnering with other land managers and private lands owners to gain a better understanding of winter habitat capability and carrying capacity for elk across the San Juan Basin.

Our analysis shows that habitat enhancement efforts are needed across much of the Forest's elk winter range to promote vegetative conditions that meet more desirable forage to cover ratios. Improving forage to cover ratios will help sustain elk for longer durations on public lands, thereby minimizing impacts on adjacent private lands and other jurisdictions. Improving conditions on winter range can be accomplished through continued implementation of forest restoration projects that achieve multiple resource objectives such as fuels reduction, and wildlife

habitat and watershed improvement projects. The Forest Service, CPW, and other partners have implemented habitat enhancement projects in winter range and important migration corridors. Projects have been implemented where habitat quality has declined due to forest succession and heavy forage use by big game. Some examples of these projects include prescribed burns, mechanical vegetation treatments, water developments, wildlife friendly fencing projects, and others. Numerous studies show that large ungulates benefit from the ecological impacts of fire, whether that be from prescribed fire or wildfire. We will continue expanding our use of fire on the landscape to benefit elk where and when appropriate. Additionally, when opportunities exist, the Forest will engage in land acquisitions of important big game wintering habitat consistent with the Land and Resource Management Plan (LRMP).

Where opportunities exist, the Forest will continue efforts to improve vegetation conditions in summer and transition ranges. Management actions utilized to improve summer elk ranges may include timber management focused on reducing the densities of dead and dying trees in high-elevation spruce-fir forests, thereby increasing forage potential and enhance movement and dispersal through impacted forests. Management actions utilized to improve transition ranges in mid-elevation forests may include ponderosa pine forest restoration, aspen regeneration, and managing mixed conifer forest to more closely resemble historic range of variability. Projects are ongoing and planned in summer and transition ranges through coordination with CPW, collaborative groups and other partners, and through public involvement.

The draft herd management plans state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11% in E-24, from 22% to 9% in E-31 and from 32% to 21% in E-30. The draft plans then state "With a shrinkage of winter habitat we can expect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan for E-24, elk herd populations have remained relatively constant since 1998, E-30 populations have declined overall from 1998 but shown a recent increase from the lowest point, and E-31 populations have remained fairly stable since 2005.

Based on this information, the SJNF would like to encourage CPW to collect additional utilization data in elk winter range areas. These data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter range (concentrations areas, severe winter range, and overall winter range), of which the SJNF has approximately 219,000 acres. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter range areas are acceptable and can support any identified increase.

Based on the Forest's winter range habitat analysis and anticipated loss of elk habitat in the DAUs, we recommend CPW establish herd management objectives compatible with current and projected habitat resources and capabilities in winter range. We also encourage CPW to monitor habitat loss correlated with human population growth across the DAUs. As stated in the HMPs, "managers and the public are increasingly concerned over cumulative and prolonged impacts disrupting migration and decreasing quality and quantity of habitat. Development influences both carrying capacity and harvest management." The Forest agrees with CPW's conclusions

regarding the cumulative impacts from habitat loss and their relationship to carrying capacity and harvest management. The Forest also recognizes public input is essential for helping formulate management objectives in HMPs, and while there may strong interests to increase populations for harvest opportunity, we believe increases should be compatible with the carrying capacity of available habitat. We also encourage CPW to prioritize research on recruitment in elk populations as all three DAUs show decreased cow-calf ratios over the last 14 years.

The SJNF will continue committing resources to assist CPW in managing elk populations by implementing habitat management direction in severe winter range, winter concentration areas, migration corridors and parturition areas consistent with the LRMP. The LRMP contains objectives and management direction to maintain or improve habitat quality, protect migration corridors, and minimize impacts from management actions to big game populations. These objectives and direction were developed in coordination with CPW during the LRMP revision process completed in 2013.

We appreciate the opportunity to comment on the draft elk herd management plans. In addition, we value our close working relationship with CPW and our collaborative efforts. If you have any questions on our comments, please contact Mary Hammer, Fish and Wildlife Program Lead, at 970-385-1345.

Sincerely,

KARA L. CHADWICK
Forest Supervisor

Literature Cited

Thomas, J. W. 1979. Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington. USDA, Forest Service Handbook No. 553.

Towry, R. K. 1987. Wildlife habitat requirements. Pages 73-209 in Hoover, R. L., and D. L. Wills eds Managing forested lands for wildlife. Colorado Division of Wildlife in cooperation with USDA Forest Service, Rocky Mountain Region, Denver, CO

Dear Brad: I want to thank Colorado Parks and Wildlife (CPW) for the public input opportunity involving the Disappointment Elk Herd Management Plan. Through research and observation we have seen the decline of this elk herd since the early 2000's. The most puzzling piece in this decline is the recruitment with the cow/calf ratios decreasing since the mid-2000's. This decline is more than likely a combination of predation from black bears, mountain lions, corvids and other birds of prey; recreation with the increase of off road vehicles such as ATV's and UHV's; effects of drought and the need for habitat treatment areas. In the Disappointment Basin there has been little if any energy development since the early 2000's and very few new homes have been built. This area remains an excellent elk winter range with much of its original acreage in place and has not seen the impact that the Cortez-Mancos area has. So human growth has to be ruled out as a cause of recruitment.

The best and most efficient use of Management in E-24 is going to be the collaboration between the Bureau of Land Management, Forest Service, and CPW to find a co-existence between recreation enthusiasts and the critical habitat needed for the elk. In the Draft Plan several ways to achieve this were pointed out :

1. Develop trailheads or trails not in elk critical habitat or winter range
2. Improve habitat treatment areas on public lands
3. Find areas outside of winter habitat on FS and BLM ground for recreation
4. Use of timing restrictions to minimize disturbances.

As with all of our Public Lands we have to find away for the critical habitat of all species to be to managed in a way that they remain a viable species that minimize the conflicts on private lands, allow for hunting and the ability to fill freezers, bring enjoyment for recreation and sight-seeing enthusiasts and always provide a means for the Multiple Use Act to be met. Hunting requirements affect the social-economic perimeters of local communities that are in this unit and this needs to be a major consideration when establishing the management plans.

Thank you so much for you time.

Julie R. Kibel

Dolores County Commissioner

BACKCOUNTRY HUNTERS & ANGLERS COLORADO

Via brad.weinmeister@state.co.us

Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th St.
Durango, CO, 81301

Re: Draft Herd Management Plans for DAU E-24, E-30 and E-31

Dear Brad:

Colorado Backcountry Hunters and Anglers ("BHA") sincerely appreciates the opportunity to provide comments on the Draft Herd Management Plans ("HMP") for DAU E-30, E-31 and E-24. Generally speaking, BHA supports science-based herd management in Southwestern Colorado, as it does elsewhere in the State and the Nation. BHA also appreciates the immense difficulty in modeling and implementing successful management plans regardless of the objective.

BHA believes, however, that across all HMPs, Colorado Parks and Wildlife ("CPW") should select Objective 3. Increasing the elk population by 25% will provide significant benefits to CPWs management system and it will also accommodate potential population losses in the future from anthropogenic impacts caused by increased recreation, habitat fragmentation and predation. Indeed, 2020 Big Game Season Structure and the HMPs should work together to provide opportunity while improving herd health. Moreover, BHA agrees with each of the HMPs that selecting the highest population objective (*e.g.* increase by 25%) will require a concerted "commitment to improve and protect elk habitats." HMP E-30 at 18. For example, in DAU E-30, recreation is, and has been, putting incredible pressure on elk herds during all life stages including breeding, calving and wintering and it is essential that CPW use the HMPs to provide uniform evidence of the issues to the Bureau of Land Management ("BLM") and the U.S. Forest Service ("USFS") on motorized and nonmotorized travel plans and projects.

BHA also supports the laundry list of strategies to address development in critical habitat. This list, however, could be improved with additional details regarding the various strategies. For example, how would migration corridors be prioritized and subsequently protected? In other

states, for example, CPW holds significant say over federal land management decisions and CPW should seek similar authority through the Governor to protect big game herds. BHA also believes that CPW should identify compensatory mitigation strategies for energy development in critical winter range, recreation impacts in summer parturition areas and close coordination with local governments in planning and zoning urban and exurban development.

Chronic Wasting Disease may become a greater problem if CPW, USFS, BLM and other agencies do not map and manage migration corridors, stopover areas and bottleneck points along those migration corridors. BHA is also aware of the unique relationship between CWD prions and predation by wolves, coyotes, lions and bear. It is, therefore, that the management strategies identified also do not ignore the overlap between predator and prey on the landscape.

Lastly, each HMP would benefit greatly from an explanation of why the modeled post-hunt population estimate may be above objective while other evidence demonstrates that calf recruitment has not recovered since 2006. Significant literature explains the problems associated with aerial surveys of elk, wild horses and other wildlife and CPW could, and should, attempt to explain the errors or explain why calf recruitment is more accurate.

BHA applauds CPW for taking a hard look at a hard issue and engaging the public in managing and protecting our elk herds. We look forward to the final drafts and encourage BLM to manage for a 25% increase in elk objectives.

Cody B. Doig, ESQ
Assistant SW Chapter Director
Backcountry Hunters and Anglers

Appendix E25-A: Public Input on Draft E-25 Plan

Section 1 - Fall 2015 Hunter Field Satisfaction Survey

This first survey was an initial effort to gather input from hunters afield during the Fall 2015 hunting season. Satisfaction regarding hunter crowding and relative number of elk seen were collected via contacts between CPW field staff and hunters via a survey card (Fig A2.1). A majority (97.5%) of the respondents in this survey were acquired from hunters with rifle season licenses. Comments on issues relevant to their hunting experience were also collected and considered in developing future surveys.

Elk Management Plan Hunter Input Card (2015 Season)

(This does not substitute for annual telephone/online harvest surveys for which you may be contacted)

GMU: 54 55 551 66 67 Tag Season: 1st 2nd 3rd 4th

Tag Sex: Cow Bull Either

Satisfaction with crowding/hunter density: *Overcrowded* 1 2 3 4 5 *Least crowded*

Satisfaction with number of elk seen: *Little to none seen* 1 2 3 4 5 *Abundant*

How many times have you hunted elk in this unit:
1st time 2-3rd time More than 3 times

Tag currently filled: Yes No

Hunting Location/camp (drainage/mountain):_____

Number of hunters in your party:___

Number of total days planned on hunting (nearest half day):_____

Number of days hunted so far (nearest half day):_____

Home zip code:_____ Date:_____

CID (optional):_____

Comments:

Figure A2.1. *Print-out of actual card handed to hunters by CPW personnel*

38 of 80 respondents were from hunters in E25 (GMU 66 & 67), with the remaining from DAU E41(GMU 54) and E43 (GMU 55 & 551). On average, the satisfaction level in terms of elk numbers seen and hunter crowding were higher in E25 than in E41 and E43 (see table A2.1). An average satisfaction level of 3 would indicate that satisfaction is generally acceptable; values below 3 would indicate lower satisfaction while values above 3 would indicate higher satisfaction.

DAU	Average Elk Seen Satisfaction	Average Hunter Crowding Satisfaction
E25	2.69	3.59
E41	2.31	3.38
E43	2.24	3.14

Table A2.1*. Average satisfaction level (1 = least satisfied, 3 = acceptable, 5 = most satisfied) for average elk seen and hunter crowding, by DAU in Gunnison Basin.*

Section 2 - License Setting Open House (2016)

The second public input survey was conducted in order to poll hunters attending the Spring (March 29) 2016 license setting open house in Gunnison. Hunters attending the open house were asked to fill out a survey with three questions regarding the development of Gunnison Basin DAU plans. This effort assisted development of the public input gathering process to be used for near-future DAU plans.

On the single page survey form, respondents circled the DAU(s) of interest to them. Surveys from 17 respondents were collected. Given the small sample size, results were pooled for all DAUs.

The first question asked respondents to rank their interest level (scale 1 – 5, 1 being least interested and 5 being most interested) in several issues regarding elk management in the Gunnison Basin. Interest levels were averaged, and then ranked for comparison among issues. The highest ranked issue (by average interest level) was elk population size (4.0), followed by recreation impacts (3.95), bull ratios (3.68), hunter crowding (3.53), wildlife watching opportunity (3.39), elk changes in habitat usage/distribution (3.21), impacts of elk hunting on local economy (3.16), license drawing opportunity (3.11), vehicle/elk collisions (3.16), and then finally agricultural damages from elk (1.79).

The second question asked respondents to rank (scale 1 – 5, 1 being least interested and 5 being most interested) methods for gathering public input for Gunnison Basin elk DAU plans. The highest ranked method (by average interest level was to conduct internet surveys of past elk hunters (4.32), conduct internet/mail/phone survey of local communities within DAU (4.00), conduct mail/phone surveys of past elk hunters (3.95), form focus groups representing stakeholders (3.95), and conducting public meetings with voting (3.79).

Section 3 - Public Scoping Meeting

The third public input survey was conducted during public scoping meetings held at Lake City (July 28, 2016) and Gunnison (July 29, 2016). Following an informational presentation on elk population dynamics and elk distribution, attendees at the public informational meeting were questioned via live audience polling. A summary of the results were displayed to the attendees after each session. General written comments were also accepted at this meeting. Combining results from both meetings, a total of 107 people participated in the polling. Two arbitrary practice questions were posed in order to accustom respondents with the handheld electronic polling device.

The following questions were provided. The percent of respondents answering are provided following each answer choice.

1. Choose the top three that best represent your interests in GMUs 66 and/or 67?

   A: Business owner (5.9%), **B:** Agricultural operator (3.8%), **C:** Landowner (9.8%), **D:** Hunting guide service industry (3.8%), **E:** Hunting elk for meat (30.7%), **F:** Hunting mature bull elk (26.8%), **G:** Wildlife watcher/non-harvesting recreationist (19.2%)

2. Choose the top three areas where you have hunted elk the most?

A: GMU 66 (30.8%), **B:** GMU 67 (23.1%), **C:** Northern Gunnison Basin (GMUs 54, 55, 551) (20.2%), **D:** Colorado GMUs outside Gunnison Basin (17.8%), **E:** Outside Colorado (5.7%), **F:** I do not hunt (2.4%)

3. Which season do you prefer to hunt elk the most in GMUs 66 and/or 67?

   A: Archery (30.1%), **B:** Muzzleloader (6.8%), **C:** 1st Rifle (12.6%), **D:** 2nd Rifle (11.7%), **E:** 3rd Rifle (19.4%), **F:** 4th rifle (9.7%) **G:** I do not hunt 66/67 (9.7%)

4. How satisfied were you with your overall hunting experience for elk in GMUs 66 and/or 67 the past 5 years?

   A: Very satisfied (26.4%), **B:** Somewhat satisfied (22.6%), **C:** Neither satisfied nor unsatisfied (7.5%), **D:** Somewhat unsatisfied (13.2%), **E:** Very unsatisfied (10.4%), **F:** I did not hunt 66/67 (19.8%)

5. Rank the top 3 items most important to you when hunting elk in GMUs 66 and/or 67, with 1 being the most important:

Answer Choice	Count of Respondents				Overall Score Weighted by Rank (1 = 1 pnts, 2 = 2 pnts, 3 = 3 pnts)
	Rank 1	Rank 2	Rank 3	Any Ranking	
Hunting for meat	13	23	26	62	137 (23.4%)
Hunting Every Year	9	14	30	53	127 (21.7%)
Chance of harvesting any elk	20	16	13	49	91 (15.5%)
Chance of harvesting a mature bull	17	13	15	45	88 (15.0%)
Hunting with fewer other hunters (low hunter crowding)	7	13	8	28	57 (9.7%)
Overall experience (camping, socializing, chance to see elk, being outdoors, etc)	18	10	2	30	44 (7.5%)
Chance of harvesting a trophy bull	7	10	5	22	42 (7.2%)

6. How important is it to you for youth to have the opportunity to hunt elk in GMUs 66 and/or 67?

   A: Not important (8.6%), **B:** Somewhat important (18.1%), **C:** Very important (73.3%)

7. Please tell us what sort of hunting opportunity you would prefer for elk in GMUs 66 and/or 67:

   A: Hunt every year (48.0%), **B:** Hunt every 2 years (29.0%), **C:** hunt every 3-5 years (21.0%), **D:** hunt every 6-10 years (0.0%), **E:** I am not sure (2.0%)

8. Rank the top 3 items most concerning to you in GMUS 66 and/or 67, with 1 being the most important:

Answer Choice	Count of Respondents				Overall Score Weighted by Rank (1 = 1 pnts, 2 = 2 pnts, 3 = 3 pnts)
	Rank 1	Rank 2	Rank 3	Any Ranking	
Spruce Beetle Impacts on elk	20	23	11	54	135 (23.6%)
Ample opportunity to hunt elk	17	22	28	67	127 (22.2%)
Predator impacts on elk	8	19	14	41	103 (18.0%)
Elk populations too low	8	9	31	48	53 (9.3%)
Motorized travel impacts on elk distribution	13	8	15	36	53 (9.3%)
Protected lands (refuges)	9	8	4	21	49 (8.6%)
Non-hunting recreation impacts	6	6	0	12	36 (6.3%)
Disease	5	2	1	8	15 (2.6%)

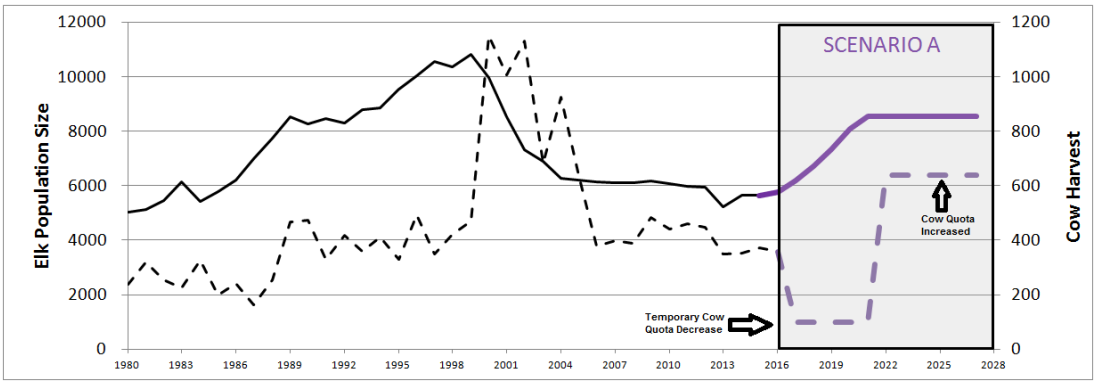
9. According to the current #25 population model, there are ~5650 (+/- 500) elk , and appears to be relatively steady. For planning purposes assume this estimate is correct. This DAU plan will set the objective population for the following 10 years. During these next 10 years, how do you want the elk population size to be managed? *[audience was given various slides indicating anticipated outcomes on a short-term and long-term basis for cow license allocations required, hunter crowding, and rangeland degradation. Outcomes assumed hunter success rates and elk biological variables did not change]*

   Currently, E25 has approximately 5650 (+/- 500) elk. The historic trend of the elk population size for E25 is shown with the black line of the chart below. Manipulating the elk population size influences the availability of cow licenses in the short and long term. Currently, a quota of 1,345 cow hunting licenses is required to maintain this elk population at 5650.

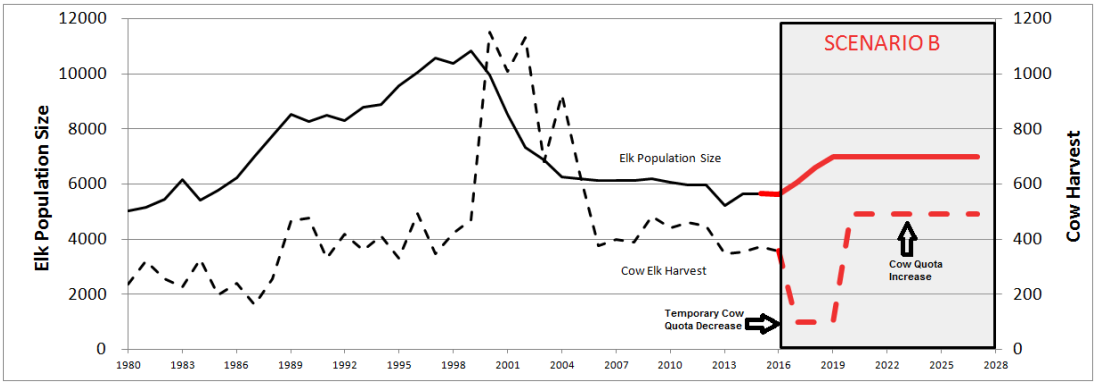
   Manipulating population size can have several anticipated outcomes. Manipulating the population size will have temporary effects on hunters (i.e., hunter crowding, license drawing opportunity) that are opposite of the long-term effects on hunters.

   During the next 10 years, how do you want the E25 elk population size to be managed?

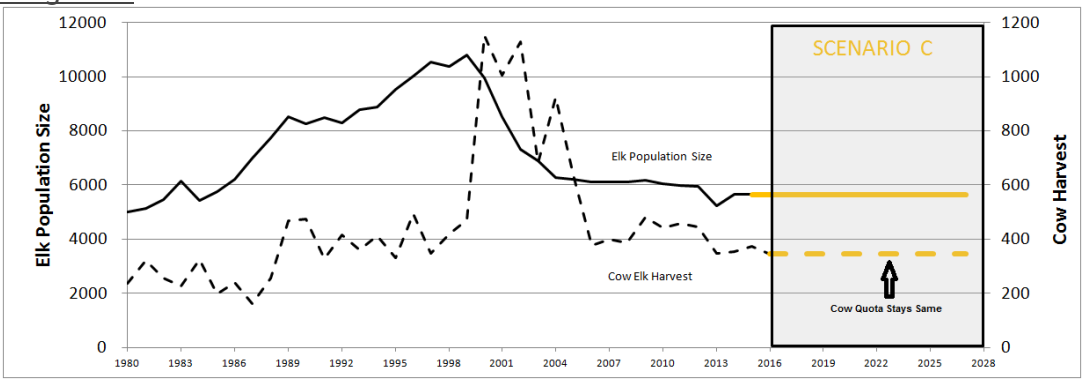
   Scenario A: Increase population size by 50% (to ~8500 elk)
   Anticipated outcomes:
   Temporarily: Cow license decrease to ~400 for ~5 years, reduces hunter crowding.
   Long-term: Increases cow licenses to ~2900, thus increasing hunter crowding.



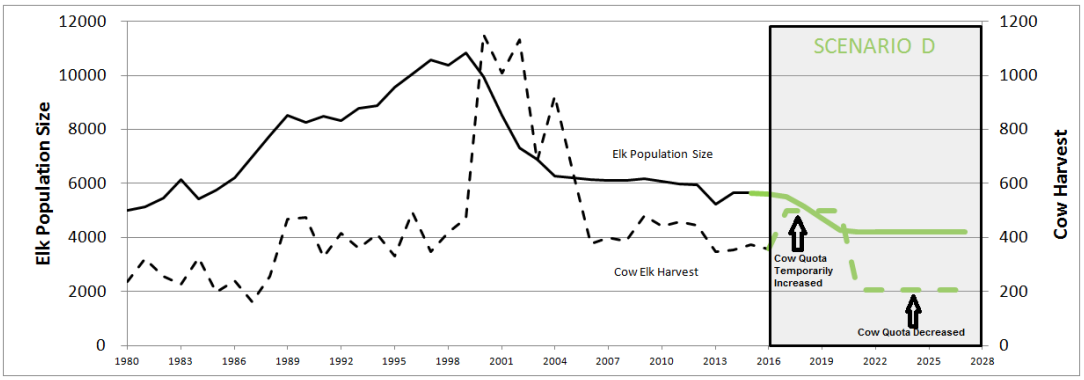
Scenario B: Increases population size by 25% (to ~7000 elk)
Anticipated outcomes:
Temporarily: Cow license decreases to ~400 for ~3 years, reduces hunter crowding.
Long-term: Cow licenses increase to ~2200, increases hunter crowding.



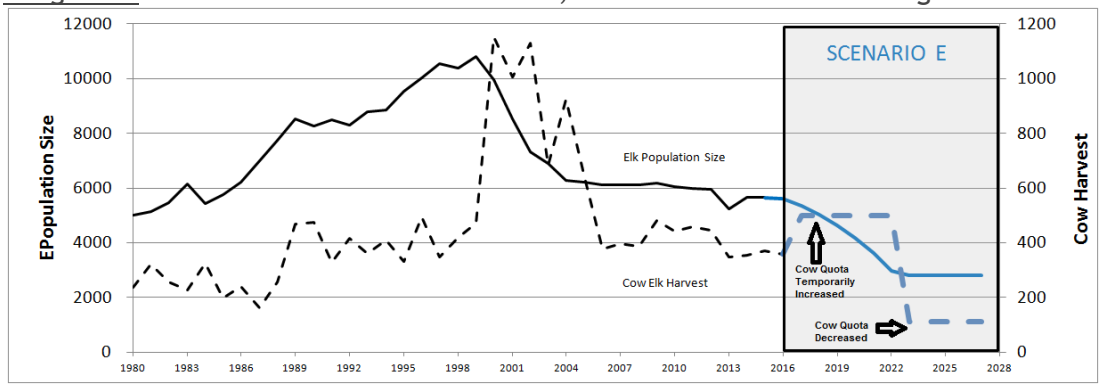
Scenario C: Do not change population size(keep at ~5600 elk)
Anticipated outcomes:
Temporarily: None
Long-term: None



Scenario D: Decrease population size by 25% (to ~4200 elk)
Anticipated outcomes:
Temporarily: Cow license increase to 2300 for ~3 years, increases hunter crowding.
Long-term: Cow licenses decrease to ~950, decreases hunter crowding.



Scenario E: Increases population size by 50% (to ~2800 elk)
Anticipated outcomes:
Temporarily: Cow license increase from 1345 to 2300 for ~5 years, increases hunter crowding.
Long-term: Cow licenses decrease to ~400, decreases hunter crowding.



Answer choices by percentage of respondents:

A: 50% increase resulting in 8500 elk (11.2%), **B:** 25% increase resulting in 7000 elk (45.9%), **C:** 0% change, resulting in the status quo of 5600 elk (39.8%), **D:** 25% decrease resulting in 4200 elk (3.1%), **E:** 50% decrease resulting in 2800 elk (0%)

Descriptive statistical summary (Average, 95% lower and upper confidence limit):

6,231 (5999 – 6462) elk

10. Another important factor for changing the population - HOW to make the change, if a change is made, would you prefer that CPW makes changes:

A: Rapidly with a dramatic increase/decrease in license availability and population response (34.9%), **B:** Gradually with an incremental increase/decrease in license availability and slower population response (65.1%)

Section 4 - General Comment and Survey Form

The fourth survey was an internet based survey opened up to the general public in August 2016. All attendees of the public scoping meeting had an opportunity to fill out a paper version. An online version was made available (Survey Monkey, Inc, Palo Alto, CA, USA). The survey was advertised in local media outlets and allowed anyone with internet access to participate. Online versions of this survey characterized past E25 hunting experiences and future desires for the E25 herd. General written comments were also accepted. A total of 233 people responded to the survey. Results from this survey were considered less rigorous, as it may not be representative of all interests or the proportionally representative of different stakeholders.

The following questions were provided. The percent of respondents answering are provided following each answer choice.

1. Are you male or female?

> **A:** Female (8.8%), **B:** Male (91.2%)

2. In what year were you born? (Please indicate the 4-digit year.)

> **Average Birth Year**: 1965.5 (50.5 years of age)

3. Out of the past five years, how many did you hunt for elk in GMUs 66 and/or 67?

> **A:** 0 year (40.0%), **B:** 1 year (11.2%), **C:** 2 year (16.7%), **D:** 3 year (9.3%), **E:** 4 years (6.0%), **F:** 5 years (16.7%)

4. Which of the follow areas best represent your interests in GMUs 66 and/or 67, please rank your top 3, with 1 being the most important? [Summarized by ranked scores]

> **A:** Hunter (587 pnts), **B:** Wildlife Viewer (221 pnts), **C:** Other (95 pnts), **D:** Landowner (80 pnts), **E:** Agricultural operator (41 pnts), **F:** Business Interest (40 pnts) **G:** Hunting Guide Industry (37 pnts) **H:** No answer (18)

5. Have you ever used a voucher from a landowner to hunt elk in GMUs 66 and/or 67?

> **A:** No (77.5%), **B:** Yes (22.5%)

6. Did you pay a guide or outfitter during any of your elk hunts in 66 and/or 67 between 2010 and 2015?

> **A.** No (96.6%), **B:** Yes (3.4%)

7. Did you act as a paid or unpaid guide or outfitter for elk hunting in GMUs 66 and/or 67 between 2010 and 2015?

> **A:** No (92.7%), **B:** Yes (7.3%)

8. Please check the box next to the method of take that you most prefer to hunt elk in GMUs 66 and/or 67. (Please check one.)

A: Archery (26.7%), **B:** Muzzleloader (10.3%), **C:** 1st Rifle (23.7%), **D:** 2nd Rifle (13.8%), **E:** 3rd Rifle (9.1%), **F:** 4th Rifle (9.5%), **G:** I don't hunt in Colorado or hunt at all (6.9%)

9. From the following list, please check the top three areas where you have hunted elk the most..

A: GMU 66 (26.2%), **B:** GMU 67 (17.6%), **C:** Northern Gunnison GMUs (18.8%), **D:** Non-Gunnison GMUs (26.4%), **E:** Non-Colorado (8.8%), **F:** Non-hunter (2.2%)

10. How important is it to you for youth to have the opportunity to hunt elk in GMUs 66 and/or 67?

A: Not important (13.1%), **B:** Somewhat important (34.1%), **C:** Very important (52.8%)

11. Please rank the following items to tell us which is most important you in terms of your elk hunting opportunity in GMUs 66 and/or 67. Rank the items from 1 to 5, where 1 is most important to you and 5 is least important to you.

Answer Choice	Count of Respondents						Overall Score Weighted by Rank (1=5 pnts, 3=3 pnts, 5=1 pnt)
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Any Rank	
Be able to harvest an animal for meat	52	35	47	33	17	184	624 (21.8%)
Hunt in an area with fewer hunters	49	48	27	37	23	184	615 (21.5%)
Have the chance to harvest a mature animal	40	42	37	28	47	184	582 (20.3%)
Hunt every year	49	27	21	23	61	181	523 (18.2%)
Hunt in area with high success rate	20	39	53	45	18	175	523 (18.2%)

12. Which of the following best characterizes your view of the number of elk in GMUs 66 & 67 over the past 5-10 years? (please check one.)

A: Rapidly increasing (0.5%), **B:** Slowly increasing (6.7%), **C:** No increase or decrease (38.6%), **D:** Slowly decreasing (36.7%), **E:** Rapidly decreasing (17.6%)

13. How satisfied were you with your overall hunting experience for elk in GMUs 66 and/or 67 the past 5 years? (Please check one).

A: Very unsatisfied (13.1%), **B:** Somewhat unsatisfied (8.9%), **C:** Neither satisfied, nor unsatisfied (4.7%), **D:** Somewhat satisfied (24.3%), **E:** Very satisfied (17.3%), **F:** I did not hunt elk in GMU 66/67 (31.8%)

14. Please tell us how important the following items were, in general, to your elk hunting experience in GMUs 66 and/or 67 between 2010 and 2015.

Answer Choice	Unimportant	Neither Important or Unimportant	Important	Overall Score Weighted by Rank (Unimportant=1 pnts, Neither important/unimportant=2 pnts, Important = 3)
Access to public hunting land	2	10	181	565 (10.2%)
Number of animals I saw	4	19	162	528 (9.5%)
Ability to obtain game meat to eat	23	35	131	486 (8.8%)
Ability to hunt in the same unit/area most years	24	50	116	472 (8.5%)
Length of hunting season	15	75	101	468 (8.5%)
Ability to hunt every year	42	43	103	437 (7.9%)
Ability to obtain a license to harvest a male	31	75	83	430 (7.8%)
Price of hunting licenses	46	57	89	427 (7.7%)
Number of trophy animals I saw	44	63	79	407 (7.4%)
Ability to hunt in trophy units	54	63	72	396 (7.2%)
Ability to purchase an over-the-counter license	90	40	55	335 (6.1%)
Access to private hunting land	93	56	39	322 (5.8%)
Availability of guides/outfitters in the area	131	34	20	259 (4.7%)

15. From the list below, please check the 3 issues related to elk hunting in GMUs 66 and/or 67 about which you are most concerned. (Please check no more than 3.)

A: Elk population size (19.4%), **B:** Hunter Crowding (18.6%), **C:** Preference point requirements (16.3%), **D:** Bull ratios (9.9%), **E:** Non-hunting recreation impacts (9.2%), **F:** Predator impacts (6.1%), **G:** Spruce Beetle impacts (5.7%), **H:** Elk distribution changes (4.2%), **I:** Economic impacts of elk hunting (3.6%), **J:** Days afield required (2.8%), **K:** Wildlife viewing opportunities (2.4%), **L:** Agricultural damages (1.0%), **M**: Vehicle/elk collisions (0.8%).

16. If you were to NOT draw an elk license in GMUs 66 and/or 67, please check the 3 things you may do as a result? (Please check no more than 3.)

A: Apply again next year (27.4%), **B:** Hunt Colorado Over the counter GMU (20.9%), **C:** Hunt neighboring GMU (16.5%), **D:** Hunt other Colorado limited unit (11.7%), **E:** Hunt outside Colorado (10.9%), **F:** Acquire landowner voucher (6.5%), **G:** discontinue elk hunting (3.6%), **H:** Other (2.5%).

17. If you have hunted elk in GMUs 66 and/or 67 in the past, but are no longer interested in hunting in these units, please choose the top 3 reasons of why? (Please check no more than 3.)

A: Insufficient elk (23.2%), **B:** Other (13.3%), **C:** Insufficient large bulls (11.6%), **D:** hunter crowding (11.6%), **E:** Saving preference points (11.6%), **F:** Too many preference points required (11.0%), **G:** Difficulty accessing (8.8%), **H:** Non-hunting recreation crowding (5.5%), **I:** Days afield (3.3%)

18. Given the below scenarios and description of anticipated outcomes: During the next 10 years, how do you want the E25 elk population size to be managed?

[In order to put answer choices into context regarding license opportunity and hunter crowding, respondents were given the same background information prior to answering this question as that given during the public scoping meeting. See the Scoping meeting section of this appendix (Appendix 2, Section 3)]

Answer choices by percentage of respondents:

A: 50% increase resulting in 8500 elk (25.5%), **B:** 25% increase resulting in 7000 elk (37.9%), **C:** 0% change, resulting in the status quo of 5600 elk (34.8%), **D:** 25% decrease resulting in 4200 elk (1.2%), **E:** 50% decrease resulting in 2800 elk (0.6%)

Descriptive statistical summary (Average, 95% lower and upper confidence limit):

6,834 (6649 – 7020) elk

19. If a change is made, would you prefer that CPW makes changes:

A: Rapidly with a dramatic increase/decrease in license availability and population response (35.8%), **B:** Gradually with an incremental increase/decrease in license availability and slower population response (64.2%)

Section 5 - Randomized Hunter Survey

For the fifth survey, a randomly drawn set of hunters (from past E25 elk seasons: 2006, 2010, 2012, 2014) were invited to partake in an internet/paper based survey in August 2016. While online versions served as the primary media (Survey Monkey, Inc, Palo Alto, CA, USA), respondents without internet access were given the opportunity to fill out a paper version. This survey characterized hunters past E25 hunting experiences and future desires for the E25 herd. Out of the 1500 solicitations sent via post-card,

a total of 237 randomly drawn hunters responded to the survey. Methods were established during survey development to ensure that unique responses were obtained (i.e., hunter could only complete survey once).

1. Respondents by license year sampled from:

A: 2006 (27.0%), **B:** 2010 (30.0%), **C:** 2012 (23.6%), **D:** 2014 (19.3%)

2. Proportion of respondents by residency:

A: Non-resident (36.9%), **B:** Resident (63.1%)

3. Which unit have you hunted the most?

A: GMU 66 (53.0%), **B:** GMU 67 (47.0%)

4. How many years have you hunted GMU 66 and/or 67 (for any animal)?

A: 1 (6.8%), **B:** 2-3 (8.1%), **C:**3-4 (14.0%), **D:** 5-10 (20.9%), **E:** 10+ (50.2%)

5. Which of the following best characterizes your view of the number of elk in GMU 66 and/or 67 over the past 5-10 years?

A: Rapidly increasing (0%), **B:** Slowly increasing (10.2%), **C:** No increase or decrease (37.3%), **D:** Slowly decreasing (33.1%), **E:** Rapidly decreasing (19.3%)

6. Which best characterizes your hunting history of elk in GMU 66 and/or 67:

A: I hunted elk there in the past and anticipate continuing hunting there in the future (80.5%), **B:** I hunted elk there in the past, but no longer (19.5%)

7. If you have hunted elk in GMU 66 & 67 in the past, but no longer do so, please tell us why. Only the top three items ranked will be considered.

Answer choice	Respondent count by ranking			Overall Score Weighted by Rank (1=3 pnts, 2=2 pnts, 3 = 3 pnts)
	1st	2nd	3rd	
Insufficient elk	17	3	1	58 (33.0%)
Hunter crowding	3	4	4	21 (11.9%)
Moved residency further away	4	3	2	20 (11.4%)
Difficult accessing	4	3	2	20 (11.4%)

Saving preference points	3	3	3	18 (10.2%)
Days afield required	0	7	4	18 (10.2%)
Did not draw a tag	3	2	2	15 (8.5%)
Non-hunting recreation crowding	0	1	2	4 (2.3%)
Insufficient large bulls	0	0	2	2 (1.1%)

8. Have you ever used a landowner voucher to hunt elk in GMU 66 and/or 67?

A: No (85.8%), **B:** Yes (14.2%)

9. Have you ever used a guide to hunt?

A: No (88.8%), **B:** Yes (11.2%)

10. Which method of take do you most prefer to hunt elk in GMUs 66 and/or 67?

A: Archery (9.0%), B: Muzzleloader (6.9%), **C:** 1st rifle (21.9%), **D:** 2nd rifle (24.0%), **E:** 3rd rifle (27.5%), **F:** 4th rifle (10.7%)

11. Which of these items are most important to you when hunting elk in GMUs 66 and/or 67? Please rank your top 3 choices.

Answer choice	Respondent Count by Ranking			Overall Score Weighted by Rank (1=3 pnts, 2=2 pnts, 3 = 3 pnts)
	1st	2nd	3rd	
Hunt Every year	58	20	21	256 (20.4%)
Harvesting any elk	27	34	40	229 (18.3%)
Hunting meat	26	35	29	206 (16.4%)
Hunter crowding	27	34	28	205 (16.4%)
Harvesting mature bull	22	30	15	156 (12.5%)
Overall outdoor experience	16	18	20	124 (9.9%)
Harvest trophy bull	11	7	15	77 (6.1%)

12. How satisfied were you with your overall hunting experience for elk in GMUs 66 and/or 67 the past 5 years? (Choose one)

A: Very unsatisfied (7.0%), **B:** Somewhat unsatisfied (20.0%), **C:** Neither satisfied, nor unsatisfied (11.3%), **D:** Somewhat satisfied (40.0%), **E:** Very satisfied (21.7%)

13. Please choose the most concerning issues for you as a hunter in GMUs 66 and/or 67. Please rank your top 3 choices.

Answer choice	Respondent Count			Overall Score Weighted by Rank (1=3 pnts, 2=2 pnts, 3 = 3 pnts)
	1st	2nd	3rd	
Ample hunting opportunity	53	36	23	254 (22.8%)
Insufficient elk population size	49	34	22	237 (21.3%)
Hunter crowding	21	36	31	166 (14.9%)
Private land refuges	28	20	25	149 (13.4%)
Spruce beetle impacts	17	18	21	108 (9.7%)
Motorized traffic	14	14	11	81 (7.3%)
Wild predator impacts	8	6	9	45 (4.0%)
Elk disease	1	10	19	42 (3.8%)
Non-hunting recreation impacts	3	4	13	30 (2.7%)

14. Given the above scenarios and description of anticipated outcomes: During the next 10 years, how do you want the E25 elk population size to be managed? *[In order to put answer choices into context regarding license opportunity and hunter crowding, respondents were given the same background information prior to answering this question as that given during the public scoping meeting. See the Scoping meeting section of this appendix]*

A: 50% increase resulting in 8500 elk (14.2%), **B:** 25% increase resulting in 7000 elk (37.6%), **C:** 0% change, resulting in the status quo of 5600 elk (44.2%), **D:** 25% decrease resulting in 4200 elk (2.2%), **E:** 50% decrease resulting in 2800 elk (1.8%)

Descriptive statistical summary (Average, 95% lower and upper confidence limit):

6,456 (6303 – 6610) elk

15. IF a change is made, would you prefer that CPW makes changes:

A: Rapidly with a dramatic increase/decrease in license availability and population response (25.1%), **B:** Gradually with an incremental increase/decrease in license availability and slower population response (74.9%)

16. What is your zip-code (please enter 5-digit zip)

A: Local (21.2%), **B:** Non-local (78.8%

17. In what year were you born?

Average year: 1959 (Average age: 56.9)

11/16/2016

Colorado Parks & Wildlife

State Wildlife Commission

My name is Burt Guerrieri, current President of the Gunnison County Stockgrowers Association. We are the oldest stockgrower organization in Colorado, and we continue to be one of the most active. Thank you for accepting our comments concerning your upcoming decision on elk numbers in DAU E25.

Although we do not have any specific recommendations for elk numbers in Units 66 and 67, we do have concern regarding the process for determining elk numbers for herd objective.

It is essential the elk populations be based first and foremost on the available land resources. We insist the Commission work closely with the USFS and BLM and affected landowners to determine the appropriate carrying capacity of elk, within the available resources. Then, and only then, consider hunter opportunity within that carrying capacity.

I have yet to meet a hunter who wanted less "hunter opportunity". Elk populations should not be based on hunters wanting more elk.

Burt Guerrieri

Please don't hesitate to contact me if you wish.

970-596-2878

Burt@MillCreekRanches.com

Gunnison Basin Habitat Partnership Program Committee

November 16, 2016

Kevin Blecha, Terrestrial Biologist
Colorado Parks & Wildlife
300 W. New York Ave.
Gunnison, CO 81230

RE: Gunnison Basin HPP Committee comments on Elk DAU 25 plan

Dear Mr. Blecha,

This letter is in response to your request for formal comment regarding the Colorado Parks & Wildlife DAU E25 herd management draft plan. The Habitat Partnership Program (HPP) was created to help resolve wildlife conflicts, particularly those associated with fence and forage issues; and to assist CPW in achieving game management objectives. The Gunnison Basin HPP Committee held a special meeting on November 3rd to discuss elk population objectives for E25, and review the herd management plan alternatives. After careful consideration, the committee will offer the following recommendations:

- The committee agrees that the current elk population objective should be increased according to the collaborative objective (Alternative #2). This represents an 18% increase, resulting in a post-season population objective between 6000 - 7000 elk, with a midpoint of 6500 elk. The committee feels that this increase is modest enough that the proposed population objective will be sustainable, as well as well-received by the public. Additionally, the committee supports a gradual population increase to achieve this objective over a period of years, such that near-current levels of hunting opportunity, hunter crowding, and license demand will be maintained.

- The committee supports managing the E25 bull ratio according to the status quo objective (Alternative #2). This represents an objective of 23-28 bulls per 100 cows, with a midpoint of 25.5 bulls. The committee recognizes that it is difficult to increase bull ratios at the same time as population objectives are increasing. Additionally, the committee does not want to see a reduction in hunter opportunity or increased hunter crowding, which could result from respectively increasing or decreasing the bull ratio.

- The committee prefers a gradual change to the license allocation (Alternative #1). The proposed population increase is modest enough that small, incremental changes should be effective in achieving both population and bull ratio objectives, while only minimally (if at all) affecting hunter opportunity and crowding. Current hunting access and pressure helps to keep elk appropriately distributed throughout the area, and the committee feels that significant changes in hunting pressure may result in increased agricultural conflicts. The committee also believes that gradual changes to license allocations allow CPW to manage elk more steadily over the long-term, instead of attempting to respond to short-term or yearly changes which may be less effective in achieving and maintaining plan objectives.

The committee feels that these alternatives are reasonable and sustainable based on current range conditions, appropriate elk distribution throughout the area, high landowner tolerance for big game, and the extensive public input gathered during this planning process. Game damage potential is limited, as the proposed population increase is modest and little game damage situations exist currently. Because current conditions are conducive to increasing the elk population, the committee does not foresee that the proposed objectives will increase agricultural conflicts or other issues. The committee did not identify any other areas of concern with the preferred alternatives.

On behalf of the Gunnison Basin HPP committee, we thank you for allowing us to participate in this process and for the opportunity to comment.

Sincerely,

Nick Gallowich
Gunnison Basin HPP Chairman

Appendix E26-A: Comment Letters on Draft E-26 Plan (2019)

United States Department of Agriculture | Forest Service | Rio Grande National Forest
1803 West Highway 160
Monte Vista, CO 81144
(719) 852-5941
(719) 852-6271 TTY
http://www.fs.fed.us/r2/riogrande

File Code: 2670
Date: November 28, 2018

Brent Frankland
Terrestrial Biologist
Colorado Parks & Wildlife
0722 South Co Rd 1E
Monte Vista, CO 81144

Dear Mr. Frankland:

Please accept this revised letter that serves to clarify our previous comments submitted on November 15, 2018.

Thank you for the opportunity to comment on Colorado Parks and Wildlife's draft DAU Plans for Elk DAU E-26 and Deer DAU D-26. These DAUs encompass GMUs 68, 681, and 682 and involve basically all the Saguache Ranger District outside of the Sangre de Cristo Mountains. My staff biologists have reviewed the draft plans for these DAUs and provided information for me to offer the following comments for consideration and use as you finalize the plans. Based on previous requests, I also attached supporting information that assesses potential changes to the vegetative conditions within these DAUs due to the current spruce beetle outbreak. A narrative summary of these analyses is included.

The Rio Grande National Forest contains over 1.8 million acres of National Forest System land that are managed for multiple-uses in the San Luis Valley area of south-central Colorado. The DAU Plans are an important aspect of our management because of high public interest in big game species and because I am responsible for managing much of the habitat to support the desired population levels. However, it is also important that populations are maintained within the carrying capacities of the habitat, and that deer and elk population objectives are managed in a manner that minimizes potential conflicts with other program areas. My comments reflect these mutual goals.

As you likely know, both mule deer and Rocky Mountain elk have been managed as Management Indicator Species (MIS) under our 1996 Land and Resource Management Plan (Forest Plan). As such, both population and habitat trends were tracked at the Forest-level in association with Forest Plan direction, including providing the quantity and quality of habitat capable of supporting the population objectives for these species. In the draft Forest Plan Revision under the 2012 Planning Rule, the MIS concept no longer exists. However, deer and elk habitat and population trend considerations remain a key part of the plan components as focal species and both population and habitat trend considerations are included in the draft Monitoring Plan. As such, management of big game habitat will continue to involve evaluations of habitat conditions during project level evaluations and Forest Plan monitoring, but also through other project partnerships such as HPP, Mule Deer Foundation, Rocky Mountain Elk Foundation, and others. I therefore expect to continue to work closely with Colorado Parks and Wildlife to achieve mutually desired habitat conditions for all big game species.

Hunting and other wildlife-related recreation is one of the biggest uses experienced on the Rio Grande National Forest. Although most of this occurs during the rifle season(s) for deer and elk, hunters utilize our public lands from the opening of pronghorn season in mid-August through the late season elk cow

hunts of December. As your draft DAU plan displays, archery hunters are also increasing significantly. This large influx of visitors brings a huge economic boost to the Valley but also comes with challenges such as a large increase in off-road vehicle use, high density of hunter camps, and an increase in law enforcement presence and front office staffing needs. Therefore, management of hunter numbers is also an important issue to me because of its relationship to land and resource management issues associated with increased use of the Forest.

The following are my comments regarding the draft DAU Plans for both deer and elk. As requested, I am also providing an overview and summary of the ecological conditions of the forest vegetation in these DAUs. These conditions are based on queries of our GIS system conducted in early November 2018 and include the following queries: 1) amount of tree mortality based on Insect and Disease flights (2010 to 2017 data); 2) forest canopy closure based on tree cover percent by size class (2018 data); and 3) percent aspen in the forest understory based on 2018 NAIP aerial imagery data.

The spreadsheets for these queries are included with our comments as attachments for your records and so that you can sort and utilize the data as desired. Our comments on the draft DAU Plans follow the vegetative overview provided below.

Overview of Ecological Condition of Forest Vegetation in the DAUs

As of 2017, a majority of the spruce-fir cover type on the Rio Grande National Forest (617,000 acres) has been heavily influenced by the spruce bark beetle. The DAUs involved in this planning effort are no exception. The spruce beetle primarily affects the mature (Size Class 4) Engelmann spruce component although in many cases pole-sized spruce (Size Class 3) are also being affected. The outcome is often extensive mortality of the larger tree component and a decrease in tree crown canopy closure which in turn allows more light to penetrate the forest floor. This can stimulate a considerable increase in understory growth such as shrubs, seedlings, and grasses and forbs utilized as forage for deer and elk.

The information on Spreadsheet 1 tracks insect and disease (I&D) agents from 2010 through 2017. Although affects from some other I&D agents in lower-elevation forest types have also changed in spatial extent during this timeframe, the primary influence has occurred in the upper montane forest zone in association with the spruce beetle outbreak. According to this data, the spatial extent of spruce beetle impacts has impacted over 200,000 acres of the 400,000 acres total in both DAUs since 2010. Through 2018, the data associated with changes in habitat structural stage (Spreadsheet 2) indicate that this has resulted in a 72% decrease in closed canopy conditions in the late successional spruce component (HSS 4C, 70-100 canopy closure) while a 5% decrease in mid-closed canopy closed conditions of the mature spruce tree component (HSS 4B, 40-69% canopy closure). This decrease in canopy closure has resulted in a 78% increase in shrub/seedling habitat classes (HSS 2) as overstory mortality occurs. Habitat Structural Class 2 has a considerable component of small understory trees but also likely contains a significant increase in grass/forb components that will remain available until such time the forest understory grows into closed canopy conditions again.

Likewise, the data also indicates that there has been a 225% increase in mature, open stand conditions (HSS 4A, 0-39% canopy closure) which suggests that the remaining large green tree component has shifted into a more open canopy condition that also is likely to promote more understory release and growth. The reduction in canopy closure is also resulting in a significant release and conversion to aspen with an 84% increase in the understory containing aspen cover of various percentages (Spreadsheet 3, Beetle Aspen Size Cover). Analyses associated with our current Forest Plan revision effort suggest that it may take four to five decades to attain closed canopy conditions again in our spruce-fir cover type.

The various analyses conducted for these DAUs suggest that there will be a significant increase in forage resources for deer and elk. However, the greatest change will occur on summer range in the spruce-fir cover type and likely favor elk due to the stimulation of grasses and forbs.
Expected changes in the lower elevational types associated with winter range and browse plants are likely to be insignificant.

DAU D-26
Mule Deer

Current Conditions: The Rio Grande National Forest has a high degree of responsibility for providing habitat to support the desired mule deer numbers in this DAU with approximately 46% of the land base managed by the Rio Grande National Forest. The majority of this can be considered summer and/or transitional range that is likely in more open canopy condition as described in the vegetative overview above. However, approximately 73,000 acres of deer winter range also occurs on National Forest System (NFS) lands (9% of the total). This lower elevation range has likely not been significantly influenced by changes in ecological condition due to bark beetles or other insect or disease agents. Based on the draft DAU plan, approximately 1% (4,000 acres) of the severe winter range designation also occurs on NFS lands. I recognize that both winter and severe winter range should be a focus for management actions as needed to maintain or improve habitat conditions for mule deer in this DAU and look forward to working cooperatively with CPW and other partners to attain these goals.

I agree that the 2019 population objective of 5,500-6,500 mule deer is realistic for this DAU. As your data display, these numbers appear to be sustainable as they have held over objective the last two years and there are several habitat improvement projects in process. Average fawn to doe ratios appear to have increased to healthy herd levels, and buck to doe ratios have improved. Based on the information provided, it appears that there may be more benefits to this deer herd by managing for numbers at the current population objective.

Recommendations: Based on existing habitat information and other factors, I concur with CPW that Alternative 3 (current population estimate) be implemented as the population objective for DAU D-26. This objective would be set at 5,500 to 6,500 mule deer. I would also recommend that limited entry continue, as this helps to control and better manage potential resource damage from recreational hunter numbers that utilize public lands. I also concur that Alternative 3 (26 to 29 bucks per 100 does) be pursued as a sex ratio objective to provide a balanced opportunity between a higher quality recreational experience to the public and the opportunity to harvest a larger mule deer.

Other General Comments: The draft Plan mentions on-going resource damage from off- highway vehicles (OHVs) as a primary concern in this DAU. OHVs are also mentioned as a potential factor in displacing deer from preferred habitat thereby reducing hunter satisfaction. These types of disturbances are also a concern for the Forest and it is important for us to know about them if they occur on public lands. I am also particularly interested in assessing our Game Retrieval Policy to determine if some of this resource damage might be attributed to this activity. I request the CPW's assistance in monitoring and enforcing our existing authorities to eliminate or minimize resource damage and disturbance from OHVs if we are to be successfully managing this activity for the benefit of the D-26 herd.

DAU E-26
Rocky Mountain Elk

Current Conditions: DAU E-26 overlaps the roughly same area described for DAU D-26. As such, the Rio Grande National Forest has a considerable responsibility for providing habitat to support elk numbers in this DAU of which 87% occurs on public land. This especially pertains to elk summer range 387,000

acres (58%) occur on Forest alone. Based on the draft DAU plan, approximately 15,500 acres (23 % of the total) of winter range and 1% (4,000 acres) of severe winter range designation also occurs on NFS lands. The conditions of summer, winter, and severe winter range on NFS lands is like that mentioned for deer. As such, winter and severe winter range remain a management focus for the Forest. I share CPWs concern that past elk numbers in this DAU were likely too high for the available habitat at that time. I therefore recommend careful consideration in trying to balance an increase in elk numbers with the condition of available habitat. The ecological condition assessment provided for this DAU may assist with these decisions, particularly since the draft Plan suggests that winter range condition and forage availability are limiting factors for elk. This may not be the case on summer range as aspen are succeeding much of the beetle killed stands.

The current population estimate of 3,400 elk is just below 2008 objectives (3,500-4,500) and it is believed that the Forest will host more favorable cover to forage ratios in the near future, thus an increased elk herd maybe more socially and biologically sustainable than in past years, such as the 1990's. The ecological condition assessment associated with our analyses suggests that forage availability on summer range will likely not be a key limiting factor in the future as a significant increase in forage quantity and quality has likely occurred and will continue to occur for at least the life of this DAU Plan. Rather, winter and severe winter range will likely remain key limiting factors regarding elk population objectives.

Recommendations: Based on the information provided in the draft plan, in association with the ecological condition update conducted for this DAU, I recommend Alternative 2 be selected which is more readily attainable population objective for DAU E-26 at this time. This objective would manage the population at 3,600 to 4,200 elk. The Forest Service District Wildlife Biologist associated with this DAU indicated that he supports this increase as he believes habitat carrying capacity will continue to increase as projects are implemented. Several timber sales were recently sold, which will expand summer range forage capacity once implemented. There are other thinning and burning projects that will restore or enhance winter range forage capacity that are expected to be implemented during the life of this DAU plan. Due to the increase in summer forage and ongoing habitat improvement projects, I therefore recommend maintaining the population within the lower end of the Alternative 2 thresholds of the objective until such time that potential effects on winter range can be assessed.

From a recreational opportunity perspective, I concur that the expected bull ratios (18 to 21 bulls per 100 cows) represents a balanced opportunity between achieving the desired elk numbers and a better opportunity to harvest a bull elk. I support the current objective.

Other General Comments: I have heard of more mountain lion hunting public interest and permitted guide activity on the Saguache Ranger District than in recent years. The draft plan for DAU E-26 notes that OHV use is a growing concern during the summer and the elk hunting seasons. The draft plan also notes that OHVs are likely responsible for displacing elk during the hunting season, thereby reducing hunter success rates and satisfaction. The OHV Game Retrieval policy is mentioned as a potential contributing factor to elk displacement. I agree that this is a potential issue and look forward to collaborating with CPW on this policy during our upcoming travel management analysis that will occur after the Forest Plan revision is complete. I would like to offer one correction to the draft DAU Plan for E-26 where it states "domestic … sheep … are grazed on public land allotments in E-26". This is inaccurate as there are no public land allotments permitted for domestic sheep within E-26 geographic area. Finally, the Rio Grande National Forest has substantially invested in several ongoing projects that will restore or enhance habitats to encourage better elk distribution across winter and summer ranges.

Again, I thank Colorado Parks and Wildlife for the opportunity to comment on the Draft DAU Plans for D-26 and E-26. The plans are well-written and informative, and I commend the author and CPW for the time and effort put into these plans. I also thank Colorado Parks and Wildlife for adding economic

information for big game species to the DAU plans (Table 1, pg. 23). Big game populations and wildlife-related recreation are an important use on the Forest and the economic information helps to inform readers about these values. I look forward to continuing our work with Colorado Parks and Wildlife as I cooperatively manage for healthy wildlife habitats and populations in the future.

If you have any questions, please contact Jason Remshardt, Point of Contact for Wildlife and Fisheries Program at 719-852-6243

Sincerely,

DAN S. DALLAS
Forest Supervisor

Enclosures

cc: Rick Basagoitia, Tom Malecek, Tristram Post, Jason Remshardt, Jesse McCarty

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, JRL)

30 November, 2018

Rick Basagoitia, Area Wildlife Manager
0722 South Road 1East
Monte Vista, CO 81144

Dear Mr. Basagoitia,

Thank you for the opportunity to comment on the proposed D-26 and E-26 DAU Plans. As the agency providing the majority of critical 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-26 and E-26 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, competition with livestock, and competition with other wild ungulates that are currently not at herd objectives. It appears that increasing herd objectives to any degree would conflict with these ecological constraints. We also believe these constraints will pose additional challenges in managing public lands to meet Land Health Standards under any scenario that increases herd objectives.

In particular, the proposed alternative within the E-26 DAU plan that includes a 20-40% increase is concerning given the ongoing drought and the potential, but undocumented, impacts of reduced quality and availability of winter forage on public lands. We recommend a more moderate approach as identified in either of the other two alternatives until studies are initiated that quantify current condition of the crucial winter range and the carrying capacity of those areas. We are aware that if increases in numbers create land health impacts, CPW can moderate herd sizes with game management tools, but land health impacts area harder to reverse and can take many years to see improvement, especially in times of drought.

Specific to the D-26 plan, we understand the herd objective reflects the current estimated population size, and our observations are that browse condition varies widely depending on the area. While the current population size may prove to be less viable following a harsh winter, the proposed increase of 10-20% appears to be more moderate and would provide an opportunity for monitoring and adjustments to ensure maintenance of healthy lands. Continued habitat

partnership projects between CPW and the BLM will be critical to improve availability of browse to ensure limited land health impacts during severe winters under the new objective.

Lastly, the BLM does not have the capacity to implement a monitoring program specific to wild ungulates. Because of the uncertainties regarding ecological constraints, we believe a program to monitor habitat conditions is critical, particularly if herd objectives are increased. Additionally, the draft DAU Plans list winter range forage availability and quality as the limiting factors to herd size, so we recommend CPW and the BLM work together to address targeted vegetation monitoring on winter range in conjunction with pellet counts to determine impacts from the changing herd objectives and to assist in quantifying carrying capacity.

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

Sincerely,

Melissa S Garcia

Melissa S. Garcia
Field Manager
San Luis Valley Field Office

CC Brent Frankland, Wildlife Biologist
Clayton Bondurant, District Wildlife Manager

November 16, 2018

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

RE: San Luis Valley Habitat Partnership Program Comments - DAU E26

Dear Brent:

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

The San Luis Valley HPP committee has discussed your presentation and reviewed the draft alternatives for this DAU plan update. The San Luis Valley 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 SLVHPP committee supports the draft alternative to increase the number of animals within this DAU and within our committee area by 20-40% (alternative #3). The SLVHPP committee does not believe this increase would create more conflicts and we also believe we have the resources necessary to address conflicts should they occur. We understand that this alternative will require a significant reduction in cow licenses for at least four to five years until the population increased to within the objective range. However, increasing the population objective will ultimately lead to more hunting licenses and sportsmen opportunities in the future.

The SLVHPP also discussed the proposed sex ratio alternative. In general, we believe the sex ratio that provides for maximum hunting opportunity is appropriate for this area. This accommodates sportsmen's desires and maintains local economic benefits. We understand that the sex ratio is determined by the season structure.

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

Sincerely,

Mick Davis

Mick Davis, Chair
San Luis Valley HPP Committee

APPENDIX E30-A: Comment Letters on Draft Plan (2020)

May 8, 2020

Brad Weinmeister
Colorado Parks and Wildlife
151 E. 16th St.
Durango, CO 81301

RE: San Juan Basin Habitat Partnership Program Comments – E30 HMP

Dear Mr. Weinmeister,

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity to provide input into big game management in their areas. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen 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 San Juan Basin HPP committee has discussed your presentation, reviewed the draft alternatives and offers these comments for consideration.

The San Juan Basin HPP committee supports the draft alternative to increase the number of animals within this DAU by 15%. The committee does not believe this increase would create significantly more conflict, and we also believe we have the resources necessary to address conflicts should they occur. Additionally, sportsmen and other stakeholders have expressed the desire to expand hunting opportunity and see more elk on the landscape. Increasing the population objective will not immediately result in a greater number of hunting licenses due to the necessary continued limitation of antlerless licenses, however it should improve overall hunter satisfaction.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The San Juan Basin committee has worked with both public land managers and private landowners to improve the quality and quantity of the habitat in DAU E30. Adequate habitat, particularly on winter range, is critical to meeting game management objectives. We remain committed to maintaining and improving habitat throughout this DAU and our entire committee area.

While the committee has concerns about the loss of winter range due to continued residential growth and increasing recreation demands on public lands, we are confident that CPW will be able to achieve the proposed objectives. The San Juan Basin HPP committee will be able to support this management effort in partnership with the numerous local landowners and federal land management agencies that place a high priority on implementing valuable habitat improvement projects, and have expressed the desire to continue this work. It should be noted that the majority of sportsmen favor a larger population increase of 25%. However, with significant calf recruitment issues across southwest Colorado, the committee believes that the proposed 15% increase within the 10-year time frame is more realistic.

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

Sincerely,

George Malarsie, Chairman
San Juan Basin HPP Committee

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Tres Rios Field Office
29211 Highway 184
Dolores, Colorado 81323

In Reply Refer To:
6840 (LLCOS01000)
CPW Draft Elk Herd Management Plans

April 21, 2020

Mr. Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Mr. Weinmeister:

Thank you for the opportunity to comment on the Colorado Parks and Wildlife Draft Elk Herd Management Plans for E-24, E-30, and E-31. The Bureau of Land Management (BLM) Tres Rios Field Office has appreciated our longstanding working relationship with Colorado Parks and Wildlife (CPW) and partnership in managing wildlife habitats in the Tres Rios Field Office.

In the draft herd management plan for E-24 you state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11%. You then go on to state "With a shrinkage of winter habitat we can epect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan, elk herd populations have remained relatively constant since 1998.

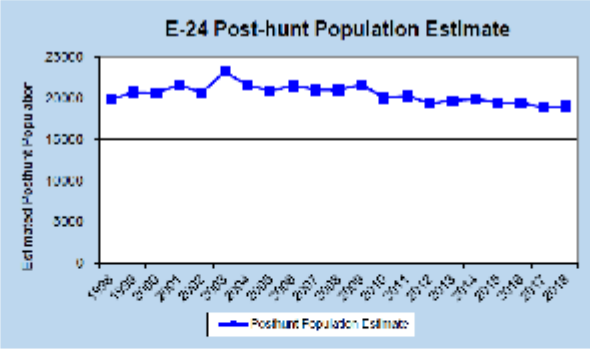


Figure 4. E-24 post-hunt population estimate from 1998 to 2018.

INTERIOR REGION 7 • UPPER COLORADO BASIN
COLORADO, NEW MEXICO, UTAH, WYOMING

In light of this information and to assist CPW in making management decisions within each herd area, the BLM Tres Rios would like to encourage CPW to gather utilization data in elk winter concentration areas. This data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter concentration areas, of which 39% is BLM and 39% is private surface. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter concentration areas are acceptable and can support any identified increase.

We applaud the research CPW has conducted looking at the impacts of increased habitat fragmentation on big game populations.

The Tres Rios Field Office has recently completed analysis of Transportation Area 1 (Montezuma, La Plata and Archuleta counties) on BLM lands and is beginning the analysis for Area 2. We look forward to working with CPW as a cooperating agency to identify areas where management can be improved for big game in the Tres Rios Field Office.

Sincerely,

/s/ Connie Clementson

Connie Clementson
Field Manager

cc: Nathaniel West, Wildlife Biologist

USDA United States Department of Agriculture Forest Service San Juan National Forest
15 Burnett Court
Durango, CO 81301
(970) 247-4874
Fax: (970) 375-2319

File Code: 2610
Date:

Brad Weinmeister, Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Dear Brad,

The San Juan National Forest (SJNF) appreciates the opportunity to comment on the Draft San Juan Basin Elk Herd Management Plans for Data Analysis Unit (DAU) E-24, E-30, and E-31. These DAUs overlap portions of the Dolores, Columbine, and Pagosa Ranger Districts. As stated in the Draft Plans, the primary decisions needed for individual Herd Management Plans (HMPs) are how many animals should exist in the DAU, and what is the desired sex ratio for the population of big game animals (e.g., the number of males per 100 females). The life of the plans are 10 years and may be revised in the 10-year timeline if conditions change.

As stated in the Draft HMPs, the following population objectives for each DAU are proposed. A preferred alternative will be proposed in the final HMPs and presented to the Colorado Parks and Wildlife Commission for adoption.

DAU E-24

Alternative 1: 17,000 – 20,000 elk post-hunt (current population)

Alternative 2: 20,000 – 23,000 elk post-hunt (15% increase)

Alternative 3: 22,000 – 25,000 elk post-hunt (25% increase)

DAU E-30

Alternative 1: 6,500 – 7,500 elk post-hunt (current population)

Alternative 2: 7,500 – 8,500 elk post-hunt (15% increase)

Alternative 3: 8,500 – 9,500 elk post-hunt (25% increase)

DAU E-31

Alternative 1: 21,000 to 24,000 (current population)

Alternative 2: 24,000 to 27,000 (15% increase)

Alternative 3: 26,000 to 29,000 (25% increase)

The Draft HMPs provide information on current herd status and management objectives, habitat resource and capabilities, herd management history, herd issues and strategies, and public involvement. As mentioned in the HMPs, NFS lands comprise 25% of DAU E-24, 42% of DAU E-30 and 55% of DAU E-31 with remaining lands consisting of Bureau of Land Management lands, private lands, Southern Ute Indian Reservation, Ute Mountain Ute Indian Reservation, National Park Service, Colorado Parks and Wildlife and State Land Board.

As described in the Draft HMPs, habitat loss through development is a significant issue across all three DAUs. A combination of urban, exurban, energy and recreational development is occurring on a significant portion of important habitat in all three DAUs and is a considerably larger problem near Durango and the Animas River valley and areas west of Pagosa Springs. Development of all types can pose a threat to blocking or cutting off migration routes and reducing their effectiveness, causes direct and indirect loss of habitat, and influences both carrying capacity and harvest management.

All three Draft HMPs describe winter range being a limiting factor for elk herds in the San Juan Basin. The HMPs also state that winter range is continually being lost due to development (residential, energy, and recreational) and will be lost at a greater rate with the expected human population growth. The Draft HMPs cite research by Johnson et al 2016, noting "with a shrinkage of winter habitat, we can expect to see declining recruitment rates and reduction in the elk population, currently the greatest issue for the San Juan Basin Elk herd."

The SJNF shares CPW's concerns with respect to population growth and habitat loss, particularly the direct, indirect, and cumulative impacts to elk winter range. As mentioned in the Draft HMPs, winter range, severe winter range and winter concentration areas occur on lands managed by the SJNF. The vegetation types present in these areas are primarily sagebrush, mixed mountain shrublands, mountain grasslands, pinyon juniper, Gambel oak, cottonwood riparian, ponderosa pine and aspen. As shown in the Draft HMP for DAU E-24, approximately 20% of the winter range, 6% of the severe winter range, and 22% of the winter concentration areas for elk occur on the SJNF. Approximately 25% of the winter range, 4% of the severe winter range, and 43% of the winter concentration areas for elk in DAU E-30 occur on the SJNF. Approximately 45% of the winter range, 53% of the severe winter range, and 42% of the winter concentration areas for elk in DAU E-31 occur on the SJNF. For all DAUs, the remaining portions of winter range occur on other jurisdictions. These percentages clearly show lands managed by the SJNF contribute important winter habitat and migration routes for the San Juan Basin elk herd. Continued loss or impact to winter range, particularly on private lands will further increase the importance of public land wintering habitat.

The SJNF recently completed a winter range habitat analysis for all three DAUs utilizing vegetation information from the Forest's Geographic Information System (GIS) database, CPW winter range GIS habitat layers from the 2019 all Species Activity Mapping database, and forage and cover values described by Towry (1987) to estimate habitat capability. The Forest's vegetation database provides information on Habitat Structural Stages (developmental stages of vegetation) as determined through stand exam surveys, field reconnaissance, satellite imagery, and other methods. The Forest's vegetation database also accounts for management activities (timber harvest, prescribed burns, road and trail construction, etc.) along with natural disturbances such as wildfires that affect structural conditions of forest vegetation, and therefore is an accurate reflection of current conditions.

As defined by Thomas (1979) "optimum deer and elk habitat is the amount and arrangement of cover and forage areas that result in the maximum possible proper use of the maximum possible area by the animals." In the Blue Mountains of Oregon, a ratio of 60 percent forage to 40 percent cover is optimum. This ratio has been widely adopted in many forested elk habitats across western states. Towry (1987) identifies the following Habitat Structural Stages (HSS) as having either forage or cover value in most habitats where forage availability in forested ecosystems is inversely related to the amount of tree over-story.

> Forage: 1) Grass-forb, 2) Shrub-seedling, and 3a) Sapling-pole <40% canopy cover (cc) 4a) Mature <40% cc, as highly valuable, and
>
> Cover: 3b) Sapling-pole 40-69% cc, 3c) Sapling-pole >69% cc, 4b) Mature 40-69% cc, 4c) Mature >69% cc, and 5) Old-growth as highly valuable.

Quantifying the ratio of forage to cover on NFS lands across each DAU was accomplished using the HSS information above. Our analysis does not distinguish which cover values provide forage and which forage values provide cover, nor does it distinguish between hiding cover and thermal cover. Additionally, the analysis represents vegetative conditions related to forage and cover, and not overall habitat quality or effectiveness. Consequently, winter range classifications that meet or exceed recommended forage to cover ratios may not necessarily meet or exceed optimum conditions for providing quality elk habitat.

As shown in Table 1, forage to cover ratio's for winter concentration and severe winter range in DAU E-24 are close to the recommended forage to cover ratios, with total winter range showing a slight inverse. Forage to cover ratios in DAU E-30 are the direct opposite of the recommended forage to cover ratios. Forage to cover ratios for total winter range and winter concentration habitat in DAU E-31 show an inverse of the recommended ratios, with severe winter range showing a ratio close to the recommended values.

Table 1. Winter Habitat on SJNF by DAU			
Winter Habitat Classification	**DAU E-24**	**DAU E-30**	**DAU E-31**
Winter range - forage	78,.77	14,970	83,490
Winter range -- cover	80,.01	43,195	130,966
Total winter range	158,278	58,165	214,456
Forage to cover ratio	**49:51**	**26:74**	**39:61**
Winter concentration - forage	26,764	4,339	50,013
Winter concentration - cover	16,734	14,787	55,866
Total winter concentration	43,498	19,126	105,879
Forage to cover ratio	**62:38**	**23:77**	**47:53**
Severe winter range - forage	10,354	987	28,227
Severe winter range - cover	6,122	2,686	25,422
Total severe winter range	16,476	3,673	53,649
Forage to cover ratio	63:37	**27:73**	**53:47**

The primary purpose of this analysis was to display existing elk winter range across lands managed by the SJNF in each DAU, display the Forest's contribution to elk wintering habitat across the San Juan Basin, demonstrate where management should continue to improve winter habitat for elk, and provide information for CPW consideration in determining elk population carrying capacity based on available winter range habitat capability on NFS lands. The Forest recommends CPW conduct winter range habitat analyses on other jurisdictions, by partnering with other land managers and private lands owners to gain a better understanding of winter habitat capability and carrying capacity for elk across the San Juan Basin.

Our analysis shows that habitat enhancement efforts are needed across much of the Forest's elk winter range to promote vegetative conditions that meet more desirable forage to cover ratios. Improving forage to cover ratios will help sustain elk for longer durations on public lands, thereby minimizing impacts on adjacent private lands and other jurisdictions. Improving conditions on winter range can be accomplished through continued implementation of forest restoration projects that achieve multiple resource objectives such as fuels reduction, and wildlife

habitat and watershed improvement projects. The Forest Service, CPW, and other partners have implemented habitat enhancement projects in winter range and important migration corridors. Projects have been implemented where habitat quality has declined due to forest succession and heavy forage use by big game. Some examples of these projects include prescribed burns, mechanical vegetation treatments, water developments, wildlife friendly fencing projects, and others. Numerous studies show that large ungulates benefit from the ecological impacts of fire, whether that be from prescribed fire or wildfire. We will continue expanding our use of fire on the landscape to benefit elk where and when appropriate. Additionally, when opportunities exist, the Forest will engage in land acquisitions of important big game wintering habitat consistent with the Land and Resource Management Plan (LRMP).

Where opportunities exist, the Forest will continue efforts to improve vegetation conditions in summer and transition ranges. Management actions utilized to improve summer elk ranges may include timber management focused on reducing the densities of dead and dying trees in high-elevation spruce-fir forests, thereby increasing forage potential and enhance movement and dispersal through impacted forests. Management actions utilized to improve transition ranges in mid-elevation forests may include ponderosa pine forest restoration, aspen regeneration, and managing mixed conifer forest to more closely resemble historic range of variability. Projects are ongoing and planned in summer and transition ranges through coordination with CPW, collaborative groups and other partners, and through public involvement.

The draft herd management plans state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11% in E-24, from 22% to 9% in E-31 and from 32% to 21% in E-30. The draft plans then state "With a shrinkage of winter habitat we can expect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan for E-24, elk herd populations have remained relatively constant since 1998, E-30 populations have declined overall from 1998 but shown a recent increase from the lowest point, and E-31 populations have remained fairly stable since 2005.

Based on this information, the SJNF would like to encourage CPW to collect additional utilization data in elk winter range areas. These data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter range (concentrations areas, severe winter range, and overall winter range), of which the SJNF has approximately 219,000 acres. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter range areas are acceptable and can support any identified increase.

Based on the Forest's winter range habitat analysis and anticipated loss of elk habitat in the DAUs, we recommend CPW establish herd management objectives compatible with current and projected habitat resources and capabilities in winter range. We also encourage CPW to monitor habitat loss correlated with human population growth across the DAUs. As stated in the HMPs, "managers and the public are increasingly concerned over cumulative and prolonged impacts disrupting migration and decreasing quality and quantity of habitat. Development influences both carrying capacity and harvest management." The Forest agrees with CPW's conclusions

regarding the cumulative impacts from habitat loss and their relationship to carrying capacity and harvest management. The Forest also recognizes public input is essential for helping formulate management objectives in HMPs, and while there may strong interests to increase populations for harvest opportunity, we believe increases should be compatible with the carrying capacity of available habitat. We also encourage CPW to prioritize research on recruitment in elk populations as all three DAUs show decreased cow-calf ratios over the last 14 years.

The SJNF will continue committing resources to assist CPW in managing elk populations by implementing habitat management direction in severe winter range, winter concentration areas, migration corridors and parturition areas consistent with the LRMP. The LRMP contains objectives and management direction to maintain or improve habitat quality, protect migration corridors, and minimize impacts from management actions to big game populations. These objectives and direction were developed in coordination with CPW during the LRMP revision process completed in 2013.

We appreciate the opportunity to comment on the draft elk herd management plans. In addition, we value our close working relationship with CPW and our collaborative efforts. If you have any questions on our comments, please contact Mary Hammer, Fish and Wildlife Program Lead, at 970-385-1345.

Sincerely,

KARA L. CHADWICK
Forest Supervisor

Literature Cited

Thomas, J. W. 1979. Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington. USDA, Forest Service Handbook No. 553.

Towry, R. K. 1987. Wildlife habitat requirements. Pages 73-209 in Hoover, R. L., and D. L. Wills eds Managing forested lands for wildlife. Colorado Division of Wildlife in cooperation with USDA Forest Service, Rocky Mountain Region, Denver, CO

La Plata County
Colorado
Board of County Commissioners
Clyde Church, Chair • Gwen Lachelt, Vice Chair • Julie Westendorf, Commissioner
[illegible]
Durango, CO 81301
(970) 382-6[illegible]

April 28, 2020

Colorado Parks and Wildlife
Attn: Brad Weimeister
151 E 16th Street
Durango, Colorado 81301

RE: CPW Hermosa Elk Herd Management Plan

Dear Mr. Weimeister:

La Plata County appreciates the opportunity to provide a letter of comment and support for the Colorado Parks and Wildlife (CPW) preliminary herd management plan for the Hermosa elk herd located on lands within La Plata County. La Plata County supports the management objectives identified within this plan as they relate to impacts to the Hermosa elk herd management area. CPW identified primary areas of impact to the Hermosa elk herd as:

1) Exponentially increasing impacts to and activities within designated elk winter and production ranges;
2) Increased activity in and impacts to elk migration corridors; and
3) Other areas of high human and elk conflict.

This plan outlines the potential management steps available to contribute to CPW's objectives and provides mitigation to protect this natural resource. These management actions provide economic benefits to our local community through tourism and locals who participate in hunting seasons, wildlife viewing, outdoor recreation, and public land utilization.

CPW has diligently worked to prepare a plan that identifies areas of concern that may be impacting elk numbers in the Hermosa herd management area. CPW's mapped activity areas and species ranges (specifically winter range and production areas) are critical for herd population and require management actions to reduce conflicts. Management actions in these areas are essential to serve as protection of the fundamental and distinctive habitat areas necessary for elk reproductive success and recruitment. It is understood that elk herds across the southwest landscape are facing declining calf recruitment. Additional research is needed and supported by

La Plata County in order to understand the source of this decline as well as management actions that can be put into place to aid calf recruitment. La Plata County continues to support seasonal closures and area access restrictions in order to protect winter ranges and production areas and would consider supporting an extension to these timelines if CPW can provide scientific evidence that this will directly benefit the Hermosa elk herd.

Supporting CPW's capacity to manage and plan for priority elk habitat within and surrounding recreational areas, both existing and proposed, benefits our local community and creates extensive economic value to our area. Educating the public about recreational impacts in priority elk habitats, such as winter range and production areas, will help manage conflicts and impacts during winter activities when elk are the most susceptible to disturbance. La Plata County encourages CPW to work with the Living with Wildlife Board for ways to educate the public. La Plata County will continue to work with landowners through the Land Use Code and wildlife studies in order to help educate the public about living with wildlife.

La Plata County technical comments by report section:

1. Executive Summary

   It is recommended that the summary contain the cow: calf summary in an effort to clarify declining populations and the significance this ratio plays in herd dynamics.

2. Management Objectives
   - Alternative 2 is essentially the no action alternative based on model numbers (35% increase over the last 6 years). This would make Alternative 1 an alternative that manages for a decreased elk population and Alternative 3 an alternative that manages for a significantly increased elk population.
   - These Alternatives, or an introduction to these Alternatives should address the inconsistencies between CPW's model data and the observed herd status. Detailed analysis of the inconsistencies between the contradicting data sets should be provided in the Current Herd Status and Management Objectives portion of the document.

3. Introduction and Purpose
   - It is recommended that the bull: cow ratio be expanded on in this section identifying what portion of the bull population is taken into consideration in these ratios. Identify if all bulls, including bulls that have not reached maturity or are not legal animals for take, are included in this number, what is the significance of maturity impacts to the ratio and in turn the population as a whole. Further, what is the predicted impact to the herd for a population that has elevated immature: mature bull ratios and similarly elevated mature: immature bull ratios.

4. Harvest
   - It is recommended that CPW explain what the factors preventing CPW from implementing mandatory hunter harvest check-in are. This is common practice in other wildlife management programs and provides an opportunity for additional data to allow for more accurate population estimates and assessments within CPW's model. Additionally, this provides an opportunity for wildlife managers to interact with and further educate the public.

5. Management Strategies
    - Predation
        - It is recommended that the management strategy of implementation of black bear over the counter add on tags be explained and analyzed here. Information on anticipated impacts to elk population should be addressed here.
    - Development in Critical Elk Habitats
        - It is recommended that CPW prioritize winter range and production area mitigation measures or restrictions when responding to required permit notices for development activities within La Plata County.
    - Chronic Wasting Disease –
        - It is recommended that, as a part of the hunter harvest check-ins analysis (as described above under Harvest), there is consideration to provide opportunity for CWD testing. Further availability of testing to the public will provide CPW with data that can be utilized to monitor the spread of CWD and serve as an early detection system in our herds. As part of this opportunity, continued education about the disease is recommended.

La Plata County appreciates this opportunity to participate and comment on this plan. We recognize the importance of what CPW is trying to accomplish with elk herds and how to best manage them according to the scientific data they collect and the input they receive from the community. Thank you for your coordination in helping to ensure reduced conflict for both elk and citizens while working to meet everyone's best interest.

Sincerely,

LA PLATA COUNTY
BOARD OF COUNTY COMMISSIONERS

Clyde Church
Chair

Gwen Lachelt
Vice Chair

Julie Westendorff
Commissioner

BACKCOUNTRY HUNTERS & ANGLERS COLORADO

Via brad.weinmeister@state.co.us

Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th St.
Durango, CO, 81301

Re: Draft Herd Management Plans for DAU E-24, E-30 and E-31

Dear Brad:

Colorado Backcountry Hunters and Anglers ("BHA") sincerely appreciates the opportunity to provide comments on the Draft Herd Management Plans ("HMP") for DAU E-30, E-31 and E-24. Generally speaking, BHA supports science-based herd management in Southwestern Colorado, as it does elsewhere in the State and the Nation. BHA also appreciates the immense difficulty in modeling and implementing successful management plans regardless of the objective.

BHA believes, however, that across all HMPs, Colorado Parks and Wildlife ("CPW") should select Objective 3. Increasing the elk population by 25% will provide significant benefits to CPWs management system and it will also accommodate potential population losses in the future from anthropogenic impacts caused by increased recreation, habitat fragmentation and predation. Indeed, 2020 Big Game Season Structure and the HMPs should work together to provide opportunity while improving herd health. Moreover, BHA agrees with each of the HMPs that selecting the highest population objective (*e.g.* increase by 25%) will require a concerted "commitment to improve and protect elk habitats." HMP E-30 at 18. For example, in DAU E-30, recreation is, and has been, putting incredible pressure on elk herds during all life stages including breeding, calving and wintering and it is essential that CPW use the HMPs to provide uniform evidence of the issues to the Bureau of Land Management ("BLM") and the U.S. Forest Service ("USFS") on motorized and nonmotorized travel plans and projects.

BHA also supports the laundry list of strategies to address development in critical habitat. This list, however, could be improved with additional details regarding the various

strategies. For example, how would migration corridors be prioritized and subsequently protected? In other states, for example, CPW holds significant say over federal land management decisions and CPW should seek similar authority through the Governor to protect big game herds. BHA also believes that CPW should identify compensatory mitigation strategies for energy development in critical winter range, recreation impacts in summer parturition areas and close coordination with local governments in planning and zoning urban and exurban development.

Chronic Wasting Disease may become a greater problem if CPW, USFS, BLM and other agencies do not map and manage migration corridors, stopover areas and bottleneck points along those migration corridors. BHA is also aware of the unique relationship between CWD prions and predation by wolves, coyotes, lions and bear. It is, therefore, that the management strategies identified also do not ignore the overlap between predator and prey on the landscape.

Lastly, each HMP would benefit greatly from an explanation of why the modeled post-hunt population estimate may be above objective while other evidence demonstrates that calf recruitment has not recovered since 2006. Significant literature explains the problems associated with aerial surveys of elk, wild horses and other wildlife and CPW could, and should, attempt to explain the errors or explain why calf recruitment is more accurate.

BHA applauds CPW for taking a hard look at a hard issue and engaging the public in managing and protecting our elk herds. We look forward to the final drafts and encourage BLM to manage for a 25% increase in elk objectives.

Cody B. Doig, ESQ
Assistant SW Chapter Director
Backcountry Hunters and Anglers

APPENDIX E31-A, Comment Letters on Draft Plan (2020)

May 8, 2020

Brad Weinmeister
Colorado Parks and Wildlife
151 E. 16th St.
Durango, CO 81301

RE: San Juan Basin Habitat Partnership Program Comments – E31 HMP

Dear Mr. Weinmeister,

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity to provide input into big game management in their areas. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen 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 San Juan Basin HPP committee has discussed your presentation, reviewed the draft alternatives and offers these comments for consideration.

The San Juan Basin HPP committee supports the draft alternative to increase the number of animals within this DAU by 15%. While this increase returns the elk population to levels where conflicts with permittees on USFS allotments were previously reported, we believe we now have adequate resources to address conflicts should they reoccur. Additionally, sportsmen and other stakeholders have expressed the desire to expand hunting opportunity and see more elk on the landscape. Increasing the population objective will not immediately result in a greater number of hunting licenses due to the necessary continued limitation of antlerless licenses, however it should improve overall hunter satisfaction.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The San Juan Basin committee has worked with both public land managers and private landowners to improve the quality and quantity of the habitat in DAU E31. Adequate habitat, particularly on winter range, is critical to meeting game management objectives and we remain committed to maintaining and improving habitat in this area.

While the committee has concerns about the loss of winter range due to continued residential growth and increasing recreation demands on public lands, we are confident that CPW will be able to achieve the proposed objectives. The San Juan Basin HPP committee will support this management effort in partnership with the numerous local landowners and federal land management agencies that place a high priority on implementing valuable habitat improvement projects, and have expressed the desire to continue this work. It should be noted that the majority of sportsmen favor a larger population increase of 25%. However, with significant calf recruitment issues across southwest Colorado and particularly within this DAU, the committee believes that the proposed 15% increase within the 10-year time frame is more realistic.

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

Sincerely,

George Malarsie, Chairman
San Juan Basin HPP Committee

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Tres Rios Field Office
29211 Highway 184
Dolores, Colorado 81323

In Reply Refer To:
6840 (LLCOS01000)
CPW Draft Elk Herd Management Plans

April 21, 2020

Mr. Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Mr. Weinmeister:

Thank you for the opportunity to comment on the Colorado Parks and Wildlife Draft Elk Herd Management Plans for E-24, E-30, and E-31. The Bureau of Land Management (BLM) Tres Rios Field Office has appreciated our longstanding working relationship with Colorado Parks and Wildlife (CPW) and partnership in managing wildlife habitats in the Tres Rios Field Office.

In the draft herd management plan for E-24 you state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11%. You then go on to state "With a shrinkage of winter habitat we can epect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan, elk herd populations have remained relatively constant since 1998.

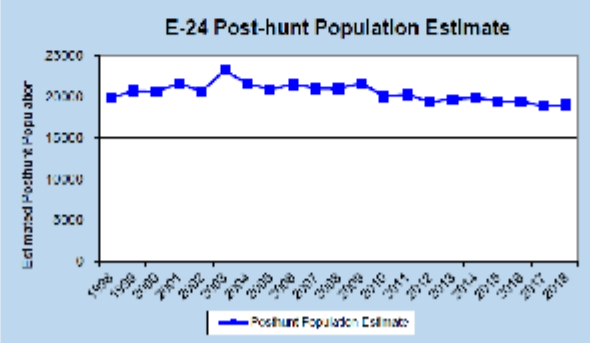


Figure 4. E-24 Post-hunt population estimate from 1998 to 2018.

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COLORADO, NEW MEXICO, UTAH, WYOMING

In light of this information and to assist CPW in making management decisions within each herd area, the BLM Tres Rios would like to encourage CPW to gather utilization data in elk winter concentration areas. This data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter concentration areas, of which 39% is BLM and 39% is private surface. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter concentration areas are acceptable and can support any identified increase.

We applaud the research CPW has conducted looking at the impacts of increased habitat fragmentation on big game populations.

The Tres Rios Field Office has recently completed analysis of Transportation Area 1 (Montezuma, La Plata and Archuleta counties) on BLM lands and is beginning the analysis for Area 2. We look forward to working with CPW as a cooperating agency to identify areas where management can be improved for big game in the Tres Rios Field Office.

Sincerely,

/s/ Connie Clementson

Connie Clementson
Field Manager

cc: Nathaniel West, Wildlife Biologist

USDA United States Department of Agriculture Forest Service San Juan National Forest
15 Burnett Court
Durango, CO 81301
(970) 247-4874
Fax: (970) 375-2319

File Code: 2610
Date:

Brad Weinmeister, Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th Street
Durango, CO 81301

Dear Brad,

The San Juan National Forest (SJNF) appreciates the opportunity to comment on the Draft San Juan Basin Elk Herd Management Plans for Data Analysis Unit (DAU) E-24, E-30, and E-31. These DAUs overlap portions of the Dolores, Columbine, and Pagosa Ranger Districts. As stated in the Draft Plans, the primary decisions needed for individual Herd Management Plans (HMPs) are how many animals should exist in the DAU, and what is the desired sex ratio for the population of big game animals (e.g., the number of males per 100 females). The life of the plans are 10 years and may be revised in the 10-year timeline if conditions change.

As stated in the Draft HMPs, the following population objectives for each DAU are proposed. A preferred alternative will be proposed in the final HMPs and presented to the Colorado Parks and Wildlife Commission for adoption.

DAU E-24

Alternative 1: 17,000 – 20,000 elk post-hunt (current population)

Alternative 2: 20,000 – 23,000 elk post-hunt (15% increase)

Alternative 3: 22,000 – 25,000 elk post-hunt (25% increase)

DAU E-30

Alternative 1: 6,500 – 7,500 elk post-hunt (current population)

Alternative 2: 7,500 – 8,500 elk post-hunt (15% increase)

Alternative 3: 8,500 – 9,500 elk post-hunt (25% increase)

DAU E-31

Alternative 1: 21,000 to 24,000 (current population)

Alternative 2: 24,000 to 27,000 (15% increase)

Alternative 3: 26,000 to 29,000 (25% increase)

The Draft HMPs provide information on current herd status and management objectives, habitat resource and capabilities, herd management history, herd issues and strategies, and public involvement. As mentioned in the HMPs, NFS lands comprise 25% of DAU E-24, 42% of DAU E-30 and 55% of DAU E-31 with remaining lands consisting of Bureau of Land Management lands, private lands, Southern Ute Indian Reservation, Ute Mountain Ute Indian Reservation, National Park Service, Colorado Parks and Wildlife and State Land Board.

As described in the Draft HMPs, habitat loss through development is a significant issue across all three DAUs. A combination of urban, exurban, energy and recreational development is occurring on a significant portion of important habitat in all three DAUs and is a considerably larger problem near Durango and the Animas River valley and areas west of Pagosa Springs. Development of all types can pose a threat to blocking or cutting off migration routes and reducing their effectiveness, causes direct and indirect loss of habitat, and influences both carrying capacity and harvest management.

All three Draft HMPs describe winter range being a limiting factor for elk herds in the San Juan Basin. The HMPs also state that winter range is continually being lost due to development (residential, energy, and recreational) and will be lost at a greater rate with the expected human population growth. The Draft HMPs cite research by Johnson et al 2016, noting "with a shrinkage of winter habitat, we can expect to see declining recruitment rates and reduction in the elk population, currently the greatest issue for the San Juan Basin Elk herd."

The SJNF shares CPW's concerns with respect to population growth and habitat loss, particularly the direct, indirect, and cumulative impacts to elk winter range. As mentioned in the Draft HMPs, winter range, severe winter range and winter concentration areas occur on lands managed by the SJNF. The vegetation types present in these areas are primarily sagebrush, mixed mountain shrublands, mountain grasslands, pinyon juniper, Gambel oak, cottonwood riparian, ponderosa pine and aspen. As shown in the Draft HMP for DAU E-24, approximately 20% of the winter range, 6% of the severe winter range, and 22% of the winter concentration areas for elk occur on the SJNF. Approximately 25% of the winter range, 4% of the severe winter range, and 43% of the winter concentration areas for elk in DAU E-30 occur on the SJNF. Approximately 45% of the winter range, 53% of the severe winter range, and 42% of the winter concentration areas for elk in DAU E-31 occur on the SJNF. For all DAUs, the remaining portions of winter range occur on other jurisdictions. These percentages clearly show lands managed by the SJNF contribute important winter habitat and migration routes for the San Juan Basin elk herd. Continued loss or impact to winter range, particularly on private lands will further increase the importance of public land wintering habitat.

The SJNF recently completed a winter range habitat analysis for all three DAUs utilizing vegetation information from the Forest's Geographic Information System (GIS) database, CPW winter range GIS habitat layers from the 2019 all Species Activity Mapping database, and forage and cover values described by Towry (1987) to estimate habitat capability. The Forest's vegetation database provides information on Habitat Structural Stages (developmental stages of vegetation) as determined through stand exam surveys, field reconnaissance, satellite imagery, and other methods. The Forest's vegetation database also accounts for management activities (timber harvest, prescribed burns, road and trail construction, etc.) along with natural disturbances such as wildfires that affect structural conditions of forest vegetation, and therefore is an accurate reflection of current conditions.

As defined by Thomas (1979) "optimum deer and elk habitat is the amount and arrangement of cover and forage areas that result in the maximum possible proper use of the maximum possible area by the animals." In the Blue Mountains of Oregon, a ratio of 60 percent forage to 40 percent cover is optimum. This ratio has been widely adopted in many forested elk habitats across western states. Towry (1987) identifies the following Habitat Structural Stages (HSS) as having either forage or cover value in most habitats where forage availability in forested ecosystems is inversely related to the amount of tree over-story.

> Forage: 1) Grass-forb, 2) Shrub-seedling, and 3a) Sapling-pole <40% canopy cover (cc) 4a) Mature <40% cc, as highly valuable, and
>
> Cover: 3b) Sapling-pole 40-69% cc, 3c) Sapling-pole >69% cc, 4b) Mature 40-69% cc, 4c) Mature >69% cc, and 5) Old-growth as highly valuable.

Quantifying the ratio of forage to cover on NFS lands across each DAU was accomplished using the HSS information above. Our analysis does not distinguish which cover values provide forage and which forage values provide cover, nor does it distinguish between hiding cover and thermal cover. Additionally, the analysis represents vegetative conditions related to forage and cover, and not overall habitat quality or effectiveness. Consequently, winter range classifications that meet or exceed recommended forage to cover ratios may not necessarily meet or exceed optimum conditions for providing quality elk habitat.

As shown in Table 1, forage to cover ratio's for winter concentration and severe winter range in DAU E-24 are close to the recommended forage to cover ratios, with total winter range showing a slight inverse. Forage to cover ratios in DAU E-30 are the direct opposite of the recommended forage to cover ratios. Forage to cover ratios for total winter range and winter concentration habitat in DAU E-31 show an inverse of the recommended ratios, with severe winter range showing a ratio close to the recommended values.

Table 1. Winter Habitat on SJNF by DAU			
Winter Habitat Classification	**DAU E-24**	**DAU E-30**	**DAU E-31**
Winter range - forage	78,.77	14,970	83,490
Winter range -- cover	80,.01	43,195	130,966
Total winter range	158,278	58,165	214,456
Forage to cover ratio	**49:51**	**26:74**	**39:61**
Winter concentration - forage	26,764	4,339	50,013
Winter concentration - cover	16,734	14,787	55,866
Total winter concentration	43,498	19,126	105,879
Forage to cover ratio	**62:38**	**23:77**	**47:53**
Severe winter range - forage	10,354	987	28,227
Severe winter range - cover	6,122	2,686	25,422
Total severe winter range	16,476	3,673	53,649
Forage to cover ratio	63:37	**27:73**	**53:47**

The primary purpose of this analysis was to display existing elk winter range across lands managed by the SJNF in each DAU, display the Forest's contribution to elk wintering habitat across the San Juan Basin, demonstrate where management should continue to improve winter habitat for elk, and provide information for CPW consideration in determining elk population carrying capacity based on available winter range habitat capability on NFS lands. The Forest recommends CPW conduct winter range habitat analyses on other jurisdictions, by partnering with other land managers and private lands owners to gain a better understanding of winter habitat capability and carrying capacity for elk across the San Juan Basin.

Our analysis shows that habitat enhancement efforts are needed across much of the Forest's elk winter range to promote vegetative conditions that meet more desirable forage to cover ratios. Improving forage to cover ratios will help sustain elk for longer durations on public lands, thereby minimizing impacts on adjacent private lands and other jurisdictions. Improving conditions on winter range can be accomplished through continued implementation of forest restoration projects that achieve multiple resource objectives such as fuels reduction, and wildlife

habitat and watershed improvement projects. The Forest Service, CPW, and other partners have implemented habitat enhancement projects in winter range and important migration corridors. Projects have been implemented where habitat quality has declined due to forest succession and heavy forage use by big game. Some examples of these projects include prescribed burns, mechanical vegetation treatments, water developments, wildlife friendly fencing projects, and others. Numerous studies show that large ungulates benefit from the ecological impacts of fire, whether that be from prescribed fire or wildfire. We will continue expanding our use of fire on the landscape to benefit elk where and when appropriate. Additionally, when opportunities exist, the Forest will engage in land acquisitions of important big game wintering habitat consistent with the Land and Resource Management Plan (LRMP).

Where opportunities exist, the Forest will continue efforts to improve vegetation conditions in summer and transition ranges. Management actions utilized to improve summer elk ranges may include timber management focused on reducing the densities of dead and dying trees in high-elevation spruce-fir forests, thereby increasing forage potential and enhance movement and dispersal through impacted forests. Management actions utilized to improve transition ranges in mid-elevation forests may include ponderosa pine forest restoration, aspen regeneration, and managing mixed conifer forest to more closely resemble historic range of variability. Projects are ongoing and planned in summer and transition ranges through coordination with CPW, collaborative groups and other partners, and through public involvement.

The draft herd management plans state "Loss of habitat from development influences both carrying capacity and harvest management", and CPW research shows that undeveloped lands have decreased from 20% to 11% in E-24, from 22% to 9% in E-31 and from 32% to 21% in E-30. The draft plans then state "With a shrinkage of winter habitat we can expect to see a reduction in the elk population." With the decrease in habitat we would expect to see a decrease in the carrying capacity for any given elk herd. Based on the draft Elk Herd Management Plan for E-24, elk herd populations have remained relatively constant since 1998, E-30 populations have declined overall from 1998 but shown a recent increase from the lowest point, and E-31 populations have remained fairly stable since 2005.

Based on this information, the SJNF would like to encourage CPW to collect additional utilization data in elk winter range areas. These data would help inform the decision when choosing between alternatives identified in the Herd Management Plans. Increasing the herd by 25% or maintaining the current objectives could greatly impact utilization of winter range (concentrations areas, severe winter range, and overall winter range), of which the SJNF has approximately 219,000 acres. Prior to selecting an alternative that may increase objectives, CPW should demonstrate that utilization in winter range areas are acceptable and can support any identified increase.

Based on the Forest's winter range habitat analysis and anticipated loss of elk habitat in the DAUs, we recommend CPW establish herd management objectives compatible with current and projected habitat resources and capabilities in winter range. We also encourage CPW to monitor habitat loss correlated with human population growth across the DAUs. As stated in the HMPs, "managers and the public are increasingly concerned over cumulative and prolonged impacts disrupting migration and decreasing quality and quantity of habitat. Development influences both carrying capacity and harvest management." The Forest agrees with CPW's conclusions

regarding the cumulative impacts from habitat loss and their relationship to carrying capacity and harvest management. The Forest also recognizes public input is essential for helping formulate management objectives in HMPs, and while there may strong interests to increase populations for harvest opportunity, we believe increases should be compatible with the carrying capacity of available habitat. We also encourage CPW to prioritize research on recruitment in elk populations as all three DAUs show decreased cow-calf ratios over the last 14 years.

The SJNF will continue committing resources to assist CPW in managing elk populations by implementing habitat management direction in severe winter range, winter concentration areas, migration corridors and parturition areas consistent with the LRMP. The LRMP contains objectives and management direction to maintain or improve habitat quality, protect migration corridors, and minimize impacts from management actions to big game populations. These objectives and direction were developed in coordination with CPW during the LRMP revision process completed in 2013.

We appreciate the opportunity to comment on the draft elk herd management plans. In addition, we value our close working relationship with CPW and our collaborative efforts. If you have any questions on our comments, please contact Mary Hammer, Fish and Wildlife Program Lead, at 970-385-1345.

Sincerely,

KARA L. CHADWICK
Forest Supervisor

Literature Cited

Thomas, J. W. 1979. Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington. USDA, Forest Service Handbook No. 553.

Towry, R. K. 1987. Wildlife habitat requirements. Pages 73-209 in Hoover, R. L., and D. L. Wills eds Managing forested lands for wildlife. Colorado Division of Wildlife in cooperation with USDA Forest Service, Rocky Mountain Region, Denver, CO

La Plata County Colorado
Board of County Commissioners
Clerk Church, Chair • Gwen Lachelt, Vice Chair • Julia Westerhoff, Commissioner
[illegible] East 2nd Ave
Durango, CO 81301
(970) xxx-xxxx

April 28, 2020

Colorado Parks and Wildlife
Attn: Brad Weinmeister
151 E 16th Street
Durango, Colorado 81301

RE: CPW San Juan Basin Elk Herd Management Plan

Dear Mr. Weinmeister:

La Plata County appreciates the opportunity to provide a letter of support and comment to Colorado Parks and Wildlife (CPW) for the San Juan Basin Elk Herd preliminary management plan. CPW identified the following primary areas of impact to the Hermosa elk herd as:

1. Critical habitat loss in areas of winter range, migration corridors, production areas and high elevation summer range from population increase;
2. Exurban development in areas that support winter range habitat open areas; and
3. Outdoor recreation encroaches into areas previously unused disrupting elk reproduction and migration.

This plan outlines the management steps needed to continue CPW's objectives and provides mitigation to protect this natural resource. Tourism provides economic benefits to our local economy from hunters, trail users and outdoor enthusiasts. Outdoor recreationist demands for more trails results in more big game conflicts. La Plata County continues to support seasonal closures and area access restrictions for big game in order to protect winter range activities for all wildlife.

La Plata County supports CPW working with the Living with Wildlife Advisory Board to help educate the public about impacts from recreation near critical habitats. La Plata County will continue to help educate through the Land Use Code by way of developers and how to help manage living in an area that supports big game wildlife. CPW's capacity to regionally manage a flexible plan for elk within La Plata County benefits our local community and creates economic value to our area.

CPW has noticed elk herds across the southwest landscape facing declining calf recruitment. As such, additional research is needed in order to understand the source of this decline and what management actions can be implemented to aid calf recruitment.

La Plata County staff technical comments:

1. It is recommended that the cow to calf ratio be added to this analysis, in an effort to clarify declining populations and the significance this ratio plays in herd dynamics.
2. Management Objectives. These alternatives, or an introduction to these alternatives, should address the inconsistencies between CPW's model data and the observed herd status. Detailed analysis of the inconsistencies between the contradicting data sets should be provided in the Current Herd Status and Management Objectives portion of the document.
3. Introduction and Purpose. It is recommended that the bull to cow ratio be expanded on in this section to identify what portion of the bull population is taken into consideration. Bulls, including those that have not yet reached maturity or are not legal for harvest, should be included in order to identify the significance of maturity impacts to the population as a whole.
4. Harvest. It is recommended that the factors preventing CPW from implementing mandatory hunter harvest check-in be included in this section. This is common practice in other wildlife management programs and provides an opportunity for additional data to allow for more accurate population estimates and assessments within CPW's model. Additionally, this provides an opportunity for wildlife managers to interact with and further educate the public.
5. Management Strategies:

    - Predation. It is recommended that the management strategy of implementation of black bear over-the-counter add on tags be explained and analyzed in this section. Information on anticipated impacts to elk population should also be addressed in this section.

    - Development in Critical Elk Habitats. It is recommended that CPW prioritize winter range and production area mitigation measures or restrictions when responding to required permit notices for development activities within La Plata County.

    - Chronic Wasting Disease (CWD). It is recommended that, as a part of the hunter harvest check-ins analysis (as described above under Harvest), there is consideration to provide opportunity for CWD testing. Further availability of testing will provide CPW with data that can be utilized to monitor the spread of CWD and serve as an early detection system in elk herds. Continued education about the disease is recommended.

La Plata County appreciates this opportunity to participate and comment on this plan. We recognize the importance of what CPW is trying to accomplish with elk herds and how to best

manage them. Thank you for your coordination in helping to ensure reduced conflict for elk, while working to meet everyone's best interest.

Sincerely,

LA PLATA COUNTY
BOARD OF COUNTY COMMISSIONERS

Clyde Church
Chair

Gwen Lachelt
Vice Chair

Julie Westendorff
Commissioner

BACKCOUNTRY HUNTERS & ANGLERS COLORADO

Via brad.weinmeister@state.co.us

Brad Weinmeister
Wildlife Biologist
Colorado Parks and Wildlife
151 East 16th St.
Durango, CO, 81301

Re: Draft Herd Management Plans for DAU E-24, E-30 and E-31

Dear Brad:

Colorado Backcountry Hunters and Anglers ("BHA") sincerely appreciates the opportunity to provide comments on the Draft Herd Management Plans ("HMP") for DAU E-30, E-31 and E-24. Generally speaking, BHA supports science-based herd management in Southwestern Colorado, as it does elsewhere in the State and the Nation. BHA also appreciates the immense difficulty in modeling and implementing successful management plans regardless of the objective.

BHA believes, however, that across all HMPs, Colorado Parks and Wildlife ("CPW") should select Objective 3. Increasing the elk population by 25% will provide significant benefits to CPWs management system and it will also accommodate potential population losses in the future from anthropogenic impacts caused by increased recreation, habitat fragmentation and predation. Indeed, 2020 Big Game Season Structure and the HMPs should work together to provide opportunity while improving herd health. Moreover, BHA agrees with each of the HMPs that selecting the highest population objective (*e.g.* increase by 25%) will require a concerted "commitment to improve and protect elk habitats." HMP E-30 at 18. For example, in DAU E-30, recreation is, and has been, putting incredible pressure on elk herds during all life stages including breeding, calving and wintering and it is essential that CPW use the HMPs to provide uniform evidence of the issues to the Bureau of Land Management ("BLM") and the U.S. Forest Service ("USFS") on motorized and nonmotorized travel plans and projects.

BHA also supports the laundry list of strategies to address development in critical habitat. This list, however, could be improved with additional details regarding the various

strategies. For example, how would migration corridors be prioritized and subsequently protected? In other states, for example, CPW holds significant say over federal land management decisions and CPW should seek similar authority through the Governor to protect big game herds. BHA also believes that CPW should identify compensatory mitigation strategies for energy development in critical winter range, recreation impacts in summer parturition areas and close coordination with local governments in planning and zoning urban and exurban development.

Chronic Wasting Disease may become a greater problem if CPW, USFS, BLM and other agencies do not map and manage migration corridors, stopover areas and bottleneck points along those migration corridors. BHA is also aware of the unique relationship between CWD prions and predation by wolves, coyotes, lions and bear. It is, therefore, that the management strategies identified also do not ignore the overlap between predator and prey on the landscape.

Lastly, each HMP would benefit greatly from an explanation of why the modeled post-hunt population estimate may be above objective while other evidence demonstrates that calf recruitment has not recovered since 2006. Significant literature explains the problems associated with aerial surveys of elk, wild horses and other wildlife and CPW could, and should, attempt to explain the errors or explain why calf recruitment is more accurate.

BHA applauds CPW for taking a hard look at a hard issue and engaging the public in managing and protecting our elk herds. We look forward to the final drafts and encourage BLM to manage for a 25% increase in elk objectives.

Cody B. Doig, ESQ
Assistant SW Chapter Director
Backcountry Hunters and Anglers

APPENDIX E32-A: Comment Letters on Draft Plan (2018)

USDA United States Department of Agriculture Forest Service Rio Grande National Forest
1803 West Highway 160
Monte Vista, CO 81144
719-852-5941
TDD: 719-852-6271
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File Code: 2610
Date: December 5, 2017

Colorado Parks & Wildlife
Brent Franklin, Terrestrial Biologist
0722 South Co Rd lE
Monte Vista, CO 81144

Dear Brent:

Thank you for the opportunity to comment on Colorado Parks and Wildlife's draft DAU Plans for Elk DAU E-32 and Deer DAU D-35. These DAUs encompass GMUs 80 and 81 and involve basically all of the Conejos Peak Ranger District and a portion of the Divide Ranger District. We have reviewed the draft plans for these DAUs and are offering the following comments for consideration and use as you finalize the plans. Based on previous requests, we are also attaching supporting information that assesses potential changes to the vegetative conditions within these DAUs due to the current spruce beetle outbreak. A narrative summary of these analyses is included.

The Rio Grande National Forest contains over 1.8 million acres of National Forest System land that are managed for multiple-uses in the San Luis Valley area of south-central Colorado. The DAU Plans are an important aspect of our management because of high public interest in big game species and because we are responsible for managing much of the habitat to support the desired population levels. However, it is also important that populations are maintained within the carrying capacities of the habitat, and that deer and elk population objectives are managed in a manner that minimizes potential conflicts with other program areas. Our comments reflect these mutual goals.

As you likely know, both mule deer and Rocky Mountain elk have been managed as Management Indicator Species (MIS) under our 1996 Land and Resource Management Plan (Forest Plan). As such, both population and habitat trends were tracked at the Forest-level in association with Forest Plan direction, including providing the quantity and quality of habitat capable of supporting the population objectives for these species. In our draft Forest Plan Revision under the 2012 Planning Rule, the MIS concept no longer exists. However, deer and elk habitat and population trend considerations remain a key part of the plan components and both population and habitat trend considerations are included in the draft Monitoring Plan. As such, management of big game habitat will continue to involve evaluations of habitat conditions during project level evaluations and Forest Plan monitoring, but also through other project partnerships such as HPP, Mule Deer Foundation, Rocky Mountain Elk Foundation, and others. We therefore expect to continue to work closely with Colorado Parks and Wildlife to achieve mutually desired habitat conditions for all big game species.

Hunting and other wildlife-related recreation is one of the biggest uses that we experience on the Rio Grande National Forest. Although most of this occurs during the rifle season(s) for deer and elk, hunters utilize our public lands from the opening of pronghorn season in mid-August through the late season cow hunts of December. As your draft DAU plan displays, archery hunters are also increasing significantly. This large influx of visitors brings a huge economic boost to the Valley but also comes with challenges such as a large increase in off-road vehicle use, high density of hunter camps, and an increase in law enforcement presence and front office staffing. Therefore, management of hunter numbers is also an important issue to us because of its relationship to land and resource management issues associated with increased use of the Forest.

The following are our comments regarding the draft DAU Plans for both deer and elk. As requested, we are also providing an overview and summary of the ecological conditions of the forest vegetation in these DAUs. These conditions are based on queries of our GIS system conducted in late September 2017 and include the following queries: 1). amount of tree mortality based on Insect and Disease flights (2010 to 2016 data); 2). forest canopy closure based on tree cover percent by size class (2015 data); 3) percent of mature green forest overstory pre-beetle mortality (2012) and post-beetle mortality (2014), and 4) percent aspen in the forest understory based on 2015 NAIP aerial imagery data (our most recent NAIP data until 2018).

The spreadsheets for these queries are included with our comments as attachments for your records and so that you can sort and utilize the data as desired. Our comments on the draft DAU Plans follow the vegetative overview provided below.

Overview of Ecological Condition of Forest Vegetation in the DAUs

As of 2016, a majority of the spruce-fir cover type on the Rio Grande National Forest (580,000 acres) has been heavily influenced by the spruce bark beetle. The DAUs involved in this planning effort are no exception, although more spruce trees remain green in the south part of the Forest at this time. It is expected that the majority of these will also succumb to spruce beetles during the life of the DAU plans. The spruce beetle primarily affects the mature (Size Class 4) Engelmann spruce component although in many cases pole-sized spruce (Size Class 3) are also being influenced. The outcome is often extensive mortality of the larger tree component and a decrease in tree crown canopy closure which in turn allows more light to penetrate the forest floor. This can stimulate a considerable increase in understory growth such as shrubs, seedlings, and grasses and forbs utilized as forage for deer and elk.

The information on Spreadsheet 1 tracks all insect and disease (I&D) agents from 2010 through 2016. Although affects from some other I&D agents in lower-elevation forest types have also changed in spatial extent during this timeframe, the primary influence has occurred in the upper montane forest zone in association with the spruce beetle outbreak. According to this data, the spatial extent of spruce beetle impacts have increased nearly three-fold since 2010. The data associated with changes in habitat structural stage (Spreadsheet 2) indicate that this has resulted in a 58% decrease in closed canopy conditions in the late successional spruce component (HSS 4C, 70-100 canopy closure) and a 23% decrease in mid-closed canopy closed conditions of the mature spruce tree component (HSS 4B, 40-69% canopy closure). This decrease in canopy

closure has resulted in a 350% increase in shrub/seedling habitat classes (HSS 2) as overstory mortality occurs. Habitat Structural Class 2 has a considerable component of small understory trees but also likely contains a significant increase in grass/forb components that will remain available until such time the forest understory grows into closed canopy conditions again. Likewise, the data also indicates that there has been a 236% increase in mature, open stand conditions (HSS 4A, 0-39% canopy closure) which suggests that the remaining large green tree component has shifted into a more open canopy condition that also is likely to promote more understory release and growth. Spreadsheet 3 (Canopy Closure by Tree Cover Percent) summarizes this condition as detected with imagery in 2015. Based on this analysis, 60% of the live forest cover types are in an open canopy condition (0-39% canopy closure), 25% in a mid-closed canopy condition (40-70% canopy closure), and 17% in a closed canopy condition (70-100% canopy closure). The reduction in canopy closure is also resulting in a significant release and conversion to aspen with approximately 58% of the understory containing aspen cover of various percentages (Spreadsheet 4, Aspen Acres by Size and Percent). Analyses associated with our current Forest Plan revision effort suggest that it may take four to five decades to attain closed canopy conditions again in our spruce-fir cover type.

The various analyses conducted for these DAUs suggest that there will be a significant increase in forage resources for deer and elk. However, the greatest change will occur on summer range in the spruce-fir cover type and likely favor elk due to the stimulation of grasses and forbs. Expected changes in the lower elevational types associated with winter range and browse plants are likely to be insignificant.

DAU D-35

Mule Deer

Current Conditions: The Rio Grande National Forest has a fairly high degree of responsibility for providing habitat to support the desired mule deer numbers in this DAU with approximately 41% of the land base managed by the Rio Grande National Forest. The majority of this can be considered summer and/or transitional range that is likely in more open canopy condition as described in the vegetative overview above. However, approximately 105,000 acres of deer winter range also occurs on National Forest System land (24% of the total). This lower elevation range has likely not been significantly influenced by changes in ecological condition due to bark beetles or other insect or disease agents. Based on the draft DAU plan, approximately 6% of the severe winter range designation also occurs on National Forest System land. We recognize that both winter and severe winter range should be a focus for management actions as needed to maintain or improve habitat conditions for mule deer in this DAU and look forward to working cooperatively with CPW and other partners to attain these goals.

We agree that the current population objective of 6,000-7,000 mule deer is unrealistically high for this DAU. As your data display, these numbers are likely unattainable even with substantial investment in habitat improvements. Average fawn to doe ratios appear to have increased to fairly good levels, and buck to doe ratios are good. Based on the information provided, it appears that there may be more benefits to this deer herd by managing for numbers below the current population objective.

Recommendations: Based on existing habitat information and other factors, we concur with CPW that Alternative 1 (current population estimate) be implemented as the population objective for DAU D-35. This objective would be set at 5,500 to 6,500 mule deer. We would also recommend that limited entry continue, as this helps to control and better manage potential resource damage from recreational hunter numbers that utilize public lands. We also concur that Alternative 2 (23 to 25 bucks per 100 does) be pursued as a sex ratio objective to provide a balanced opportunity between a higher quality recreational experience to the public and the opportunity to harvest a larger mule deer.

Other General Comments: The draft Plan mentions on-going resource damage from off-highway vehicles as a primary concern in this DAU. OHVs are also mentioned as a potential factor in displacing deer from preferred habitat thereby reducing hunter satisfaction. These types of disturbances are also a concern for the Forest and it is important for us to know about them if they occur on public lands. We are also particularly interested in assessing our Game Retrieval Policy to determine if some of this resource damage might be attributed to this activity. We request the CPW's assistance in monitoring and enforcing our existing authorities to eliminate or minimize resource damage and disturbance from OHVs if we are to successfully educate the public and manage this activity.

The draft plan also mentions habitat improvement and livestock grazing issues as a potential concern in DAU D-35. Information attained from our internal employees recognize that livestock related issues exist in this DAU. We look forward to collaborating with CPW to address all habitat related concerns as this DAU Plan is implemented.

DAU E-32

Rocky Mountain Elk

Current Conditions: DAU E-32 overlaps the same area described for DAU D-35. As such, the Rio Grande National Forest has a considerable responsibility for providing habitat to support elk numbers in this DAU. This especially pertains to elk summer range, of which 93% occurs on public land. Although not specifically mentioned in the draft DAU plan, we assume that the amount of winter and severe winter range on National Forest System land is similar to that mentioned for deer. As such, that remains a management focus for the Forest. We share CPWs concern that past elk numbers in this DAU were likely too high for the available habitat. We therefore recommend careful consideration in trying to balance an increase in elk numbers with the condition of available habitat. The ecological condition assessment provided for this DAU may assist with these decisions, particularly since the draft Plan suggests that summer range condition and forage availability are limiting factors for elk. This may not be the case on summer range.

The current population estimate of 10,900 elk exceeds current objectives by 3,900 elk (56%). Without the changed ecological condition on summer range this increase might represent a potential habitat concern. However, the ecological condition assessment associated with our analyses suggests that forage availability on summer range will likely not be a key limiting factor

in the future as a significant increase in forage quantity and quality has likely occurred and will continue to occur for at least the life of this DAU Plan. Rather, winter and severe winter range will likely remain key limiting factors in regards to elk population objectives.

Recommendations: Based on the information provided in the draft plan, in association with the ecological condition update conducted for this DAU, we support CPW's recommendation that Alternative 2 might be an attainable the population objective for DAU E-32 at this time. This objective would manage the population at 11,500 to 13,000 elk. All Forest Service District Wildlife Biologists associated with this DAU indicated that they support this increase but also suggested that some limited habitat impacts might occur. Despite the likely increase in summer forage, we therefore recommend maintaining the population at the lower thresholds of the objective until such time that potential effects on winter range can be assessed. We also suggest that managing for elk numbers at the lower end of this objective may provide a benefit to the management of mule deer populations in this DAU.

From a recreational opportunity perspective, we concur that Alternative 2 (18 to 21 bulls per 100 cows) represents a balanced opportunity between achieving the desired elk numbers and a better opportunity to harvest a bull elk. We support this increase from the current objective.

Other General Comments: We had significantly more comments from our employees concerning the management of elk and the elk hunting experience than we did concerning mule deer. For example, most suggest that higher elk numbers influence desired outcomes from mule deer. The most common comment we received from the two ranger districts associated with this DAU involve hunter numbers and impacts to the recreational hunting experience. These types of comments were most common in GMU 81. Some employee(s) suggested delineating a portion of GMU 81, such as the Chama Basin, for limited entry because of these concerns. The draft plan for DAU E-32 also recognizes these impacts and notes that OHV use is a growing concern during the summer and the elk hunting seasons. The draft plan also notes that OHVs are likely responsible for displacing elk during the hunting season, thereby reducing hunter success rates and satisfaction.

The OHV Game Retrieval policy is mentioned as a potential contributing factor to elk displacement. We agree that this is a potential issue and look forward to collaborating with CPW on this policy during our upcoming travel management analysis that will occur after the Forest Plan revision is complete. We would like to offer one correction to the draft DAU Plan for E-32 where it states that "the Rio Grande National Forest allows hunters to use OHVs to recover harvested game from the field during designated daylight hours, usually in the afternoon" (pg. 15). Our game retrieval policy only allows for game recovery via ATV from noon to 5 p.m., with no exceptions. Anyone retrieving game outside of these hours or for other uses other than game retrieval are violating these allowances.

Again, we thank Colorado Parks and Wildlife for the opportunity to comment on the Draft DAU Plans for D-35 and E-32. The plans are well-written and informative and we commend the author and CPW for the time and effort put into these plans. We also thank Colorado Parks and Wildlife for adding economic information for big game species to the DAU plans (Table 1, pg. 23). Big game populations and wildlife-related recreation are an important use on the Forest and

the economic information helps to inform readers about these values. We look forward to continuing our work with Colorado Parks and Wildlife as we cooperatively manage for healthy wildlife habitats and populations in the future.

Sincerely,

DAN DALLAS
Forest Supervisor

cc: Rick Basagoitia, Tom Malecek, Randy Ghormley

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, SSM)

28 November, 2017

Rick Basagoitia, Area Wildlife Manager
0722 South Road 1East
MonteVista, CO 81144

Dear Mr. Basagoitia,

Thank you for the opportunity to comment on the proposed DAU Plan Revision. As the agency providing the majority of winter habitats for big game in the San Luis Valley, we thought it important to provide a few general comments on any changes Colorado Parks and Wildlife may implement. The San Luis Valley Field Office has a strong commitment to providing quality wildlife habitat, as one of our important "multiple uses", as per our Resource Management Plan (San Luis Valley Resource Management Plan, 1991). While locally we remain committed to this, BLM's national agenda is currently emphasizing increasing recreational and extractive uses. We believe winter habitats on SLVFO lands are generally in good condition, with the exception of a few areas, and appear to be adequately supporting current herd sizes. With the national emphasis on other uses, increased conflicts or disturbance may result in displacement of wildlife, creating additional challenges for balancing uses. Although we cannot predict whether or not additional uses, or the extent of additional uses, may be proposed, we thought it prudent to share this perspective, particularly if CPW chooses to support increasing herd sizes.

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

Sincerely,

Melissa S. Garcia

Melissa S. Garcia
Field Manager
San Luis Valley Field Office

November 22, 2017

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

RE: San Luis Valley Habitat Partnership Program Comments - DAU E32

Dear Brent:

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

The San Luis Valley HPP committee has discussed your presentation and reviewed the draft alternatives for this DAU plan update. The San Luis Valley 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 SLVHPP committee supports the draft alternative to increase the number of animals within this DAU and within our committee area. The SLVHPP committee does not believe this increase would create more conflicts and we also believe we have the resources necessary to address conflicts should they occur. Increasing the population objective will ultimately lead to more hunting licenses and sportsmen opportunities.

The SLVHPP also discussed the proposed sex ratio alternative. We support raising the current sex ratio objective to provide bulls for sportsmen to pursue. We understand this option would reduce hunting opportunity slightly but our committee believes having more male animals in this area is desired and possible.

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

Sincerely,

Mick Davis, Chair
San Luis Valley HPP Committee

APPENDIX E34-A: Comment Letters on Draft Plan (2022)

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 (LLCOF03000, TLA)

25 October 2021

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-36 and E-34 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 Bureau of Land Management (BLM) San Luis Valley Field Office (SLVFO) has a strong commitment to providing quality wildlife habitat as one of our important "multiple uses". The BLM SLVFO has appreciated our longstanding working relationship with Colorado Parks and Wildlife (CPW) and partnership in managing wildlife habitats throughout SLVFO-managed lands.

After reviewing the draft D-36 and E-34 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 CPW's proposed management objective to remain the same with a mule deer population of 2,200 to 2,800 and a sex ratio of 23 to 28 bucks per 100 does, as it provides the best balance for managing the herd, minimizing the spread of Chronic Wasting Disease (CWD), supporting hunting recreational opportunities, minimizing agricultural conflicts, and maintaining habitat carrying capacity. This position is consistent with BLM's continuing efforts to enhance or restore proper rangeland functions, in particular, by attempting to reduce the intensity and duration of collective growing season use by wild and domestic ungulates through improved livestock management, noxious weed control, carrying capacity analyses, more aggressive implementation of our Fire Management Plan, and through the development of climate change adaptation strategies. We feel that land management applied with an emphasis toward deer would continue to complement balanced management of woodland and shrubland communities across BLM lands in GMU 79. Additionally, we support the proposed management objective because it will minimize the overall financial and physical investments associated with improving habitat in the DAU—crucial for sustaining a viable deer population long-term.

In the draft E-34 HMP you state, "The principal factors limiting the E-36 population are the availability of water resources affecting the quantity and quality of forage, essential in the winter range and production areas. The winter range continues to diminish with increased development on private land and competition with domestic livestock". Additionally, you describe the litany of anthropogenic impacts on summer and winter range that could alter elk distribution, reproduction, calving efforts, and ultimately restrict population growth. However, the population has been on a gentle upward trend to its current (2020) estimated level of roughly 7,000 animals since 2013. In light of this trend and the identification that carrying capacity is limited/decreasing in the area, the proposed population objective alternative within the E-34 plan that includes an approximate 44% increase from 2010 objectives is concerning. We recommend a more moderate approach as identified in either of the other three alternatives until studies are initiated that quantify current condition of the crucial winter range and the carrying capacity of those areas. We are aware that if increases in numbers create land health impacts, CPW can moderate heard sizes with game management tools, but land health impacts are more difficult to reverse and can take many years to see improvement, especially in times of drought.

Although not explicitly stated in the plans, the long-term success of the D-36 herd is partially contingent on the successful management of the E-34 herd objective levels. We believe that continued interspecific competition between elk and mule deer and the reduction of habitat and resources available to the respective herds could eventually 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. To assist CPW in making management decisions within each herd area, the BLM would like to encourage CPW to gather utilization data in elk and mule deer winter concentration areas. This data would help inform the decision between alternatives identified in the Herd Management Plans. 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 capacity to implement a monitoring program specific to wild ungulates but is willing to partner on an effort to accomplish monitoring habitat conditions.

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

Sincerely,

Melissa S. Garcia
Field Manager
San Luis Valley Field Office

United States Department of Agriculture
Forest Service
Rio Grande National Forest
1803 West Highway 160
Monte VistaCO81144
719-852-5941719-852-6271719-852-6250

File Code: 2600
Date: November 9, 2021

Brent Frankland
Terrestrial Wildlife Biologist
Colorado Parks and Wildlife
722 Henderson Rd
Monte Vista, CO 81144

Dear Brent,

Thank you for the opportunity to comment on the Draft DAU Plans for D-36 and E-34. The Rio Grande National Forest (RGNF) appreciates your continued commitment of involving the land management agencies within the boundaries of the DAUs.

Mule Deer
The preferred management objective for D-36 is a population of 2,200 to 2,800 mule deer, aiming to maintain population size at its current level and allowing for slight increase. This objective increases the post-hunt season objective from the previous plan and aligns it more with the post hunt observed population estimates.

The preferred post-hunt sex ratio objective for this herd is to increase the current objective to 23-28 bucks per 100 does over the previous plan. CPW acknowledges this higher sex ratio supports stakeholder desires but may increase Chronic Wasting Disease (CWD) risk.

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 while minimizing risk of CWD to the extent practicable. There are currently no known conflicts with mule deer and RGNF lands associated with the DAU. Current management appears to be adequate and can support RGNF objectives for wildlife and range.

Elk

The preferred management objective for E-34 is to raise the objective to a population of 5,800 to 7,800 elk (above previous objectives) and maintain the population at its current size.
The expected post-hunt sex ratio would remain at 20-25 bulls per 100 cows. These ranges continue to support the desires of the stakeholder communities including the RGNF. It also allows for a satisfactory hunting experience with the desired hunting opportunities while minimizing CWD risk. There are currently no known conflicts with elk regarding RGNF lands within the DAU. Current management appears to be adequate and can support RGNF objectives for wildlife and range.

The RGNF wishes to share some considerations regarding tag allocations. Increases in tag allocation without longer seasons may increase conflicts with other forest users and impact road conditions. Please consider that any future increase in tags proposed for these DAUs may result in additional use on forest, including dispersed camping, camping in campgrounds, and road and trail use. This has the potential to intensify overlap with other forest users – recreationists, livestock operators, and firewood cutters for example - and increase the intensity of use on roads and trails, particularly during short hunting seasons. The area has received increased duration and intensity of recreation in recent years and there is potential for conflict between users where high hunting and recreational pressure overlap. Compressed seasons may also encourage hunters towards riskier, more resource-damaging behavior because of the limited time for harvest. When developing future season dates and tag allocations in these DAUs, consideration of both timing and intensity of hunting pressure would be beneficial. We would welcome the opportunity to work with CPW on avenues to educate hunters on forest etiquette and to educate other forest users on hunting seasons.

Overall, the RGNF supports the approval of the 2022-2032 DAU D-36 and E-34 Management Plans with these considerations in mind. Thank you again for the opportunity to comment and we appreciate working with CPW on big game management in these DAUs.

Sincerely,

X 

Signed by: DAVID TOPOLEWSKI

David Topolewski
Wildlife Biologist
Rio Grande National Forest

The San Luis Valley HPP Committee has reviewed the Draft Herd Management Plans for Deer D-36 and Elk E-34. The Committee also appreciated Terrestrial Biologist Brent Frankland providing an overview of the plans at our October 12 meeting.

Upper Rio Grande Deer D-36 Herd Management Plan (GMU Units 76, 79 and 791)

The Committee supports CPW's proposed Alternative 3 regarding the *post-hunt population* objective which is an approximate increase in 10% over the 2010 objective of 2,000-2,500 to 2,200-2,800 mule deer. This objective range provides the best balance for managing the herd, hunting recreational opportunities, minimizing agricultural conflicts, and maintaining habitat carrying capacity.

Additionally, Alternative 2 *post-hunt sex ratio* as proposed, is supported by the Committee which increases the 2010 current objective of 20-25 to 23-28 bucks per 100 does. The proposed range creates the best balance between the desired hunting experience and for harvesting a mature mule deer buck in the DAU.

Upper Rio Grande Elk E-34 Herd Management Plan (GMU Units 76 and 79)

CPW is proposing Alternative 4 to maintain current management to stabilize the elk population and sustain it within the proposed *post-hunt population* objective range of 5,800 – 7,800.

The current modeled population is approximately 7,000 elk, which is over the 2010 objective of 4,000 – 5,500. Alternative 4 offers the ability for a slight increase in population growth over the current modeled population. Under this alternative, cow hunting opportunities may initially increase slightly to curb potential upward trend in population growth. The Committee is supportive of Alternative 4.

The Committee also supports CPW's proposed Alternative 2 of 20-25 bulls per 100 cows which maintains the 2010 *post-hunt sex ratio* objective. This sex ratio range would maintain the desired bull-maturity level and provide adequate hunting opportunities, based on the current observed and estimated sex ratios.

The San Luis Valley HPP Committee appreciates the opportunity to review and comment on the Draft Herd Management Plans and commends CPW personnel on their efforts to involve the public in the planning process.

/s/ Dale Gomez 10/13/2021
San Luis Valley HPP Sportsmen Representative and Chairman

APPENDIX E35-A: Comment Letters on Draft Plan (2022)

November 15, 2021

Alyssa Kircher
Colorado Parks and Wildlife
2300 S. Townsend Ave
Montrose, CO 81401

RE: Uncompahgre Habitat Partnership Program Comments - DAU E35

Dear Ms. Kircher,

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 local HPP committees (3 livestock growers, USFS, BLM, CPW, and sportsperson representatives) provides 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 in meeting game management objectives for those species. From those perspectives, the Uncompahgre HPP committee has discussed your presentation, reviewed the draft alternatives, and offers these comments regarding the population range and sex ratio objectives for consideration.

The Uncompahgre committee supports the draft alternative to increase the number of elk within this DAU and within our committee area to 6,000 - 9,000 animals (approximately 17% increase). While this increase returns the elk population to levels where conflicts with agricultural landowners and permittees were previously reported, we believe we now have adequate resources to address conflicts should they reoccur. Additionally, sportsmen and other stakeholders have expressed the desire to expand hunting opportunity and see more elk on the landscape. Increasing the population objective will ultimately lead to more hunting licenses and sportsperson opportunities.

The committee also discussed the proposed sex ratio alternative. The committee understands that this ratio is difficult to manage due to the availability of over-the-counter bull licenses. However, we support maintaining the current sex ratio of 20-25 bulls per 100 cows to provide ample hunting opportunity, while also offering a reasonable number of mature animals for those hunters who want to take a larger bull.

As stated above, HPP is also directed by statute to assist the Division to meet game management objectives. The Uncompahgre committee has worked with both public land managers and private landowners to improve the quality and quantity of the habitat in DAU E35. Adequate habitat, particularly on winter range, is critical to meeting game management objectives and we remain committed to maintaining and improving habitat in this area.

Our committee is confident that CPW will be able to achieve the proposed objectives. The Uncompahgre HPP committee will support this management effort in partnership with the numerous local landowners and federal land management agencies that place a high priority on implementing valuable habitat improvement projects, and have expressed the desire to continue this work.

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

Sincerely,

Bobby Gray

Bobby Gray Chair
Uncompahgre HPP Committee

Colorado Backcountry Hunters & Anglers
"The sportsmen's voice for our wild public lands, waters and wildlife"
www.backcountryhunters.org

Colorado Parks and Wildlife

Attn. Alyssa Kircher

2300 S. Townsend Ave.

Montrose, CO. 81401

Comments on Draft Herd Management Plans for Deer and Elk in GMU 64 and 65

Thank you for the opportunity to comment on the Draft Herd Management Plans (HMPs) for deer and elk in GMUs 64 and 65. I am submitting these comments on behalf of the Colorado Chapter of Backcountry Hunters & Anglers (CO BHA) who I represent as the Regional Director for the Central West Slope. CO BHA is one of 48 Chapters in the United States and our membership is currently at around 2,000. We are strong advocates for public land conservation, access, science-based wildlife management, and the opportunities to pursue our passion and privilege to hunt and fish in Colorado's backcountry.

GMU 64 and 65 provide important big game hunting opportunities for us and many other resident and non-resident hunters. Big game hunting is an important component of our local economy and to the livelihoods of many of our livestock producers. We greatly appreciate the past and present efforts of the Colorado Parks and Wildlife (CPW) to manage our deer and elk herds. Both of these Draft HMPs do an excellent job of describing the status and tend of our deer and elk populations as well as the challenges of a changing landscape and habitat capability. We continue to support the management principals and methods CPW is using to limit CWD in our deer herds, and strongly support the goal of increasing the population objectives for both deer and elk to provide hunter opportunity. We also understand the difficulty of increasing bull/cow ratios utilizing an over the counter license management approach.

As stated in the Draft HMPs, this area of the State is experiencing rapid growth in human population and development of private lands. We acknowledge that large ranch properties and subdivisions such as Log Hill do not provide harvest opportunities and serve as "sanctuaries" for big game. We firmly believe this

loss of big game habitat and displacement of big game from public to private lands is exacerbated by the exponential growth in recreation on virtually all of our local BLM and National Forest lands.

CO BHA is extremely concerned about the impacts of trail construction and year-round recreational use on our public lands that is occurring in all habitat types and elevations. Locally, much of that trail development is fueled by grants from the CPW trails program. Our Chapter has been actively engaged in the CPW trails program as well as our local BLM and Forest Service trails and recreation planning processes. Those planning processes on public lands are highly influenced by CPWs trails program. Even though grants from this program require CPW review and approval, as well as public comment, we continue to see trails being developed in CPW high priority habitats, which lead to more decline in habitat capability and displacement of big game from public lands.

We disagree with your statement in the HMPs that this development is largely out of your influence. You do have an active role in reviewing and guiding trail development and can provide a strong voice in the planning process. We have spent years working with CPW in developing the Guide to Planning Trails with Wildlife in Mind. The principals and practices included in that guide should be emphasized by CPW for all proposals. Hopefully the recently formed Ouray Recreation and Conservation Alliance funded by a CPW Partnership Grant will further provide awareness of the conflicts between recreation and wildlife and deliver more of a balance in favor of perpetuating the wildlife species of our State.

Craig Grother

Craig Grother

Regional Director, Central West Slope

Backcountry Hunters & Anglers

The Sportsman's Voice for Our Wild Public Lands, Waters and Wildlife

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, Colorado 80401

In Reply Refer To:
8100 (COS050)

Rd: Draft Deer Herd (D-40) and Elk Herd (E35) management plans

Alyssa Kircher
Wildlife Biologist
Colorado Parks and Wildlife
2300 S. Townsend Avenue
Montrose, CO 81401

Dear Alyssa:

The Bureau of Land Management (BLM) Uncompahgre Field Office (UFO) appreciates the opportunity to provide comments on your draft plans for deer and elk management in hunt management units 64 and 65. The BLM provides habitat management for CPW mapped winter habitats for both species in these units and always appreciates local CPW cooperation with land use planning and habitat improvements in these areas.

Of note, our recent 2020 Uncompahgre Field Office Resource Management Plan (UFO RMP 2020) included the designation of the Kinikin Extensive Recreation Management Area (ERMA) in HMU 65. Specifically, this designation guides the BLM UFO to "focus recreation and visitor services on protecting and facilitating visitor opportunities to provide a variety of motorized and nonmotorized trail activities." The BLM UFO is committed to working cooperatively with CPW throughout the development of this ERMA to ensure we develop recreation facilities and opportunities on this landscape in a way that protects and enhances CPW herd management objectives and achieves our corresponding agency multiple use mandates.

If you require any more specific information or have any questions, please don't hesitate to contact Suzanne Copping, UFO Field Office Manager, at (970)-240-5338 or scopping@blm.gov. For specific questions regarding big game habitat management on these units, please contact Neil Perry at 970-240-5311 or nperry@blm.gov.

Sincerely,

SUZANNE COPPING

Digitally signed by SUZANNE COPPING
Date: 2021.11.10 11:27:29 -07'00'

Suzanne Copping
Field Office Manager

MONTROSE COUNTY
BOARD OF COUNTY COMMISSIONERS
317 South 2nd Street
Montrose, CO 81401
Phone: 970-249-7755
Fax: 970-249-7761

December 01, 2021

Alyssa Kircher
Terrestrial Biologist
Colorado Parks and Wildlife
2300 South Townsend Avenue
Montrose CO 81401

Dear Ms. Kircher:

Montrose County appreciates the opportunity to provide a letter of support for the CPW preliminary herd management plan for the Cimarron deer and elk herds on CPW managed lands located within Montrose County. The Montrose County Commissioners support this draft plan that identifies areas with quality habitat, migration corridors and areas of high conflict. This plan outlines the management steps needed to continue CPW's objectives and provides mitigation to protect this natural resource. These areas provide economic benefits to our local community by tourists and locals who participate in hunting seasons.

CPW diligently worked to prepare this plan and identify areas that needed mule deer and elk management. The wildlife areas are important for management to reduce conflicts with recreationists and to protect special habitat areas. Tourism is important to our local economy in many ways, through hunters, trail users, and outdoor enthusiasts. The demand for trails has grown and these beloved areas are seeing more use.

Supporting the CPW's capacity to manage mule deer and elk habitat within these recreational areas that benefit our local community and creates extensive economic value to our area and work with land management agencies to improve critical habitat.

Montrose County appreciates this opportunity to participate and comment on this plan. We recognize the importance of what CPW is trying to accomplish with local deer and elk herds and how to best manage them. We support the preferred alternatives as outlined in this draft herd management plan. The County appreciates the CPW's coordination in helping to ensure reduced conflict for mule deer and elk and trying to meet everyone's best interest.

Sincerely,

Sue Hansen
Chair

Keith Caddy
Vice Chair

Roger Rash
Commissioner

BEN TISDEL
LYNN PADGETT
JAKE NIECE

BOARD OF COUNTY COMMISSIONERS

541 4th Street • P.O. Box C • Ouray, Colorado 81427 • 970-325-7320 • FAX: 970-325-0452

December 7, 2021

Alyssa Kircher
Terrestrial Biologist
Colorado Parks and Wildlife
2300 S Townsend Ave.
Montrose, CO 81401
Via email to: alyssa.kircher@state.co.us

Dear Ms. Kircher:

Ouray County appreciates the opportunity to provide a letter of support for the Colorado Parks and Wildlife (CPW) preliminary Herd Management Plan for the Cimarron deer and elk herds on CPW managed lands located within Ouray County. Ouray County supports this draft plan that identifies areas with quality habitat, migration corridors and areas of high conflict. This plan outlines the management steps needed to continue CPW's objectives and provides mitigation to protect this natural resource. These areas provide economic benefits to our local community by tourists and locals who participate in hunting seasons.

CPW diligently worked to prepare this plan and identify areas that needed mule deer and elk management. The wildlife areas are important for management to reduce conflicts with recreationalists and to protect special habitat areas. Tourism is important to our local economy in many ways, through hunters, trail users, and other outdoor enthusiasts. The demand for trails has grown and these beloved areas are seeing more use.

Supporting the CPW's capacity to manage mule deer and elk habitat within these recreational areas that benefit our local community and creates extensive economic value to our area and work with land management agencies to improve critical habitat.

Ouray County appreciates this opportunity to participate and comment on this plan. We recognize the importance of what CPW is trying to accomplish with local deer and elk herds, and how to best manage them. Ouray County supports the preferred alternatives as outlined in the draft Herd Management Plan. Ouray County appreciates CPW's coordination in helping to ensure reduced conflict for mule deer and working to meet the best interest of all users.

Sincerely,

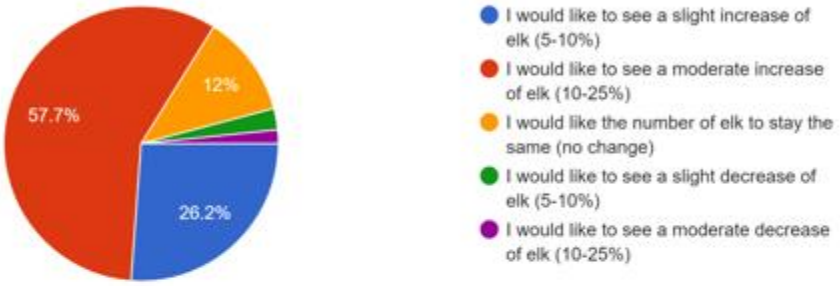
Ben Tisdel
Chair, Board of County Commissioners

Appendix E35-B: Stakeholder Outreach Results

1. Please read the following brief description about managing elk herds before answering the following question:

Based on the above scenarios, how would you like to see the elk herd managed in GMUs 64 and 65? (Please check only one response)

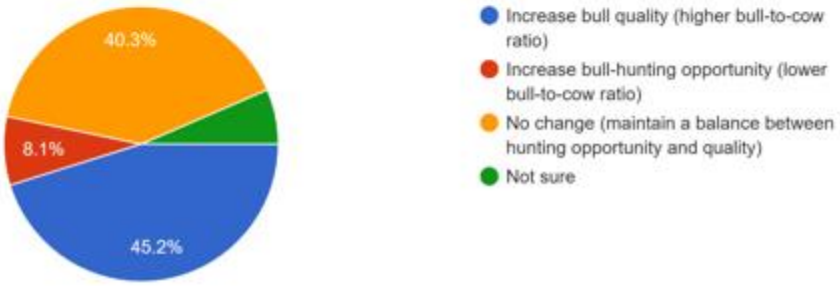
558 responses



2. Please read the following brief description about bull-to-cow elk ratios before answering the following question:

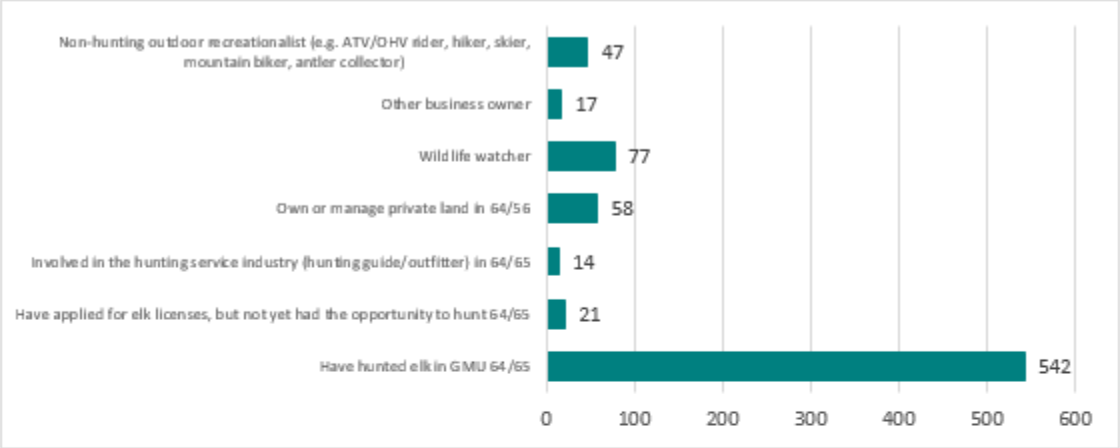
How do you believe the elk herd should be managed in terms of opportunity and quality? (Please only check one option).

558 responses



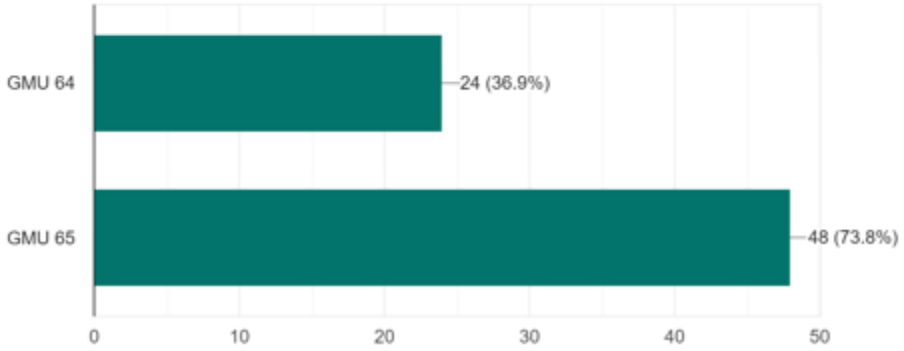
3. Which of the following best describes you (choose up to three choices):

558 responses



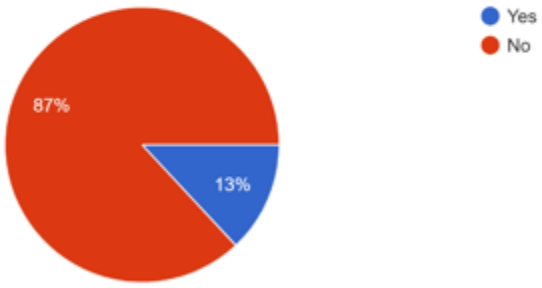
4. If you are a landowner, in which unit do you own land? (SKIP to question 8 if you do not own land in this DAU)

65 responses



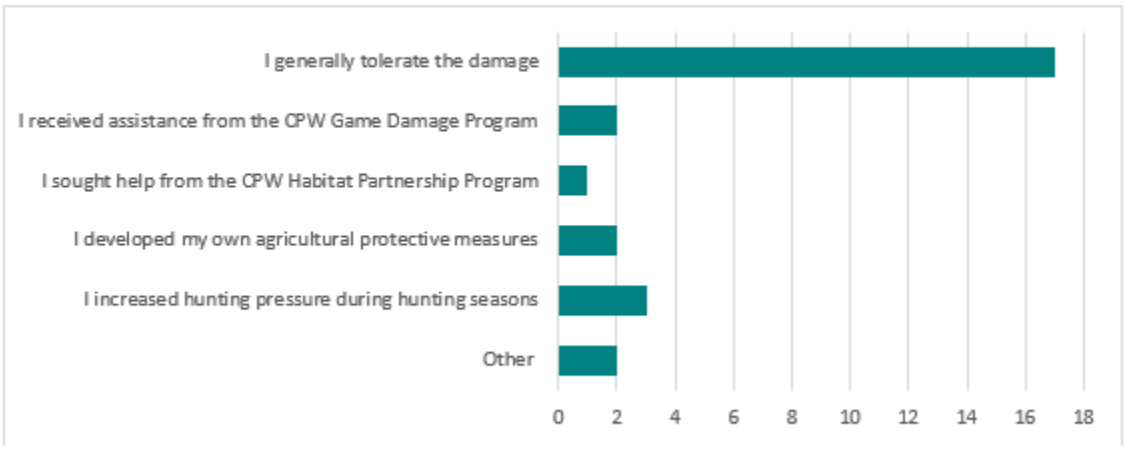
5. Have you experienced any significant loss (i.e. fence damage, forage loss, hay loss, etc.) from elk in the past 10 years?

115 responses



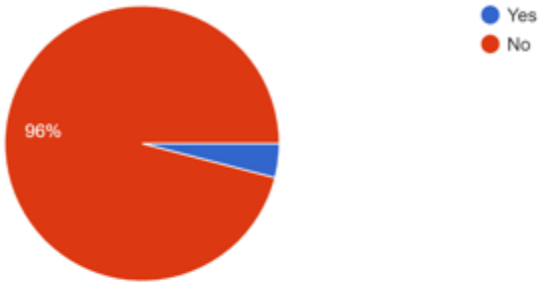
6. If you answered YES to the previous question, what has been the solution for solving these agricultural damage issues? (Choose all that apply)

22 responses



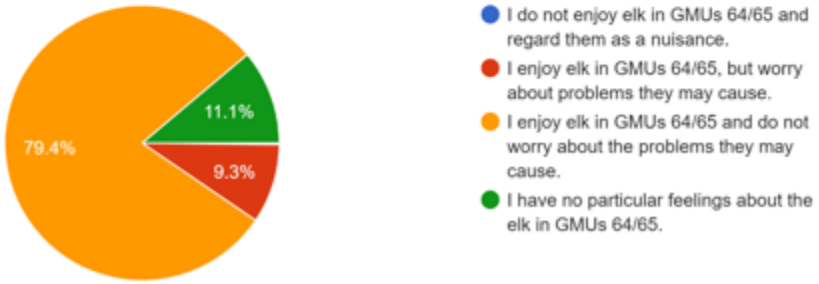
7. If you are a landowner in GMU 64 and/or 65, would you be interested in CPW programs to assist in getting hunters to hunt on your property?

75 responses

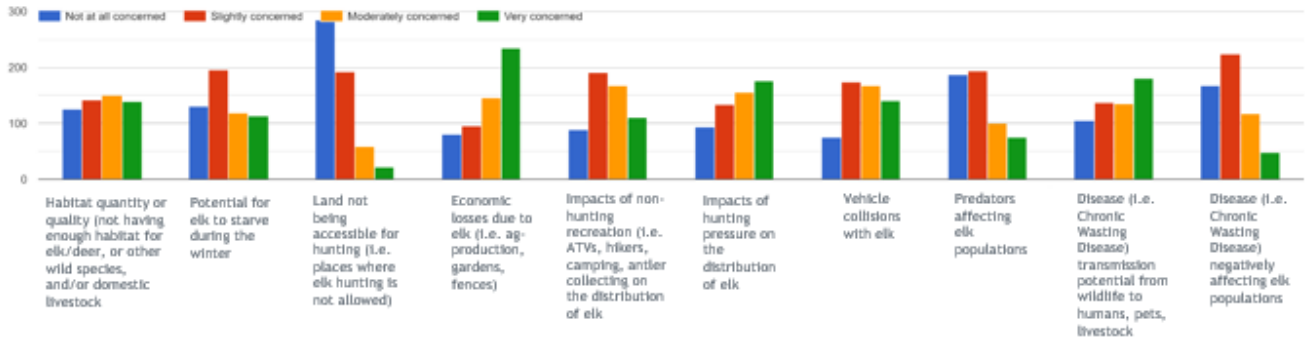


8. Which of the following best describes your general attitude toward elk in GMU 64 and 65? (Please check one)

558 responses

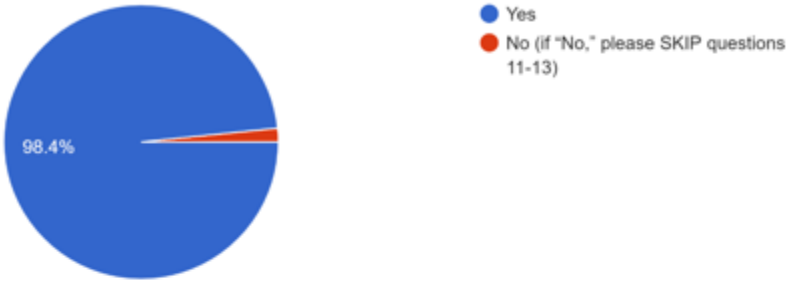


9. How concerned are you about the following items:



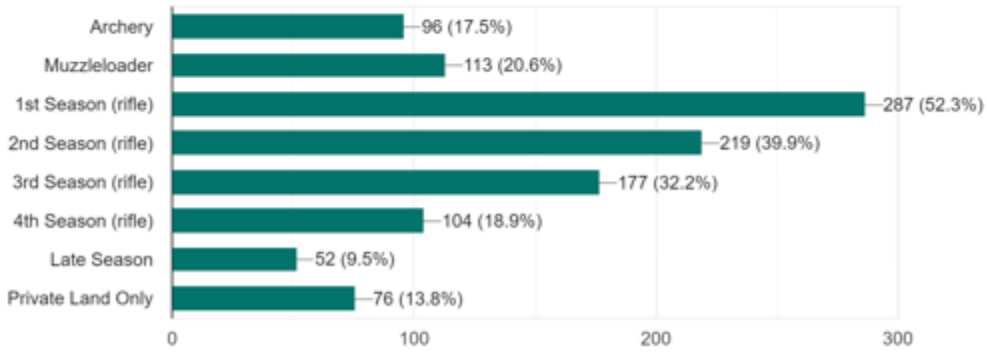
10. Have you hunted elk in GMU 64 or 65?

558 responses

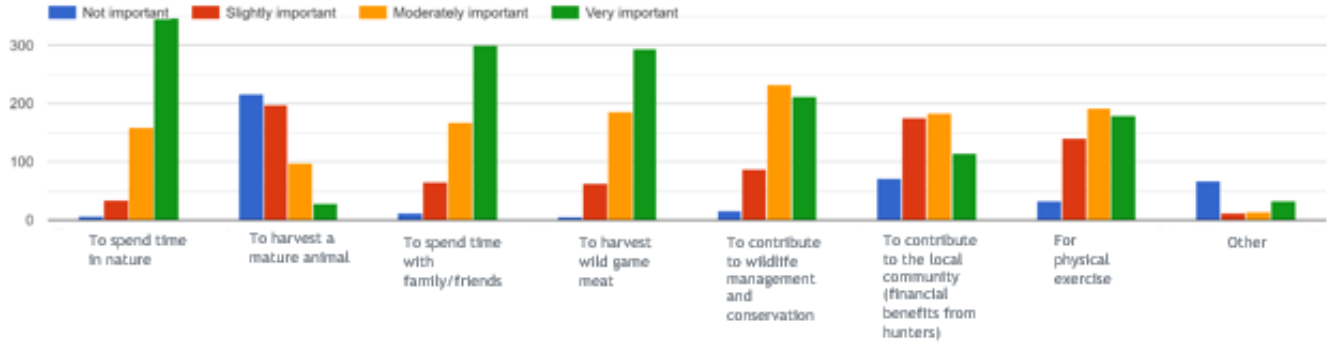


11. During which of the following seasons have you hunted elk in GMU 64 or 65? (Check all that apply)

549 responses

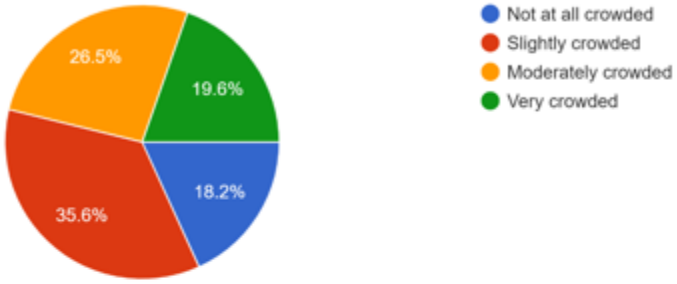


12. How important to you is each of the following reasons to hunt elk in GMU 64/65:



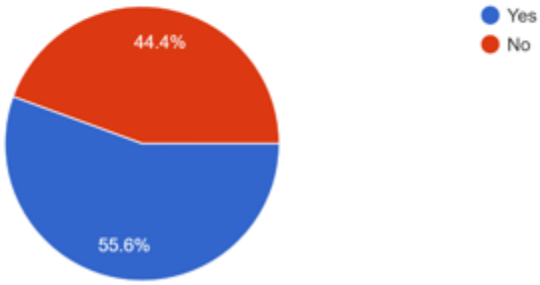
13. To what extent have you felt overcrowded by other hunters while hunting in GMU 64/65?

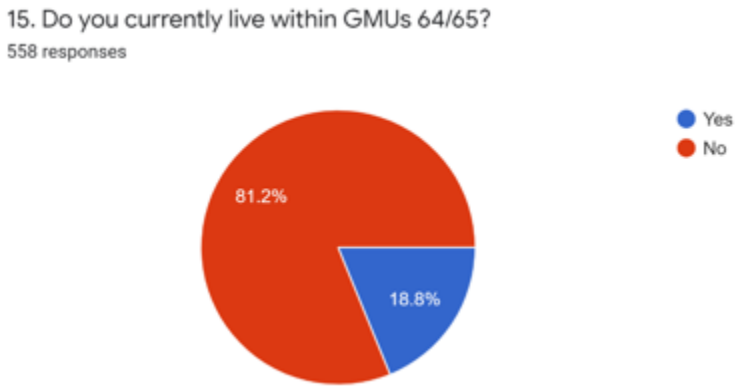
550 responses



14. Are you a Colorado Resident?

558 responses





16. Please provide your zip-code: There were 343 different zip codes provided. The most common zip codes were 81401, 81403, 81432, 81416, and 81425.

17. Respondents could add their name, but this was optional. (not added to summary for privacy purposes)

18. Please use the space below to provide any additional comments you may have about elk management in GMU 64 and 65. (Below is a summary of the comments stakeholders provided)

- ATVs and OHVs disrupt hunters and wildlife
- Competition with cattle grazing public land
- Remove the high elevation deer hunt (DM065E1R) because it pushes elk into the lower elevations
- Limit all licenses
- Limit trails for recreation, too much recreation activity
- Higher success rates
- Elk harboring on private land
- More resident preference and ability to draw a license
- Drought impacts on elk
- Restrict bow hunting, causes too much pressure on wildlife
- Negative impact of wolves on hunting
- Bring back late seasons
- Too many bears
- Non-resident licenses are too expensive
- General decline of elk in both units
- Too crowded
- Look into Montana's block management system

Appendix E40-A: Stakeholder Outreach Results

September 12, 2022

Alyssa Kircher
Colorado Parks and Wildlife
2300 S. Townsend Ave
Montrose, CO 81401

RE: Uncompahgre HPP Comments - Paradox (E40) HMP

Dear Ms. Kircher,

One of the initial reasons for creating the Habitat Partnership Program was to provide local landowners and other interests an opportunity to provide input into big game management in their areas. The diverse makeup of local HPP committees (3 livestock growers, Forest Service, BLM, CPW and sportsmen 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 in meeting game management objectives for those same species. From those perspectives, the Uncompahgre HPP committee has reviewed the draft alternatives and offers these comments for consideration.

The Uncompahgre committee supports the draft alternative to increase the population range to 1,200 - 1,600 elk. This brings the population objective in line with the 2021 post-hunt population estimate and does not necessarily represent an increase in the number of elk currently on the landscape. We believe this alternative responsibly balances local range and habitat conditions with sportsmen desires and landowner concerns. Existing conflicts are more likely related to distribution of the herds in the area and not the overall population size. Additionally, this population objective offers wildlife managers the flexibility to respond to annual or long-term changes that impact the ability of the range to support increased or reduced numbers of elk, such as drought or severe winters.

The Uncompahgre committee also discussed the proposed sex ratio alternative. We believe the status quo sex ratio of 25-30 bulls per 100 cows is a good balance and provides ample hunting opportunity, while also providing for a reasonable number of mature animals for those hunters who want to take a larger bull. It is important to note that this population of elk is shared with Utah, with frequent ingress or egress to the neighboring unit in that state. Additionally, the unit offers OTC licenses. These features makes the herd numbers and sex ratio difficult to manage due to different management practices for the neighboring unit, and variable hunting pressure.

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

Sincerely,

Bobby Gray

Bobby Gray, Chair
Uncompahgre HPP

MESA COUNTY

BOARD OF COMMISSIONERS

District 1 – Cody Davis 970-244-1605
District 2 – Scott McInnis 970-244-1604
District 3 – Janet Rowland 970-244-1606

November 22, 2022

Colorado Parks and Wildlife
Attn: Alyssa Kircher
2300 S Townsend Avenue
Montrose, CO 81401

Comments to be submitted via email to: alyssa.kircher@state.co.us

RE: Draft Herd Management Plans- Paradox Elk Herd and Uncompahgre Plateau Elk Herd

Dear Ms. Kircher:

Mesa County is appreciative of the cooperative relationship between Mesa County and Colorado Parks and Wildlife ("CPW"). We thank you for the opportunity to offer the following comments on the Draft Herd Management Plans for the Paradox Elk Herd and Uncompahgre Plateau Elk Herd.

While these herds have been increasing over the past several years, appropriate management of big game species across the state will look very different during the duration of these plans given the pending reintroduction of wolves to the Colorado landscape. Ensuring big game populations of elk, deer, and moose are stable and healthy should remain a top priority for CPW given the economic and socioeconomic contributions of hunting and wildlife viewing to not only the Western Slope, but also that of the state.

As detailed in the Mesa County Resource Management Plan, Mesa County supports the following Resource Management Objective:

> *Wildlife is managed sustainably using credible qualitative data and management plans are developed in coordination with Mesa County and other stakeholders*

And the following applicable Policy Statements:

> *4. Management plans will use independent scientific data to generate plans.*
> *6. Support habitat monitoring efforts and refine available habitat data.*
> *10. Signage should be used to notify the public of seasonal wildlife related closures (calving/fawning).*
> *12. Support consultation, cooperation, and collaborative efforts to minimize impacts of vehicle collisions and highway fencing along county roads and highways within key wildlife migration corridors in Mesa County.*
> *13. Develop monitoring programs that separate the use by species (e.g., wild horse, livestock, or wildlife) that can be used to inform management.*

Further, we understand the need to manage the species on a larger scale, however, we also believe that it is important for all resource management plans to allow for adaptive management by local

resource managers, especially as quickly as localized conditions change and new science becomes available.

Thank you for your consideration of these comments.

Sincerely,

Cody Davis, Chair Board of County Commissioners	Scott McInnis Commissioner	Janet Rowland Commissioner

CC: Mesa County Administration
Todd Starr, Mesa County Attorney
Kirk Oldham, Colorado Parks and Wildlife

Appendix E43-A: Stakeholder Outreach Results

An opinion survey of E-43 hunters, drawn from the list of 1st choice applicants with valid email addresses, occurred in August 2021 via email notification, and was accessible for 30 days. From a population of 7,803 unique individual 1st choice applicants, 4,463 randomly selected hunters were emailed asking to fill out a survey. Of those sampled, 406 responded, proportionately representative to E-43 hunter population and their major geographies (non-resident, Front Range, non-Front Range, local), and hunting season (Figure A1). Each of the figures or tables below in this appendix summarize the answers received. Other questions asked included: Which GMU do your responses to this survey apply to the most (GMU 55 and/or GMU 551)? What is your zip code? What year were you born? Would you like to receive updates on this plan (Please enter your email if so)?

Respondents were also allowed to provide written comments, with the question: "Use this space to provide any additional comments you may have about elk management in GMU 55 and/or 551. If space is available in the plan, written comments may be displayed in an appendix of the published herd management plan. Your name/email will never be tied to these comments." Written comments were received from 150 respondents. Written comments were classified into major topics and sub-topics (Table A5). A summary of the total comments received by topic and sub-topic is shown in Table A5. Multiple classes and sub-topics were allowed to be assigned for each comment, and thus the sum of classified comments exceeds the total number of respondents commenting.

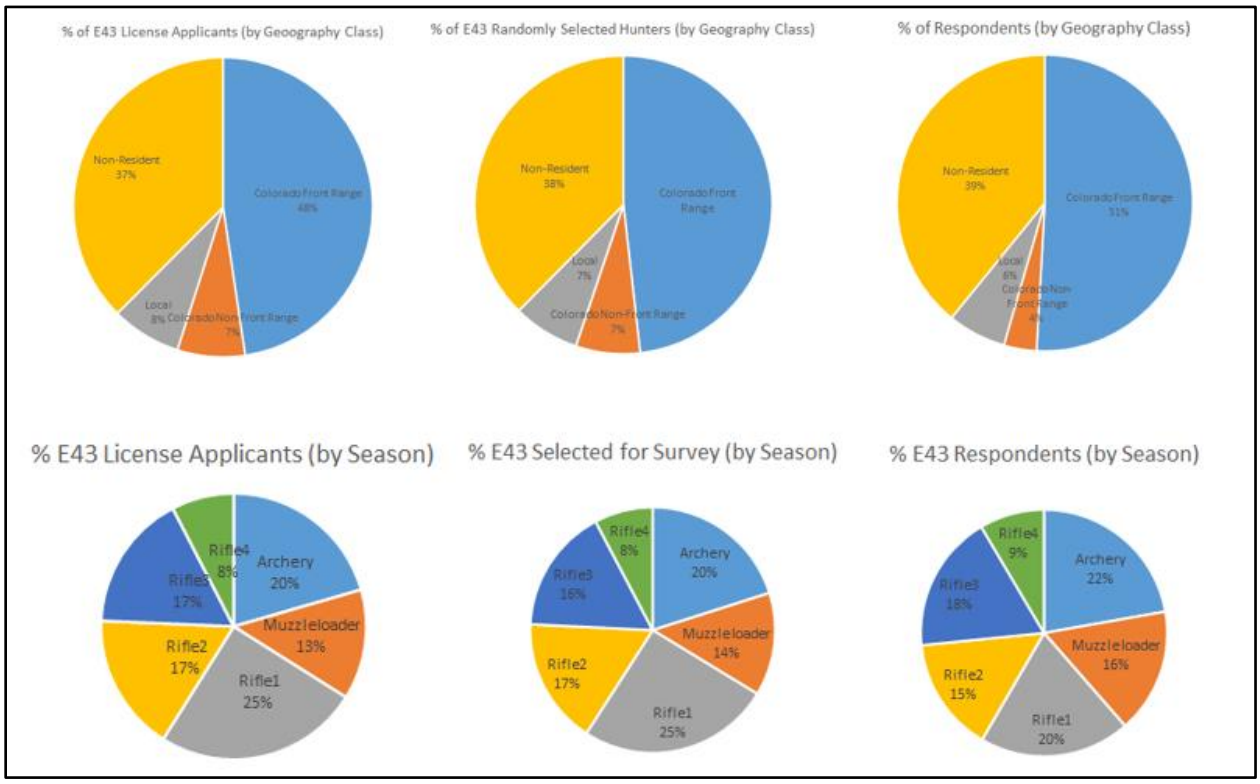


Figure E43-A.1: Summary of E-43 hunter population by percentage of first choice license applicants, randomly selected for the survey, and those responding for geography class (top

row: non-Colorado residents, Front Range Colorado residents, non-Front Range Colorado residents, and Gunnison Basin locals) and hunting season (bottom row: Archery, Muzzleloader, First Rifle, Second Rifle, Third Rifle, Fourth Rifle).

	How important to you is each of the following reasons to hunt elk in GMU 55 and/or 551?						
Importance Level	**To have the opportunity to harvest wild game meat**	**To spend time in nature**	**To spend time with family and friends**	**To contribute to wildlife management**	**To challenge myself (for sport or exercise)**	**To contribute to the local community (e.g., financial benefits from hunters)**	**To have the opportunity to harvest a trophy**
Not important	0.5%	1.5%	5.2%	3.7%	7.9%	13.8%	32.8%
Slightly important	4.7%	3.2%	9.9%	10.1%	18.0%	29.6%	34.6%
Moderately Important	21.5%	22.2%	23.5%	33.3%	35.1%	33.8%	20.7%
Very Important	73.3%	73.1%	61.5%	52.8%	39.0%	22.7%	11.9%
Weighted Importance Level (0 - 1.0)	**0.535**	**0.534**	**0.482**	**0.331**	**0.410**	**0.471**	**0.223**

Table E43-A.1: Seven classes, ranked from left (most important) to the right (least important), for the reason respondents hunt elk in E-43 (GMU 55 and/or 551).

	How satisfied were you with your elk hunting experience(s) in GMU 55 and/or 551 the past five years regarding seeing elk and/or harvest success? (Please choose one)							
Answer Choice	**Archery**	**Muzzleloader**	**Rifle Any**	**Rifle1**	**Rifle2**	**Rifle3**	**Rifle4**	**All Hunters**
Very unsatisfied	10.2%	15.0%	17.9%	13.2%	11.4%	8.3%	8.3%	15.2%
Somewhat unsatisfied	24.2%	21.3%	26.7%	35.8%	32.5%	34.0%	37.5%	25.7%
Neither satisfied nor dissatisfied	16.4%	16.3%	11.4%	19.8%	25.3%	32.6%	29.2%	13.3%
Somewhat satisfied	32.8%	32.5%	33.0%	12.3%	10.2%	8.3%	8.3%	33.1%
Very satisfied	16.4%	15.0%	11.0%	18.9%	20.5%	16.7%	16.7%	12.7%
Weighted satisfaction (0 - 1.0)	**0.553**	**0.528**	**0.481**	**0.469**	**0.489**	**0.477**	**0.469**	**0.506**

Table E43-A.2: Percent of respondents, for five satisfaction levels (very unsatisfied to very satisfied) of E-43 hunters the past five years in terms of seeing elk and/or harvest success, with results classified by hunter's season (Archery, Muzzleloader, first/second/third/fourth rifle seasons). Seasons were ranked by satisfaction with a weighted satisfaction score (bottom row) decimal ranging from 0.0 (very unsatisfied to 1.0 (very satisfied).

	How satisfied were you with your elk hunting experience(s) in GMU 55 and/or 551 the past five years regarding the amount of hunter crowding? (Please choose one)							
Answer	**All Seasons**	**Muzzleloader**	**Archery**	**Rifle 1st season**	**Rifle - Any Season**	**Rifle 2nd season**	**Rifle 3rd season**	**Rifle 4th season**
Very unsatisfied (there were way too many other hunters)	10.1%	5.1%	7.9%	8.7%	11.5%	11.0%	13.4%	16.7%
Somewhat unsatisfied (wish there were a few less other hunters)	26.3%	17.7%	22.0%	23.1%	27.8%	31.1%	24.6%	29.2%
Neither satisfied nor dissatisfied (number of hunters was about right)	34.4%	34.2%	32.3%	33.7%	36.3%	32.9%	41.5%	35.4%
Somewhat satisfied (only saw a few other people)	23.2%	32.9%	27.6%	28.8%	20.0%	20.1%	16.9%	14.6%
Very satisfied (I felt like I was the only one out there!)	6.1%	10.1%	10.2%	5.8%	4.4%	4.9%	3.5%	4.2%
Weighted Satisfaction (0-1)	**0.473**	**0.563**	**0.526**	**0.500**	**0.445**	**0.442**	**0.431**	**0.401**

Table E43-A.3: Percent of respondents, for five satisfaction levels (very unsatisfied to very satisfied) of E-43 hunters the past five years in terms of hunter crowding, with results classified by hunter's season (Archery, Muzzleloader, first/second/third/fourth rifle seasons). Seasons were ranked by hunter crowding satisfaction with a weighted satisfaction score (bottom row) decimal ranging from 0.0 (very unsatisfied) to 1.0 (very satisfied).

	How concerned are you about the following potential elk management issues in E-43?							
Concern Level	Land not being accessible for hunting (i.e., insufficient access on private lands, remote terrain)	Impacts of non-hunting recreation (i.e., ATVs, hikers, camping, antler collecting) on the distribution of elk	Impacts of hunting pressure on the distribution of elk	Disease (i.e., Chronic Wasting Disease, brucellosis, tuberculosis) negatively affecting elk populations or transmission potential to humans, pets, or livestock	Habitat quantity and quality (not having enough habitat for elk, other wild species, and/or domestic livestock)	Potential for elk to starve during some winters	Predators affecting elk populations	Economic losses due to elk (i.e., agricultural losses, fence destruction, vehicle collisions)
Not concerned	18.8%	15.3%	10.8%	16.3%	20.8%	18.0%	21.8%	43.8%
Slightly concerned	16.8%	23.5%	30.5%	30.3%	23.8%	30.0%	27.8%	32.0%
Moderately concerned	24.3%	23.5%	37.5%	26.5%	29.8%	26.3%	20.3%	16.5%
Very Concerned	40.3%	37.8%	21.3%	27.0%	25.8%	25.8%	30.3%	7.8%
Weighted Concern Level (0 - 1)	**0.620**	**0.613**	**0.564**	**0.548**	**0.535**	**0.533**	**0.530**	**0.294**

Table E43-A.4: Respondents were asked about their concern level (Not concerned, slightly concerned, moderately concerned, very concerned) on eight management topics in E-43. Counts were summarized by percent of respondents' choices. Issues were ranked with a weighted satisfaction score (bottom row) ranging from 0.0 (not concerned) to 1.0 (very concerned). Weighted satisfaction score were ranked in horizontal order with left (most concerning) to right (least concerning) issues.

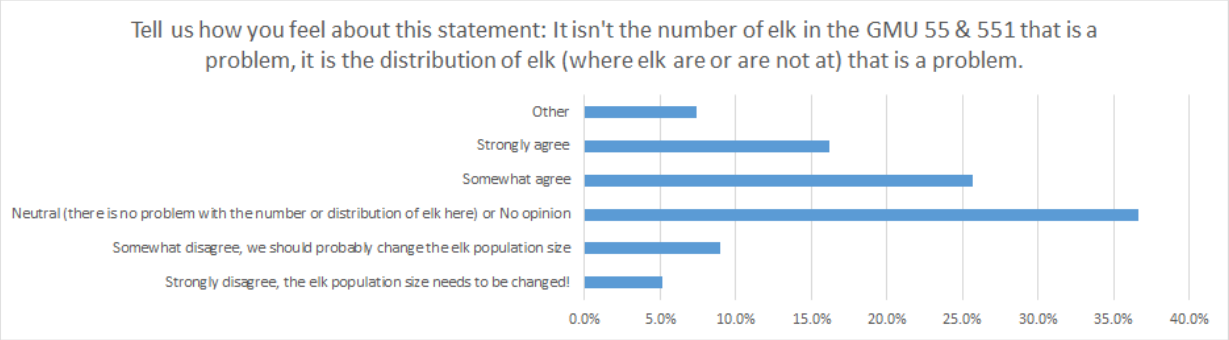


Figure E43-A.2: Percentage of hunter respondents for various choices regarding desired elk distribution issues versus elk abundance issues in E-43. Weighted average response (with 0 = strongly disagree, and 1 = strongly agree) was calculated at 0.605, indicating most agree that elk distribution is a more important issue than elk abundance.

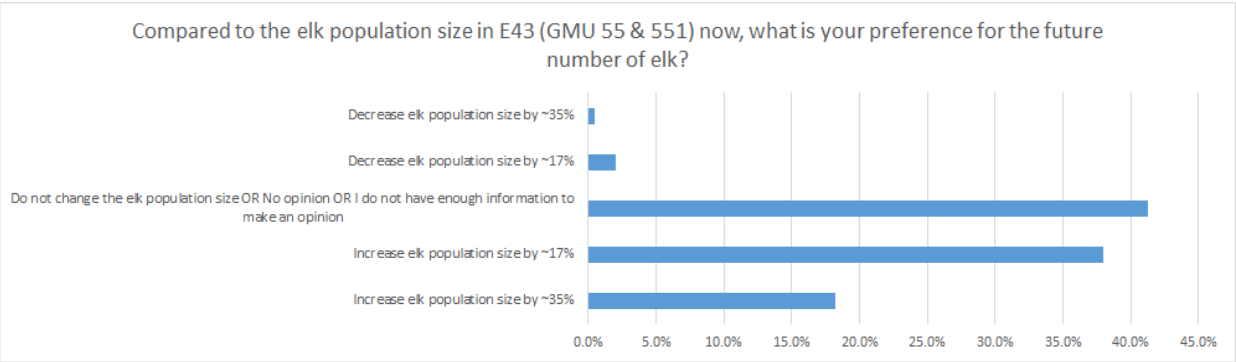


Figure E43-A.3: Percentage of hunter respondents for various choices regarding desired elk population size change in E-43. Weighting the percent change values by the number of

respondents for each answer choice, an increase of 12.3% is desired by E-43 hunters at the time of this survey.

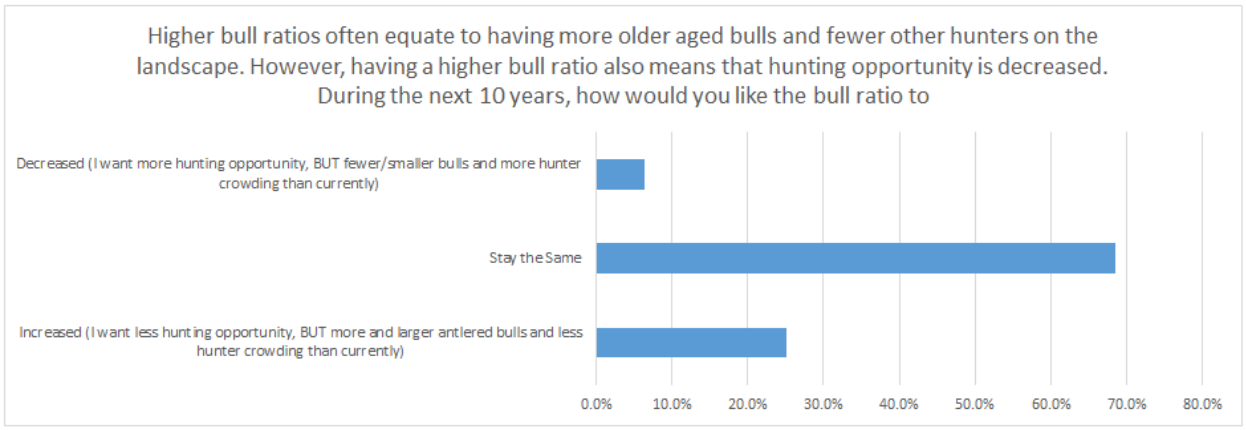


Figure E43-A.4: Percentage of hunter respondents for various choices regarding desired elk bull ratio (bulls:100 cows) change in E-43.

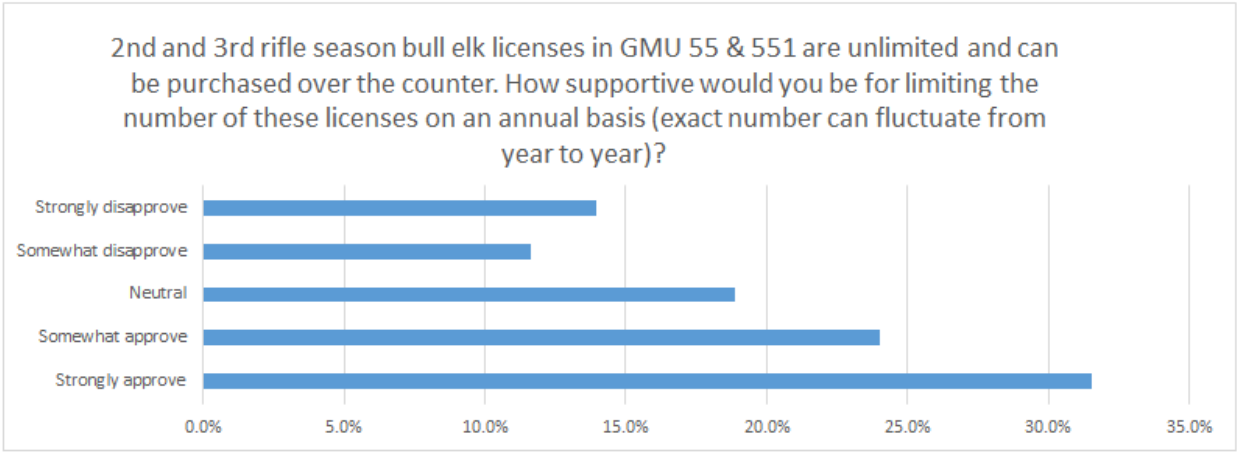


Figure E43-A.5: Percentage of hunter respondents for various choices regarding support for limiting the number of 2nd and 3rd rifle season bull elk tags in E-43.

Summary of Written Comments		
Comment Topic	**Comment Sub-topic**	**Count of respondents with written comments direced toward the topic**
Comments_Hunter Over-crowding	General hunter crowding	8
	Muzzleloader hunter crowding	1
	Not enough hunter crowding	1
	Rifle hunter over-crowding	8
OTC issues	Keep OTC rifle	2
	Too many OTC rifle	18
Opportunity Issues	Insufficient Archery opportunity	12
	Insufficient local opportunity	2
	Insufficient muzzleloader opportunity	1
	Insufficient Non-resident opportunity	5
	Insufficient opportunity due to cost	3
	Insufficient opportunity due to draw odds	11
	Insufficient Rifle opportunity	1
	want more either-sex oppportunities	1
Insufficient Access	Private land management access issues	7
	Too remote/difficult to access	11
Other Recreation Pressures	Non-hunting recreation pressures too high	10
	Too much motorized rec access/traffic	29
	Too much non-motorized rec access/traffic	5
Elk Distribution/Abundance	Elk abundance	14
	Elk distribution	13
	Predators	5
	Cattle competition	3
	Elk Habitat	4
	Moose competition	1
Other Comments	Poor bull:cow ratio/trophy	4
	Season structure complaints	7
	Poor Harvest success	1
	General comments/compliments	8
	Other CPW issues	20

Table E43-A.5: Summary of the number of written comments from 150 respondents, classified by topic, and sub-topic.

GUNNISON WILDLIFE ASSOCIATION

November 21, 2022

To Whom It May Concern,

As a Colorado nonprofit corporation whose mission is protecting and enhancing the health and sustainability of wildlife and public lands in the Gunnison Basin, Gunnison Wildlife Association (GWA) thanks you for the opportunity to provide comments on the Elk Herd Management Plan for Data Analysis Unit E-43. For many years, GWA has patiently awaited the release of, and ability to comment on, the draft plan and has been involved in discussions related to E-43 with Colorado Parks and Wildlife (CPW) staff over the past many years on this front.

First and foremost, the Herd Management Plan for E-43 is woefully outdated. The last plan for the DAU was approved in 2001. While we commend CPW staff for working to update this plan, we urge the agency and Parks and Wildlife Commission, in the future, to ensure that Herd Management Plans, including for E-43, are revisited on a more regular basis. As noted in the draft E-43 plan, much has changed over the last 21 years, including habitat loss due to increased pressures of residential and recreation uses of the land, the federal listing of the Gunnison Sage-grouse as "threatened," elk migration data, and CPW's own population estimation model, to name a few.

Additionally, we do have concern with the timing in which the draft E-43 plan was shared with us since it was during busy hunting seasons, and sportspeople have limited availability during that time frame. We also have concern with the relatively short duration of time in which we were able to provide comments on the draft. We believe it extremely important for members of the public to have both the ability to comment on such processes and ample time to do so. We're not certain that happened in this case. On that note, we notice that public survey results that influenced the draft E-43 plan only included hunters who applied for the limited draw, when it would have been more equitable—if not accurate—to capture the perspective of OTC hunters as well. We also fully understand that many of the factors around future management of E-43 are dependent on decisions pertaining to the statewide season structure, and we look forward to being fully engaged in that process. Lastly, in the future we would like to see management of E-43 more closely aligned with all other units in the Gunnison Basin.

That said, GWA supports the staff preferred, status quo post-hunt population objective range of 6,200-7,200 animals reflected in the draft plan, based on the current population model. We believe this population range is adequate for minimizing conflict between stakeholders, while

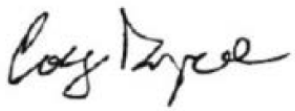
providing ample hunting opportunity and ensuring the long-term success of the herd. Particularly amid increasing pressure from non-hunting recreation and residential development in the Gunnison Valley, we believe it to be of utmost importance to ensure that the sustainability of elk and other ungulate populations, and their habitat, do not suffer. We also support CPW staff's preferred objective for the bull ratio of 23-28 bulls per 100 cows *if* E-43 were ever to be managed as a limited license unit.

On that note, we appreciate the education and contemplation of some form of license limitation for current over-the-counter (OTC) hunting seasons in E-43. While outside the scope of decision-making for this herd management plan, GWA supports implementing some form of additional license limitation as part of the next five-year season structure process. As noted in the draft plan, crowding issues are becoming a growing concern in E-43 resulting in elk concentrating in lower elevations during the rifle seasons and conflicts for law enforcement staff. Additionally, CPW's recent survey indicated support for implementing some type of license limitation during second and third bull elk rifle seasons. GWA places high priority on elk hunting opportunity in E-43, and we recognize that harvesting wild game meat is the top reason why recently surveyed hunters hunt in E-43. However, recently surveyed hunters reported less than 50% satisfaction with hunter crowding, noted inaccessibility of elk due to private land refuges, and expressed that elk distribution is a bigger issue than elk abundance.

This public sentiment paired with a growing number of OTC hunters during second and third rifle seasons leads us to believe that in order to preserve the quality of hunting experience in E-43, reasonable rates of success, and to more scientifically manage bull:cow ratios within a certain objective range, license limitation during second and third bull elk rifle seasons is in order.

We thank you for the opportunity to provide comments on the Elk Herd Management Plan for Data Analysis Unit E-43 and hope that our perspective as outlined above is reflected in future decision-making, including the final Elk Herd Management Plan for E-43.

Sincerely,



Cody Dyce
President
Gunnison Wildlife Association Board of Directors

Established 1894

GUNNISON COUNTY STOCKGROWERS ASSOCIATION, INC.

P.O. Box 1711 ◆ Gunnison, Colorado 81230

Dear CPW commission

Thank you for the opportunity to comment on the E43 Draft Herd Management Plan. As land owners and producers, we understand the growing pressures associated with managing herds in our basin. The plan states that we can increase elk numbers on the eastern side of the basin by 10-18% without increasing conflicts with agriculture. We feel that this is highly unlikely mainly due to herd distribution issues within the basin. There are more and more elk showing up on ranch properties every year and many of them are staying year-round.

As Stockgrowers, we feel that the elk are less pressured on private property due to the fragmentation of their habitats by recreationalists and the large number of disturbances they face on public lands. Increasing elk population numbers before solving distribution problems seems to be putting the "cart before the horse". Hunting opportunities will not increase for the general hunter if these "new" elk are on private property as well. The elk need to have less traffic pressure on public lands in order to migrate, calve, forage and thrive.

Larger elk populations on ranches mean that there is less feed to go around for both wild and domestic animals, therefore, increasing conflicts between them. We feel that CPW, BLM, and USFS should be pushing travel management plans before increasing elk population numbers in order to reduce herd distribution conflicts within the Gunnison basin.

Sincerely

Jason Peterson

Gunnison County Stockgrowers President