

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

GAME MANAGEMENT UNITS 64 and 65



REVISED BY

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# EXECUTIVE SUMMARY

<b>Cimarron Elk Herd (DAU E-35)</b>	<b>GMUs: 64, 65</b>
2020 post-hunt population: 7,800 elk	
2020 post-hunt observed bull ratio: 20 bulls per 100 cows (estimated 3-yr average)	
Previous Objectives (2007-2021): 5,000-5,500 elk; 20-25 bulls per 100 cows	
<b>Proposed Expected Sex Ratio Range (2022-2032): 6,000-9,000; 20-25 bulls per 100 cows</b>	

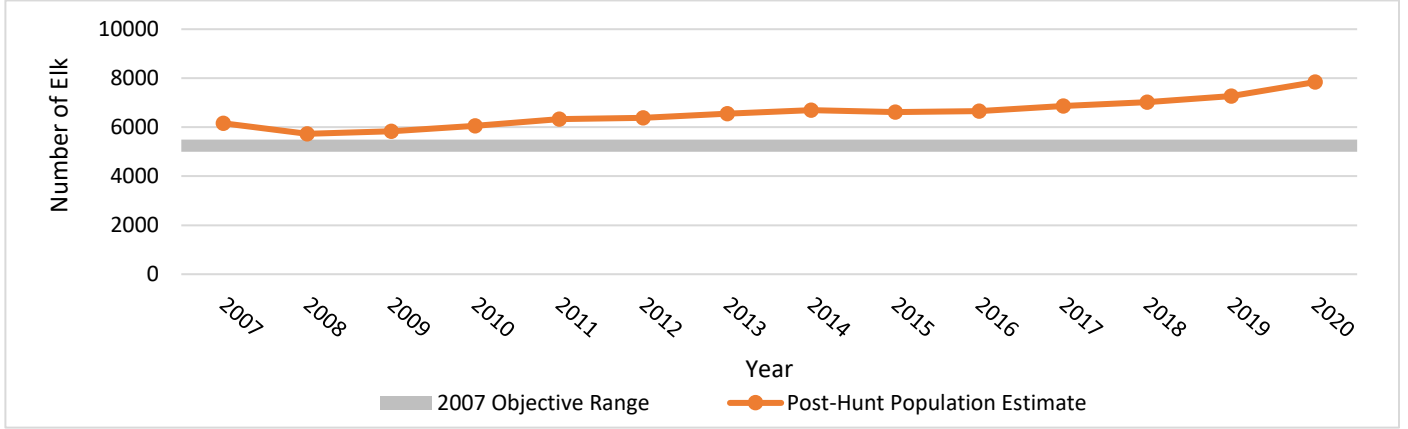


Figure 1. Elk DAU E-35 DAU estimated post-hunt population and objective range: 2007-2020.

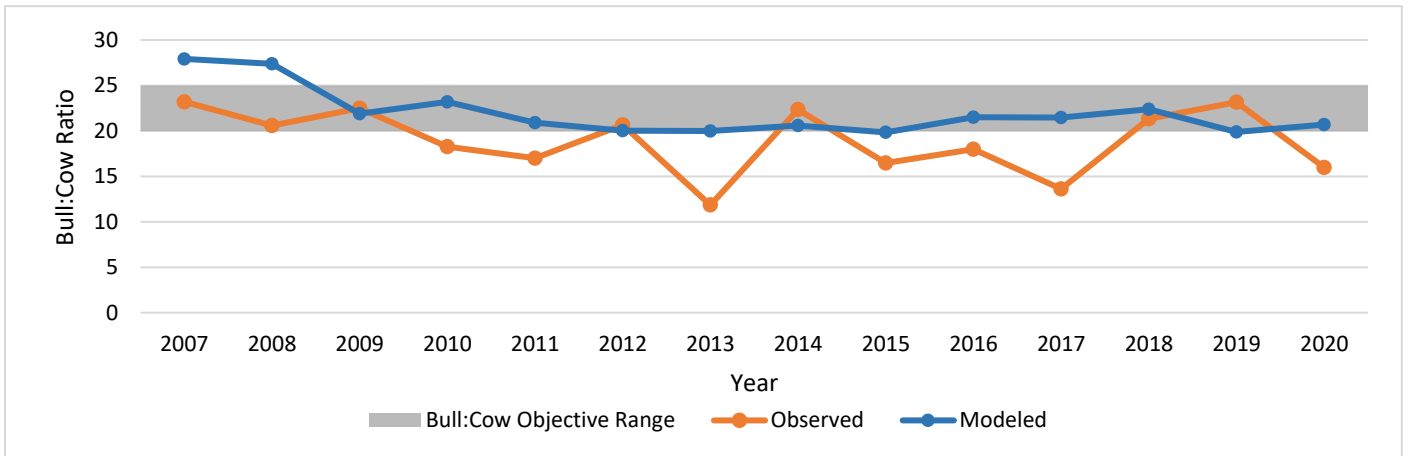


Figure 2. Elk harvest in E-35: 2000-2020.

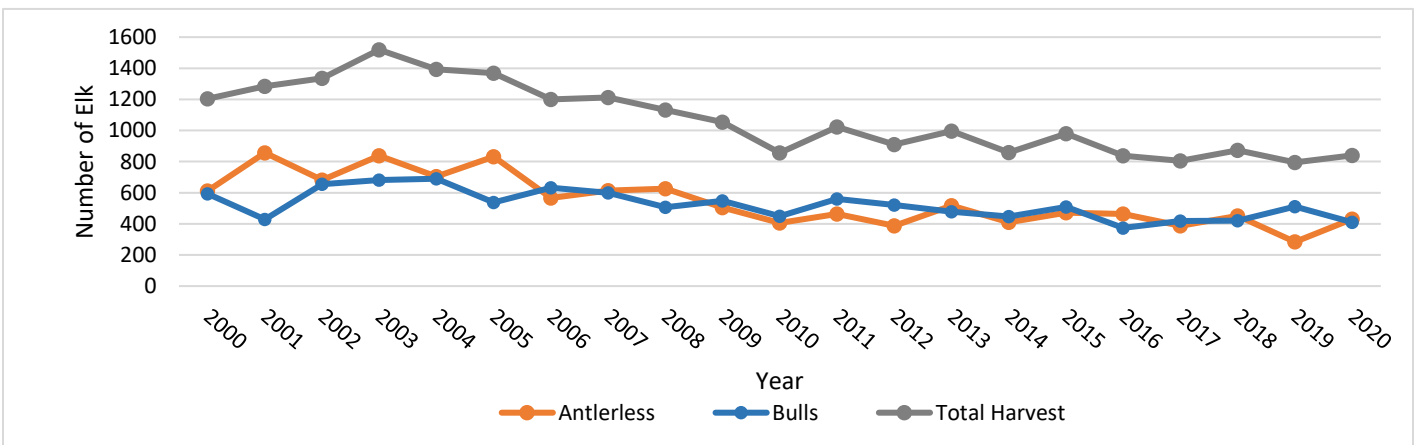


Figure 3. Elk DAU E-35 observed and modeled post-hunt bull ratio (bulls:100 cows): 2007-2020.

**Background Information**

Data Analysis Unit 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<sup>2</sup>) and 65 (672 mi<sup>2</sup>) and includes parts of the Uncompahgre, Gunnison, and Cimarron River drainages.

The current post-hunt population objective of 5,000-5,500 elk was set in 2007. Since the last HMP was written in 2007, the E-35 herd has remained stable with a gradual increase (Figure 1). The 2005 post-hunt elk population for E-35 was estimated to be 6,200. The 2020 post-hunt population estimate was 7,800 elk.

The average observed post-hunt bull 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 bull ratio from 2005 to 2020 was 20 bulls:100 cows (Figure 3). The observed three-year (2018-2020) average of 20 bulls:100 cows fits within the expected post-hunt bull ratio range for an OTC herd. Observed post-hunt calf ratios averaged 35 calves:100 cows (range 28-42) between 2007 and 2020. The 2020 calf ratio was 41 calves:100 cows, which was the highest observed calf ratio since 2011.

The number of hunters has increased since the last HMP revision, yet harvest has declined slightly (Figure 2). 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. One priority of this plan is to update objectives with the new data and modeling that has been modernized since the last revision. CPW recommends managing the E-35 herd for a moderate increase (10-25%) of the elk population. The recommended bull ratio will stay at 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 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 effective 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 throughout the hunting seasons. Unfortunately, most of these ranches are not interested in increasing hunting pressure or properties are too large for a small number of 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 5 years have produced fairly 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 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. Habitat improvements, seasonal closures, and road restrictions for mechanical and motorized vehicles could help keep elk on public land longer. As an OTC unit, management of this herd mostly occurs within limited licenses. As populations increase, more antlerless licenses and game damage licenses could be offered. This would help increase landowner tolerance of larger herds, and add hunting opportunities on public land.

**Management Alternatives**

Three post-hunt population objective alternatives are being considered for E-35 (Table 1).

Table 1. Proposed population objective ranges for the E-35 revised 2021 HMP.

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

Under current management with OTC bull licenses in E-35, it is not possible to manage for more than 25 bulls:100 cows. Any bull ratio objective above 25 bulls:100 cows would require all antlered elk licenses in E-35 to be limited; therefore, an expected bull ratio range proposed for OTC units is **20-25 bulls:100 cows**. This range will continue to allow for opportunity and varied age classes of bulls in the population.

**CPW Proposed Objectives:**

***Post-hunt Population***

The proposed management objective for E-35 is **6,000-9,000 elk**. The top of the range of this objective is approximately 15% higher than the current estimated population of 7,800. This objective allows CPW to increase the population, but have flexibility to modify estimated populations as environmental influences or human-induced change effect the population and as model improvements occur. Without better solutions for issues related to elk refuging on private lands, limited licenses cannot be increased. Increasing private land licenses and decreasing public land licenses may help alleviate some of these issues. Habitat improvements on public land surrounding private land could help keep elk from harboring on private land as well.

***Post-hunt bull ratio***

CPW recommends the status quo expected bull ratio range of **20-25 bulls:100 cows** because this DAU has OTC licenses. This DAU is currently managed for maximum hunter opportunity, which limits CPW's ability to limit hunting pressure and manage bull harvest or bull ratios. CPW can manage limited muzzleloader, first and fourth rifle, and antlerless licenses. The management of these seasons can improve hunt quality and hunter distribution throughout the DAU during the limited seasons.

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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 in accordance with the CPW's Strategic Plan (2010-2020). 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 and varied public demands and growing human impacts. The CPW uses a "Management by Objective" approach to manage the state's big game populations (Figure 4).

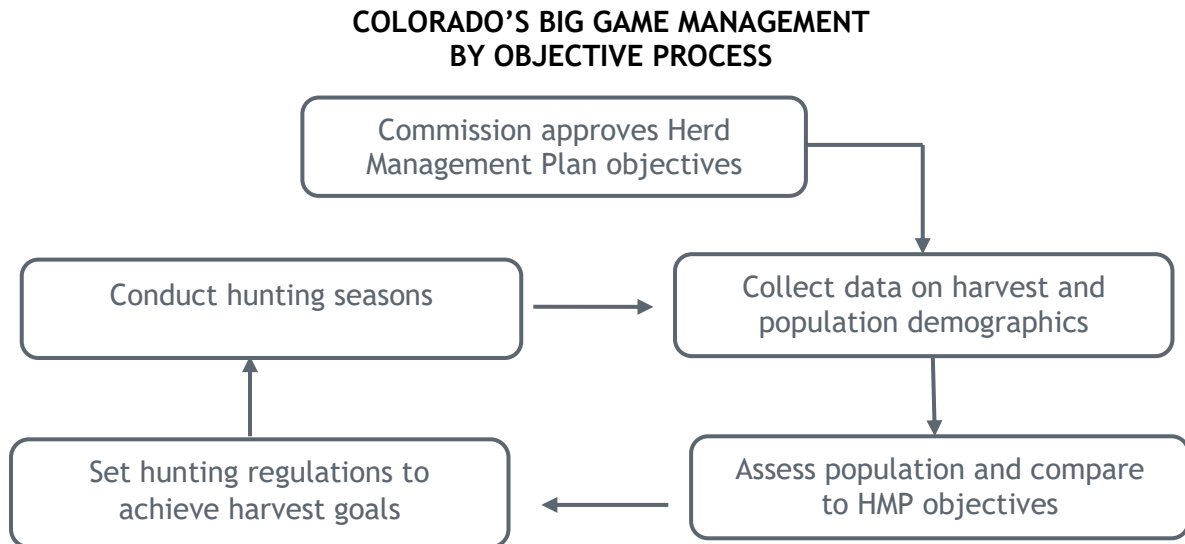


Figure 4. Management by Objective process used by Colorado Parks and Wildlife to manage big game populations by Data Analysis Unit (DAU).

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

Management decisions within a DAU are based on a Herd Management Plan (HMP). The primary purpose of a HMP is to establish population and bull ratio (i.e., the number of males per 100 females) objectives for the DAU. The HMP also describes the strategies and techniques that will be used to reach these objectives. During the HMP planning process, public input is solicited and collected through questionnaires, public meetings, and comments to the CPW staff and the PWC. The intentions of the CPW are 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), city and county governments, hunters, guides and outfitters, private landowners, local chambers of commerce, and the public. In preparing a 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 HMP serves as the basis for the annual herd management cycle. In this cycle, the size and composition of the herd is assessed and compared to the objectives defined in the HMP and removal goals are set. Based on these goals, specific removal strategies are made for the coming year to either maintain the population or move it towards the established objectives (e.g., license numbers and allocation are set, translocation plans are made). Hunting seasons and/or translocations are then conducted and evaluated. The annual management cycle then begins again (Figure 4).

## **CIMARRON DATA ANALYSIS UNIT**

### **Purpose**

The purpose of this HMP is to set estimated population and bull ratio objectives for the Cimarron elk herd. The HMP will be in place from 2022-2032 with the expectation that it will be reviewed and updated in 2032. This population is difficult to manage because elk refuge on private land year-round, but especially in the fall, during hunting seasons. Increasing private land licenses and improving surrounding public land habitat should help distribute elk more evenly across the landscape.

### **Strategies for Addressing Management Issues and Achieving Objectives**

CPW will continue to classify herds annually to monitor the population size and the bull ratio within E-35 and manage licenses accordingly. CPW will work with land management agencies, landowners, local governments, and NGOs to enhance public land to reduce elk grazing pressure on private lands and increase hunting opportunity on public lands. Additionally, CPW will be involved in recreation planning efforts to protect high priority habitats from increased disturbance. To increase populations, CPW will encourage landowners with suitable winter range habitat to enroll in conservation easements to protect habitat in perpetuity. Encouraging private landowners to allow some hunting pressure could alleviate game damage concerns and distribute elk across the landscape more effectively. CPW would support seasonal closures in these areas and work to complete habitat improvements that benefit elk survival and seasonal migrations. CPW will continue to work with Colorado Department of Transportation (CDOT) to increase connectivity in movement corridors along highways. CPW will continue to support recreation research to better understand impacts to wildlife and management actions to mitigate these effects efficiently.

### *Location*

Data Analysis Unit E-35 is 941 miles<sup>2</sup> in southwestern Colorado and includes parts of Delta, Gunnison, Hinsdale, Montrose, and Ouray Counties (Figure 5). DAU E-35 consists of Game Management Units 64 (269 miles<sup>2</sup>) and 65 (672 miles<sup>2</sup>) and includes parts of the Uncompahgre, Gunnison, and Cimarron River drainages. The DAU is bounded on the north and east by CO Hwy 92, the Gunnison River, and Morrow Point Reservoir; on the east by Big Blue Creek and Big Blue Creek-Cimarron River Divide; on the south by Ouray-San Juan county line; and on west by Ouray-San Miguel county line, CO Hwy 62, CO Hwy 550, and US Hwy 50. GMUs 64 and 65 are separated by US Hwy 50.

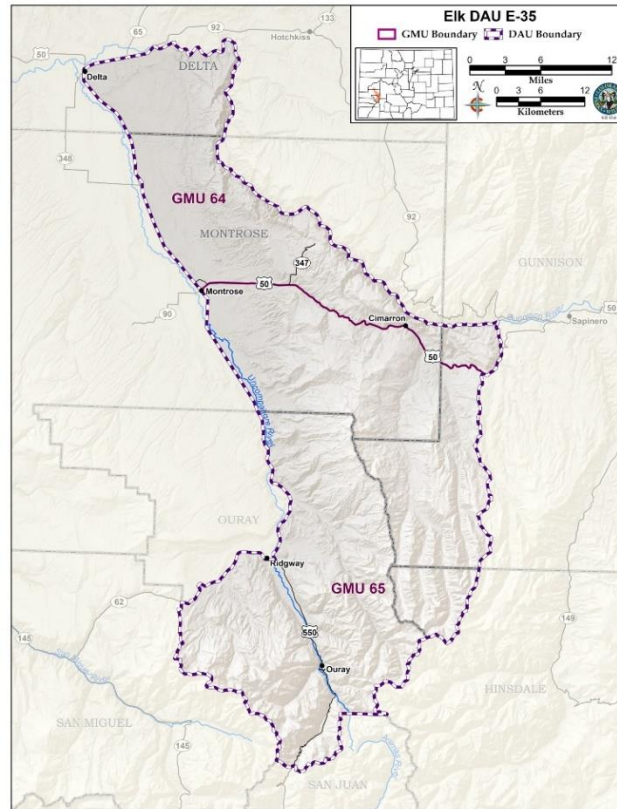


Figure 5. The Cimarron elk herd (E-35) data analysis unit (DAU) boundaries.

Elevations within the DAU range from approximately 5,000 ft in Delta to 14,150 ft at the summit of Mount Sneffels. The DAU is very diverse in topography, geology, and climate creating an area suitable to fulfill elk seasonal requirements from winter to summer. Notable features within the DAU include the Gunnison Gorge and Black Canyon of the Gunnison on the north and eastern boundary of GMU 64, Cimarron Ridge between US Hwy 50 and the Big Cimarron drainage, and the Uncompahgre and Mount Sneffels Wilderness Areas. High elevation habitats abound within the DAU providing abundant summer range for deer and elk, as well as an indigenous Rocky Mountain bighorn sheep population.

### *Vegetation*

Plant communities are diverse within the DAU (Figure 6). The community ranges from desert shrubs around Delta at an elevation of 5,000 ft. to the alpine areas in the northern San Juan range in the south end of the DAU. The high desert plant community is the predominant vegetation type between 5,000 and 6,500 ft near the Uncompahgre and Gunnison Rivers. Elevations between approximately 6,000-7,500 ft are characterized by pinyon pine and Utah juniper woodlands and grassland/shrub. From approximately 7,500 to 8,500 ft, ponderosa pine/mountain shrub is the dominant vegetation type. Elevations above 8,500 ft are generally characterized by aspen forests and a mixed spruce-fir complex. Riparian areas are also common in the lowlands of the Cimarron area. Vegetation types within the various bands provide year-round resources for deer and elk. Agricultural areas and cultivated croplands within the DAU occur primarily in the Uncompahgre Valley from Ridgway to Delta and in the Cimarron River Valley.

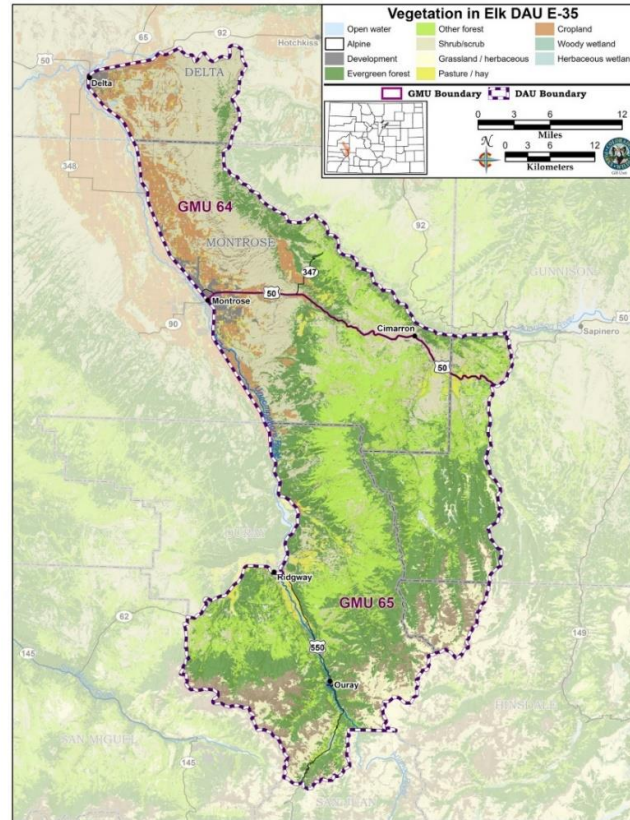


Figure 6. Vegetation classifications in DAU E-35.

### *Climate*

The climate of the Cimarron Ridge/ Northern San Juan area varies depending on season and elevation. Areas below 6,500 ft are usually hot and dry during the summer and generally remain free of snow during most of the winter. Elevations between 6,500-8,000 ft usually have persistent snow only between late November and March. Areas above 8,000 ft can receive heavy snowfall and from December through late April are generally inaccessible except by foot or snow-machine. Many areas of the San Juans will still hold snow into July. Mean annual precipitation varies from less than 8 inches at lower elevations to over 30 inches in the Cimarron and Dallas Creek areas. Snowfall accounts for the majority of the precipitation at the higher elevations. Monsoonal moisture between July and September is also an important source of precipitation at all elevations.

## HABITAT RESOURCE AND CAPABILITIES

### Land Use

#### *Ownership*

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 (Figure 7). 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). Municipalities that border and/or are within the DAU include Montrose, Delta, Olathe, Ridgway, and Ouray.

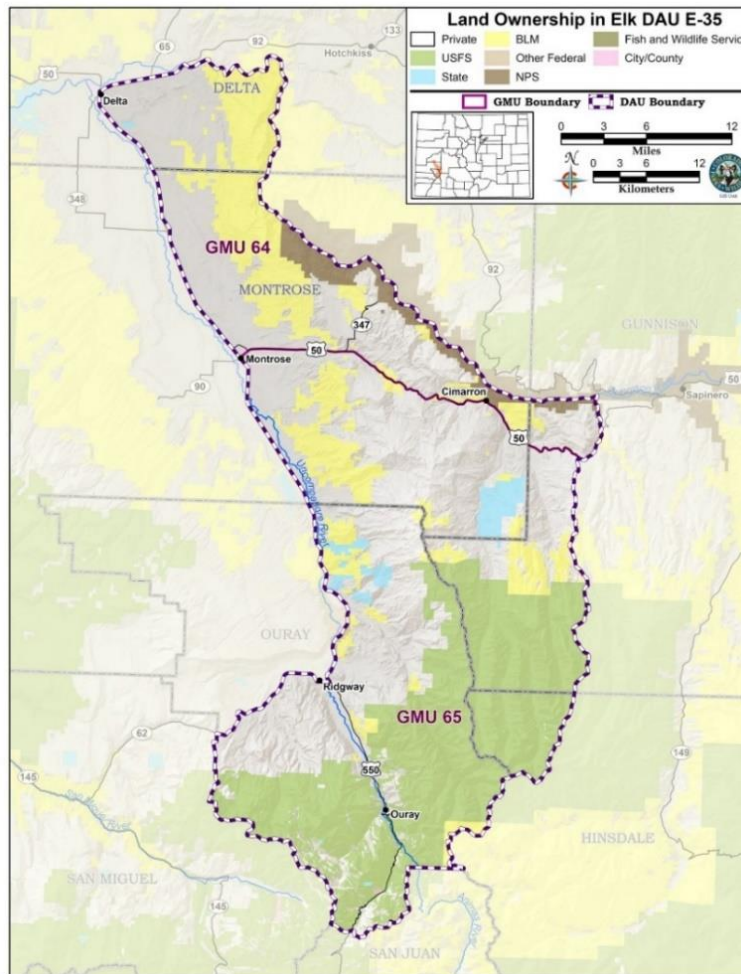


Figure 7. Land Ownership in Elk DAU E-35.

### *Development*

As a result of Colorado's increasing human population, residential development is rapidly spreading into valuable wildlife habitat (Figure 8). Much like the rest of the state, this DAU is experiencing a growing human population in the Uncompahgre River Valley that is placing increased demands on E-35 for development and recreation. The human population in these counties increased 22% between 2000 and 2019 and it is expected to continue increasing at a rapid rate well into the future (Figure 9, U.S. Census Bureau 2021).



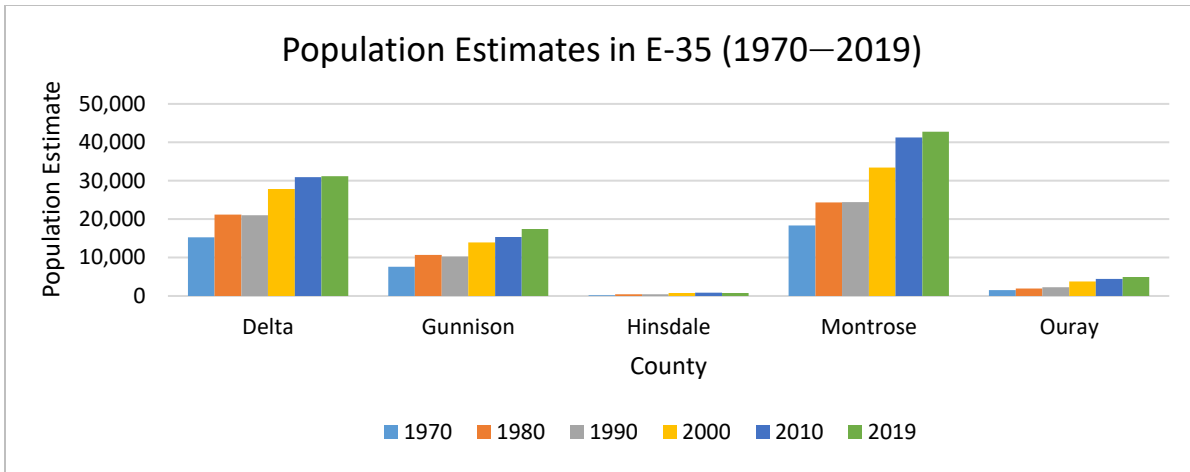


Figure 8. Population estimates from 1970–2019 in the five counties within DAU E-35 in southwestern Colorado (U.S. Census Bureau 2021).

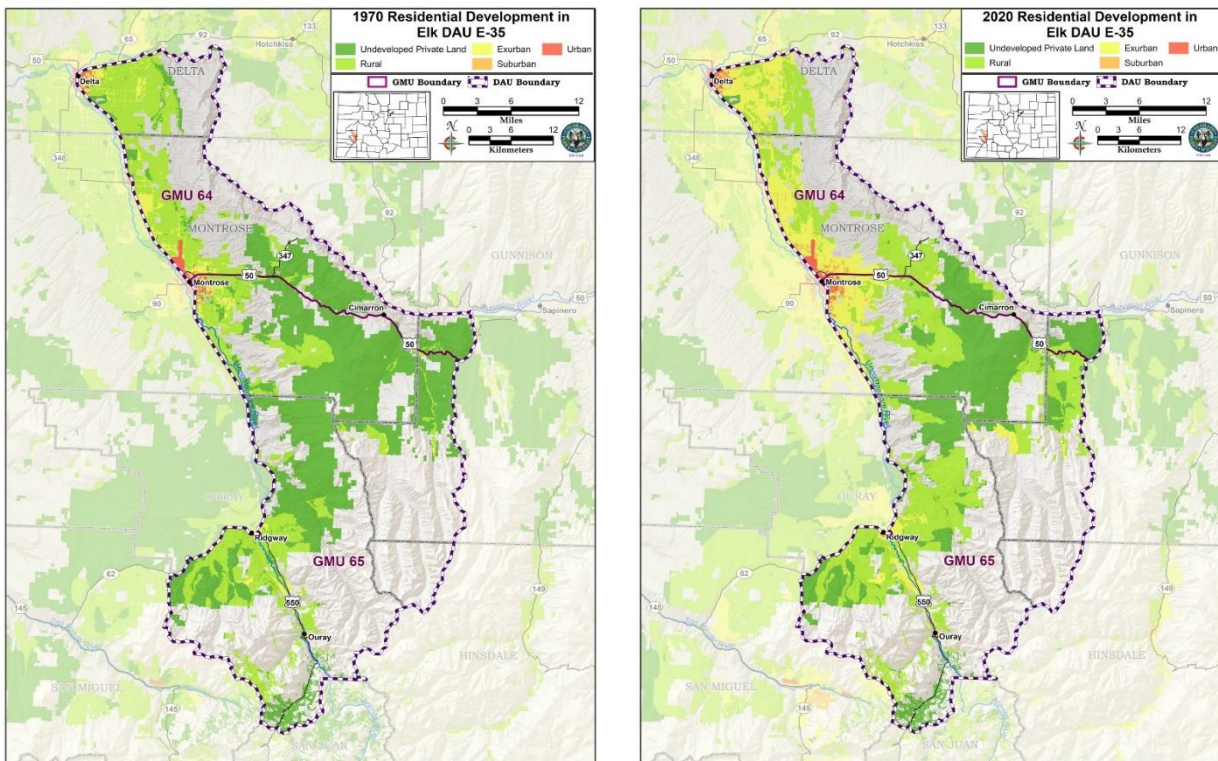


Figure 9. A side-by-side comparison of urban expansion in the Uncompahgre River Valley from 1970 to 2020 (2020 residential development was projected).

Habitat loss due to development and fragmentation is primarily occurring near the western edge of the DAU from Ridgway to Delta (Figure 9). Relatively little development is occurring on private lands within the interior parts of the DAU; however, the potential for development is there. Furthermore, vehicle traffic increases with rising human populations, adding another potential impact to elk survival. Roadkill along the CO Hwy 550 corridor is prevalent; more often with deer, but elk are still hit on this roadway. Possible solutions to limit roadkills and human injuries occurring on roadways include wildlife overpasses and underpasses, jump-out

structures, and exclusion fencing. Unfortunately, exclusion fencing designed to keep wildlife off roads can inadvertently impact movement within home ranges if there are not adequate crossing structures. CDOT, CPW, and non-government organizations (NGOs) are working diligently to improve these issues and create more permeable corridors for wildlife.

*Agricultural*

Agricultural use in E-35 includes cultivated crop production and orchards on irrigated private lands below 6,000 ft in the Uncompahgre Valley and Cimarron 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. As a result of extensive water distribution networks, the Uncompahgre Valley has become one of the major crop producing areas on the Western Slope and agriculture contributes greatly to the local economy. Major crops include corn, pinto beans, wheat, onions, and alfalfa. Damage by elk is a major concern in the Uncompahgre Valley in winter months. Agricultural lands are important year-round habitat for elk with recent drought conditions, increased recreation, and increased hunting pressure on public lands.

Since the 1880s, livestock grazing has been a mainstay of the Cimarron and Uncompahgre region. Cattle grazing occurs throughout most of E-35 including most of the Uncompahgre National Forest and most BLM lands. Domestic sheep grazing occurs primarily on the public land (BLM, USFS) allotments above timberline and below 7,000 ft. USFS lands are grazed by cattle primarily between mid-June and mid-September and domestic sheep between July and September. BLM lands are generally grazed by cattle and domestic sheep between October and June, other than a few high mountain allotments that are grazed by domestic sheep in July and August. Competition between livestock and wild ungulates has become more common with recent drought conditions limiting adequate forage and potentially limiting the environments carrying capacity.

From the mid-1930s to the early 1970s, many range improvement projects were undertaken on private, BLM, and USFS lands to benefit livestock. Projects included contour ditching, chaining of pinyon-juniper woodlands, herbicide treatment of sagebrush and Gambel oak, water impoundments, and seeding with non-native species such as crested wheatgrass and intermediate wheatgrass. The Habitat Partnership Program (HPP) has assisted with several projects over the last 10 years to benefit wildlife habitat (Table 2). These projects benefited wildlife and livestock simultaneously.

Table 2. Summary table of Habitat Partnership Program (HPP) projects over the last decade.

Fiscal Year	Project Name	Type of Project	Partners*	Accomplishments
FY22	Cimarron Ridge Brush	Brush thinning	LO, NRCS	260 acres thinned
	Harold Phase 3 & 4	Fencing	LO	2 miles WL-friendly fence
	Quintana Water	Water development	LO	1 water development
	Scriffiny Fence	Fencing	LO	1 mile WL-friendly fence
	Svenson Forage	Forage purchase	LO	70 acres elk winter forage
	Thorpe Fence	Fencing	LO	0.5 mile WL-friendly fence
	Wofford Fence	Fencing	LO	3 miles WL-friendly fence
FY21	A Bar Fence	Fencing	LO	1 mile WL-friendly fence
	A Bar Fence Retrofit	Fencing	LO	1 WL-friendly fence repair
	Chaffin Fence	Fencing	LO	0.75 mile WL-friendly fence
	Cimarron Ridge Weed	Weed control	LO, NRCS	90 acres weed control
	Harold Fence Ph 2	Fencing	LO	2.25 miles WL-friendly fence

	Silver View Ranch Fence	Fencing	LO	1.5 miles WL-friendly fence
FY20	Daniels Fence	Fencing	LO	2 miles WL-friendly fence
	Elk Springs Fence	Fencing	LO	1 mile WL-friendly fence
	Harold Fence	Fencing	LO	0.5 mile WL-friendly fence
	Thorpe Fence	Fencing	LO	0.5 mile WL-friendly fence
FY19	Romeo Fence	Fencing	LO	0.25 mile WL-friendly fence
	Scriffiny Fence	Fencing	LO	1.25 mile WL-friendly fence
FY18	A Bar Fence	Fencing	LO	0.75 mile WL-friendly fence
	Warner Fence	Fencing	LO	4.5 miles WL-friendly fence
FY17	A Bar Fence Crossings	Fencing	LO	6 fence crossings
	Dustin Mullins Hydroax	Brush thinning	LO, CSFS	240 acres thinned
	Scriffiny Fence	Fencing	LO	1.25 mile WL-friendly fence
FY16	A Bar Fence	Fencing	LO	0.6 mile WL-friendly fence
	Sawtooth Ranch Fence	Fencing	LO	2 miles WL-friendly fence
	Romeo Fence	Fencing	LO	1.2 miles WL-friendly fence
FY15	Bostwick Park Hydroax & Seed	Brush thinning, seeding	LO, WRWC, CSFS, Cty	194 acres thinned & seeded
	Leben Ranch Seed	seeding	LO	11 acres seeded
	Perrin Ranch Fence	Fencing	LO	2 miles WL-friendly fence
	S-J Ranch Fence	Fencing	LO	1 mile WL-friendly fence
FY14	Daniels Fence	Fencing	LO	1 mile WL-friendly fence
	Denham Ranch Habitat	Brush thinning, seeding	LO, NRCS, RMBO, USFWS, Cty	284 acres thinned & seeded
	Leben Ranch Fence	Fencing	LO	1 mile WL-friendly fence
	Leben Trust Habitat	Brush thinning, seeding	LO, NRCS, RMBO, USFWS	295 acres thinned & seeded, 3 water developments
	Perrin Ranch Fence	Fencing	LO	0.6 mile WL-friendly fence
FY13	Sawtooth Ranch Herbicide	Weed control	LO	1 weed control project
FY12	Bighorn Burn	Prescribed burn	LO	75 acres burned
	Bighorn Seed	Seeding	LO	38 acres seeded
	Quintana Farm	Weed control, seeding	LO, NRCS	1 weed control project 10 acres seeded
	Sawtooth Herbicide	Weed control	LO	1 weed control project

\*CSFS= CO State Forest Service, LO= Landowner, NRCS= Natural Resources Conservation Association, RMBO= Rocky Mountain Bird Observatory, USFWS= US Fish and Wildlife Service

**Habitat Capability and Condition**

Elk occur 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 (Figure 10). Summer range occurs in 57% of E-35. In the winter months, there are large concentrations of elk that occupy agricultural fields in the valley paralleling US Hwy 550 and the Uncompahgre River (Figure 11). Elk also concentrate on private lands south of CO Hwy 62 as well. Winter range comprises 47% of the DAU. 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. There are also resident elk that refuge on large ranches year-round due to the lack hunting pressure.





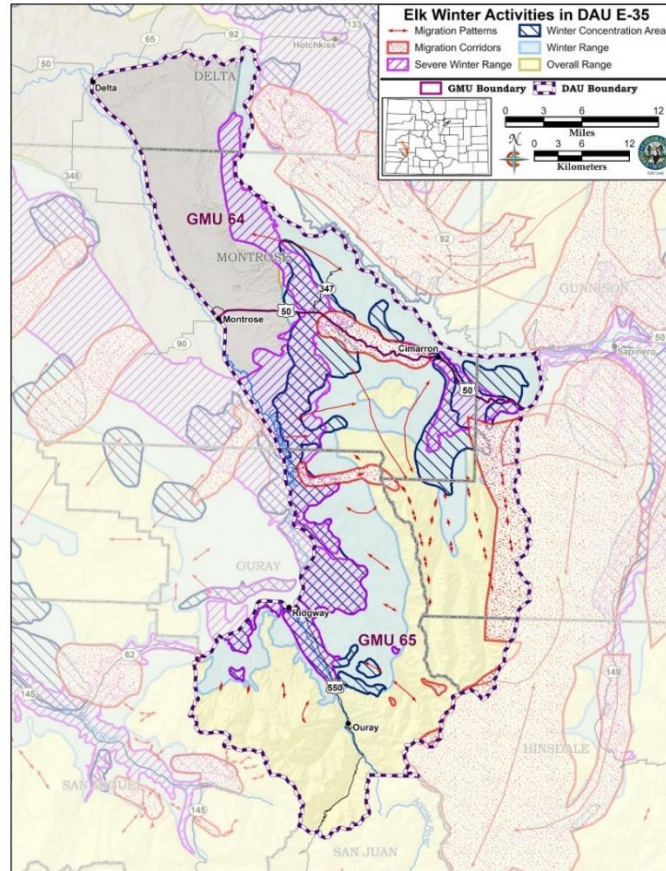


Figure 11. Elk winter range and migration patterns in E-35.

Calf recruitment has been very low for the last decade (29-42 calves per 100 cows during December surveys). Calf ratios over the last decade are high enough to stabilize the population, but not high enough to make dramatic improvements in population growth. Thus, CPW is recommending an increase in the objective population, all while understanding that environmental impacts, human development, increased recreation, and limited ability to manage herds on private lands could prevent strong population growth. More management tools are needed to manage elk refuging on private land, despite the lack of interest in having hunters on private lands. Habitat improvements can help keep elk on public land if it becomes more suitable.

#### *Conservation Easements and Habitat Conservation Acquisitions*

There are several conservation easements in the DAU that are monitored by local NGOs and nonprofits, but none of them are monitored by CPW currently. Nearly 1,400 acres were in conservation easements within the DAU by 2013 and have been increasing annually. CPW acquired an additional 180 acres to benefit big game on the Cerro State Wildlife Area in 2017. Black Canyon National Park acquired 2,000 acres of private land in 2019.

#### *Recreation*

The Cimarron and northern San Juan area has long been a popular destination for recreation. Recreation activities include hiking, camping, hunting, fishing, wildlife viewing, photography, mountain biking, horseback riding, four-wheeling, OHV use, snowmobiling, and cross-country skiing. The impact of increased non-consumptive recreation activities on elk and other

wildlife is currently being studied and results so far are inconclusive, but it is assumed to be detrimental to some degree because of increased disturbance and habitat degradation (Phillips and Alldredge 2000, Taylor and Knight 2003). Some of these recreational impacts and increased use may be why elk refuge on private land year-round, compared to other populations that normally only harbor on private lands in the winter months.

Hunting impacts to elk are not limited to actual harvest. Hunters have an effect on the distribution of elk in the fall and can affect where elk will winter (Vieira et al. 2003, Mikle et al. 2019, Figure 11). Hunters could also create new roads that can increase disturbance to elk by a variety of motorized users outside of the hunting seasons. From an economic standpoint, hunting makes the greatest contribution to the local economy of any recreational activity. Many landowners also realize significant economic benefits from deer and elk by leasing hunting rights, guiding deer and elk hunts, and charging hunter trespass fees.

### *Mining*

Energy and mining activities in E-35 include mineral mining claims and sand and gravel extraction. Although previous gas exploration has not been productive within the area, there has been an increase in leasing mineral rights within the area. Intensive gold and silver mining activity began in the San Juan Mountains in the 1870s. The area was very active with mining thru the 1930s before mining went bust in the area. In 2018, Aurcana Silver Corporation recently acquired Ouray Silver Mines and planned to continue mining silver at the Revenue-Virginus mine (last active in 2015) for a minimum of five years. It is likely that unregulated market hunting and subsistence hunting associated with mining activities in the San Juan Mountains contributed to the elk and deer population decline near the turn of the 20<sup>th</sup> century. Habitat impacts (i.e. roads, runways, mines, seismic lines, tailings) from this industry are still apparent in GMU 65 south of Ouray with abandoned mine buildings, as well as tailings and high mineral loads in nearby waterways.

### *Timber Harvest*

Timber harvest in the Cimarron consists primarily of fuel wood collection on the Uncompahgre National Forest and private lands. On BLM land, timber harvest consists primarily of pinyon and Gambel oak fuel wood collection and selective cutting of juniper for posts. In 2018, commercial logging occurred on High Mesa. Commercial timber harvest is occurring on Firebox and Failes Creek.

The impact of timber harvest on elk is mostly undetermined. Elk often prefer timber harvested areas because forage production often increases following silvicultural activities, but increased activity during harvest could deter elk from the area.

## ***Conflicts with Agriculture***

### *Game Damage*

Game damage more commonly results from deer than from elk in this DAU. Some of the most common conflicts are fence damage; damage to hay pastures or crops in spring, summer and fall; competition with livestock for forage in spring; limited water sources and storage capacity (Uncompahgre HPP 2020). Game damage outside of the claims process is increasing in the Montrose County portion of the DAU, but decreasing in Ouray and Gunnison County portions of the DAU. The table below (Table 3) shows the claims that have been paid for since the 2007 HMP plan revision. More game damage occurs than is shown in the table because occasionally, prevention materials and game damage distribution management hunts are

requested and given to landowners to proactively deal with damage before a claim needs to be made. These methods also increase landowner tolerance for wildlife on private properties. HPP funds and support also help offset many game damage issues.

In September 1996, the Uncompahgre Habitat Partnership Program (UHPP) was created. The UHPP area includes Game Management Units 64 and 65 as well as 60, 61, 62, and 70. The mission of the UHPP is to identify and resolve livestock/big game conflicts that pertain to rangeland forage, growing and harvested hay crops, harvested crop aftermath grazing, and fences on both private and public lands. The UHPP receives 5% of the hunting license revenue generated in the six game management units that it encompasses. Projects that have been approved by the UHPP for funding in the past include providing materials to repair fences damaged by elk, roller chopping on public and private lands to improve deer and elk habitat, fertilizing hay meadows to compensate for elk grazing, and noxious weed control.

Table 3. Game damage claims paid in E-35 from 2007 to 2021.

Claim Date	Damage Type	Claim Paid	GMU
1/28/2009	Harvested Crop	\$780.00	65
3 /6/2009	Harvested Crop	\$640.00	65

## Herd Management History

### *Population size and Herd Composition*

#### *Post-hunt population size*

E-35 populations have been slowly increasing over the last 10 years (Figure 12). Based on field manager’s experience, it is possible this model is slightly overestimating the actual population size. Models are a tool to give insight into trends in how populations change over time with data collected in the field to inform these models. The population for the 2022 HMP reflects the current models and stakeholder opinions on how many elk are on the landscape in E-35. The proposed population objective range is flexible enough to allow for moderate growth of the population and to account for any environmental or human-induced factors that could affect the population’s growth. Stakeholders and CPW staff support the desire to increase this elk population.

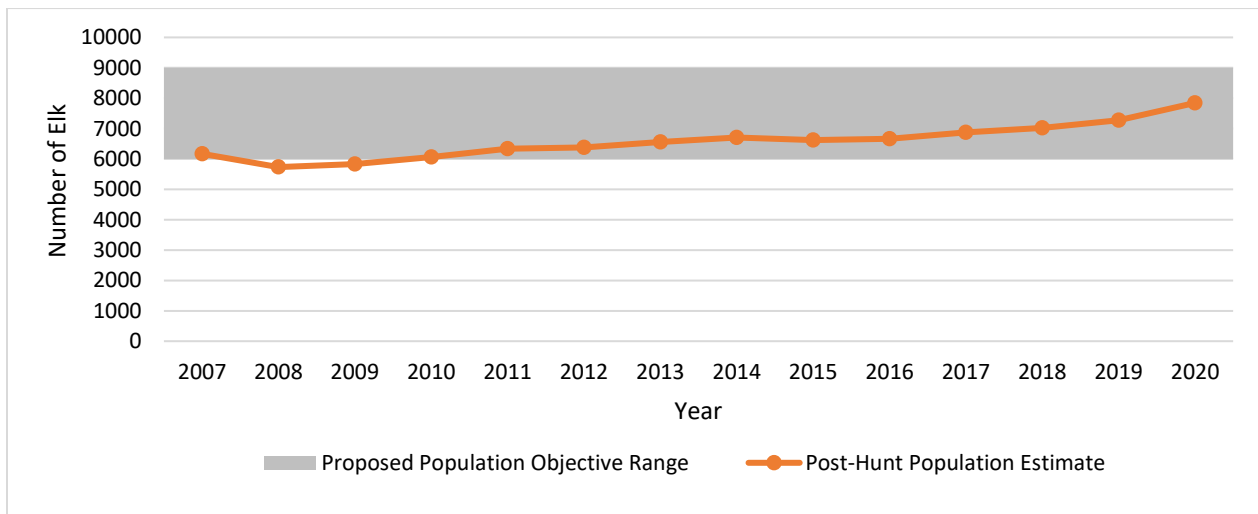


Figure 12. E-35 modeled post-hunt population and proposed objective range: 2007-2020.

### *Post-hunt Herd Composition*

Post-hunt herd composition is determined by aerial surveys in late December or early January after the animals have moved to their winter ranges. Bull:cow ratios observed in the Cimarron during aerial surveys are potentially biased low because small groups of bulls are more difficult to sight from the air than larger herds of cows and calves. Calf:cow ratios observed during aerial counts are generally believed to be non-biased and better-represent actual ratios. Cow elk do not calve until they are 2 years old and typically produce a single calf. Additionally, more flight time is prioritized to GMU 65 than GMU 64 because 74% of harvest in the DAU occurs in unit 65.

### *Calf Recruitment*

Calf recruitment in E-35 has fluctuated since the last HMP revision occurred in 2007. Winter calf ratios have increased slightly over the last five years, indicating that there is some recent improvement in recruitment into the population (Figure 13). The average ratio from 2010 to 2020 is 35 calves per 100 cows. Calf recruitment must continue on this trend, or higher, in order to increase population growth (DeCesare et al. 2012, Harris et al. 2007).

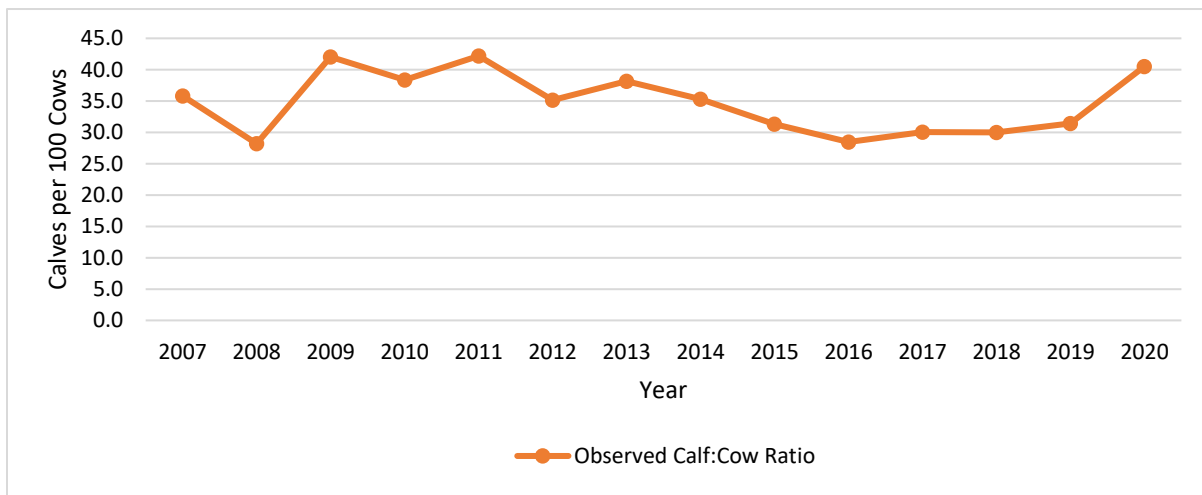


Figure 13. E-35 observed calves:100 cows: 2007-2020. Data are from annual post-hunt helicopter classification surveys completed in December or January.

### *Bull Ratio*

The observed bull ratio has varied more than the modeled bull ratio (Figure 14). This is somewhat expected since classification flights can vary with weather, observer, and flight time. It also only accounts for the animals seen, not the entire population, like the modeled ratio estimates. The three-year modeled bull ratio from 2018-2020 was 21 bulls per 100 cows. The observed bull ratio during the same time period was 20 bulls per 100 cows. Both bull ratios are within the expected bull ratio range for an OTC DAU of 20-25 bulls per 100 cows. Management of this bull ratio can only be achieved through limited seasons, since CPW cannot manage how many bull licenses are available during the OTC seasons.

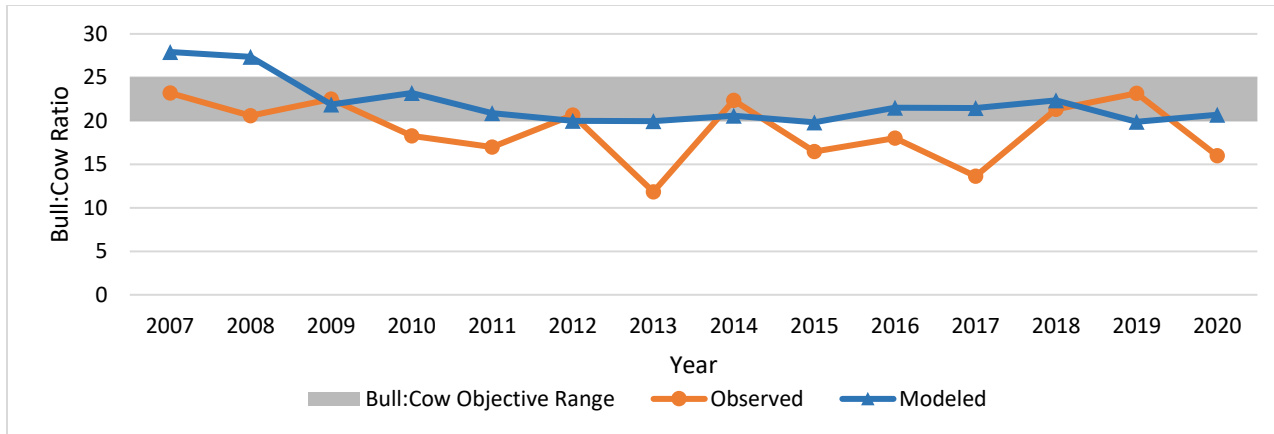


Figure 14. E-35 post-hunt observed and modeled bulls:100 cows and the expected bull ratio range: 2007-2020.

## Harvest

### *Factors Affecting Harvest*

Factors affecting the number of elk harvested each year include: (1) hunting pressure from over-the-counter license holders (i.e. archery either-sex and second and third rifle bull hunters); (2) the amount of private land with limited hunting; (3) the number of limited licenses issued (i.e., antlerless licenses and 1<sup>st</sup> and 4<sup>th</sup> season bull licenses); (4) season structure and antler point restrictions; (5) weather; and (6) population size and structure.

### *Harvest History*

As a result of unregulated hunting and habitat alterations, only a small number of elk managed to survive in the Cimarron DAU during the early part of the 20<sup>th</sup> century. In the 1920s, elk were trapped in Routt County, Colorado and released near Ouray to bolster the small local elk population. Elk hunting in the area was prohibited for almost three decades during this time period.

By the 1930s, elk numbers had grown enough to allow limited bull hunting. By the 1950s, E-35 had been opened up to over-the-counter licenses with a limited number of antlerless elk licenses to manage the growing herd. In addition to managing the growing herd, a four-point antler restriction on bulls was implemented in 1986 to increase the age of bulls within the DAU.

In 1988, a population objective of 2,900 was established, which was unrealistic, but reasonable at the time based on modeling techniques of elk survival knowledge at the time. In 1992, antlerless and either-sex licenses were increased to 2,175 to reduce the population. By 2000, the post-hunt population estimate was approximately 6,900 (based on previous model estimates) and efforts were stepped up to reduce the population with the addition of 1,675 cow antlerless and either-sex licenses from the previous year. As of 2005, the post-hunt population estimate was 6,200 (based on previous model estimates), and there were 850 either-sex licenses available for the 1<sup>st</sup> and 4<sup>th</sup> rifle seasons, 2,205 antlerless licenses for the all regular and late rifles seasons, as well as the over-the-counter bull licenses available during the 2<sup>nd</sup> and 3<sup>rd</sup> rifle seasons. The licenses available for E-35 in 2005 was the most limited licenses available within the DAU's history and put 4,880 hunters into the field (Figure 15).

Between 1989 and 2005, elk in E-35 were harvested at an average rate of 15% of the estimated pre-hunt population assuming a 10% wounding loss. The cow harvest rate increased from an average of 5% between 1981 and 1988 to an average of 15% between 1989 and 2005. Just as harvest rates increased, so did success rates; from 1980-2000 the average success rate was 25% across the DAU for both antlered and antlerless elk and from 2001 to 2005 the success rate has averaged 30%. For the last decade, harvest has been consistent despite the increase in hunters in the field, averaging 889 total harvests. The current 2020 estimated population based on the updated models is 7,800. In 2020, 431 antlerless licenses and 410 bull licenses were harvested by 4,310 hunters (Figure 15). The DAU-wide success rate was 20%. Success rates are expected to be greater in limited seasons versus OTC seasons, so this success rate could vary greatly on an individual hunt code basis.

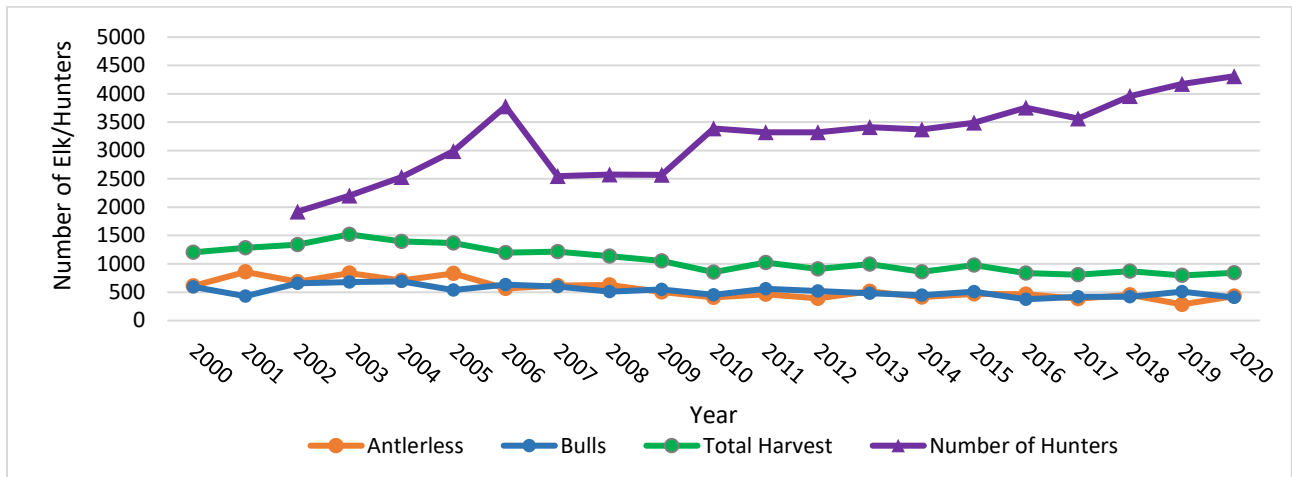


Figure 15. Elk harvest and number of hunters in DAU E-35: 2000-2020. Harvest is for all manners of take.

Most licenses in E-35 do not take any preference points or are able to be picked up through the leftover draw (Table 4). The “proportion of quota sold” was included in the table below to illustrate the issue with selling limited licenses in E-35. The demand is not equal to the licenses available. This is directly related to elk harboring on inaccessible private lands where hunting is prohibited. Having more hunters on private land would help alleviate some of the issues with elk distribution in the unit, but without interest in private licenses, management of this herd becomes difficult.

Table 4. Hunt codes in E-35 listed with the license quota, number of licenses sold, proportion of licenses sold, and how many points it took in 2020 to draw each license.

Hunt Code	License Quota	Licenses Sold	Proportion of Quota Sold	Total 1st Choice Apps	DRAWN OUT AT IN PRIMARY DRAW			
					Adult Res	Adult NR	Youth Res	Youth NR
EE000U1A	unlimited							
EM06401M	110	110	1	121	0 Pref Points	0 Pref Points	0 Pref Points	0 Pref Points
EF06401M	120	117	0.98	29	Leftover	Leftover	Leftover	Leftover
EM000U2R	unlimited							
EM000U3R	unlimited							
EE06401R	400	396	0.99	413	0 Pref Points	0 Pref Points	0 Pref Points	0 Pref Points



EE06404R	75	75	1	94	0 Pref Points	0 Pref Points	0 Pref Points	None Drawn
EF06401R	180	177	0.98	21	Leftover	Leftover	Leftover	Leftover
EF06402R	300	283	0.94	80	Leftover	Leftover	Leftover	Leftover
EF06403R	360	237	0.99	64	Leftover	Leftover	Leftover	Leftover
EF06404R	float	121		11				
EE064P1R	130	125	0.96	68	Leftover	Leftover	Leftover	Leftover
EE064P4R	85	85	1	38	Leftover	Leftover	Leftover	Leftover
EF064P1R	100	36	0.36	3	Leftover	Leftover	Leftover	Leftover
EF064P2R	300	104	1	29	Leftover	Leftover	Leftover	Leftover
EF064P3R	float	97		29				
EF064P4R	float	99		14				
EF064P5R	25	25	1	19	Choice 2	0 Pref Points	0 Pref Points	No Apps
EE000U1A	unlimited							
EM06401M	110	110	1	125	0 Pref Points	0 Pref Points	0 Pref Points	2 Pref Points
EF06401M	120	103	0.86	30	Leftover	Leftover	Leftover	Leftover
EM000U2R	unlimited							
EM000U3R	unlimited							
EE06401R	400	400	1	416	0 Pref Points	0 Pref Points	0 Pref Points	0 Pref Points
EE06404R	75	75	1	80	0 Pref Points	0 Pref Points	0 Pref Points	0 Pref Points
EF06401R	180	179	0.99	12	Leftover	Leftover	Leftover	Leftover
EF06402R	300	295	0.98	91	Leftover	Leftover	Leftover	Leftover
EF06403R	360	280	1	94	Leftover	Leftover	Leftover	Leftover
EF06404R	float	79		5				
EE064P1R	130	124	0.95	72	Leftover	Leftover	Leftover	Leftover
EE064P4R	85	85	1	31	Leftover	Leftover	Leftover	Leftover
EF064P1R	100	41	0.41	6	Leftover	Leftover	Leftover	Leftover
EF064P2R	300	83	1	38	Leftover	Leftover	Leftover	Leftover
EF064P3R	float	124		33				
EF064P4R	float	94		17				
EF064P5R	25	25	1	21	Choice 2	0 Pref Points	0 Pref Points	No Apps
EE000U1A	unlimited							
EM06401M	110	108	0.98	170	0 Pref Points	1 Pref Points	0 Pref Points	None Drawn
EF06401M	120	97	0.81	18	Leftover	Leftover	Leftover	Leftover
EM000U2R	unlimited							
EM000U3R	unlimited							
EE06401R	400	398	1	427	0 Pref Points	0 Pref Points	0 Pref Points	0 Pref Points
EE06404R	75	75	1	123	0 Pref Points	0 Pref Points	0 Pref Points	No Apps
EF06401R	180	178	0.99	20	Leftover	Leftover	Leftover	Leftover
EF06402R	300	291	0.97	109	Leftover	Leftover	Leftover	Leftover
EF06403R	360	262	1	84	Leftover	Leftover	Leftover	Leftover
EF06404R	float	98		6				
EE064P1R	130	129	0.99	70	Leftover	Leftover	Leftover	Leftover
EE064P4R	85	85	1	44	Leftover	Leftover	Leftover	Leftover
EF064P1R	100	38	0.38	8	Leftover	Leftover	Leftover	Leftover
EF064P2R	300	86	1	25	Leftover	Leftover	Leftover	Leftover
EF064P3R	float	129		37				
EF064P4R	float	84		11				
EF064P5R	25	25	1	31	0 Pref Points	None Drawn	0 Pref Points	No Apps

## ISSUES AND STRATEGIES

In developing this draft plan, we identified issues through both stakeholder and staff involvement. Stakeholders included hunters, landowners, and the local Habitat Partnership Program (HPP) committee.

Throughout this HMP, CPW has discussed many of the issues occurring within E-35 that effect management of this herd. In general, habitat loss due to development and recreation have had a large impact on local wildlife. These impacts can lead to poor calf recruitment and survival, which appear to be the some of the limiting factors for this herd. Environmental stressors, like droughts or hard winters, can also impact elk productivity and health. Refuging elk on large tracts of private land also creates challenges for managing this herd.

### *Development*

The local municipalities in E-35 have seen large increases in traffic and development. Subsequent issues can arise from increased development. In the last 40 years, all types of residential development have increased except for the undeveloped category (Figure 16). This figure does not include 2020 data, but CPW would postulate that human expansion will continue at a similar, if not a faster rate.

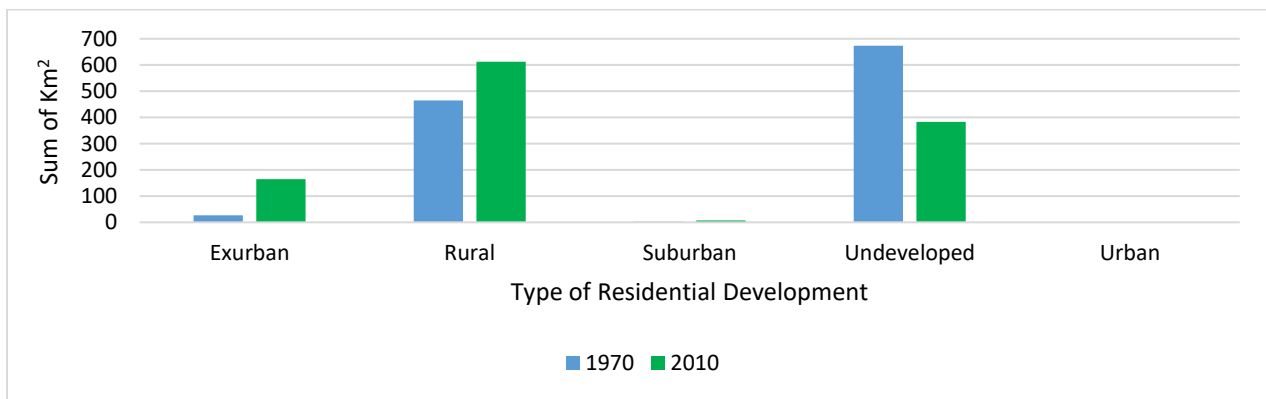


Figure 16. Change in residential development from 1970 to 2010 in E-35. (Exurban = 0.03-0.59 housing units/ha; Rural = < 0.03 housing units/ha; Suburban = 0.60-5 housing units/ha; Undeveloped = 0 housing units/ha; Urban = >5 housing units/ha; Johnson et al. 2016).

Development fragments habitat in many ways. The addition of homes, out buildings, roads, artificial light, and excess noise and traffic all reduce habitat connectivity for wildlife and limit effective habitat and carrying capacity for elk. Conversely, large tracts of private land create refuges for elk that are pushed off public land by hunting pressure, or the lack of quality habitat forcing them to find resources elsewhere. This creates a management challenge when hunters cannot help manage populations through harvest on public lands.

With increased development comes increasing traffic on local roads and highways, elevating the potential for wildlife-vehicle collisions. US Hwy 550 is one of the major highways that goes along the boundary of E-35. CDOT determined in the Western Slope Wildlife Prioritization Study (Kintsch et al. 2019) that a section of the highway near Billy Creek SWA (mm 114.5-116) is in the top 5% priority segments in the state. The annual average daily trips (AADT) for this section of highway is 7,700, but CDOT predicts it will grow to over 9,000 AADT in the next 20 years (CDOT Pers. Comm. 2021). Any AADT value above 7,500 is interpreted as



a “near-total” barrier, with a moderate-high probability of wildlife-vehicle collisions. CPW, CDOT, and NGOs gathered together in September 2021 to discuss the design plan and proposed location of a new underpass, jump-outs, and exclusion fence designed for deer and elk passage. This passage will improve winter range habitat connectivity and access to the Uncompahgre River. CPW supports more projects that aid in movement across the landscape for wildlife and keep people safe on the roads.

### *Recreation*

As previously mentioned, recreation in this DAU is extremely popular and increasing annually. For example, the Blue Lakes trailhead near Ridgway (GMU 65) can have more than 50 cars daily in the parking lot. This area has viable summer habitat for deer and elk (Figure 10), but increased recreation could alter wildlife movements and behavior in this area. Phillips and Alldredge (2000) found calf survival was negatively impacted by outdoor recreation. Moreover, CPW staff has anecdotally observed elk using lower elevations as summer range due to the excess recreation activity occurring in the alpine habitat. Studies have also shown that off-trail travel is more detrimental to wildlife than on-trail travel, so CPW should promote travel on trails only when commenting on land use documents (Taylor and Knight 2003). When planning new trails or trail improvements, CPW will consult the 2021 Trails with Wildlife in Mind Guide (Trails with Wildlife in Mind Task Force 2021) to aid in management decisions.

Seasonal closures can benefit wildlife in the winter months when they are most vulnerable. Closures that occur on Forest Service and BLM lands limit activity from December 1<sup>st</sup> to April 15<sup>th</sup>. The Ridgway Area Trails (RAT) located on BLM near Ridgway State Park, are closed from December 1<sup>st</sup> to April 30<sup>th</sup>. In addition to federal land closures, Billy Creek State Wildlife Area (SWA) is closed from January 1<sup>st</sup> to April 30<sup>th</sup> to protect wildlife wintering on the SWA. Cimarron SWA is closed from January 1<sup>st</sup> until June 30<sup>th</sup> to protect big game winter range and Gunnison sage-grouse nesting season. This extended closure could also benefit elk during calving season. As of 2018, CPW prohibits antler collection from January 1<sup>st</sup> through April 30<sup>th</sup> annually. This also helps reduce stress on wildlife on winter range and aids in fawn and calf survival in early spring. Possibly limiting motorized and mechanical use near areas where elk refuge on private land may also help keep elk from pushing into less disturbed habitat on private land.

### *Chronic Wasting Disease*

Chronic wasting disease (CWD) was first recognized at a captive mule deer facility near Fort Collins, CO in the 1960s, but could have been present in the environment long before this discovery. Shortly after this discovery, wild deer were symptomatic of the disease. 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 to growing concern increasing spread throughout the state (CPW 2018). This plan contains management actions and recommendations to control CWD prevalence, while managing towards population and bull ratio objectives.

Thus far, elk in GMUs 64 and 65 have not tested positive for CWD. The local deer populations in this unit have tested positive in GMUs 64 and 65. The prevalence is low, 1.7% from 2017-2020 of harvested deer, but it is expected to slowly increase over time. Luckily, the southwest portion of Colorado has not detected CWD within most elk populations, but detection is inevitable with it present in the environment. Mandatory CWD testing for our local elk populations (GMUs 61, 62, 64, 65, and 70) is occurring fall of 2021. Mandatory testing helps CPW gain accurate insight into CWD prevalence in a population. If CWD is detected in E-35, management objectives will be adapted to limit the spread of this deadly disease.

### *Predation*

The effects of predation are imperative to herd management. Many stakeholders have concerns about how predation effects big game herds and livestock as well. Black bears and mountain lions are the most common predators of calves, especially calves that are less than one-month-old (White et al. 2010). Predation of young can be complicated by the health of the calf and the cow. Habitat characteristics and weather can also influence susceptibility to predation (White et al. 2010). Research on calf survival is currently taking place in E-20, a DAU bordering E-35. To manage predation on young, CPW has increased black bear licenses substantially over the last five years and increased mountain lion quotas in 65, but 64 has remained the same because the quota is not usually filled each year.

## **Management Strategies to Address Issues and Management Concerns**

Wildlife management may seem simple at face value, but population management often is affected by many environmental and external anthropogenic factors, with no easy solutions and trade-offs that often result in other issues. 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 lack of connectivity. These impacts have resulted in slow population growth for the last decade.

CPW can manage bull 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 bull 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 bull ratio. 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. These agencies can help with large-scale habitat management projects and regulate recreation on public lands, which could bolster elk populations on public lands.

## **Strategies to Achieve Herd Management Objectives**

The proposed preferred population objective of **6,000-9,000** elk and a bull ratio of **20-25 bulls per 100 cows** will involve adaptive management to achieve these goals. Lowering antlerless licenses in the short-term may help increase populations toward the proposed 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 bull ratio near the lower end of the expected bull ratio objective range, if possible. Additionally, black bear and mountain lion license will be managed to keep populations in check. If conditions change, we may revise the HMP before the 10-year revision timeline.

In addition to license management, CPW will support more conservation easements that benefit big game habitat and connectivity between seasonal ranges. CPW will work with stakeholders and other land managers to improve habitat carry capacity by converting more fence to wildlife friendly fences, adding wildlife underpasses and overpasses to busy highways, native seeding projects, prescribed burns, guzzler installments, and seasonal closures, limiting motorized and mechanical use near private lands known to harbor elk, for example. Working collaboratively with our partners can benefit local elk herds and their surrounding communities as well. Enhancing public land is essential for mediating refuging elk on private lands. Since license management is challenged by OTC seasons, habitat restoration, seasonal closures, and increased private land hunting pressure are a few ways to improve elk distribution in the unit.

## **PUBLIC INVOLVEMENT**

### *Surveys*

After proposing three population alternatives and one bull ratio objective range to various stakeholders, CPW finalized the E-35 draft HMP. Surveys designed with hunters and landowners in mind were sent 17 September 2021 with an input period ending 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. Survey results and a comment summary are available in Appendix A.

### *Additional Outreach*

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. The final draft will be presented to the Parks and Wildlife Commission in January 2022 to determine the management objective and bull ratio. If the plan is approved, it will be finalized and put on the website for public reference.

No comments were received from the online 30-day comment period. We received support letters from BHA, the local HPP committee, and the BLM (Appendix B). Montrose and Ouray County provided a letter of support. No letters or additional comments were received from the other counties.

## ALTERNATIVE DEVELOPMENT

### *Management alternatives and preferred objectives:*

Table 5. The proposed population objectives for the E-35 elk herd.

Population Objective Alternatives:	
6,000 to 9,000 (midpoint 7,500)	(1) Approximately 15% increase in the current population estimate at the top of the new objective range
5,000 to 5,500 (midpoint 5,250)	(2) Status Quo (no change in current objective range would result in approximately 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 new objective range

**Expected bull ratio range: 20-25 bulls:100 cows**

#### *Population Objective Alternatives*

The post-hunt population estimate for 2020 was 7,800, with the previous 2007 HMP population objective range of 5,000-5,500. Although CPW believes the model is over estimating the population size slightly, CPW would prefer an increasing trend in the population. By keeping management status quo, CPW will not be able to manage for an increasing population or address the issues of elk distribution within the DAU.

#### **ALTERNATIVE 1 (PREFERRED ALTERNATIVE): 6,000 to 9,000 elk (Moderate Increase- Approximately 15% increase in current population)**

Under **Alternative 1**, elk populations would be increased toward the top of the objective range for a 15% population increase. The current population is in the middle of this objective because management of the herd is difficult with OTC licenses and elk that are unable to be harvested on large expanses of private land with limited hunting pressure. This objective range would give CPW time to try to improve surrounding public land habitat to try to redistribute elk on public lands. CPW may decrease antlerless licenses to improve the population, which is attainable with current elk distributions in the unit. The slight decrease in license should not impact local economies. Increasing the population moderately, as expressed in the survey, could increase game damage claims, yet landowners still have expressed the desire to increase populations. Antlerless damage licenses will still be available to help improve landowner tolerance of increasing populations. The lower end of this objective range allows for populations to drop slightly in the event of a wildland fire, disease outbreak, or weather event (i.e. drought or harsh winter).

#### **ALTERNATIVE 2: 5,000 to 5,500 elk (Status quo)**

E-35 would need to be decreased by 30% if CPW continued to manage to the top of the objective range in **Alternative 2**. CPW would need to increase licenses to decrease the population to the middle of this objective range. Even though CPW suspects the current model is over estimating the population size, dropping the population to be within this objective range would be difficult. The demand for limited licenses is already lower than the quota offered for some license currently, so increasing the quotas would not necessarily increase harvest or decrease the population with the current unbalanced distribution of elk in E-35. Survey results showed that the public did not want a decrease in elk. This alternative

would benefit the local economy by increasing licenses. Game damage claims could decrease if more animals were harvest, especially on private land.

ALTERNATIVE 3: 3,500 to 6,500 elk (Moderate decrease- Approximately 17% decrease in the current population)

Reaching the top of the objective range of **Alternative 3** would also be very difficult to achieve. This alternative would greatly increase opportunity, but CPW does not think the demand for increased limited licenses is there. If more hunters were drawn to the area, the local economy could benefit from the influx of revenue. Game damage would decrease if harvest was increased on private lands. It would also make encountering animals on public land more difficult if there were already fewer animals on the public land and now adding increased hunting pressure could increase elk on private lands without hunting pressure. This alternative would benefit the local economy by increasing licenses. Less animals on the landscape would improve habitat conditions and increase carrying capacity; however, the public did not want a decrease in the elk population.

#### *Bull Ratio Alternatives*

Since E-35 has OTC archery, second season, and third season licenses, the bull ratio is more of a descriptive statistic rather than an objective. The limited seasons allow for managers to distribute hunters throughout other seasons and improve the quality of the hunt, but not necessarily manipulate the bull ratio. Therefore, the **expected bull ratio range is 20-25 bulls:100 cows**. This ratio allows for all age classes of bulls to be present in the population and keep hunter opportunity high. There would be little change to the local economy as this would be the same objective as the last HP revision.

#### *Preferred population and bull ratio alternatives*

##### *Post-Hunt Population*

**Alternative 1** would be the proposed management objective for E-35 aiming for a population of **6,000-9,000 elk**. The top of this objective range is approximately 17% higher than the current estimated population of 7,800. This objective allows CPW to increase the population, but have flexibility to modify estimated populations as environmental influences or anthropogenic change effect the population and as model updates occur. Until CPW finds a solution to elk refuging on private lands, public limited licenses cannot be increased. Increasing private land licenses and decreasing public land license may help alleviate some of these issues. Habitat improvements on public land surrounding private land could help keep elk from harboring on private land as well. Seasonal closures and restrictions on motorized and mechanical vehicles could also limit pressure on elk. Public land hunting opportunities will increase as populations increase and begin utilizing public lands again. This alternative would not negatively impact the local economies.

##### *Post-Hunt Bull Ratio*

CPW recommends the status quo expected bull ratio range of **20-25 bulls:100 cows** because this DAU has OTC licenses for archery, second, and third rifle seasons. This DAU is currently managed for hunting opportunity, so this objective range allows the flexibility needed in an OTC unit, but does not limit the quality of the hunt in limited seasons. CPW can manage limited muzzleloader, first rifle, and antlerless licenses. The management of these seasons can improve hunt quality and hunter distribution throughout the DAU, but not necessarily alter the bull ratio. This will also allow for all ages of bulls within the population.

### **Acknowledgements**

A huge thank you to Area 18 staff, Andy Holland, and SW terrestrial staff, especially Jamin Grigg, for their guidance during this process. All maps created by Michelle Flenner. HPP information provided by Katie Richman. Game Damage information provided by Beverly Herdt. Thank you to all of the public that commented or filled out surveys.

Cover photo: Luke Hoffman

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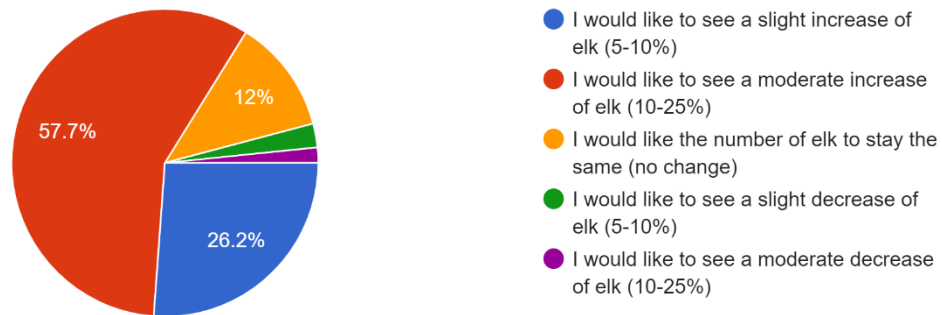
## APPENDIX A

### E-35 Survey Responses

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)

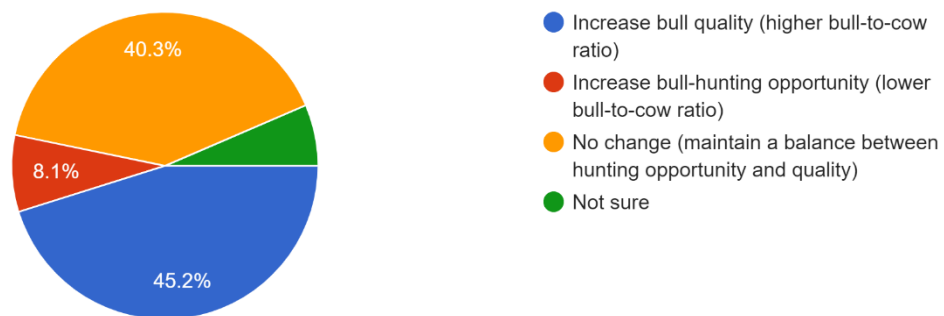
558 responses



2. Please read the following brief description about bull-to-cow elk ratios before answering the following question:

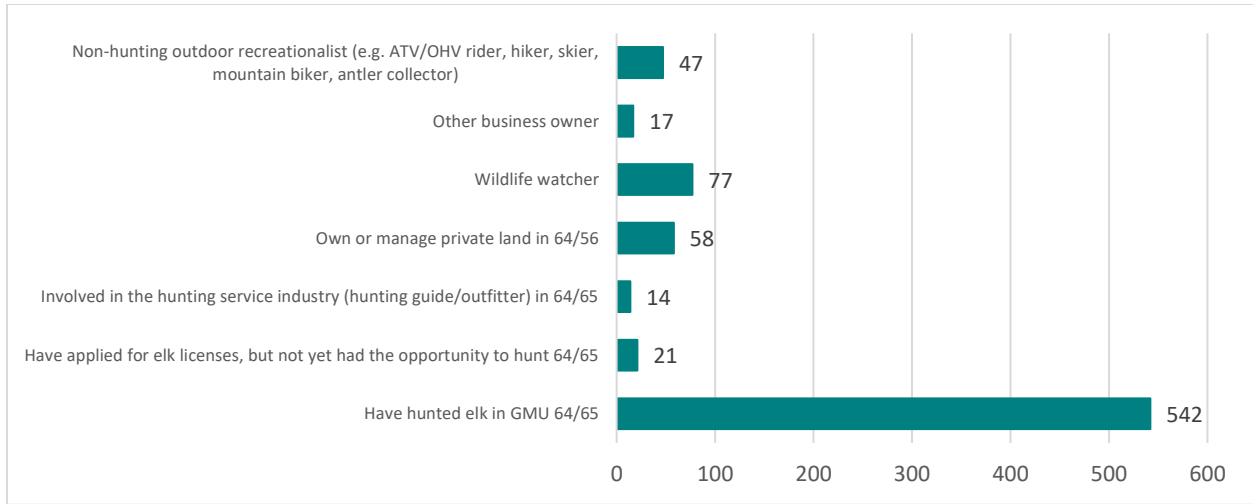
How do you believe the elk herd should be managed in terms of opportunity and quality? (Please only check one option).

558 responses



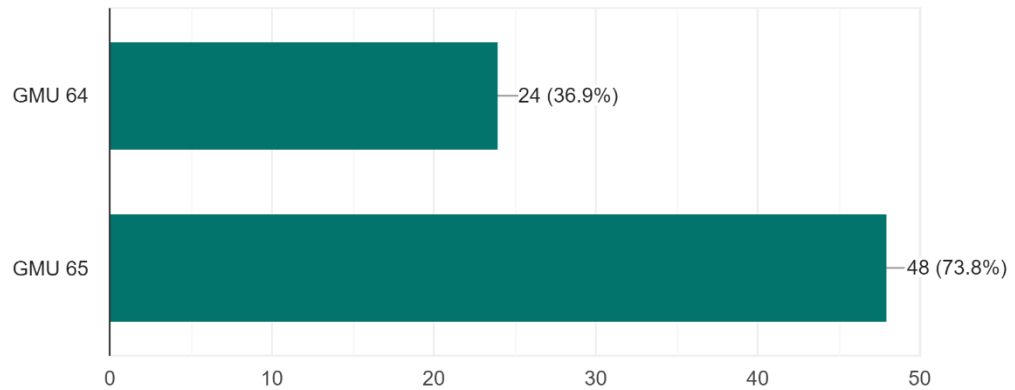
3. Which of the following best describes you (choose up to three choices):

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)

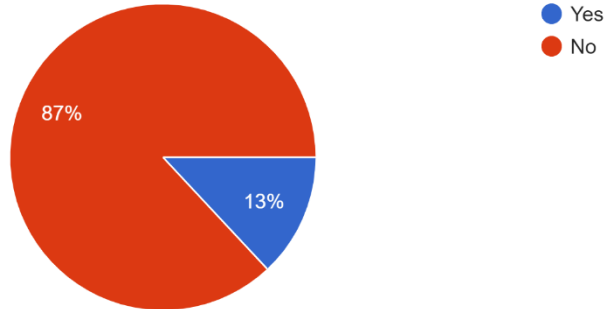
65 responses





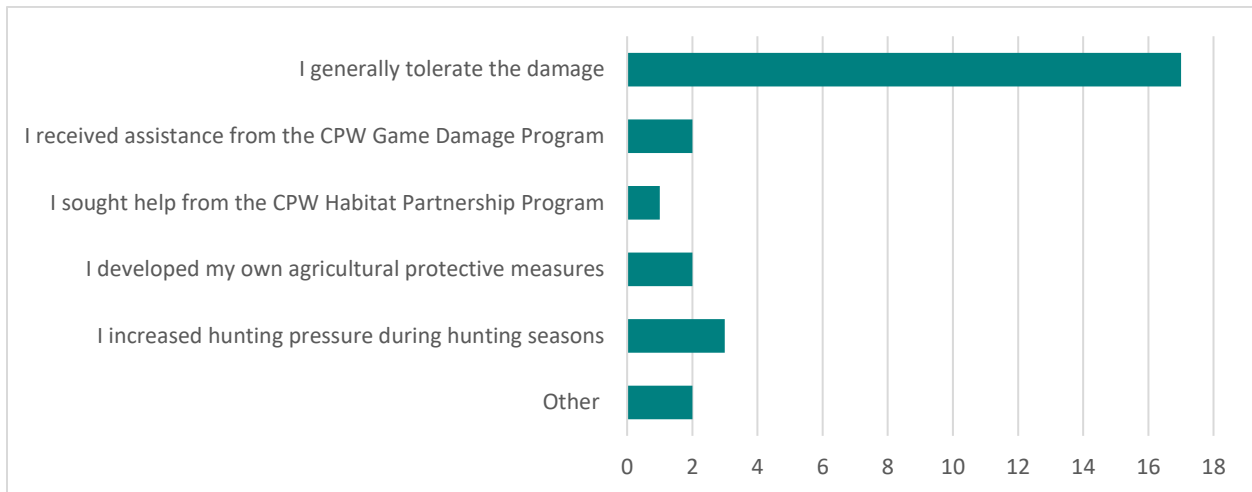
5. Have you experienced any significant loss (i.e. fence damage, forage loss, hay loss, etc.) from elk in the past 10 years?

115 responses



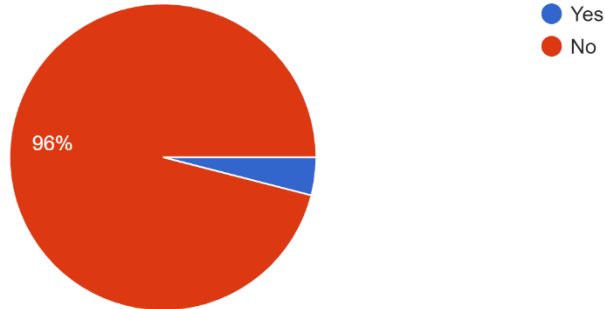
6. If you answered YES to the previous question, what has been the solution for solving these agricultural damage issues? (Choose all that apply)

22 responses



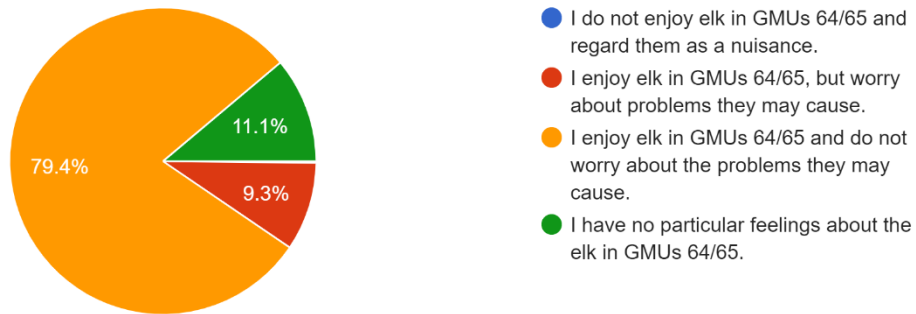
7. If you are a landowner in GMU 64 and/or 65, would you be interested in CPW programs to assist in getting hunters to hunt on your property?

75 responses

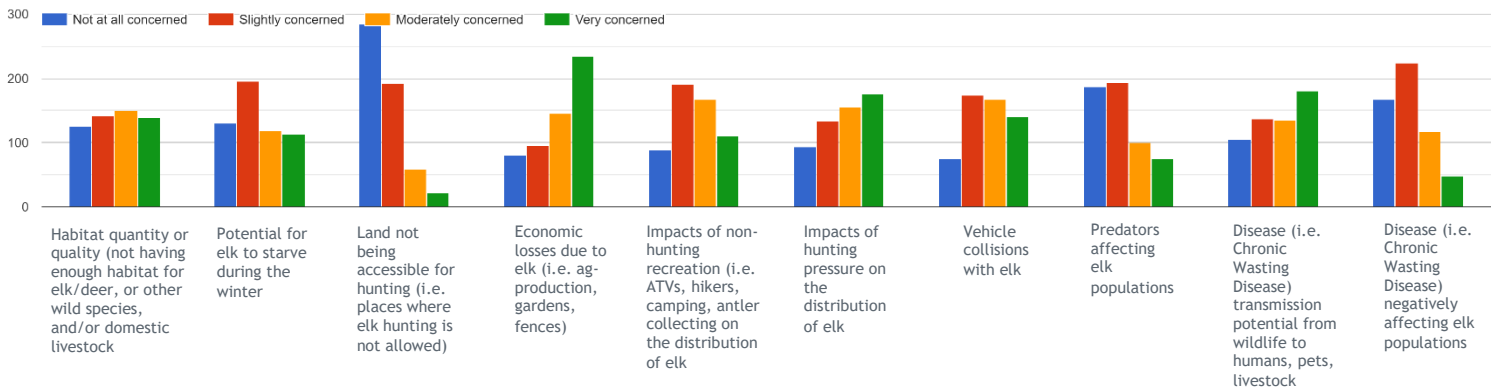


8. Which of the following best describes your general attitude toward elk in GMU 64 and 65? (Please check one)

558 responses

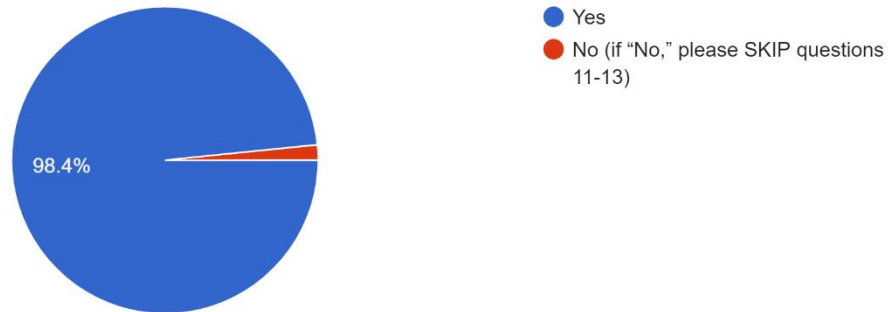


9. How concerned are you about the following items:



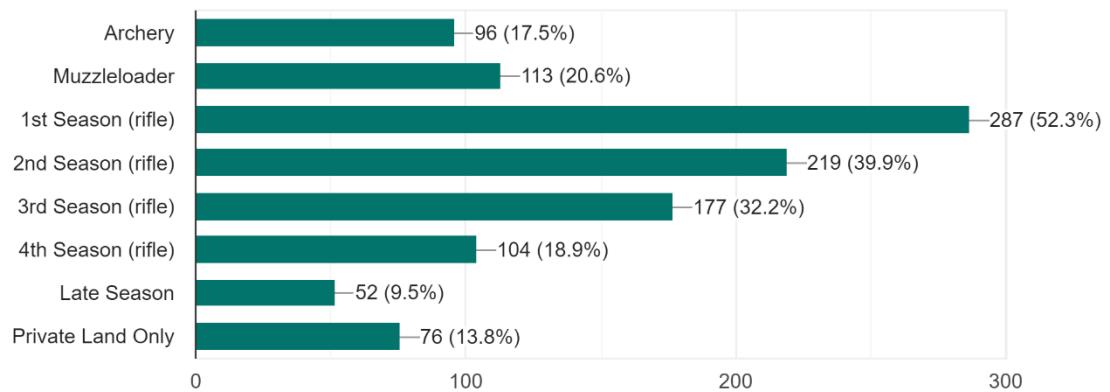
10. Have you hunted elk in GMU 64 or 65?

558 responses

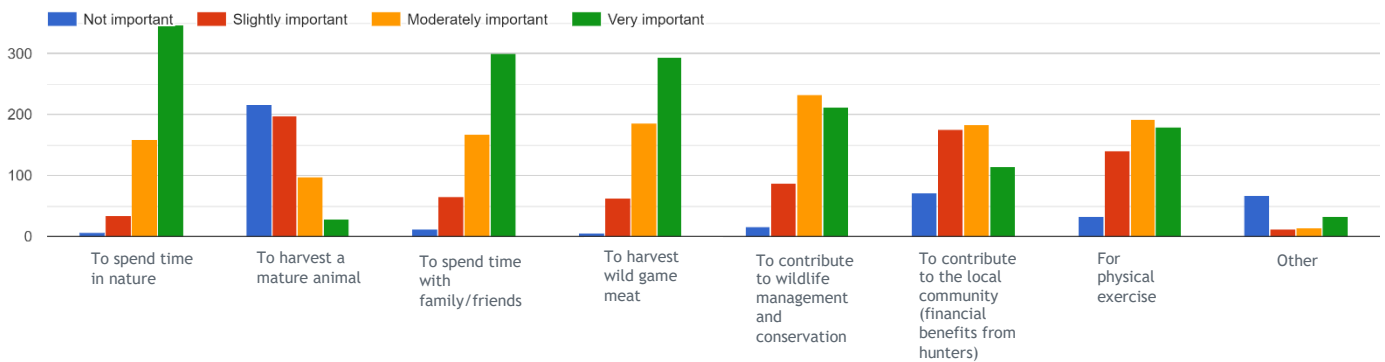


11. During which of the following seasons have you hunted elk in GMU 64 or 65? (Check all that apply)

549 responses

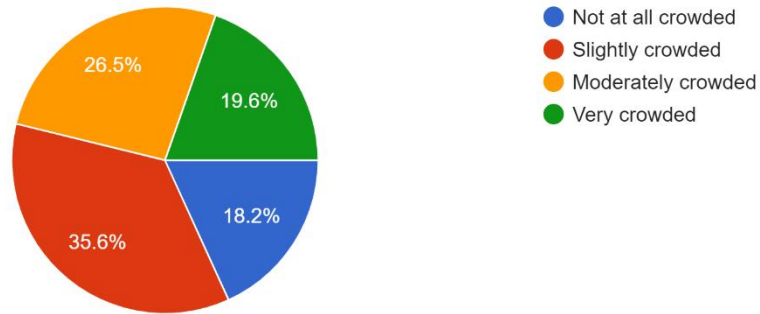


12. How important to you is each of the following reasons to hunt elk in GMU 64/65:



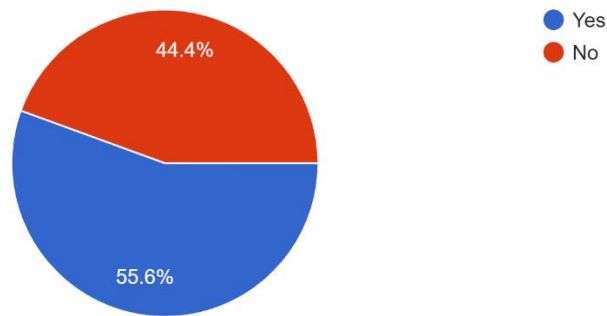
13. To what extent have you felt overcrowded by other hunters while hunting in GMU 64/65?

550 responses



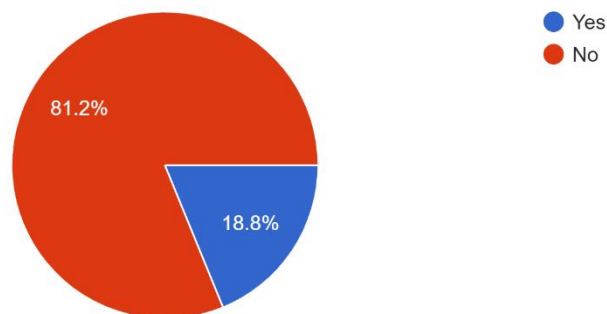
14. Are you a Colorado Resident?

558 responses



15. Do you currently live within GMUs 64/65?

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 B

### Comment Letters

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 Chair  
Uncompahgre HPP Committee



Colorado Backcountry Hunters & Anglers  
*"The sportsmen's voice for our wild public lands, waters and wildlife"*  
[www.backcountryhunters.org](http://www.backcountryhunters.org)

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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 trend 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 CPW's 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](mailto: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](mailto:nperry@blm.gov).

Sincerely,

**SUZANNE  
COPPING**

Suzanne Copping  
Field Office Manager

Digitally signed by SUZANNE  
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Date: 2021.11.10 11:27:29 -0700'



**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 4<sup>th</sup> 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](mailto: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 Tisdell  
Chair, Board of County Commissioners