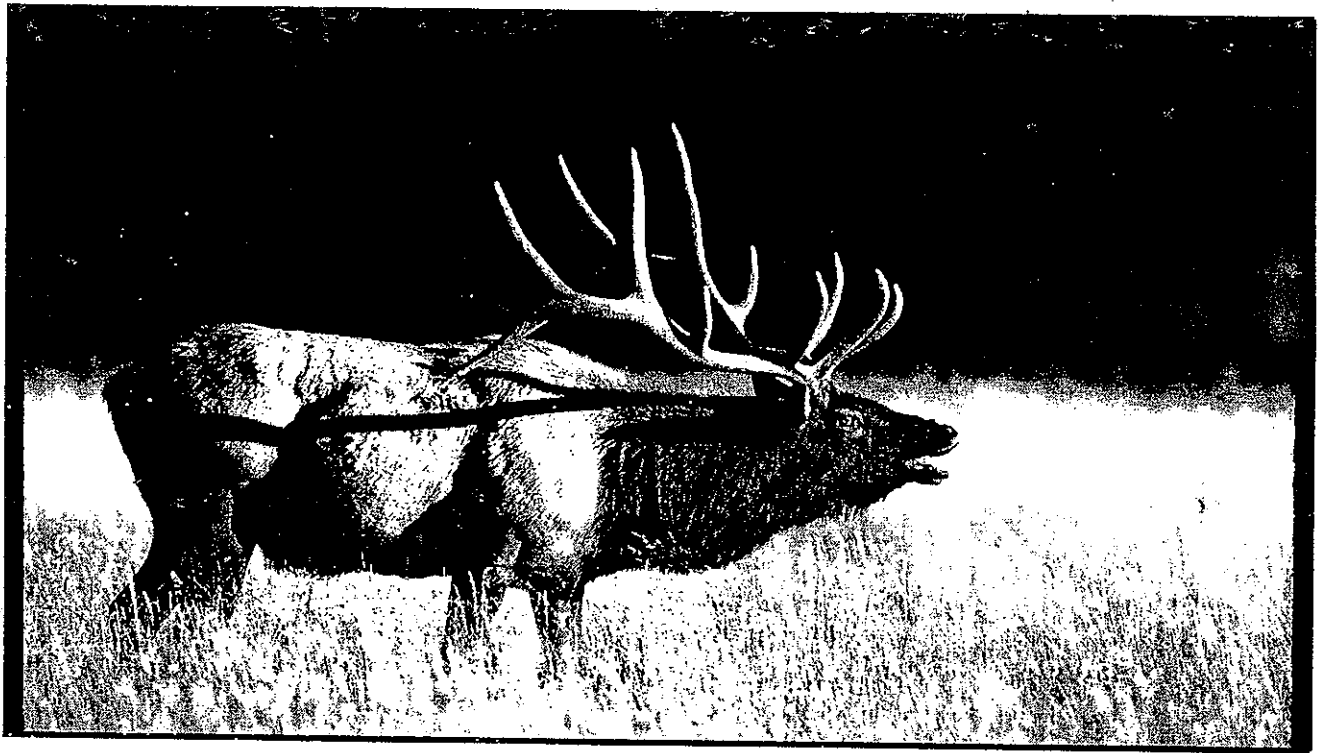


Elk Management Plan Mount Evans Herd Data Analysis Unit E-39

Game Management Units 39, 46 and 461
November 1998



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DATA ANALYSIS UNIT PLAN

Executive Summary

DAU: E-39, Mount Evans elk herd

GMUs: 39, 46, and 461

Current Population Estimate:	2,500	Current Sex Ratio:	45:100
Old Population Objective:	2,200	Old Sex Ratio Objective:	35:100
New Population Objective:	2,500	New Sex Ratio Objective:	45:100
Percent Change:	17% increase	Percent Change:	28% increase

Summary of Management Decisions

Removals of elk by hunting will be adequate in the western one-half of the Data Analysis Unit (DAU) to maintain elk numbers at objective, however cow elk removals must increase in the eastern portion of the area. Since hunting was the most acceptable population control method, the CDOW should implement additional hunting strategies to increase cow elk harvest in the eastern one-half of the DAU. Strategies include increasing private land only (PLO) licenses and seasons, multiple antlerless licenses, splitting Game Management Unit (GMU) 39 into GMUs 39 and 391, opening more public land to limited antlerless elk hunting, and encouraging private landowners to allow hunting on their property.

Significant Issues

The Mount Evans elk herd provides benefits and causes conflicts with people living in the area. Benefits include watchable wildlife recreation for local residents and visitors, quality hunting experiences and educational opportunities. Conflicts related to elk include damage to native, ornamental and agricultural plants, fence damage and elk-vehicle collisions. Although the majority of the public agreed that the elk herd should not increase, none of the population control methods were acceptable to more than 30% of Evergreen residents. Further public involvement strategies should be implemented using recommendations from Cornell's "Designing Stakeholder Strategies for Decision Making," study. Most of the public land managers felt that the number of elk on public land was acceptable or could increase somewhat. They also felt the number of elk on private land was acceptable or should decrease somewhat. Everyone agreed that the current, relatively high, bull:cow ratio should be maintained.

MOUNT EVANS ELK HERD MANAGEMENT PLAN
DAU E-39 (GMU'S 39, 46, 461)

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INTRODUCTION AND PURPOSE

The CDOW is responsible for maintaining big game herds at population levels established through a public review process. This process is called the DAU planning process. The purpose of the DAU plan is to provide a system which will integrate the plans and intentions of the CDOW with the concerns and ideas of land management agencies, land owners and interested publics in determining how a big game herd in a specific geographic area is managed. DAU plans must ultimately be approved by the Colorado Wildlife Commission. These plans are reviewed every 5 years and changes made if warranted.

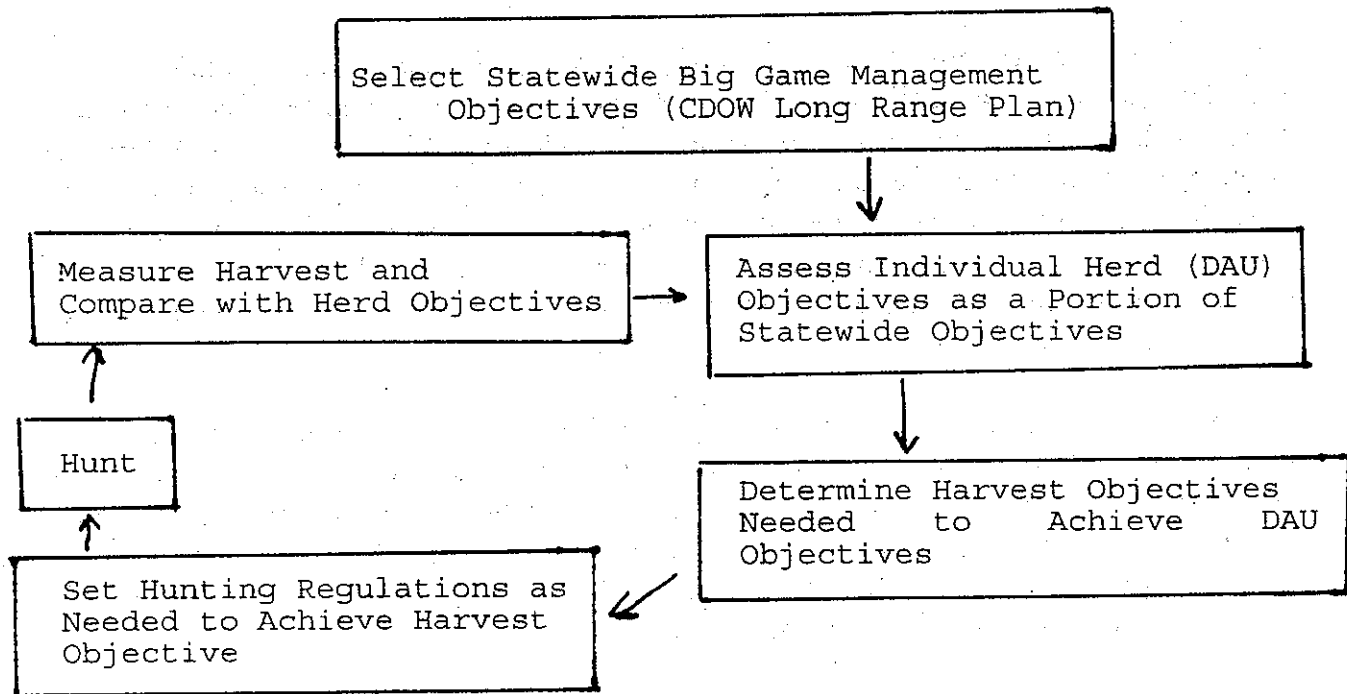
The geographic area that encompasses a population of deer, elk, or antelope is referred to as a DAU. DAU boundaries are drawn so that they include an individual herd where most of the animals are born, live and die with little ingress or egress from other populations of the same species. DAU boundaries include the seasonal ranges and migration routes of the herd. Most DAU's are subdivided into several GMU's primarily to manage distribution of hunters and harvest.

A DAU plan establishes two primary goals: the number of animals the DAU should contain and the sex ratio (expressed in number of males per 100 females). These goals are referred to as population size and herd composition.

Secondarily, the DAU plan is a collection of important management data and history for a particular herd. The plan should also identify strategies and techniques needed to reach population size and herd composition objectives.

The population and herd composition objectives drive the annual decision of the number and sex of animals that must be removed from the population to meet objectives. Hunting is the primary method for removing animals to meet population objectives. Management by objective is a process based on an annual cycle of data collection, analysis and decision making (Fig. 1.).

Figure 1. Colorado's Objective Cycle of Big Game Management and Harvest (Adapted from Conolly in Wallmo 1981. pp. 263.)



DESCRIPTION OF THE DATA ANALYSIS UNIT

Location

The Mount Evans elk DAU is located in central Colorado in portions of Clear Creek, Jefferson and Park counties. The DAU contains GMU's 39, 46 and 461 (Figure 2). The DAU is bounded by I-70 and US 40 on the north; the Continental Divide on the west; US 285, the North Fork of the South Platte River, and the South Platte River on the south; and I-25 in the greater Denver metropolitan area on the east. Other municipalities include Georgetown, Idaho Springs, Bergen Park, Evergreen, Conifer, Morrison, and Bailey. Much of the eastern portion of the DAU contains unincorporated subdivisions.

Topography

The elevation gradient across the DAU runs from approximately 5,300 feet in the eastern portion to over 14,000 feet on the Continental Divide on the western edge. There are 4 peaks over 14,000 feet including the DAU's namesake - Mount Evans at 14,264 feet.

Climate

The climate varies greatly from east to west across the DAU, depending on elevation. The eastern portion has comparatively warm summer temperatures and mild winters. The western portion is much colder with snow covering timbered areas and north facing slopes from November through May.

Much of the DAU has relatively mild winters and is influenced by chinook winds. These warm downslope winds melt snow quickly. Snow seldom stays for more than a few days on south-facing slopes below 9,000 feet. Alpine ridges usually stay open due to wind. The average wind speed for December - February near the Mount Evans summit was 21.8 knots.

In Evergreen, which is near the center of the DAU and at approximately 7,000 feet, July and August are the warmest months with maximum high temperatures in the 70's and 80's (°F). January and February are the coldest months with maximum high temperatures ranging from 34° to 52° F and minimum lows ranging from -1° to 18° F.

Average annual snow fall in Evergreen is 84.41 inches with the greatest amounts occurring in March (18.42 inches), followed by November (13.85 inches). Data from

Echo Lake also indicates that March and November are the months with greatest snowfall. July and August are the only months when snowfall has not been recorded in Evergreen.

Average annual precipitation in Evergreen is 18.26 inches. Annual precipitation ranges from 10 to 28 inches. On average, May is the wettest month with 2.8 inches, followed by July with 2.36 inches. (National Climate Data Center Summary, 1996).

Vegetation

Vegetation is diverse depending on elevation and climate. The lowest elevation is in the great plains lifezone which is comprised of short grass prairie. Virtually all of this vegetation type has been lost to development within the DAU. Foothills shrubs range from approximately 5,500 feet up to 7,500 feet. Species include Gambels oak, mountain mahogany, juniper and currants. Mountain riparian communities are found along streams, wetlands and irrigation ditches from 5,600 to 11,000 feet. Willows, chokecherries, alders and narrowleaf cottonwoods are common species. Ponderosa pine dominated communities are found up to 8,500 feet and Douglas fir covers many north-facing slopes in the foothills. There are some agricultural fields, mainly hay and pasture, found in suitable areas up to 9,000 feet.

The DAU contains subalpine forests from 8,500 feet up to timberline at approximately 11,600 feet. Within the subalpine forest zone, lodgepole pine intermixed with aspen dominates up through 10,500 feet. Spruce/fir subalpine forest interspersed with meadows is dominant up to timberline. Stands of limber and bristlecone pine also occur at higher elevations.

Alpine tundra, alpine willows, and rock dominate above timberline. Portions of the alpine tundra contain rare species of plants due to unique microclimates in the area.

Land Status

The Mount Evans elk DAU encompasses 1001 square miles. Approximately 55% (548 sq. mi.) is private land, 37% (374 sq. mi.) is National Forest land, 2% (22 sq. mi.) is Jefferson County Open Space, 1% (12 sq. mi.) is State Land Board land, 0.5% (5 sq. mi.) is DOW land and 4% is other public lands (Denver Mountain Parks, Colorado State Parks, City of Golden). The majority of the western ½ of the DAU is National Forest land while most of the eastern ½ is private land (Fig. 3).

Of the total area, 80% (798 sq. mi.) is considered elk range. Elk range covers all of the

land west of Colorado Highway 470. Elk winter range comprises approximately 28% (282 sq mi) of the DAU (Fig. 2). Severe winter range covers 6% (58 sq. mi.). Winter conditions are seldom severe enough to concentrate elk on severe winter range.

Land Use

Much of the private lands have been, or have the potential to be, developed into residential subdivisions and associated businesses. Agriculture activities consist of hay production and cattle and horse grazing on private land. There are 2 grazing allotments in GMU 46 on National Forest. The Hickel allotment allows 111 cow/calf pairs from 1 June - 15 October in the Geneva Park area. There is also a small allotment in Deer Creek that has not been grazed in the past few years. There is limited timber harvest on private and National Forest lands. The DAU contains 1 wilderness area.

Outdoor recreation on public lands is important. The National Forest lands in the Mount Evans area are well known for scenic beauty, watchable wildlife, and quality elk, sheep and goat hunting. Jefferson County Open Space manages 14,268 acres in the DAU that is open for many public uses. Hiking, horseback riding, bike riding and wildlife viewing are primary uses. Hunting is not allowed on open space lands.

HERD MANAGEMENT HISTORY

Post-hunt Population Size

The current population model indicates that the post-hunt population has grown from approximately 1650 elk in 1980 to approximately 2500 elk in 1997 (Table 1 and Fig. 4). The population trend has been a steady increase and the mean population over the last 5 years has been 2,440 elk.

These population estimates are derived from a computer modeling program called POP-II. Estimates of mortality, initial population size, sex ratio at birth, and hunter harvest are entered into the program. The model is then adjusted until it aligns with observed age and sex ratio data. Observed data is collected by helicopter and ground surveys in summer (pre-season) or winter (post-season).

While complete elk counts are difficult to achieve in this DAU, there are several localized ground counts conducted annually that support the computer model. Elk are counted and classified during the Mount Evans sheep and goat count each summer (Table 2). The count area includes summer range for elk that migrate to alpine areas on

Mount Evans. Numbers and classification vary widely depending on weather. However, this count does provide supplemental trend information. Data indicates the number of elk using alpine areas on Mount Evans during summer may have increased.

Elk are also counted annually in May in the Bear Creek drainage and greater Evergreen area (Table 3). Elk counts in Bear Creek center around the Mount Evans State Wildlife Area and the Evans Ranch. Bear Creek elk are migratory and spend the summer and fall on National Forest land. Many of the elk in the greater Evergreen area do not migrate. The total count indicates an increasing trend in elk numbers in the greater Evergreen area.

DOW managers and data from the spring count indicate that increasing elk numbers on private land and open space in the eastern half of the DAU are disproportionately responsible for the overall elk population increase.

Disclaimer

Estimating population numbers of wild animals over large geographic areas is an extremely difficult and approximate science. Numerous attempts have been made to accurately count known numbers of wild animals in large fenced areas. All of these efforts have failed to consistently count 100% of the animals. High-tech methods using infra-red sensing have also met with limited success. The CDOW recognizes this as a serious challenge in our management efforts. The CDOW attempts to minimize this by using the latest technology and inventory methodology available. Most population estimates are derived using computer model simulations that involve estimates of mortality rates, hunter harvest and annual production. These simulations are then adjusted to align on measured post-hunting season age and sex ratio classification counts and, in some cases, population estimates derived from line transect and quadrat surveys.

The CDOW recognizes the limitation of the system and strives to do the best job with the resources available. If better information becomes available, such as new estimates of survival/mortality, wounding loss, sex ratios, density, or new modeling techniques and software, the CDOW will use this new information and the new techniques. Making these changes may result in significant changes in the population size estimate or management strategies. It is recommended that the population estimate presented in this document be used only as an index or as trend data and not as a completely accurate enumeration of the animals in the particular DAU.

Post-hunt Herd Composition

There is 1 year of observed post-season and 2 years of observed preseason age and sex ratio data that is reliable and represents the entire DAU. Elk in the Mount Evans DAU are difficult to count and classify. Elk frequent residential areas and areas with heavy conifer cover, which makes them difficult to see from the air or ground. High winds and lack of consistent snow cover further add to the difficulty of post-season elk surveys.

Herd composition data was collected using both helicopter and ground counts. Supplemental data on herd composition is also collected annually during a summer ground count on Mount Evans and a spring ground count in the Mount Evans State Wildlife Area and Evergreen areas.

A post-season calf:cow ratio of 55 calves:100 cows was observed in 1996. Ratios of 42.3 and 43.2 calves:100 cows ratio were observed on preseason counts in 1987 and 1992. A post-season bull:cow ratio of 20 bulls:100 cows was observed in 1996. Preseason counts in 1987 and 1992 yielded 47.7 and 29.2 bulls:100 cows. Bull:cow ratios include all bulls, spikes and branch-antlered.

Bull:cow ratios are often underestimated due to behavioral differences between sexes when surveys are conducted. Cows and calves gather in large groups, often exceeding 100 animals, in summer and winter. These groups contain a few young bulls, however older bulls segregate from the cows in much smaller groups except during the mating season in the fall. It is easier to overlook smaller groups of elk on surveys so more bulls than cows are missed.

Computer modeling indicate the current bull:cow ratio is approximately 40-45 bulls:100 cows. Field observations, hunter success rates, and the quality of bulls harvested support the computer modeled ratio estimate.

Harvest History

All elk licenses in this DAU are limited in number for both bulls and cows. The number of licenses is one variable that effects harvest.

The annual harvest from 1980-1997 has varied from 183 in 1985 to 418 in 1997 (Fig. 5 and Table 1). Elk harvest was fairly steady from 1980 to 1990 averaging 230 animals per year. Harvest increased in 1991 to 256 and the 1997 harvest was almost double the previous decades average.

Both bull and antlerless harvest has approximately doubled from 1980 to 1997. Bull harvest increased from 97 to 199, while antlerless harvest increased from 123 to 219. During the last 5 years, bull harvest averaged 173 and antlerless harvest averaged 182. More cow than bull licenses are issued each year. Recent increases in cow harvest may be attributed to the initiation of PLO licenses in GMU's 461 and 39 (Table 4). These licenses are intended to increase cow harvest on private land in the eastern ½ of the DAU.

Hunting Pressure

Hunting pressure is controlled by the number and types of licenses issued in this DAU. Rifle hunter numbers ranged from a low of 497 in 1989 up to 820 in 1997 (Table 4). Most of the increase in rifle hunter numbers were for antlerless elk. Total license numbers increased from a low of 865 in 1989 to a high of 1475 in 1997 (Table 1). These include archery, muzzleloader and rifle licenses. Success rates over the last 10 years have ranged from 29% to 35% for all methods of take (Table 1). The average hunter success rate for the last 5 years was 31%.

CURRENT HERD MANAGEMENT

The Mount Evans elk herd has been managed as a "quality" elk hunting unit. All hunting licenses are limited in number and can only be obtained by lottery. Limited licenses and a relatively high bull:cow ratio result in a quality hunting experience.

The Mount Evans elk herd is well known for watchable elk recreation. Elk can be viewed along the Mount Evans highway in summer and early fall. Several Jefferson County Open Space properties offer elk viewing opportunities in fall and winter. Elk watching on private land is also highly valued by local residents.

Although objectives have not been approved through the DAU planning process, managers have been operating with post-hunt population objective of 2200 elk and a composition objective of 35 bulls:100 cows. Currently, the post-hunt population estimate is 2500 with an estimated 40-45 bulls:100 cows. In an effort to slow elk population growth and reduce elk damage on private land, cow licenses have increased substantially beginning in 1992. PLO licenses were implemented in 1994 with the intention of further increasing overall cow harvest and distributing harvest to private land where elk numbers continue increasing.

Current Management Problems

Elk numbers have increased primarily in the eastern portion of the DAU which is private land and Jefferson County Open Space. At the same time, the number of people residing in the DAU has increased and elk habitat has been developed into residential communities and business areas. As a result, conflicts between elk and people have increased. Conflicts include elk-vehicle collisions, complaints of damage to landscaping and native vegetation, fence damage, and official game damage complaints on growing and stored hay.

In areas where conflicts have been increasing, access for hunting is limited. Jefferson County Open Space does not allow hunting and most private landowners do not allow hunting on the 2-35 acre parcels that they live on. Concern for safety is a common reason residents do not allow hunting. Many elk do not migrate and reside in the eastern portion of the DAU year around. These elk are subject to light hunting pressure.

A portion of the herd migrates and is hunted on National Forest and CDOW properties in late summer and fall in the western portion of the DAU. This migratory portion of the herd has increased only slightly. Therefore, further increases in regular rifle antlerless licenses could result in a reduction in the migratory portion of the herd while not impacting the elk causing conflicts. The migratory elk provide hunting and watchable wildlife recreation on Mount Evans and other National Forest and CDOW lands. While PLO licenses are intended to prevent overhunting of migratory elk, CDOW managers feel that many of these licenses are filled on private land adjacent to National Forest. These properties are winter range for the migratory portion of the herd.

To address these issues, 3 public meetings were held in July and August 1997. The results of these meetings are described in the Issues and Strategies section.

HABITAT RESOURCES

The quantity and quality of winter range is one of the limiting factors for the Mount Evans elk herd. However, winter range in this DAU is not as strict a limitation to elk numbers as it is on Colorado's western slope. Due to relatively mild winter conditions and chinook winds, many elk spend the winter off traditional winter ranges and some even winter on wind blown alpine ridges. Other elk winter in residential areas and forage on lawns and ornamental shrubs.

There is 282 sq. mi. of mapped winter range in the DAU. Twenty percent (56.29 mi²)

of winter range is on public land (National Forest, State Wildlife Areas, State Parks or Jefferson County Open Space) and 80% is on private land. Privately owned and some publicly owned winter range is being or could be developed lowering carrying capacity for elk and increasing human-elk conflicts.

ISSUES AND STRATEGIES

Issues were identified at meetings from July - October 1997. Three public meetings were held in July and August in Bergen Park, Bailey and Idaho Springs. Meetings were advertised on radio, in newspapers and with flyers posted in local businesses. These meetings were attended by CDOW personnel (Area Wildlife Manager, District Wildlife Managers, Watchable Wildlife Coordinator and Terrestrial Biologist) and interested persons from the public. Letters or phone calls were encouraged from meeting attendees and from others that could not attend meetings.

The CDOW area terrestrial biologist also met with representatives of the Pike National Forest, Roosevelt Arapaho National Forest and Jefferson County Open Space individually in September and October 1997 to discuss elk management.

Issues and Comments

Issues and comments were recorded and are summarized here. They are not listed in order of importance. Some statements may contradict others and may not be supported by data or research. This section is intended to be summary of all comments.

Bergen Park Meeting

Viewing elk near home (or on own property) is desirable. Keep moderate number of elk in balance with carrying capacity. PUBLIC - (everyone)

Keep the number of elk and number of bulls at present numbers. PUBLIC

Elk-vehicle collisions are a concern for both human and elk welfare. Need better enforcement of speed limits. PUBLIC-(everyone)

Elk hunting with high-powered rifles compromises safety. There should be larger buffer

zones around Golden Watershed (DOW leased hunting area) and only archery and muzzleloader hunting should be allowed near homes. PUBLIC (several)

Elk cause fence damage. RANCH MANAGER

Elk bring in additional income from hunters. RANCH MANAGER

Elk bring educational opportunities to the community. PUBLIC

Bailey Meeting

Elk cause fence and hay damage. RANCH MANAGER

Close Harris Park shooting area during elk season to avoid scaring elk. PUBLIC (one person)

Elk are competing with other species, primarily deer. PUBLIC

Elk are an ecological benefit in the food chain and keep meadows open. PUBLIC

Elk hunting opportunities are important to maintain. PUBLIC-(almost everyone)

Maintain quality of hunting in the DAU. Keep bull:cow ratios high, trophy bulls and don't allow too many hunters. Give more antlerless licenses. PUBLIC-(almost everyone)

Reduce elk numbers by 10% to reduce ecological and private property damage. LANDOWNER (one person)

Keep herd numbers where they are now. PUBLIC-(majority)

Increase educational effort supporting hunting to control elk numbers. PUBLIC

Look at how Michigan and Wisconsin manage deer and apply to elk. PUBLIC

Separate the PLO season into 2 seasons and extend the last season into January. PUBLIC

Add PLO licenses to GMU 46. RANCH MANAGER and PUBLIC

Idaho Springs Meeting

Number of elk on National Forest land is good or could be increased somewhat. PUBLIC and OUTFITTERS (majority)

Elk numbers on private land are too high and will get worse as development removes more habitat. PUBLIC

Increase PLO licenses. PUBLIC and RANCHER

Work with Jefferson County Open Space to allow elk removal. PUBLIC

CDOW should buy critical elk habitat. PUBLIC

Sell excess elk to protein market and send to third world countries. PUBLIC (one person)

Elk-vehicle collisions hurt people and elk. PUBLIC

The quality of life is improved by being able to see elk in community. PUBLIC - (most)

Elk habituating to people is a concern. PUBLIC

Elk cause damage to aspens and gardens. PUBLIC

CDOW should determine the population objective that will balance elk numbers with habitat as development continues. PUBLIC

CDOW should try more creative hunting strategies like midwest states use to manage suburban white-tailed deer. PUBLIC

Phone Calls

Elk numbers are just right.

Too many elk in Conifer.

Elk are destroying aspens on National Forest and private land. Reduce elk numbers by 50%.

Letters

See Appendix A.

Land Management Agency Comments

There is evidence of damage in a few places to aspen, but in other areas aspen regeneration after controlled burns is good. PIKE N.F.

There is concern that increasing elk numbers have caused a decline in deer numbers in Hall Valley. PIKE N.F.

At the ecosystem level, elk are not causing overuse. There is some overuse in small areas of aspen treatments, but the problem is the treatments are too small and not that there are too many elk. ROOSEVELT-ARAPAHO N.F.

CDOW should maintain the current quality of hunting experiences and the number of mature bulls in this DAU. Maintaining current elk numbers and bull:cow ratios is consistent with the current Forest Plan. ROOSEVELT-ARAPAHO N.F.

There is not a big concern that elk are damaging habitat on Open Space. The concern of elk overbrowsing on aspen is outweighed by the value of elk for viewing by Open Space users. More elk would be OK. JEFFERSON COUNTY OPEN SPACE

Media Coverage

See Appendix B

Cornell Study

After the public meetings were completed, the Human Dimensions Research Unit of the Department of Natural Resources at Cornell University conducted an independent survey of the attitudes of Evergreen residents toward elk and elk management. This survey is part of a larger study entitled, "Designing Stakeholder Involvement Strategies for Decision Making." Cornell graciously shared the preliminary results of the survey with the CDOW. The survey found that attitudes toward elk numbers and management alternatives were similar to those expressed in the 3 public meetings.

- Over 40% of respondents preferred no change in the size of the elk population. Almost 30% preferred a decrease in the elk population, and 16% preferred an increase.
- Respondants were most concerned about elk-auto accidents. They were less concerned about elk damage to wild, agricultural or landscape plants.
- Over two-thirds have experienced elk-related problems.
- A majority of Evergreen residents enjoy the presence of elk and do not worry about elk-related problems.
- The most acceptable management actions were educating people about living with elk (80%) and restricting development to preserve elk habitat (68%). The least acceptable actions were shooting nuisance elk (8%) and using sharpshooters to kill elk at bait sites (8.5%). Hunting with bow and arrow (30%) and firearms (25.5%) was more acceptable than trapping and transplanting (21%) and elk contraception (15%).

Summary of Issues

Nearly everyone agreed that elk numbers on public land were acceptable at the current level and some thought they could increase somewhat. The majority believed that current elk numbers on private land were acceptable or should be reduced somewhat. There was a substantial number of private landowners that have experienced damage caused by elk ranging from minor nuisances to unacceptable. There were also concerns about reducing elk-vehicle collisions, but comments applied more toward improving driver behavior and roadway design than reducing elk numbers. Hunting elk near residential areas raised resident's concerns about safety.

Everyone agreed that the current bull:cow ratio should be maintained and mature bulls were desirable for wildlife watching and quality hunting experiences.

Issue Resolution

The information we gathered on attitudes about elk at the 3 public meetings, by phone, by mail, in the Cornell study and from land management agencies support the following:

1. Maintain the elk population at current numbers.
2. Maintain the current bull:cow ratio and number of mature bulls for quality

wildlife viewing and hunting experiences.

3. In the future, keep elk numbers in balance with available habitat as development continues.
4. Stop elk numbers from increasing in the eastern portion of the DAU where damage and conflicts occur. Continue to educate residents how to avoid damage and learn to live with elk. Improve public acceptance of hunting and try new hunting strategies to improve cow harvest. Continue to explore nonhunting alternatives of elk population control for suburban areas.

ALTERNATIVE DEVELOPMENT

Population Objective

1. 1,900 elk post-season: This would be a 25% reduction from the current population estimate and would be similar to the population estimates for the mid-1980's. It will take an aggressive antlerless hunting strategy and probably nonhunting alternatives such as culling (sharp shooting) elk by CDOW or other authorized personnel to achieve this reduction. The feasibility of other non-hunting population control methods are discussed in the Management Implications section.

The aggressive antlerless hunting strategy would call for a substantial increase in rifle antlerless licenses, increase in PLO licenses and season length, and opening up more lands in the eastern ½ of the DAU to hunting. Opening up enough land to hunting will be challenging. If there are not enough additional hunting opportunities in the eastern portion of the DAU, antlerless harvest could increase disproportionately in the western half. This would result in a decrease in elk numbers on National Forest which would lead to decreased hunting and wildlife watching recreation. This would result in reduced income to individuals and business supporting these types of recreation. Increased hunting pressure on National Forest may also cause more elk to move onto private land.

To avoid overharvest on National Forest, GMU 39 could be divided into GMU's 39 (west of Colorado Highway 74) and 391 (east of Colorado Highway 74). Hunting licenses in 391 would only be valid in that GMU so hunters could not hunt in the western portion of the DAU where harvest is adequate. This would be similar to the division of GMU's 46 and 461.

Damage caused by elk would decrease if herd reductions occurred on private lands in the eastern portion of the DAU. If this was not achieved, damage would continue to occur. It may even increase if increased hunting pressure in the western half caused elk to move onto private land.

2. 2,500 elk: This is the current population estimate for the DAU. Although a reduction in elk numbers would not be required, increased antlerless elk harvest in the eastern portion of the DAU would be required to stabilize the increasing population. Even with increases in antlerless elk licenses and the addition of PLO licenses over the last 6 years, elk numbers have continued to increase.

Keeping the elk population at this objective would require more opportunities to hunt antlerless elk in the eastern portion of the DAU where populations are increasing and damage is occurring on private land. Hunting alone may not be adequate to keep the elk population at objective and non-hunting alternatives may be required in the eastern portion of the DAU.

There would continue to be damage in specific areas with this alternative, but means other than population reduction could be used to address these problems. Damage would not increase substantially in the near future with this objective if elk distribution remains the same. However, as the human population continues to grow, there may be more damage and conflict. Damage could increase even more if elk numbers continue to increase in the eastern portion while elk numbers are lowered in the western portion to achieve the overall DAU objective. As previously mentioned, creation of GMU 391 could prevent overhunting of the migratory portion of the herd.

Maintaining current elk numbers and distribution would allow the current level and quality of hunting and wildlife watching recreation. There would be no net impact on individuals and businesses involved in these types of recreation.

3. 3,100 elk: This objective represents approximately a 25% increase in elk numbers over the current population estimate. Current season framework would allow elk numbers to increase to this objective. Most of the increase would occur in the eastern portion of the DAU. Once elk numbers were at 3,100, it would take substantially increased antlerless elk removals to keep the herd at that number. At this higher population objective, more antlerless elk would have to be removed than at lower population objectives and it is more likely that nonhunting population control would have to be implemented. The cost of nonhunting population control would be greater than at lower population objectives because there would be more cow elk to handle.

Damage by elk on private land would likely increase with the higher population and elk damage may become a concern on National Forest. Game damage payments by the CDOW and other conflicts with elk such as elk-vehicle collisions would increase even more as human populations also increase.

Increasing human populations coupled with an increase in the elk population in the DAU could multiply damage and other conflicts. This elk population objective may not exceed current ecological carrying capacity and public acceptance, but increasing human populations and development will result in reduced ecological and political carrying capacity in the future. This may necessitate reducing a larger elk population which will be more difficult than maintaining it at current levels. More elk will have to be removed and there will be fewer places large enough to allow rifle elk hunting.

Hunting recreation would increase with an increase in the number of elk. Watchable wildlife recreation may not increase with more elk, but satisfaction probably would. Income from elk related recreation would also increase somewhat.

Herd Composition - Sex Ratios

1. 35 Bulls:100 cows: This would be a 5-10 bulls:100 cows reduction from the current sex ratio. It would result in fewer bulls and a reduction in the number of mature bulls in the population. However, this sex ratio would still be greater than in many other elk DAU's and would still be considered in the range of "quality" elk units.

The number of bull licenses would increase allowing increased hunter recreation. However, the quality of the hunting experience would decrease with more hunters in the field and younger aged and fewer bulls available. This may result in a decrease in watchable wildlife satisfaction. The fiscal impact would be minimal because there would be more hunters and still enough bulls to attract elk watchers.

More bull hunters may interfere with efforts to increase antlerless harvest. Bull licenses are more desirable to many hunters and if given a choice, most would rather hunt bulls. However, many hunters who do not get bull licenses choose to hunt cow elk. Landowners can charge substantially higher trespass fees for bull hunters than for cow hunters. Thus, landowners often restrict access of cow hunters to avoid interference with high paying bull hunters.

Income to outfitters and landowners would increase somewhat with an increase in bull hunters. Elk viewing satisfaction may decline slightly, but it is doubtful that it would reduce the number of viewers.

A decrease in the number of bulls would require an increase in the number of cows to maintain the selected population objective. This would result in an elk herd with higher reproductive potential.

2. 45 bulls:100 cows: This is the current estimated bull:cow ratio. It provides mature bulls for wildlife viewing and quality hunting experiences. It would not require a reduction or increase in bull licenses. Thus, it would have little fiscal impact on local businesses or antlerless harvest.

A higher bull:cow ratio with the selected population objective, results in an elk herd with lower reproductive potential because there are less cow elk.

ALTERNATIVE SELECTION

The CDOW recommends an elk post-hunt population objective of 2,500 with a bull:cow ratio of 45:100. This corresponds with the current post-hunt population and sex ratio estimates.

The majority of public and land management agencies' comments support maintaining the current number of elk. The results of the Cornell study also support maintaining current elk numbers. The presence of elk on both public and private land improve the quality of life for residents. Most will tolerate current levels of damage for the opportunity to see elk near their homes. Some landowners do experience unacceptable damage, but the magnitude of elk herd reduction required to alleviate this damage would be unacceptable to most of the public. Site specific action to prevent or alleviate damage are more appropriate and acceptable to the public.

Allowing the elk population to increase is not advisable. Although the current habitat could support more elk, future carrying capacity will decline with the increasing human population and development. A larger elk population would result in an increase in damage to private land, game damage payments by CDOW and incidents of overuse in preferred habitat on public lands. As the human population increases, managing elk numbers with hunting will become more challenging.

All comments regarding sex ratios supported maintaining the current bull:cow ratio and number of mature bulls. Hunters, outfitters and personnel of the US Forest Service support maintaining a quality hunting experience with limited number of hunters and the current number of mature bulls. Landowners and residents in the DAU also

commented that they desired seeing large bulls.

A higher sex ratio in a given elk population results in lower reproductive potential. With higher sex ratios, there are more bulls and fewer cows. The number of breeding age females determines reproductive potential in all cases except with very low numbers of bulls. Lower reproductive potential is desirable in this DAU where it is difficult to get adequate cow harvest.

Management Implications

Keeping the Mount Evans elk population at the CDOW preferred population objective of 2,500, will require increasing cow elk removal from the eastern portion of the DAU. Currently, antlerless hunting is the best strategy.

Hunting

Increasing PLO licenses was suggested at public meetings as a way to increase cow harvest in the eastern portion of the DAU. Adding PLO licenses to GMU 46 was also suggested. The number of PLO licenses was raised by 50% for 1997 in GMU 39. We will consider further increases depending on harvest and the availability of hunting areas. We will add PLO licenses to GMU 46 in 1999. The effectiveness of increasing PLO licenses is limited by the availability of private land for hunting.

More landowners must be convinced that elk hunting is safe and necessary to limit elk population growth for hunting alone to be effective. This will require a considerable education effort by CDOW. Currently landowners with elk damage are encouraged to allow hunting to alleviate damage. Increasing awareness that short range weapons, including bows, crossbows, muzzleloaders and shotguns, are legal for PLO hunters may alleviate safety concerns. However, the efficiency of short range weapons for killing elk in suburban settings has not been proven. Archery seasons have proven successful for suburban deer population control in the eastern and midwestern United States. Encouraging hunters to use elevated platforms, such as tree stands, so that projectile trajectory is safely down into the ground is another way to alleviate concerns about safety. Additional mandatory hunter education with proficiency tests have proven successful in satisfying safety concerns in suburban areas of the eastern United States.

As previously mentioned, dividing GMU 39 into GMU's 39 and 391 may increase elk harvest in the eastern portion of the DAU while avoiding overharvest in the western portion. GMU 391 would be that portion of the current GMU 39 that is east of Colorado Highway 74. Splitting GMU 39 would focus additional antlerless hunting

pressure on the area where the elk population is increasing and conflicts are occurring. This strategy has had success in neighboring GMU's 46 and 461.

Lengthening and splitting the PLO season into 2 seasons was recommended as a method to harvest more cow elk. CDOW personnel believe that there could be as many as 5 month-long seasons. With a single long (4 months) season many hunters procrastinate until only a few days remain. Others hunt hard at first, but run out of time and enthusiasm before the season ends. CDOW experience has shown that harvest is positively correlated with the number of opening days during regular seasons. The recommended PLO seasons are: Sept 1 - the weekend after Thanksgiving and Dec 1 - Jan 31. An alternative recommendation would be 5 month-long seasons: September 1-30, October 1-31, November 1-30, December 1-31 and January 1-31.

Multiple licenses for females have been used by midwestern states as a strategy to meet deer harvest objectives. This strategy could be applied to antlerless elk hunting on private land east of Colorado Highway 74. There are several ways this could be handled. 1) Hunters that fill a cow license on private land in the DAU could be issued an additional eithersex license as an incentive. 2) There could be 2 antlerless carcass tags on each PLO license. 3) Landowners could be issued multiple antlerless licenses for their own property. In other words, there could be unlimited cow licenses for private land in the eastern portion of the DAU and hunters could purchase as many as they wanted. None of these strategies would result in overharvest because there are too few places that allow hunting.

There will probably be objections to the multiple cow license strategies because of increased regulation complexity and for not maximizing hunting opportunity for the general hunting public. A choice must be made between which goals are higher in priority: meeting population and distribution objectives in the Mount Evans elk herd using hunting or reducing regulation complexity and maximizing hunter opportunity.

Dispersal hunts are another tool that should be continued to decrease damage and kill cow elk. Once again, we must decide whether meeting harvest objectives and minimizing damage are higher priorities than maximizing hunter opportunity.

Non-hunting Population Control Alternatives

If antlerless harvest in the eastern portion of the DAU cannot control the increasing elk population in the next 5 years, then the CDOW may need to use non hunting alternatives to meet objectives. At this time, the most feasible nonhunting alternative would be culling (shooting) by CDOW personnel or other authorized personnel.

Carcasses would be donated to local charities and food banks. Culling is not preferred over hunting by the CDOW to reduce elk numbers due to cost of killing and processing elk. Evergreen residents indicated that this was one of the least preferred population management methods, also.

Transplanting elk to control populations is not practical, because there are very few places that are willing to receive elk. Elk numbers in other Colorado elk DAW's are approaching or over objective. Elk damage complaints are common in much of the state. Most other states with elk herds have similar problems with elk damage. Occasionally, another state will accept elk for reintroductions, but these projects are too infrequent and small to depend on for long-term population control removals.

Fertility control will not be technically feasible on free-ranging wildlife populations for at least another 5 years. Even after the technology is available, it is doubtful that it can be successfully applied to a free-ranging population of elk the size of the Mount Evans elk herd.

There are 3 types of fertility control: steroidal contraceptives, immunocontraceptives and hormonal toxins. The most serious problem with steroids is the side effects to the recipient of the drug and to other animals or humans who might consume the treated animal. Immunocontraceptives, because they are proteins, do not pose a threat in the food chain and do not have behavioral side effects such as in steroids. However, each female must receive 2 injections a few months apart every year. In addition, research in white-tailed deer indicate that treated females continue to come in estrus prolonging the breeding season. An unnaturally prolonged breeding season may increase mortality rates of males that continue to compete for mates. The CDOW is conducting research on a third type of fertility control - hormonal toxins. During the next 5 years it will be tested on deer at the Rocky Mountain Arsenal.

Even after fertility control becomes technically possible in free-ranging animals like deer and elk, treating large numbers of animals will be expensive. Preliminary modeling of the Rocky Mountain Arsenal deer herd indicate that 66% of adult females must become infertile to maintain the population at the desired level. After the first year, 22% of adult females would need to be treated annually.

Applying the Rocky Mountain Arsenal deer model to the Mount Evans elk herd indicates that 265 cows would have to be treated the first year and approximately 100 cows annually after that. The Rocky Mountain Arsenal is enclosed by a deer proof fence and the model does not consider immigration and emigration. Elk in the Mount Evans DAW are not confined. Thus, more cows may need to be treated than predicted by the model.

Other considerations regarding fertility control must also be resolved. The effect of a significant reduction in the number of calves born annually on predator populations and behavior have not been explored. Cornell study found that sterilization or fertility control on elk was acceptable to only 15% of Evergreen area residents. The cause of the low acceptance rating is unknown. It may be because people believe that fertility control in wild animals is unnatural. It may also be because people enjoy seeing calf elk. Fertility control may result in decreased watchable wildlife satisfaction and opportunities by reducing the number of calves born each year. If there are behavioral changes that decrease rutting behavior, such as bugling, viewing satisfaction will decline further.

All non-hunting elk removal options have a cost associated with them. The question of who will pay must be answered before they could be implemented. Local governments have paid for nonhunting options in many instances where deer population numbers have exceeded public tolerance. In these cases, state wildlife agencies continue to oversee and authorize all wildlife removals.

Damage

The CDOW should continue to provide education and materials to prevent damage and encourage landowners with damage to allow hunting. The CDOW can also encourage habitat improvements on public land (Jefferson County Open Space, National Forest, State Parks and State Wildlife Areas) to attract elk away from private land. Dispersal hunts should continue to be used to disperse elk and remove cow elk.

SUMMARY

The majority of the public, land management agencies and CDOW managers prefer that the Mount Evans elk herd remain at the present population numbers with the current bull:cow ratio and number of mature bulls. Removal of cow elk by hunting will be adequate in the western one-half of the DAU which contains National Forest and CDOW lands. However, hunting alone will probably not be adequate to control increasing elk numbers in the eastern ½ of the DAU.

Although the majority of the public do not want the elk herd to increase, none of the population control methods are acceptable to more than one-third of Evergreen residents. Further public involvement is recommended following the completion of Cornell's "Designing Stakeholder Involvement Strategies for Decision Making," study. Until further public involvement strategies are implemented, the CDOW should work to increase cow elk harvest in the eastern one-half of the DAU. PLO licenses and seasons

should be increased. GMU 39 should be divided into GMU's 39 and 391. CDOW personnel should encourage public land agencies to allow limited, controlled hunts for antlerless elk. CDOW personnel should continue to encourage landowners to allow antlerless elk hunting on their properties.

Figure 2.

ELK WINTER RANGE DISTRIBUTION FOR DATA ANALYSIS UNIT E-39

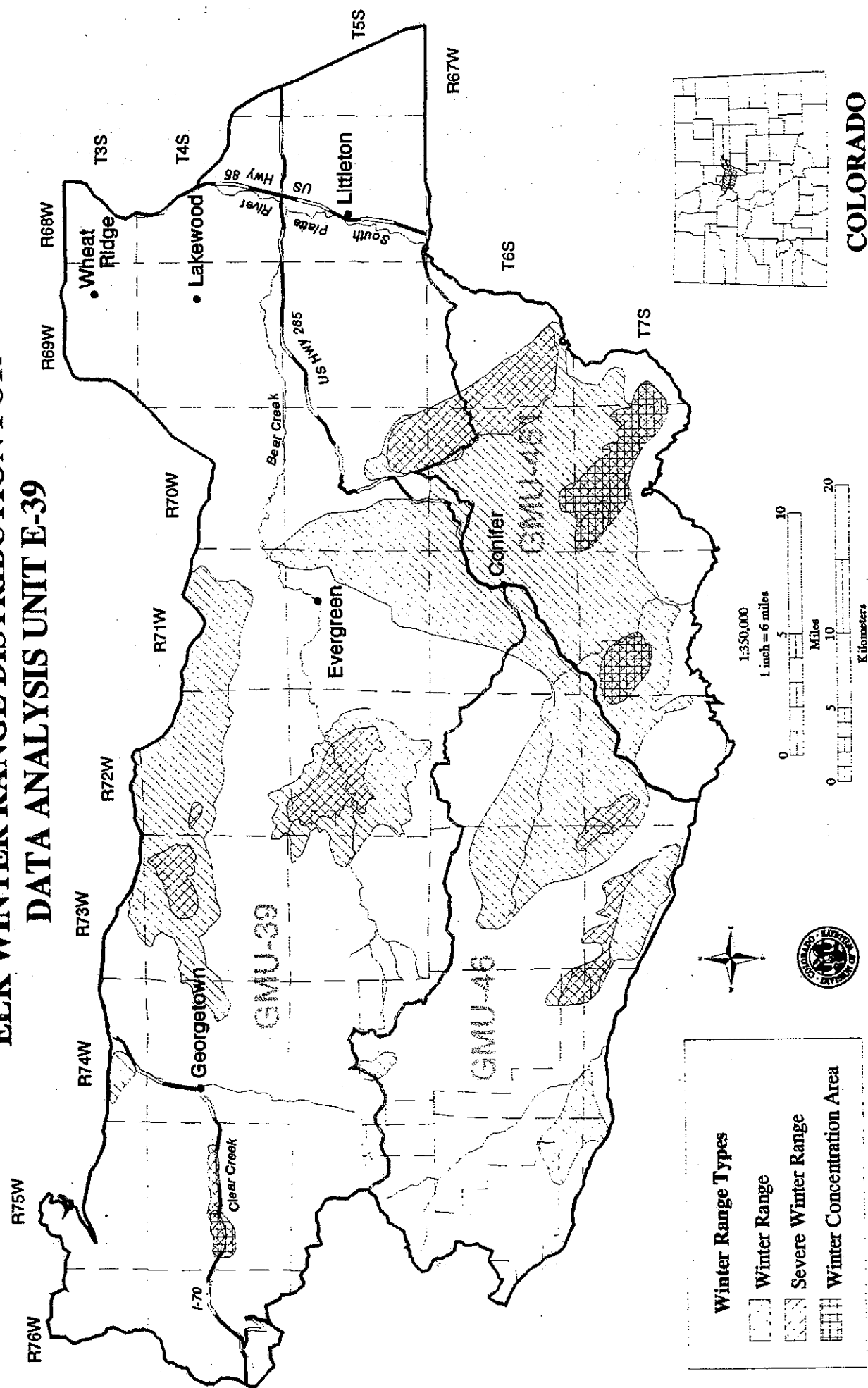


Figure 3.

U.S. FOREST SERVICE AND CDOW LANDS WITHIN DATA ANALYSIS UNIT E-39

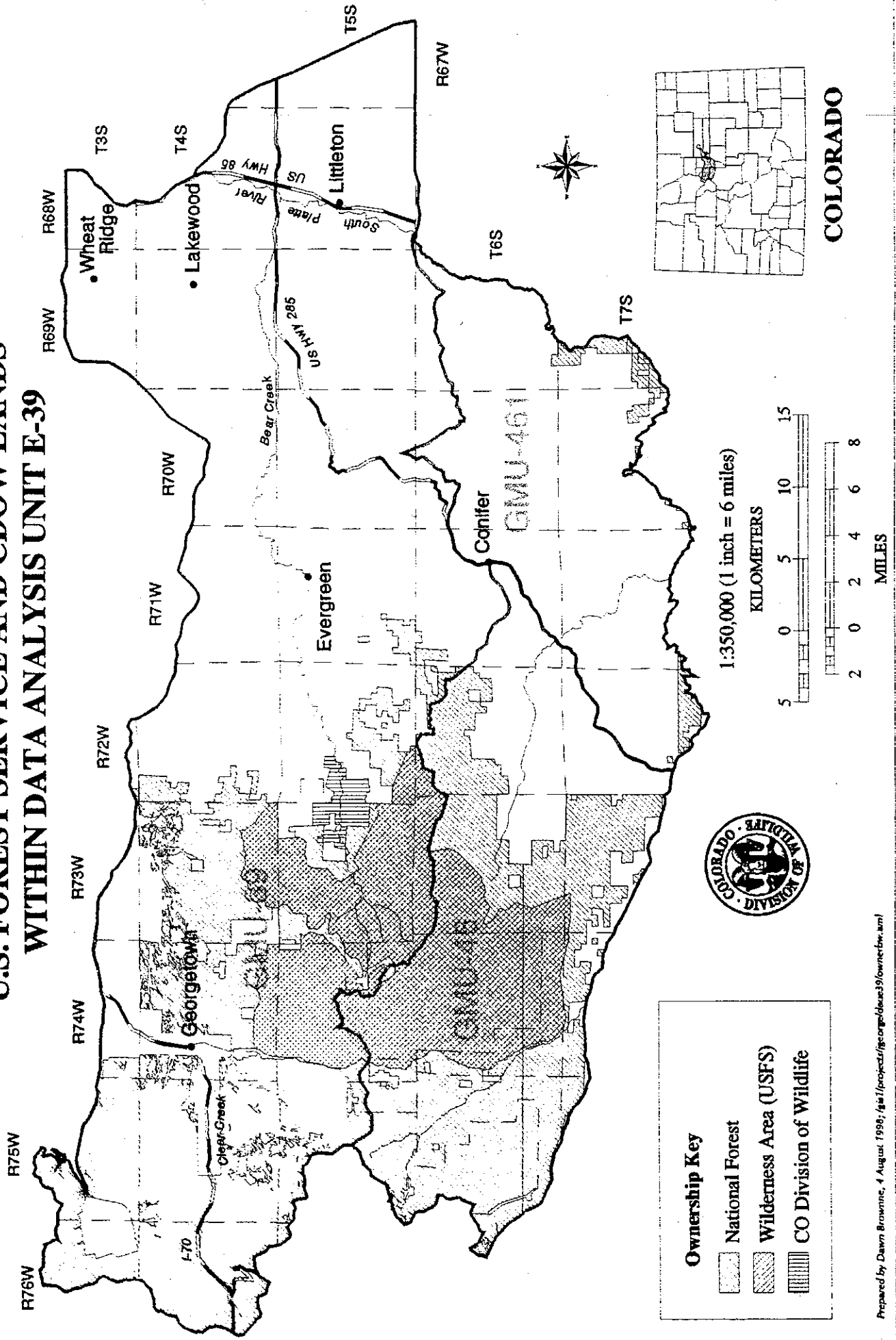


Table 1

ELK POPULATION AND HUNTING IN THE MOUNT EVANS ELK HERD

DAU E-39: GMU'S 39,46,461

YEAR	ELK NUMBER	BULL HARVEST	COW HARVEST	TOTAL HARVEST	TOTAL LICENSE	PERCENT SUCCESS
1980	1650	97	123	220		
	1665	116	152	268		
	1690	98	151	249		
	1770	89	107	196		
	1810	104	126	230		
1985	1900	82	101	183		
	1960	120	112	232	990	
	2020	91	123	214	915	
	2060	137	123	260	945	35
	2120	160	84	244	895	29
1990	2210	133	103	236	865	29
	2300	150	106	256	915	30
	2330	179	126	305	980	35
	2400	155	148	303	1165	29
	2410	167	195	362	1235	32
1995	2550	149	147	296	1345	32
	2510	194	201	395	1405	31
1997	2455	199	219	418	1475	32

Table 2

MOUNT EVANS ELK COUNT

REV. 5-21-98

Counted during the Mt. Evans summer sheep and goat count

YEAR	TOTAL ELK	CALVES/ 100 COWS	BULLS/ 100 COWS
1983	370	45	18
1984	288	54	35
1985	358	55	23
1986	279	54	22
1987	NC	NC	NC
1988	NC	NC	NC
1989	NC	NC	NC
1990	299	52	52
1991	388	42	37
1992	305	38	53
1993	416	32	62
1994	300	38	52
1995	509	56	93
1996	506	68	60
1997	593	30	38
1998			

NC - No count.

Table 3
 SPRING ELK COUNT
 Mount Evans SWA and Evergreen

YEAR	ELK COUNT BEAR CK	ELK COUNT OTHER	ELK COUNT TOTAL
1986			346
1988	428	233	661
1992	377	204	581
1993	356	NC	356
1994	487	271	758
1995	519	512	1031
1996	359	322	681
1997	NC	NC	NC
1998	453	414	867

NC - No count.

Note: Bear Creek count methods were consistant each year.
 Other count areas varied.

Figure 4.

ELK POPULATION IN E-39 MODELED POSTHUNT ESTIMATES

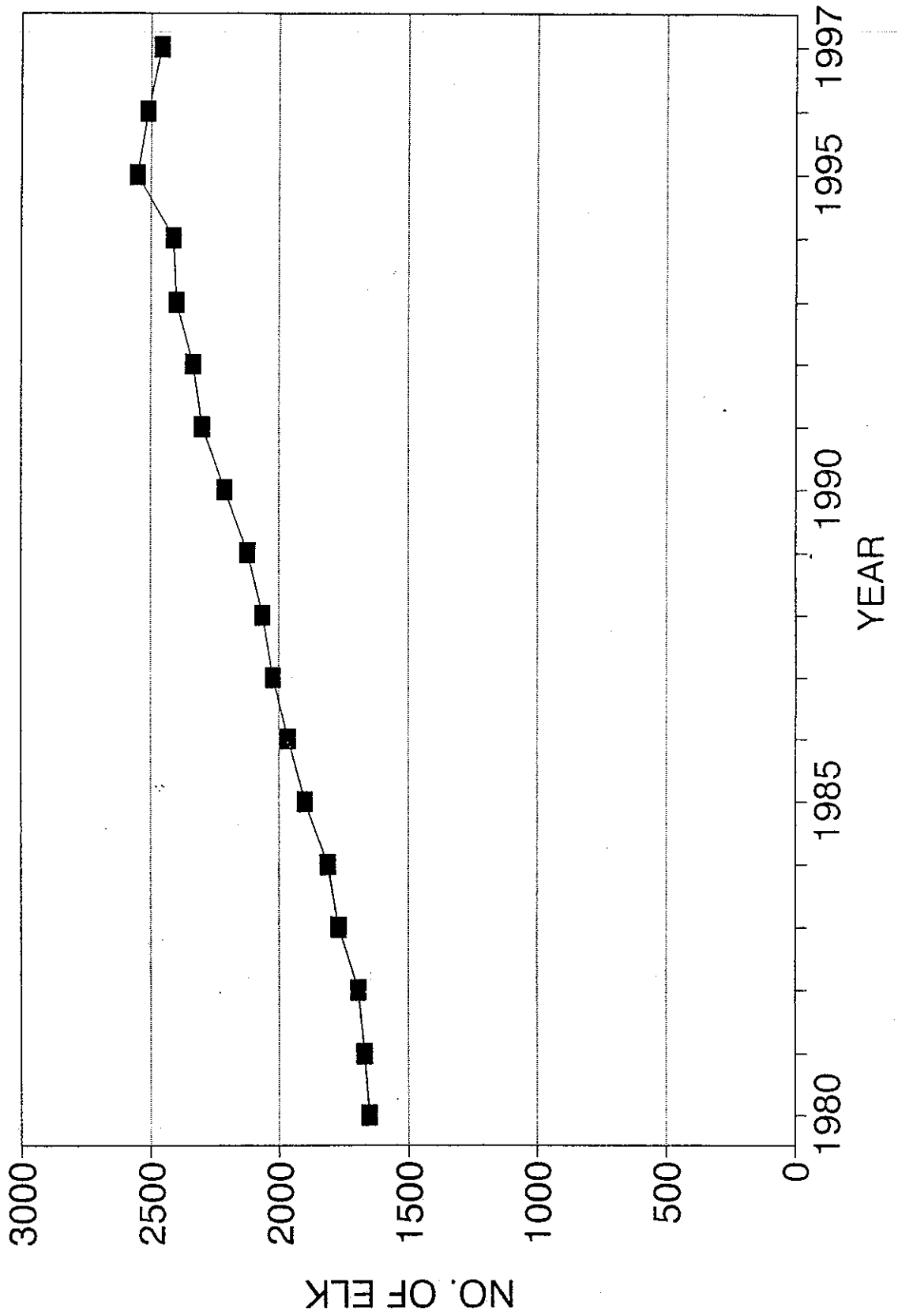


Figure 5.

ELK HARVEST IN E-39

GMU'S 39,46,461

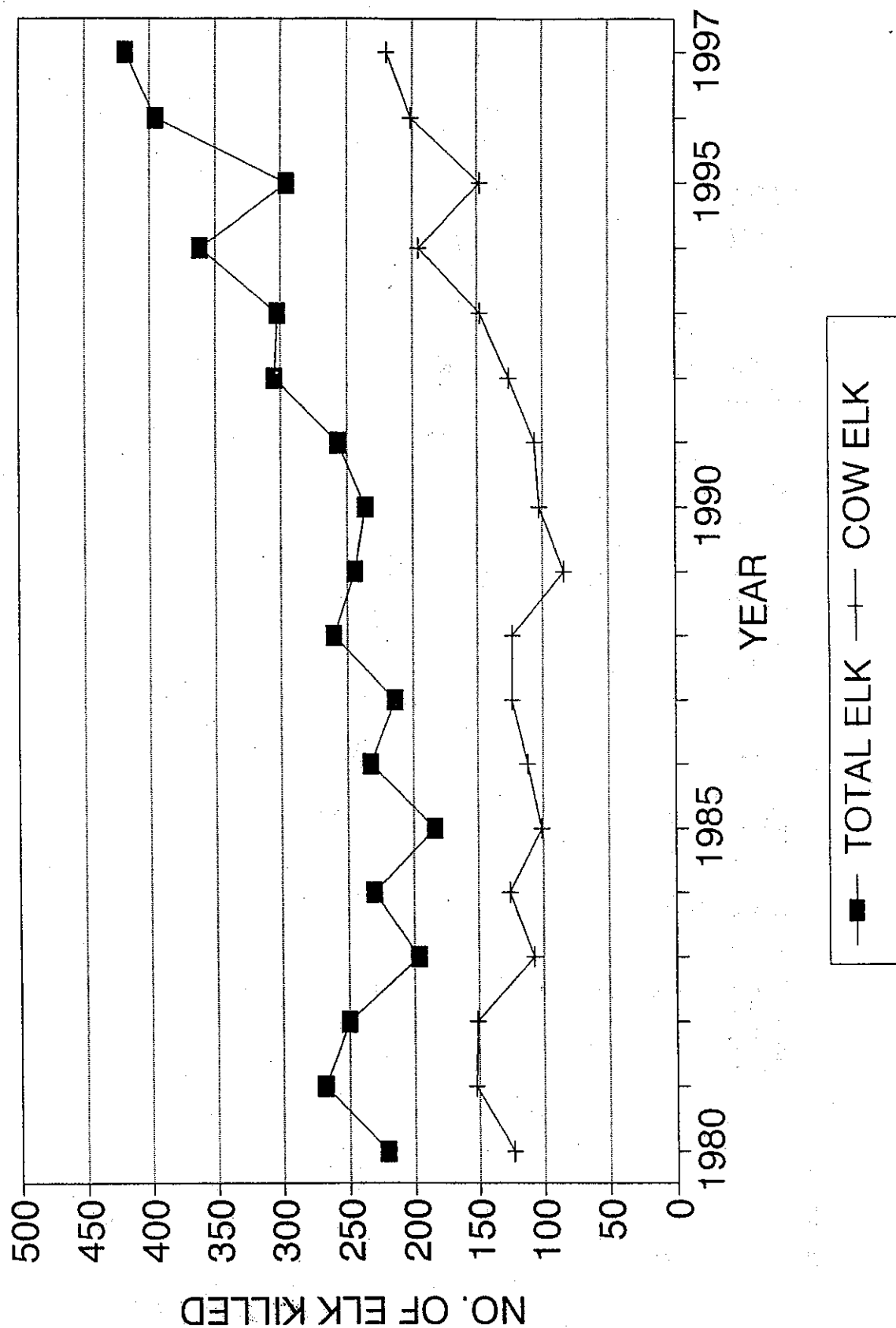


Table 4.

RIFLE ELK LICENSES, HARVEST AND SUCCESS IN GMU 39														Rev. 3-18-98			
YEAR	BULL LIC.	BULL HUNTER	BULL HARVEST	BULL SUCCESS	COW LIC.	COW HUNTER	COW HARVEST	COW SUCCESS	PLO LIC.	PLO HUNTERS	PLO HARVEST	PLO SUCCESS	TOTAL COW LIC.	TOTAL COW HUNTERS	TOTAL COW HARVEST	TOTAL COW SUCCESS	
1987	150				220								220				
1988	135	117	35	30	175	156	65	42					175	156	65	42	
1989	165	146	58	40	135	138	61	44					135	138	61	44	
1990	135	122	48	39	170	158	59	37					170	158	59	37	
1991	125	114	53	46	175	167	57	34					175	167	57	34	
1992	125	114	57	50	170	158	57	36					170	158	57	36	
1993	100	94	51	54	215	190	58	31					215	190	58	31	
1994	100	94	40	43	215	195	72	37					215	195	72	37	
1995	150	143	43	30	185	172	41	24		80	69	41	265	241	69	29	
1996	150	132	55	42	185	174	50	29		80	64	43	265	238	64	39	
1997	150	131	56	42	185	170	51		120	103	58	56	305	273	103		

RIFLE ELK LICENSES, HARVEST AND SUCCESS IN GMU 46

YEAR	BULL LIC.	BULL HUNTER	BULL HARVEST	BULL SUCCESS	COW LIC.	COW HUNTER	COW HARVEST	COW SUCCESS
1987	120				175			
1988	100	92	25	27	100	89	22	25
1989	125	119	34	29		70	10	14
1990	95	92	23	25	95	90	18	20
1991	95	91	19	21	95	89	25	28
1992	95	84	23	27	105	98	22	22
1993	100	96	25	26	170	156	22	14
1994	100	95	35	37	170	153	36	24
1995	100	98	29	30	170	154	15	10
1996	125	114	44	39	170	160	34	21
1997	125	99	33	33	170	156	34	22

RIFLE ELK LICENSES, HARVEST AND SUCCESS IN GMU 461

YEAR	BULL LIC.		BULL HUNTER		BULL HARVEST		BULL SUCCESS		COW LIC.		COW HUNTER		COW HARVEST		COW SUCCESS		PLO LIC.		PLO HUNT		PLO HARVEST		PLO SUCCESS		TOTAL COW LIC.		TOTAL COW HUNTER		TOTAL COW HARVEST		TOTAL COW SUCCESS	
1987																																
	20		17	4	24				35		33	19	58												35	33	19	58				
	15		7	3	43				20		17	6	35												20	17	6	35				
	20		19	6	32				30		23	14	61												30	23	14	61				
	20		20	11	55				45		41	14	34												45	41	14	34				
	20		17	10	59				60		50	27	54												60	50	27	54				
	20		17	12	71				90		84	47	56												90	84	47	56				
	25		22	9	41				90		78	19	24												90	78	19	24				
	35		32	8	25				90		76	15	20												90	76	15	20				
	35		28	6	21				90		79	17	22												90	79	17	22				
	35		30	9	30				90		74	21													90	74	21					

Appendix A



THE EVERGREEN NATURALISTS
AUDUBON SOCIETY, INC.

P.O. Box 523, Evergreen, Colorado 80437-0523

Janet DAU E 39
FYI
J.

August 26, 1997

Jim Jones
Area Wildlife Manager
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Dear Mr. Jones:

The Evergreen Naturalists Audubon Society was unable to send a representative to the public meeting which the Division held recently to discuss the management of the Mount Evans elk herd. We agree with the Division that management of the Mount Evans herd will be a real challenge in coming years. We enjoy having elk in our community, and we are pleased that public involvement with future management is being encouraged.

We are aware that many residents in the Evergreen/Conifer area are concerned about our area's carrying capacity for elk. Unfortunately, many people are confusing the concepts of impact and carrying capacity. We observe a growing trend in the community whereby residents attempt to judge carrying capacity by the elk's impact on property, and not by the health of the herd's range. The typical misconception is stated such as, "the elk have been in my garden again, they must be overpopulated" or "I've seen so many more elk lately, there must be too many".

Evergreen Audubon believes that biologically sound criteria should be used to determine our region's carrying capacity, and that education is the best tool for helping residents who are upset about the herd's local impacts.

We offer the following comments for your consideration:

- Carrying capacity should not be confused with impact. The elk carrying capacity should be determined primarily by analysis of the vegetation in the areas which elk utilize during winter. Some effort is needed to separate the effects of elk from that of domestic stock in much of our region.

- We recognize that some winter kill will occur during hard winters. Occasional winter die-off should be considered a normal part of maintaining ecological balance.
- The Division should continue to be supportive of local efforts to conserve land. We are pleased that the Division is attempting to protect the Golden Watershed property between Squaw Pass and Floyd Hill.
- The Division should work more closely with county governments at the planning and zoning stages.
- The Division should continue to work with the county governments ensure that county open space parks are operated in a manner that benefits our native wildlife. We are disappointed that the county has decided to route a trail under the Hwy. 74 elk bridge, but we appreciate the effort which you put into explaining the Division's position at the Open Space hearing in January.

Thank you for taking the time to involve the public in the Mt. Evans herd management. We look forward to working with you in the future.

Sincerely,

Cathy Shelton

Cathy Shelton
President

A breath of fresh air!

Mason
Purcell
Matzner
Moser
George

JP

24270 Bobcat Drive
Conifer, CO 80433
August 18, 1997

Mr. Jim Jones
Area Wildlife Manager
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Dear Mr. Jones:

My wife and I are "transplants" from the Midwest, having moved to the Conifer area in 1989. We live about one-half mile west of Riley Peak, close to a major elk habitat and calving area. There are also numerous deer in the area.

The evening before we bought our lot in 1988 we drove up here for one final, "deciding" look. As we crested the hill near the base of Riley Peak, there were about 30 elk grazing in a meadow. Needless to say, we were doubly glad the lot seller accepted our bid the following day. Had he known the impression made on us by the elk, he could have raised the price two or three thousand dollars and we would not have balked!

We regard the elk and deer as one would children who sometime misbehave: We are sometimes exasperated by their choosing our cultivated plants as food, and we are constantly concerned about having one jump in front of our car, yet we love them. Watching them graze, seeing the offspring grow through the summer and listening to the bugling of the bulls adds a touch of inestimable value to our life in the mountains.

We have noticed that one of the major topics of conversation when we visit with neighbors is wildlife sightings. And while one hears a little muttering about rose bushes disappearing, or young aspen being broken or stripped, I believe most of our neighbors feel the same as we do. Please do your best to manage the elk herd in this area so that they will continue to add a unique flavor to life in this wonderful place called Colorado.

Sincerely,

Gordon L. McCleary

Randy Sisson
5400 Ward Rd#3
Arvada, CO 80002
422.0777 x306

26 September, 1997

Ms. Janet George
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

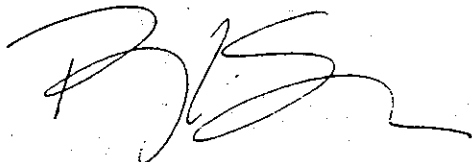
Dear Ms. George,

Recently I read with interest an article in the Rocky Mountain News about the elk over-population in Evergreen. I've hunted in the Evergreen area and have friends living there as well, so I know first hand what the residents are complaining about. One landowner admonished me to "shoot as many as you can", venting his frustration at the damage being caused to his property.

In formulating your plans to control the elk herd, I would ask that you seriously consider bowhunting as a game management tool in achieving your goals. I've included several articles of how bowhunters were organized to help manage urban deer problems in various locations. I believe that a similar approach could be successfully used on elk as well.

As a hunting archer and a member of a local archery club, I would be glad to donate my time and efforts to help organize a quality program utilizing bowhunters to help curb the growing elk population problem in Evergreen. Thanks for your consideration, and please give me a call if you are able. I would enjoy hearing about how the Division's plans are coming along.

All The Best,



Randy Sisson

CC: J. Jones

David Yanish
9563 Corsair Dr.
Conifer, CO 80433

August 28, 1997

Mr. Jim Jones
Area Wildlife Manager
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Dear Mr. Jones,

I am writing in response to an article that was published in the Canyon Courier on August 6, 1997 regarding the Mount Evans elk herd. Unfortunately, I was unable to attend any of the recent meetings that called for public input, and therefore I would like to take the opportunity to share my point of view and to voice my feelings via this letter.

I have lived in Colorado my entire life. From the San Juan mountains of the southwest, to the ski towns of Summit County, and no where else have I found the wildlife to be such an integral part of life as it is the Mount Evans Basin. As we all know the recent growth of the past 5 to 7 years across the state has been both a blessing and hindrance to our lives. How this growth affects the fragility of our natural world is very concerning. I am so glad to see that CDOW is taking a such proactive role in protecting our wildlife.

I have lived in the greater Evergreen area for several years, and have a great interest in the surrounding wildlife, and how it is managed. I am not a hunter, but more of an observer. I do enjoy having the elk, and other wildlife as my neighbors. Be it for aesthetic, or some other indescribable reason, I feel that the elk are a benefit to the community, and are in no way a nuisance. With that said, my wife and I would like to make ourselves available for any type of community strategy or for possible assistance as volunteers on elk management or other various wildlife projects.

I can be reached during the day at 754-3430, or at the address noted above. Thanks for your time.

Sincerely,



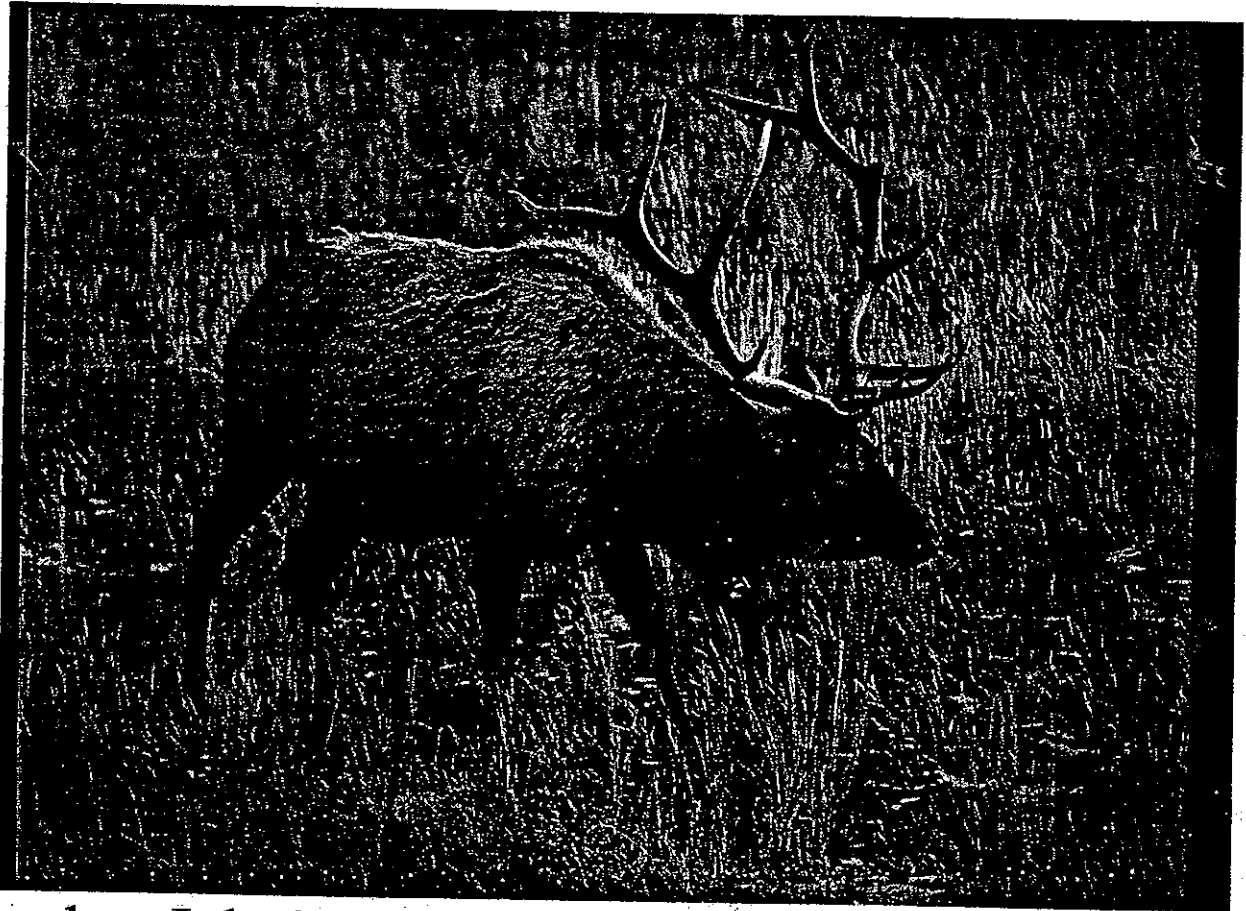
David Yanish

CC George
Mason
Hardisty
Moser

APPENDIX B

Public Invited to Help Develop Elk Management Plans for Mount Evans Elk Herd

How many elk are too many? How many are not enough? Where should elk be? You can help the Division of Wildlife develop elk management plans for the Mount Evans elk herd by participating at any of three public meetings in July and August.



Tuesday, July 8, at Bergen Park Firestation #2

on Highway 74, 7:30 p.m.

Tuesday, July 29, in Bailey at Farmer's Union, 7:30 p.m.

Tuesday, Aug. 5, Idaho Springs, City Hall, 7:30 p.m.

For information on elk management or directions to the meetings, please call the Colorado Division of Wildlife at (303) 291-7332 or 291-7225.

By Berry Morson

Rocky Mountain News Staff Writer

EVERGREEN — Wayne Richardson has ringed his spacious ranch-style home in upscale Evergreen Meadows with a 4-foot chicken-wire fence and topped it with another strand of plain wire.

"This is our perimeter here," Richardson says, conjuring images of Vietnam. "The enemy owns out there."

The enemy is the huge herd of elk — hundreds of animals — that comes pouring down the mountains many evenings.

Richardson, an ultrasound consultant, says the elk eat the bark off his aspen trees, killing them. The males have toppled his spruce trees, testing their new antlers for rutting-season combat.

"I love elk, but I don't like herds of two or three hundred elk," he said. "There's just too many, and I don't think there's any feasible way to control them. They're just breeding like rabbits."

Since 1980, the state Division of Wildlife has seen a 66 percent increase in the number of elk in the area from Denver to the Continental Divide that includes Evergreen. The division estimates 2,500 elk live there. The increase has occurred entirely in residential subdivisions such as Evergreen Meadows, not in the area's vast expanses of National Forest, says wildlife division biologist Janet George, who is preparing an elk management plan.

Biologists say the elk are moving to the suburbs for the same reason that Richardson did — the quality of life.

"What they find is not only habitat that is as good as their former wild habitats, but even better," said Bruce Gill, the wildlife division's top mammal researcher. "And the reason for that is, people have planted a whole bunch of exotic species, like Kent blue grass and all kinds of ornamental shrubs, and then they fertilize the bejeebers out of them."

The fertilizer makes the plants more succulent than natural forage, Gill says. The fertilized plants also turn green earlier in the spring.

And the elk don't have to worry about hunters in subdivisions, Gill says.

"They're not stupid," Gill said.

"They're very adaptive critters. And once they get established inside one of these refuge or protection areas, they're loathe to leave, and they habituate really well to people."

Not all of Richardson's neighbors dislike the elk.

"I love them," said Robin Beck, who owns 3 acres just across Armadillo Trail from Richardson's 2-acre spread. "Wildlife is so beautiful. Sometimes a hundred of them are in the driveway."

WORN-OUT WELCOME

Mountain homeowners fed up as huge herds of elk take over subdivisions



Beck says the elk can be destructive to trees. "But I'd rather have the elk around than new aspen trees."

Down the road, gymnastics instructor Kathy Tuteur says her three young daughters like to watch the elk loping through the meadow.

"I would never complain about elk," Tuteur said. But, she adds, "I would swear under my breath if I came home and they sucked up all my aspen."

Like Richardson, she's fenced her youngest trees.

Gill, the state mammal researcher, expects more mountain residents to come around to Richardson's view of elk in coming years. With few predators and no hunters to limit numbers, the elk — in theory, at least — could turn Evergreen Meadows into a moonscape, Gill says.

But the problem probably won't reach that point, he says.

Tolerance of people will give out before food resources do, he said. At some point, people are going to be forced to remove the elk.



Above: Evergreen resident Wayne Richardson stands between two aspen trees that have had their bark stripped by elk.

Left: Richardson holds up a snapshot showing herds of elk grazing on property near Evergreen in the winter. Richardson lives in the town of Dryden, near the town of Dryden, near the town of Dryden.

fed up with them — a majority of people will get them the hell out of this area. Wildlife to do something.

Just what the division can do is unclear, says George, who is writing the elk management plan for the area that includes Evergreen. The plan, due in October, will include a target number for the elk.

Left to themselves, cow elk give birth beginning at age 2, and then annually until age 20, George says.

People have suggested trapping elk and moving them someplace else.

"Everybody thinks of that," George said. "Well, who wants them? There's a lot of places that have too many elk."

Estes Park and Aspen have elk problems, she says. Ranchers in rural areas have complained for years that elk eat the hay put out for cattle. Researchers are experimenting with birth control drugs for elk, George says.

But getting control of a 600-pound animal long enough to administer the drug is a problem. And each cow must be recaptured for successive doses, George says.

The wildlife division is experimenting with special hunting licenses that allow the killing of a cow elk on the property of consenting landowners. The division issued 80 of the special licenses in 1996, and 45 cows were killed during a season that ran from Sept. 1 to Dec. 30.

The program will be repeated this year, Richardson, an avid hunter, says he could take out a few elk in Evergreen Meadows without danger to residents.

But his neighbors disagree.

Tuteur, the mother of three daughters, is "appalled" by the idea.

"This is a no-gun area," she said. "Firearms are not permitted. There are children everywhere."

The changing face of elk

As a rule of thumb, people seem pretty indifferent about most things unless 1) they have a vested interest or 2) the thing has made its way under their skin and brought their blood to a boil.

These days, it seems there's a lot of people walking around with an unsightly 700-pound growth.

The graceful elk, a symbol of mountain elegance, is under fire again for wreaking havoc on gardens, aspen trees, yards and grasslands — colliding with man.

In Wah Keeney Park last week, David Gunn reported that a monster of a female was regularly terrorizing not only his flowers, but is chasing joggers and getting a little too close to children in the neighborhood.

This one, Gunn said, was a little loco. He once caught it snacking in his flower beds and nailed it with a two-by-four. Rather than trot off, the 900-pound cow stomped its feet, bucked toward

him and all but opened its mouth and said "Go ahead, make my day."

Gunn high-tailed it to safety. He called the Division of Wildlife, and Ranger Russ Mason eventually agreed that this particular elk was indeed a little strange and could pose a threat to safety. A trap was set last week.

Which brings me to my point.

Anybody who watched "Jurassic Park" knows that wildlife can adapt to its imposed environment quickly; after all, its most basic instinct is to stay alive and generally it finds the easiest path to that end.

With more and more humans as neighbors who can blame the elk for figuring out that it needs to start standing its turf? It's a dog-eat-dog world out there. Nice guys finish last.



CASEY
EHMSEN

Besides, the elk find luscious, manicured gardens and lawns easy pickings.

But it's time for some kind of management for the booming population.

The Colorado Division of Wildlife is composing a five-year plan to tame the wild and try to manage the elk population. In a series of town meetings, homeowners, hunters and naturalists have knocked heads, and the consensus has been to keep things status quo.

Though the elk and the mountains are like peanut butter and jelly, status quo will end up hurting not only those boiling over at their ravaged gardens, but the elk itself.

The DOW reported that since 1980, the population of elk between Denver and the Continental Divide increased 66 percent. Decreasing numbers of natural predators and increasing numbers of lush gardens and lawns are spawning a boom in the elk population.

As a whole, the balance of man and nature is seeing exponentially faster in the last century than it did in the entire millennium preceding it. Habitats have changed, and will continue to do so.

By failing to control the population, the elk's natural habitat will change even more. They will be further forced from the secluded hills and into yards, gardens and roadways — grass grows greener in all three places.

Keeping control of the population will put a cap on the elk's need to find those places, thus keeping them in the wild and from evolving into domestic stock.

The DOW's five-year plan will put a limit on the mountain area's herd population, probably encourage hunting and try to find a balance so that both mammals can co-exist.

Nobody wants the elk to fade away. But

See Ehmsen on Page 8A

Ehmsen from Page 7A

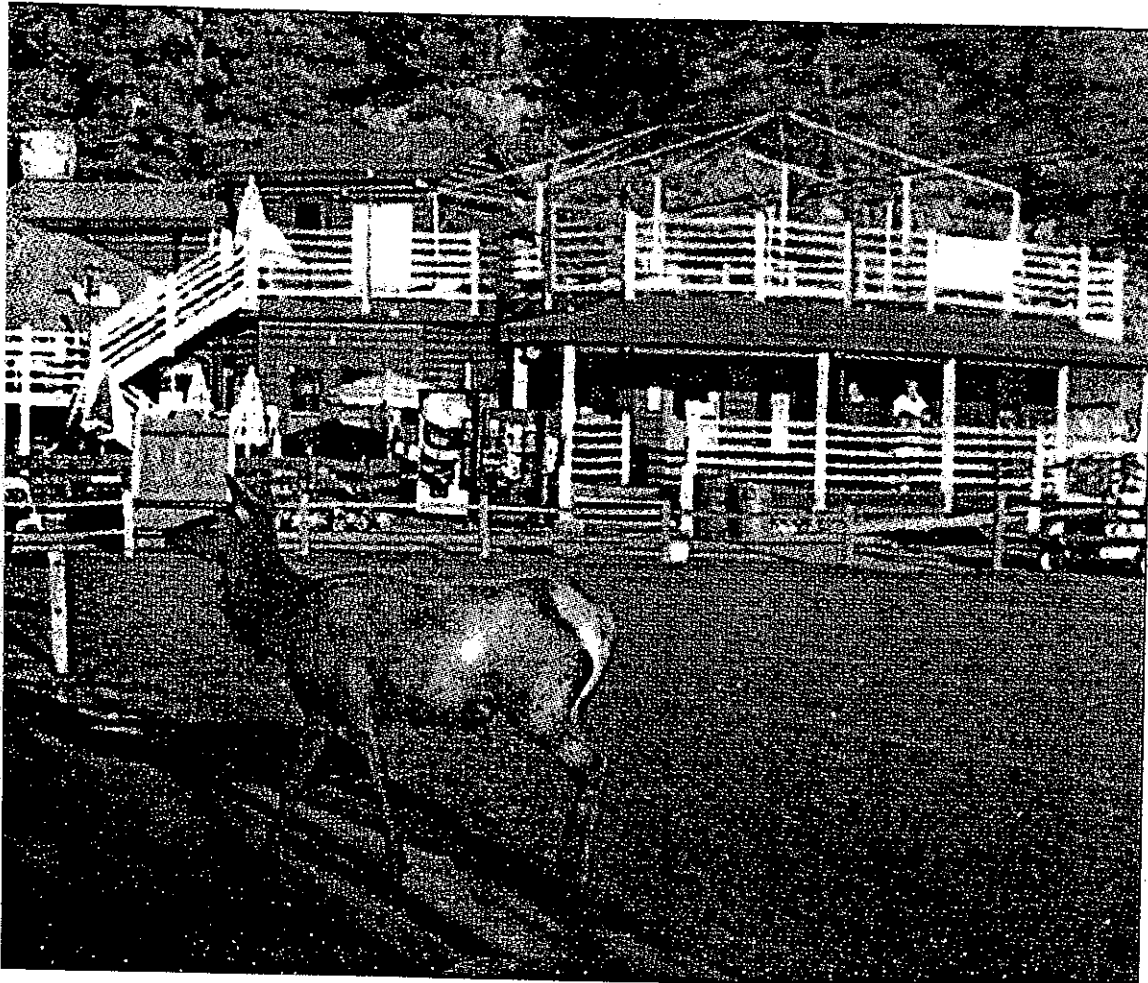
steps must be taken — in light of the change in the elk's habitat — to control the population and keep the elk from adapting too much to the easy pickings of suburbia.

Otherwise, there will be a violent collision, and not just the kind that happens on a high-

WILDE HIGH SUBURBS

Luke Clarke, Suburban Editor — (303) 892-2381 • e-mail — suburban@denver-rmn.com

JEFFERSON



Gary Gerhardt/Rocky Mountain News

are unfazed by golfers at local courses. "They're so used to one another, neither the animals nor the golfers pay any attention to the other," a Colorado Division of Wildlife manager says.

Elk find suburbia suits their animal instincts, while wildlife officer runs himself ragged

At home among the **HOMES**

ary Gerhardt

Mountain News Staff Writer

VERGREEN — During elk rutting season, *playing through* takes on a whole new meaning for golfers at Evergreen Golf Course.

Last week, a couple of young bulls pursued cows across the dew-damp grass next to the house, through Bear Creek, over the No. 1 fair- and into the trees, while golfers waited for them near.

"They're so used to one another, neither the animal nor the golfers pay any attention to the other," Doug Purcell, Colorado Division of Wildlife manager.

The animals are part of the Mount Evans herd, which has doubled in size to 2,500 since 1980. In this mountain area, they are becoming like Canada geese in urban parks, a public nuisance.

It places Purcell in a strange position.

On one hand, he's constantly on the run, answering hundreds of calls a month, many of them from homeowners who want help coping with elk problems.

On the other hand, he has to solve the problems while the vast majority of those callers love the animals and don't want extraordinary measures taken to kill the herd or move the animals.

"They want a Band-Aid rather than a fix," Purcell said. "They want us to deal with each individual problem rather than the population as a whole. Most of my problems center right in town."

While the majority feel kindly toward the animals, a vocal minority are pleading for help.

Wayne Richardson, who lives in Evergreen Meadows, complained last year that he had to construct a 4-foot chicken-wire fence and top it with a strand of plain wire to keep the elk from eating the bark off his aspen trees and killing them. Richardson said he loves elk, but not in herds of 200 to 300.

Purcell said the herd is divided almost equally by Colorado 74 and County Road 73, which cut the area in half from Bergen Park to Conifer.

"We have controls in the western half because those elk migrate to the high country in summer and back to the valley in winter, and there's adequate public lands to hunt them," Purcell said.

But the herd resides year-round in the more densely populated eastern half, munching Kentucky blue grass, ornamental trees and shrubs and gardens. And residents in that area display a strong anti-hunting sentiment.

The clash often puts Purcell in the position of being an animal control officer.

For instance, in the Brook Forest area last July, he had to cut an elk free after it tangled its antlers in a backyard hammock.

"As soon as I cut it free, it backed into a kid's ladder swing and hooked the other side of its antlers," he said. "It later was seen near El Rancho with part of a hammock on one side and part of the swing on

See **ELK** on 41A

Sunday, October 18, 1993

Rocky Mountain News

Residents don't want bothersome elk hunted

ELK from 40A

the other."

He has also removed tires from around elk's necks, pulled a bicycle from one's rack and watched a cow with a tuna can caught on her hoof. The "most ornate," he said, was a bull with a string of Christmas lights wrapped in its antlers.

"So far we haven't had anyone hurt by elk, but last year a large cow hung around the area and charged a guy," Purcell said. "We set out a trap and took her away, guessing she was fed when young and lost fear of humans."

To get a handle on the situation, the wildlife division conducted a study in the area. A draft of the Mount Evans Elk Management Plan is available for public review.

It calls for culling the herd through hunting, letting division shooters kill select animals, or by using contraceptives, although it could be five years before an effective contraceptive is available.

But none of those suggestions was acceptable to the majority of residents who responded to a Cornell University survey that was completed in April. Of 500 random mailings, 342 responses were returned, according to Lisa Chase, the research coordinator.

The study indicated:

- The elk are popular simply because people enjoy watching them walk around their homes and through town.

- More than two-thirds of the respondents reported they have had problems with elk damaging their trees, shrubs, flowers and vegetable gardens. They also expressed concern about elk-auto accidents. Despite this, the majority said their enjoyment of the elk far outweighed their concerns.

- The most acceptable ways to manage elk, they responded, was to restrict development to preserve elk habitat and to educate people how to live with elk by landscaping with plants that are less attractive to the animals.

WESTERN ADVENTURE

Elk logjams create lethal hazard

**Ed
Dentry**

While hunters and anglers pay the price for wildlife troubleshooting in Front Range mountain communities, many who live the high life say they are opposed to hunting to reduce elk herds for population control.

But development goes on. And the elk must go somewhere, even if only to mill around in traffic.

The anti-hunting sentiment has frustrated the Colorado Division of Wildlife, the cash-funded agency that somehow must find a solution for the ills of negligent development.

As *Rocky Mountain News* writer Gary Gerhardt reported Sunday, Evergreen residents, who have created one of the worst elk logjams in the country, mostly are opposed to hunting. Instead they prefer the charm of having lots of elk stumbling through playgrounds or wandering with their antlers and hooves adorned with residential flotsam.

Elk are so pinched and crowded along the Genessee to Floyd Hill corridor of Interstate 70 and from Bergen Park to Conifer that they present a real danger to motorists, which are their only predators.

Early this year elk/vehicle collisions killed two young men who were returning from a ski trip on I-70 at Genessee and a boy who was a passenger in a car on Colorado 74 near Bergen Park.

And the development goes on, with no thought to wildlife or future generations. The wildlife division will feel the pinch when fall hunting seasons end and it loses a 5,000-acre state wildlife area near Squaw Pass on Mount Evans.

The agency leases the land from Golden, which wants to sell it for home development, of course. Golden already has closed the land to hikers.

As usual, the wildlife division has conducted community meetings and studied opinion surveys to determine what it should do to alleviate conflicts between people and elk. What it should do is abandon its politically sensitive touch, develop a doable hunting plan and get with it.

Hunters and anglers, who fund the wildlife division, deserve no less from the agency's already strained budget. Nor do skiers and other motorists, who risk paying the ultimate price on I-70.

Cutting-edge flies — It isn't every day that a young fly tying talent challenges the vises of the mega-companies, which supply most fly shop bins these days.

Troy Bachmann is eyeing precisely that challenge. At 31, he already has achieved a prominence in fly fishing circles that might loosely be compared with that of Bobby Fischer in chess. Bachmann's fly fishing and tying experience dates 20 years, to age 11. And colleagues say he has the discipline, artistry and business savvy to meet the challenge.

Along the way, Bachmann, founder of the Frontier Fly Co. and author of a new book, *Frontier Flies: Patterns on the Cutting Edge*, plans to share some of his exacting recipes with home tyers. Saturday, he will be at The Colorado Angler, 1457 Nelson St. in Lakewood, 11 a.m.-2 p.m., to sign books and chat about fly fishing and fly tying.

Bachmann, who grew up tying flies in his father's fly shop in Welches, Ore., has tied more than 20,000 dozen flies personally and has improved and developed contemporary fly patterns that aren't found in other fly tying books.

His Oregon-based Frontier Fly Co. is a young wholesale fly producer known in the business for strict consistency and quality. Tied commercially in Mexico, his patterns share a special emphasis on the judicious use of synthetic materials to make them more insect-like and more visible to the angler.

Frontier Flies (\$39.95 hardcover, \$29.95 soft, Frank Amato Publications, Portland, Ore.) gives tying instructions for more than 600 patterns, including many for steelhead, salmon and saltwater. The vast majority are for trout, falling under categories for dry flies, caddis, midges, stonefly dries, nymphs and wet flies.

Home fly tyers can expect to learn creative ways to combine modern materials (bead heads, synthetic yarns, foam, flash and rubber) with traditional materials to tailor flies for specific water types.

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EVERGREEN, COLO. 2 SECTIONS

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This week
INSIDE

People



Love Affair:

Study says Evergreenites take elk to heart despite overpopulation

by Kara Rhodes

Reporter

A survey of residents asking their feelings about the neighborly elk showed how much Evergreen people enjoy watching the stately native animals. But the study also showed what a nuisance they can be to homeowners who have the audacity to try and plant flowers — or even grass.

The study, completed by Cornell University researchers Lisa Chase and Daniel Decker, targeted 500 random households in Evergreen. Chase said 342 questionnaires were returned.

So, now that we've been analyzed, what are Evergreenites favorite elk activities?

- 99.5 percent enjoy watching elk (it's not just the tourists who stop their cars to watch a grazing young bull).
- 76.3 percent admit to occasionally breaking out the camera when elk are nearby.

But taking a picture isn't necessary, said Doug Purcell, the Evergreen area Division of Wildlife manager. The elk aren't going anywhere.

And the elk are happy with local food options: year after year, unwary newcomers plant plenty of their favorite foods geraniums, petunias and tulips. The most common complaint about elk was the damage

See Elk on Page 18A

Evergreen Newspapers launches ENI Online

Evergreen Newspapers Inc. and *The Canyon Courier* are proud to introduce *ENI Online*, our foray into the world of internet communication.

The content of the site is produced by the staff of Evergreen Newspapers Inc., which produces *The Canyon Courier*. The site was designed by executive editor Casey Ehmsen.

The site's address is: <http://www.evergreenco.com>.

The site features many of the same things you've come to expect from *The Canyon Courier* each Wednesday — news, sports, people, happenings, cultural event listings, and the classifieds.

Other features are on the way in the coming months, like the Evergreen Guide, interactive Q&A's with civic, cultural and political leaders and newsmakers, news archives and others. Advertising opportunities are also available on *ENI Online*.

Through Nov. 3, you can access Election '98, which features profiles of candidates and stories on different issues in the upcoming general election.

The site is a work in progress, and input from the online community will be appreciated as we continue to develop *ENI Online* into the area's top online resource for news and information.

Elk study finds contradictions in attitude, population control

Elk from Page 1A

they caused to trees, shrubs, flowers and vegetable gardens.

There are currently about 3,000 elk in the Mt Evans herd — stretching from C-470 to the Continental Divide and from I-70 to Kenosha Pass.

The DOW issued 1,315 elk hunting licenses this year for that area. The average hunting success rate is 32 percent, Purcell said, which would shrink the Mt. Evans elk herd down to 2,500.

"It's really hard," Purcell said. "People up here don't like to see the elk hunted — and some are very adamant about it — but there are so many cows and the reproduction potential is so high that without hunting, we'd be overrun."

We don't want elk to become the prairie dogs of the high country: 81 percent of respondents were interested in hearing about elk management strategies in Evergreen but 43 percent said hunting elk was unacceptable.

"It makes it so hard," Purcell said. "We need to keep the numbers down, but people don't like how we do it."

Education is key to living hospitably with elk, respondents believed. Eighty percent said teaching drivers about how to avoid the large animals on the road was an acceptable elk management strategy. And 68 percent said restricting development to preserve elk habitat was the answer. The other elk management strategies, such as sterilizing elk, reintroducing natural predators or using chemical repellents didn't receive more than 15 percent acceptance rate.

People are very worried with sharing roads with elk: 67 percent said it was a big concern, perhaps with good reason. Three car accident deaths this year in the Evergreen area have

involved elk, and the Colorado State Patrol responds to dozens of elk- or deer-related accidents in the Evergreen area every year.

People in Evergreen would also like a more active role from the Division of Wildlife, a frustration Purcell understands.

"There are two of us between here and the Continental Divide," he said. "It's really hard to be as effective or as visible as we'd like."

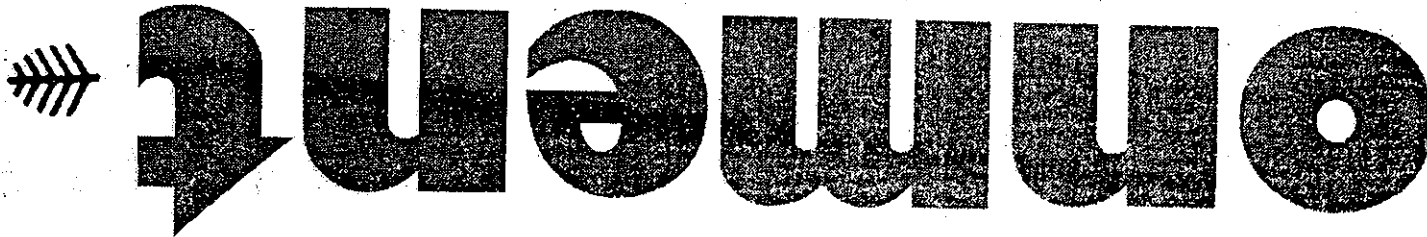
A large herd of elk graze off of Highway 65 in Soda Creek. A recent study says that while locals love their elk, that love may be making the herd too big.

Courier photo by John McDonough



Petition asks for EPRD to erect safety fence

Member SPC



Survey says elk hunting favored

Hunting elk was one of the main solutions to overpopulation favored by the 343 people responding to a survey by Cornell University and the Department of Wildlife. Five hundred people were sent survey forms this spring to obtain information on how to deal with the burgeoning elk herd. Results of the survey were a lead story in the *Courier* last week. While the *Courier* reported 43 percent of the people did not favor hunting, the combined figures of 56 percent said it was either acceptable or very acceptable for licensed hunters to do archery and rifle hunting in the area.



JOAN SPALDING
Environmentally Speaking

84 percent felt the Division of Wildlife was the group that should have the most influence on decisions about elk management in Evergreen with input from citizens but over 60 percent strongly agreed that the DOW needs to improve communication and visibility.

"A hard task," said Doug Purcell, the Evergreen area Division of Wildlife manager. "The district goes clear to the Continental Divide and has only two officers in charge."

Next year, Purcell advised, the plan is to encourage more hunting in the foothills region. To accomplish this, Section 39 may be divided into two areas

and the land east of Highway 74 and Highway 73 to C-470 will become Section 391.

This will take the stress off the Mount Evans wildlife area and move more hunting to private land in the foothills. Purcell stressed primarily, hunters do use safe practices in the discharge of firearms. In Colorado, no non-hunters were ever reported killed by a hunter.

In the Cornell survey, participants wanted more education about the elk but according to Purcell, that desire still doesn't address regulating the continued increase in the herd. Learning how to avoid the elk on the highway or putting in plants that the elk won't eat are good people practices but they do not reflect a viable means to systematically decrease the herd.

In fact, as the *Courier* reported, most of the respondents in the study are satisfied with the size of

the herd. More than 92 percent were interested in watching the elk near their homes but only 16 percent were interested in hunting the elk.

While the average residency of the participants in the Evergreen area was 14 years, many of them were not raised in a rural environment. Over 55 percent grew up in a city environment.

Demographically, the average age was 47 years, 45 percent were female and 55 percent were male. Two-thirds of the respondents made over \$50,000 a year and one-third made over \$100,000. Over 75 percent were college or vocational school graduates. The entire study was funded by (Cornell University).

Joan Spalding is an educational consultant and an arborist. This column is written as a service of the Evergreen Rotary Club.

Indian Summer paints brilliant strokes



SYLVIA BROCKNER
Our Evergreen World

There is nothing finer than an Indian summer day in Colorado. The sun is warm, the sky is blue and the humidity is low. The air is like a fine dry wine. Sunbeams shimmer from glossy Ponderosa Pine needles and the fragrance of pine pitch and pungent fallen-aspen leaves fills your nostrils. It is pure joy to be outside and as neat to being perfect as weather can be.

Then they began to decline and we were happy to see two or three.

They slowly began to increase their flock size and in recent years have leveled off at small flocks of eight to ten birds. Their favorite food at

their lawns, the Whiplash Daisy is a low growing, creeping plant that brings flowers to your lawn. The Whiplash Daisy, however, is a very hardy native plant which will grow under adverse conditions of extreme cold and dry heat. This makes it ideal for lawn or rock garden planting in this area. Although the nodding buds may be pink, the flowers are white when they open. The common name, as well as the specific name, changes

ENVIRONMENTAL HARMONY

Man & beast co-exist in Jeffco

by Nancy Ward

Like a coyote chasing its tail, the great desire to live in rural Colorado with wildlife in the yard is creating a Catch-22 for the Mount Evans elk herd.

Right now, both man and elk are thriving in Jefferson County.

In fact, the 1,650 elk estimated after the hunting season of 1980 increased to 2,500, a conservative 1996 post-season count, according to Colorado Division of Wildlife biologist Janet George.

The count never stays at a given number very long, she explained, due to spring births of 1,000 or more and mortality from road kill, hunters, predators, natural causes, old age and emigration.

Elk spied in Jefferson County are part of the Mount Evans herd.

The herd roams Jeffco and large chunks of Park and Clear Creek counties from Interstate 70 on the north to Kenosha Pass and U.S. Highway 285 on the south, from the Continental Divide on the west to the metropolitan area on the east.

While the portion of the herd that ranges in the western high country maintains constant numbers, she reported a population explosion in the eastern herd is creating problems – for elk and people.

Continued on Page 12

The western portion of the Mount Evans elk herd is thinned by regulated hunting. But the eastern portion of the herd in populated areas where hunting is prohibited is growing virtually unchecked. At the turn of the century, local elk were almost hunted to extinction. Elk were imported and since have thrived. (Photo of a Mount Evans' calf from the collection of Jacqu  Scott)

ENVIRONMENTAL HARMONY



Photo by Mark Wallace

A common sight: the Mount Evans herd in Jeffco.

Continued from Page 11

It's a management challenge that defies an easy solution.

The size of the western herd, which ranges mostly on U.S. Forest Service land, is controlled by regular seasonal hunting, keeping the herd compatible with available forage.

Despite losing acres of elk habitat to development in the eastern portion of the herd's traditional pasture, this is where elk numbers have escalated.

Obviously, hunting in populated areas from Idaho Springs to Conifer, Evergreen, Bergen Park and Bailey is difficult to impossible.

The very limited hunting, coupled with lush golf courses, community parks, tempting lawns, agricultural acreage, a garden or apple tree here and there have caused the soaring numbers.

The elk birth rate stays high, said George, while life expectancy for cows remains at 15 to 20 years. "Elk are pretty robust animals."

Additionally, the predator-scavenger affect on the Mount Evans herd is low.

Back in the late 1800s and in the first decade of this century, elk were hunted to near extermination in Colorado, especially in mining areas and other population centers.

Almost wiped out were the great herds of Rocky Mountain elk that, along with deer, antelope and plains bison, furnished Indians with food, clothing, bedding, tepee coverings and canoe shells.

Gone were the wapiti, whose bones had provided sewing awls, eating utensils, fish hooks, hide scrapers and knives.

Finally, a predecessor agency to the Colorado Division of Wildlife stepped in. Between 1912 and 1928, it reintroduced 350 elk to Colorado to supplement the badly declined herds -- the new elk coming from Jackson Hole, Wyo.

The agency developed successful elk management practices. Since 1976, Colorado has boasted the largest populations of Rocky Mountain elk in North America.

In 1998, however, mountain residents, state wildlife managers and community officials will be faced with a different dilemma. Too many elk.

This concern sparked a series of 1997 community meetings, offered by the division of wildlife to determine the collision point of society and elk.

Discussions included damage to personal and agricultural property, creature comfort, auto-elk collisions, citizen responsibility and division management.

Everyone seemed to realize the "social carrying capacity" of the area in relation to the elk herd is as important as the ecological carrying capacity of the range.

A low turnout was reported at all meetings. There was no outcry for change in the present status of co-existence.

In general, residents were pretty happy with current numbers but wanted the herd "held at its present level," George reported.

Maintaining the present herd size will be a real challenge. George said the most feasible management tool is hunting. But the large acreage where hunting isn't allowed in the eastern portion of the herd's range dashes that possibility. Trapping and moving elk are not an option, she said.

Overpopulated elk range is not isolated to Jefferson

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Natural predators help keep the elk herd population in check.

County, Utah, Wyoming and Montana have similar problems, where fertility control has been considered.

The problem is to catch 60% of the cows to administer birth control. Catching 800 elk at \$400 to \$500 each, multiplied by two, since two shots must be given two weeks apart, is not a viable answer.

Sterilization shots from a \$650-per-hour helicopter, the method used for some wild horses on the open range, won't work. It would be impossible to mark cows on the first shot, then find them again among the trees to administer a second shot in a timely manner. Darting from a vehicle would bring down cost, but locating each cow for a second shot would be impossible.

If the numbers are reduced by any means, George explained, the affects on predators and scavengers that depend on elk for food also must be considered, including changes in their behavior toward other wildlife and humans.

Mountain lions are pretty tolerant of people but

depend on big game for survival. Black bears take elk calves. But a change to one species, in a trickle-down system, at some time will affect the hundreds of species of birds from robins to golden eagles, even frogs, toads, rabbits, porcupines and coyotes.

There are no magical answers to achieving and maintaining harmony between man and critter, she said.

A new management plan will be written in an attempt to control elk numbers, mainly by increasing private-land-only hunting licenses. Drafts of the plan will be open for public comment.

Changes besides a population explosion have taken place in the Mount Evans herd, mostly due to human influx. The changes include migration routes, migration timing, rutting and calving areas, and human safety concerns.

While calving in late May and early June used to be confined to one or two locales, calving now is spread throughout the area, George said. Communities have

restricted building permits near calving locations, she reported.

After gestation of 249 to 262 days, usually a single spotted fawn – calf – is born.

Cows select areas close to heavy cover and grassy meadows. They normally seek areas of low human impact, said District Wildlife Manager Doug Purcell. That's good for humans because a cow with a calf becomes fiercely protective, even aggressive.

Weighing 30 to 40 pounds at birth, the calf is kept hidden by its mom for several weeks. By September rutting time, the calf is weaned.

Likewise, rutting areas have changed over the years. But the fall event, most intense in late September, still is nearly as thrilling for spectators as for elk.

Resonating high-pitched bugles of bulls declaring their supremacy announce the breeding season. The race is on. The war begins. The prize – offspring.

Continued on Page 14

Through the eyes of a lens

by Mark Wallace

Anyone can drive along the road and come across an elk next to the road. Some people even go out with the intent of photographing elk, especially in the fall when the mating season is at its most dramatic. But not so fast.

The key part of wildlife photography is the part about the animals being wild. We invade their territory and, at times, put ourselves at risk—especially in the fall, elk are unpredictable at best.

Many bull elk have an ornery disposition. They trash trees just because they are mad. They challenge each other just because they can. They will charge you, and, if they can, they will hurt you. Their antlers are beautiful, but they can be lethal.

So, caution throughout the year is important.

It also is illegal to harass wildlife. There can be a fine line between admiring their beauty and creating stress on them by your presence.

Like many of our wildlife species, elk are most available for photographs early and late in the day. This creates lighting conditions that require fast film and large lens apertures.

In order to get the image size that makes the best photographs, you also need long lenses.

Quality equipment has a great cost. Casual photographers often have

decent equipment but not like the equipment of the professional photographer. But there are a few things you can do.

First, learn to use your equipment properly. Know all of its features and be able to operate the camera's features effectively.

Second, you simply have to have a few things. A 35mm SLR is great, but it needs interchangeable lenses.

The minimum size lens will be 200mm. A 2x converter would make the lens equivalent to a 400mm lens, but you lose light.

I use a 500mm, f/4 lens and am satisfied with the results in most cases.

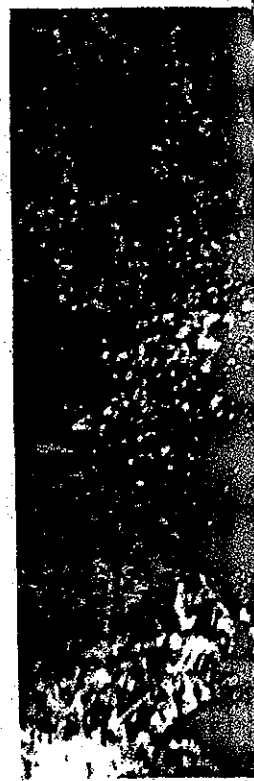
With some effort, you can get decent photographs under some conditions. The faster the lens the better (f/4, f/2.8, etc.) Lower-priced lenses are slower and have a minimum f-stop of f/8 or so.

Then light becomes the problem. The shutter speed must be set much slower, which creates more limitations.

You can use faster film, 200 ASA or 400 ASA, for example. The faster the film speed, however, the lower the quality of enlargements if you want to hang one of your photographs on the wall.

Mark Wallace is the Golden fire chief. He also is a wildlife biologist and operates a custom wildlife photography business called Fire Eagle Ltd.

He will photograph animals for customers or act as a guide to help customers locate and photograph wildlife. Call 216-1419. ■



Continued from Page 13

Long-legged bulls, 1,100 pounds and 5 feet tall, charge one another, challenging for the attentions and affections of cows less than half their size. Dominant stags with sturdy, swollen necks supporting racks of four or five points spreading more than a yard wide send lesser rivals away in shame.

Successful bulls collect harems of 15 to 20, the females selecting the most virile and attractive bulls to be the fathers of next year's calves.

Sometimes bulls don't survive rut. Some are fatally wounded in battle. Others are spent of strength and body mass, unable to survive winter conditions or predators.

Sexual timing of rut is determined by the amount of sunlight absorbed through the elk's eyeballs, said George, but not migration. Timing of migration relates to spring green and snowfall, as well as the tradition of the herd.

While the Mount Evans elk used to be a migratory herd, now there are several resident herds at about 9,000 feet year-round, the biologist said. Some elk winter west of Colorado Highway 74 in the Bergen Park area and move above timberline in summer.

A small number stay high on Mount Evans all year. It

takes about 15 inches of snow to get a migratory herd moving down the mountain.

Weather and food sources are the main motivations for migration. But some elk migrate during hunting season to closed areas where others stay full-time. Migrating herds tend to return to the same areas each year. All elk prefer wooded areas.

Male and female elk separate in summer, cows form small herds with calves, stags forming bachelor groups. In autumn the sexes regroup for rut, the mating season.

An elk, as a ruminant animal with a four-chamber stomach, swallows as it grazes, then regurgitates and rechews its cud while relaxing.

Grasses, leaves, shrubs, conifer brows, lodgepole pine, Douglas fir twigs, herbaceous forage, wildflowers, ferns and lichens make up the diet.

In winter, elk paw deep into snow in search of food and strip winter bark from poplars and aspen. Spring's soft, juicy plants help make an abundant supply of milk for the new generation of calves. Cows, besides nursing calves, must build fat reserves and strength for their own ordeal of winter.

Although few incidents have been reported, there is potential danger to humans from elk, especially to humans

who fail to act responsibly, cautioned Purcell.

"A responsible property owner or wildlife viewer must not make food available for any wildlife. Try to impact wildlife and its habitat as little as possible," Purcell advised.

"I encourage people to scare off animals from their yards—make wildlife wild. It's the most healthy thing for animals and residents."

There have been a few reports of elk scaring people in their yards. A year ago, two cows threatened and charged people who were finally able to shoo the critters away. At times people have parked but were afraid to get out of their cars because of nearby elk. No injuries have been reported.

Where there are elk, there are predators. Garbage and trash improperly stored have serious impacts on wildlife, especially predators. Besides bears and lions, trash attracts smaller animals like raccoons, squirrels and skunks. The presence of prey species is more reason for a lion to visit a back yard.

Even hummingbird feeders and birdseed can create problems if not handled appropriately, the wildlife manager noted.

Good viewing areas are located throughout open areas



Taking good photographs of elk and other wildlife takes time and patience, and remember these are wild animals and can be unpredictable.

along state Highways 74 and 103 and at the western end of Upper Bear Creek Road in Evergreen.

"Noble Meadow (part of Elk Meadow Open Space Park in Evergreen) seems to be the area where elk can be seen most consistently," although elk range throughout the surrounding locale, according to Karen Hardesty, watchable wildlife coordinator for the wildlife division.

"Best viewing opportunities are early morning when the elk are feeding, or evenings, spring through fall." The animals usually rest during the day and are less visible.

A pull-off for viewing is planned for Elk Meadow's Noble Meadow, Hardesty reported. This project is a joint venture between Jefferson County and the Colorado Division of Wildlife.

Dave Bentley, planner for Jeffco, said the turnout will be 8 or 9 feet wide and paved. He hopes the simple project can be completed by the county in 1998. The Noble Meadow pull-off will be on the south side of Highway 103 between Highway 74 and Echo Lake. It will be best accessible while driving east. The location is near one of the area's ponds and an old barn landmark.

Three or four interpretive signs furnished by the division will explain natural history of elk, wildlife needs and

challenges of the area. Viewers must not leave the pull-off area to approach wildlife or park overnight. Until the pull-off is constructed, drivers should be extremely cautious slowing or stopping in traffic and crossing the road on foot.

Mount Evans State Wildlife Area contains about 4,000 acres at the end of Upper Bear Creek Road west of Evergreen.

It is a managed area for public recreation, closed to vehicles within its boundaries. It adjoins national forest land and is open for the first hunting season.

"Don't go elk watching with your heart set on just watching elk," she advised. "It may be one of those few days elk aren't visible. Be mentally prepared to enjoy other animals, as well - bluebirds and hawks and small mammals. Be open to a variety of wildlife."

Common-sense wildlife viewing rules from the division include practicing safety at all times.

Always get permission before entering private property. It's smart, and it's the law.

View from a distance without disturbing wildlife or interrupting normal activities. All wildlife can be dangerous when stressed or cornered; it's impossible to predict reactions. If the animals raise their heads or flick their ears,

the viewer is too close. The best watching is that which allows animals to continue their natural business.

Pets and wildlife don't mix. Don't take a dog to watch wildlife. Even on a leash or barking from inside a car, a dog can be very upsetting to creatures of the wild.

Do not approach. A wide distance should be maintained between viewer and elk, or any wild animal. A wild animal is unpredictable. An elk is very fast. A blow with its body, antlers or hoof could be deadly. The year-round danger is increased during calving and the rut.

Do not feed. Feeding draws animals closer to roads, increasing accident potential for humans and vehicles. It can cause animals to lose their fear of cars, campers or people. Improper feeding harms the digestive systems of wildlife. It's against the law.

Wear natural colors and unscented lotions and remove glasses that glint. Move slowly.

Let patience reward you. Resist the urge to throw rocks or shout to cause a reaction in the animals.

Absorb all each animal can teach.

"It boils down to people realizing we're part of the ecosystem. We affect it," Purcell said. "We can have a positive impact or negative." ■

APPENDIX C

CC: Jim Jones
K. Mason
G. Schomberg

David Yanish
9563 Corsair Drive
Conifer, CO 80433

September 8, 1998

Ms. Janet George
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Dear Ms. George,

Thank you for the copy of the Mt. Evens Elk Herd Management Plan draft. I would like to compliment you on the report, which I found to be well written, easy to follow, and quite interesting.

As requested, I would like to address several areas of the report and offer my comments. First of all, I must say that I do fall within the majority of most respondents, and therefore believe that no change in the size of the elk population is necessary. While I would say that a major concern is elk-auto accidents, I believe the best solution is continuing public education on living with wildlife and better enforcement of local speed limits, as addressed in your report. As far as damage to gardens and vegetation is concerned, I honestly believe nothing needs to be done. The aspen and garden plants on my property have been damaged as well, probably worse than most, however I simply accept this as part of life in the Evergreen/Conifer area. I suspect that most of the complaints have come from residents new to the area, who have never experienced similar problems in the urban areas from which they have relocated, and would simply like to impose their way of life upon our community.

Please don't get me wrong, I understand the ecological problems associated with too many of any given creature, particularly one whose native predators have been virtually extinguished, but I just don't believe that the situation is that severe in regard to the elk. Perhaps encouraging people to learn more about where they plan to live before purchasing a home in migratory habitat, and explaining the benefits of placing better local control over development, and encouraging local people/government to set aside more open space never to be developed will be of benefit to not only the local environment and elk, but to the quality of life and pocketbooks of local landowners, as well.

Overall, my biggest concern is the fact that the draft will encourage Jeffco Open Space, and more importantly private land owners to allow for increased hunting on their land. I live in an area where the majority of privately held lots range from two to five acres, with numerous larger 35 to 120 acre sites only a simple "shot" away. Please excuse the rather

weak pun, but I feel it is important to stress my concern for the safety of all residents, particularly children. I honestly believe that encouraging hunting in these areas will have only disastrous results, leaving blood on someone's hands and for that reason alone, I think you must reconsider this aspect of your proposal. This must be considered a major area of concern by not only yourself, but by the entire DOW for recommending such action. Additionally, I fear that doing so would make it much more difficult to control poaching, and other potential trespassing issues. The chances of killing and recovering an animal on the land where permission was given is also very unlikely, and potentially dangerous conflicts are sure to ensue. Again, I am not opposed to hunting on public land at all, and actually believe it has benefits for us all. However, I do have a problem with hunting when it is potentially taking place in my neighborhood. Therefore, I believe that relocation is the best option for problem elk on private property, and only if they are truly considered a problem animal.

I believe that the most important issue to remember is that our children should never be afraid to play in their own backyards due to the potential dangers private land hunting presents, regardless of the cost.

Thank you for the opportunity to be involved, and I'll look forward to seeing your final draft of the plan.

Sincerely,
David Yanish



Board of County Commissioners

Michelle Lawrence

District No. 1

Patricia B. Holloway

District No. 2

John P. Stone

District No. 3

CC: J. Jones
G. Schoonveld
D. Purcell

October 1, 1998

Janet George
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80215

Dear Janet:

I am writing to comment on the draft Elk Management Plan for the Mount Evans elk herd and to let you know Jefferson County Open Space's (JCOS) position on hunting on our properties. JCOS would like to go on record that we will not support limited antlerless elk hunting on JCOS properties as outlined in your Elk Management Plan. Therefore, I am requesting that all references to approaching JCOS to allow hunting on our properties be removed from the Elk Management Plan.

Open Space supports the work that the Colorado Division of Wildlife (CDOW) conducts, and we understand the principles of big game management. However, it is our feeling that the estimated 1.5 million people visiting our parks view them as passive recreation areas, not compatible with a consumptive use such as hunting. Park users would be at risk due to hunting activities unless the park were closed, which runs counter to our general practice of not closing the JCOS parks for the benefit of one user group over another.

The stigma associated with hunting is both ethically and politically controversial, thus JCOS chooses to remain out of the crossfire of this issue. We will continue to support the CDOW's Watchable Wildlife Program, assure the preservation of rare and unusual plant communities, and address the protection and preservation of wildlife habitat and the general biodiversity of our properties.

Please feel free to contact me if you wish to discuss this topic or have questions.

Respectfully yours,

Ralph Schell
Director of Open Space

RS/SLB:e

c: Stanton La Breche
Randy Frank



STATE OF COLORADO
Roy Romer, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

John Mumma, Director
6060 Broadway
Denver, Colorado 80216
Telephone (303) 297-1192
FAX (303) 294-0874

REFER TO:



*For Wildlife-
For People*

December 11, 1998

Ralph Schell
Jefferson County Open Space
700 Jefferson County Parkway
Suite 100
Golden, CO 80401

Dear Mr. Schell:

Thank you for submitting comments on the draft Elk Management Plan for the Mount Evans elk herd. As you requested, we will remove specific references to limited antlerless elk hunting on Jefferson County Open Space (JCOS). Through this letter we hope to provide you with information that may address some of your concerns. In addition, we would encourage JCOS to meet with us to continue discussions on all aspects of habitat and wildlife management in this area.

We are very concerned about the growing elk herd in Jefferson County. The loss of access to provide places to hunt and harvest cow elk could ultimately lead to very undesirable outcomes for all involved. With this urgency in mind, my staff has provided the following information for your consideration.

Elk, which evolved as a prey species, do not have intrinsic population control mechanisms. Thus, predation is necessary in an ecosystem to limit elk numbers without long term impacts on plant communities. Mountain lions, wolves, black and grizzly bears preyed on elk in presettlement times in places that are now owned by JCOS. Currently, only mountain lions remain on JCOS and they alone have not been effective at regulating the elk population.

Numerous studies have documented that overuse by wild ungulates decreases plant density and diversity, and alters succession of plant communities. Overuse of plants, in turn, affects other wildlife species through reduction in food and cover. Effects of deer over-browsing and elk overgrazing have been linked to changes in small mammal and bird communities. Attached is a list of references that you and your staff may find useful.

You will note that most of these references address white-tailed deer. That is because parks and natural areas in the eastern United States have had to address wild ungulate populations in suburban areas for several decades. With rapid growth and development along Colorado's Front Range, we are now facing similar issues with elk, and to a lesser degree, mule deer. Facing these issues is critical to managing habitat and populations of all wildlife species.

Page 2
Schell
December 11, 1998

In addition to biodiversity concerns, the increasing elk population presents a growing dilemma to the people living around Evergreen. We have learned from public meetings and a survey conducted by Cornell University that the majority of people (over 70%) do not want elk numbers to increase. Currently, the only realistic tool we have to limit population growth is antlerless harvest through hunting.

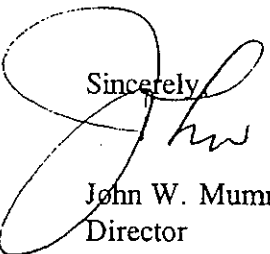
It is understandable that, as an agency responsible for safe outdoor recreation, JCOS would raise issues pertaining to the safety of hunting. Statistics gathered by the National Safety Council and CDOW show that hunting is safer than many other forms of recreation. The National Safety Council Accident Facts (1994) shows that hunters sustained only 7.06 injuries per 100,000 participants. By comparison, the injury rates reported for fishing and swimming were 173.18 injuries per 100,000 participants and 194.45 injuries per 100,000 participants, respectively. The low number of injuries or deaths to hunters and to non-participants by big game hunters demonstrates that hunting is as safe, or safer than other forms of outdoor recreation.

Hunters can be limited in number, time and space. Hunting can be controlled to minimize conflicts with other uses. Mandatory hunter education, additional training, shooting proficiency tests and hunter check-in stations have all been used successfully to manage controlled hunts in populated areas.

In the next few years, we will look to further involve community members in management of the Mt. Evans elk herd. A graduate student at Cornell University is designing a plan for community involvement that we will evaluate and plan to implement. We will continue to involve you in this process. We share mutual goals of preserving wildlife habitat, biodiversity, and providing wildlife recreation.

I invite you to contact my staff to further discuss these goals and issues. Please call Area Wildlife Manager Jim Jones at (303) 291-7227, or Terrestrial Biologist Janet George at (303) 291-7332 to meet with you or your staff to discuss these issues further. It is my sincere hope that we can achieve our common goals. The decisions our agencies make affect one another - whether they be regarding recreational opportunities, wildlife management, public information or approvals for funding such as GOCO grants. Elk and people are on a collision course in Jefferson County. It is critical, in my view, that we work together to successfully address the challenges that lie ahead.

Sincerely,



John W. Mumma
Director

encl.
JWM:JG:mmt

CC: R. Holliday
K. Moser
G. Schoonveld
J. Jones
J. George ✓

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