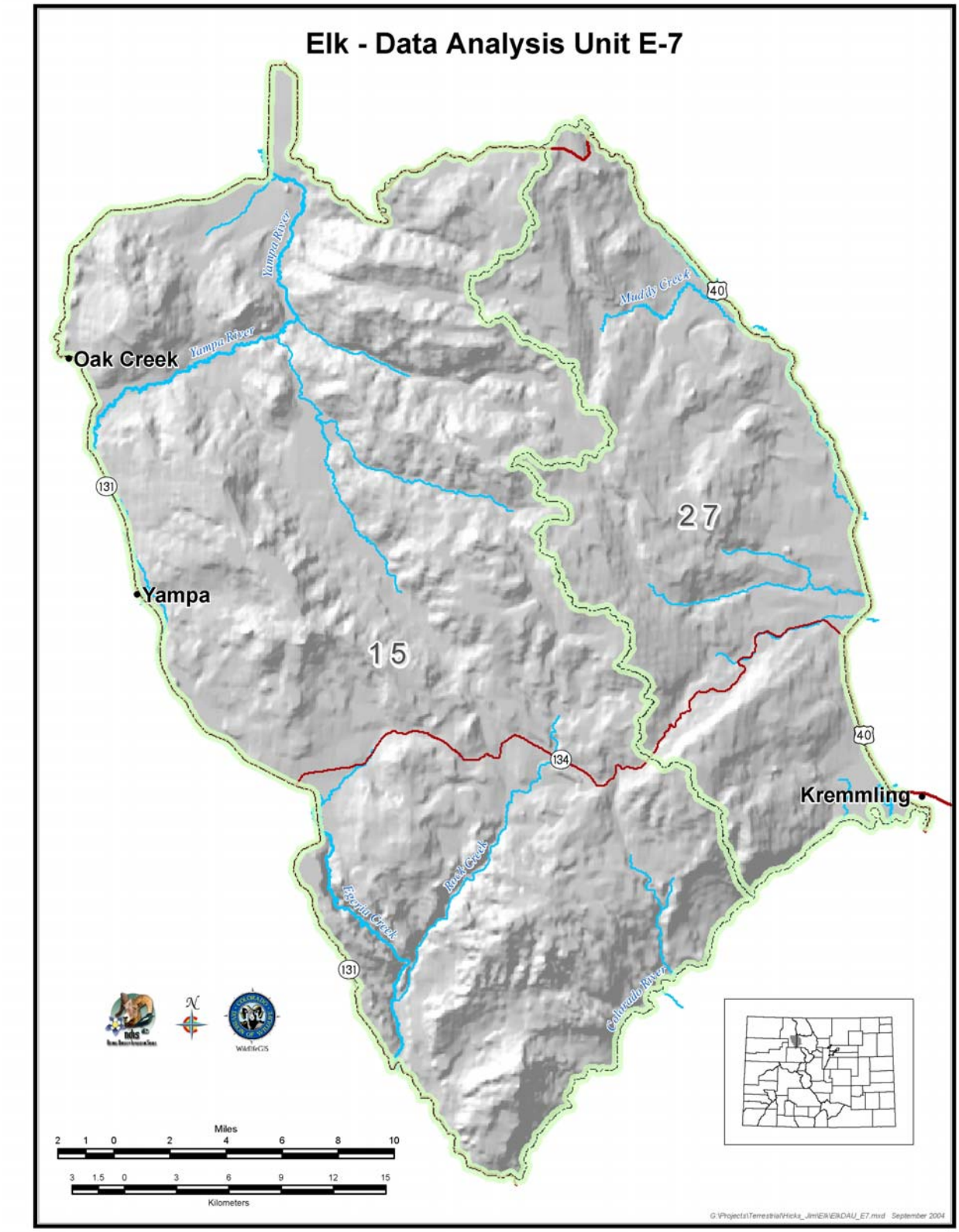
GORE PASS ELK DATA ANALYSIS UNIT E-7 PLAN

Prepared for the Colorado Division of Wildlife

By Jim Hicks, Area Terrestrial Biologist

GORE PASS ELK DAU E-7 MAP



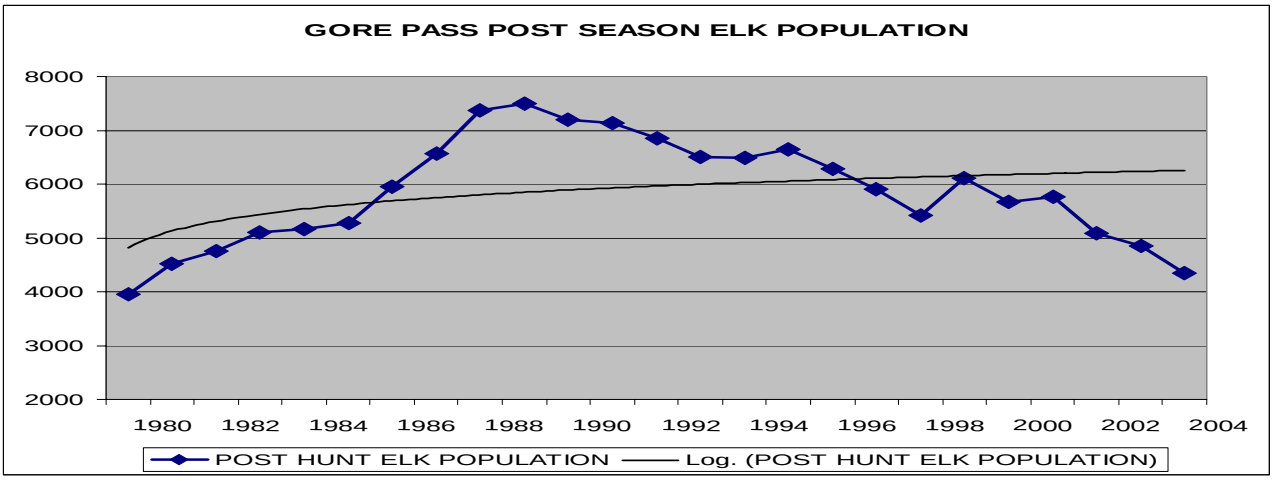
DAU PLAN EXECUTIVE SUMMARY-DAU E-7

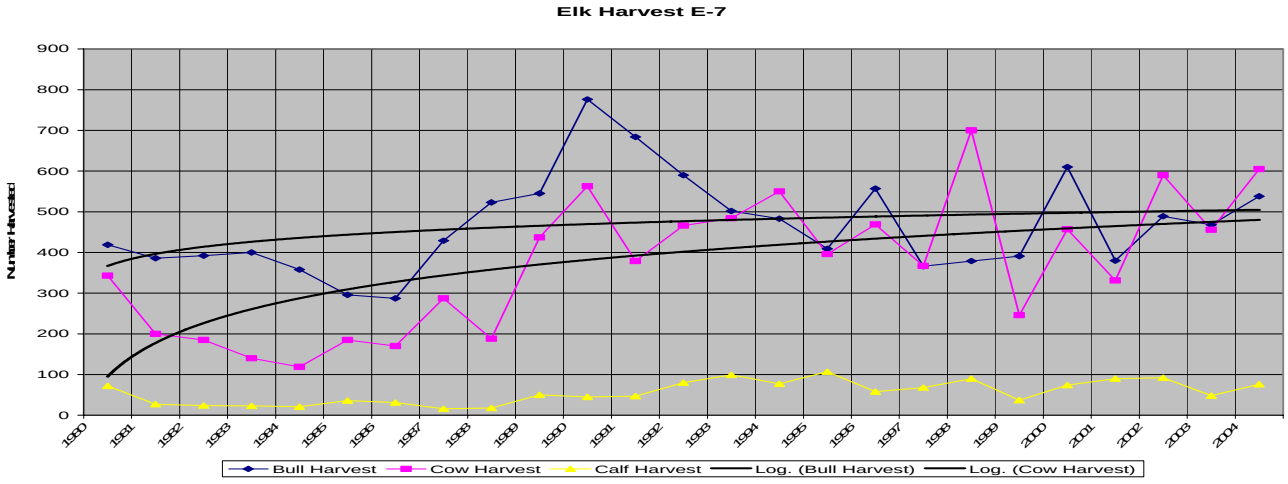
Gore Pass Elk GMU 15, and 27

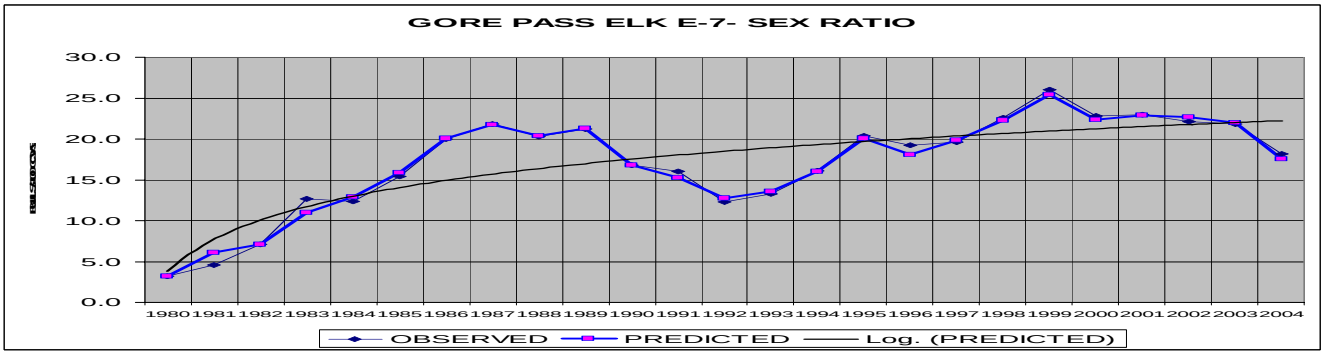
Population Objective: 4,500 elk. Sex Ratio Objective: 24-28 bulls per 100 cows

Current Population Estimate: 4,133 elk (post 2004). Current Sex Ratio: 18 bulls per 100 cows (post 2004)

Preferred Population Objective: 4,000 to 5,000 elk. Preferred Sex Ratio Objective: 24-28 bulls per 100 cows







Background

Elk, once plentiful in the early 1800's, all but disappeared due to market and subsistence hunting. By the 1890's elk were virtually non-existent. The Colorado Game and Fish Commission closed elk hunting from 1903 to 1929 and hired game wardens to enforce the law. The protection of elk from unregulated hunting and reintroduction of elk from other areas resulted in the recovery of the elk population to a sustainable level with a surplus to harvest. There was a small herd in the Elk River that survived. The City of Steamboat Springs kept a small herd of captive elk at the rodeo grounds. This captive herd escaped and established a wild elk population on Mt. Werner, at that time Storm Peak. Ski area development on Mt. Werner and the natural expansion of this herd brought elk into areas further south, in GMU 15. Elk returned to areas in GMU 15, like Pleasant Valley, in the 1950s.

The Gore Pass elk population (GMU 15 and 27) is above the 1991 population objective (Figure 1). Due to new elk survival information from research studies, the elk population estimate has increased substantially since the 1991 estimate. In most cases elk population estimates were much lower at that time than recent estimates with higher survival rates. There is consensus from the public surveys and meetings, discussions with Colorado Division of Wildlife personnel and the U. S. Forest Service personnel that the current population size of the Gore Pass elk herd should be the population objective. The E-7 elk population reached its peak of 7,500 elk in 1989. Starting in 1988, the harvest was increased markedly and the elk population has decreased. From the consensus of the public surveys, the sex ratio should be increased to 25 bulls/100 cows. To achieve the objective of 25 bulls/100 cows will require reducing bull harvest, by making the fourth season limited cows and limited either-sex licenses. The recruitment rate has been declining in recent years which have also reduced the population. The objective for this elk population is to increase the bull/cow ratio to 25 bulls/100 cows and to hold the population at the current size. In general this elk population is healthy with most of its critical habitat still intact.

Significant Issues

Agriculture, in the form of hay and livestock, are the primary private land uses in the two mountain valleys in this DAU. Recreation and tourism are increasingly becoming the economic emphasis, especially in the area around Steamboat Springs. The main focus of recreation is skiing, but all other forms of summer and winter recreation are expanding rapidly. Recreation uses are year-round, and housing developments are starting to displace wildlife, especially elk, in some areas. Timber harvest is an important land use, although the lumber mills have been closed. Hunting is an important part of the economy. Big game hunting brings in the largest number of hunters.

Much of the private land in GMU 15 is being converted from commercial, family operated livestock ranches to housing developments or part-time ranch owners because of the proximately of the ski resort communities of Steamboat Springs and the Vail-Eagle Valley.

Since 1980, the cow/calf ratio has oscillated between the mid-40s to 60 calves/100 cows (Figure 4). The last two years, post-season 2002 and 2003, the cow/calf ratio has dropped significantly, considering the mild weather conditions. The cow/calf ratio has been below 50 calves/100 cows for the last four years. The weather has been mild for those years, so the decline could be due to poor habitat conditions. It is possible that the elk population has reached its maximum level for the habitat conditions.

Management Alternatives

<u>Population Objectives</u>

Alternative 1

Population Objective: Reduce the elk population to 3,000 to 4,000 elk

Reducing the population was not the alternative the public choose. The elk population would have more resources available and would thrive better, but the harvest would have to be reduced.

Alternative 2

Population Objective: Maintain the present population level of 4,000 to 5,000 elk

This population range is the most acceptable to the public and the elk population seems to be maintaining itself well at this level. Most winter ranges are not overcrowded

Alternative 3

Population Objective: Increase the elk population to 5,000 to 6,000 elk

Increasing the population significantly would put too much stress on the winter range habitat. Game damage problems and other human conflicts would increase.

Sex Ratio Objectives

Alternative 1

20 to 23 bulls/100 cows- the current observed sex ratio range

Alternative 2

24 to 28 bulls/100 cows- eliminate unlimited, fourth season bull licenses

Alternative 3

30 bulls or more/100 cows- limit bull licenses in all seasons

PREFERRED ALTERNATIVE

The preferred alternatives are Alternative 2 for both the population objective and the sex ratio objective. Those objectives are 4,000 to 5,000 elk in the population and a sex ratio of 24 to 28 bulls / 100 cows. These two objectives best represent the public response regarding management of the E-7 elk population.

This plan was approved by the Colorado Wildlife Commission in 2004.

ELK DATA ANALYSIS UNIT PLAN (DAU) E-7, GORE PASS

TABLE OF CONTENTS

DAU PLAN SUMMARY-Gore Pass Elk—DAU E-7, GMU 15, and 27

1990 Population Objective: 3,000 elk

1990 Sex Ratio Objective: 24 bulls per 100 cows

Current Population Estimate: 4,300 elk (post-season 2004)

Current Sex Ratio: 17.6 bulls per 100 cows (post-season 2004)

Preferred Alternative Population Objective: 4,000 to 5,000 elk

Preferred Alternative Sex Ratio Objective: 25 bulls per 100 cows

The Gore Pass elk population (GMU 15 and 27) is above the 1991 population objective (Figure 1). Due to new elk survival information from research studies, the elk population estimate has increased substantially since the 1991 estimate. In most cases elk population estimates were much lower at that time than recent estimates with higher survival rates. There is consensus from the public surveys and meetings, discussions with Colorado Division of Wildlife personnel and the U. S. Forest Service personnel that the current population size of the Gore Pass elk herd should be the population objective. The E-7 elk population reached its peak of 7,500 elk in1989. Starting in 1988, the harvest was increased markedly and the elk population has decreased. From the consensus of the public surveys, the sex ratio should be increased to 25 bulls/100 cows. To achieve the objective of 25 bulls/100 cows will require reducing bull harvest, by making the fourth season limited cows and limited either-sex licenses. The recruitment rate has been declining in recent years which have also reduced the population. The objective for this elk population is to increase the bull/cow ratio to 25 bulls/100 cows and to hold the population at the current size. In general this elk population is healthy with most of its critical habitat still intact.

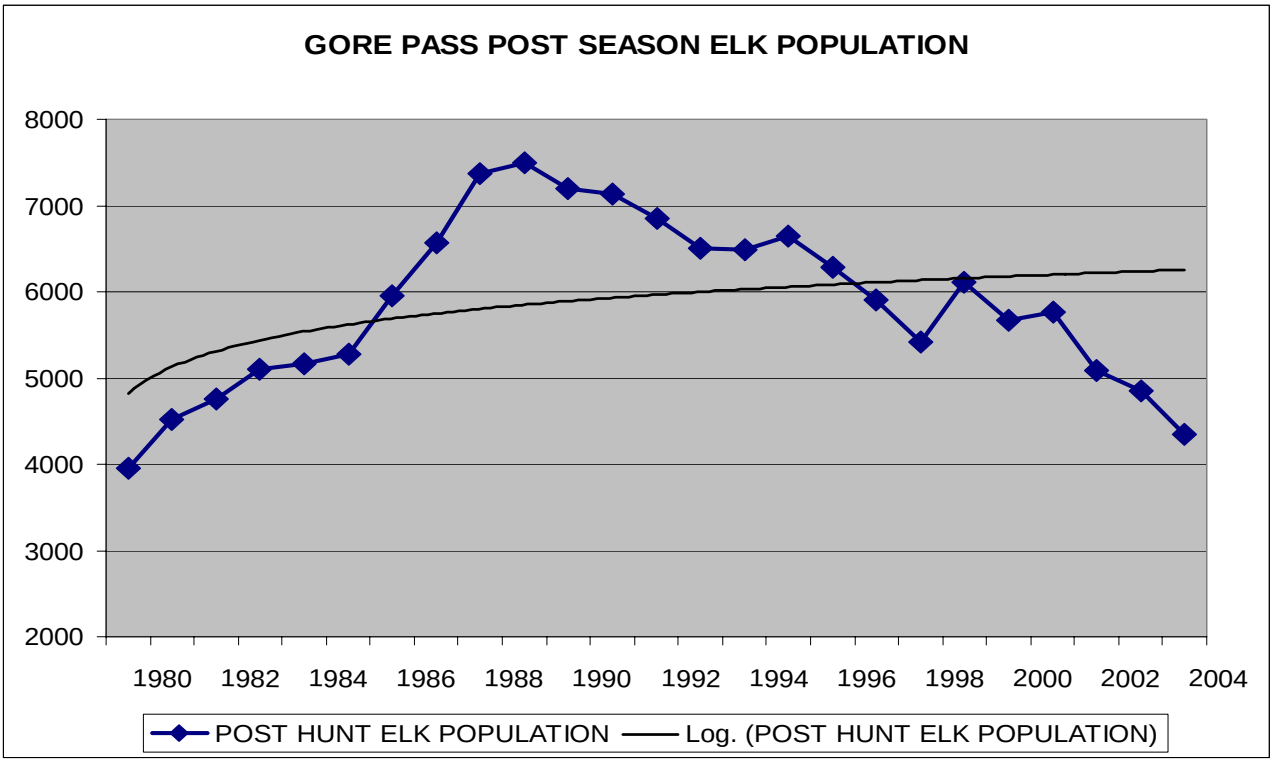


Figure 1

INTRODUCTION AND PURPOSE

The Colorado Division of Wildlife (CDOW) is responsible for maintenance of Colorado's big game herds at population levels that are established through a public review process and approved by the Colorado Wildlife Commission.

The Data Analysis Unit (DAU) Plan is a strategic plan that addresses two primary decisions, the number of animals the DAU should contain and the desired sex ratio. The geographic area of each DAU is drawn to encompass the year-round range of the majority of the animals of that species. Normally the DAU encompasses several Game Management Units (GMU) that divide the DAU into workable sub-units, primarily for harvest management. The DAU Plan is also a collection of important management data of a particular wildlife population. This document includes: alternate strategies, evaluation of those strategies, and a preferred alternative. The DAU Plan process is designed to examine public desires and balance them with biological capabilities. The population objective is established for a five-year period. The population objective drives the decisions in annual license numbers that determine numbers of animals that need to be harvested. Management by objective is a process based on an annual cycle of information collected from sex and age ratio flights, and harvest data. Analysis of the data results in recommendations of harvest objectives to meet the population objectives for that DAU. Harvest objective recommendations culminates each year with the Colorado Wildlife Commission instituting regulation of the hunting season structure and determining the number of limited hunting permits to issue in order to achieve the population objective.

DISCLAIMER FOR POPULATION SIZE ESTIMATES

Estimating population size of wild animals over large geographic areas is an extremely difficult and inexact exercise. In several research projects, attempts have been made to accurately count all the known number of animals in large fenced areas. All of these efforts have failed to consistently count all of the animals. In some cases, less than 50% of the animals can be observed and counted. High-tech methods using infrared sensing have also met with limited success. The Colorado Division of Wildlife (CDOW) recognizes this is a serious challenge to our management. The CDOW attempts to minimize this problem using the latest technology and inventory methodology available. Most population estimates are derived using computer model simulations that involve estimations for mortality rates, hunter harvest, wounding loss and annual production. These simulations are then adjusted to align on measured post-hunting season age and sex ratio classification counts. The CDOW recognizes the limitations 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 rates, wounding loss, sex ratio at birth, density estimates, or new modeling techniques and programs, the CDOW will use this new information and the new techniques. This may result in significant changes in the population size estimates and management strategies. It is recommended that the population estimates presented in this document be used only as an index or as trend data and not as an absolute estimate of the elk population in the DAU.

DESCRIPTION OF DAU E-7

Location

The Gore Pass DAU E-7 straddles the Gore Divide between the Yampa River drainage, GMU 15, and the Muddy Creek drainage, GMU 27, on the northern portion. On the southern portion of DAU E-7 Canyon Creek divides GMU 27, and GMU 15. The Colorado River and Colorado Highway 9 are the southern boundary. The northern boundary is U.S. Highway 40 on Rabbit Ears Pass. The eastern boundary is also U.S. Highway 40. The western boundary is Colorado Highway 131 from Steamboat Springs to State Bridge (see the DAU Map).

The Gore Range is a long, relatively flat ridge running north to south from the Park Range on Rabbit Ears Pass down to the Colorado River. The Gore Range is surrounded by agricultural

valleys on the east and west. The communities around the perimeter of the DAU are: Steamboat Springs, Oak Creek, Phippsburg, Yampa, Toponas, McCoy, Bond, and Kremmling. Gore Pass State Highway 134 runs east to west through the middle of the DAU. The Sarvis Creek Wilderness Area is in the northern section of the DAU.

Physiography

The Gore Range, north of the Colorado River, is a long ridge (10,000 feet elevation) that runs north to Rabbit Ears Pass. The landscape north of Gore Pass Highway is heavily timbered, primarily with lodgepole pine, aspen, Engelmann spruce and sub-alpine fir. The terrain is not rugged by Colorado standards. South of Gore Pass the elevation drops rapidly into pinyon-juniper habitat. There are several major geographical features besides the Gore Range in this DAU. They are: Thorpe Mountain, Blacktail Mountain, Green Ridge, Black Mountain, Congor Mesa, and Yarmony Mountain. The main drainages in the Yampa River drainage are Harrison Creek, Green Creek, Sarvis Creek, Silver Creek, and Morrison Creek. The main drainages in the Colorado River drainage are Muddy Creek, Blacktail Creek, Rock Creek, and Egeria Creek. The highest elevation is Red Dirt Peak (10,811ft.) on Gore Divide and the lowest is the Colorado River at State Bridge (6,744 ft.).

Climate

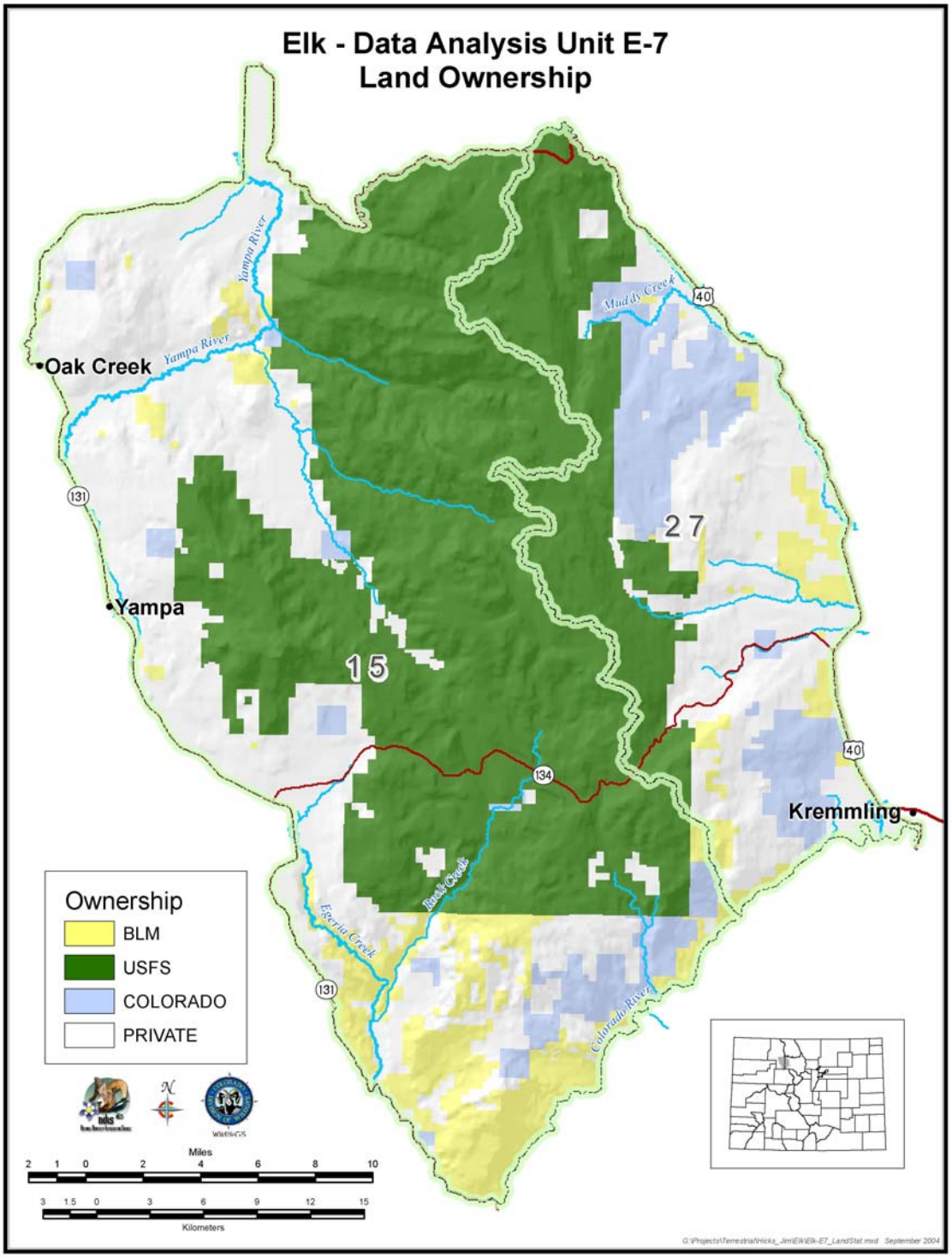
The Gore Range is characterized by long, cold, snowy winters and short, cool summers. On the north end of the DAU, Rabbit Ears Pass receives some of the heaviest snowfall in Colorado. South from Rabbit Ears Pass the amount of snowfall decreases until at the Colorado River there is very light snowfall. For most of this DAU the amount of snow is the defining feature and primary limiting factor for elk populations. The high amount of precipitation produces some of the most productive wildlife habitat in the state, however snowfall drives the elk down in elevation to restrictive winter range areas where they must survive five months of winter.

Land Status

The Gore Pass DAU E-7 land area is 690 square miles. The land ownership breakdown is:

1. **National Forest Land - 51% (353 square miles) part of that amount is 74 square miles in the Sarvis Creek Wilderness Area or 21% of the National Forest land in E-7**
2. **Private Land - 30% (208 square miles)**
3. **Bureau of Land Management (BLM) - 10% (70 square miles)**
4. **State Trust Lands - 7% (48 square miles)**
5. **Division of Wildlife - 2% (11 square miles)**

Map 2


Elk - Data Analysis Unit E-7
Land Ownership
Oak Creek
Yampa
Kremmling
Yampa River
Yampa River
Muddy Creek
Rock Creek
Elkeria Creek
Colorado River
40
131
134
27
15
Ownership
BLM
USFS
COLORADO
PRIVATE
Miles
2 1 0 2 4 6 8 10
3 1.5 0 3 6 9 12 15
Kilometers

Land Use

Agriculture, in the form of hay and livestock, are the primary private land uses in the two mountain valleys in this DAU. Recreation and tourism are increasingly becoming the economic emphasis, especially in the area around Steamboat Springs. The main focus of recreation is skiing, but all other forms of summer and winter recreation are expanding rapidly. Recreation uses are year-round, and housing developments are starting to displace wildlife, especially elk, in some areas. Timber harvest is an important land use, although the lumber mills have been closed. Hunting is an important part of the economy. Big game hunting brings in the largest number of hunters.

Much of the private land in GMU 15 is being converted from commercial, family operated livestock ranches to housing developments or part-time ranch owners because of the proximately of the ski resort communities of Steamboat Springs and the Vail-Eagle Valley.

HABITAT CONDITIONS AND CAPABILITY

Habitat conditions are adequate for the present number of elk and there are only a few major conflicts with agricultural operations. Severe winter range and winter concentration areas are the only limited habitat for elk. The Colorado Division of Wildlife's (CDOW) Wildlife Resource Information System (WRIS) identifies severe winter range and winter concentration areas. The majority of this critical habitat is on private land or Bureau of Land Management (BLM) land. The majority of the winter range is a browse (oakbrush and aspen) and elk subsist primarily on browse plants rather than grass in the winter. The U.S. Forest Service administers livestock grazing on the Routt/Medicine Bow National Forest. The Yampa Ranger District administers most of the National Forest in DAU E-7. The Yampa District of the Routt/Medicine Bow National Forest allocates grazing for 1,700 ewes and lambs for 3,495 sheep head months, 2,809 cows and calves and 644 yearlings for 9,539 cattle head months. The Hahn's Peak/Bears Ears Ranger District allocates 3,783 sheep head months on Rabbit Ears Pass. The Forest Service Range Conservationist in Yampa does not see any conflict with elk and livestock or any resource damage from elk on this part of the National Forest.

The Colorado Division of Wildlife (CDOW) has purchased or has a conservation easement on several important winter range areas to maintain deer and elk populations. The Radium State Wildlife Area (SWA) on the Colorado River was purchased to provide important winter range habitat for big game. The Adams State Wildlife Area (SWA) on Blacktail Mountain, near Stagecoach Reservoir, was purchased for elk winter range in a rapidly developing area south of Steamboat Springs. Adjacent to the Adams SWA the CDOW received a perpetual conservation easement from the Upper Yampa Water Conservation District on the south side of Blacktail Mountain. In close proximity to these properties, on the east side of Blacktail Mountain, is the Sarvis Creek SWA which provides some winter range and access to the Sarvis Creek Wilderness Area. This complex of properties and the BLM land on Blacktail Mountain and Woodchuck Hill insure that the elk herd that moves down out of Sarvis Creek, Green Creek, and Morrison Creek drainages will always have winter range available. Routt County has a Sarvis Creek Area Plan that will protect this area from development. Spring controlled burns have been conducted on the Blacktail Mountain-DOW controlled properties in 1992, 2001 and 2002. These prescribed burns improved vegetation for elk by clearing out old sagebrush stands, causing other mountain shrubs to re-sprout, and stimulating grass-forb growth.

The proposed Catamount Ski Area Development has withdrawn its ski area application with the U. S. Forest Service. The Catamount property was purchased by a local group of investors that are presently developing forty-three home sites, without a ski area, on 3,000 acres. Most of the property has been put into a conservation easement. The Harrison Creek and Danver Creek winter ranges will be available to elk. For the foreseeable future, elk populations in DAU E-7 will have adequate year-round habitat and the CDOW will be able to maintain the current elk population levels. There are some areas where future development pressure could cause loss of elk habitat. These are Thorpe Mountain, Green Ridge, and Morrison Creek. Plans should be developed with Routt County to protect these winter ranges.

THE HABITAT PARTNERSHIP PROGRAM

In 1990 the Colorado Division of Wildlife created the Habitat Partnership Program (HPP) to address fence and forage damage conflicts on private and public land caused by big game. The HPP Committee was formed and the Big Game Distribution Management Plan was approved by the Wildlife Commission in 1996.

HPP is now an integral part of elk management efforts in Colorado. The Gore Pass DAU E-7 is split between two HPP Committees. The Middle Park HPP Committee administers the program in GMU 27 and the south 1/3 of GMU 15 which is south of Highway 134. The Upper Yampa HPP Committee administers the upper 2/3's of GMU 15 which is north of Highway 134. HPP is a locally run program, funded by five percent of the big game license revenues generated in the GMUs.

Distribution management hunts are conducted on private land using hunters that are designated by the landowner. These hunts are for antlerless elk only, starting August 15, and ending February 28, each year. This management tool has been effective in moving elk away from damage conflict areas. Habitat modification projects, such as prescribed fires, fertilizing, placement of salt blocks, and implementation of grazing management systems have been effective in drawing elk away from conflict areas by providing better habitat elsewhere.

Elk proof fencing has been the most effective tool in reducing elk damage to haystacks. Alternative cattle fence designs, such as top rails of wood or plastic, lay-down, suspension, high tensile and vinyl covered wires have been successful in reducing damage to livestock fencing. Also, to off set fence damage costs, the HPP Committee has authorized funds to purchase fencing material to distribute to landowners. HPP has paid for prescribed burns on Blacktail Mountain.

MANAGEMENT HISTORY

Elk, once plentiful in the early 1800's, all but disappeared due to market and subsistence hunting. By the 1890's elk were virtually non-existent. The Colorado Game and Fish Commission closed elk hunting from 1903 to 1929 and hired game wardens to enforce the law. The protection of elk from unregulated hunting and reintroduction of elk from other areas resulted in the recovery of the elk population to a sustainable level with a surplus to harvest. There was a small herd in the Elk River that survived. The City of Steamboat Springs kept a small herd of captive elk at the rodeo grounds. This captive herd escaped and established a wild elk population on Mt. Werner, at that time Storm Peak. Ski area development on Mt. Werner and the natural expansion of this

herd brought elk into areas further south, in GMU 15. Elk returned to areas in GMU 15, like Pleasant Valley, in the 1950s.

CURRENT MANAGEMENT

The elk population in DAU E-7 reached its highest level of over 7,000 elk in 1988. The DAU E-7 post-season population objective, established in 1990, is 3000 elk and a post-season bull/cow ratio of 24 bulls/100 cows. The population objective prior to 1990 was 3,600 elk. The post-season 2003 elk population in E-7 is 4,200 elk. The modeling of this elk herd is done with a spreadsheet developed by the CDOW. The observed values come directly from classification flights and harvest numbers from phone surveys of hunters. Several factors in the spreadsheet model have changed over the years to make the model more accurate in estimating the population. In most cases, elk population estimates were much lower than present estimates. Research projects have determined the elk have a much higher survival rates and live longer than was previously thought. Also, it has been determined that wounding loss is much higher. The spreadsheet model is still just an estimate of the population, but it does accurately represent the trend in the population. As more information on survival rates and refinements in census techniques improve the model will become more accurate in estimating populations. Based on this new survival information the previous population objective was unrealistic and the population objective should be increased.

Population

Population information is obtained through winter classification flights using a private helicopter. The information is recorded by groups of elk as to cow, calf, yearling bull, young bull, and mature bull. A GPS location is taken at each group classification location with a handheld GPS unit. These groups of elk and the route of the flight can then be downloaded into a computer mapping program. These maps have been instrumental in mapping winter range areas. In the case of the proposed Catamount Ski Area, an elk calving study was conducted, in the early 1980s, to determine calving areas and the home range of the elk herd using that area. Cow elk were neck banded on their winter range in Harrison Creek. The collared elk were tracked with a fixed-wing aircraft and on the ground. They calved in oakbrush habitat on the east side of Lake Catamount and then traveled up to their summer range in Green Creek.

After the severe winter of 1983-84 and with the initiation of the antler-point restriction in 1985, the elk population increased 30 % in five years (Figure 1). Elk harvest increased at about the same rate, but lagged behind the population surge by three years. So for the last fourteen years the CDOW has been trying to reduce the elk population growth in E-7. Cow elk licenses were increased, however success rates on cow harvest declined. Many of the best elk hunters stopped applying for cow licenses, because the bull hunting improved so much with antler restrictions.

The most successful way to increase cow harvest was the unlimited either-sex licenses in 1998, but there were many problems in that type of season with hunters shooting anything they saw, like moose and yearling bull elk. Seventy-five percent of the E-7 elk population is in GMU 15 and twenty-five percent is in GMU 27.

Sex Ratios

Almost twenty years ago in 1985, the CDOW initiated an antler point restriction on elk to increase the number of older bulls and to increase the total number of bulls in the population. Before 1980 the average sex ratio in E-7 was 5 bulls/100 cows and the bulls were mostly yearlings. This regulation had the effect of doubling the bull/cow ratio from 7 to 13 bulls/100 cows. For another nine years spike bulls could be harvested in the third season and in the archery/muzzleloader seasons in E-7. This dampened the effect of the four point regulation. In 1994, this exception to the four point regulation was removed and the bull/cow ratio increased from 13 to 20 bulls/ 100 cows (Figure 2).

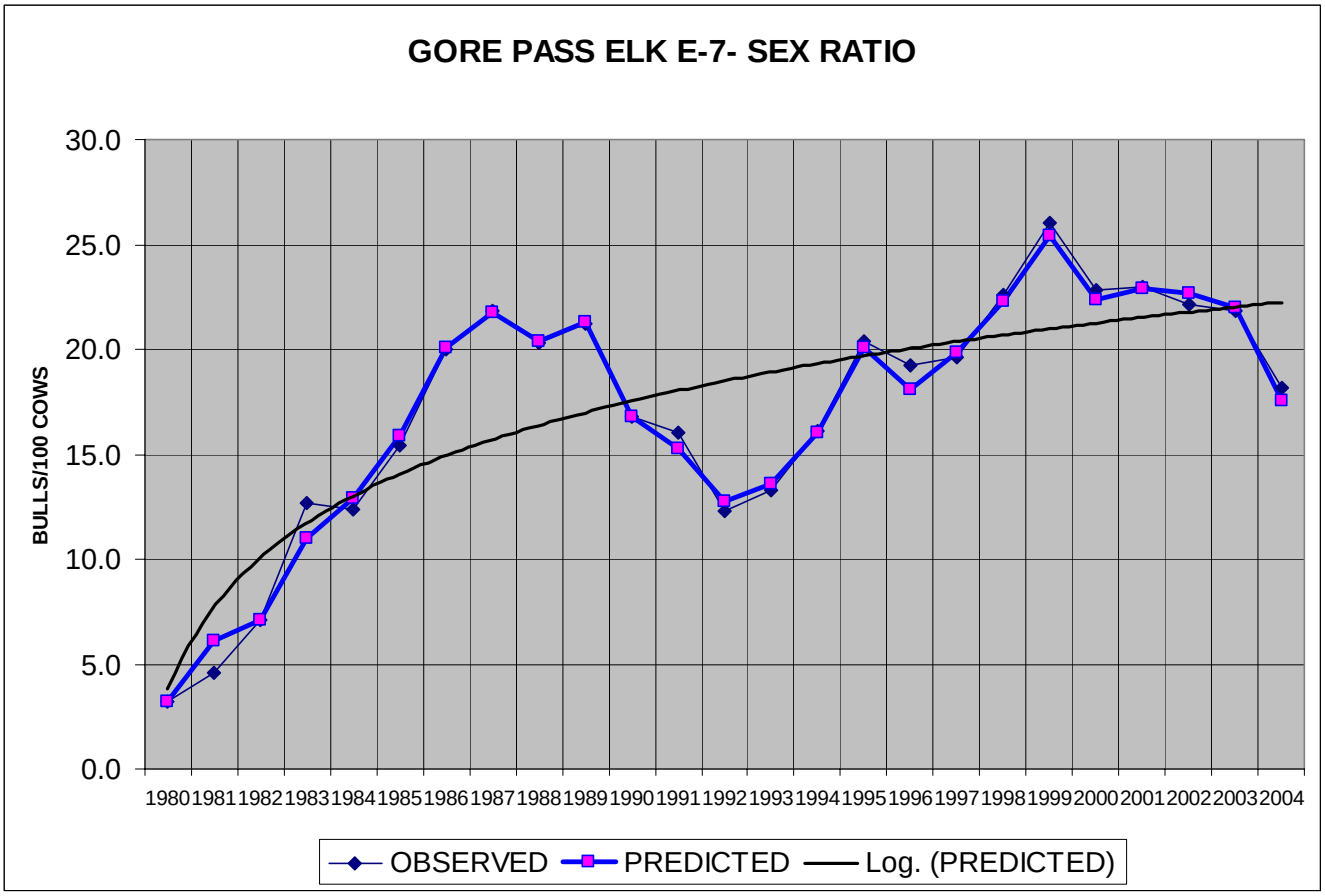


Figure 2

The age structure of bulls in the population has become more balanced, since the antler-point restriction was initiated in 1985. As an example, the 1984 post-season classification flights found 8.9 bulls/100 cows, 80% were yearling bulls, 8% were young bulls, and 12% were mature bulls. In 2003 post-season there were 21.8 bulls/100 cows, and 52.8% were yearling bulls, 24.7 % were young bulls and, 22.5 were mature bulls (Figure 3).

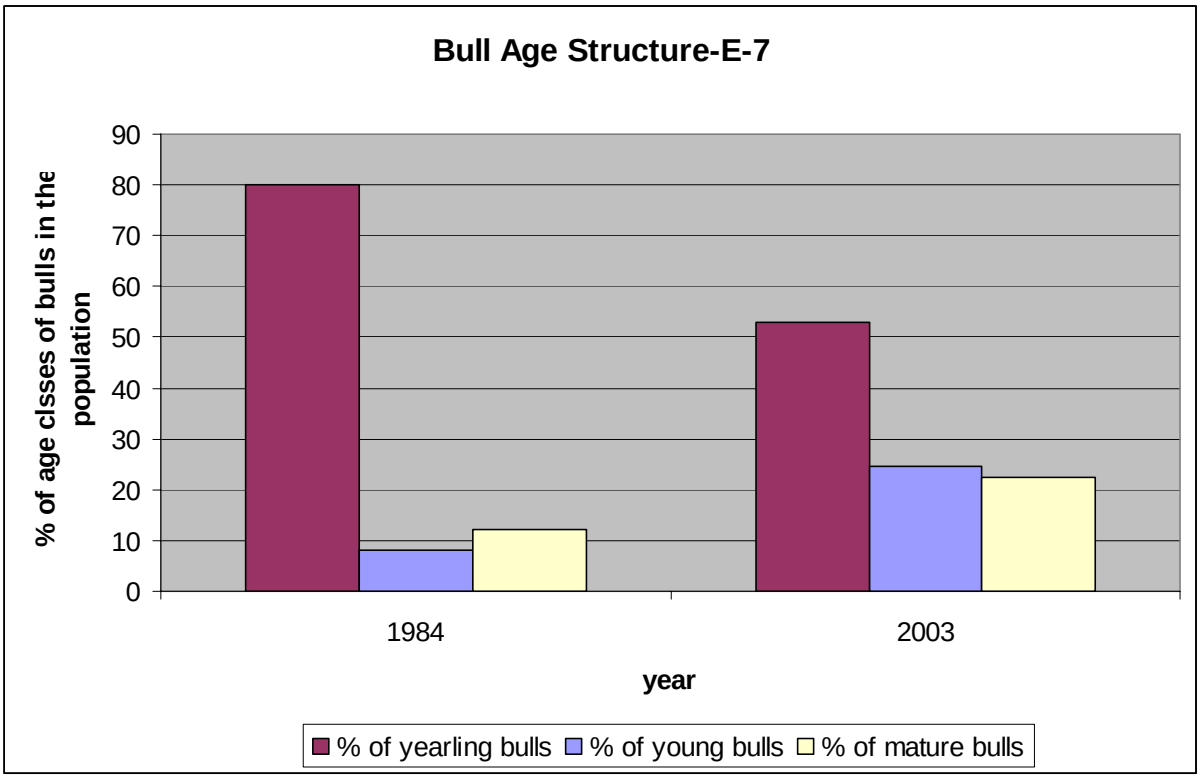


Figure 3

Recruitment

Recruitment is characterized by age ratios in the population model spreadsheet. The age ratio is represented by the number of calves per 100 cows. Since 1980, the cow/calf ratio has oscillated between the mid-40s to 60 calves/100 cows (Figure 4). The last two years, post-season 2002 and 2003, the cow/calf ratio has dropped significantly, considering the mild weather conditions. The cow/calf ratio has been below 50 calves/100 cows for the last four years. The weather has been mild for those years, so the decline could be due to poor habitat conditions. It is possible that the elk population has reached its maximum level for the habitat conditions.

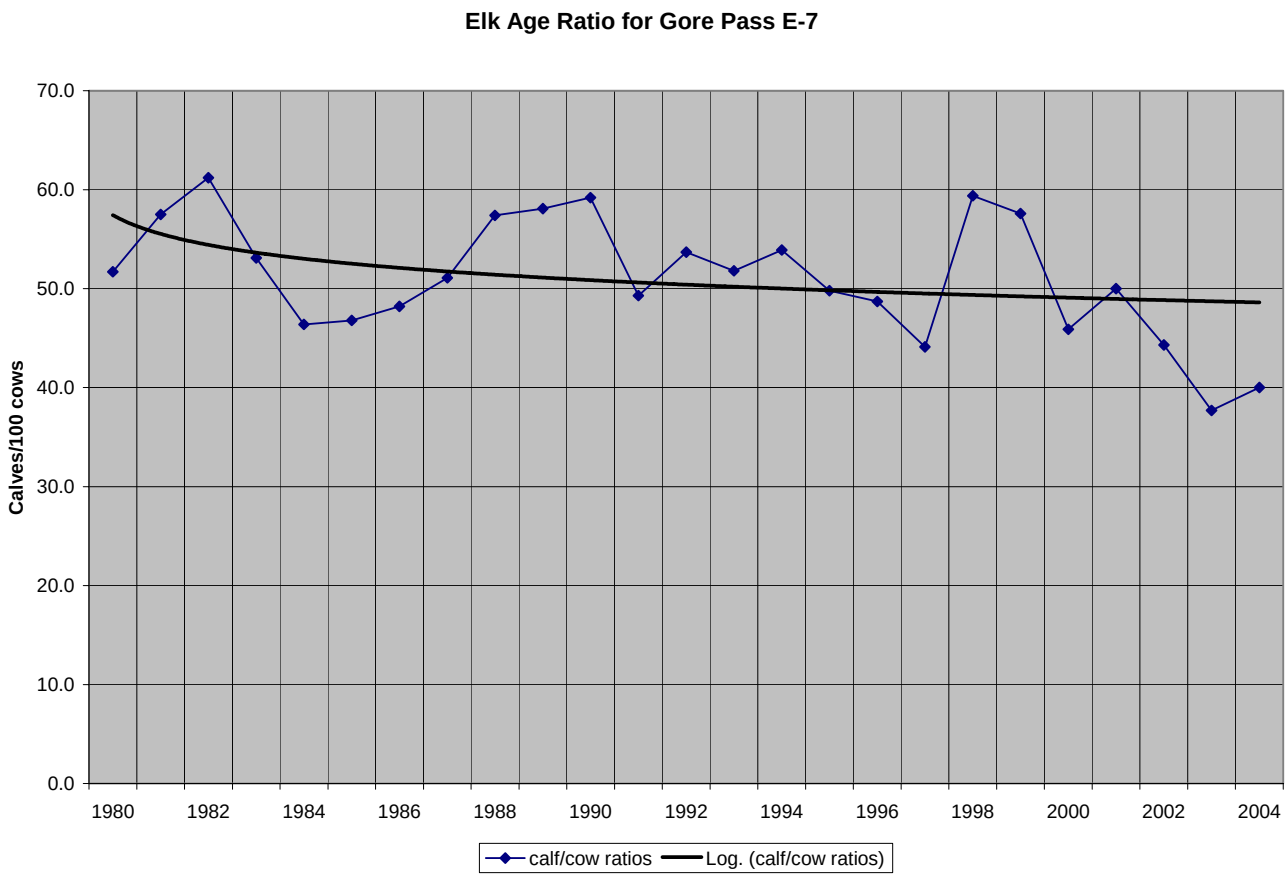


Figure 4

Harvest

In 1985, a four-point antler restriction was instituted, except in E-7 where yearling bull elk could be harvested in the third rifle season and during the archery-muzzleloader season. In 1994 the four-point antler restriction was instituted in all seasons in this DAU. So as demonstrated in the graph in Figure 2 the bull/cow ratio increased in 1985 and 1995. The number of antlerless elk permits has increased steadily from 510 in 1983 to 3,500 in 2004. In 1998, there were unlimited, over-the-counter, either-sex licenses available in the second and third combination seasons, and limited antlerless permits in the first season. The either-sex licenses increased the antlerless elk harvest 40 % over the previous year. The over-the–counter either-sex license reduced the bull harvest compared to what it should have been considering the increase in hunters (Figure 5). The bull harvest is normally higher then the cow harvest with limited cow and unlimited bull licenses, but with unlimited either-sex licenses the cow harvest was significantly higher then the bull harvest. Hunters given the opportunity will harvest a cow if they do not get the chance to shot a bull.

Archery elk licenses are unlimited and an archery hunter may harvest either-sex. Archery hunters take a larger proportion of bull elk and smaller proportion of cow elk than do rifle hunters. In 1999 archery hunters made up 13.2% of the hunters in E-7, but harvested 15.4% of the bulls and only 8.5% of the cows.

Starting in the 2000 rifle hunting season elk licenses were totally limited in the first season to reduce hunting pressure for a better hunting experience. The second, third, and fourth seasons are unlimited bull and limited cow licenses.

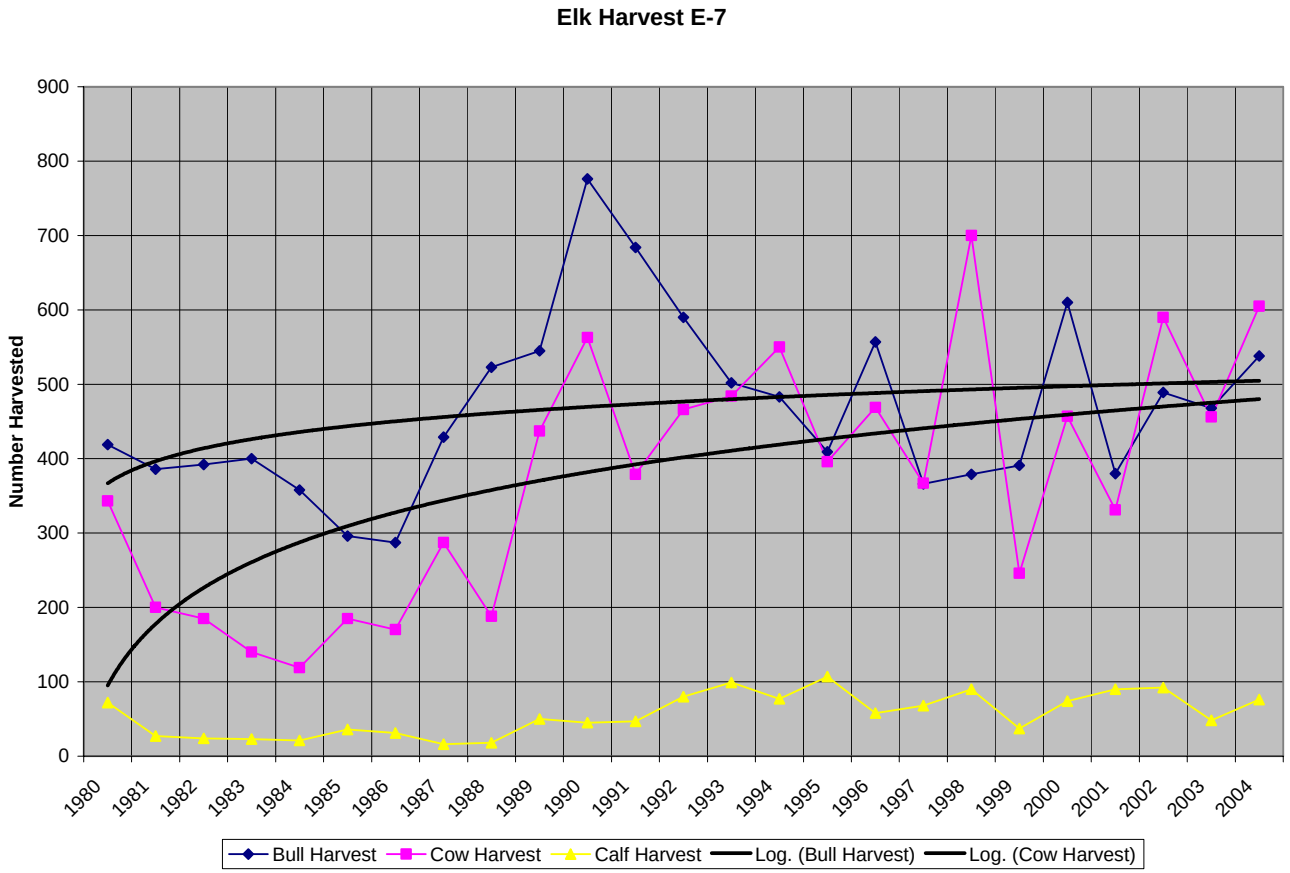


Figure 5

POPULATION SIZE AND STRUCTURE ALTERNATIVES

Population Objectives

Alternative 1

Population Objective: Reduce the elk population to 3,000 to 4,000 elk

Reducing the population was not the alternative the public choose. The elk population would have more resources available and would thrive better, but the harvest would have to be reduced.

Alternative 2

Population Objective: Maintain the present population level of 4,000 to 5,000 elk

This population range is the most acceptable to the public and the elk population seems to be maintaining itself well at this level. Most winter ranges are not overcrowded

Alternative 3

Population Objective: Increase the elk population to 5,000 to 6,000 elk

Increasing the population significantly would put too much stress on the winter range habitat. Game damage problems and other human conflicts would increase.

Sex Ratio Objectives

Alternative 1

20 to 23 bulls/100 cows- the current observed sex ratio range

Alternative 2

24 to 28 bulls/100 cows- eliminate unlimited, fourth season bull licenses

Alternative 3

30 bulls or more/100 cows- limit bull licenses in all seasons

PUBLIC SURVEY ANALYSIS (2001)

One hundred printed surveys were distributed at public DAU meetings in Kremmling, Steamboat Springs, and Yampa, at a HPP meeting in Steamboat Springs, at the Routt County Cattlemen's Meeting, directly to landowners and to elk hunters in DAU E-7. Thirty-two were returned either by mail or at meetings.

The Public Surveyed

Everyone surveyed had hunted elk in Colorado, the average number of years hunting in Colorado was 23.5 years, and 80% have hunted in the DAU E-7. All but two are Colorado residents, about 40% live in the DAU and 35% own or lease property in the DAU. Of the public surveyed 71.4% identified themselves as sportsmen, 17.9% were ranchers, 7.1% were businessmen, and 3.6% are guides. Most hunters were "slightly" satisfied with elk hunting in this area in 35% of the responses.

Their primary interest is in hunting elk, but there is high interest in participating in the decision making process. The elk problems they are the most concerned about in the order of importance were: loss of critical elk habitat to development, starvation and elk moving to private land during the hunting season. Disease, deer-elk competition and revenue from hunting also ranked fairly

high. In another survey question focused only on hunting, elk becoming unavailable for hunting by moving to private property was the principal problem.

Population Objective

To the question of the population objective 45% responded for "no change" in the elk population, and 30% for an increase of 1% to 10%. The public seems satisfied with the size of the present elk population.

Sex Ratio

To the question of what the bull/cow ratio should be, 58% favored for 25 bulls/100 cows, 20% preferred 30 bulls/100 cows and 16% responded for "no change", which is 23 bulls/100 cows. The public surveyed would like to see a slight increase in bull numbers, to 25 bulls/100 cows.

Hunting Strategies to Increase Cow Elk Harvest

The three strategies recommended by hunters were, in the order of importance:

1. **Allowing for an additional cow license with a bull license.**
2. **Allowing the harvest of more then one cow elk.**
3. **Limiting bull harvest.**

Increasing Bull Elk Numbers

Keeping the four-point antler restriction was the most popular method of increasing bull numbers, favored by 26% of those surveyed. Limiting bull harvest and increasing cow permits was the next most recommend with 18% of the recommendations. Third choice was tied at 16% for fewer bull licenses in the first season, eliminating fourth season bull hunting and more restrictive motor vehicle access during the hunting season.

PREFERRED ALTERNATIVE

The preferred alternatives are Alternative 2 for both the population objective and the sex ratio objective. Those objectives are 4,000 to 5,000 elk in the population and a sex ratio of 24 to 28 bulls / 100 cows. These two objectives best represent the public response regarding management of the E-7 elk population.

MANAGEMENT IMPLICATIONS

The estimate for the E-7 elk population has increased significantly since the last DAU plan was completed in 1990, due primarily to the changes in the modeling system and the changes in the variables of survival rate and wounding loss. The new modeling system more accurately estimates the population of elk in this DAU. The 1990 population estimate underestimated the size of the elk population and the 3,000 elk population objective should be increased.

Classification flights have been flown every other year in January. Weather varies the harvest too much each year to depend on an every other year assessment of population structure.

Classification flights should be flown every year even if limited flight hours would result in a smaller sample size.

To increase the number of bulls in the elk population, the fourth season should be a cow only season until the bull/cow ratio increases to the sex ratio objective. Then there could be limited bull licenses in the fourth season.

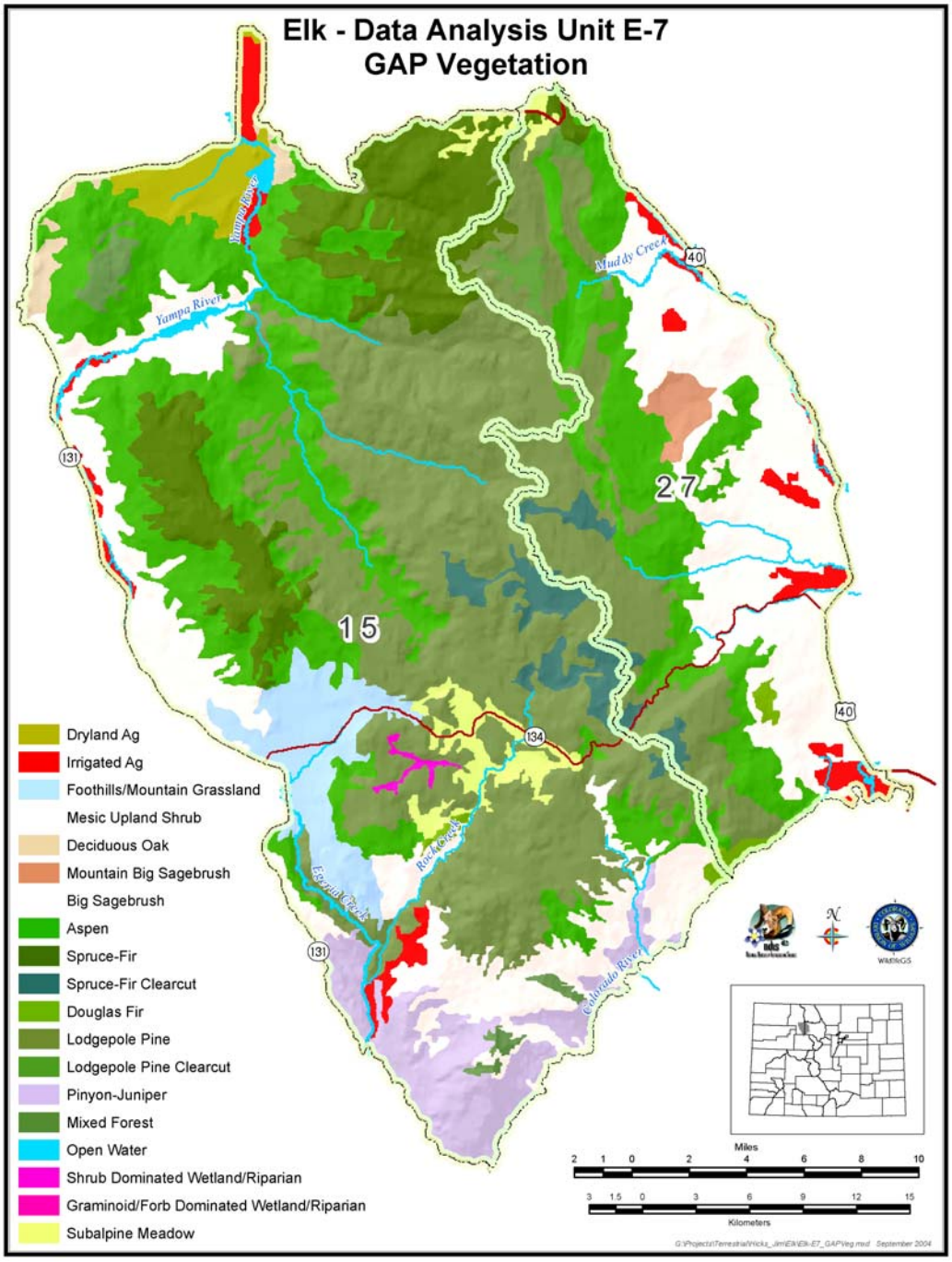
Controlled burns should be conducted every year on elk winter range in this DAU. The winter range in this DAU is primarily oakbrush habitat and controlled burns are the most effective method of improving the shrub winter range. Winter ranges like Blacktail Mountain receive heavy elk grazing pressure and should be managed intensively.

APPENDICES

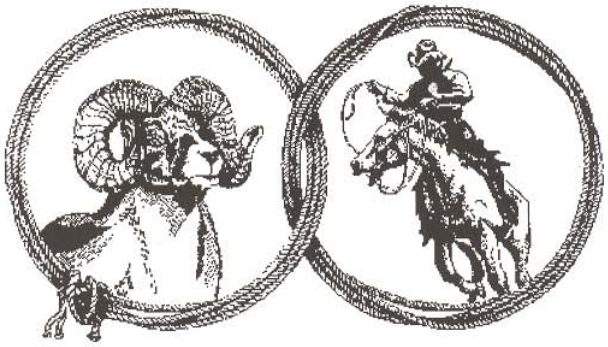
GAP Vegetation Map E-7 (DRAFT–11-1-04)

HPP Approval Sheet

E-7 Spreadsheet Model


Elk - Data Analysis Unit E-7
GAP Vegetation
Yampa River
Yampa River
Muddy Creek
40
131
27
15
134
40
Rock Creek
Egeria Creek
131
Colorado River
Dryland Ag
Irrigated Ag
Foothills/Mountain Grassland
Mesic Upland Shrub
Deciduous Oak
Mountain Big Sagebrush
Big Sagebrush
Aspen
Spruce-Fir
Spruce-Fir Clearcut
Douglas Fir
Lodgepole Pine
Lodgepole Pine Clearcut
Pinyon-Juniper
Mixed Forest
Open Water
Shrub Dominated Wetland/Riparian
Graminoid/Forb Dominated Wetland/Riparian
Subalpine Meadow
N
Miles
2 1 0 2 4 6 8 10
3 1.5 0 3 6 9 12 15
Kilometers

Map 3



UPPER YAMPA HABITAT PARTNERSHIP COMMITTEE

SEPTEMBER 24, 2002

JIM HICKS
TERRESTRIAL BIOLOGIST
BOX 771879
STEAMBOAT SPRINGS, CO.80477

DEAR SIR:

THE UPPER YAMPA HPP COMMITTEE HAS REVIEWED THE ELK MANAGEMENT PLAN FOR DAUE-7, GMU 15 AND 27, THAT YOU PRESENTED AT OUR MEETING ON OCTOBER 29, 2001. WE AGREE WITH THE POPULATION OBJECTIVES AND SEX RATIOS OBJECTIVE SET FORTH IN THE PLAN. THE PRESENT NUMBER OF ELK IN THE DAU ARE REASONABLE AND IN BALANCE WITH THE HABITAT. THERE HAVE BEEN FEW SERIOUS ELK/LIVESTOCK CONFLICTS IN THIS DAU IN RECENT YEARS.

RESPECTFULLY YOURS.

THE UPPER YAMPA HPP COMMITTEE

BILL GAY Bill Gay

LARRY MONGER Larry Monger

NITA HEROLD-NAUGLE Nita Herold Naugle

DENNIS ~~SLONACKER~~ SLUNAKER Dennis L Slunaker

MIKE MIDDLETON M W Middleton

KENT FOSTER K A Foster