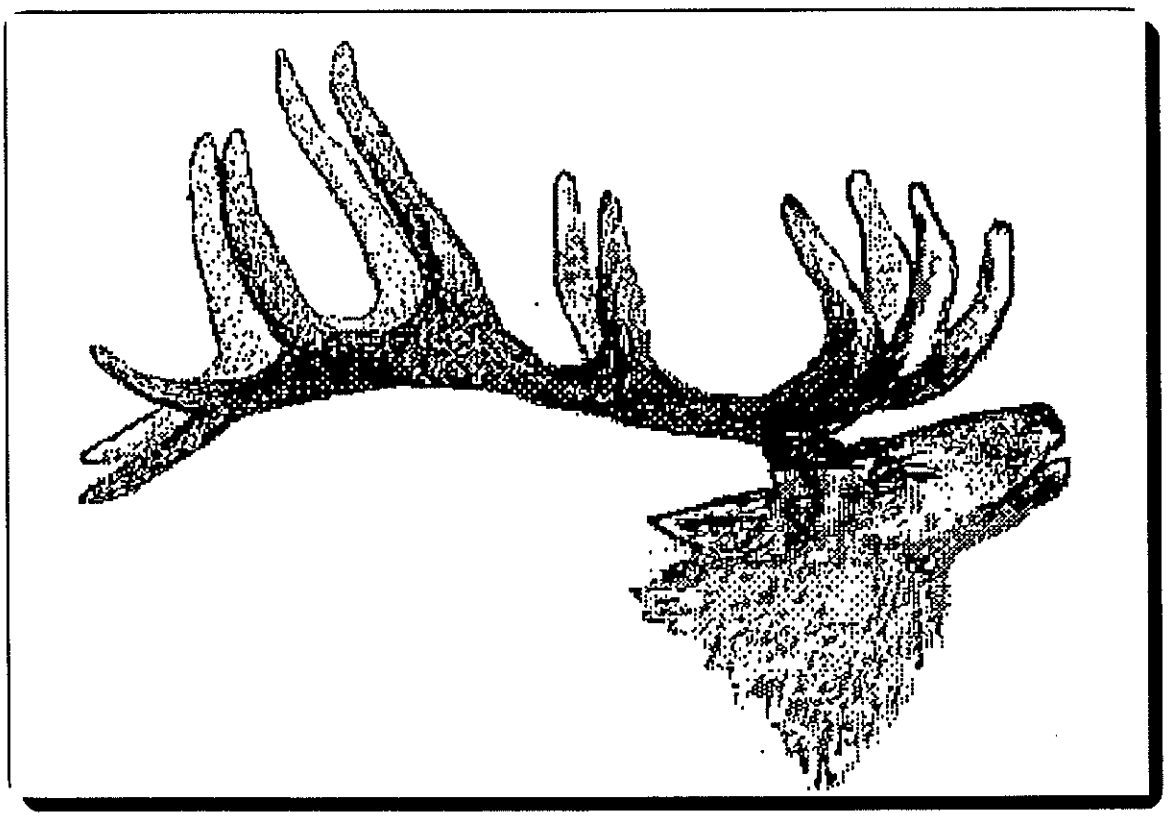
NEVADA

ELK SPECIES MANAGEMENT PLAN



FEBRUARY 8, 1997

Nevada Elk Species Management Plan

Table of Contents

Section	Page
Introduction	1
Background	5
Elk Population Trends in Nevada	5
Elk Harvest Trends	8
Elk Management Issues in Nevada	9
Elk Biology Issues	12
Alternative Livestock	13
Economics and Elk	13
Nevada Elk Management Chronology	16
Elk Management Constraints and Opportunities	21
Goals and Strategies	23
Elk Population Management	23
Establishing Population Objectives	23
Achieving Population Objectives	24
Pioneering Populations	26
Population Levels	27
Population Monitoring	28
Supplemental Feeding Programs	30
Habitat Management	31
Elk Damage Management	38
Historic Wildlife Damage Responsibility	38
Elk Damage Compensation	38
Elk Damage Compensation Tag	40
Elk Damage Education and Extension	41
Managing Elk to Reduce Damage and Conflict	42
Competitive Interaction	44
Elk And Cattle	44
Elk and Domestic Sheep	45
Elk and Mule Deer	45

Elk and Wild Horses 45
Interaction With Tule Elk 47
Predation 48
Disease and Parasites 49
Conflicts With Listed Species 50

Using the Elk Resource 51
Law Enforcement 51
Economics 53
Nonconsumptive Use 54

Coordination and Subplans 55

Evaluating and Modifying the Plan 59

Index 60

Appendix A--Laws, Regulations and Policies A-1

Appendix B--Elk Specific Commission Policies B-1
Commission Policy 22 (Big Game Release Plans) B-1
Commission Policy 26 (Pioneering Elk) B-5

Appendix C--Local Elk Plan Summaries C-1
Goshute Indian Res. Wildlife Management Plan C-1
Bruneau River Watershed EA C-2
Wells Resource Management Plan, Elk Amend. C-3
EA to Release Elk in Jarbidge Mountains C-4
Central Nevada Elk Plan C-5

List of Tables

Table 1 Nevada Elk Species Management Plan Steering Committee 3
Table 2 Nevada Elk Species Management Plan Technical Team 4
Table 3 Nevada Elk Release History 7
Table 4 Ungulate Numbers in Nevada, 1992 12

List of Figures

Figure 1 Map 1 Current and Potential Elk Distribution in Nevada 6
Figure 2 Nevada Elk Census Totals, 1972-1996 8
Figure 3 Nevada Elk Kill, 1945-1995 9
Figure 4 Map 2 Current Distribution of Elk in Relation to Land Status in Nevada 11

INTRODUCTION

The 1995 Nevada State Legislature adopted Assembly Concurrent Resolution Number 46 (ACR 46) which directed the Nevada Division of Wildlife to develop an elk species management plan. The impetus for ACR 46 centered on the concerns for an increase of elk numbers in the State and the perceived need to establish population goals, provide compensation tags, and identify management strategies to minimize conflict between elk, other grazing animals, and private land. In keeping with the intent of the resolution, the Division of Wildlife initiated a planning process that had several objectives:

- comply with the spirit and intent of the legislative resolution;
- view the resolution as an opportunity for the Division of Wildlife to address elk-associated issues of long standing;
- establish an in-house planning team composed of employees with experience in managing elk and elk habitat to provide technical expertise, plan guidance, and to prepare and present the various drafts of the elk species management plan (ESMP);
- establish a Steering Committee of key interests from among the public and government who are stakeholders in Nevada elk management and who can provide for plan oversight, improvement and validation;
- make use of previous experience with elk management issues to avoid "reinventing the wheel;"
- seek endorsement of existing elk subplans in order to maintain previous elk management commitments to private landowners, sportsmen, and federal land managing agencies; and,
- use a planning process that provides opportunity for general public comment, stakeholder involvement and public education through meetings and involvement of the Steering Committee, County Advisory Boards to Manage Wildlife (CWAB's), and the State Board of Wildlife Commissioners.

The planning team selected a planning process that was both issue-driven and open to the public. The Division of Wildlife has more than 20 years experience in addressing issues associated with expanding elk distribution and numbers. Without exception, the increase in distribution or numbers of elk over the past 20 years has resulted in expressions of concern from among private landowners or some individuals or groups who use public lands within Nevada. Also without exception, experience has shown that public

involvement in elk management programs have tended to improve elk management strategies and lessen conflict associated with elk, other resources and private land.

Over time, the Division of Wildlife has observed that concerns generated for elk generally have been similar from area to area and could be translated into a list of previously known issues. Using this experience, a list of issues was prepared for use in developing the ESMP.

The planning team also developed a list of interests and organizations who have and will continue to play key roles in the management of elk and elk habitat in Nevada. From this list, organizations and individuals were invited to become a part of a Steering Committee whose role would be to assist the Division of Wildlife in elk planning by over sighting the development and content of the ESMP from its beginning through submission of the plan to the Wildlife Commission. The Steering Committee was asked to provide constituent representation. The Steering Committee was also encouraged to represent the planning process and the final ESMP to interested publics, the Wildlife Commission and the legislature. **Every** invited interest or organization elected to participate in the planning process. Organizations and individuals represented on the Steering Committee are listed in Table 1. Members of the Division of Wildlife's Elk Planning Team are shown in Table 2.

The list of elk management issues was provided to each of the 17 CWAB's for public input and presented to the Steering Committee in advance of their first meeting. At their first meeting, the Steering Committee was asked to add to or modify the list of issues, to help clarify and define issues, and to provide a relative importance ranking to the list of issues. The Steering Committee's response to the issues list and their input at the first meeting was recorded and used by the planning team as the basis for developing a first draft of the ESMP. The public response received from CWAB meetings was also presented to the Steering Committee and incorporated in the first draft.

The first draft of the ESMP was prepared by combining similar issues into generalized topic headings. Under each general topic heading, specific issues were brought forward from the original list and from Steering Committee response. These issues were restated as goals. Then, strategies were developed to achieve goals. The overall intent of this process was to develop management goals and strategies to address, mitigate, moderate, or resolve elk management issues specifically associated with ACR 46 and other elk management concerns which have been documented in the past. Background and narrative were added to the goals and strategies to provide the reader with history, biology, and understanding of the various generalized topic headings.

The first draft of the ESMP was reviewed with the Steering Committee at a second meeting. The Steering Committee was encouraged to discuss and develop mutually acceptable recommendations for modification of draft ESMP content and format. The

planning team recorded these recommendations. Where feasible, these recommendations were incorporated in a second draft of the ESMP that was prepared for review by the Steering Committee, County Wildlife Advisory Boards, the Board of Wildlife Commissioners, and the public.

Table 1 NEVADA ELK SPECIES MANAGEMENT PLAN STEERING COMMITTEE

Name	*Representing*	*Town*
Harvey Barnes	Nevada Cattlemen's Association	Elko
Al Bosomworth	Nevada Division of Agriculture	Reno
Doug Busselman	Nevada Farm Bureau	Sparks
John Carpenter	Nevada State Assembly	Elko
Charles Cecchini	Nye County Wildlife Advisory Board	Tonopah
Jack Coons	Clark County Wildlife Advisory Board	Las Vegas
Barbara Curti	Nevada Farm Bureau	Sparks
John Dits	Rocky Mountain Elk Foundation	Elko
Laurel Etchegaray	Eureka County	Eureka
William Frade	Board of Wildlife Commissioners	Yerington
Mike Gregg	U.S. Fish and Wildlife Service	Lakeview
Bill Henry	U.S. Fish and Wildlife Service	Fallon
Gil Hernandez	Elko County Wildlife Advisory Board	Elko
Bunny Hill	White Pine County Commission	Ely
Mark Holt	Lincoln County Wildlife Advisory Board	Caliente
Larry Johnson	Nevada Wildlife Coalition	Reno
Merv Matorian	Board of Wildlife Commissioners	Carson City
Mike McGinness	Nevada State Senate	Fallon
William Molini	Nevada Division of Wildlife	Reno
Ann Morgan	Bureau of Land Management	Reno
Lowell Prunty	Outfitters and Guides Association	Rogerson
Monica Schwalbach	Humboldt and Toiyabe National Forests	Ely
Boyd Spratling	Board of Wildlife Commissioners	Starr Valley
Ed Wright	Lincoln County Commission	Pioche

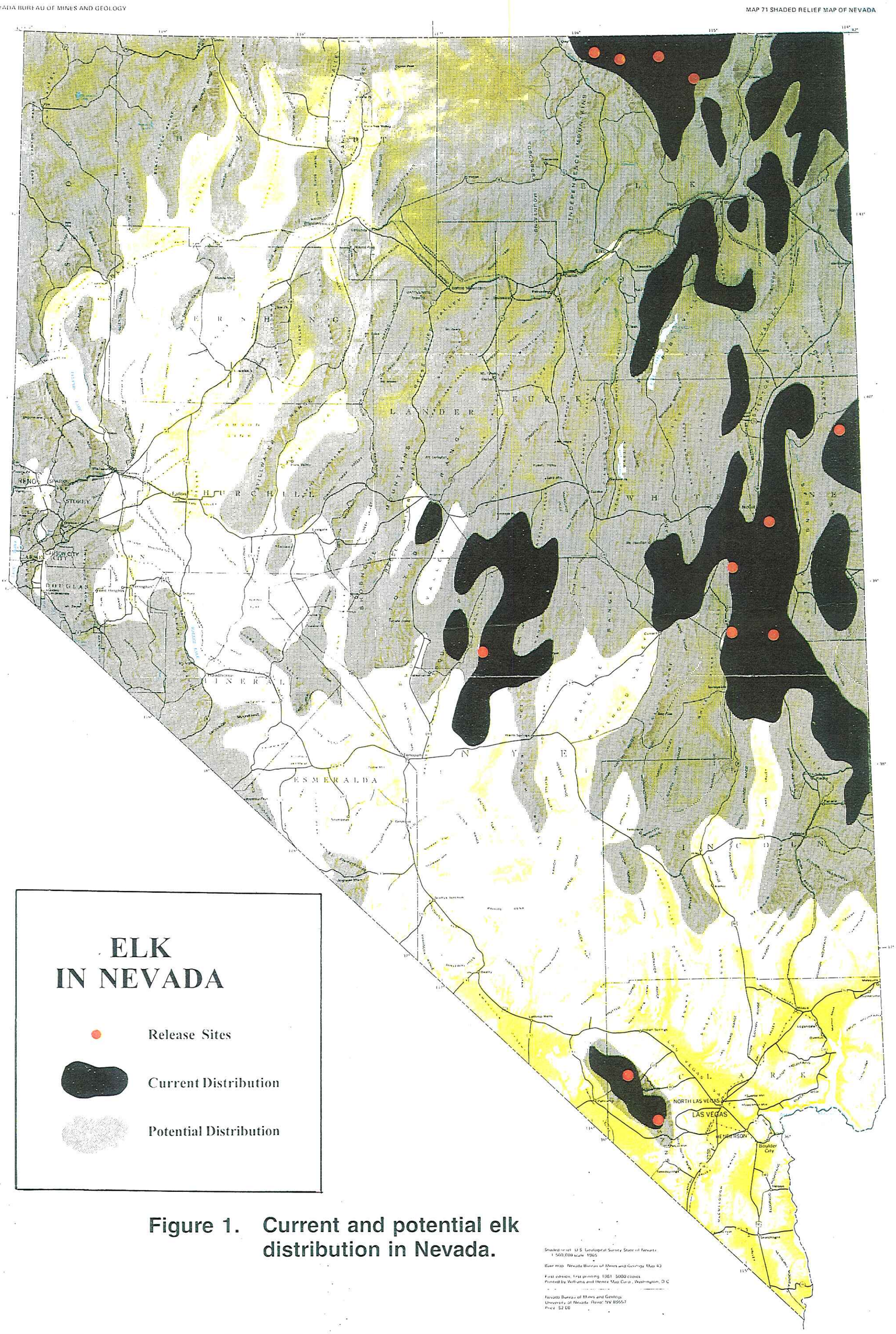
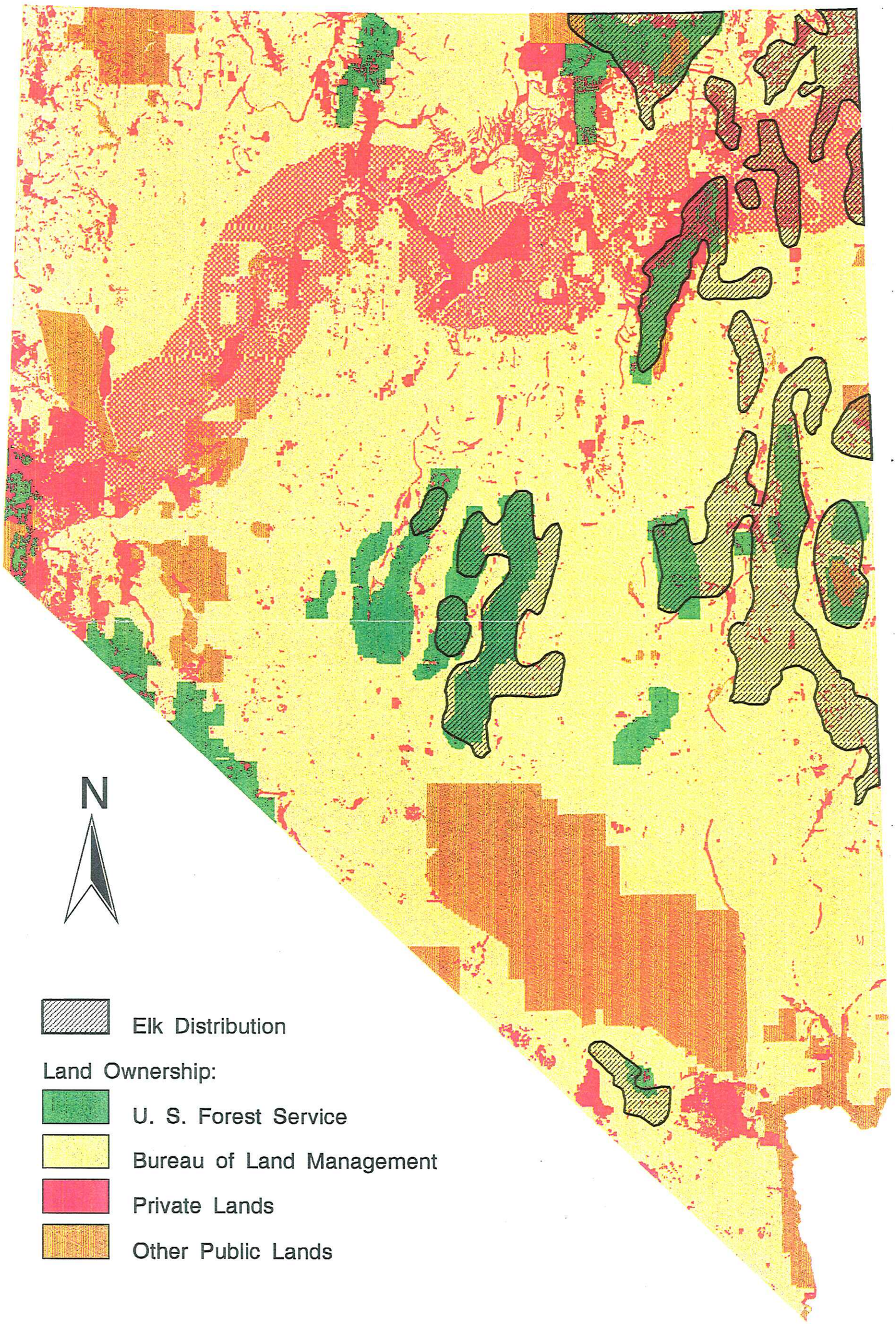


Figure 1. Current and potential elk distribution in Nevada.

FIGURE 2.

Elk Distribution and Land Status in Nevada



The Division of Wildlife wishes to acknowledge and thank the organizations and, in particular, the individuals who participated as members of the Steering Committee. Each member did their best to interact fairly and objectively in a process that encouraged participants to represent their constituents while recognizing the needs and desires of other members of the Committee. The quality of the information received from the Steering Committee was a direct result of the character of the participants and of the guidance for group interaction and participation provided by the group facilitator, Dave Torell, from the Rocky Mountain Elk Foundation. The Foundation's continued support for cooperative elk management programs in Nevada was amply demonstrated by the talents and commitment of Mr. Torell. The Division of Wildlife also thanks and acknowledges the members of Nevada's 17 County Wildlife Advisory Boards for bringing elk planning issues before their respective counties on numerous occasions in the past, and for their future commitment to provide public scoping of elk subplans and management options in the future. The planning participants look forward to the review of this plan by the Board of Wildlife Commissioners, three of whose members served on the Steering Committee. We believe that the review, contributions and subsequent endorsement by the Board will result in acceptance of the elk species management plan by the Nevada legislature.

Table 2 Nevada Elk Species Management Technical Team

Name	Job	Town
Kraig Beckstrand	Biologist	Panaca
Robert Buonamici	Staff Game Warden	Reno
Duane Erickson	Supervising Habitat Biologist	Elko
Larry Gilbertson	Supervising Game Biologist	Elko
Mike Hess	Staff Biologist	Reno
Craig Mortimore	Supervising Game Biologist	Fallon
Mike Wickersham	Regional Manager	Las Vegas

BACKGROUND

ELK POPULATION TRENDS IN NEVADA

Elk were the most widely distributed deer in North America when the Pilgrims landed on our east coast. By the end of the 19th century, elk were extinct throughout most of their range. These two facts tell us much about elk. Elk are our most adaptive native deer, able to live in many habitats and the easiest big game animals to establish on new sites. Elk are also the easiest deer for humans to eliminate, and the most likely to suffer that fate because of their preference for habitat favored for farming or grazing.

Elk were native to Nevada. Archaeological excavations document the post Pleistocene presence of elk in the Great Basin at Fort Rock Basin in Oregon, Smith Creek in White Pine County, South Fork in Elko County, Gatecliff in Nye County, and Last Supper Cave on the Sheldon NWR in Humboldt County. Elk dispersed into the other areas of the state over time, but their densities probably were kept very low by Native American hunters wherever they occurred. Historic sightings were reported in the Jarbidge, Bruneau and Independence Mountains in Elko County, and the Schell Creek and Snake Mountains in White Pine County. Newspaper accounts report hunter kills at Lake Tahoe and Honey Lake Valley in the west, and in the Jarbidge and Independence Mountains in the northeast.

Elk were extinct in Nevada by the end of the 19th century. Human over-exploitation of natural resources--before the passage of protective legislation--contributed to this extinction. Also, introduced diseases devastated many native species.

Nevada sportsmen reintroduced the first elk in the early 1930's. Through 1996, elk have been released at eight sites scattered throughout Nevada. These are the Spring Range, the Schell Creek Range, Pilot Peak, the Monitor Range, the Goshute Reservation, the South Egan Range, the Bruneau River and the Jarbidge Mountains. Table 3 provides details about these releases.

Elk occur in low numbers in Nevada. Table 4 compares the numbers of ungulates in Nevada in 1992. Nevada's ranges are changing as a result of better management. These changes are favorable for elk and Nevada could have higher densities of elk based on habitat quality. Figure 1 shows the current and potential elk distribution in Nevada.

TABLE 3. NEVADA ELK RELEASE HISTORY

YEAR	RELEASE SITE	CO.	NO.	ORIGIN SITE	STATE
1932	SCHELL CREEK RG.	WP	30	YELLOWSTONE PARK	WY
1935	SPRING RG.	CL	15	YELLOWSTONE PARK	WY
1979	MONITOR RG.	NY	50	HARDWARE RANCH	UT
1984	SPRING RG.	CL	80	DESERET RANCH	UT
1988	GOSHUTE RES.	WP	16	HARDWARE RANCH	UT
1988	GOSHUTE RES.	WP	10	HARDWARE RANCH	UT
1988	GOSHUTE RES.	WP	22	HARDWARE RANCH	UT
1988	S. EGAN RG.	WP	22	DESERET RANCH	UT
1988	S. EGAN RG.	WP	7	DESERET RANCH	UT
1989	GOSHUTE RES.	WP	5	SCHELL CK. RG.	NV
1989	GOSHUTE RES.	WP	5	SCHELL CK. RG.	NV
1989	GOSHUTE RES.	WP	5	SCHELL CK. RG.	NV
1989	GOSHUTE RES.	WP	23	HUNTSVILLE	UT
1990	JARBIDGE MTS.	EL	20	MONTROSE	CO
1990	JARBIDGE MTS.	EL	10	ERDA	UT
1990	JARBIDGE MTS.	EL	17	ERDA	UT
1990	S. EGAN RG.	WP	30	MOISE	MT
1990	GOSHUTE RES.	WP	2	SCHELL CK. RG.	NV
1990	GOSHUTE RES.	WP	4	HYRUM	UT
1991	JARBIDGE MTS.	EL	10	ERDA	UT
1991	JARBIDGE MTS.	EL	16	ERDA	UT
1991	JARBIDGE MTS.	EL	5	ERDA	UT
1991	GOSHUTE RES.	WP	50	TRIDELL	UT
1991	GOSHUTE RES.	WP	11	HARDWARE RANCH	UT
1991	GOSHUTE RES.	WP	14	HARDWARE RANCH	UT
1992	S.SCHELL CK. RG.	WP	50	HARDWARE RANCH	UT
1993	GOSHUTE RES.	WP	48	IDAHO FALLS	ID
1994	BRUNEAU	EL	17	PAYETTE	ID
1995	BRUNEAU	EL	45	NORTH POWDER	OR
1995	BRUNEAU	EL	14	BAKER	OR
1995	JARBIDGE MTS.	EL	15	N. POWDER	OR
1996	BRUNEAU	EL	32	LA GRANDE	OR
	GRAND TOTAL		**700**		

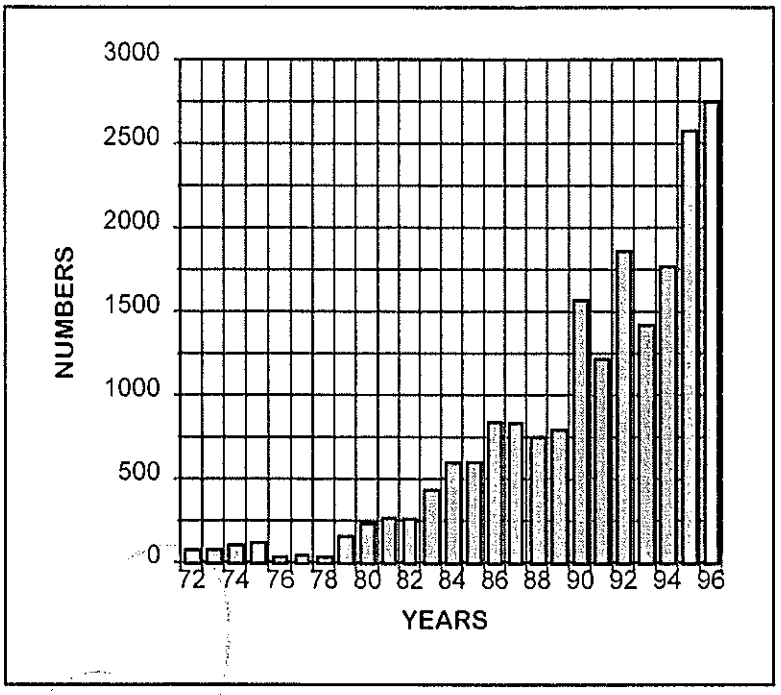


Figure 2 **Nevada Elk Census Totals, 1972-1996.**

Nevada's elk populations grew slowly until recently. Their populations have blossomed in the last ten years. Elk are pioneering in new locations, naturally immigrating into suitable habitat. This modern elk population growth and the pioneering in Nevada are mainly the result of changes in our society's attitudes about elk and resource conservation. Now elk are highly desired as a feature of Nevada's wildlands and poaching elk is socially unacceptable for any reason. One of the most prominent factors of recent social change has been the evolution of sportsmen's groups whose focus is directed at a single game species. The Rocky Mountain Elk Foundation is the best example of this phenomenon. Figure 2 displays the number of elk seen in our annual surveys.

ELK HARVEST TRENDS

Our first elk hunt was held in 1945. Figure 3 shows the Nevada elk kill since that first season. Nevada hunters have taken 1,144 elk during 33 open seasons. Our recent hunting seasons have been extremely conservative, averaging only 50 tags and 35 elk killed per year, because we were protecting small, isolated elk populations.

Our elk hunting seasons since 1975 have emphasized trophy hunting, except where cooperative planning has called for population control. The trophy quality of animals killed has been very high with 75% of the harvest being bulls and 75% of those bulls having five antler points or more. This has resulted in an extreme disparity between opportunity and interest. Sixty-eight applications were received for each bull tag available for the resident rifle hunt in 1995. For the last 25 years, an average of 62 applications have been received for each available bull tag.

The detected illegal kill of elk averaged 10% of the legal kill, significantly higher than for any other big game species. The present level is not threatening to the elk population, but it may have been in localized circumstances and it is very distressing to the public.

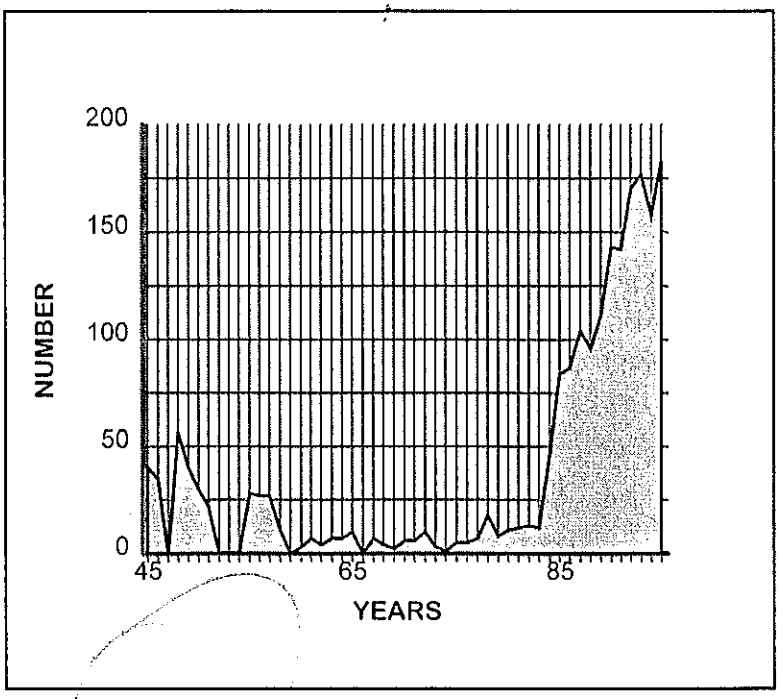


Figure 3. **Nevada Elk Kill, 1945-1995.**

Our bull hunts are presently not significant factors to elk populations. Winter bull ratios average 25 bulls per 100 cows, well above ratios seen in other western states. The average calf to cow ratios of 42/100 we have seen are lower than reported in adjoining states, but our census timing is much later in the winter. Our populations are growing regardless of this possibly lower recruitment. Exceptions occur where local population control is being practiced as in the Monitor Mountains and in the Jarbidge Mountains.

ELK MANAGEMENT ISSUES IN NEVADA

Some Nevada ranchers have opposed our elk reintroduction program and the natural expansion of elk. Their main concerns are:

1. Elk may threaten grazing privileges on public land.

2. Elk may depredate on private property.

3. Elk imported from outside Nevada may carry livestock disease; and,

4. Sportsmen may not allow the Division of Wildlife to control elk numbers if they become a problem.

Many of these ranchers' concerns have been addressed by legislation now. The 1989 Nevada State Legislature enacted legislation providing compensation for elk damage. We cooperate with the Nevada Division of Agriculture by testing all imported elk. Diseased elk will not be imported. The Division of Wildlife has taken a proactive and cooperative

role in all elk planning efforts. Five comprehensive local plans are completed and three more are in process. The biennial release plans give additional opportunity for public review of the proposed elk releases. Figure 4 shows the relationship between elk distribution and land ownership in Nevada.

ELK BIOLOGY ISSUES

Nevada has tremendous potential for elk. As the most adaptable American deer species, elk should thrive on many Nevada ranges that currently support large herbivores, whether wild, feral or domestic. Free water may be the only real limiting factor. Present range conditions are adequate in most areas and planned range management intended to improve range conditions should only improve circumstances for elk. Range management objectives and vegetative manipulations generally have favored elk, but have been harmful to mule deer.

Elk are less damaging to their habitat than domestic stock because they are more mobile in their foraging. They favor grasses, but use forbs and browse more readily than most domestic livestock. They are less likely to concentrate unless forced to by unusual circumstances. Elk do favor forest edges if available.

TABLE 4. UNGULATE NUMBERS IN NEVADA
1992

SPECIES	NUMBERS
CATTLE	480,000
SHEEP	91,000
WILD HORSES	30,000
DEER	149,000
ANTELOPE	16,000
BIGHORN	5,500
ELK	3,000

With a longer life span and a lower production rate than mule deer, elk populations can be controlled more easily. Their slower population growth and their larger size make elk more susceptible to human predation. This contributed to their original low densities and their early extinction in Nevada. This now presents an easy solution if elk do become a problem in a specific area.

Several diseases of livestock, most notably brucellosis and tuberculosis, have been identified as problems in elk. Both diseases are of particular concern in Nevada. The possibility of human infection requires special status by the United States Department of Agriculture Animal and Plant Health Inspection Service (APHIS). From a national perspective, surveillance, testing, quarantine and slaughter of positive livestock is conducted through state-federal cooperation. Currently, Nevada is classified as brucellosis and tuberculosis "free." Nationally, these diseases are on the threshold of eradication.

These diseases have been problems only where cattle and elk are concentrated artificially on common winter ranges. Interspecies cross infection is possible. Changing the circumstance where these diseases become a problem represents the most reasonable approach. Better yet, do not allow the problem to develop.

Chronic wasting disease has been identified as a problem in wild and captive elk. The Division of Wildlife will work cooperatively with the Nevada State Veterinarian on any appropriate response thought necessary.

More than other native deer, elk are susceptible to domestication. This has been the basis for winter feeding programs in several states. Feeding allowed unnaturally high elk populations to develop, and provided the conditions for unusually high disease incidence. A single instance of feeding elk in winter is known for Nevada. The elk released in the Schell Creek Range in 1932 were held and fed for over a month before their release in Duck Creek Basin.

ALTERNATIVE LIVESTOCK

A commercial deer industry has developed in the United States in recent years. The industry originated from the commercial hunting of red deer in New Zealand. Deer are raised for both antler and venison production. Red deer and red deer-elk hybrids are the main strains used in this industry. Many states report problems with importation, licensing, disease certification and control of this fledgling industry. Hunting preserve operations are also increasing.

Commercial deer ranching presents some very real threats to Nevada's native elk population. These include hybridization, disease, escape and ownership. The new laws address many of these potential "alternative livestock" problems, but whether they will be enough is uncertain. Please see Appendix A for the appropriate statutes. No commercial deer ranches are present in Nevada at this writing.

ECONOMICS AND ELK

The Nevada Division of Wildlife (Department of Wildlife) conducted an economic study of the value of big game harvest from 1984 through 1986. The Rocky Mountain elk portion of the study was completed in 1986. Since 1986, the Consumer Price Index (CPI) published by the U.S. Department of Labor has increased 39% (1995 dollar values). Values for elk taken from the NEVADA SURVEY OF THE ECONOMIC VALUE OF TROPHY BIG GAME AND DEER HARVEST by Fenton R. Kay, Ph.D., December, 1988 are expressed in 1995 dollars.

The State's elk herd in 1986 was estimated at 824 animals before the harvest of 89 animals. A capitalized value based on expenditures by hunters was $1,585 per elk in 1986 dollars or $2,203 in 1995 dollars. Including nonconsumptive use, the values were $1,965 per live elk in 1986 dollars or $2,731 in 1995 dollars. With a current statewide population

estimate of 4,000 elk, the capitalized value of Nevada's elk resource exceeds $11,000,000.00. Nevada elk hunting provided a calculated Wildlife-Fishery Use Day (WFUD) value of $159 in 1986. Adjusted for 1995, the WFUD value would be $221.

Other values associated with the elk resource include the amount spent per hunter which is the total amount of dollars spent divided by the number of hunters and a simple direct value of each harvested elk which is the total amount of dollars spent divided by the number of elk harvested. The 1988 NDOW economic study calculated a total expenditure of $78,134 by Nevada elk hunters in 1986. With a total of 97 hunters in 1986, each hunter spent an average of $806. Eighty-nine elk were harvested resulting in a cost of $878 each. Expressed in 1995 dollars, each hunter would spend $1,120 and the cost for each harvested elk would be $1,220. The 305 elk hunters that participated in the 1995 season were calculated to have spent a minimum of $341,600 (305 X $1,120).

Calculated elk values based on the 1988 study are considered conservative for two reasons. One reason is that the 1988 calculated elk values only considered consumptive and nonconsumptive values associated with elk hunting and only include 0.5 nonconsumptive (nonhunter) users per tagholder. Recent field checks indicate there are a minimum of two individuals on an elk hunt for each tag and most hunting parties are larger than two. In addition, nonconsumptive uses of elk have increased dramatically since the mid-1980's along with the increases in the human population of the State. Nonconsumptive uses such as elk viewing, photography, and antler collecting were not considered in the 1988 study. The second reason is that there were no nonresident elk tags in 1986, so specific values for expenditures by nonresident elk hunters were not calculated. Nonresident hunter data collected for bighorn sheep in the 1988 study indicated nonresidents expended 345% more per hunt than residents. Even nonresident deer hunters expended 244% more per hunt than residents. Using a midpoint of 295% results in a calculated value of $3,599/elk ($1,220 X 295%) harvested by nonresidents and $3,304 spent per nonresident elk hunter.

In 1995, a total of 172 elk was harvested by residents and nine by nonresidents providing a direct economic value of $242,231 for harvested elk (172 X $1,220 = $209,840 expended by residents and nine X $3,599 = $32,391 expended by nonresidents). Including unsuccessful hunter expenditures results in the calculated value of $341,600 expended by all elk hunters in 1995.

An additional economic benefit of Nevada's elk resource is related to the Elk Bid Tag Program. Since 1990, one bid tag for elk has been offered each year for a total of seven tags. Prices paid for the tag have ranged from a low of $12,000 in 1993 to $40,000 in 1994, for a total of $167,000.00 and an average of $23,857 paid per tag. This source of revenue generation has not been included in the values calculated for elk above and would increase those values if used.

Currently, a record elk quota of 598 tags is expected to result in a record expenditure exceeding $500,000 (498 X $1,120 = $557,760) for elk hunting in Nevada in 1996. Including the 1996 bid tag price of $26,000, the total expenditure for the 1996 elk season is expected to be at least $583,760.

A final economic analysis of elk management in Nevada relates directly to the amount of money generated for sales of licenses and tags and the costs associated with elk management by the Division of Wildlife. Two programs that pay for themselves include habitat enhancement work and the elk depredation program. Other elk related jobs include the federal aid elk management job, habitat input job, and the law enforcement job.

Habitat development includes vegetation projects and guzzlers (water developments). These are gift-funded programs with funding donated by sportsmen's groups and clubs.

Elk depredation represents another expense incurred for the management of elk. This job is paid for with a $5 application for all elk tag applicants. There were 10,680 applications for elk in 1995 resulting in revenue generation $53,400 for elk depredation management. A total of $12,731.39 was spent from this fund on damage claims through FY95. With more than $200,000 still in an interest bearing account, the generation of revenue is staying well ahead of elk depredation damage claims.

A total of $63,504 was expended for the federal aid elk management job for FY 95. Since State monies are matched 3:1, a total of $15,876 was expended by the State of Nevada on elk management. Two other costs associated with elk include habitat input work and law enforcement. For the most part habitat input is conducted in relation to numerous species of wildlife with elk playing a minor role. It was calculated that $8,000 was spent on habitat work that was related to elk only in 1995. It was calculated that $12,000 was spent on law enforcement in 1995. Adding Nevada's match of $15,876 for elk management to the amounts calculated for elk habitat and law enforcement work totals $35,876 expended for elk management. Including the $47,628 federal aid match results in a total expenditure of $83,504.

A total of 306 elk tags was sold in 1995 including 294 resident tags @ $100 each and 12 nonresident tags @ $500 each for a total revenue of $35,400. It is a requirement for an elk hunter to have in his possession a valid hunting license. Resident licenses cost $20. Nonresident licenses cost $100. Including the cost of hunting licenses brings the amount of revenue to $42,720. Nevada's elk bid tag that sold for $26,000 in 1995 brings the total amount of revenue generated by the elk resource to $68,720. Another source of revenue is master guide license and subguide license fees. There were 69 master guides and 140 subguides in 1995. Master guide fees generated $22,500 and subguide fees

generated $12,700 for a total of $35,200. An additional $5,000 was received for "new" (one time fee) master guide license fees bringing the grand total to $40,200. Only 48% of the guides were licensed to guide elk resulting in elk related revenue generation of $19,296. Including guide license fees with tag and hunting license fees results in total elk related revenue generation of $88,016.

The total amount generated through sales of licenses and tags ($88,016) minus the State's expense of $35,876 leaves $52,140. Including the federal aid match of $47,628 leaves a balance of $4,512. In addition, some of the costs of law enforcement are further offset through the receipt of civil penalties and confiscations. Elk cases have been effectively used to generate funds for the Division of Wildlife's "Operation Game Thief." With elk tag levels above 300, elk populations are generating more revenue than it costs to manage them. With a quota of 491 elk tags for 1996, a total of $58,810 will be generated for tag sales alone. Including the 1996 bid tag that sold for $24,000 results in a total of $82,810 generated by tag sales alone. Including hunting license fees results in an additional $10,000 - $13,000 and guide license fees should be similar to the previous year generating more than $19,000.

Costs associated with elk management in terms of dollars spent by the Division of Wildlife are not only offset by elk related revenue generation, but result in revenue generation for counties and cities in Nevada. Money is spent in Nevada for the elk management program for goods, services, fuel, vehicles, vehicle repairs, and wages to employees, much of which is spent in local communities. Much of the elk management program currently consists of helicopter surveys. Wildlife and habitat management information is collected during these surveys that benefits numerous wildlife species. As elk tags increase, the Division of Wildlife will realize an increase in revenue generation that will benefit wildlife.

It is expected the cost of this elk species management planning project will be between $12,000 and $16,000 in FY96 and FY97.

NEVADA ELK MANAGEMENT CHRONOLOGY

The Nevada State Legislature enacted the first game law in 1861. This law designated a hunting season for elk from July 1 to January 1 each year. Based on reports in local newspapers, a few elk were killed by hunters in the Sierras and northeastern Nevada in the next few decades. By the turn of the century elk were extinct in Nevada.

The effort to reintroduce elk began in the 1930's. The sportsmen of White Pine County, working with the U.S. Forest Service, imported elk from Wyoming in 1932 for release in Duck Creek Basin in the Schell Creek Mountains. These elk were held in corrals in Ely over a month before their release in Duck Creek. Accustomed to being fed hay, these elk caused the first depredation problem in Duck Creek Basin the next year. In

1935, the sportsmen of Clark County, also cooperating with the U.S. Forest Service, released 15 elk in the Spring Mountains. The State of Utah released elk on Pilot Mountain in 1944.

The first elk hunt was held in the Schell Creek Range in 1945. To take advantage of federal aid in wildlife restoration, the Nevada Fish and Game Commission was established in 1947 and the state assumed wildlife management responsibility from the counties. Elk hunts have been held in 37 of the 65 years since they were first introduced in 1932. Hunts have been held annually since 1966.

Nevada's game management program evolved slowly. Because of extremely limited big game resources, a more conservative program demanding more participation from hunters resulted. In the early 1970's, mandatory hunter reporting regarding their big game hunting activity was enacted in regulation. The federal land management agencies began proactive land use planning during the decade of the 1970's. As a resource management agency, the then Nevada Department of Fish and Game identified potential elk habitat both for range expansion and introductions.

The first modern elk release was made in Nye County in 1979 after extensive cooperative planning. Fifty elk from Utah were released in the Monitor Range. The initial planning for the Jarbidge elk release was begun in the early 1980's. In cooperation with the U.S. Forest Service and Bureau of Land Management, an extensive scoping process focusing primarily on the affected livestock industry was conducted.

The first elk hunting season was held in the Monitor Mountains in 1984, only five years after the release. An elk population ceiling has been maintained while range use has been monitored. This has been a prominent part of the management scheme and antlerless quotas were opened early. Regular helicopter census of the major Nevada elk herds was begun in 1984.

The Nevada Wildlife Commission in 1984 adopted "A Policy Plan for the Management of Nevada's Wildlife through 1990." Specific Wildlife Commission policies included in this plan stated that winter feeding of elk would be considered only in catastrophic circumstances and female elk would be harvested to control populations. Elk goals included maintaining and enhancing populations, and maintaining a quality elk hunting program. This plan has guided the Division of Wildlife to the present.

The Division of Wildlife adopted an internal Wildlife Depredation Policy and Procedure in 1987. The big game options for alleviating depredation problems included technical advice, hazing, exclusions, barriers, repellants, removal using special hunting seasons, emergency depredation hunts, landowner permits to remove, agency removal, and capture and transplant of depredating animals. The first regular depredation hunt was held in 1986. By 1988, non-emergency hunts with up to 50 tags were established by the

Wildlife Commission during the spring quota setting process. The depredation hunts are timed to address documented problems.

The number of depredating elk tags issued has varied, with a maximum of 84 issued in 1990. A total of 64 elk or seven per year has been killed in depredation hunts. More important, elk behavior has been changed by these hunts, thus alleviating many of the problems. Division of Wildlife employees have killed elk at only one site but have conducted hazing operations at numerous sites. Depredation hunts have become the preferred method of handling complaints because of effectiveness and economy.

In 1988, the Wildlife Commission amended its **Commission Policy No. 22, Introduction, Transplanting and Exporting of Wildlife**, requiring the Division of Wildlife to prepare biennial big game release plans to inform and solicit advice from stakeholders. See Appendix B for a copy of the Wildlife Commission Policy. Three public hearings are held for these biennial plans following legal notices in the major newspapers of the state. Scrutiny by ranching interests was intense during hearings on the first plan, but this interest has waned until it was negligible for the FY96 and FY97 plan approved in October 1995.

The Wildlife Commission adopted **Commission Policy Number 26, Reestablishing, Introducing, Transplanting and Managing Pioneering Rocky Mountain Elk**, in 1988 also--see Appendix B. This policy requires the Division of Wildlife to monitor pioneering elk populations. If in the professional opinion of the biologist, the documented immigration by elk has changed to a permanent residency, the Division of Wildlife advises the Wildlife Commission and recommends a management prescription that could include elimination of the population. The recent Ruby Mountain elk hunts represent the only attempt to date to eliminate a pioneering elk population.

Elk releases were made in central and eastern Nevada in the late 1980's. The Division of Wildlife began a cooperative disease testing program under the direction of the State Veterinarian during this period. Elk were tested for brucellosis, tuberculosis, and at times bluetongue.

In 1989, the Nevada State Legislature enacted the elk depredation fund legislation that became effective in 1990. This law--see the appendix for more information-- requires each hunter applying for an elk tag to pay a fee of five dollars to be deposited in the elk depredation fund. The fund is to be used to compensate losses due to elk depredation. Combined with $50,000 of general fund monies over $240,000 have been contributed by elk hunter applicants. By the end of 1995, eight damage claims averaging $1,400 had been paid. No complaints have gone to the local review panels for arbitration. A more substantial portion of the fund--about $60,000-- has been used to buy protective fencing. This fencing has reduced depredation substantially.

The 1989 Legislature also enacted an amendment to include elk in the law permitting the Wildlife Commission to auction big game tags. The Rocky Mountain Elk Foundation--selected through an annual application process--has auctioned Nevada's elk tag each year since 1990. Through 1995, a total of $143,000 had been raised from the auction of six elk tags. These monies were available for special elk projects in Nevada. A 1995 legislative amendment now will deposit future funds from these auction tags into a special Wildlife Heritage Account.

The first elk were released in the Jarbidge Mountains in 1991, following the development of a six party agreement with the land management agencies and the grazing association. For the first time, the Division of Wildlife telemetered wild captured elk on Mt. Wilson in Lincoln County in 1991 to identify ranges and begin better population monitoring for elk pioneering there. This technique was used later in the Wells area of Elko County and in the northern Monitor Range in central Nevada.

The Nevada State Legislature passed the "alternative livestock" laws in 1993. These laws allow private concerns to raise elk for commercial purposes--but not for hunting. The Division of Wildlife opposed the passage of these laws because of the severe problems being encountered with red deer and red deer-elk hybrids throughout the western states due to disease, ownership liability and genetic mixing. The Department of Agriculture regulates this industry, with the Division of Wildlife empowered to destroy escapees.

Facilitated by the Rocky Mountain Elk Foundation, and using federal aid to fisheries monies and Question 5 bond monies, the Division of Wildlife acquired the Howard Ranch on the Bruneau River system in the early 1990's. One of the objectives for the acquisition was to release and to manage the properties for elk. The planning process for the Bruneau has become a model for many subsequent elk planning efforts. The first elk were released on the Bruneau in 1994.

Planning has been a keystone of the Division of Wildlife's elk management process. The biennial release plans outline objectives for elk releases. The Division of Wildlife's major effort has gone into local land use and herd plans. The Division of Wildlife on behalf of the people of Nevada has invested substantial effort cooperating in the development of these local elk plans.

The existing plans include the Central Nevada Elk Plan, the Jarbidge Six Party Agreement, the Bruneau River Watershed Environmental Analysis, the Wells Resource Area Land Use Plan Amendment, and the Goshute Indian Reservation Elk Plan. These five plans--and three more currently in process--cover the majority of presently occupied elk habitat. Please see Appendix C for executive summaries of these elk plans. The plans in process include the Mt. Charleston Elk Plan, the White Pine County Elk CRM, and

the Lincoln County Elk CRM. These planning efforts feasibly could be adopted as the subplans called for in ACR 46 that initiated this elk species management planning effort.

Summarizing the elk management history of Nevada, it is evident that the elk is the most managed, planned for and regulated big game species in the state. No other mammal even comes close. Mule deer outnumber elk by a ratio of 50 to one, but do not receive a fraction of the scrutiny afforded to elk by stakeholders and planners. It is hoped that the ESMP can reassure stakeholders that elk can prosper and yet coexist safely with other interests on Nevada ranges.

ELK MANAGEMENT CONSTRAINTS AND OPPORTUNITIES

WHAT WE WILL AND WILL NOT DO:

- The Division of Wildlife will manage elk populations consistent with the goals of the subplans.

- We will pursue establishing elk in suitable habitat in full coordination with any affected interests.

- We will follow Wildlife Commission policy when releasing elk. This policy includes the following constraints:

  - ✓ notify all affected interests,
  - ✓ seek public review through the the County Wildlife Advisory Boards to Manage Wildlife,
  - ✓ prepare subplans in cooperation and concurrence with the appropriate land management agencies, and
  - ✓ obtain Wildlife Commission approval for all releases.

- We will not release elk on private lands without landowner permission.

- We will not release elk in urban areas unless we can effectively handle any depredation problems.

- We will not develop elk refuges.

- We will not feed elk--except under catastrophic circumstances and with Wildlife Commission approval.

- We will test all transported elk for brucellosis. We will test for other diseases in cooperation with the Nevada Division of Agriculture.
- We will not introduce or move any elk testing positive for brucellosis.
- Game management units or combinations of units will be the basic planning and reporting unit for elk management.
- The Division of Wildlife recognizes the presence of elk enhances the wilderness experience.

ELK POPULATION MANAGEMENT

Establishing Population Objectives

Elk population objectives represent a cornerstone for all relevant management actions. These objectives guide the Division of Wildlife's utilization programs. Land management agencies must also consider these objectives within their public trust obligation to prepare and implement multiple use decisions in accordance with the Federal Land Policy and Management Act, the National Forest Management Act, the National Environmental Policy Act, and other laws and regulations. It is understood that elk management will occur in balance with the other uses of the land, and that these other uses may limit elk populations.

For the purposes of the elk species management plan (ESMP), population objectives shall be broadly addressed. Population objectives for specific herds will be determined within subplans. Goals and strategies identified within the ESMP may be more thoroughly addressed within these subplans.

Goal: To prepare subplans for all existing elk populations by the year 2000.

Strategy: Program the appropriate amount of time to achieve this objective.

Strategy: Coordinate the preparation of subplans with land management agencies and affected interests.

Strategy: Include population objectives within each subplan.

Goal: To update and evaluate the extent of suitable elk habitat within Nevada.

Strategy: Evaluate habitat potential throughout Nevada using knowledge of elk biology and current elk distribution.

Strategy: Delineate potential habitat on maps and update as new data accumulates. (See Figures 1 and 4).

Achieving Population Objectives

Goal: To coordinate and prepare release proposals.

Strategy: Prepare release proposals that, at a minimum, identify a purpose or need, portray a geographic area that will be occupied, list any limiting factors, enumerate population objectives, describe the means to implement the release and delineate a monitoring strategy.

Strategy: Coordinate the preparation of release plans with land management agencies and affected interests. The land management agencies and the Division of Wildlife have the responsibility to solicit public input and consider other land uses in order to develop the documents necessary to yield a decision.

Strategy: Continue the biennial release plan program established and approved by the Wildlife Commission.

Strategy: To align release proposals with subplan population objectives in conjunction with federal land use planning.

Goal: To release elk at approved release sites.

Strategy: Coordinate with other states to obtain release stock.

Strategy: Use sources of elk within Nevada, especially if the removal solves a management problem.

Goal: To reduce natural limiting factors when appropriate.

Strategy: Manage habitat to benefit elk in coordination with land owners and managers.

Strategy: Implement predator control programs prior to an initial release if it is determined that predation constitutes a profound limiting factor to the establishment of a new elk population.

Strategy: Predator control activities--if needed--will conform with existing Wildlife Commission policies, and the Comprehensive Mountain Lion Management Plan.

Goal: Use public hunting as a primary tool to manage elk populations to meet land use and subplan goals and objectives.

Strategy: Maintain a ratio of between 15-40 bulls per 100 cows in all populations that support harvest programs, except where depredation is being addressed.

Strategy: If safety or other considerations preclude public hunting to effectively manage elk populations, implement or suggest alternate strategies.

Strategy: Maintain population levels below carrying capacity.

Strategy: Coordinate harvest management with states sharing elk populations.

Strategy: Nonresident quotas will be limited to 10 percent or less of the total quota, unless compelling reasons exist to do otherwise.

Pioneering Populations

It is natural behavior for individual elk or groups of elk to emigrate from their population's home range. Such behavior is important to the species in that it allows the exchange of genetic material between populations. Pioneering also can result in the formation of a new core population.

The subject of pioneering elk populations and the attendant management implications are identified within Nevada Board of Wildlife Commission Policy 26 (see Appendix B).

Goal: To allow elk populations to expand their distribution consistent with Wildlife Commission Policy 26.

Strategy: Do not impede natural movement of elk into suitable habitat unoccupied by elk. Allow pioneering elk to acclimate to new surroundings and form the core of a new population except in those areas declared as elk-free zones.

Strategy: When it is evident that pioneering elk have established a core population, prepare a subplan in order to implement actions that would benefit the new population.

Strategy: Elk-free zones will be identified within subplans and release plans or in concert with Wildlife Commission Policy 26.

Population Levels

As a product of the environment, elk populations typically reflect their environment's ability to support them. In a natural environment, free of human influence, intrinsic forces would perpetually act upon elk populations in order to keep them in harmony with the other elements of the ecosystem. However, there are no ecosystems remaining in Nevada that have not been affected by humans.

In Nevada, human use of the land has been a long tradition. Some of these customary uses have been in conflict with each other. Many of them have altered the ecological order. Land management agencies were established to manage the use of public lands for humanity's benefit. The establishment of elk within suitable habitat is one such benefit.

Goal: To allow elk populations to expand in number consistent with objectives identified in subplans and release plans.

Strategy: Population objectives will be based on multiple use objectives, land use plans, and elk subplans.

Strategy: When population objectives are achieved, conduct public review to determine appropriate courses of action.

Population Monitoring

To properly understand elk relationships within an ecosystem, managers must collect and analyze data. These data are analyzed to determine whether or not management objectives are being met. Acquiring specific types of data compels managers to use methodology that considers the biology of the species and the applicable tools and logistics necessary to accomplish the task. As technology evolves, managers can incorporate new tools into the methodology so that assumptions and uncertainties can be reduced or eliminated.

There may be constraints to monitoring activities, including prohibitive costs, equipment availability and insufficient personnel time within the Division of Wildlife. Solutions to these problems may be cooperatively addressed with other agencies, constituent groups, affected interests or the general public.

Goal: To determine the status of elk populations by collecting population data.

Strategy: Use appropriate methods to collect and analyze elk population composition, production and health data. Methods shall include, but not be limited to, aerial survey, ground surveys, computer models, life tables, necropsy, serology and tissue analysis. When appropriate the Division of Wildlife will include other affected interests in monitoring activities.

Goal: To determine the distribution of elk populations.

Strategy: Attach radio telemetry collars or other appropriate tracking devices to elk to determine their seasonal ranges.

Strategy: Use visual markings on all released elk.

Strategy: Where distribution data of established or pioneering populations is desired, capture individual animals and affix tracking devices and/or other appropriate markings as described above.

Strategy: Schedule regular telemetry surveys to determine elk seasonal distribution.

Goal: To document all monitoring activities.

Strategy: Prepare annual job progress reports summarizing survey findings. These reports will be available to the public.

Strategy: For each formal survey effort, record the procedures, results and analysis in a narrative.

Strategy: Record all data in a retrievable format. Make results available to the public upon request.

Strategy: Inform agency personnel, affected interests and the general public of marked animals to solicit random observations. Document and record such observations.

Goal: To monitor harvest data and prepare annual harvest reports.

Strategy: Continue to attach hunter questionnaire cards or other applicable documents to each issued elk tag. Tag recipients will be required to return their questionnaire on or before the deadline established by the Wildlife Commission.

Strategy: Pursuant to NAC 502.405, the Wildlife Commission will penalize tag recipients that fail to submit their questionnaire by denying the individual the privilege to apply for all big game hunts for a one year period.

Strategy: Compile all elk harvest data and document it within annual status reports provided to land management agencies and to the public.

Goal: To annually prepare elk population estimates.

Strategy: Estimate the number of animals within all of Nevada's elk populations. Coordinate the development of estimates with adjoining states for contiguous populations. The procedure will employ the use of established mathematical models and procedures.

Strategy: Publish estimates in annual status reports and provide copies of the reports to land management agencies and the public.

Supplemental Feeding Programs

Elk are large animals and have substantial nutritional requirements, particularly in the winter. Under circumstances of heavy snow depth and prolonged intense cold temperatures, elk become stressed when the available forage is insufficient to satisfy their metabolic demand. The situation is compounded when elk herds concentrate upon traditional winter feeding areas. Stressed elk in high densities are susceptible to intra specific and interspecific disease transmission.

Some states have committed to feeding elk under these circumstances rather than accept herd starvation. These programs are expensive and consume a great deal of time. However, these states justify their actions in the value of the saved resource. Some feeding programs have evolved into an annual detail as the elk become habituated to the provided supplemental feed. Some biologists contend that this situation contributes to an artificially high carrying capacity.

Goal: No winter elk feeding except in catastrophic circumstances in coordination with land managing agencies and private landowners.

Strategy: Educate the public and sportsmen on the economics, biology and disease problems fostered by winter elk feeding.

HABITAT MANAGEMENT

The overall quantity and quality of currently occupied and potential elk habitat within the State will ultimately be a decisive factor controlling population dynamics. It is important to recognize the role of both public and private land managers in habitat management and to always strive for cooperation and collaboration in relation to goals and objectives for elk habitat management. With over 87 percent of Nevada under public ownership and administration, the bulk of elk habitat management will come under the authority of the Federal Land Management Agencies, primarily the Bureau of Land Management and the U.S. Forest Service. Private lands will also constitute an important but relatively smaller segment of elk habitat. Habitat management on private lands is solely at the discretion of the respective landowner but the Division of Wildlife will remain committed to furnish technical advice and monitoring of populations when requested. State Lands will furnish some elk habitat but total acreage is relatively small. Coordination with other State Agencies in any proposed management of habitat on these lands would be a standard procedure. Several of the Indian Reservations currently support elk populations and there is a potential to increase and establish populations through both habitat and harvest management. The Division of Wildlife recognizes that the various Tribal Councils have the sole authority to manage elk and elk habitat on reservations. The Division of Wildlife would remain committed to furnish technical advice and enter into cooperative management agreements with Tribal Councils to develop management strategies for elk and elk habitat on reservations.

Goal: To work with land management agencies and private landowners to enhance elk habitat and reduce land user conflict through various vegetal manipulation practices

Strategy: It is recognized that through various vegetal manipulation practices both currently occupied and potential elk habitat can be enhanced to provide additional forage. Those practices would include but are not limited to mechanical means and fire.

Strategy: The Division of Wildlife will promote and support projects where elk habitat would be enhanced. These projects would include clearly defined multiple use goals.

Strategy: The Division of Wildlife will support projects that contribute to sustaining the variety of wildlife that occurs in an area, with a special emphasis on sustaining Federally listed species.

Strategy: The Division of Wildlife will promote vegetal manipulation projects that reduce conflicts with domestic livestock by either providing additional forage in common use areas, or drawing elk use away from conflict areas.

Strategy: The Division of Wildlife recognizes that the authority to conduct all land management practices rests with the land management agency or the private landowner based on the jurisdictional authority of where the project will take place. It is the Division of Wildlife's responsibility to work with those agencies and land owners to help develop vegetal manipulation projects that will benefit all wildlife species, even if the project is targeted primarily for elk.

Strategy: For nearly a century there has been a well-documented increase in the amount of pinyon-juniper woodlands throughout much of Nevada. In many cases this invasion of pinyon-juniper has been at the expense of more diverse and productive vegetative communities for wildlife. The Division of Wildlife will support and encourage pinyon-juniper manipulation projects including chainings where vegetational diversity is increased. Green wood harvest should be emphasized when and where feasible. Chaining projects should be designed to maximize edge effect through a mosaic pattern that will create small and irregular openings.

Strategy: Fire should be considered a tool to accomplish vegetal objectives to benefit elk and other wildlife. There are hundreds of thousands of acres of closed stands of pinyon-juniper, which through controlled burning or a well designed wildfire management policy, can be enhanced for many species.

Strategy: For most vegetal manipulation projects supplemental seeding of desired species will be required to restore the overall productivity of the site. The Division of Wildlife recommends, depending upon individual site characteristics, that a mixture of both native and non-native species be used in reseeding efforts. Seed mixtures would emphasize native species.

Strategy: For all vegetal manipulation it will be essential to determine that post treatment management will maintain the project objectives.

Strategy: Based on available funding sources and the overall benefits to wildlife, the Division of Wildlife may contribute funding to projects.

Goal: To use acquisition of property and easements as an option in elk management.

Strategy: Habitat acquisition through the purchase of property or easements, to either protect or enhance important elk habitat, will remain an option by the Division of Wildlife.

Strategy: Land acquisition will not be the decisive or primary goal of elk management in the State but could be used in certain circumstances to address some very specific conflicts or opportunities.

Strategy: Habitat acquisition must also meet the criteria of benefitting other wildlife species in addition to elk.

Strategy: Any acquisition of private land or easements must be made with a willing seller.

Strategy: If habitat goals and conflict resolution can be accomplished through the negotiation or purchase of easements, that option should have priority over the purchase of property.

Strategy: Habitat acquisition should be a mutually beneficial process where adjacent landowners or public land permittees see a reduction in land management conflicts or can in the long term derive some benefit or stability for their livelihood. The purchase of the Howard Ranch on the Bruneau River should stand as an example of land acquisition that benefits all land users. Land acquisition must be accomplished with the full coordination and cooperation of all land management agencies adjacent to the subject property or where grazing permits are involved. It is essential that the County government also be involved in the process.

Strategy: The Division of Wildlife would also encourage and support land exchanges where mixed ownership lands can be blocked up into public and private ownership to enhance management of wildlife habitats and range on those lands. With the goal of better management and improved range conditions, elk and other wildlife species would be benefited.

Goal: To maintain and establish elk populations on public lands consistent with meeting all land use plan objectives.

Strategy: Support current Bureau of Land Management and U.S. Forest Service grazing regulations, which in part, state that all changes in permitted use must be supported by monitoring, field observations, ecological site inventory, or other data acceptable to the authorized officer. The Division of Wildlife supports that any need to make changes in elk use levels or to establish use levels in areas not occupied by elk should be subject to the same criteria as permitted use.

Strategy: Support adjusting grazing use levels proportional to the use monitored by class of animals responsible for the non-attainment of objectives. Elk adjustments can be addressed though harvest management programs or habitat management.

Strategy: Vegetative monitoring on public lands and National Forests is the responsibility of the land management agency. Wildlife monitoring is the responsibility of NDOW. Interagency cooperation in monitoring is encouraged.

Strategy: The Division of Wildlife will fully cooperate in the establishment and conducting of monitoring procedures and will promote monitoring to make sound management decisions.

Strategy: Recognize that there is forage which is unavailable to livestock and can be used as a basis to establish elk populations.

Strategy: If forage allocation is proposed, support a minimum elk AUM conversion rate of 2.1 elk unit months for each cattle AUM.

Goal: To provide adequate water for the optimum distribution of elk.

Strategy: The Division of Wildlife recognizes the value of private water rights and will not undertake any activity that would interfere with those rights.

Strategy: Promote the development of wildlife watering sources. These water developments can help disperse elk use to achieve better range

conditions and to encourage elk establishment in areas not usable by livestock.

Strategy: The Division of Wildlife will work with both the Federal land management agencies, conservation organizations and private landowners to develop adequate water distribution.

Strategy: Continue to develop and design water developments to provide water as cost efficiently and as maintenance free as possible.

Strategy: Continue to evaluate the use of Division of Wildlife employees, volunteers and private contractors for the installation of water developments.

Strategy: Where possible, develop cost sharing proposals with the land management agencies, sportsmen's and conservation organizations and private industry to fund developments.

Strategy: Where appropriate, develop agreements with private landowners to install water developments on private and public lands.

Goal: To work with land management agencies and private industry to minimize conflicts between elk and livestock fences.

Strategy: Work with land management agencies to identify areas of conflict, and design fences to minimize elk damage problems. In areas of chronic damage crossing structures may need to be built to alleviate problems.

Strategy: Address fence damage problems caused by elk, provide reimbursement for damage and encourage the redesign of fences on both public and private lands in order to reduce damage.

Goal: To maintain minimal constraints on other land users because of establishment and growth of elk populations

Strategy: The Division of Wildlife does not foresee any unusual constraints on other land users due to established or expanding elk populations. Access and seasonal use restrictions would only be recommended in extreme situations where the elk population would be in jeopardy. To date elk populations have increased and have pioneered into formally unoccupied

habitat without the need for additional constraints on land users. The need for access restrictions would be addressed on case by case basis in subplans.

Goal: To maintain access to public lands at a level consistent with elk management needs

Strategy: The Division of Wildlife supports the maintenance and development of reasonable access to all public lands including wilderness areas and Wilderness Study Areas (WSA's). Access should be at levels consistent with attainment of sound harvest management strategies.

Strategy: Access should be designed to have minimal impacts to soil, vegetation, and watershed values.

Strategy: Work with private landowners to acquire access across private lands to public lands. This could be accomplished through cooperative agreements or the purchase of access easements and right-of-ways from willing sellers. Private land access should only be attained through the full cooperation of the landowner.

Strategy: Work cooperatively with all land management agencies and State and County Governments and agencies to address access problems and solutions.

Strategy: Identify areas where current levels of access pose a significant constraint to the overall well being of any elk population.

Goal: To support land management decisions and resource management techniques that benefit not only elk but all resources through the attainment of good ecological condition on public and private rangelands

Strategy: Support decisions based on the attainment of good or better ecological conditions on public and private land. Where range conditions have deteriorated, the improvement of range resources will benefit not only elk but also all wildlife and livestock.

Strategy: Support adjustments where the lack of attainment of resource objectives on public land is attributable to a particular herbivore.

Strategy: Support sound monitoring procedures as the basis to determine the condition of ranges and to assess the amount of use by class of animal.

Strategy: Support grazing and wild horse decisions by the USFS and the BLM that are expected to significantly improve ecological conditions and short or long term attainment of land use planning goals. These types of decisions will be supported if they will result in the long term habitat improvement for all wildlife species and in the long term viability of the livestock industry.

Strategy: Maintain a high level of interaction with the land management agencies and permittees in the allotment decision process in order to provide wildlife input and recommendations that result in meeting land use plan goals and objectives.

Strategy: The Division of Wildlife recognizes there are several grazing management techniques currently being tried and evaluated on western rangelands that involve collaborative processes. These would include Holistic Resource Management and Coordinated Resource Management. Both HRM and CRM have been successfully used in some areas to improve ranges for both livestock and wildlife. Where these collaborative processes will successfully provide for the attainment of land use plan objectives within reasonable time frames, they will be supported. The Division of Wildlife will remain fully involved in these processes to the extent that time and budgets allow.

Strategy: Elk populations will be managed consistent with sound ecosystem management.

Goal: To support development of land use plans, subplans and/or private land management initiatives which will result in improved wildlife habitat or rangeland ecological condition.

Strategy: Provide wildlife input to planning processes.

Strategy: Review and comment on land use plans and action plans in order to promote consideration of wildlife resources.

Strategy: Provide wildlife consultation to land owners regarding range improvements.

ELK DAMAGE MANAGEMENT

Historic Wildlife Damage Responsibility

The earliest account of elk damage was recorded as Nevada was becoming settled. Adolf Murie, Elk of North America (1951), cites a 1898 report of A.K. Fisher that: "Elk occur north in the Wild Bruneau Mountains. Last winter, I am told, seven were seen by cattlemen, and of these a small herd was making inroads on a haystack from which they were driven only with difficulty." The winter following release of elk from Yellowstone National Park into the Schell Creek Range of White Pine County (circa. 1934-35), the county paid $500 to the Pescio Ranch to replace hay eaten by elk.

Since formation of the agency 49 years ago, Nevada Revised Statute 503.595--see Appendix A for a list of appropriate statutes--has required the Division of Wildlife to respond to and investigate owner/tenant reports of wildlife causing or about to cause damage to private land and property. Following the Division of Wildlife's investigation and in consideration of Wildlife Commission regulations, the Division of Wildlife may take necessary, desirable and practical action to alleviate damage or threatened damage to land or property.

Regulations allowing the Division of Wildlife to issue hazing and kill permits to landowners to control wildlife damage (including elk) have been in effect and employed since 1970 (NAC 503.710-740).

Following their adoption, the statutes and regulations listed above have been implemented to address wildlife damage, including damage caused by elk.

Elk Damage Compensation

Elk damage and compensation is addressed specifically in Nevada Revised Statute 502.250, 504.155-185 (adopted 1989) and in Nevada Administrative Code 504.350-440 (adopted 1990). Significant laws and regulations are summarized in the following.

- The Division of Wildlife is authorized to pay for elk damage, provide fencing material, issue hazing permits, trap and remove, hold special depredation hunts, kill and issue landowner kill permits, in instances where elk cause damage.

- The Division of Wildlife is required to collect sportsmen's fees and maintain a separate accounting of monies to be used to prevent and mitigate damage caused by elk or game animals not native to Nevada.

- Damage means any change in the quality and quantity of private property or a privately maintained improvement that reduces its value or intended function.

- A loss includes the cost of restoring property to its condition immediately before damage.

- The Division of Wildlife is authorized to pay for losses to stored crops, private property, privately-maintained improvements, and losses from grazing reductions caused by elk.

- The Division of Wildlife and claimant must inspect the damaged property within 10 days of notification of damage.

- The claimant and Division of Wildlife must enter into a cooperative agreement to address elk damage and to provide compensation for damage.

- Loss payments are limited to $10,000 at any one site unless the Wildlife Commission agrees to a greater payment.

- A lack of agreement between the Division of Wildlife and a claimant may be appealed to a local three-person panel comprised of business, agriculture, and sportsmen's representatives. Any decision of the panel is final and binding.

Recognizing the concern of private property owners and the livestock industry for the potential of elk to cause damage, the Division of Wildlife cooperated in development of damage payment legislation during the 1989 Legislature. In support of the 1989 legislation, the Wildlife Commission and Division of Wildlife cooperated with agriculture and livestock interests, and sportsmen to develop regulations and programs to address the issues of elk damage. By the end of Fiscal Year 95, the Division of Wildlife had deposited $294,535 into the **Elk Damage Account**. The Division of Wildlife had dispersed $11,393 in damage for eight claims since the inception of the program through the first half of FY 95. A total of $58,891 has been

expended for exclusionary materials and costs associated with actual fencing since the program's inception. The account is growing at an annual rate of approximately $50,000, excluding interest earned. The regulatory provision for a claimant to appeal a disputed claim to a local review panel has yet to be employed.

Even with the establishment of an effective elk damage program, the following goals and strategies identify improvements that could be made in addressing elk damage and in providing information to the public about the Division of Wildlife's programs and responsibilities to address wildlife damage in general and elk damage, specifically.

Goal: To make damage compensation more effective and workable in addressing elk damage.

Strategy: Seek modification of existing statute and regulation to authorize the use of funds deposited in the elk damage payment account to pay for the cost of erecting exclusionary fencing to address elk damage.

Strategy: Seek modification of existing statute and regulation to authorize use of funds deposited in the elk damage payment account to pay for elk damage and exclusion of elk from ornamental vegetation and gardens.

Elk Damage Compensation Tag

Assembly Concurrent Resolution Number 46 asked, ". . . that in the development of management techniques to balance the interests of all affected persons and achieve and maintain elk population goals the Division of Wildlife . . . should give full consideration to the selective use of damage compensation tags." In consideration of the preceding information which outlines the elk damage management and compensation program currently in place, it is the Division of Wildlife's determination that the existing elk damage compensation program is adequate to fully address elk damage with some minor legislative modification and improved information sharing as recommended in the goals and strategies within this section of the ESMP. To overlay a damage compensation tag program on top of an already working damage compensation program might have the appearance of providing double payment or payment in excess of actual damage to some stakeholders. Most stakeholders making recommendations for the draft ESMP were not in favor of elk damage compensation tags, but the elk working group recommended the need for an incentive tag in the toolbox for future elk management.

However, the Division of Wildlife recognizes that, even with a workable and effective damage compensation program, there is a strong reluctance on the part of

some parties to accept the presence of elk. In the Division of Wildlife's experience, there remains a need to gain acceptance for the presence of elk in suitable habitat. The following goal and strategies are intended to address this need.

Goal: To provide landowner incentives for elk presence and use of private property.

Strategy: Establish an elk working group of affected parties to explore opportunities for developing incentives and partnerships including damage compensation tags for private landowners who provide habitat for elk.

Strategy: Encourage the elk working group to support legislation needed to promote incentives and partnerships as identified by the working group.

Strategy: Encourage the elk working group to identify opportunities for interaction and incentives for sportsman and landowner cooperation and team building.

Note: The elk working group has been established and has held several working sessions. Their recommendations for the legislature are pending.

Elk Damage Education and Extension

Elk damage may be avoided or minimized by implementing various goals and strategies to remove or lessen conflicts.

Goal: To improve understanding and communication between the Division of Wildlife and landowners, public land managers, sportsmen and the public.

Strategy: Whenever opportunities arise, meet with landowners, grazing industry representatives, sportsmen, the print and electronic media, and other interested parties to explain elk damage management, damage compensation and elk management opportunities in Nevada.

Strategy: Develop a handout-type publication that clearly explains the Division of Wildlife's and a landowner's roles and responsibilities for addressing elk damage and the Division of Wildlife's responsibility for providing compensation.

Strategy: Arrange formal, Division of Wildlife-sponsored workshops to explain elk damage management and elk damage compensation programs. Solicit public response in areas where elk occur or may be released in efforts to establish a population.

Strategy: Use a standard conversion of 2.1 elk per animal unit month in calculating the amount of forage consumed by elk in relation to damage claims on private land.

Strategy: With livestock interests, public land managers, and other interested parties, participate in rangeland monitoring of habitats occupied by elk to assist in determining elk utilization and impact.

Strategy: Inform the public of resolved and unresolved elk conflicts as they occur.

Strategy: Seek invitations to attend statewide and local meetings of the livestock industry and other affected interests to explain Division of Wildlife programs and progress in addressing elk damage.

Strategy: Provide opportunities for all affected interests to be involved and communicate ideas and concerns for damage as elk subplans are developed.

Managing Elk to Reduce Damage and Conflict

Goal: To manage elk to reduce the potential for damage and conflict.

Strategy: Implement existing regulation and programs as quickly and effectively as possible to cause the least inconvenience and provide the greatest relief to landowners.

Strategy: Employ scheduled and emergency hunting seasons designed to modify elk distribution and/or abundance in response to timing and location of damage.

Strategy: Adjust elk numbers where elk use results in undesirable alteration of rangeland vegetation composition or soil loss (permanent range damage).

Strategy: In cooperation with the landowner, seek private land access to accommodate hunting needed to achieve harvest objectives.

Strategy: Consider and evaluate the potential for damage as part of the process in planning for increases in elk distribution and abundance.

Strategy: Do not plan or manage for elk populations that exceed the Division of Wildlife's ability to address damage.

Goal: To manage habitat to reduce the potential for elk damage and conflict.

Strategy: Use water development or exclusion to alter elk seasonal distribution or to accommodate elk use of areas not currently being grazed.

Strategy: Where habitat restoration or enhancement may be accomplished without detriment to other species, advocate for and contribute to vegetative modification and water development projects that are beneficial to elk and other uses, or that reduce the potential for conflict with elk and other uses.

Strategy: Advocate and seek exclusionary fencing of private land agriculture to permanently reduce elk damage.

COMPETITIVE INTERACTION

Elk and Cattle

Elk and domestic stock may compete directly where both occupy the same range. Elk have a broad dietary tolerance. Grasses, other herbaceous plants, and browse are all selected, and any of the three plant groups may receive particular attention where one of them is dominant in the vegetative community.

Because elk and cattle seek similar forage species, there probably is more chance for competition between the two than with other large ungulate. Both cattle and elk prefer grass to browse on most ranges, and seasonal vegetation use conflicts may occur. This competition can develop, especially in areas of concentrated dual use, on south-facing slopes, ridge tops, and riparian areas. Significant dual use can result in range deterioration. Habitat types where there may be overlap include sagebrush/grass, grasslands, and some shrub and aspen vegetation communities.

If there is an adequate food supply, key use areas by elk and cattle tend to be separated by the animals' distinctive grazing habits. Slope, exposure, position on slope, availability of thermal and escape cover, distance to water and roads, and availability of preferred forages influence animal distributional patterns. For instance, cattle tend to concentrate in drainage bottoms while elk are able to utilize steeper areas of their range. Elk have greater mobility and ability to negotiate difficult terrain. They are able to forage further from water and are more likely to move to ungrazed or lightly grazed areas when their preferred plants have been consumed.

There is some indication that elk and cattle may show some intolerance toward each other under certain circumstances. Data suggest some intolerance of cattle and elk on seasonal ranges, and the displacement was caused by social intolerance between the two species. The amount of elk displacement from cattle depends on the size of the area that cattle are in and the number of cattle in the area.

On winter range or under other conditions of limited resource availability, little evidence of elk intolerance for cattle has been reported.

It should be stressed that the potential for range competition becomes greater on more arid lands, where total carrying capacity is much less.

In Nevada, no competitive interaction that resulted in permanent range damage has been documented. Only in isolated circumstances has the duel use by livestock and elk exceeded allowable use levels.

Elk and Domestic Sheep

Grazing competition between elk and sheep may not be as critical as with elk and cattle. Competition for food and space between elk and domestic sheep occurs primarily on summer ranges at high elevation, although use may overlap on a few areas of winter range. Habitat competition could include any vegetation communities where forbs and browse are prevalent. Limited studies have been conducted on similar use between elk and sheep. Proper distribution and numbers of each species are the keys to limiting competition.

Elk and Mule Deer

Too often attention on carrying capacity for a single game species is emphasized without allowing for other species occupying the same range. Food habits of big game are not sufficiently specialized to prevent competition. Elk, having the greatest dietary flexibility, is the most likely to compete. Elk have the potential to compete with mountain sheep, antelope and deer, particularly on winter ranges. Little real competition between elk and other big game has been documented except in unusual circumstances.

Mule deer in winter are primarily browsers. They eat a minimum of dry grass. Elk eat both browse and grasses. Where the supply of browse becomes critical, elk can reach higher and secure food that is out of reach of deer.

In planning for deer and elk it is necessary to keep in mind that while elk will utilize a broad variety of grass, forbs and browse on winter range, deer are confined to browse. Deer are the first to suffer during severe winters due to their size and more limited dietary niche.

Elk and Wild Horses

Little is known about the competitive interactions between elk and wild horses. However, since they occupy many of the same habitats within the State of Nevada and vie for the same resources, i.e. food, living space, and water, competition may occur. This competition may develop especially where concentrated use by elk, horses and cattle overlaps.

Goal: To document areas of competition between domestic livestock and deer and elk.

Strategy: Division of Wildlife personnel will work cooperatively with land management agencies (U.S. Forest Service, Bureau of Land Management), private land owners and other interested parties to monitor competitive interactions between elk and other domestic and wild ungulate species on public and private lands.

Strategy: Identify and map key big game use areas. Provide this data to the land managers and interested parties to aid in monitoring of habitat conditions.

Strategy: Local subplans will include sharing data from on-going monitoring, in order to build understanding of interspecific use of forage and habitat.

Strategy: The Division of Wildlife will support monitoring techniques as outlined in the Nevada Rangeland Monitoring Handbook, September 1984, and land management agency manuals and technical references.

Strategy: Assure consideration is given to population dynamics across appropriate spatial and temporal scales when addressing competitive interactions among species.

Strategy: The Division of Wildlife will promote vegetal manipulation projects that reduce conflicts with domestic livestock by either providing additional forage in common use areas, or drawing elk use away from conflict areas.

Goal: To determine management emphasis between elk and other big game species.

Strategy: Do not manage elk at the expense of mule deer.

Strategy: Use elk to take advantage of habitat changes favoring elk.

Strategy: Public comment will be solicited before and during the decision process regarding game management emphasis.

Strategy: Monitor elk habitat for land use changes.

INTERACTION WITH TULE ELK.

Tule elk, Cervus elaphus nannodes, were historically found living in the semidesert condition of California's San Joaquin and Sacramento valleys. Herds of upward to 2,000 animals were found within these valleys. They are the smallest subspecies of elk in North America; adult females have an average weight of 411 pounds and adult males 554 pounds. During the early nineteenth century, competition from Spanish livestock, heavy hunting by fur trappers, meat demands of the fortyniners, and finally development of the land by settlers came in quick succession, reducing the Tule elk almost to the point of extinction by 1872.

In 1874 or 1875, Henry Miller, a private rancher took an interest in the remaining population and created a refuge for a few of the remaining animals. The herd increased with his protection and served as the nucleus of the present population. In 1934, the Kern County Tule Elk Refuge was developed and a herd established, which is present today.

As of 1979, approximately 827 Tule elk were scattered in several locations in California. In the Owens Valley, Inyo County, there is a well-established herd. This area is located on the west side of the White Mountains and within 80 miles of a proposed elk release site in the Wassuk Mountains of western Nevada.

Goal: To manage Nevada elk to reduce the potential for possible conflicts with California's Tule elk populations.

Strategy: Work closely with California Department of Fish and Game to identify issues and concerns regarding future elk releases in southwestern Nevada.

PREDATION

The major predators of elk, within the United States, are the wolf and mountain lion, bobcat, coyote, dog, and to a lesser extent the grizzly bear and black bear and perhaps the golden eagle. With the extirpation of the wolf from Nevada, the mountain lion is the predominant natural predator on elk. Black bear distribution does not overlap occupied elk habitat in Nevada.

There has been limited information obtained by Nevada's field biologist on the extent of predation by mountain lions on elk. In Ashman's study, "The Mountain Lion in Nevada," 1983, his findings indicated that lions ate a variety of prey species ranging in size from wood rats (Neotoma spp.), to elk (Cervus canadensis) and wild horses (Equus spp.).

Predation has not been documented as a limiting factor for existing or released elk populations in Nevada.

Goal: To manage major mammalian predators (mountain lion, bobcat, coyote) to minimize excessive wildlife losses from predation without endangering the existence or natural role of these predators in the ecosystem.

Strategy: Predator control activities, if needed, will conform with existing Wildlife Commission programs and procedures and the Comprehensive Mountain Lion Management Plan.

Strategy: When evidence exists to show that predators are a limiting factor to an elk population, the Division of Wildlife may implement a plan to reduce localized predator numbers.

DISEASES AND PARASITES

As with all domestic and wild animal populations, there are a variety of parasites and debilitating diseases found in wild and domesticated elk populations.

Under satisfactory range conditions, critical stages of illness are seldom seen and the impression is gained that illness is a rarity. Although many diseases and parasites have been described in elk, only a few kill directly. Where herds are well-nourished and their numbers are at or below range carrying capacity, occasional debilities or deaths are inconsequential in terms of overall herd health.

Diseases of concern that affect livestock, elk and other wild ungulates are brucellosis and tuberculosis. Common internal and external parasites include ticks, tapeworms, nematodes, liver flukes and mites.

Under Nevada Revised Statue 571.120 and in Nevada Administrative Code 571.002 - 571.515 the Division of Agriculture has the responsibility for monitoring the shipment of domestic and wild animals into the State. Some of the more significant laws and regulations cover the shipment, transportation and testing for diseases of game, fur-bearing and wild animals.

NAC 571.065 states that "a person shall not ship, transport or otherwise move into Nevada North American elk unless it reacts negatively to a test for brucellosis within the 30 days before entry into the State, and any species of the family Cervidae that is domesticated unless it reacts negatively to tests for tuberculosis and brucellosis within the 30 days before entry into the State".

Goal: To not introduce or move elk from any location, instate or out-of-state, that has history of disease, i.e. brucellosis, tuberculosis, chronic wasting disease, etc.

Strategy: The Division of Wildlife will observe all pertinent Nevada Revised Statutes and Administrative Codes, and Federal regulations concerning the importation and release of elk.

Strategy: The importation of wild trapped elk into the State will be certified brucellosis free by a federal or state accredited veterinarian.

Strategy: The Nevada Division of Agriculture will be asked to notify the Division of Wildlife of areas where livestock tested positive for brucellosis or tuberculosis. No release of elk will take place within positive tested areas.

CONFLICTS WITH LISTED SPECIES

Goal: Significant negative impacts to known threatened or endangered species will be prevented through biologically sound elk management practices.

Strategy: The Division of Wildlife will work with the land management agencies, the U.S. Fish and Wildlife Service, the Nevada Natural Heritage Program, and other interested parties to manage elk to minimize or eliminate elk impacts on species listed through the Endangered Species Act.

Law Enforcement

Law Enforcement can be critical to the successful management of elk. This is especially true when elk herds are small, as are found in newly transplanted herds or pioneering herds. Illegal taking of elk can also impact the herd composition of established herds. Therefore, it is important to appropriately apply limited law enforcement resources in a manner which is consistent and most beneficial to the overall management goals and objectives. These efforts must also be balanced with public expectations that the Division of Wildlife will not only enforce the laws and regulations that are biologically based but also the laws which have an ethical and moral basis such as "wanton waste."

Goal: To ensure compliance with the laws and regulations of the State of Nevada as they pertain to elk.

Strategy: Provide for uniformed patrols during the open season.

Strategy: Provide for plain clothes patrols in order to determine effectiveness of uniformed patrols.

Strategy: Provide public awareness/education with regards to laws, regulations and species identification. This should be done in concert with Conservation Education.

Strategy: Encourage public participation in the deterrence of violations by utilizing Operation Game Thief, including unit watch in areas prone to illegal activity.

Strategy: Conduct long term investigations on major elk poaching incidences.

Strategy: Publicize all intentional elk poaching incidences.

Strategy: Explore legislation to make the intentional unlawful killing of elk a felony.

Strategy: Encourage the judiciary to use the maximum allowable penalties presently possible.

Strategy: Increase cooperation with adjacent states for the purposes of tracking elk poachers.

Strategy: Utilize aircraft and horses for remote elk patrols.

Strategy: Add new positions where appropriate in order to accomplish the above strategies.

Goal: To prevent illegal application for the limited number of elk tags.

Strategy: Provide for public education regarding the illegality of false application and associated impacts to honest hunters.

Strategy: Increase emphasis on how to detect and report these violations through Operation Game Thief.

Strategy: Review all applications for information indicative of tag fraud.

Goal: To assist in maintaining population and herd composition objectives by encouraging conformance with regulations and laws.

Strategy: Determine the most critical aspect(s) of elk management subplans and release plans from the appropriate biologists. Assign those issues high priority for law enforcement planning.

Strategy: Provide the biologist with statistical analysis of elk poaching incidences for the purposes of incorporating the data in management analysis.

Strategy: Incorporate law enforcement into elk management plans and subplans.

Goal: To provide a safe environment and quality experience for elk related recreation.

Strategy: Provide adequate patrols and/or use of decoys to address spotlighting, shooting from road, and closed season violations.

Strategy: Conduct high visibility patrols during prime elk viewing periods for the purposes of contacting nonhunters.

Strategy: Provide for interaction between landowners--and other affected parties--and game wardens for enforcement of trespass violations.

Strategy: Work with other law enforcement agencies to monitor, track, and apprehend elk poachers.

Goal: To ensure the health and well being of Nevada's free roaming elk herds.

Strategy: Ensure high profile enforcement to guarantee total compliance with wildlife laws and regulations as they pertain to alternative livestock ranching.

Economics:

Goal: To provide economic values for Nevada's elk resource to be used in land use planning, county and state planning and local planning efforts including elk subplans.

Strategy: Elk values will be based on the NDOW 1988 economic analysis study with adjustments made for the change in the Consumer Price Index (CPI) since 1986 (base year data were collected for the 1988 study) until better data become available.

Strategy: Implement a project to update the NDOW 1988 economic study for elk values.

Goal: To determine values associated with nonconsumptive uses of Nevada's elk resource.

Strategy: Work through the Division of Wildlife's Inventory Team Process to determine values associated with the nonconsumptive uses of Nevada's elk resource.

NONCONSUMPTIVE USE

Nonconsumptive use of Nevada's elk resource has become more and more popular each year as the State's elk population and human population increases. Popular nonconsumptive uses of elk include viewing, photography, and antler collecting. Response to this increased nonconsumptive demand has resulted in the expenditure of more than $150,000 by the Bureau of Land Management's Ely District for an elk viewing area. The total expenditure by nonconsumptive uses of Nevada's elk resource has not been determined. In 1986 when nonconsumptive use and demand was significantly lower than today, it was estimated that expenditures for nonconsumptive uses were approximately 25% of the expenditures for consumptive uses. It is believed that today's nonconsumptive uses would be much higher than that found in 1986. Nonconsumptive uses of the elk resource provide an economic benefit to the State and increases the knowledge, appreciation, and support of the importance and value of all of Nevada's wildlife resources. Increased knowledge and appreciation of wildlife resources is expected to result in improved management of public resources that will benefit elk as well as all wildlife species in Nevada.

Goal: To expand the knowledge and enjoyment of Nevada's elk resource by the public.

Strategy: Continue to manage Nevada's elk resources in a manner that enhances individual elk populations in an attempt to balance the increasing public demands of both consumptive and nonconsumptive users.

Strategy: Prepare news releases concerning the status and trend of Nevada's elk herds.

Strategy: Work with land management agencies on education concerning wildlife viewing opportunities.

Strategy: Prepare radio and television releases that provide information concerning Nevada's elk resources.

Strategy: Provide the public with information concerning distribution of elk and potential areas to observe elk in Nevada.

Strategy: Provide elk information in presentations to service clubs, organizations, and schools.

COORDINATION AND SUBPLANS

Public input showed a need for the Division of Wildlife to encourage and to maintain public involvement with elk species management and planning, coordinate elk planning and management with landowners, coordinate elk planning and management with public land managing agencies, and provide statewide guidance for subplans. The Division of Wildlife will cooperate with all appropriate agencies including the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), the National Park Service (NPS), and others. Existing memorandums of understanding (MOU's) with these agencies shall guide our cooperative efforts to manage elk and may be modified as necessary at our annual meetings. Necessary coordination for management of Nevada's elk resource on public lands includes integration with the Bureau of Land Management "Land Use Plans," United States Forest Service "Forest Plans," and National Park Service "General Management Plans." In many parts of the State it may be desirable to "amend" land use plans to allow for the management and enhancement of Nevada's elk resources.

The Nevada Section of the Society for Range Management held an elk symposium at their annual meeting in Ely on January 19, 1996. The purpose of this symposium was to contribute to the scoping and information base for the Division of Wildlife's development of an elk species management plan as urged by ACR 46. It was the consensus recommendation of this symposium that the subplans should be used for site specific habitat and herd management planning. The recently completed Bruneau elk planning effort was recommended as a model for future elk subplans. This coordinated resource management planning approach would allow sufficient time for all stakeholders to participate and to arrive at amicable compromises on difficult issues.

The Division of Wildlife and many other stakeholders have invested substantial time and resources into elk planning already. Existing local elk plans include the Central Nevada Elk Plan, the Jarbidge Six Party Agreement, the Bruneau River Watershed Environmental Analysis, the Wells Resource Area Land Use Plan Amendment, and the Goshute Indian Reservation Elk Plan. Elk plans in process include the Mt. Charleston Elk Plan, the White Pine County Elk CRM, and the Lincoln County Elk CRM. These planning efforts feasibly could be adopted as the subplans called for in Assembly Concurrent Resolution Number 46 that initiated this elk species management planning effort.

Goal: To seek the Wildlife Commission's approval of the existing local elk plans as subplans under the authority of the ESMP.

Strategy: The local elk plans will be included as part of the draft elk species management plan public review process and will be available for review at the Division of Wildlife offices. Stakeholders may receive copies of the local plans by writing to the Division of Wildlife requesting them.

Goal: To insure that the earlier local elk management plans--if accepted as subplans of the elk species management plan--conform to the standards for the subplans as much as can reasonably be expected.

Strategy: Conformance of the existing plans will be sought during the next planning cycle for the local elk plans. It should be recognized that plan standards and requirements may vary among participating management agencies and exact conformance may not be practical.

Goal: To ensure public involvement and coordination for elk species management and planning.

Strategy: Continue to use public notices and news releases and the County Advisory Boards to Manage Wildlife to keep the public informed of actions and issues related to elk and elk management.

Strategy: Continue to provide public involvement through County Wildlife Advisory Boards to Manage Wildlife for decisions regarding the management of elk.

Strategy: Invite all interested parties to participate in the development of subplans for individual elk herds.

Strategy: Continue to keep the State of Nevada Wildlife Commission appraised of elk "issues" and "pioneering elk" according to Wildlife Commission Policy Number 26.

Strategy: Continue to cooperate and participate in public scoping processes with federal agencies.

Strategy: Continue working with the federal land managing agencies (BLM, USFS, USFWS, and NPS) in the implementation and assessments of land use practices and management that will result in land use goals and

objectives that preserve, protect, and enhance Nevada's wildlife resources and the ecosystems that support them.

Strategy: With livestock interests, public land managers, and other interested parties, participate in rangeland monitoring of habitats occupied by elk to assist in determining elk utilization and impact.

Strategy: Provide opportunities for all affected interests to be involved and communicate ideas and concerns for damage as elk subplans are developed.

Goal: To provide guidance and direction for the development of subplans for elk management.

Strategy: The ESMP is intended to provide guidance for elk management for the entire State of Nevada.

Strategy: The Division of Wildlife remains committed to providing leadership and direction to groups, task forces, interdisciplinary teams, or others interested in preparing subplans for elk.

Strategy: Subplans will meet the intent of ACR 46, including population goals and objectives, and will be submitted for approval by the Wildlife Commission.

Strategy: It is recommended that the ESMP and subplans be the vehicles to address the needs of elk and provide for elk habitat management where no provisions currently exist.

Strategy: It is recommended that subplans be the vehicles used to make recommendations to manage vegetative resources and elk resources (population levels or densities) in concert with multiple use goals and objectives.

Strategy: It is recommended that subplans include, at the very least, an evaluation of potential elk range identified as low, moderate or high with low being defined as 0.5 to 1.5 elk/square mile, moderate as 1.5 to 2.5 elk/square mile, and high as 2.5 to 4.0 elk/square mile. Density designations must include factors such as water distribution, current range conditions, public/private land ratios, seasonal range potential and other mitigating circumstances in the evaluation. The evaluation will be dynamic to accommodate both unforseen and planned changes in elk habitat potential such as burns, water development, etc.

Strategy: Subplan developments should include all interested parties and land managing agencies within the subplan area. Subplans should consider multiple use needs of all other users and species of wildlife. Subplans

should be prepared embracing ecosystem and multiple use management concepts and requirements.

Strategy: Subplans may address harvest management strategy.

Strategy: Adjust elk numbers where elk use results in undesirable alteration of rangeland vegetation composition or soil loss (permanent range damage).

EVALUATING AND MODIFYING THE PLAN

The Division of Wildlife intends to use the Nevada Elk Species Management Plan as a working document to guide elk management in the State. In order to meet the diverse needs of Nevada's interested publics, the Division of Wildlife recommends that the ESMP remain a dynamic document that is responsive to new data, changing conditions in ecosystems, and changing public demands and priorities. It was recommended in ACR 46 that the ESMP be evaluated and modified on an annual basis. The Nevada State Board of Wildlife Commissioners has the responsibility and final authority to adopt the ESMP or amendments to the ESMP. It is recommended that the procedure to evaluate and/or modify the plan will be to notify the Wildlife Commission by requesting an agenda item that addresses an interested party's intent to evaluate and/or modify the ESMP. The specifics should be outlined in the request for consideration by the Wildlife Commission. A written or public presentation may be made to the Wildlife Commission.

Goal: To make the ESMP a dynamic working document that is responsive to new data, new ideas and changing environmental or political conditions.

Strategy: Keep the ESMP open for evaluation and/or modification by any interested party through interaction with the Nevada State Board of Wildlife Commissioners by submission of a request to evaluate or modify the ESMP as an agenda item for discussion and action at the next regularly scheduled Wildlife Commission Meeting. The Wildlife Commission will direct the Division of Wildlife or an appointed team or committee to respond as appropriate.

Strategy: The Division of Wildlife will evaluate the ESMP annually during the big game season process and make appropriate recommendations to the Wildlife Commission.

Strategy: Copies of the ESMP and all subplans will be maintained for public review at the Division of Wildlife State Office in Reno and all three Regional Offices located in Fallon, Elko, and Las Vegas.

Elk Species Management Plan
Index

access 35, 36, 42
Account, Wildlife Heritage 19
act
- *Federal Land Policy and Management* 2
- *National Forest Management* 23
- *National Environmental Policy* 23

affected interests 17, 21, 23, 24, 28, 29, 40, 41, 42, 53
Agreement, Jarbidge Six Party 19, 55
agency 17, 29
- *federal land management* 1, 17, 19, 21, 31, 46, 56

agriculture 39
aircraft 52
alternative livestock 13, 19, 53
Animal and Plant Health Inspection Service (APHIS, USDA) 12
antelope 12, 45
antler 8, 13, 14, 54
antlerless 17
application 8, 15, 19, 52
aspen 44
Assembly Concurrent Resolution Number 46 1, 2, 20, 40, 55, 57, 59
archaeological sites 5

bighorn sheep 12
bluetongue 18
bull ratio 9, 25
Bureau of Land Management 3, 17, 31, 34, 37, 46, 54, 55, 56
- *Ely District* 54

bond monies (Question 5) 19
browse 12, 44, 45
brucellosis 12, 18 22, 49
Bruneau
- *Mountains* 3, 5, 38
- *River* 19, 33
- *Also see Environmental Analysis, Bruneau River Watershed*

California 47
calf ratio 9
cattle 12, 13, 44
cattlemen 38
carrying capacity 25, 30, 45, 49
Clark County 3, 17
Colorado 7
competition 44--47
Coordinated Resource Management 37
county government 33, 36
County Advisory Boards to Manage Wildlife 1, 3, 4, 21, 56

damage 1, 9, 39
damage, wildlife 40
deer 5, 12, 13, 14, 45, 46
mule 12, 20, 45, 46
ranching 13
red 13, 19
depredation 9, 15, 16, 17, 18, 21, 25, 39, 40
disease 5, 9, 12, 13, 18, 19, 22, 30, 49
chronic wasting 13

easement, right-of-way 33, 36
ecological condition 36
rangeland 37
edge, forest 12, 32
education 1, 51, 52, 54
elk
AUM conversion 34, 42
consumptive use 14, 16 54
damage 9, 35, 38, 39, 40, 42, 43
Damage Account 15, 39
damage claims 15, 18, 42
damage, compensation tags 1, 40, 41
damage, compensation program 9, 40, 41
damage payment 39, 40
damage program 40
density 57
depredation 16
distribution 1, 5, 10, 11, 26, 28, 34, 42, 43, 54
economic value 13, 14, 30, 53, 54
feeding 13, 16, 17, 21, 30
habitat 1, 2, 5, 8, 12, 15, 17, 19, 21, 23, 31, 33, 46, 48, 57
harvest 8, 13, 14, 17, 25, 29, 31, 34, 36, 42, 57
lifespan 12
limiting factor 12
local depredation review panel 18, 39, 40
management costs 15, 16, 28
marking telemetry 19, 28, 29
marking visual 28, 29
nonconsumptive use 13, 14, 53, 54
partnerships, incentives 41
pioneering 8, 18, 19, 26, 28, 51, 56
Planning Team 1--4
population objectives 1, 21, 23, 24, 27
population modeling 28, 29
population monitoring 18, 19, 24, 28, 29, 31, 46
recruitment, production 9, 12
releases, transplants 5, 7, 10, 16, 17, 18, 19, 21, 24, 25, 26, 27, 28, 38, 41, 47, 48, 49, 51
Steering Committee 1--4
surveys 8, 16, 28
Tule 47
viewing 52, 54

elk-free zones 26
Elko 3, 4, 58
Elko County 3, 5, 19
Environmental Analysis, Bruneau River Watershed 19, 55
Eureka 3
Eureka County 3
extinct 5, 12, 16, 47

federal aid 15--17, 19
    fisheries 19
    wildlife restoration 15, 16
felony 51
fences 18, 25, 35, 38, 40, 43
Fish and Wildlife Service, U.S. 3, 55, 56
forb 12, 45
Forest Service, U.S. 3, 16, 17, 31, 37, 46, 56
Forests, National 34
    Humboldt 3
    Toiyabe 3

Goshute 5, 7, 19, 55
grass 12, 44
grasslands 44
grazing
    adjust 34
    reduction caused by elk 39
    regulations 34
    permits 33
    privileges 9
guides 3, 16
    master 15, 16
    subguide 15

habitat
    elk 1, 2, 5, 12, 19, 23, 24, 31, 33, 41, 42, 43, 44, 48, 57
    unoccupied elk 8, 17, 21, 23, 27, 31, 36
    wildlife 33, 37
    enhancement 43
    competition 45
    condition 46
    change 46
    planning 55, 57
    potential elk 8, 17, 21, 23, 31, 57
Handbook, Nevada Rangeland Monitoring 46
helicopter 16, 17
historic sites 5
Holistic Range Management 37
home range 26
horses 12, 37, 45, 48, 52
Humboldt County 5
hunters 5, 8, 13, 14, 16, 17, 52

hunter questionnaire 17, 29
hunting 8, 14, 15, 17, 19, 25, 42, 47
commercial 13
hunts 8, 9, 17, 18, 29, 38, 42
depredation 17, 18
hybrid 13, 19

Idaho 7
illegal kill 9, 51
Indian Reservations 19, 31
Independence Mountains 5
industry, private 35

Jarbidge Mountains 5, 7, 9, 17, 19
Also see Agreement, Jarbidge Six Party
juniper 32

kill permits 17, 38

land
development 47
exchanges 33
management 23, 24, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 46, 50, 54, 55, 57
management conflicts 1, 2, 33
mixed ownership 33
multiple use 27
human use 27
other uses 24
permittees on public 33
public 1, 9, 34, 35, 36, 57
public managers 41, 42
state 31
users 35, 36
use change 46
landscapes, dynamic 46
legislation (laws) 5, 9, 13, 16, 18, 19, 23, 38, 39, 41, 49, 51--53
licenses, hunting 15, 16
Lincoln County 3, 19, 20, 55
livestock, domestic 12, 13, 46
livestock industry 9, 17, 37, 39, 41

manuals, land management agency 46
map 6, 11, 23, 46
media 41
radio 54
television 54
press releases 54, 56
print 41
monitoring 34, 46
habitat 42, 46
range 34, 37, 42, 46

monitoring, cont..
vegetative 34
wildlife 34
Montana 7
Monitor Mountains 5, 7, 9, 17
mountain lion 48
Mount Wilson 19
multiple use 23, 27, 31, 57

Native American 5
Nevada Administrative Codes 29, 38, 49
Nevada Cattlemen's Association 3
Nevada Division of Agriculture 3, 9, 19, 22, 49
Nevada Division of Wildlife
Inventory Team 53
Wildlife Depredation Policy and Procedure 17
Nevada Farm Bureau 3
Nevada Revised Statutes 38, 49
Nevada Legislature 1, 2, 4, 9, 16, 18, 19, 39
Nevada Wildlife Commission 1--4, 17--19, 24--26, 29, 38, 39, 48, 56, 57, 58
Policy Plan 17
Policy 22 (Big Game Release Plans) 18, 21
Policy 26 (Pioneering Elk) 18, 21, 26, 56
New Zealand 13
nineteenth century 5, 47
nonhunters 52
Nye County 3, 5, 17

Operation Game Thief 16, 51
Oregon 5, 7
ornamental vegetation 40

panel, local depredation review 18, 39, 40
parasite 49
partnerships, incentives (for elk) 41
Park Service, National 55, 56
Pilot Peak (Elko County) 5, 17
pinyon 32
plan
action 37
amending land use 55
Central Nevada Elk 19, 55
Comprehensive Mountain Lion Management 25, 48
coordinated resource management 55
elk 55
forest 55
Goshute Indian Reservation Elk 19, 55
land use 17, 19, 24, 25, 27, 34, 37, 53, 55
law enforcement 52
Lincoln County Elk CRM 20, 55
local 53

plan, cont..
Mt. Charleston Elk 19, 55
multiple land use 27
release 10, 18, 19, 24, 26, 27, 52
Wells Resource Area Land Use 19, 55
White Pine County Elk CRM 19, 55
poachers 53
poaching 8, 51, 52
predators 24, 25, 48
private land 1, 2, 9, 21, 31, 33, 35, 36, 38, 42, 43, 46, 57
access 36, 42
acquisition by public 19, 33
agriculture 43
manager 31
management practices 32
owner 1, 24, 30, 31, 32, 35, 36, 37, 38, 39, 41, 42, 46, 53, 55
ownership 33
rancher 47
rangeland 36
management 37
public input 2, 24, 27, 41, 46, 55, 56
public trust 23
property, private 9, 38, 39, 41

Question 5 19
quotas 18
antlerless 17
elk 16
nonresident 25

Ranch, Howard 19, 33
Pescio 38
rancher 47
range damage 42
range management 5
red deer 13, 19
Rocky Mountain Elk Foundation 3, 4, 8, 19

sagebrush 44
Schell Creek Mountains 5, 7, 16, 17, 38
sheep, domestic 12, 45
sheep, mountain (bighorn) 12, 14, 45
Sheldon National Wildlife Range 5
shrubs 44
Snake Mountains (White Pine County) 5
Society for Range Management 55
soil loss 42
South Egan Range 5, 7
Spring Mountains 5, 7, 17
species interaction 46

sportsmen 1, 5, 8, 9, 15--17, 30, 35, 39, 41
depredation fee 15, 18, 39
states, other 7, 9, 13, 19, 24, 25, 29, 30, 51
subplans 1, 4, 20, 21, 23, 26, 27, 36, 37, 42, 46, 52, 53, 55, 56, 57, 58

tags
auction (bid) 14, 19
compensation 1
elk 8, 15, 16
elk depredation 17, 18
resident elk 15
nonresident 14, 15
tribal councils 31
trophy 8, 13
tuberculosis 12, 18, 49

ungulate 5, 12, 36, 44, 46, 49
competition 44-- 47
United States 13, 48
units, game management 22
use, class of animal 37
Utah 7, 17

vegetation, rangeland 42
venison 13

water
free 12
develop 15, 34, 35, 43
management 25, 43
water rights, private 34
watershed 19, 36, 55
White Pine County 3, 5, 6, 19, 38
wild horses (see horses)
wilderness, WSA's 22, 36
Wildlife-Fishery Use Day (WFUD) 14
Wildlife Depredation Policy and Procedure, NDOW 17
working group, elk partnership 41
Wyoming 7, 16

Appendix A

NEVADA REVISED STATUTES

Direct Application to Elk

501.003 **"Alternative livestock" defined.** Alternative livestock includes the following deer species only if they are born and raised in captivity: Fallow deer, reindeer and Rocky Mountain elk. Elk must be certified not to be hybrids with other elk subspecies.

501.005 **"Big game mammal" defined.** Refers to Commission regulation. NAC 502.030.

501.010 **"Board" defined.** Defines county advisory board to manage wildlife.

501.020 **"Commission" defined.** Defines the board of wildlife commissioners.

501.097 **"Wildlife" defined.** Defines wildlife.

501.100 **Legislative declaration regarding wildlife.**

501.102 **Legislative declaration regarding hunting.**

501.105 **Commission to establish policies and adopt regulations.** The commission shall establish policies and adopt regulations necessary to the preservation, protection, management and restoration of wildlife and its habitat.

501.181 **Duties; regulations.** The commission shall establish broad policies for the protection, propagation, restoration, introduction, transplanting or exporting of wildlife. Control of wildlife depredations.

501.290 **Meetings.** When county advisory boards to manage wildlife will meet. As chairman may call or the commission may request.

501.297 **Duties: Evaluating local opinion and advising commission.** The [county] boards shall solicit and evaluate local opinion and advise the commission on matters relating to the management of wildlife within their respective counties.

502.250 **Fees for tags; acceptance of sealed bids for big game tags; auction of big game tags...**
Establishes big game tag fees, depredation fee for applications for elk tags, auction tags, partnership in wildlife.

503.590 **Noncommercial collections of live wildlife...**

503.595 **Prevention or alleviation of damage caused by wildlife.** See NAC 503.710 and Wildlife Depredation P&P.

503.597 **Importation or exportation of wildlife...** Excludes alternative livestock.

504.155 **Receipt of money by division; accounting and disbursement.** Accounting of elk damage funding--raising and spending.

504.165 **Dispersement of money...** Commission will define elk damage program in regulation--**NAC 504.350** et seq.

504.175 **Reports to legislature.** Reporting on actions preventing or mitigation damage by elk. Refers to **NRS 504.155** and **NRS 504.165.**

504.185 **Inapplicability to alternative livestock...** Nonresponsibility for damages by alternative livestock.

504.245 **Authority of division...** Liability for damage by escaped alternative livestock. Division can "capture, seize or destroy" alternative livestock to protect wildlife and wildlife habitat.

504.295 **Prohibited acts...** Unlawful to possess or release wildlife.--Also see NAC 504.450

Potential Application to Elk

502.145 Issuance of deer or antelope tags as compensation for damage to private property; biennial report. ***Et seq.***

502.145 Restricted nonresident deer tags: Definitions. ***Et seq.***

NEVADA ADMINISTRATIVE CODE

Direct Application to Elk

502.102 **"Trophy hunt" defined.** Elk designated as trophy.

502.331 **Big game tags...** One species tag per season limit; $10 app. fee for elk.

502.334 **Fees for tags.**

502.361 **Elk tags.** Eligibility--just revised.

502.405 **Completion and return of questionnaire, penalty; reinstatement of privileges.**

503.020 **Game mammals**. Defines game mammals including elk.

503.710 **Issuance of wildlife depredation permit: Conditions**. Et seq.

504.210 **General designation of management areas and units.** Describes the game management units.

504.350 **Definitions.** Prevention and mitigation of damage caused by certain game animals--elk or game animals not native to this state. Et seq. 504.360, 504.370, 504.375, 504.380, 504.385, 504.390, 504.395, 504.400, 504.405, 504.411, 504.415, 504.421, 504.425, 504.430, 504.435, 504.440. Damage, improvements, disbursement, notice of damage, cooperative agreement, determine action, fencing materials, insured losses, inspection, location and duration, proof of damage, claims, preponderance of evidence, appeals, local panels, mitigation.

504.450 **"License" defined.** License for possession of live wildlife. Et seq. Extensive, ends with NAC 504.488.

504.466 **Conditions for importing ungulates into the state.** Regulates importation of ungulates. Importation permits, certifications, diseases tested for, isolation. Et seq.

504.478 **Enclosures for ungulates.**

504.480 **Ungulates: quarantine facility, report of death, post-mortem exam.**

571.065 **Game, fur-bearing and wild animals.** Prohibits importing North American elk into Nevada unless they have reacted negatively to test for brucellosis. Requires passing tuberculosis test also for domestic elk.

Potential Application to Elk

502.4231 **Restricted nonresident deer tag: Application; fees.** Guides tags. Et seq.

502.424 **Definitions.** Damage compensation tags. Et seq. 502.4242, 502.4244, 502.4246, 502.4248, 502.4252, 502.4254, and 502.4256.

504.482 **Reporting suspicion of exposure of captive wildlife to dangerous or communicable disease.**

571.002 **Definitions.** Diseased animals. Et seq.

576.100 **Definitions**. Alternative livestock regulations for Agriculture. Et seq. 576.100-260.

WILDLIFE COMMISSION POLICIES

Commission Policy Number 22	Introduction, Transplants, and Exportation of Wildlife--provides for the two year big game release plans.
Commission Policy Number 25	Animal Damage Control
Commission Policy Number 26	Re-establishing, Introducing, Transplanting and Managing Pioneering Rocky Mountain Elk

DIVISION POLICY AND PROCEDURES*

Wildlife Depredation (9/87)

Defines responsibility, methods, reporting forms, etc. Big Game Options--technical advice, hazing, exclusions, barriers, repellents, removal by special season, emergency depredation hunt, landowner removal, agency removal, capture and transplant.

GAME BUREAU PROGRAMS AND PROCEDURES*

Depredation, Elk and Game Animals not Native to Nevada (12/90)

Defines methods for handling elk complaints.

* Copies of these documents are available at Nevada Division of Wildlife offices upon request.

APPENDIX B

STATE OF NEVADA
BOARD OF WILDLIFE COMMISSIONERS

Commission Policy Number 22

Amendment No. 4

Number: **P-22**
Title: Introduction, Trans plants, and Exportation of Wildlife
Reference: NRS 501.181
Effective Date: February 20, 1981
Amended Date: August 19, 1988
Amended Date: May 12, 1989
Amended Date: December 2, 1995

PURPOSE

To establish policy on the introduction, transplant, release and re-establishment of fish and wildlife into the State and exportation of same out of the State as guided by NRS 501.181.

DEFINITIONS

A. Exotic Wildlife: includes all species of mammals, birds, fish, mollusks, crustaceans, amphibians, reptiles, or their progeny or eggs, not historically found in the 48 contiguous states and Alaska, and normally found in a wild state.

Endemic Species: are those species presently or historically occurring naturally within the 48 contiguous states and/or Alaska, and normally found in a wild state.

1. Native Wildlife: endemic wildlife species historically found in Nevada.

2. Non-Native Wildlife: endemic wildlife species not historically found within Nevada. For example, ruffed grouse are an endemic non-native species in Nevada.

B. Introduction: the act of releasing exotic or endemic non-native wildlife for the purpose or intent of creating self-sustaining populations in the wild state.

C. Re-establishment: the act of releasing native wildlife into habitat formerly occupied by that species for the purpose or intent of creating self-sustaining populations in a wild state.

D. Release: the act of releasing any wildlife species for the purpose or intent of creating self-sustaining populations in the wild state.

E. Transplant: the act of releasing endemic wildlife species into habitat not previously occupied by the species for the purpose or intent of creating self-sustaining populations in the wild state.

F. Stocking: the act of releasing any wildlife for "put and take" purposes.

G. Exportation: the act of removing any live wildlife, aquatic life, spawn, eggs or young of any of the preceding from the State of Nevada.

H. Augmentation: the act of supplementing existing wild populations.

POLICY

1. Due to the relative low densities of wildlife populations and limited diversity of faunal species in Nevada, the Division shall implement sound wildlife management and restoration programs by:

   a. Re-establishing: native wildlife onto former or historic areas of distribution within the State, when the habitat requirements of such species are again provided in such areas and a vacancy exists.

   b. Introducing: endemic non-native wildlife where suitable vacant habitat may exist and where conflicts with native or existing endemic non-native wildlife would not occur or have only a minimal affect.

   c. Releasing, Transplanting or Augmenting: native, endemic non-native or exotic wildlife when it is determined that a vacancy exists in suitable habitat and a self-sustaining population can be established, or in the event of recurring natural die-offs, transplants can be made to speed the recovery of a population.

   d. Stocking: native, endemic non-native and exotic fish species for the appropriate use and aesthetic enjoyment of the people of the state if conflicts with existing native or endemic non-native would not occur or have only a minimal affect.

2. The Division shall prepare a two-year plan to coincide with biennial work program periods for big game re-establishment, introductions and augmentations. This plan shall be prepared in close cooperation with the appropriate land management agencies. This plan will be presented to the Commission for approval.

a. Sites identified for big game releases in this biennial plan will conform with existing land use plans. The land management agencies' public review of planning documents shall be the first public review of big game release proposals.

b. The Division biennial release plan shall be sent to wildlife, conservation, livestock, and farming and ranching organizations, inviting their review and comment 60 days before Commission action. Legal notices advertising the release plan and soliciting public comment shall be published in local newspapers throughout the state at least twice during the Commission hearing process with the last notice to be published at least 30 days prior to scheduled final Commission action. This shall constitute a second opportunity for public review of big game release proposals.

c. Once approved by the Commission, big game releases will occur as soon as practical considering budget, manpower and animal availability. Sites will not be re-submitted for public review and Commission approval unless the Commission specifically finds that compelling circumstances have arisen and requests that the site be re-submitted to it, or unless a release has not been accomplished after two biennial periods (four years).

3. The Division will seek concurrence of the appropriate land management agency when necessary and may enter into a cooperative agreement to define the action to be taken.

4. The Division will cooperate with other states and countries, within federal constraints, to meet their objectives of re-establishment and introduction of wildlife by providing stock for export whenever it is in the best interest of the resource and the people of the State.

5. The Division will comply with all existing importation regulations.

6. Any introduction, release, stocking or transplanting of fish and wildlife in, [an] ***or*** exportation of fish and wildlife from Nevada by persons or entities, public or private, other than the Division shall comply with Commission regulations and must receive the written consent and approval by the Division prior to the attempt.

This policy shall remain in effect until amended, modified or repealed.

BY ORDER OF THE BOARD OF WILDLIFE COMMISSIONERS IN REGULAR SESSION, DECEMBER 2, 1995.

Mahlon Brown, Chairman
Board of Wildlife Commissioners

STATE OF NEVADA
BOARD OF WILDLIFE COMMISSIONERS

Commission Policy Number 26

Amendment No. 1

Number: **P-26**
Title: Re-establishing, Introducing, Transplanting and Managing Pioneering Rocky Mountain Elk
Reference: NRS 501.181
Effective Date: December 9, 1988
Amended Date: December 2, 1995

PURPOSE

The Nevada Division of Wildlife will identify and work toward re-establishment and introduction of elk in formerly occupied ranges and in new ranges where establishing elk populations is desirable for the greater public benefit. Pioneering elk populations will be identified and managed in conformance with established land use plans after public review and concurrence by the Board of Wildlife Commissioners.

BACKGROUND

Historic records document the occurrence of elk in Nevada. These elk were not numerous and appear to have become extinct coincidentally to the settling of the State. Elk from Yellowstone National Park were reintroduced into the Schell Creek Mountains of White Pine County and the Spring Range of Clark County in the early 1930's by Nevada sportsmen. The State of Utah released elk at Pilot Peak on the Nevada-Utah border in 1944 and augmented that release in 1979. The Nevada Division of Wildlife released elk in the Monitor Range in Nye County in 1979. An augmentary elk release was made in the Spring Mountains of Clark County during the winter of 1984. The Goshute Indians released elk on their reservation in eastern White Pine County in 1987. An augmentation release was accomplished in the south Egan Range in the spring of 1988. Elk have been released in the Jarbidge and Bruneau areas.

The status of these released elk populations varies widely. Since 1932, six hundred twenty elk have been released at eight sites in Nevada. The statewide population is estimated to be about 3,300 in 1995. The success of elk populations varies widely, but is best in White Pine were most of the elk occurring in Nevada now reside. Populations are growing well in Elko County. The Schell Creek and Monitor populations, following an initial rapid growth phase, have grown relatively slowly and steadily with occasional dispersing animals attempting to voluntarily pioneer nearby mountain ranges. Elk have established in most ranges in White Pine in recent years. A permanent population has established in the north Monitor Range. The Utah introduced Pilot Mountain elk have pioneered

westward and established permanent populations in new areas in the vicinity of Wells. Similarly elk have become permanent residents in the Wilson Creek Range of Lincoln County, although their origin is not clear. The Spring Mountain elk have wandered widely including into California, but have been resident only at the target release area. The Goshute Reservation release is too new to determine its status.

Since the 1930's, numerous sightings of wandering elk have been reported throughout Nevada. Recent elk population growth in adjoining states appears to have contributed to an increase in such sightings in the State during the past few years. Evidence now exists indicating that these dispersing elk have established permanent populations in several non-target areas.

Elk are recognized as highly adaptable ungulates which could voluntarily pioneer or colonize many available habitats in Nevada. The potential for elk pioneering could increase if established populations slowly continue to expand and new releases are made. This eventuality should be anticipated through policy to insure appropriate environmental planning and that both public and private interests are adequately considered before decisions are made.

Difficult and thorough planning for elk reintroductions in the Jarbidge and Bruneau areas were completed recently. New planning for elk is underway in Elko, White Pine and Lincoln counties in cooperation with the appropriate land management agencies and affected parties. The 1995 Nevada State Legislature requested that the Nevada Division of Wildlife develop a comprehensive statewide elk management plan. An elk depredation hunt intended to remove elk is being conducted in the East Humboldt and Ruby Mountains of Elko County.

DEFINITIONS

1. Pioneering: The act of wildlife species colonizing new habitat voluntarily, whether planned or not by the appropriate resource managers.

2. Established Elk Populations: All elk populations presently occupying management units 072, 074, 076, 077, 079, 081, 111, 112, 113, 114, 115, 221, 222, 162, and 262 as defined in NAC 504.210 as amended April 18, 1990 and the Goshute Indian Reservation are considered established populations for the purposes of this policy.

3. All other appropriate definitions are contained in Commission Policy Number 22, as amended December 2, 1995, "Introduction, Transplants, and Exportation of Wildlife."

POLICY

This policy is established to guide the Division and inform the land management agencies and the public on the re-establishment and introduction of elk, and the management of pioneering populations. To set forth a policy for guiding the Division in its work to establish and manage elk in Nevada.

1. The Division will conform to existing Commission Policies and the Policy Plan in planning future elk releases. When completed, the Nevada State Elk Species Management Plan shall guide the Division also.

2. The Division will observe all pertinent Nevada State laws and Federal regulations concerning importation and release of wildlife, including elk.

3. The Division will include all reasonably anticipated potential elk pioneering sites located immediately adjacent to planned elk releases in future environmental planning processes. The public and private industry recommendations for these potential pioneering sites will be considered.

4. The Division will monitor potential habitat for pioneering elk populations.

5. If, in the best professional judgement of the Division, an elk population successfully colonizes previously unoccupied habitat, the Division will apprise the Commission and recommend an appropriate course of action.

6. Actions recommended may include:

   a. Approval of the colonization with acceptance from the land agencies and public being sought by the Division.

   b. Disapproval with elimination of the pioneering elk population being initiated through actions deemed appropriate by the Division and Commission.

7. The Commission will retain ultimate authority on the course of action to be taken following identification of successful elk colonization.

This policy shall remain in effect until amended, repealed, or superseded by the Board of Wildlife Commissioners.

BY ORDER OF THE BOARD OF WILDLIFE COMMISSIONERS IN REGULAR SESSION, DECEMBER 2, 1995.

Manlon Brown, Chairman
Board of Wildlife Commissioners

APPENDIX C

LOCAL ELK PLAN EXECUTIVE SUMMARY

TITLE: Goshute Indian Reservation Wildlife Management Plan

AREA: Big Game Unit 113 - Northern White Pine County

RESPONSIBLE AGENCY: Goshute Indian Reservation on reservation lands, state wildlife agency in Utah or Nevada for elk, and land management agency--BLM on habitat on public lands.

PARTICIPANTS: Goshute Indian Reservation, Nevada Division of Wildlife, Bureau of Indian Affairs, Utah Bureau of Land Management, Utah Division of Wildlife, private landowners and operators from Pleasant Valley, Trout Creek, Ibapah and Callao.

SUMMARY: The Goshute Indian Tribe embarked upon a wildlife management program designed to enhance their policy of self-determination. The re-establishment of Rocky Mountain elk was considered to be the most beneficial species for the tribe because of the availability of elk, the vast amount of good elk habitat located on the reservation and the potential for substantial revenue generation through the consumptive use of elk based on the "going-rate" for trophy bull hunts on Indian reservations in Arizona.

An initial population of 250 adult elk (approximately 50 bulls and 200 cows) was recommended for evaluation purposes to make decisions for increasing, decreasing, or maintaining the elk herd. Annual reports and meetings were recommended as a means for interested and affected parties to work together for the future management of the Goshute Indian Reservation elk resource.

DATE IN EFFECT: May 1988

REVIEW PROCESS: Annual reports and meetings convened as necessary.

LAST REVIEW: Elk status reports are done annually by the Nevada Division of Wildlife and Utah Division of Wildlife Resources. The Goshute Indian Reservation held their last coordinated meeting in the spring of 1994. The Nevada Division of Wildlife was represented.

LOCAL ELK PLAN EXECUTIVE SUMMARY

TITLE: Bruneau River Watershed Environmental Analysis

AREA: Bruneau River watershed, Humboldt National Forest in Big Game Units 071 and 072, northern Elko County.

RESPONSIBLE AGENCY: Humboldt National Forest, U.S. Forest Service

PARTICIPANTS: Humboldt National Forest
Nevada Division of Wildlife
Bureau of Land Management--Elko District
Humboldt National Forest livestock permittee
Sportsmen and conservation organizations
Elko County Commission

SUMMARY: EA and accompanying record of decision allows the reallocation of livestock grazing and a reintroduction of elk to occur within estimated resource capacities. It allows for the improvement of stream and riparian conditions, and upland resources to meet desired future conditions within the Bruneau watershed. Elk would be allowed to increase naturally up to vegetative carrying capacity determined through monitoring.

DATE IN EFFECT: April 22, 1994

REVIEW PROCESS: Issue driven as needed.

LAST REVIEW: Not available.

LOCAL ELK PLAN EXECUTIVE SUMMARY

TITLE: Wells Resource Management Plan, Elk Amendment and Decision Record

AREA: Wells Resource Area, Elko District--Bureau of Land Management in Big Game Units 072, 073, 074, 075, 076, 077, 078, 079, 081, 101, 102, 103, 104, 105, 106 and 121, in eastern Elko County.

PRIMARY AGENCY: Bureau of Land Management--Elko District

PARTICIPANTS:
Bureau of Land Management
Ranchers and landowners
Rocky Mountain Elk Foundation--Elko Chapter
Elko County Board to Manage Wildlife
Elko County Board of County Commissioners
Utah Division of Wildlife Resources
Idaho Department of Fish and Game
Public Land Use Advisory Commission
Nevada Division of Wildlife
Nevada State Board of Wildlife Commissioners
U.S. Forest Service

SUMMARY: The plan establishes elk habitat management objectives for six management areas within the Wells Resource Area, identifies habitat requirements and specific management objectives and practices, establishes target elk population levels totaling 2200 elk for the resource area, develops factors for attainment and future adjustments in elk population management levels and identifies constraints on other resources.

DATE IN EFFECT: February 14, 1995

REVIEW PROCESS: Issue driven as needed.

LAST REVIEW: Not applicable.

LOCAL ELK PLAN EXECUTIVE SUMMARY

TITLE: Environment Assessment for the Release of Elk into the Jarbidge Mountain, Nevada, and the Six Party Agreement

AREA: Jarbidge Mountains, Elko County, Nevada, and Idaho, mainly in Big Game Units 071 and 072.

PRIMARY AGENCY: Humboldt National Forest, U.S. Forest Service

PARTICIPANTS:
U.S. Forest Service
Bureau of Land Management--Elko District
Bureau of Land Management--Boise District
Idaho Department of Fish and Game
U.S. Fish and Wildlife Service
County Advisory Boards to Manage Wildlife
"71" Livestock Association
Ranchers and landowners
Sportsmen
Sportsmen and Conservation organizations

SUMMARY: The decision approves the release of up to 100 elk with a target population of 250-300 animals. Monitoring will be conducted to determine habitat use by elk before changing target. The decision provides for the adoption of the Six Party Agreement to cooperate in the management of the re-established elk population and defines the responsibilities for cooperators.

DATE IN EFFECT: November 21, 1989

REVIEW PROCESS: Issue driven as needed.

LAST REVIEW: Not available.

LOCAL ELK PLAN EXECUTIVE SUMMARY

TITLE: Central Nevada Interagency Elk Management Agreement

AREA: Big Game Units 161, 162, 163 and 173, with emphasis on Unit 162, the Monitor Range.

PRIMARY AGENCY: Toiyabe National Forest

PARTICIPANTS: Bureau of Land Management
Nevada Division of Wildlife

SUMMARY: The agreement establishes objectives for monitoring elk distribution, elk numbers, habitat condition and forage utilization. Limits elk numbers to 350 adults (Table Mountain) and 75 adults (Butler Basin).

DATE IN EFFECT:

1978 (M.O.U.),
1985 Monitor Elk Management Plan, and
1994 Central Nevada Interagency Elk Management Agreement

REVIEW PROCESS: Annually at interagency meetings.

LAST REVIEW: 1996