

EXECUTIVE SUMMARY
NEVADA GRAZING STATISTICS REPORT AND
ECONOMIC ANALYSIS FOR FEDERAL LANDS IN
NEVADA

Specifically:

*Bureau of Land Management,
Bureau of Reclamation, United States Forest Service,
United States Fish and Wildlife Service,
National Park Service, and the
Total Federal Lands in Nevada, 1980 - 1999*

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Prepared for:

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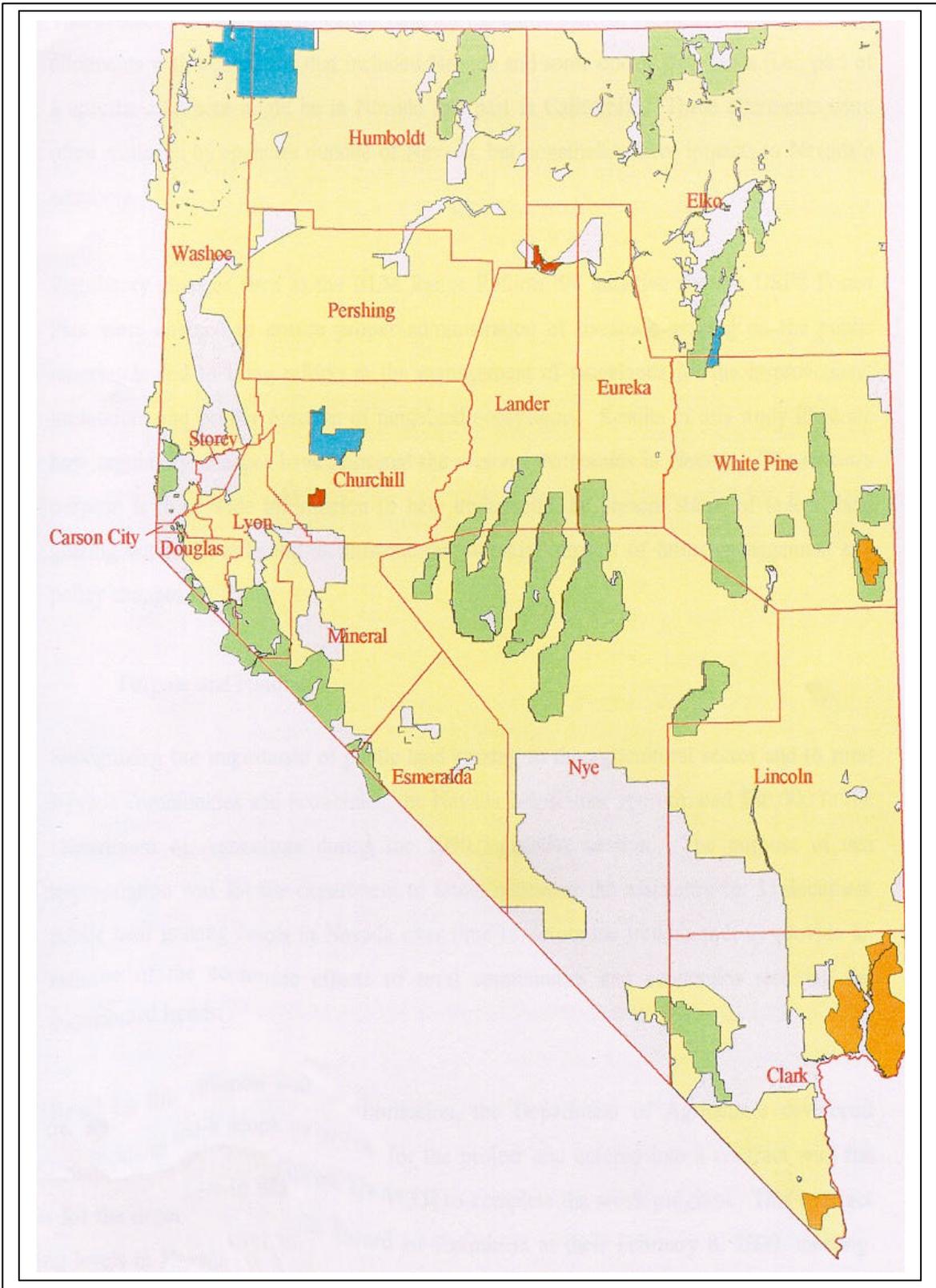
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EXECUTIVE SUMMARY

Introduction

Controversy has plagued public land grazing in the western United States for decades. Those supporting public land grazing are as adamant about the propriety of their views as are their opponents, who see grazing of federal lands as an adverse and often unnecessary use of western public land. The argument intensifies with each passing year. The debate itself is plagued with problems, especially the emotional intensity that surrounds those involved with the discussion. Individuals on both sides of the fence often cloud their views and opinions in a fog of emotion, rather than scientific or research-supported information.

Opponents of public land grazing often cite it as having little impact to local economies and the livestock industry as a whole. However, the importance of grazing management decisions, and the ensuing effects to rural Nevada economies, should not be trivialized. This report contains definitive results illustrating the impact that federal land grazing decisions may have on rural economies. As outlined in this report, decisions to reduce or increase grazing on federal lands do have implications for the rural and state economies.

This executive summary is a condensed version of the larger and more detailed report on Nevada's federal land grazing history primarily from 1980 through 1999. The complete report and this summary contains the results of a one-year effort to gather data on historical and current grazing trends on Federal lands in Nevada. A CD is attached to this summary and contains the complete report and associated databases. Those interested in the exact methodologies, limitations of the data, thorough discussions of the analysis, and other more specific details should refer to the complete report.

Three reports have previously been produced by Resource Concepts, Inc, (RCI) that addressed grazing history for about 1/3 of Nevada federal lands. During the process of producing the three reports, RCI collected BLM grazing data for the entire state. Therefore, a Nevada Grazing Statistics (NGS) database existed that contained nearly complete Bureau of Land Management

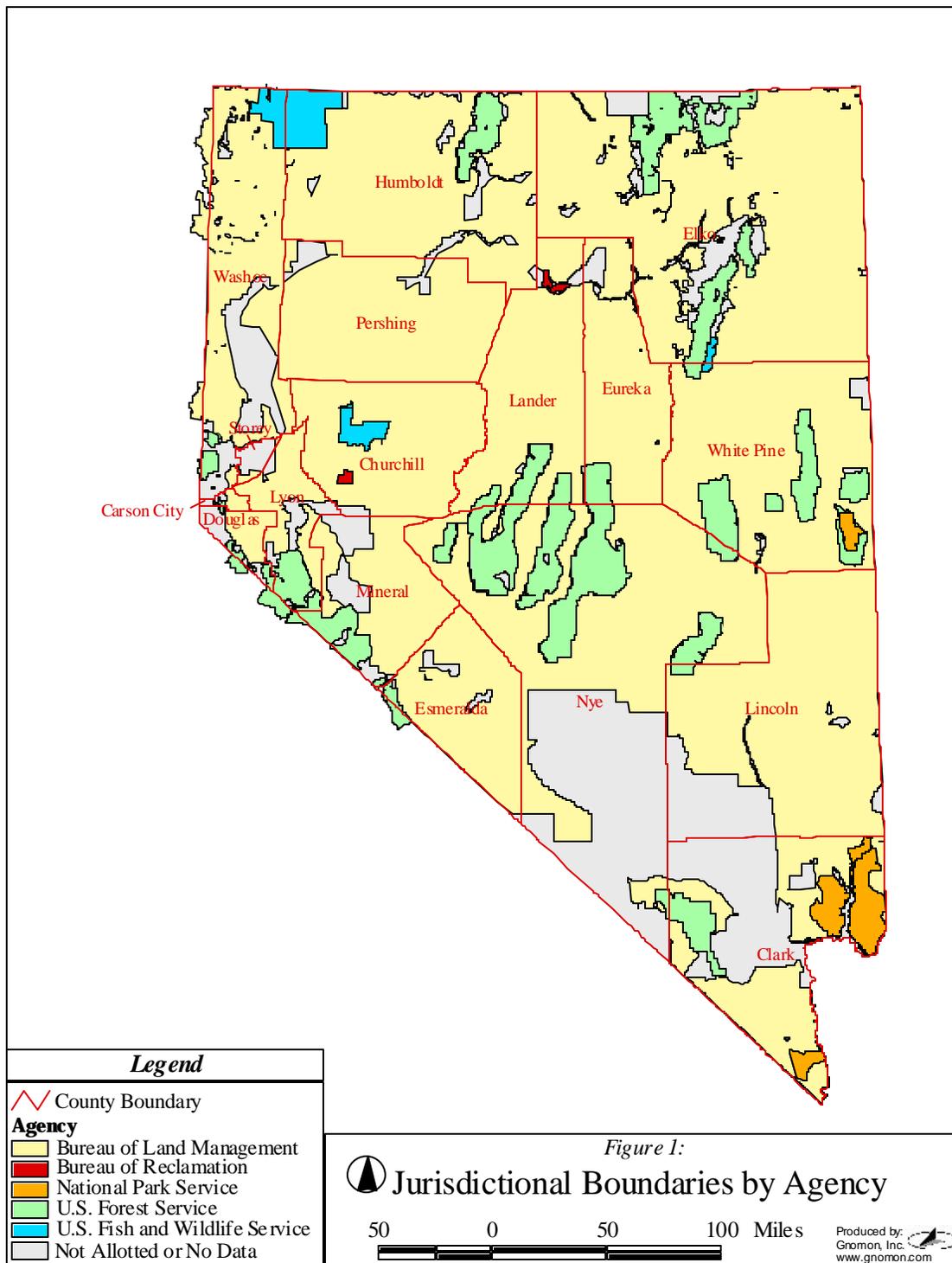
(BLM) grazing records from adjudication through 1999 and some United States Forest Service (USFS) grazing records. No other Federal land data had been compiled for the state.

This project was a cooperative venture between the Nevada Department of Agriculture and the Nevada Association of Counties (NACO). The project was contracted to RCI, who in cooperation with the University of Nevada, Reno, University Center for Economic Development, gathered and analyzed the state wide Federal Land grazing data.

Beginning in January 2000 grazing data were gathered for BLM, USFS, Bureau of Reclamation (BOR), United States Fish and Wildlife Service (USFWS), and National Park Service (NPS) lands (Figure 1). Data gathered included the following for each agency: permit or allotment name, permit or allotment number, permittee or lessee name, number of Animal-Unit-Months, and associated maps. Data were gathered for BLM allotments for 1960, 1980, 1995, and 1999. For all other Federal lands grazing data were gathered for 1980, 1995, and 1999. For reporting purposes only 1980, 1995, and 1999 data were used in this summary.

The intent of this project, and the ensuing report, is to add credence and reliable information to the discussion of public land grazing. Several important aspects of the public land debate, at least for Nevada, are presented in the following pages. These include: available historical permitted numbers of livestock on Nevada Federal lands, mapping for agency boundaries of federal land grazing areas, and economic impacts to ranching and rural economies from federal grazing over the last 19 years. Within the following pages are documented grazing histories and economic grazing impacts from federally administered lands within the state of Nevada for the period of 1980 through 1999. The lands reviewed include Bureau of Land Management (BLM), United States Forest Service (USFS), United States Fish and Wildlife Service (USFWS), Bureau of Reclamation (BOR), and National Park Service (NPS) administered lands (Figure 1).

Figure 1. Jurisdictional Boundaries



Because of the availability of grazing records and diversity in management and permitting practices of the different agencies, the separating periods for each agency evaluated in this report are not identical. Evaluation of the USFS grazing permits begins in 1980 and extends through 1999, looking specifically at the years 1980, 1995 (when the previous reports were completed), and 1999. Evaluation of grazing within Great Basin National Park begins with its inception in 1986 and continues through 1999. Evaluation of BLM administered lands began with adjudication, and carried through to 1999. All other federal lands reviewed in the report evaluated grazing for 1980, 1995, and 1999.

PURPOSE AND FUNDING

Recognizing the importance of public land grazing to the agricultural sector and to rural Nevada communities and economies, the Nevada Legislature appropriated \$80,000 to the Department of Agriculture during the 1999 legislative session. The purpose of this appropriation was for the department to retain the necessary assistance to: 1) document public land grazing levels in Nevada over time to determine trends; and, 2) provide an estimate of the economic effects to rural communities and economies resulting from the documented trends.

METHODS

Definitions

During the course of this project it became apparent that definitions to describe similar concepts varied among BLM Field Offices and also among agencies. The following definitions are offered so the reader will better understand each term and their intent throughout this report.

- Permitted Use (Active Use, Permitted Preference, Active Preference): BLM and USFS term to denote the maximum allowable AUMs permitted to a permittee. The detailed definition BLM provided is as follows: “The maximum amount of livestock grazing allowed. Permitted Use is expressed in AUMs authorized under a term permit or lease for an individual permittee/lessee for an individual public land allotment. This level does not include ‘adjudicated suspended non-use,’ nor does it include authorizations issued as non-renewable, or authorizations authorized under an exchange of use agreement.”

- **Authorized Use:** A BLM term to designate the number of AUMs paid for by a permittee.
- **Actual Use:** A BLM and USFS term to denote the number of AUMs grazing on the permit, i.e., the actual physical bodies of livestock on the land.
- **Historical Suspended AUMs:** A BLM term to describe the number of AUMs present, and above permitted AUMs at the pre adjudication period and cancelled through administrative decision.
- **AUMs = one mature (1000 pound) cow or the equivalent based upon average daily forage consumption of 790 pounds of dry matter per month.** For a complete discussion of AUM definitions and variations among agencies refer to the complete report on the CD.

Data Collection, Verification, and Analysis

Early in 2000, NACO submitted letters to the BLM, Humboldt-Toiyabe National Forest, BOR, USFWS, Great Basin National Park, and Lake Mead National Recreation Area describing the project, listing what information was being requested, and seeking cooperation in data collection and compiling the report.

The BLM requested that once the accumulated data were entered into the NGS database that a hardcopy be provided for verification. The verification with BLM and other federal agencies was also required as part of the contract with NACO. During November and December RCI received corrected BLM summary reports from most of the BLM Field Offices and the USFS.

All grazing data for this report was input into a Microsoft Access Database (NGS database). Access format is linked with an ArcView GIS database containing allotment mapping.

The economic analysis portion of the project evaluated the period from 1980 through 1999. The 1980 starting year for economic analysis was selected because that was the first year the USFS complete data could be obtained. The 1995 data are included in the report because that is the year the three previous NGS reports used as the final reporting year.

BACKGROUND

Grazing on federal lands has gone through many stages over the past two centuries, and changes continue to occur to this day. Early explorers and settlers homesteaded the most fertile and well irrigated lands. In the mid and late 1800's ranchers grazed livestock on the federal lands with little intervention or regulation. However, as competition and conflict increased, and as environmental stewardship awareness increased, it became necessary to regulate federal land grazing. Prior to 1905, the Department of Interior's General Land Office (GLO) managed forest reserves (part of which became the USFS lands) and federal lands (those that are now BLM administered). In 1905, the USFS was created under the Department of Agriculture. In effect, this removed forest reserves from the GLO and placed them under USFS control. The General Land Office (GLO) managed grazing of public lands outside forest perimeters prior to 1934. Comprehensive management of these lands was initiated in 1934 when Congress passed the Taylor Grazing Act. The Grazing Service was established with the implementation of the Act. Specific tasks within the Act included: establishment of a permit system, organization of grazing districts, fee assessment, and consultation with local advisory boards. In 1946, the Grazing Service was combined with the General Land Office to create the BLM. Although there have been several attempts to merge the BLM and USFS, divergence in management philosophy and regulations affecting public lands continues to the present. Details of the BOR, USFWS, USFS, and NPS may be found in the report contained in the attached CD.

RESULTS

Reasons for AUM Reductions

Included in the NGS database are "data fields (areas to input data)" for notes and reasons for changes in AUMs between 1980 and 1995, and between 1995 and 1999. Every effort was made during the data collection process to compile reasons for every AUM change. However, information was not always available.

Ten broad categories were selected to represent major reasons for changes in AUMs. Those categories include: boundary changes, change of class of livestock, Final Multiple Use Decision

(FMUD – usually resource related), Forest Service Enhancement Act, permit violations, resource related (e.g., monitoring data suggested that too many livestock were utilizing the allotment, or other resource type decisions), transfer of ownership, other, unknown (the record was reviewed but no reason for change could be found), and no change.

The numbers provided in each reason section in the following tables represent a net gain or loss. Each category may have had losses and gains. What is reported in each table is the overall loss or gain.

Of the 374,045 BLM AUM reduction that occurred in Nevada from 1980-1999, reasons are presented for 209,958 (56%) AUMs (Table 1). This leaves 164,087 AUMs without explanation. Absent explanations for the changes can be attributed to several factors. Among them, BLM records did not contain reasons, or reasons were not entered into the original database, prior to this phase of the project.

The resource related and permit violation categories are the two most important categories for AUMs changes in the BLM and USFS data. Those two categories alone account for over 1/3 of the reductions in AUMs on BLM and USFS lands.

Table 1. BLM AUM Changes from 1980-1999 by database category.		
Reason	AUMs	Percent of Total Change
No reason given in the database	164,087	44
Resource Related	89,619	24
Permit Violation	35,210	9
Change in Class of Livestock	34,179	9
Forest Service Enhancement Act	19,189	5
Transfer of Ownership	11,863	3
Final Multiple Use Decision	10,485	3
Boundary Change	9,413	3
Total	374,045	100

Of the 86,289 AUM reduction on USFS lands in Nevada during 1980-1999, 61,059 AUMs had a corresponding reason attached to the database file (Table 2). The three primary categories

accounting for reduction in USFS AUMs are boundary changes, resource related, and permit violations. These three categories can account for 74,908 (87%) of the AUM reduction from 1980-1999.

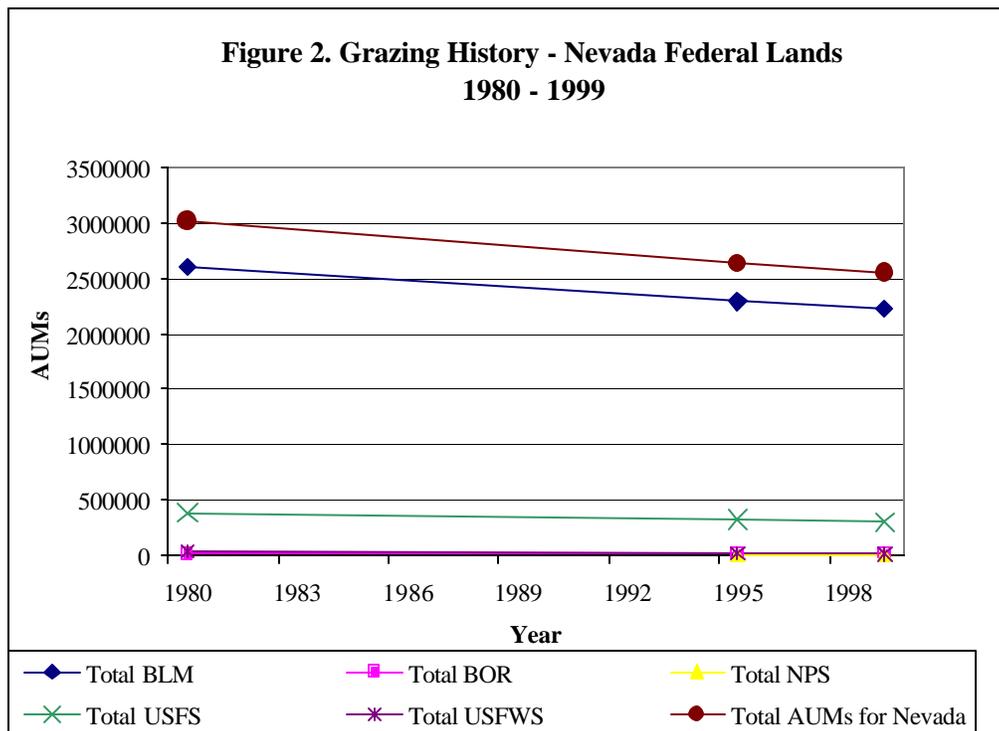
Table 2. USFS AUM Changes from 1980-1999 by database category. Parentheses equal an increase in AUMs.		
Reason	AUMs	Percent of Total Change
Boundary Change	41,517	48
No reason given in the database	25,230	28
Resource Related	19,719	23
Forest Service Enhancement Act	(17,605)	(20)
Permit Violation	13,672	16
Transfer of Ownership	5,716	7
Change of Class of Livestock	(1,960)	(2)
Total	86,289	100

Economic Impacts

The University of Nevada, Reno, University Center for Economic Development conducted the economic analysis for this project. Potential estimated economic impacts to rural Nevada resulting from changes in livestock AUMs were calculated using the Micro IMPLAN model developed by the U.S. Forest Service. The model estimates sectoral and regional impacts of alternative forest management scenarios. The IMPLAN model has been further revised by the University of Minnesota to accommodate analyses of other impacts, such as livestock number fluctuations. The period of economic analysis for all Federal lands in Nevada is from 1980-1999.

Summarized results

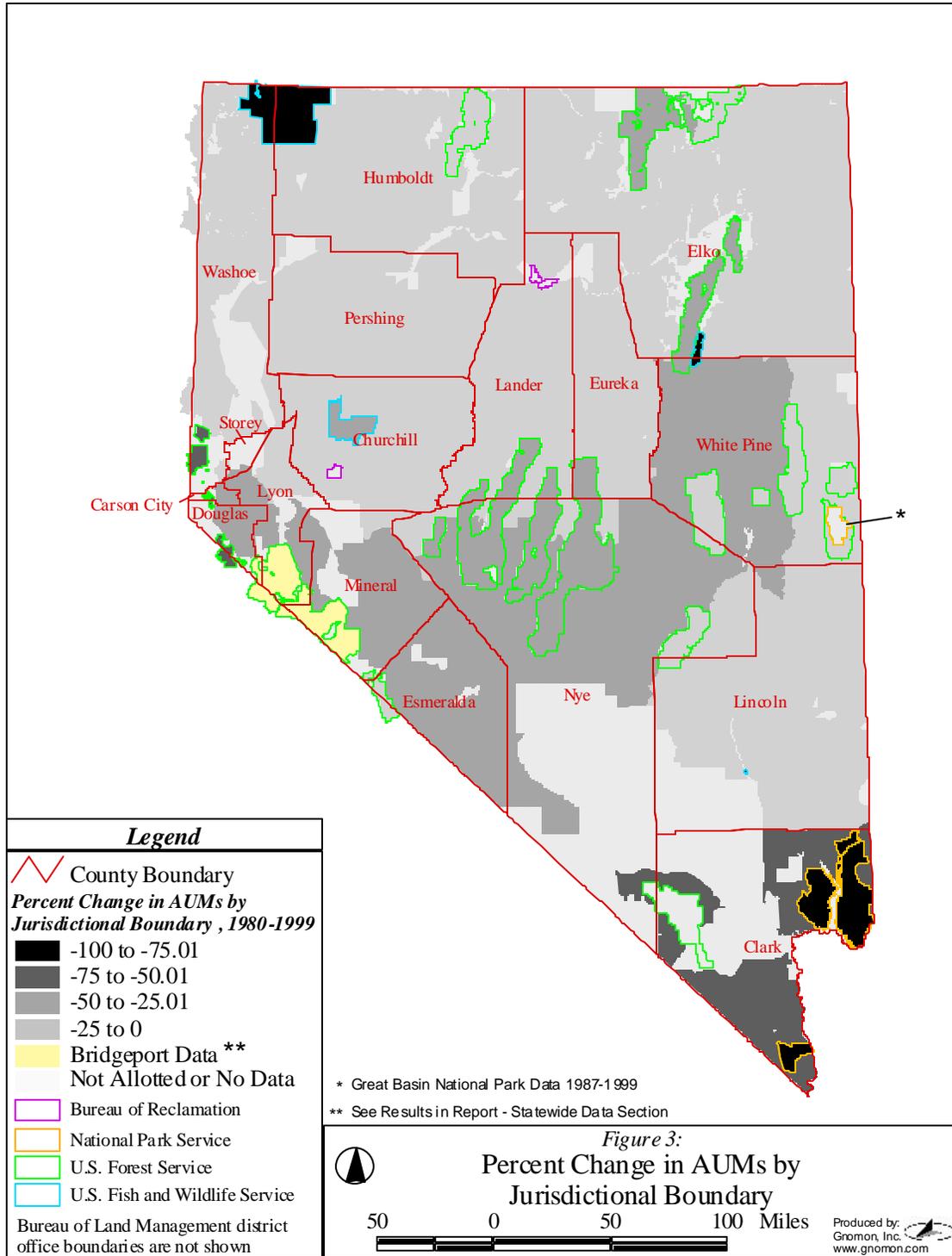
The following economic and AUM grazing allocation changes occurred in Nevada from 1980-1999 (economic values assume that if each AUM lost was active then the values presented represent the losses depicted) (Figures 2 and 3).



The analysis provided in this report has shown that changes in the numbers of livestock grazing on Nevada public lands impact Nevada's economy, particularly the fragile economy of rural Nevada. Table 3 contains a summary of AUM changes and economic impacts within Nevada as related to federal land grazing.

- Combined federal land AUMs lost in the state of Nevada from 1980 through 1999 were 473,553 (16%) with a corresponding negative \$24,800,000 estimated impact to Nevada, and a negative \$11,600,000 estimated impact to Nevada's livestock industry.
- Impacts to BLM lands included a loss of 374,045 (14%) permitted AUMs and an estimated negative \$19,600,000 economic impact to Nevada with a \$9,100,000 estimated loss to Nevada's livestock industry for the 19-year period evaluated in this study.
- USFS administered lands realized an estimated loss of 86,289 AUMs (23%) and an estimated economic loss of \$4,500,000 to Nevada, with a \$2,100,000 negative estimated impact to Nevada's livestock industry.

Figure 3. Percent Changes



- A loss of 25,176 AUMs (78%) were realized on USFWS administered lands (Ruby, Stillwater, Sheldon-Hart, Pahrnagat National Wildlife Refuges) from 1980-1999 with \$1,300,000 estimated loss to Nevada’s economy and \$600,000 estimated losses to the Nevada livestock industry.
- BOR lands saw an increase of 10,218 AUMs and a resultant \$500,000 estimated positive impact to Nevada’s economy and \$250,000 to Nevada’s livestock industry.
- NPS lands lost 313 AUMs with a corresponding estimated loss to the Nevada livestock industry of \$8,000 and a \$16,000 loss to Nevada’s economy as a whole.

With the exception of BOR lands, changes in AUMs throughout the state were generally a downward trend during the 1980 to 1999 period. These changes can be attributed to shifts in administrative policies, climatic factors, livestock prices, resource conditions, competition with wildlife and feral horses, and a host of other factors.

BLM AUM reductions since adjudication amount to a 468,114 AUM decrease. Prior to adjudication there were an additional 419,755 historical suspended AUMs. Therefore, during the tenure of BLM land management in Nevada there have been approximately 890,000 AUMs removed from Nevada BLM rangelands. The historical suspended AUMs represent a reduction in AUMs prior to adjudication, but not analyzed in this study.

Agency	AUM Impacts 1980 - 1999				Economic Impacts 1980 -1999	
	1980 AUMs	1995 AUMs	1999 AUMs	Percent Change in AUMS 1980-1999	Livestock Industry Sector	Total Economic Impacts – all Sectors
Total BLM	2,602,206	2,293,702	2,228,161	-14	-\$9,100,000	-\$19,600,000
Total BOR	6,295	10,517	16,513	+162	+\$250,000	+\$500,000
Total NPS		1,591	1,739	+9 ¹	-\$8,000	-\$16,000 ²
Total USFS	379,831	315,719	293,542	-23	-\$2,100,000	-\$4,500,000
Total USFWS	32,067	10,008	6,891	-79	-\$600,000	-\$1,300,000
Total Impacts for Nevada	3,020,399	2,631,537	2,546,846	-16	-\$11,600,000	-\$24,800,000

¹ The percent change in AUMs for the NPS only reflects the period of 1995-1999. From 1985-1999 there was a 313 AUMs lost on the NPS lands.

² The economic loss reflects the 1985-1999 period.

DISCUSSION

Illustrated throughout this summary is the downward trend of livestock grazing experienced on Nevada public lands over the last 19 years. This trend is likely a result of many factors, including, environmental, ecological, sociological, and administrative policy.

There are continual pressures and challenges facing livestock grazing in Nevada. However, it is important to realize that grazing of rangelands is a manageable activity. It is the controlled harvest of a renewable, sustainable natural resource. The practice of grazing rangelands is possibly the best example of low-input agriculture known today, requiring very little fossil fuel when compared to many other forms of agriculture. Livestock are turned out to graze, rotated from one grazing unit to another, or herded through an area while harvesting forage. These animals convert natural forage into red meat protein for human consumption, along with other products. When viable, the livestock industry contributes to the economic well being of Nevada, the tax base of the state, and also helps to maintain a much needed diversified economy. In addition, well managed grazing helps to sustain native plant communities and wildlife populations.

The causal effects listed above are responsible for much of the reductions in AUMs that have taken place over time in Nevada. Today, we have an opportunity to work cooperatively under present state and federal agency leadership to better plan and administer the management of Nevada's public land resources. A cooperative working relationship between the livestock permittee and the federal land management agency, and uniform and consistent methods for assessing condition-and-trend of our rangelands are vitally needed. The livestock industry can, and should be, part of the solution, if included in developing allotment management plans, setting of resource objectives, monitoring their grazing allotments, recording change, and implementing range improvements.

RECOMMENDATIONS

Results of the Nevada Grazing Statistics report show that livestock grazing on Nevada's public land has been significantly reduced since 1980, and that these reductions have negatively impacted Nevada's economy. The question then becomes: What can be done to reduce this trend of livestock number reductions on public lands? Eliminating questionable and sometimes unnecessary livestock reductions (those reductions based on site specific monitoring, without addressing allotment wide livestock distribution problems) would help alleviate the rural economic losses related to livestock grazing, and maintain a viable livestock industry in Nevada. Based on the results of this study and a comprehensive understanding of federal land grazing management in Nevada, the following list is a summary of major recommendations to maintain healthy resource conditions and an economically viable livestock industry in Nevada. Some agencies currently implement portions of the following list (for example, BLM has adopted the ecological site concept for all lands it administers). It is recommended that federal agencies in Nevada permitting livestock grazing implement all portions of the list:

- Use uniform long term monitoring methods for all agencies (i.e., standard monitoring methods for all agencies).
- Use scientific based monitoring methods appropriate to the resources of Nevada (as recommended by Nevada rangeland scientists).
- Develop cooperative and respectful interaction between livestock permittees and agency personnel when developing land management recommendations and decisions.
- Consider the economic impacts to permittees and local communities when making land management decisions.
- Set realistic resource objectives for allotments (i.e., do not use short term monitoring and utilization guidelines as objectives, as these are tools employed to achieve objectives).
- Adopt NRCS Ecological Sites for all public lands, and use them as a basis for management decisions.
- Livestock stocking rates should be amended based on long term monitoring supported by short term monitoring that includes allotment wide utilization mapping.

- Improve wild horse monitoring, management, and control methods as per the legal requirements to manage wild horses and burros within established Herd Management Areas.
- Balance the needs of wildlife and livestock through Allotment Management Plan (AMP) development.
- Use peer reviewed scientific information when making Threatened and Endangered species decisions that impact livestock grazing and rural economies.
- Commit funding and priority to AMP development and necessary range improvements to facilitate improved livestock distribution.
- Focus livestock management criteria on allotment-wide distribution as well as utilization of key areas.
- Use voluntary non-use as a mechanism for retaining AUMs while necessary range improvements and monitoring occur.
- Support the BLM's Great Basin Restoration Initiative and Eastern Nevada Landscape Restoration Project.
- Working cooperatively with the other representative agencies, et. al. Update the 1982 Nevada Rangeland Monitoring Handbook to more effectively reflect the present state of the science in Nevada.

Implementing the above goals throughout all of Nevada's federal agencies will lead to improved resource condition and maintain a viable livestock industry on Nevada's public lands.

CONCLUSION

This manuscript has provided a description of AUM declines in Nevada and, when possible, explanations for the changes. It is apparent that many factors influence AUM changes on public lands in Nevada. In our (the consultant's) experience the primary forces driving the decline in livestock grazing have been:

- A change in public attitude toward grazing
- A reluctance, or inability, of federal agencies to invest in rangeland improvement projects
- A distrust, and often poor working relationship, among federal land administrators, permittees, and the general public.

- Region wide resource condition decisions rather than site specific evaluations

Nevada public land grazing issues that permittees face today are often localized and related to livestock distribution problems, which can be resolved by site specific planning, as opposed to further livestock reductions. In the past, federal agencies have tended toward prescriptive grazing standards, regional or landscape based planning processes, and penalty driven program administration. These approaches offer little incentive or opportunity for private investment for site specific management solutions to address specific grazing issues. If continued, this approach will likely result in further declines in public land grazing and further adverse economic effects to the Nevada livestock industry, dependent rural economies, and local governments.

Collaboration and cooperation among agency staff, permittees, the scientific community, and the general public will help resolve resource concerns. All groups and individuals involved with public land grazing have responsibilities to the public and to the natural resource. Federal agency personnel have a responsibility to provide resource management plans, provide objectives, and conduct monitoring based on sound scientific reasoning and have an understanding of the needs of all who use public lands. Public land livestock operators are obligated to manage their operations with respect and concern for resources, based on established rangeland management techniques. Sound resource management decisions based on site specific resource conditions, with conscientious livestock permittees, will allow an economically viable livestock industry to prosper in Nevada.