reallocate (AML) carrying capacity ✓ m 12-6-93 movement w/in allot. migration not addressed 93 census?

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

IN REPLY REFER TO:
4160
(NV-026.14)

NO HMAP due 1987 from 1982 MFP

December 6, 1993

CERTIFIED MAIL NO. P219922488
RETURN RECEIPT REQUESTED

NOTICE OF PROPOSED FULL FORCE AND EFFECT MULTIPLE USE DECISION
LEADVILLE ALLOTMENT

Doane Western Company
ATTN: Scott McKinley
4969 E. McKinley #202
Fresno, CA 93727

Dear Mr. McKinley:

The Record of Decision for the Sonoma/Gerlach Environmental Impact Statement and the Management Framework Plan - Land Use Plan - was issued on September 9, 1982. These documents established the multiple use goals and objectives which guide management of the public lands in the Leadville Allotment.

In 1988, the Leadville Allotment was evaluated using monitoring data to determine whether or not the Land Use Plan's (LUP) objectives were being met. As a result of that evaluation an agreement was negotiated with the permittee which specified a grazing system, established a livestock grazing preference, and site specific objectives.

Monitoring has been conducted to determine if livestock grazing, wild horse use, and wildlife use are within the objective parameters established in the LUP. These objectives were carried forward in the Leadville Allotment Agreement and Management Plan, and the Fox Mountain Habitat Management Plan. Since the 1988 evaluation, additional monitoring has been collected and analyzed to determine whether or not progress is being made in meeting the multiple use objectives for the Leadville Allotment. In addition, this information will direct changes, if any are required, in management actions to meet those objectives.

Through the allotment re-evaluation process the Bureau of Land Management determined that changes in existing management are required to achieve the multiple use objectives for the allotment. Analysis of the monitoring data indicates that the existing numbers of wild horses and management of livestock are contributing to the failure in meeting parameters of the LUP and the 1988 Allotment Agreement multiple use objectives. Analysis of wildlife monitoring data does not indicate a need for change in the existing wildlife management. Therefore, this decision changes livestock management and numbers, the grazing system, establishes new objectives or modifies existing objectives, and establishes an Appropriate Management Level (AML) for wild horses in order to attain a thriving natural ecological balance.

The draft re-evaluation was sent to interested parties which initiated the consultation, coordination, and cooperation process. Three groups submitted comments that were incorporated into the document.

As a result of this process my proposed decisions are:

1) take to 9 year olds
2) reduce livestock until AML is reached

ALLOTMENT WIDE MULTIPLE USE OBJECTIVES

The following are the multiple use management objectives under which grazing on the Leadville Allotment will be monitored and evaluated.

I. Short Term Objectives

A. Utilization of key plant species in riparian habitat shall not exceed 50%. (WL-1.10)

B. Utilization of key plant species in upland habitats shall not exceed 50% except where adjusted by an approved activity plan. (WL-1.7 & 1.9)

II. Long Term Objectives

A. Requantify long term objective #1. From: Improve to and maintain 424 acres of riparian and meadow habitat types in good condition. (WL-1.10)

To: Identify the location(s) and total acres of meadow and riparian habitat within the allotment, and develop a Desired Plant Community objective.

B. Requantify long term objective #3. From: Improve to or maintain 72 acres of mtn. mahogany thicket and 70 acres of aspen woodland habitat in good condition. (WL-1.9)

To: Identify the location(s) and total acres of mtn. mahogany and aspen woodland sites, and establish age class structure objectives.

III. Desired Plant Community Objectives

Desired plant community (DPC) objectives were based on an ecological site inventory conducted in 1990. Key Management Areas were selected by reviewing ecological site inventory data, use pattern mapping data, distance to available water, wild horse distribution and wildlife habitat areas.

The following Key Management Area locations and objectives have been identified in each pasture. The Ecological Site Description lists the major plant species and their percent composition by weight that may make up the desired plant community shown in the long term objective for each Key Management Area. Final site selection will be made by a inter-disciplinary team and affected interests. **The long term DPC objectives percentages may need to be slightly adjusted once key management areas are established.**

A. Smokey Field

Short Term

On Ecological Site 024XY005NV (Loamy 8-10" P.Z.) within site write up area (SWA) R018, transect 3, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	6%	12%	55%
Forbs	0%	0%	5%
Shrubs	94%	88%	40%

Increase Sihy and Poa++ from 6 to 12% by weight. If Stth2 is found an objective will be developed for it. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. It is not located within identified wildlife habitat, but does lie between antelope winter habitat AW-1 and AW-7, and is adjacent to potential bighorn sheep yearlong habitat BY-6.

B. Lower Field

Short Term

On Ecological Site 023XY037NV (Clay Slopes 8-12" P.Z.) within site write up area (SWA) R028, transect 2, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	24%	46%	70%
Forbs	2%	5%	10%
Shrubs	74%	49%	20%

Increase Stth2 and Agsp from 10 to 15% by weight. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within antelope summer habitat AS-6, and potential bighorn sheep yearlong habitat BY-5.

C. Leadville Field

Short Term

On Ecological Site 023XY007NV (Loamy 14-16" P.Z.) within site write up area (SWA) R046, transect 2, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	59%	60%	60%
Forbs	0%	5%	10%
Shrubs	41%	35%	30%

Maintain Feid at 50% and increase Agsp from 2 to 5% by weight. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within antelope winter habitat AW-8, bighorn sheep yearlong habitat BY-2, is adjacent to deer winter habitat DW-6, and is one mile west of an identified sage grouse brooding habitat area.

D. Swingle Field

Short Term

On Ecological Site 023XY007NV (Loamy 14-16" P.Z.) within site write up area (SWA) R038, transect 1, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	45%	55%	60%
Forbs	5%	5%	10%
Shrubs	50%	40%	30%

Increase or maintain Feid at 35%. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within antelope winter habitat AW-6.

Carrying Capacity

The combined carrying capacity for livestock and wild horses to achieve these objectives is 2803 AUMs:

Livestock	1291 AUMs
Wild Horses	1512 AUMs

The carrying capacity between livestock and wild horses was based on the LUP ratios in accordance with MFP Decisions - Range 1.1, Wild Horse and Burros 1.1.

LIVESTOCK MANAGEMENT DECISION

Based upon the evaluation of monitoring data for the Leadville Allotment, consultation with the permittee, and other affected interests it is my proposed decision to change the livestock management:

From:

1.	Grazing Preference (AUMs)		
	a.	Total Preference	4570
	b.	Suspended Preference	2003
	c.	Active Preference	2567
	d.	Not Scheduled	
	e.	Exchange of Use	
	f.	Scheduled Use	2003
2.	Season of Use		4/1 - 10/31
3.	Number and Class of Livestock		367, cow/calf
4.	Percent Federal Range		100%

To:

1.	Grazing Preference (AUMs)		
	a.	Total Preference	4570
	b.	Suspended Preference	3279
	c.	Active Preference	1291
	d.	Not Scheduled	
	e.	Exchange of Use	
	f.	Scheduled Use	1291
2.	Season of Use		5/1 - 10/15
3.	Number and Class of Livestock		235, cow/calf
4.	Percent Federal Range		100%

Livestock will be reduced to 1291 AUMs in the 1994 grazing season.

GRAZING SYSTEM

Change the existing livestock grazing system.

From:

Pastures

Year	Smokey	Lower	Leadville	Swingle
1	6/15 - 10/31	4/1 - 10/31	Rest	7/15 - 10/31
2	4/1 - 10/31	Rest	7/15 - 10/31	6/15 - 10/31
3	Rest	7/15 - 10/31	6/15 - 10/31	4/1 - 10/31
4	7/15 - 10/31	6/15 - 10/31	4/1 - 10/31	Rest

To:

Pastures

Year	Smokey	Lower	Leadville	Swingle
1	5/1 - 6/30	7/1 - 8/20	8/21 - 10/15	Rest
2	7/1 - 8/20	8/21 - 10/15	Rest	5/1 - 6/30
3	8/21 - 10/15	Rest	5/1 - 6/30	7/1 - 8/20
4	Rest	5/1 - 6/30	7/1 - 8/20	8/21 - 10/15

Rationale:

The length of the livestock use period is changed from 7 months to 5.5 months. The early use pasture will not be grazed for the entire season and will be rested the year prior to scheduled spring use. This system will allow plants to reach seedripe or close to it (7/1) in three out of four years, allowing for seed production and seedling establishment. Riparian areas would receive no livestock use or would have time for re-growth three out of four years. Maintenance and improvement of riparian and upland habitat, improvement of the ecological condition, and greater livestock management will result with the adoption of this system.

LIVESTOCK DECISION ACTIONS

1) Livestock will be limited to 50% utilization in each pasture at key areas (or as determined through use pattern mapping). When utilization objectives are met, livestock will be moved to the next scheduled pasture or removed from the allotment.

2) Evaluate the condition of existing water developments in conjunction with the permittee by 1994.

3) Analyze the District water inventory by 1995 and determine if there are additional water sources that can be developed to help in the achievement of objectives.

4) Conduct a re-evaluation in 2002 analyzing Resource Objectives developed from the ecological site inventory to determine if desired plant community objectives are being met.

5) Conduct a re-evaluation in 2014 to determine if long term desired plant community objectives have been achieved.

TERMS AND CONDITIONS

The below mentioned terms and conditions will be incorporated into the term permit and the annual authorization via the grazing bill:

Grazing use will be in accordance with this grazing decision.

Salt and/or mineral blocks shall not be placed within one quarter (1/4) mile of springs, streams, meadows, riparian zones, or aspen stands.

The permittees will be required to perform normal maintenance on the range projects for which they have been assigned maintenance responsibility.

Actual use will be submitted by November 1 each year.

Permittees will be required to perform necessary riding and herding to insure compliance with the livestock decision actions.

The term permit will run from 1994 to 2002 or the length of two grazing cycles.

AUTHORITY

The authority for this decision is contained in Title 43 of the Code of Federal Regulations; pertinent citations are cited:

4100.0-8	Land use plans	4110.3	Changes in grazing preference status
4120.3-1(a)	Conditions for range improvements	4120.3-2	Cooperative agreements
4120.3-7	Contributions for range improvements	4130.6	Terms and conditions
4130.6-1(a)	Mandatory terms & conditions	4130.6-2	Other terms & conditions
4130.6-3	Modifications (CCC process)		

WILD HORSE MANAGEMENT DECISION

Based on the evaluation of the monitoring data for the Leadville Allotment, consultation with the permittee, and affected interests my proposed decision for wild horses is:

WILD HORSE OBJECTIVES

Allotment specific objectives for Wild Horses on the Leadville Allotment are:

Maintain and improve the free-roaming behavior of wild horses by:

(a) protecting their home ranges.

(b) assuring free access to water.

WILD HORSE APPROPRIATE MANAGEMENT LEVEL

The following wild horse AML is based on monitoring and should result in a natural ecological balance for the Leadville portion of the Calico Herd Management Area:

HMA	AML	AUMs
Calico Mountains	126*	1512

Once AML is reached the wild horse population will be maintained within the following range in order to ensure that the carrying capacity is not exceeded. This range is based on gathering horses every three years. If the gathering cycle changes, the lower management range of wild horse numbers may be adjusted.

HMA	75% of AML to AML	AUMs
Calico Mountains	95 to 126*	1140 to 1512

* Only 34% of the Calico Mountains HMA is contained within the Leadville Allotment. The number of horses shown above is for the Leadville Allotment.

WILD HORSE DECISION ACTIONS

A. To realize the benefit of the rest treatment it is necessary that wild horse use not exceed 20% utilization on key species by July 15 in the rest pastures. If use exceeds 20%, the AML for wild horses will be adjusted so that this management criteria can be met.

The 20% utilization limit on key species by July 15 will limit use sufficiently so that the key species will be able to reach seed ripe and receive the benefits of a rest treatment. This allows the plants to gain vigor through building of carbohydrate reserves and allows seed production and dispersal for reproduction. If wild horse use is not limited in the rest pastures then benefits of a rest rotation grazing system will not be realized and the plant communities will not maintain or improve in condition.

B. Prevent the wild horse population from exceeding AML in order to keep utilization levels within established limits to achieve a Thriving Natural Ecological Balance and to provide for a healthy and thriving wild horse population. The stocking rate for livestock and establishment of an AML for wild horses is based on calculations from monitoring

studies. If numbers of either animal were to exceed the calculated carrying capacity it would not be possible to meet utilization goals and to maintain or improve the condition of plant communities thereby not providing for a Thriving Natural Ecological Balance.

To accomplish this goal it is necessary to calculate the number of wild horses to be removed based on the cycle of gathers. Presently, BLM is planning to gather HMAs every three years as set by the Wild Horse and Burro Strategic Plan. Based on this gather cycle and using existing information on herd recruitment from reproduction, the number to gather would be calculated so that the horses would be at AML when the next gather occurred three years later.

If the cycle of horse gathers is changed from three years, then the lower number of wild horses would be adjusted to fit the gather cycle so that numbers do not exceed AML before a scheduled gather date.

C. Limit the amount of utilization by horses to 60% in all pastures by the end of the winter use period.

RATIONALE: During the evaluation period the wild horse population exceeded the initial LUP stocking level of 2976 AUMs by 25% to 100%. Wild horses have made disproportionate use of the forage resource during the evaluation period. During the winter months heavy use zones by wild horses expanded so that just prior to active growth, heavy use dominated, leaving very little carry over forage from the previous year.

AUTHORITY

The authority for this decision is contained in Sec. 3(a) and (b) of the Wild-Free-Roaming Horse and Burro Act (P.L. 92-195) as amended and in Title 43 of the Code of Federal Regulations, which states:

4700.0-6(a) Policy

4710.4 Constraints on Management

4720.1 Removal of Excess Animals from Public Lands

WILDLIFE MANAGEMENT DECISION

Based on the evaluation of monitoring data for the Leadville Allotment, consultation with the permittee, and other affected interests, it is my proposed decision to continue with the wildlife management as it presently exists.

WILDLIFE OBJECTIVES

The allotment specific objectives for wildlife habitat on the Leadville Allotment are:

Protect sage grouse strutting grounds and brooding habitat and improve nesting and wintering habitat by:
(WL-1.11)

a) Following NDOW's guideline for Vegetal Control Programs in Sage Grouse Habitat in Nevada.

b) Maintain sagebrush canopy at 30% in sage grouse nesting areas where sagebrush does not exceed three (3) feet in height.

Fox Mountain Habitat Management Plan objectives and actions that have not been modified in the re-evaluation have been retained (pages 25-26 of the re-evaluation).

RATIONALE: Analysis of the existing management and monitoring of wildlife and wildlife habitat indicates that wildlife populations are not significantly contributing to the failure in meeting the 1988 allotment agreement objectives.

FUTURE MONITORING AND GRAZING ADJUSTMENTS

The Sonoma-Gerlach Resource Area will continue to monitor the Leadville Allotment. Monitoring data will continue to be collected in the future to provide the necessary information to determine if the allotment specific objectives are being met under the nw grazing management strategy. Subsequent evaluations will determine if adjustments are required to meet the established allotment specific objectives.

The Leadville Allotment is scheduled to be re-evaluated in 2002.

PROTEST RIGHTS

If you wish to protest the Proposed Full Force and Effect Multiple Use Decision in accordance with 43 CFR 4160.2, you are allowed fifteen (15) days from receipt of this notice within which to file such protest in person or in writing with the Area Manager. The protest should state why you think the proposed decision is in error. Protests should be sent to:

Area Manager
Sonoma-Gerlach Resource Area
Bureau of Land Management, Winnemucca District
705 East 4th Street
Winnemucca, NV 89445

In the absence of a protest within the time allowed, the above proposed decision becomes my final decision. At this time I will issue a Final Full Force and Effect Decision.

Sincerely Yours,

Bud C. Cribley, Area Manager
Sonoma-Gerlach Resource Area

Certified copies:

Nevada Division of Wildlife-Fallon - P219922489
Wild Horse Organized Assistance - P111849806
Commission for the Preservation of Wild Horses - P111849807
Sierra Club-Toiyabe Chapter - P111849808
Humane Society of the U.S. - P111849809
Int. Society for the Protection of Mustangs and Burros - P111849810
Animal Protection Institute - P111849811

LEADVILLE ALLOTMENT
RE-EVALUATION 1988 - 1992

TABLE OF CONTENTS

I. INTRODUCTION

A. Allotment Name: Leadville
Allotment Number: 00141

B. Permittee: Connecticut General Life Insurance Company. William Weaver Jr. was the permittee during the evaluation period. On October 1, 1993 the grazing permit was transferred, with a Total Preference of 4,570 AUM's, Suspended Preference of 2,003 AUM's, and an Active Preference of 2,567 AUM's.

C. Evaluation Period: 1988 - 1992

D. Selective Management Category: M
Priority: 8

E. Allotment Description:

The allotment is located in northern Washoe County, north of Gerlach, Nevada. The allotment is approximately 19 miles long in a north to south direction and 8 miles wide in a west to east direction. It is bordered by the Susanville District on the west, and by the Buffalo Hills and Soldier Meadows Allotments on the south, east and north.

The typical physiographic features of the allotment are the high elevation north-south trending mountain ranges, the numerous buttes and mesas with rim rock bluffs and steep rocky canyons to gentle rolling terrain and the valley floors.

Vegetation types in this allotment include those from the saltbush big sagebrush-mixed shrub-grass types (elevation 5,800 feet) to the low sagebrush-bluegrass (elevation 7,800 feet).

Land Status - Acres

Public Land	Other Land	Total
54,572 (96 %)	1,989 (4 %)	56,561

II. INITIAL STOCKING RATE

A. Livestock Use:

1. Total Preference: 4,570
Suspended Preference: 2,003
Active Preference: 2,567

Voluntary Reduction:	0 AUM's 1988*
	1,517 AUM's, 1989
	1,167 AUM's, 1990
	817 AUM's, 1991
	467 AUM's, 1992
	0 AUM's, 1993

* Base property and grazing permit were transferred in 1988.

2. Season of Use: 04/01 - 10/31

3. Kind, Class, and Number of Livestock

Year	Livestock Number - Kind	Aum's	% Reduction
0 (1988)	367 Cow/Calf	2567	0
1 (1989)	150 Cow/Calf	1050	59
2 (1990)	200 Cow/Calf	1400	45
3 (1991)	250 Cow/Calf	1750	32
4 (1992)	300 Cow/Calf	2100	18
5 (1993)	367 Cow/Calf	2567	0

4. Grazing System

The allotment was not scheduled for grazing in 1988 due to a change in ownership of the base property.

Year	Smokey Field	Lower Field	Leadville Field	Swingle Field
1989 1993	Graze 6/15 - 10/31	Graze 4/1 - 10/31	Rest	Graze 7/15 - 10/31
1990	Graze 4/1 - 10/31	Rest	Graze 7/15 - 10/31	Graze 6/15 - 10/31
1991	Rest	Graze 7/15 - 10/31	Graze 6/15 - 10/31	Graze 4/1 - 10/31
1992	Graze 7/15 - 10/31	Graze 6/15 - 10/31	Graze 4/1 - 10/31	Rest

On 6/15 move 244 cattle or 2/3 of the herd out of the spring pasture leaving 122 or 1/3 in the grazing pasture for the remainder of the grazing season until 10/31. Move 1/3 of the herd or 122 cattle into each of the remaining pastures which have been rested until after seedripe on 6/15 and again on 7/15. Cattle will remain here until the remainder of the grazing season 10/31.

B. Wild Horse Use:

Initial stocking level for wild horses from the 1982 Sonoma-Gerlach MFP-III for the Leadville Allotment.

	Wild Horses	
	Number	AUM's
Calico Mountains HMA*	248	2976

* Only 34% of the Calico Mountains HMA is contained within the Leadville Allotment. The number of horses shown above is for that part of the HMA within the Leadville Allotment.

C. Wildlife Use:

Reasonable Numbers (Sonoma-Gerlach MFP-III - 1982)

Mule Deer - (Odocoileus hemionus)	179 AUM's
Pronghorn - (Antilocapra americana)	67 AUM's
Bighorn Sheep - (Ovis canadensis)	176 AUM's

III. SUMMARY OF THE 1988 EVALUATION CONCLUSIONS, RECOMMENDATIONS AND ALLOTMENT OBJECTIVES

A. Summary of the 1988 Allotment Evaluation Conclusions

1. The short term upland and riparian utilization objectives are not being met in all four pastures of the allotment.

2. Utilization of the allotment by a combination of livestock, wild horses and wildlife exceeds the carrying capacity because:

- wild horses exceeded the recommended numbers outlined in the Sonoma-Gerlach MFP-III.
- emigration of pronghorn and mule deer from the Hog Ranch Mountain Mine Area.
- the deferred rest-rotation grazing system allows for season long use in one pasture where use levels can be expected to be greater than the deferred pasture.

B. Recommendations from the 1988 Allotment Evaluation

1. Negotiate a 10% reduction in active grazing preference.

2. Maintain the existing grazing management system.

3. Reduce wild horses to the recommended numbers in the Sonoma-Gerlach MFP-III.

C. Allotment Objectives

1. Short Term

a. Utilization of key plant species in riparian habitat shall not exceed 50%. (WL 1.10)

b. Utilization of key plant species 1/ in upland habitats shall not exceed 50% except where adjusted by an approved activity plan. (WL 1.7 & WL 1.9)

1/ Key forage species serve as an indicator of the degree of use of associated species, and because of their importance, be considered in a management program.

2. Long Term

a. Improve to and maintain 424 acres of riparian and meadow habitat types in good condition. (WL 1.10)

b. Protect sage grouse strutting grounds and nesting habitat and improve brooding habitat by;

(1) Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.

(2) Maintain sagebrush canopy at 30% in sage grouse nesting, brooding and wintering areas where sagebrush does not exceed three (3) feet in height.

c. Improve to or maintain 72 acres of mtn. mahogany thicket and 70 acres of aspen woodland habitat in good condition. (WL 1.9)

d. Manage, maintain and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 176 AUM's for mule deer, 67 AUM's for pronghorn antelope and 176 AUM's for bighorn sheep by:

(1) Maintaining 21,391 acres of mule deer habitat in Hog Ranch Mtn. DS-6 and E. Granite DW-6 in good condition.

(2) Improving 898 acres of pronghorn antelope habitat in Swingle AW-6 from fair to good condition.

(3) Improving 18,930 acres of potential bighorn habitat in Division Peak BY-5 and Buffalo/Granite BY-2 from 70% and 65% respectively to 90% of optimum.

e. Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 2,567 AUM's for livestock.

f. Improve range/ecological conditions 1/ from poor to fair on 9,823 acres and from fair to good on 22,920 acres and good to excellent on 21,829 acres.

1/ The condition objective will be redefined/quantified to obtain a particular ecological status when site potential and identified uses are combined to meet vegetative objectives.

g. Manage, maintain and improve public rangeland conditions to provide an initial level of 2,976 AUM's of forage on a sustained yield basis for 248 wild horses in the

Calico Mountains Herd Management Area (HMA).

h. **Maintain and improve the free roaming behavior of wild horses and burros by protecting and enhancing their home range.**

i. **Maintain/improve wild horse and burro habitat by assuring free access to water.**

IV. FOX MOUNTAIN HABITAT MANAGEMENT PLAN OBJECTIVES

The Fox Mountain Habitat Management Plan (HMP) lists specific objectives for the allotment except for the area in the vicinity of High Rock Lake. Maps of identified habitat areas for mule deer, pronghorn, potential big horn sheep and sage grouse habitat are found in the HMP.

1. Establish accurate bighorn sheep potential for Buffalo/Granites BY-2 use area by 1990.

2. Improve mule deer habitat as follows:

   E. Granites DW-6 (0.66 to 0.77 by 1995)

3. Improve pronghorn habitat as follows:

   a. Division Peak AS-6 (0.53 to 0.69 by 1996)

   b. Willow Creek AS-7 (0.46 to 0.62 by 1997)

   c. Swingle AW-6 (0.61 to 0.76 by 1998)

   d. Calico Mtns. AW-7 (0.61 to 0.76 by 1997)

   e. Middle Fork AW-8 (0.53 to 0.69 by 1998)

4. Establish sage grouse habitat improvement needs by 1991.

5. Protect sage grouse strutting grounds and nesting habitat and improve brooding habitat by 1996.

6. Improve chukar habitat by 1998 as follows:

   a. 25,286 acres from low to medium density.

   b. 27,286 acres from medium to high density.

7. Improve the condition of 2126 acres of wetland riparian habitats to late seral by 1994 as follows:

   a. Dry Meadows - Establish an air dry weight vegetation composition of 30-40% native perennial grasses, 30-40% forbs, and not to exceed 5% shrubs.

   b. Wet Meadows - Establish an air dry weight vegetative composition of 30-40% native perennial grasses, 30-40% forbs, and not to exceed 5% shrubs.

8. Utilization of key plant species in wetland riparian habitats shall not exceed 50% unless a meadow is to be managed for the specific benefit of sage grouse within the established grazing plan.

9. Establish at least two meadows as key areas in the Leadville Allotment.

V. MANAGEMENT ACTIONS FROM AGREEMENT OR DECISION

The Agreement For Implementation And Changes In Available Livestock Forage And Livestock Grazing Use Adjustments For The Leadville Allotment was signed on December 6, 1988. The agreement negotiated a reduction in livestock numbers and modified the sequence of grazing use in the existing grazing management system, so the season long use pasture would receive complete rest the following year.

The agreement provided for an initial stocking level of 150 cattle in 1989, with an increase of 50 head each year until the operator reached full active preference in 1993. The following table shows the stocking level and percent reduction from active preference outlined in the agreement.

Year	Stocking Level	% Reduction
1989	150	59
1990	200	45
1991	250	32
1992	300	18
1993	367	0

VI. MANAGEMENT EVALUATION

A. Summary of Studies

1. Actual Use: Actual use is defined as where, how many, what kind or class of animal, and how long the animals graze on an allotment.

a. Livestock

year	Aum's
1988	0
1989	0
1990	1209
1991	0
1992	607

There has not been a consistent livestock operation during the evaluation period. The allotment was not stocked in 1988 due to a change in ownership of the base property. The allotment was not stocked in 1989 and 1991 because the permittee's authorized representative felt that there was not sufficient forage to graze both livestock and wild horses.

b. Wildlife

The Nevada Department of Wildlife (NDOW) does not provide wildlife population trend data by allotment. NDOW surveys deer after the fall hunts to stratify for adult bucks and fawns per 100 adult does and in the early spring, prior to the dropping of new fawns, for yearlings per 100 adults. Pronghorn are surveyed after the fall hunt to stratify adult bucks and kids per 100 adult does. NDOW feels that a ratio 35 yearlings per 100 adult females in the spring and a fall ratio of 20 bucks to 100 does is necessary to sustain a quality population of either mule deer or pronghorn.

The trend data shown below is based on sampling done within Hunt Unit 014 by NDOW which most of the allotment is within.

Mule Deer

(Bucks/Fawns /100 does)	(Yearlings /100 Adults)	% Change
Fall 1988	Spring 1989	
24.4/13.8	0	-100
Fall 1989	Spring 1990	
38/28	11	-62
Fall 1990	Spring 1991	
31/35	35	+1
Fall 1991	Spring 1992	
25/36	27	-26
Fall 1992	Spring 1993	
41/21	0	-100

Pronghorn

(Bucks/Kid/100 does)

Fall 1988 41/43 Fall 1989 43.6/36.5

Fall 1990 59/45 Fall 1991 39.3/19.5

Fall 1992 33/44

The short term trend for mule deer declined during the evaluation period. Statewide the trend for mule deer has been declining since 1988, which corresponds to the beginning of lower than normal precipitation in the area and a peak in mule deer numbers.

The short term trend for pronghorn is static during the evaluation period.

There are no bighorn sheep in the allotment.

c. Wild Horses

Procedures for determining actual use for wild horses are described in Appendix 3.

The 1988, 1989 and 1992 population levels are from census data collected in September 1988, July 1989 and

October 1992. The 1990 and 1991 population level is an estimate based on an 11% increase per year of the 1989 census population. The following table shows the population estimate and AUM demand of wild horses in the allotment.

year	population - head	Aum's
1988	315	3,380*
1989	309	3,708**
1990	343	4,116
1991	381	4,572
1992	496	5,952

* actual use has been adjusted to reflect the removal of 200 wild horses in December 1988.

** When capture operations were completed in 1988, the estimated wild horse population in the allotment was 115 head. It is not known if the immigration of horses into the allotment is natural or the result of the capture operation in an adjacent allotment within the HMA.

2. Wild Horse Removal Data

December 1988 200 head

3. Climatological Data

The following table describes the amount of annual, growing season, winter, and percent of normal precipitation recorded at the Denio, Dufferrena, Gerlach and Leonard Creek NOAA weather stations from 1988 through 1992.

STATION	ELEVATION	ANNUAL NORM[1]	GROWING NORM[2]	WINTER NORM[3]
Denio	4185'	9.22	4.51	3.50
Dufferrena	4800'	7.22	3.76	2.49
Gerlach	3950'	7.70	3.70	3.34
Leonard Crk	4220	8.61	3.71	3.89

1988	Ann.	% Norm	Grow	% Norm	Win.	% Norm
Denio	6.56	71%	3.14	70%	2.43	69%
Dufferrena	5.30	73%	2.74	73%	1.90	76%
Gerlach	5.32	69%	2.72	74%	2.49	75%
Leonard Crk	7.21	84%	2.94	79%	3.38	87%

1989	Ann.	% Norm	Grow	% Norm	Win.	% Norm
Denio	9.03	98%	4.37	97%	4.13	118%
Dufferrena	5.60	78%	2.91	77%	2.18	88%
Gerlach	8.09	105%	3.80	103%	3.88	116%
Leonard Crk	9.43	110%	3.98	107%	4.60	118%

1990	Ann.	% Norm	Grow	% Norm	Win.	% Norm
Denio	6.06	66%	4.38	97%	1.75	50%
Dufferrena	4.93	68%	3.37	90%	1.12	45%
Gerlach	10.15	132%	6.28	156%	3.41	102%
Leonard Crk	7.74	90%	4.67	126%	2.12	54%

1991	Ann.	% Norm	Grow	% Norm	Win.	% Norm
Denio	9.58	104%	6.37	141%	2.22	63%
Dufferrena	7.85	109%	5.72	153%	1.61	65%
Gerlach	7.71	100%	4.27	115%	2.41	72%
Leonard Crk	7.90	92%	5.06	136%	1.78	46%

1992	Ann.	% Norm	Grow	% Norm	Win.	% Norm
Denio	5.23	57%	2.38	53%	1.34	38%
Dufferrena	5.14	71%	2.65	70%	1.67	67%
Gerlach	5.46	71%	2.99	81%	1.88	56%
Leonard Crk	4.99	58%	2.38	64%	1.54	40%

1 Annual is October - September
2 Growing Season is March - August
3 Winter is November - February

Climatological Data provided by the Western Regional Climate Center - Atmospheric Sciences Center, Desert Research institute. The normal annual, growing season, and winter precipitation were

determined by adding the mean monthly precipitation data.
Since 1988, winter precipitation has been significantly below normal at all stations, except for 1989 and Gerlach 1990. The effect of drought conditions during the winter months is reduced spring flow, reduced to no seasonal runoff, and reduced available soil moisture for plants at the initiation of active growth. The effects are intensified by successive dry years. High Rock Lake remained dry during the evaluation period except for a short period in the spring of each year.

Growing season precipitation was significantly below normal for 1988 and 1992. During 1989, 1990 and 1991, growing season precipitation ranged from near normal to significantly above normal (except Dufferrena 1989). Light rains on dry warm soils are of little use to plants, however if the intensity of each storm is sufficient, near normal growth may occur.

Annual precipitation varied from significantly below normal in 1988 and 1992 at all stations, to normal in 1989 (except Dufferrena) and 1991. In 1990 it appears that topography influenced precipitation, by blocking and funneling storm systems around the base of the mountains along the northern edge of the Black Rock Desert. Annual precipitatin at Denio and Dufferrena were significantly below normal while Leonard Creek had near normal and Gerlach was significantly above normal. The Leonard Creek and Gerlach stations are on the edge of the Black Rock Desert, while the Denio and Duferrena stations are separated from the Black Rock Desert by the Calico Mountains, Black Rock Range and the Pine Forest Range.

4. Utilization

a. Key Areas

The 7 existing Key Areas in the allotment were established in 1977 and/or 1981. Key Area utilization readings were made using the six (6) standard use classes; no use (0%), slight use (1-20%), light use (21-40%), moderate use (41-60%),heavy (61-80%) and severe (81-100%).

Smokey Field 1-1

Date	Species - % Utilization
9/20/88	Stth2 7%, Poa++ 9%, Sihy 15%

Smokey Field 1-2

Date	Species - % Utilization
9/20/88	Sihy 34%, Poa++ 36%

Smokey Field 1-3

Date	Species - % Utilization
9/20/88	Elci2 44%, Sihy 28%

Smokey Field 1-4

Date	Species - % Utilization
9/20/88	Sihy 44%, Poa++ 35%

Lower Field 2-1

Date	Species - % Utilization
9/21/88	Poa++ 4%, Stth2 15%
3/28/89	Sihy 24%, Poa++ 18%
5/09/90	Sihy 0%, Poa++ 4%, Stth2 4%

Leadville Field 3-1

Date	Species - % Utilization
9/21/88	Stth2 13%, Poa++ 11%, Sihy 15%

Swingle Field 4-1

Date	Species - % Utilization
9/20/88	Poa++ 3%, Sihy 14%, Stth2 4%

Key area utilization data shows use by wild horses only. The data indicates that use by wild horses at Key Areas did not exceed the 50 % utilization objective.

b. Use Pattern Mapping

Use Pattern Maps (UPM) were used to determine levels of use within each pasture. The procedures used to collect this data can be found in the Nevada Rangeland Monitoring Handbook and BLM Handbook TR-4400-3.

From 1988 thru 1990 UPM data was collected using four (4) use classes; no use (0%), light use (1-40%), moderate use (41-60%), and heavy (61-100%). Starting in 1991 the standard six (6) utilization classes were used.

Use pattern maps are maintained in the Leadville allotment and Calico Mountains HMA monitoring files.

The following table lists the acres of moderate, heavy and severe use, and the percent of total acres mapped in each field. Total acres of moderate, heavy and severe use, percent of total acres mapped, and actual use are shown at the bottom of the table. Use pattern mapping data outlining total acres mapped in each field are shown in appendix 4.

Year and Percent Mapped by Field

	1988		1989		1990		1991	
Field	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Leadville								
Moderate	259	12%	875	34%	0	0%	0	0%
Heavy	1,604	75%	0	0%	171	48%	0	0%
Severe	-	-	-	-	-	-	0	0%
Swingle								
Moderate	0	0%	950	43%	866	38%	0	0%
Heavy	4,476	100%	599	27%	849	38%	0	0%
Severe	-	-	-	-	-	-	0	0%
Lower								
Moderate	0	0%	1,593	46%	271	44%	-	-
Heavy	1,596	100%	1,844	54%	339	56%	-	-
Severe	-	-	-	-	-	-	-	-
Smokey								
Moderate	0	0%	126	3%	2,374	35%	8,539	99%
Heavy	4,981	100%	0	0%	4,138	61%	130	1%
Severe	-	-	-	-	-	-	0	0%
Total Acres and % Mapped by Allotment								
Moderate	259	2%	3,544	28%	3,511	35%	8,539	42%
Heavy	12,657	96%	2,443	19%	5,497	55%	130	1%
Severe	-	-	-	-	-	-	0	0%
Total AUM's	3,380 AUM's		3,708 AUM's		5,325 AUM's		4,572 AUM's	

- 1988 wild horse use only, mapped May 1989
- 1989 wild horse use only, mapped March 1990
- 1990 livestock and wild horse use. Leadville, Swingle and Lower Fields mapped October 1990. Smokey Field mapped April 1991.
- 1991 pre-livestock turnout. Leadville Field mapped June, Swingle Field mapped July, Smokey Field mapped November. In August it was discovered that livestock were not turned out by the permittee.

Use pattern mapping data collected during the evaluation period indicates that use by wild horses only, tends to be in the light to moderate use categories with small areas of heavy use by fall. At some point during the winter months, moderate

and heavy use zones expand so that just prior to the start of active growth, heavy use predominates and there is very little carry over forage from previous years production.

In 1988, wild horse use did not exceed utilization objectives by fall, however after the winter months, use was found to be predominantly heavy throughout the allotment. Precipitation for 1988 was significantly below normal for the entire year which apparently resulted in very low forage production, and allowed access to all areas of the allotment by wild horses yearlong.

Precipitation in 1989 was significantly above normal during the winter and normal during the growing season, which appears to have resulted in greater forage production than 1988. Heavy use throughout the allotment decreased significantly from 1988.

During 1990, heavy use zones doubled from those found in 1989. Winter precipitation was significantly below normal while the growing season was normal to above normal. Post livestock utilization data collected within wildlife habitat areas in Swingle and Lower Fields found about equal amounts of moderate and heavy use. Data collected in Smokey Field on total 1990 use by livestock and wild horses found heavy use accounted for almost twice the area that moderate use accounted for.

In 1991, data collected in Smokey Field found use by wild horses was moderate by November. Precipitation was significantly below normal for winter and significantly above normal for the growing season. Data was not collected showing total use on 1991 production. However, if use levels followed the same pattern found in 1988 and 1990, predominantly heavy use would have occurred by spring.

5. Trend

Trend data was not collected during the time period covered by this evaluation.

6. Ecological Site Inventory

An ecological status inventory was conducted in October 1990. The following table lists the acres by seral stage and percentage by seral stage for the allotment.

Seral Stage	Acres	%
Potential Natural Community	1,691	3
Late	16,096	28
Mid	34,272	61
Early	912	2
Rock/Barren	3,424	6
Fenced Private	166	<1
Total	56,561	100

Ecological Site Inventory (ESI) data were used to develop Desired Plant Community (DPC) objectives. Desired Plant Communities are the plant communities that produce the kind, proportion, and amount of the vegetation necessary for meeting or exceeding the Land Use Plan goals and activity plan objectives established for the site.

Direction for the development of Desired Plant Community objectives is provided by Instruction Memorandum W.O. No. 91-290, Vegetative Managment Initiative Development of Desired Plant Community (DPC) Guideance. Fiscal Year 1994 Annual Work Plan Directives from both the Washington Office and Nevada State Office state that DPC development has been a priority and will have increasing priority emphasis during FY 1994.

7. Wildlife Habitat

There was no wildlife habitat data collected during the evaluation period.

8. Riparian Habitat

There was no riparian habitat data collected during the evaluation period. Use pattern mapping data collected on total use of 1990 forage found severe use on wild rose (Rosa woodsii), Salix spp. and basin wildrye (Elymus cinereus) at a small riparian area at the mouth of McConnel Canyon. Use on these species was primarily by livestock, with some wild horse use.

9. Fisheries Habitat

There are no fisheries habitat within the allotment.

10. Wild Horse and Burro Distribution

Data on the distribution of wild horses has been collected from the ground and by aircraft (helicopter and fixed-wing) since 1988. Aerial distribution maps are on file in the Winnemucca District Office. Appendix 2 describes the methodology, results of each distribution flight, date flown, type of aircraft, and the number of horses observed.

There were 10 complete and 1 partial distribution flights conducted during the evaluation period (4 - winter, 1- spring, 4 - summer, 2 - fall). As a result of the inconsistent livestock operation in the allotment during the evaluation period, the distribution data demonstrates the preferred areas of use by wild horses.

An analysis of the data indicates that horses predominantly occupied the middle to higher elevations around Hog Ranch Mountain and Buckhorn Peak during the spring, summer and fall. Horses were found in lower densities throughout the remainder of the allotment during these seasons.

During the winter months horses were found using the flats, lower hills and south aspect areas throughout the allotment. During normal to severe winter weather conditions, the distribution of horses in the allotment shifts to the area around High Rock Lake, and there is a southern movement of horses from the Buckhorn Peak area to the low hills between the allotment boundary and Negro Creek.

During the period covered by this evaluation (with the exception of 92/93) there was very little snow pack on the mountains which allowed horses to occupy all habitats from the lower to higher elevations during the winter months. Seasonal movement and distribution of horses in the allotment during the evaluation period appears to have been affected more by forage availability than by climatic conditions. To accurately delineate seasonal use areas and critical winter habitats, the continued collection of seasonal aerial distribution data throughout the climatic spectrum will be required.

11. Recreation

Data on the number of visitor days (visitor day = 12 hours) in the allotment was collected in 1991 and 1992. Each year there was an average recreational use of approximately 1500 visitor days. Half of the recreational use occurred in the High Rock Lake and Swingle Ranch areas, with lesser use found around Little High Rock Canyon and Smokey Spring. Approximately 80 percent of the people using the area had four wheel drive vehicles and 10 percent were using All Terrain Vehicles. The majority of the use occurs on Memorial Day, Labor Day and during the big game hunting seasons.

VII. EVALUATION OF 1988 OBJECTIVES

A. Short Term

1. Utilization of key plant species in riparian habitat shall not exceed 50%. (WL-1.10)

   The ecological site inventory conducted in 1990 did not find meadow habitats large enough to sample (2 acres or more), however it did identify a 024XY006NV Dry Floodplain ecological site in Smokey Field along Willow Creek, Little Smoky Creek and on the flats west of High Rock Lake. The site occurs on the outer margins of axial-stream floodplains, fan skirts and along intermittent drainage ways which would not be considered wetland riparian habitat.

   Use pattern mapping data on the Dry Floodplain site indicates the objective was not met in 1988 and 1990 along Willow Creek and Little Smoky Creek. The objective was not met in 1988 due to utilization by wild horses and not met in 1990 due to combined utilization by wild horses and livestock.

2. Utilization of key plant species in upland habitats shall not exceed 50% except where adjusted by an approved activity plan. (WL-1.7 & 1.9)

   Use pattern mapping data indicates this objective has not been met. Use pattern mapping data showing total use by wild horses on 1988 production indicates large areas of heavy use (61-100%) throughout the allotment. Allowable use levels were exceeded in some areas of the allotment through out the evaluation period.

B. Long Term Objectives

1. Improve to and maintain 424 acres of riparian and meadow habitat types in good condition. (WL-1.10)

   Baseline and trend data were not collected during the evaluation period to determine if this objective has or has not been met.

   Non-attainment of the short term utilization objectives indicates that this objective is not progressing towards achievement.

2. Protect sage grouse strutting grounds and nesting habitat, and improve brooding habitat by:

   a. **Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.**

   b. **Maintain sagebrush canopy at 30% in sage grouse nesting, brooding and wintering areas where sagebrush does not exceed three (3) feet in height.**

      Baseline and trend data were not collected during the evaluation period to determine if this objective has or has not been met. There were no fires, brush control, or other projects conducted on the allotment during the evaluation period which would have decreased sagebrush canopy cover.

      The ecological site inventory conducted in 1990 found that ecological sites in the nesting/brooding habitat area are in a late seral status, and sites in the strutting habitat area are in a mid-seral status. There are no wintering areas identified within the allotment.

3. Improve to or maintain 72 acres of mtn. mahogany thicket and 70 acres of aspen woodland habitat in good condition. (WL-1.9)

   There was no trend data collected during the evaluation period to determine if the objective has or has not been met.

4. Manage, maintain and improve public rangeland habitat condition to provide forage on sustained yield basis, with an initial forage demand for big game of 179 AUM's for mule deer, 67 AUM's for pronghorn antelope and 176 AUM's for bighorn sheep by:

   a. **Maintaining 21,391 acres of mule deer habitat in Hog Ranch Mtn. DS-6 and E. Granites DW-6 in good condition.**

   b. Improving 898 acres of pronghorn antelope habitat in **Swingle AW-6 from fair to good condition.**

   c. **Improving 18,930 acres of potential bighorn habitat in Division Peak BY-5 and Buffalo/Granites BY-2 from 70% and 65% respectively to 90% of optimum.**

      Population estimates indicate the initial forage AUM demand for mule deer was met in 1988, but not met for 1989, 1990 and 1991.

      Population estimates for pronghorn antelope indicate the initial AUM forage demand was met except for 1989.

There are no bighorn sheep found in the allotment.

The big game habitat data collected in 1987 indicated that mule deer habitat was being maintained in good condition. Trend data was not collected during the evaluation period to determine if the objective is still being met.

Trend data was not collected on bighorn sheep habitat to determine if the objective is moving towards achievement.

5. Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with and initial stocking level of 2,567 AUM's for livestock.

This objective has not been met. Use pattern mapping data showing total use on 1988 and 1989 production by wild horses only, indicates the allotment carrying capacity for livestock and wild horses is 2805 AUM's. Appendix 1 shows how the available AUM's were determined.

6. Improve range/ecological condition from poor to fair on 9,823 acres and from fair to good on 22,920 acres and good to excellent on 21,829 acres.

The range/ecological condition listed in this objective refers to forage conditions and was not based on ecological sites. The ecological site inventory conducted in 1990 found 61 % of the allotment in a mid-seral ecological status and 28 % in a late seral status. There was only 2 % of the allotment in a early seral status and 3 % was rated as a Potential Natural Community. The remainder of the allotment was made up of rock outcrop or barren areas. This objective will be redefined/quantified as desired plant community objectives using ecological site inventory data collected in 1990.

7. Manage, maintain and improve public rangeland conditions to provide an initial level of 2,976 AUM's of forage on a sustained yield basis for 248 wild horses in the Calico Mountains Herd Management Area*.

This objective has not been met. Use pattern mapping data showing total use on 1988 and 1989 production by wild horses only, indicates that there are 2805 AUM's available for livestock and wild horses (see appendix 1). Utilization by wild horses only, exceeded the available AUM's from 20 % to 63 % during the evaluation period.

* Only 34% of the Calico Mountains HMA is contained within

the Leadville Allotment. The number of horses shown above is for that part of the HMA within the Leadville Allotment.

8. Maintain and improve the free-roaming behavior of wild horses and burros by protecting and enhancing their home ranges.

   Aerial distribution mapping and on the ground distribution data collected during the evaluation period indicates that wild horses have freedom of movement within the allotment and are maintaining their free roaming behavior. This objective is being met.

9. Maintain/improve wild horse/burro habitat by assuring free access to water.

   This objective has been met. Wild horses have free access to all water sources within the allotment.

VIII. EVALUATION OF FOX MOUNTAIN HMP OBJECTIVES

1. Establish accurate bighorn sheep potential for Buffalo/Granites BY-2 use area by 1990.

   This objective has not been met. This objective has been retained as written.

2. Improve mule deer habitat as follows:

   E. Granites DW-6 (0.66 to 0.77 by 1995)

   Data has not been collected to determine if we are or are not progressing toward achievement of this objective. This objective has been requantified as DPC objectives on page 33-35.

3. Improve pronghorn habitat as follows:

   a. Division Peak AS-6 (0.53 to 0.69 by 1996)

   b. Willow Creek AS-7 (0.46 to 0.62 by 1997)

   c. Swingle AW-6 (0.61 to 0.76 by 1998)

   d. Calico Mtns. AW-7 (0.61 to 0.76 by 1997)

   e. Middle Fork AW-8 (0.53 to 0.69 by 1998)

   Data has not been collected to determine if we are or are not progressing toward achievement of this objective. This objective has been requantified as DPC objectives on pages 33-35.

4. Establish sage grouse habitat improvement needs by 1991.

   This objective has not been met. This objective has been retained as written in the monitoring section on page 36.

5. Protect sage grouse strutting grounds and nesting habitat and improve brooding habitat by 1996.

   NDOW has not provided data on strutting ground and nesting habitat locations to determine if we are or are not progressing toward achievement of this objective. There have been no fires or vegetative manipulation on the allotment during this evaluation period which would have decreased sagebrush canopy cover. This objective has been retained as written on page 32 under long term objective 2.b.

6. Improve chukar habitat by 1998 as follows:

   a. 25,786 acres from low to medium density.

   b. 27,286 from medium to high density.

   There have been no chukar guzzlers constructed within the allotment during the evaluation period to improve chukar habitat. This objective has been retained as written.

7. Improve the condition of 2126* acres of wetland riparian habitats to late seral by 1994 as follows:

   a. Dry Meadows - Establish an air dry weight vegetation composition of 30-40% native perennial grasses, 30-40% forbs, and not to exceed 5% shrubs.

   b. Wet Meadows - Establish an air dry weight vegetative composition of 30-40% native perennial grasses, 30-40% forbs, and not to exceed 5% shrubs.

   This objective has not been monitored. This objective will be requantified as stated under long term objective 2.a. on page 32.

   * Approximately 424 acres of riparian habitat are in the Leadville Allotment.

8. Utilization of key plant species in wetland riparian habitats shall not exceed 50% unless a meadow is to be managed for the specific benefit of sage grouse within the established grazing plan.

   Refer to the evaluation of 1988 objectives A. 1. This objective has been retained as stated under short term objective 1.a. on page 32.

9. Establish at least two meadows as key areas in the Leadville Allotment.

   This objective has not been met. This objective has been retained as stated under long term objective 2.a. on page 32.

IX. CONCLUSIONS

It was not possible to fully analyze the stocking level or grazing strategy outlined in the 1988 allotment evaluation due to inconsistent livestock grazing. Post livestock use pattern mapping (1990) in wildlife habitat areas found that combined use by livestock and wild horses exceeded the upland utilization objective on 49% of the area mapped, indicating that an adjustment in the stocking level is required to meet objectives.

The wild horse population exceeded the initial stocking level for monitoring purposes from 25% to 100% during the evaluation period. Had livestock grazing taken place each year during the evaluation period, utilization levels would have been consistently exceeded and use zones would have been substantially larger. Utilization by wild horses only tended to be in the light to moderate category with some areas of heavy use by fall. At some point during the winter months, moderate and heavy use zones expanded so that just prior to the start of active growth, heavy use predominates and there is very little carry over forage from previous year production.

Winter precipitation was significantly below normal except for 1989 and Gerlach 1990, which resulted in lower spring flows and reduced available soil moisture for plant growth at the initiation of active growth. Growing season precipitation was slightly below normal to significantly above normal during 1989, 1990 and 1991. The effect of growing season moisture during these years was near normal plant growth but no ground water recharge and reduced spring flows. During 1988 and 1992 both winter and growing season precipitation were significantly below normal, which resulted in reduced plant growth and vigor, virtually no seasonal run off, and no ground water recharge.

There is a strong correlation between precipitation, actual use and utilization levels and patterns. During years with precipitation significantly below normal (drought) heavy use zones were much larger. In years where winter precipitation was significantly below normal but growing season was normal to significantly above normal, use tended to be light to moderate by fall, moving to heavy use by spring. Heavy use zones decreased in size in years with above normal growing season precipitation.

The decline in mule deer trend can be attributed to a combination of high deer density, drought and competition for habitat with other ungulates during the drought.

Pronghorn trend was static as a result of mild winters with minimal snow pack and warmer temperatures, which allowed greater access to forage and less thermal stress.

Distribution of wild horses appeared to be affected more by forage availability than by climatic factors. There was very little snow pack during the evaluation period which allowed horses to occupy all habitat

during the winter months. Horses tended to concentrate in the Hog Ranch Mountain and Buckhorn Peak area during the spring, summer and fall months. During the winter, horses were found using the flats, lower hills and south aspect slopes. During years with winter precipitation that is normal to above normal, distribution of horses shifts to the vicinity of High Rock Lake and a movement of animals south of the allotment to the low hills north of Negro Creek.

X. RECOMMENDATIONS

A. Technical Recommendation

1. Carrying Capacity

A weighted average utilization was calculated for the allotment using the moderate and heavy use classes. The weighted average utilization was then used to determine the potential stocking level for the allotment. Calculations are shown in Appendix 1.

a. Livestock

Reduce active preference from 2567 Aum's to 1291 Aum's, and change the period of use as shown below.

Change From:

Total Preference	Active Preference	Suspended Preference	Period of Use	#'s
4570	2567	2003	04/01-10/31	367

Change To:

Total Preference	Active Preference	Suspended Preference	Period of Use	#'s
4570	1291	3279	05/01-10/15	235

b. Wild Horses

The Strategic plan for the Management of Wild Horses on the Public Lands was signed on June 6, 1992. The policy states that unadoptable wild horses will remain on the public lands, and that other methods such as fertility control may be utilized for population management. It is Nevada BLM's policy to return wild horses six years of age or older to public lands. In order to achieve the Appropriate Management Level (AML) within the allotment two removals may be required.

	Wild Horses	
Herd Management Area	75% of AML to AML	AUM's
Calico Mountains	95 to 126*	1140 to 1512

This is based on a three year gathering cycle. If the gathering cycle changes, the lower management range of wild horse numbers may be adjusted.

* Only 34% of the Calico Mountains HMA is contained within the Leadville Allotment. The number of horses

shown above is for the Leadville Allotment.

2. Grazing System

a. **Alternative 1: Change the existing grazing system so the early use pasture is not grazed for the entire grazing period, and will be rested the year prior to scheduled spring use. The herd is split between the two remaining use pastures after seed ripe.**

Pastures

Year	Smokey	Lower	Leadville	Swingle
1	**Graze 5/1 - 7/15**	**Graze 7/16 - 10/15**	**Graze 7/16 - 10/15**	**Rest**
2	Graze 7/16 - 10/15	Graze 7/16 - 10/15	**Rest**	**Graze 5/1 - 7/15**
3	Graze 7/16 - 10/15	**Rest**	**Graze 5/1 - 7/15**	**Graze 7/16 - 10/15**
4	Rest	Graze 5/15 - 7/15	Graze 7/16 - 10/15	Graze 7/16 - 10/15

Permittee would be allowed 7 days to complete the mid-season pasture move.

Rationale: **Reduces the length of livestock use from 7 months to 5.5 months. Plants would be protected from cattle grazing until at least July 15 for three years out of four, allowing for seed production and seedling establishment. Each pasture would be rested from late season livestock use two out of four years, benefiting riparian areas. By splitting the herd in half after seedripe, a lower intensity of use would occur during the late summer. Cattle would only be moved once during the grazing season.**

b. Alternative 2: Change the existing grazing system to a deferred rest rotation system, so the early use pasture is not grazed for the entire grazing period, and will be rested the year prior to scheduled spring use.

Pastures

Year	Smokey	Lower	Leadville	Swingle
1	Graze 5/1 - 6/30	Graze 7/1 - 8/20	Graze 8/21 - 10/15	Rest
2	Graze 7/1 - 8/20	Graze 8/21 - 10/15	Rest	Graze 5/1 - 6/30
3	Graze 8/21 - 10/15	Rest	Graze 5/1 - 6/30	Graze 7/1 - 8/20
4	Rest	Graze 5/1 - 6/30	Graze 7/1 - 8/20	Graze 8/21 - 10/15

Permittee would be allowed 7 days to complete the mid-season pasture move.

Rationale: Reduces the length of livestock use from 7 months to 5.5 months. Plants would reach seedripe or close to it (7/1) in three out of four years, allowing for seed production and seedling establishment. Riparian areas would receive no livestock use or would have time for re-growth three out of four years.

B. Range Improvements

1. Evaluate the condition of existing water developments in conjunction with the permittee by 1994. Projects which only require normal maintenance to be functional will be maintained by the permittee. Projects which are viable but in a state of disrepair will be identified and reconstructed as funding becomes available. Projects will also be inspected to determine if they are designed to protect water sources and associated spring sources.

2. Analyze the District water inventory by 1995 and determine if there are additional water sources that can be developed to help in the achievment of objectives.

3. In cooperation with NDOW, identify guzzler sites within the allotment to improve chukar habitat.

C. Allotment Objectives

1. Short Term Objectives

a. Retain short term objective #1.

b. Retain short term objective #2.

2. Long Term Objectives

a. Requantify long term objective #1. Identify the location(s) and total acres of meadow and riparian habitat within the allotment, and develop a DPC objective.

b. Retain long term objective #2.

c. Requantify long term objective #3. Identify the location(s) and total acres of mtn. mahogany and aspen woodland sites, and establish age class structure objectives.

d. Requantify long term objective #4 to Desired Plant Community Objectives.

e. Requantify long term objective #5 to Desired Plant Community Objectives.

f. Requantify long term objective #6 to Desired Plant Community Objectives.

g. Requantify long term objective #7 to Desired Plant Community Objectives.

h. Requantify long term objectives #8 and #9 to:

Maintain and improve the free-roaming behavior of wild horses by:

1. protecting their home range

2. assuring free access to water

3. Desired Plant Community Objectives

Desired plant community (DPC) objectives were based on an ecological site inventory conducted in 1990. Key Management Areas were selected by reviewing ecological site inventory data, use pattern mapping data, distance to available water, wild horse distribution and wildlife habitat areas.

The following Key Management Area locations and objectives have been identified in each pasture. The Ecological Site Description lists the major plant species and their percent composition by weight that may make up the desired plant community shown in the long term objective for each Key Management Area. Final site selection will be made by a inter-disciplinary team and affected interests. The long term DPC objectives percentages may need to be slightly adjusted once key management areas are established.

a. Smokey Field

Short Term

On Ecological Site 024XY005NV (Loamy 8-10" P.Z.) within site write up area (SWA) R018, transect 3, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	6%	12%	55%
Forbs	0%	0%	5%
Shrubs	94%	88%	40%

Increase Sihy and Poa++ from 6 to 10% by weight. If Stth2 is found, an objective will be developed for it. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. It is not located within identified wildlife habitat, but does lie between antelope winter habitat AW-1 and AW-7, and is adjacent

to potential bighorn sheep yearlong habitat BY-6.

b. Lower Field

Short Term

On Ecological Site 023XY037NV (Clay Slopes 8-12" P.Z.) within site write up area (SWA) R028, transect 2, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	24%	46%	70%
Forbs	2%	5%	10%
Shrubs	74%	49%	20%

Increase Stth2 and Agsp from 10 to 15% by weight. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within antelope summer habitat AS-6, and potential bighorn sheep yearlong habitat BY-5.

c. Leadville Field

Short Term

On Ecological Site 023XY007NV (Loamy 14-16" P.Z.) within site write up area (SWA) R046, transect 2, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	59%	60%	60%
Forbs	0%	5%	10%
Shrubs	41%	35%	30%

Maintain Feid at 50% and increase Agsp from 2 to 5% by weight. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within antelope winter habitat AW-8, bighorn sheep yearlong habitat BY-2, and is one mile west of an identified sage grouse brooding habitat area.

d. Swingle Field

Short Term

On Ecological Site 023XY007NV (Loamy 14-16" P.Z.) within site write up area (SWA) R038, transect 1, maintain the frequency of key species for two grazing cycles (2002).

Quantify this objective once the initial trend study is established.

Long Term

Manage for the following percent composition by weight.

Percent Composition By Weight

Lifeform	Existing	Desired	Potential
Perennial Grasses	45%	55%	60%
Forbs	5%	5%	10%
Shrubs	50%	40%	30%

Increase or maintain Feid at 35%. Sagebrush will be maintained at or above 30% to provide for wildlife requirements.

This objective should be achieved by 2014.

Rationale: The area has been identified as a use area for livestock and wild horses. The area is within

antelope winter habitat AW-6.

D. Recommended Management Actions

1. Change the existing grazing system as shown in the technical recommendation.

2. Reduce the number of livestock from 367 cows to 235 cows.

3. Limit the amount of utilization by wild horses in rest pastures to 20% by July 15. Limit the amount of utilization by wild horses to 60% in all pastures by the end of the winter use period.

4. Livestock will be moved to the next pasture scheduled for grazing or removed from the allotment when utilization at key areas (or when determined through use pattern mapping) reaches 50%.

E. Monitoring

1. Resource Objectives

1994 Establish Double Sampling, Occular estimate transects, photo trend, line intercept and quadrat frequency studies at key areas.

1995 Reread photo trend and quadrat frequency studies. Once baseline data is collected photo trend and quadrat frequency will be read in each pasture during the rest year.

1995 Identify locations and develop objectives for meadow and riparian habitat types. Identify locations and establish objectives for mtn. mahogany and aspen sites.

1995 Identify sage grouse strutting grounds and brooding habitat with the assistance of NDOW.

2014 Reread Double Sampling Transect and an Ocular transect to determine if long term objectives are being met.

2. Short Term Objectives

Complete use pattern maps and/or key area utilization prior to livestock turnout in fields scheduled for grazing, after livestock are removed, and prior to the start of the next growing season.

F. Wild Horse Monitoring

Continue collecting wild horse census and seasonal distribution data to determine population trends (reproductive rates, recruitment rate, etc.) and seasonal use areas. Wild horse monitoring should be conducted as follows:

1. Census every three years in July.

2. Aerial distribution mapping every three years with flights conducted in January, April, July and October.

3. On the ground distribution mapping every three years. On the ground distribution mapping will supplement aerial distribution mapping, and provide more specific population information on band size and composition.

G. Set Schedule for Next Evaluation

The next evaluation scheduled is to be conducted in 2002.

XI. CONSULTATION AND COOPERATION

The following individuals and groups were mailed copies of the draft allotment re-evaluation.

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The following individuals and groups provided comments which were incorporated into the final document.

Nevada Department of Conservation and Natural Resources, Division of Wildlife (formerly Nevada Dept. of Wildlife)

Cathy Barcomb, Commission for the Preservation of Wild Horses

Dawn Lappin, Wild Horse Organized Assistance

XII. SELECTED MANAGEMENT ACTIONS

Incorporate all of the technical recommendations as outlined in this allotment re-evalualtion.

Adopt the deferred rest rotation grazing system, alternative 2. Changing the grazing system to a deferred rest rotation grazing system will provide the opportunity for maintenance and improvement of riparian habitat and upland habitat, improvement of ecological condition, and allow greater management of livestock.

XIII. RATIONALE

Through the re-evaluation process it has been determined that changes in existing management are required to achieve the multiple use objectives for the Leadville Allotment. Analysis of the monitoring data indicates that the existing number of wild horses is significantly contributing to the failure in meeting Land Use Plan and the 1988 Allotment Agreement multiple use objectives. Due to the inconsistent livestock operation during the evaluation period, it was not possible to determine the significance of livestock grazing in not meeting objectives, however monitoring data (1990) indicated that an adjustment in stocking level is required to meet Land Use Plan and the 1988 Allotment Agreement multiple use objectives. Analysis of wildlife data does not indicate a need for change in existing wildlife management. The adopted Technical Recommendations change livestock numbers and management, the grazing system, establishes new or modified objectives, and establishes an Appropriate Management Level for wild horses. Implementation of the Technical Recommendation should result in the attainment of objectives for this allotment.

XIV. FUTURE MONITORING AND GRAZING ADJUSTMENTS

The Sonoma-Gerlach Resource Area will continue to monitor existing studies as outlined on pages 36 and 37. Monitoring data will continue to be collected to provide the necessary information for subsequent re-evaluations. Re-evaluations are necessary to determine if allotment specific objectives are being met under the existing management strategy or if changes in the existing management strategy are required to meet allotment specific objectives.

XV. NEPA REVIEW

The selected management action for grazing in the Leadville Allotment conforms with the enviromental analysis of grazing impacts described in the Final Sonoma-Gerlach Enviromental Impact Statement dated September 9, 1982.

The EIS and NEPA Compliance Record are on file in the Winnemucca District Office, located at 705 E. Fourth Street, Winnemucca, Nevada 89445.

Appendix 1. Potential Stocking Level Calculations

The potential stocking level for the allotment was based on the most complete data, which was collected for the 1988 and 1989 grazing years. The 1988 and 1989 utilization data shows total use for the grazing year. Utilization data for other years were not included in the determination of a stocking level because the data either represented pre-livestock turnout on a pasture basis, was collected on small areas within identified wildlife habitat, or had only been collected in one pasture of the allotment.

The potential stocking level is the calculated number of AUM's that are available for use, which leads to the attainment of specific long term vegetative objectives. A weighted average utilization of 50 % at the end of the grazing season (February 28) by wild horses and livestock will ensure the maintenance and improvement of the vegetative communities. The desired stocking level for the allotment was determined using the following Weighted Average Utilization and Actual Use/Utilization formulas.

$$\text{Wt. Av. util.} = \frac{(\text{ac. moderate use X .50}) + (\text{ac. heavy use X .70})}{\text{Total acres}}$$

$$\text{Potential Stocking Level: } \frac{\text{actual use (AUM's)}}{\text{Wt. Av. util.}} = \frac{\text{desired actual use}}{\text{desired util.}}$$

A. 1988 Potential Stocking Level calculation

During the 1988 grazing year only wild horses utilized the allotment. In December 1988 200 wild horses were removed from the allotment. The stocking level is calculated using use pattern mapping data showing total use on 1988 forage, collected in May 1989.

Actual use: 315 head 3/1/88 thru 12/31/88 = 3150 AUM's
115 head 1/1/89 thru 2/28/89 = 230 AUM's
Total Actual use 3380 AUM's

$$\text{Wt. Av. use} = \frac{(259 \text{ ac. X .50}) + (12657 \text{ ac. X .70})}{12916 \text{ ac.}}$$

$$= 70\ \%$$

$$\text{Potential Stocking Level: } \frac{3380 \text{ AUM's}}{.70} = \frac{\text{X AUM's}}{.50}$$

$$X = 2414 \text{ AUM's}$$

B. 1989 Potential Stocking Level Calculations

During the 1989 grazing year only wild horses utilized the allotment. The stocking level is calculated using use pattern mapping data showing total use on 1989 forage, mapped in March 1990.

Actual use: 309 head 3/1/89 thru 2/28/90 = 3708 AUM's

$$\text{Wt. Av. Use} = \frac{(3544 \text{ ac.} \times .50) + (2443 \text{ ac.} \times .70)}{5987 \text{ ac.}}$$

$$= 58\ \%$$

$$\text{Potential Stocking Level: } \frac{3708 \text{ AUM's}}{.58} = \frac{X \text{ AUM's}}{.50}$$

$$X = 3197 \text{ AUM's}$$

C. Land Use Plan Proportions for livestock and wild horses

	AUM's	Percent
Livestock	2567	46%
Wild Horses	2976	54%
Totals	5543	100%

D. Average Potential Stocking Level

The following table shows the calculated potential stocking level by year, the average desired stocking level, and the distribution of AUM's between livestock and wild horses within the allotment.

Year	AUM's
1988	2414
1989	3197
Total	5611
Av.	2805.5

Livestock: 2805.5 X .46 = 1291
Wild Horses: 2805.5 X .54 = 1515

Appendix 2. Aerial Distribution Mapping

When collecting distribution data by fixed-wing aircraft the objective is to identify those areas that wild horses are utilizing at that point in time, not to obtain a count as accurate as a helicopter census. The entire HMA is flown in a transect pattern with the flight lines ranging from 1/2 mile to 2 miles apart depending on visibility and flight conditions. In steep mountainous country the straight line transects are modified to follow the topography of the area to ensure complete coverage. Aircraft altitude ranged from approximately 300 to 600 feet above ground level, depending on visibility and local flight conditions.

During the evaluation period data was collected from two different fixed-wing aircraft: Maule M-5 and Cessna 210. In addition to the fixed wing distribution data, each helicopter census provides distribution information on wild horses. When utilizing the Cessna there were two observers on board, one individual recorded flight lines, animal locations, and the number of animals (adults and foals) seen at each location while the other individual did the counting. In areas of high concentrations a total count of all bands was recorded on the map rather than each individual band.

When conducting a flight using the Maule there were two observers on board and the pilot. Distribution data collected by the Maule is stored in an on-board computer system. As horses were seen, the observers would call out the number of adults and foals to the pilot who would enter the data into the on-board computer system. The computer records the number of horses seen, the location of the animals by latitude and longitude using a global positioning system, and any remarks the observer may want to record for a specific sighting. Once the flight is completed, the results are printed and transferred by hand to a HMA map. This system does not record the general flight path as is done with the Cessna. Again, in areas of high concentrations a total count of all bands is recorded in the computer system.

<u>September 1988</u> - Horses were distributed fairly evenly throughout the allotment. However the Hog Ranch Mountain/Buckhorn Peak and High Rock Lake areas had a higher concentration of horses than the rest of the allotment. There were no horses found in vicinity of Bath Tub or Whiskey Springs.

<u>July 1989</u> - Horses were found from the toe slopes to the mountain tops. Horses were concentrated in the Hog Ranch Mountain/Buckhorn Peak Areas. There was a fairly even distribution of horses around Sheep Peaks and a few were found

around Bath Tub/Whiskey Springs and High Rock Lake.
February 1990 - Horses were utilizing the flats, toe slopes and mid-slope areas of the allotment. Leadville Canyon, east of Buckhorn Peak, had the highest concentration of horses. There were few found in the vicinity of Bath Tub/Whiskey Springs or High Rock Lake.

August 1990 - A partial distribution flight in the Sheep Peak area found the horses using only the higher elevations.

January 1991 - The majority of horses were found around High Rock Lake. The remainder of the horses were observed on the flats and lower slopes, except for one group on Buckhorn Peak.

July 1991 - Horses were concentrated on Buckhorn Peak and Hog Ranch Mountain. There were few horses found in the Sheep Peaks area, High Rock Lake, or in the Bath Tub/Whiskey Springs area.

March 1992 - Horses were concentrated at lower elevations and the flats around McConnel Canyon, Sheep Peaks and Buckhorn Mountain. There were very few horses around High Rock lake. Animal density was low for the remainder of the allotment.

May 1992 - Horses were concentrated in the Hog Ranch Mountain/Buckhorn Peak area. The remainder of the allotment contained a few horses near High Rock Lake, and the upper end of Willow Creek. There were no horses found on Sheep Peaks.

July 1992 - Horses were concentrated in the Hog Ranch Mountain/Buckhorn Peak area on east aspect slopes. There were a few horses found around Sheep Peaks, upper end of Little Snokey Creek and Bath Tub Spring. There was one group found north of High Rock Lake.

October 1992 - Horses were concentrated on east aspect slopes in the Hog Ranch Mountain/Buckhorn Peak area. Animals were distributed fairly even around High Rock Lake, Sheep Peaks and the Bath Tub/Whiskey Springs area.

January 1993 - Horses were concentrated east of Buckhorn Peak at lower elevations in Leadville Canyon, and around High Rock Lake. The remaining horses were found on the flats and lower hills from Razor Canyon north to McConnel Canyon.

The following table shows the results and type of aircraft used to map wild horse distribution. Census and distribution maps showing the animals locations are found in the Calico Mountains HMA monitoring file.

Date	Number Observed	Aircraft Type
9/88	315	Bell 47G3B-1
7/89	309	Bell 47G3B-Soloy
2/90	119	Cessna 210
8/90	62*	Cessna 210
1/91	111	Cessna 210
7/91	250	Maule MX-5
3/92	317	Cessna 210
5/92	406	Maule MX-5
7/92	283	Maule MX-5
10/92	496	Hiller 12-E Soloy
1/93	129**	Maule MX-5

* Partial flight, only the Sheep Peaks area was flown
** Weather conditions were very poor during the flight. There was 100 % cloud cover, 10 knot winds and near 100 % snow cover on the ground.

Appendix 3. Wild Horse Actual Use Procedures

In an affidavit to the Interior Board of Land Appeals in 1992, the Nevada State Director for BLM stated that Nevada has no written policy with regard to distinguishing between foals and adults in compilation of census data, establishing appropriate management levels or determining the number of animals to be removed. However, it is and has been BLM Nevadas practice to include foals for total counts and as part of the number of horses remaining after a removal. Foals are included in the determination of actual use and appropriate management levels for wild horses because they are consuming forage during the year counted.

Actual use data for wild horses is derived from the total number of horses (adults and foals) inhabiting a Herd Management Area multiplied by 12 months (March 1 thru February 28). The number of wild horses is based on the most recent helicopter census. For years in which an aerial census was not conducted a population estimate is calculated by multiplying the previous year's census or population estimate by 11% as outlined in the Draft Sonoma-Gerlach Grazing Environmental Impact Statement. The 11% rate of increase is based on an analysis of helicopter census data collected by experienced personnel in the Sonoma-Gerlach Resource area in 1974, 1977, and 1980, verified by data gathered during wild horse and burro removals.

The census population is obtained by utilizing a helicopter to conduct a direct count of all adults and foals found within the HMA. This method assumes complete coverage of the HMA and observation of all animals. However, Cauley (1974) found in his study and literature search that the closest an aerial survey ever came to the actual population size was 89%. Wagner reported that studies conducted in four horse management areas (Nevada - 2, Oregon and Wyoming) showed about 93% accuracy in areas of low vegetation and moderate terrain, while 60% of the animals in wooded and mountainous topography were missed (TRANSACTIONS of the Forty-eighth North American Wildlife and Natural Resources Conference). Actual use is calculated on the total census population, per Nevada State Office policy.

When conducting a census, an HMA is flown in a modified transect pattern utilizing topography and natural or man-made barriers to ensure complete coverage and that animals are not counted twice.

Appendix 4. Use Pattern Mapping

1988 -Wild Horse use, mapped September 1988

Acres and Percent by Use Class

	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	0	0%	1,077	49%	1,126	51%	0	0%
Swingle	0	0%	2,125	88%	289	12%	0	0%
Lower	0	0%	725	100%	0	0%	0	0%
Smokey	1,245	39%	471	15%	1,469	46%	0	0%
Totals	1,245	15%	4,398	51%	2,884	34%	0	0%

Total acres mapped: 8,527

Use pattern mapping data on 1988 forage production was collected during the fall to determine the use by wild horses at that point. Utilization was fairly uniform throughout the allotment. The majority of the allotment had light use, however there were four areas of moderate use found. The largest moderate use zone occurred in Smokey Field, extending along Smoky Creek from the mouth of McConnel Canyon north to High Rock Lake. In Leadville Field, moderate use was found from Shovel Spring north to the allotment boundary fence in the bottom and high benches surrounding Shovel Springs Canyon. Utilization was noted on sandberg bluegrass (Poa secunda), bottlebrush squirreltail (Sitanion hystrix), thurber needlegrass (Stipa thurberiana), basin wildrye (Elymus cinereus) and cheatgrass (Bromus tectorum). It was also noted that many of the water sources were dry. In October a visual inspection found the utilization levels were generally in the moderate use class throughout the allotment.

1988 - Total use by Wild Horses: mapped May 1989

Acres and Percent by Use Class

	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	0	0%	265	13%	259	12%	1,604	75%
Swingle	0	0%	0	0%	0	0%	4,476	100%
Lower	0	0%	0	0%	0	0%	1,596	100%
Smokey	0	0%	0	0%	0	0%	4,981	100%
Totals	0	0%	265	2%	259	2%	12,657	96%

Total acres mapped: 13,181

Use patterns on 1988 forage production were mapped in May 1989 to determine the total use made by wild horses in the allotment. The allotment appeared to have been uniformly utilized. Utilization was found to be heavy except for a small area of light and moderate use found on steeper slopes in Leadville Field. There were some areas with unused forage and standing old growth forage in Leadville Field, however there was no old growth forage found in the remainder of the allotment. Data collected on 1988 use patterns indicates that utilization by wild horses did not exceed the short term upland utilization objective until the winter months. Drought conditions during 1988 most probably

lead to lower than normal forage production and higher utilization levels.

1989 - Wild Horse use, mapped September/October 1989

Acres and Percent by Use Class

	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	0	0%	4,488	73%	1,564	25%	129	2%
Swingle	0	0%	4,121	96%	78	2%	96	2%
Lower	0	0%	280	14%	1,095	56%	567	29%
Smokey	2,501	77%	188	6%	573	17%	0	0%
Totals	2,501	16%	9,077	58%	3,310	21%	792	5%

Total acres mapped: 15,680

Use pattern mapping data was collected to determine the amount of use made by wild horses by fall. The majority of the allotment had light use. A large moderate use zone in Leadville Field was mapped within the 1985 Middle Fork Fire. Utilization varied throughout the old burn from light to heavy use on bottlebrush squirreltail, bluebunch wheatgrass (Agropyron spicatum), thurber needlegrass, and cheatgrass. Basin wildrye had slight use at higher elevations and light to moderate use at lower elevations. Moderate use was also found at the head of McConnel Canyon and along the road to Donnelly Flat on sandberg bluegrass, bottlebrush squirreltail, thurber needlegrass and cheatgrass. There were some additional small areas of moderate use scattered throughout the remainder of the allotment. Heavy use was associated with water sources except for an area along the allotment boundary fence east of Sheep Peaks.

1989 - Total use by Wild Horses, mapped March 1990

Acres and Percent by Use Class

	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	470	18%	1,263	48%	875	34%	0	0%
Swingle	447	20%	196	9%	950	43%	599	27%
Lower	0	0%	0	0%	1,593	46%	1,844	54%
Smokey	1,527	33%	2,941	64%	126	3%	0	0%
Totals	2,444	19%	4,400	34%	3,544	28%	2,443	19%

Total acres mapped: 12,831

The light use zone identified during the fall mapping along highway 34 north of Swingle Ranch to the allotment boundary had moved into the moderate use class, with a portion of the area moving into the heavy use class. The moderate use zone along the road to Donnelly Flat increased substantially in size, and there was a substantial increase in size of the heavy use zone on the east side of Sheep Peaks along the allotment boundary fence. Precipitation was near normal and actual use of the area was nearly identical to 1988.

As found in 1988, most use zones identified during fall mapping had moved into the next higher utilization class during the winter months.

1990 - Wild Horse use, pre-livestock turn out. Swingle mapped July 1990, Lower mapped May 1990, Smokey mapped June 1990. Leadville not mapped.

Acres and Percent by Use Class

	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	-	-	-	-	-	-	-	-
Swingle	1,290	62%	456	22%	71	4%	250	12%
Lower	1,540	37%	1,551	37%	1,076	26%	0	0%
Smokey	0	0%	1,515	29%	3,609	70%	59	1%
Totals	2,830	25%	3,522	31%	4,756	42%	309	2%

Total acres mapped: 11,417

Use pattern mapping data was collected prior to livestock turnout to determine the amount of use attributed to wild horses. In Lower Field, utilization was predominantly no apparent to light use on thurber needlegrass and sandberg bluegrass. Moderate use on sandberg bluegrass, bottlebrush squirreltail, basin wildrye and cheatgrass was found east of Sheep Peaks along the allotment boundary fence. Although there was vigorous production on most grasses seen, plants appeared to have been stunted from past heavy use.

Utilization in Smokey Field was predominantly moderate on basin wildrye, bottlebrush squirreltail, sandberg bluegrass and indian ricegrass (Oryzopsis hymenoides) from the mouth of McConnel Canyon north to High Rock Lake, along the bottom of Smoky Canyon and the associated uplands. At High Rock Lake ligh use was found on indian ricegrass, bottlebrush squirreltail, shadscale (Atriplex confertifolia), winterfat (Eurotia lanata) and spiny hop sage (Grayia spinosa). Heavy use was found on a small area around Bath Tub Spring and moving south from the spring use dropped to moderate on thurber needlegrass, bottlebrush squirreltail and sandberg bluegrass.

In the north half of Swingle Field there was no apparent use except for a area of light use and heavy use at Bath Tub Spring. Utilization cages in the area indicated that plant growth was very poor this year. In the southern half of Swingle Field heavy use on basin wildrye, thurber needlegrass and bottlebrush squirrel occurred west of highway 34 (from the High Rock Lake turnoff) along a canyon bottom and associated uplands. West of Swingle Ranch use was light on sandberg bluegrass, thurber needlegrass and basin wildrye for approximately 1/2 mile, where it shifted to moderate use around a reservoir and spring complex.

1990 - Wild Horse and livestock use, in wildlife habitat areas mapped October 1990.

	Acres and Percent by Use Class											
	No Use		Slight		Light		Moderate		Heavy		Severe	
Field	0%	%	1-20%	%	21-40%	%	41-60%	%	61-80%	%	81-100%	%
Leadvil.	0	0%	171	48%	13	4%	0	0%	101	28%	70	20%
Swingle	0	0%	0	0%	543	24%	866	38%	181	8%	668	30%
Lower	0	0%	0	0%	0	0%	271	44%	229	38%	110	18%
Smokey	0	0%	0	0%	37	4%	225	25%	87	10%	556	61%
Totals	0	0%	171	4%	593	14%	1,362	33%	598	15%	1,404	34%

Total acres mapped: 4,128

In October 1990, utilization patterns were mapped (using the six standard classes) within wildlife habitat areas in the Swingle, Lower and Smokey Fields to determine the amount of use made by wild horses and livestock in the habitat areas. The no apparent use zone in Swingle Field identified during July had changed to moderate, heavy and severe use. In Lower Field an area identified as light use in May had moderate and severe use in October. One area of heavy use was found on the western toe slopes of Sheep Peaks where data had not been collected earlier in the year. In Smokey Field, only a small part of the area mapped in June had data collected on it, however the moderate use area identified in June had moved into the heavy and severe use classes. In Leadville Field use by wild horses was found to be severe around Warm Spring and heavy along the allotment boundary fence on a seasonal tributary to the North Fork of Negro Creek.

1990 - Total use, wild horses and livestock, mapped April 1991. No data collected in the Leadville, Swingle and Lower Pastures.

	Acres and Percent by Use Class							
	No Use		Light		Moderate		Heavy	
Field	0%	%	1-40%	%	41-60%	%	61-100%	%
Leadvil.	-	-	-	-	-	-	-	-
Swingle	-	-	-	-	-	-	-	-
Lower	-	-	-	-	-	-	-	-
Smokey	0	0%	260	4%	2,374	35%	4,138	61%
Totals	0	0%	260	4%	2,374	35%	4,138	61%

Total acres mapped: 6,772

In April 1991 total use by cattle and wild horses on 1990 forage production was collected in Smokey Field. Around High Rock Lake spiny hopsage and wyoming sagebrush (Artemesia tridentata wyomingensis) were used into old growth. In McConnel Canyon willow (Salix spp.), wildrose (Rosa woodsii) and basin wildrye had severe use primarily by livestock. Comparing the pre-livestock turnout map to the map showing total use on 1990 production, light use areas moved into the moderate and heavy use classes, while moderate use areas became predominately heavy use zones. The heavy and severe use zones identified in the Smokey Field in October were mapped as moderate use in April.

There were no post livestock utilization data collected in 1990.

1991 - Wild Horse use. Leadville mapped June 1991, Swingle mapped July 1991, and Smokey mapped November 1991. There was no data collected in Lower Field.

Acres and Percent by Use Class

	No Use		Slight		Light		Moderate		Heavy		Severe	
Field	0%	%	1-20%	%	21-40%	%	41-60%	%	61-80%	%	81-100%	%
Leadvil.	0	0%	2,354	28%	6,110	72%	0	0%	0	0%	0	0%
Swingle	0	0%	1,258	41%	1,821	59%	0	0%	0	0%	0	0%
Lower	-	-	-	-	-	-	-	-	-	-	-	-
Smokey	0	0%	0	0%	0	0%	8,539	99%	130	1%	0	0%
Totals	0	0%	3,612	18%	7,931	39%	8,539	42%	130	1%	0	0%

Total acres mapped: 20,212

Use patterns were mapped to show pre-livestock utilization, however, in August we found that livestock were not turned out by the permittee. Utilization patterns mapped in the Swingle and Leadville Fields in June and July found that use on Idaho fescue (Festuce idahoensis), sandberg bluegrass, thurber needlegrass and bottlebrush squirreltail was in the slight and light use categories. In November use pattern mapping data was collected in Smokey Field while monitoring the trailing of livestock from the Susanville District to the Soldier Meadows Allotment. Use on basin wildrye and idaho fescue was moderate, while use on bottlebrush squirreltail was light.

12-20-93

BOB MILLER
Governor

STATE OF NEVADA

CATHERINE BARCOMB
Executive Director

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COMMISSION FOR THE PRESERVATION OF WILD HORSES
50 Freeport Boulevard, No. 2
Sparks, Nevada 89431
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December 20, 1993

Mr. Bud Cribley
Sonoma-Gerlach Resource Area
Bureau of Land Management
705 East Street
Winnemucca, Nevada 89406

Subject: Protest - Proposed MUD Leadville Decision

Dear Mr. Cribley:

The Nevada Commission for the Preservation of Wild Horses continues to be concerned for the Calico Wild Horse Herd. Comments provided on the Draft Leadville Allotment Re-evaluation were not adequately addressed in the Proposed Full Force and Effect Multiple Use Decision for Leadville Allotment. We seek sound resource data analysis to support multiple use decisions that will protect the natural resources within this allotment.

We find the following errors within your Proposed Decision:

Carrying capacities and the appropriate management levels were not computed consistently for the Calico Wild Horse Herd.

Appendix 6 of the Soldier Meadows Allotment Re-evaluation uses 60 percent as the Desired Utilization for its carrying capacity computation. Appendix 1 of the Leadville Allotment Re-evaluation uses 50 percent utilization as the Desired Utilization for its carrying capacity computation. These allotments are to have uniform allotment utilization limits and computations must be made with consistent assumptions to manage as a component of the Calico HMA.

We support the use of utilization limit objectives and use pattern mapping data for establishing appropriate management levels that will protect, enhance or restore critical riparian habitat.

Implementation of the policies of the Strategic Plan for the management of Wild Horses and Burros on Public Lands can exceed carrying capacity, adversely effect the genetic pool, impact the social behavior and jeopardize the viability of this wild horse herd.

The Proposed Decision is to set a carrying capacity that will meet all allotment objectives and protect natural resources. The capture and release of unadoptable horses to a level above the carrying capacity will cause over utilization of vegetation of key habitats. Delaying wild horse and livestock adjustments for a minimum of three years is contrary to existing federal regulations that prohibit management actions causing significant resource damage.

The Proposed Decision endorses the broad policy to leave unadoptable horses within the herd area. The sex and age composition of the surviving horse is critical to the longevity and genetic viability of the herd. Data collected in 1993 indicate that the Calico Herd suffered a 43% die off last winter. The recruitment rate was measured at only eight percent. Depending upon the surviving herd's age composition, the Proposed Decision's re-structuring of this herd could jeopardize the herd within two or three years. Implementation of this broad policy that effects the sex ratio and age structure of this herd requires an environmental assessment.

The Proposed Decision requires compliance to the National Environmental Protect Action.

The Proposed Decision restructures the Calico Wild Horse Herd. This action was not assessed by any NEPA document that assesses genetic data, age structure data or herd longevity to assure its viability.

Sincerely,

Catherine Barcomb

CATHERINE BARCOMB
Director

cc. Wayne Howle, Deputy Attorney