8/9/93

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# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carson City District Office
1535 Hot Springs Rd., Ste. 300
Carson City, NV 89706-0638

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
4700
(NV-03480)

Commission for the Preservation of Wild Horses
50 Freeport Blvd. # 2
Sparks, NV 89431

AUG 09 1993

FINAL

Dear Ms. Barcomb:

Thank you for your comments concerning the Draft Granite Peak Herd Management Area Plan/Capture Plan (HMAP) and Environmental Assessment (EA). After careful consideration of the comments and a review of our land use planning objectives, our decision is to implement the proposed action contained in the final document with only a few minor changes.

The enclosed Finding of No Significant Impact/Decision Record is my final decision implementing the Granite Peak Herd Management Area Plan/Capture Plan. This decision is issued Full Force and Effect to allow for the immediate removal of the excess wild horses from the Granite Peak HMA to reach the established Appropriate Management level (AML). Immediate removal of the wild horses in excess of the AML is necessary to restore the range to a thriving ecological balance and to avert the imminent overgrazing caused by excess wild horses within the HMA. The Full Force and Effect determination is in accordance with the regulations at 43 CFR 4770.3(c).

Each of your comments will be addressed as they appear in your letter dated July 13, 1993.

Paragraph 2: The Strategic Plan for the Management of Wild Horses and Burros on Public Lands does not set goals specific to a particular HMAP, however it does contain the goals and objectives for the entire Bureau of Land Management.

Paragraph 3: R.H. Wolfe, of my staff has spoke to Mr. Dickerson, who at one time owned the horses from which the population in the Granite Peak area originated.

Paragraphs 4 & 5: The Wild Horse and Burro Act of 1971 (P.L. 92-195) specifies that all management activities shall be at the minimal feasible level. The development and maintenance of ground water clearly exceeds this level of management. Therefore, we have been devoting our resources to spring protection and enhancement, because these projects are consistent with our land use plan, the Bureaus riparian initiative and the Wild Horse and Burro Act.

Paragraph 6: The 1991 census is the best available data and was used in developing this Management Plan. A post-gather census will be conducted to ensure that the AML is maintained.

Paragraph 7: Most of the horses which utilize the HMA water on private lands to the west of the HMA. We have never received any complaints about these horses. In fact, members of my staff have been told verbally by many residents of the Red Rock Area that they enjoy the wild horses. We do not anticipate removing the horses that water in the Red Rock Area.

Paragraphs 8 & 9: Appendix 4, Rates of Increase, summarize the rate of increase specific to the subject HMA. We maintain the raw data pertaining to the population parameters at this office. You are welcome to review this data during regular business hours. There are several ways to arrive at a rate of increase. Using population census data between a known number of years is one method. Another method, is to compare the foal to adult ratio and estimate the mortality rates.

Paragraphs 10 & 11: As previously stated most of the horses that utilize the HMA as their home range water on private lands to the west of the HMA.

Paragraph 12: The adoptable animals will be placed into the Bureaus Adopt-A-Horse Program. Excess unadoptable animals are planned to be released into the Clan Alpine HMA. The Clan Alpine HMAP and EA address the impacts of releasing horses from other areas into the Clan Alpine HMA. Areas of the Cow Canyon and Dixie Valley Allotments within the Clan Alpine HMA offer good relocation sites. The exact location of release sites will depend on current conditions. However, we may release the excess horses along Bench Creek, because of the abundant water.

Paragraph 13: Please refer to our response to paragraphs 8 & 9.

Paragraph 14: All of the studies described in the HMAP have been and will continue to be monitored.

Paragraph 15: It is not our intent to remove horses that leave the HMA to obtain water. The management objectives for both the wild horses and their habitat are contained on pages 10 and 11 of the draft HMAP.

Paragraph 16: The 1991 census is the best available information.

The Bureau of Land Management Manual, Part 4700 defines Appropriate Management level as the median number of horses. Based on monitoring information the MUD identified 18 horses as the maximum number of horses that the HMA could support. This was based on actual numbers of wild horses, wildlife and livestock during the evaluation period. In order to prevent resource damage, the MUD, limited the maximum number of horses to 18. To avoid annual removals and to minimize stresses and band disturbances removals will be conducted every three years. To avoid excessive vegetation utilization horses will be managed within a range from 11 to 18 animals. This will allow for an 18 percent annual rate of increase to a maximum of 18 head. Thus, the AML by definition was set at 15. Therefore, this plan does not conflict with the MUD.

Paragraph 17: This document was produced specifically for the management of wild horses within the Granite Peak HMA. Controlling the horse population and their habitat to maintain a balance between other resources is part of the management for this area.

Within 30 days of receipt of this decision, you have the right of appeal to the Board of Land Appeals, Office of the Secretary, in accordance with the regulations at 43 CFR, Part 4, Subpart E. If an appeal is taken, you must follow the procedures outlined in the enclosed Form 1842-1, Information of Taking Appeals to the Board of Land Appeals. Within 30 days after you appeal, you are required to provide a Statement of Reasons to the Board of Land Appeals and a copy to the Regional Solicitor's Office listed in Item 3 on Form 1842-1. Please provide this office with a copy of your Statement of Reasons. Copies of your Appeal and the Statement of Reasons must also be served upon any parties adversely affected by this decision. The Appellant has the burden of showing that the decision appealed from is in error. For other questions or comments, please contact John Axtell of my staff at (702) 885-6000.

Sincerely yours,

James W. Elliott

James W. Elliott
District Manager

2 Enclosures:
1. Final Granite Peak HMA/Capture Plan, EA and Finding of No Significant Impact/Decision Record.
2. Form 1842-1

FINAL

# GRANITE PEAK HERD MANAGEMENT AREA PLAN AND CAPTURE PLAN

Table of Contents

## I. Resource and Background Information

### A. Introduction

This plan presents management direction for the Granite Peak Herd Management Area (HMA). The terms horse and wild horse, both (Equus caballus) are used synonymously throughout this document.

In June of 1992 the Director of the BLM signed the Strategic Plan for Management of Wild Horses and Burros on Public Lands. This document provides goals and objectives for the management of wild horses and burros.

The authority for the proposed actions within this plan is contained in 43 CFR 4710.2, 4710.4, 4720.1, 4740.1, 4740.2 and the Wild Horse and Burro Act of 1971 (Public Law 92-195)

### B. Background and History

The Granite Peak HMA is located approximately 20 miles north of Reno Nevada. Private lands approximate the boundary of the HMA along the west side. Pasture fences approximate the boundaries along the north, east and south of the HMA (map 1).

These horses originated from the Red Rock Ranch located in the Red Rock Valley which lies immediately to the west of the HMA. The original horses were owned by Mr. Dickerson, who in 1972 left the horses in trespass in the Granite Peak area.

The predominant vegetation consists of Utah juniper (Juniperus osteosperma), bottlebrush squirreltail (Sitanion hystrix), Needle-and-thread (Stipa comata), Indian ricegrass (Oryzopsis hymenoides), bitterbrush (Purshia tridenta), mountain mahogany (Cercocarpus ledifolius) and Wyoming big sage (Artemisa tridentata).

The HMA includes the entire herd area (3,886 acres), that area delineated as the wild horse habitat after passage of P.L. 92-195 (map 1).

### C. Land Use Plan Objectives and Constraints

The Lahontan Resource Management Plan (RMP; Nov. 8, 1984) provides the general guidance for the management of the HMA. The RMP states that the Herd Management Area Plan (HMAP) would be the document that guides management of wild horses in HMAs.

The following decisions from the RMP affect the Granite Peak HMA:

1. Maintain sound thriving populations of wild horses within HMAs.
2. An HMAP will be developed for Granite Peak HMA.
3. Initially manage for population of 17 wild horses.
4. Future adjustments in livestock and wild horses will be based on analysis of data from monitoring studies and consultation with interested parties.
5. Develop waters for wild horses.
6. Fences within wild horse herd areas will be located to minimize interference with normal distribution and movement of wild horses.

Selected portions of new fences constructed in these areas would be flagged or otherwise marked for 1 year after construction to make them more visible to the wild horses.

7. Maintain or improve the condition of public lands so as to enhance productivity for wildlife. Manage wildlife habitat to achieve a long-term goal of reasonable numbers of big game animals.

8. Improve the condition and productivity of public rangelands to enhance livestock grazing. Limit utilization levels to 55% and improve trend.

9. Provide for proper utilization within key areas, achieve better livestock distribution to obtain more uniform utilization, and provide for an increase in available forage and water for livestock, wild horses and wildlife.

D. Other Activity Plans, Issues and Constraints

Existing Activity Plans have stated objectives and constraints which relate to the HMA, and are summarized below.

1. Multiple Use Decision 1993:

In 1993 a Multiple Use Decision (MUD) was issued for the Antelope Mountain grazing allotment, in which the Granite Peak HMA comprises 7 percent. The entire HMA is located in part of pasture 2 of the Antelope Mountain Allotment. The MUD divided the available forage between wildlife, wild horses and livestock. A specific Appropriate Management Level (AML) of 15 was set, and a range in horse numbers was set at 11 to 18 for the horses in the Granite Peak HMA. These numbers and range were based on vegetation monitoring with the goal of achieving a thriving ecological balance between wildlife, wild horses, livestock and the vegetative community. Wildlife use within the allotments was adjudicated in accordance with the Lahontan RMP - 1984.

2. Range Program Summary Update 1989:

Except for the wild horse objectives the following objectives are for the entire Antelope allotment.

a. Initially allow 7,996 AUM's of forage for livestock allotment wide.

b. Improve ecological condition in ten years by one class from: early-seral to mid-seral 3,020 acres, mid-seral to late-seral 3,967 acres, late-seral to PNC (potential natural community) 615 acres. Maintain utilization not to exceed 55% on identified key species on upland key areas.

c. Maintain or improve wild horse habitat consistent with wildlife and livestock objectives. Maintain or improve free roaming behavior of wild horses by protecting or enhancing wild horse home ranges. Maintain or improve wild horse habitat by assuring that all waters remain open to use by wild horses. Initially provide approximately 204 AUM's of forage for approximately 17 head. The entire HMA is within the Antelope Mountain grazing Allotment. The HMA comprises approximately 7% of the allotment.

d. Manage identified mule deer (Odocoileus hemionus) habitat to maintain a fair (26-50 rating) or better condition to support 248 deer 5/1 to 10/31 and 1,428 deer 11/1 to 4/31, 2,500 AUMs

reasonable numbers. Improve habitat condition in burned areas in key deer winter range from poor (0-25 rating) to fair or better. Limit utilization to 45% on bitterbrush in habitat areas. Limit livestock utilization of current years growth of bitterbrush to 35% in the Sand Hills area. Manage identified pronghorn (Antilocapra americana) habitat to maintain a fair (31-60) or better condition. Limit utilization to 55% on identified key species in this habitat. Manage riparian areas to achieve and maintain late-seral. Limit utilization to 55% current year's growth in riparian areas. Maintain or improve willow, chokechery and aspen stands to have at least 20% of all stems over 5 feet, (6 feet for aspen).

3. Lasson-Washoe Wildlife Habitat Management Plan 1988:

   a. Provide 2,500 AUMs of forage for deer within the Antelope Mountain Allotment.

   b. Limit utilization on bitterbrush to 45% of current years growth.

   c. Golden eagle and prairie falcon nesting sites have been identified within the Habitat Management Plan (HMP) area.

   d. Most riparian sites appear degraded. Reasons are several: overutilization of riparian vegetation by domestic livestock, wild horses and wildlife; use for firewood and as camping areas.

   e. The wild horses do not pose competition for food, as they seek out grass, and are not known to eat either sage or bitterbrush. However, their continual yearlong use of native grasses and seedings is using forage usually consumed by cattle, forcing the cattle to compete with deer.

   f. Bird springs is the only mountain meadow within 3 air miles of 2 sage grouse strutting grounds. These meadows are critical to sage grouse chick survival.

The objectives of the HMP and this plan do not conflict, as there should be no conflicts between the animals if the total utilization on key grass species is kept at 55% or less.

4. Antelope Mountain Allotment Management Plan

   a. Manage the Antelope Mountain Allotment on sustained yield basis to best meet the needs of the range users, while using grazing systems to improve the vegetative composition, forage production, watershed condition and wildlife habitat.

   b. Improve the overall condition of the entire allotment from fair to good by increasing vigor and reproduction of the existing bunchgrasses (ricegrass, needle-and-thread grass and Thurber's needlegrass) by allowing adequate periods of rest. Condition classes are determined by comparing actual vegetative conditions to the potential natural community (PNC) as outlined in NRH-1 and the Nevada Rangeland Monitoring Handbook.

   c. Improve the condition of deer winter range through (a) restoring vigor to existing bitterbrush stands by allowing them adequate rest; (b) improving bitterbrush reproduction from virtually nothing to 10% of all bitterbrush by 1995; and (c) change

vegetative composition in critical deer areas to 40% bitterbrush, 30% sagebrush and 30% other species.

d. Increase cover (vegetation and litter) from the present 60% (average) to 70% (average). This will reduce surface runoff and add to the groundwater supply.

e. Provide additional big game hunting opportunities by improving deer habitat to support reasonable deer population.

f. Since portions of the allotment will be rested during each season, it should be easier to correlate non-compatible uses, such as motorcycle races and off-road vehicle rallies.

g. Produce an adequate amount of usable forage to satisfy the nutritional requirements of the horses on a continuing basis.

h. "Peterson Mountain and the Sand Hills (shown as Granite Peak on the Map) are designated as critical winter range and migration area for the Lassen-Washoe Interstate Deer Herd."

E. Wild Horses

1. Population

The Strategic Plan recommended the following techniques to manage populations of wild horses:

a. Target specific age groups for removal.

b. Target a specific sex for removal.

c. Utilize fertility control techniques.

d. Develop a policy that allows, with few exceptions, for the removal of only adoptable animals (less than 10 years of age).

e. Nevada and Wyoming will use a selective removal strategy with fertility control that will assure that AML's are reached within a six-year time frame.

At the present time, the wild horses have unrestricted movement within the HMA and the majority of the allotment. Some of the wild horses are using areas outside of the HMA, as all or part of their home range. This is primarily due to an increase in the population beyond that which the HMA can support.

The latest complete census was conducted in October, 1991, and resulted in a total of 15 wild horses counted inside the HMA. A total of 33, horses were counted outside of the HMA within the Antelope Mountain Allotment. During a removal of horses outside of the Granite Peak HMA in October of 1991, prior to the census 62 wild horses were removed, leaving 33 animals 10 years and older outside of the HMA.

An estimated 6 horses occupied the HMA in 1971, after the passage of the Wild Horse and Burro Act.

A summary of the population data is as follows:

| Census Date | # of Horses |
|---|---|
| 1973 | 61/ |
| 1975 | 91/ |
| 1985 | 26 |
| 1986 | 54 |
| 1987 | 51 |
| 1988 | 40 |
| 1989 | 74 |
| 1991 | 101 |
| 1991 | 482/ |

1/ Fixed Wing Aircraft
2/ Removed 62 horses from outside of the HMA, prior to this census

All censuses except as indicated were conducted by rotary wing aircraft. All census totals include animals both inside and outside of the HMA.

Since the passage of the WH&B Act the Population has increased from 6 wild horses in 1971 to 101 wild horses in 1991. There has been only 1 removal since passage of the WH&B Act (1991, horses outside of the HMA only).

Garrott (pers. comm) looked at rates of increase in wild horse herds and concluded that the lowest rate of increase is between 14 -15% annually, and in areas where sufficient forage is available, rates of increase can approach 23 - 24% annually.

2. Habitat Evaluation

There is no naturally occurring water within the HMA; the horses water on private lands bordering the west side of the HMA and livestock troughs.

F. Livestock Use

The HMA lies within the Antelope Mountain Allotment. Historical grazing preference for the Antelope Mountain Allotment, (HMA comprising 7% of the total allotment), has been 7,996 AUMs. However, in June of 1992, 1,634 AUM's of livestock use were voluntarily placed into suspended non-use (entire allotment). This action reduced the total available AUM's to 6,362 for the entire Antelope Mountain Grazing Allotment.

Livestock grazing occurs within the allotment from April 15 - October 31. The allotment is divided into 3 pastures which are grazed on a rest rotation system. The HMA is located within pasture 2.

G. Wildlife Use

The HMA includes habitat for mule deer (winter and year long), pronghorn, sage grouse (Centrocercus europhasianus), chukar (Alectoris chukar), mourning dove (Zenaidura macroura), raptors and other game and nongame species.

There are no known threatened or endangered fauna within the HMA.

One category 2 candidate species the loggerhead shrike, which nest in the area.

H. Soils and Vegetation

Precipitation in the HMA averages 10-12 inches per year.

Two major ecological sites (026-008 &, 026-018) dominate the HMA and are described below:

Granitic Fan 10-12" precipitation zone. (026 x 008N)

1. Associated species: needle-and-thread, Indian ricegrass, Antelope bitterbrush and mountain big sagebrush.

2. Occurs on alluvial fans, bordering mountains and foothills of granitic origin. Slopes are generally from 4 to 15 percent. Elevations range form 4,500 to 5,500 feet.

3. Soils are very deep and excessively drained.

4. Annual production in normal years is 800 lb./acre.

Shallow Granitic Upland 10-12" precipitation zone (026 x 018N)

1. Associated species: desert needlegrass, Thurber needlegrass, bottlebrush squirreltail, antelope bitterbrush, Wyoming big sagebrush and green ephedra.

2. Occurs on foothills and mountain slopes in association with granitic rock outcrops. Slopes are generally from 15 to 50 percent. Elevations range from 5,000 to 6,000 feet.

3. Soils in this site are shallow to bedrock and excessively drained. The available water capacity is very low. The shallow rooting depth and excessive drainage are the most limiting factors in the development of this site.

4. Annual production in normal years is 600 lbs./acre.

The ecological status of the entire allotment is as follows:

| Early Seral | Mid Seral | Late Seral | Potential Natural Community |
|---|---|---|---|
| 39% | 54% | 4% | 0 |

The data for the ecological status was collected in 1982. The total acres within the allotment are 57,315, with 1,624 rated as unsuitable.

Utilization studies and use pattern mapping completed in 1988-90 indicate that the wild horses and cattle are not adversely impacting the HMA at current numbers. However, utilization studies show that the wild horses which have moved outside of the HMA are currently causing heavy and severe utilization south of the HMA. Bird springs, identified as critical sage grouse rearing habitat is located outside of the HMA and the meadow around the spring is receiving severe use from wild horses.

There is one wildlife key area within the HMA (LW03).

All utilization studies were conducted using the Key Forage Plant Method. Proper use is 55% or less on perennial grasses (key species) and 45% or less on shrubs as recommended in the Nevada Rangeland Monitoring Handbook.

There are no known threatened, endangered, sensitive or candidate flora within the HMA.

I. Recreation

Traditional forms of recreation such as sightseeing, driving for pleasure on roads and ways, camping, hunting, hiking, photography and nature study occur within the Granite Peak HMA. Because of the proximity to the Reno Area, off-road vehicle use occurs within the HMA.

Access to the HMA is limited to a single dirt road originating from Red Rock Road. Recreational use may be increased by placing an interpretive sign along the highway indicating the location of the HMA.

J. Range Improvements

The only range improvement (Hillside pipeline (JDR #5013) within the HMA is a pipeline and its associated water troughs. Water is only available in these troughs when cattle are present.

K. Water and Riparian

There are no naturally occurring water or riparian areas within the HMA.

L. Other Activities

There are no other activities known to impact the wild horses within the HMA.

M. Wilderness

There are no wilderness study areas or wilderness areas within the HMA.

N. Cultural Resources

A cultural resource inventory was conducted within the Granite Peak HMA in 1976 for a Soil Conservation Service soil survey in southern Washoe County. Twenty-three one acre pits were surveyed and one small lithic site was recorded. A higher concentration of sites is located just outside of the HMA near Whitney, Juniper and Bird Springs. It must be noted, however, that only 23 acres of the 57,315 acre Antelope Mountain grazing allotment have been inventoried for cultural resources and therefore, a high potential exists for additional sites to be located with the Allotment or HMA.

O. Issue and Problem Summary

Vegetation is being over utilized outside of the HMA, and if continued will lead to a degraded range. Also, springs and associated riparian areas outside of the HMA have been degraded and are no longer in a state of thriving ecological balance. Some springs have had all of their associated riparian vegetation removed and hoof action is compacting the soil which could shut off the flow of water.

<u>The Allotment Evaluation of 1992 made the following recommendations</u>:

- Eliminate horse use outside of the HMA because of overuse problems.
- Limit horse use within the HMA to proper stocking levels.
- Reduce utilization levels to 55% of current years growth.

## II. Objectives and Management Methods

### A. Animal Objectives

Objective 1

Maintain the wild horses in good or excellent physical condition.

Management Method

Provide an adequate amount of forage for the individual horses in the population by adjusting the population of wild horses to a level in balance with the forage productivity of the habitat within the HMA (Habitat Objective 1 and requirements of wildlife and livestock). Based on the analysis of monitoring data under Habitat Objective 1, providing a proper amount of forage per animal will allow the animals to maintain themselves in a healthy condition, better able to withstand environmental fluctuations.

Prior to future removals current utilization data will be analyzed to determine if the AML set in the multiple use decision is still appropriate. Future gathers may be postponed if current data indicates that the HMA can support an increased horse population. Also, future gathers may decrease the horse population below the minimum AML if current monitoring data indicates that the AML is too high for current range conditions.

Objective 2

Maintain the free-roaming nature of the wild horses.

Management Method

All projects proposed on BLM administered land within the HMA will be carefully evaluated through an environmental assessment process as to their effect on free-roaming behavior and movement of wild horses.

Objective 3

Maintain the wild horses within the HMA.

Management Method

Improve the habitat within the HMA and identify key habitat areas within the HMA through monitoring efforts. Maintain the fences along allotment boundaries where they form part of the HMA boundary.

During periodic population reductions, horses gathered outside of the HMA will not be released back into the HMA (to the extent possible) because they will likely return to the area from which they were removed (Waring 1979, Tyler 1972 and observations of released horses within the Lahontan Resource Area). Any wild horses located outside of the HMA will receive priority for removal.

Objective 4

Minimize the adverse effects of gathers to both the individual wild horses and the population.

Management Method

Using a variation (managing horses within a range, i.e. 11 - 18) below the maximum herd size indicated from analysis of monitoring data (Multiple Use Decisions 1993) will increase the time interval between captures, thereby reducing stress, injuries and deaths associated with capture operations. Furthermore, it is not physically or fiscally possible to capture horses in the same HMA every year. If horses were allowed to increase above the AML then resource damage would occur.

Wild horses have an average rate of increase of between 14% and 24% annually (Garrott, 1990). From monitoring data, an annual growth rate of at least 18 percent can be expected under reasonable population levels in this HMA. By reducing the population of wild horses within the HMA to a point below the maximum number of wild horses that the habitat can support and allowing the population to build back up to the maximum level the next removal could be delayed for 3 to 4 years. The number of wild horses would not exceed 18 (Appendix 1) and would help achieve Habitat Objective 1.

Various forms of contraceptives (Strategic Plan) may be used to slow the rate of increase. Currently the most promising treatment is effective for approximately 1 year and may be extended for 2 or more years, and is administered via an intramuscular injection.

If wild horses were only reduced to 18, gathers would need to be conducted on a yearly basis which would lead to frequent band disturbances and other forms of stress. Furthermore, yearly gathers would not be physically or fiscally feasible. Removal procedures are contained in Appendix 3.

Objective 5

Remove only adoptable animals (Strategic Plan).

Management Method

National policy prevents placement into the adoption program of animals older than 9 years, because it is not cost effective to place older animals. Therefore, only animals 9 years or younger will be removed from the HMA for placement into the adoption program.

During removals only adoptable animals (<10 years of age) will be removed for adoption. Older animals and animals with large scars or other features substantially decreasing their adoption potential will be released back into a HMA. Horses with severe permanent disabilities (i.e. broken legs, severely clubbed feet, etc) may be euthanized.

Objective 6

Maintain genetic diversity

Management Method

Some unadoptable (i.e. older) horses from other herd areas may be released into the HMA which will allow for gene flow between other HMA's within this Resource Area.

B. Habitat Objectives

Objective 1.

Allow no more than 55% utilization on key plant grass species (Indian ricegrass, Idaho fescue and needle grass) and 40% on interim grass species (bottlebrush squirreltail and bluegrass) yearlong on previous years growth by March.

Management Method

Maintain the horse population at less than 18 animals within the HMA and remove animals that have established home ranges outside of the HMA.

III. Management Evaluation and Revision

A. Animal Studies

The studies described below are designed to monitor the attainment of the specific management objectives developed for this HMA.

1. Actual Use

Need: It is necessary to continue collecting data on the number and kinds (wild horses, wildlife and livestock) of animals which are utilizing the forage within the HMA in order to make quantifiable decisions with regard to wild horse, cattle and wildlife numbers by season of use.

Method: Helicopter censusing will be the method used to estimate the wild horse population in conjunction with on the ground identification of individual animals. Censuses will be conducted during the summer or fall to include and identify young. These censuses will occur at intervals of 3 years or less (funds permitting). Actual use by wild horses will be derived from population estimates.

2. Demography

Need: Data are needed on the foaling rate of mares and the survival rate of foals and adults in order to determine the rate of increase.

Method: Capture data, ground and aerial observations will provide baseline data. This will aid in determining the efficacy of different management strategies. Data will be analyzed using base-line parameters specific to this HMA where applicable. Age structure and annual rates of increase have been obtained from past gathers and aerial census. Also, age specific mortality and fecundity rates may be obtained from published data (Feist 1975; Wolfe 1980, 1989; Eberhardt 1982; Seal 1983; Siniff 1986; Garrott 1990a, 1990b, 1991a, 1991b, 1991c, 1991d; Eagle 1992)

B. Habitat Studies

1. Utilization

Implementation of Habitat Objective 1 will require a reduction of utilization to 55% or less on key grass species (Indian rice grass, needlegrass and Idaho fescue; level recommended in the Nevada Rangeland Monitoring Handbook), and to 40% on bottlebrush squirreltail and Poa.

Need: To determine the amount of use (degree of utilization) occurring to the available forage by wild horses, livestock and wildlife.

Method: Utilization studies will be conducted prior to cattle turnout in dual use portions of the HMA. In addition to this, utilization data will be collected on the entire HMA at the end of each livestock grazing season. All utilization studies will be done using the Key Forage Plant Method. Each point where a utilization transect is run will be considered a study area and the location will be shown on the appropriate topographic map. (Outlined in BLM Handbook TR4/ 400-3 p. 11). Use pattern maps will then be constructed from these studies, showing relative areas and intensity of utilization.

2. Trend

Need: Trend refers to the direction of change of ecological or forage condition. It indicates whether the rangeland is moving toward or away from its potential or specific management objectives.

Method: Frequency transects at key areas are read every 5 years.

3. Ecological Status

Need: Ecological status is determined by the present state of the vegetation and soil production of an ecological site in relation to the potential natural community for that site. Ecological range condition will be measured for each key area following MH 4400-1 guidelines (Soil Conservation Service National Range Handbook) to measure progress towards the desired seral stages.

Method: Once key species are identified a key area condition transect will be done. Key area condition transects will be re-evaluated upon measurement of a statistically significant change in frequency data. These results will be evaluated to determine change in frequency data (trend). Furthermore, results will also be evaluated to determine if the appropriate objectives have been realized. (Refer to Nevada Rangeland Monitoring Handbook p. 13).

C. Evaluation

All adjustments in livestock and wild horse use in the Granite Peak HMA will be based on rangeland monitoring. Monitoring information will be collected and evaluated on a yearly basis in accordance with the Nevada Rangeland and Monitoring Task Force Recommendations.

Utilization results and use pattern maps will be analyzed to determine if Habitat Objective 1 is being achieved. Actual use will be used in conjunction with utilization data in revision of the numbers in the plan. Horse and cattle numbers may be adjusted either $\pm$ as utilization results indicate. Cattle adjustments will be based upon monitoring as described in the Antelope Mountain Allotment Management Plan. Future Multiple Use Decisions may amend the numbers specified in this plan.

Adjustments in wild horse numbers will be based on the results of utilization studies (III. B. 1.) with the objective of limiting total vegetation use within the HMA to 55 percent or less on key species and 40 percent on interim species.

The formula for calculating proper use:

$$\frac{\text{Actual use (AUMs)}}{\text{Average/Weighted Average Utilization}} = \frac{\text{Potential Actual Use (AUMs)}}{\text{Desired Average Utilization}}$$

When total utilization increases above 55 percent on key species and 40 percent on interim species, a gather will be conducted to bring the wild horse population to a level consistent with management objectives (see also II., A., objective 4.).

Horses that have established home ranges outside of the HMA will be removed as soon as is practical.

Results of the soil monitoring studies will also be used as an indication of Habitat Objective 1 being met.

Helicopter censuses will be key to identifying the need for removals in accordance with Animal Objective 1.

The young/adult ratios may indicate that removals need not be as frequent as estimated or they may indicate that more animals need to be removed or contraceptives employed.

Animal distribution and use pattern mapping will be used to reevaluate important water sources.

The entire plan will be evaluated in 1998 to determine if objectives are being attained.

Modification

This plan may be modified if data from studies and experience indicate that changes are desirable. Also, animal numbers and ranges may be modified through Multiple Use Decisions which will result from ongoing monitoring.

IV. Funding

All actions undertaken pursuant to this plan are contingent upon available funding and manpower.

V. ENVIRONMENTAL ASSESSMENT EA No. NV-030-93-033

Granite Peak Herd Management Area Plan and Capture Plan

A. INTRODUCTION AND PURPOSE

The purpose of this Herd Management Area Plan and Capture Plan (HMAP) is to maintain both a healthy wild horse population and the range in a healthy condition (thriving ecological balance) and multiple use relationship preventing deterioration of the vegetation community in the Granite Peak Herd Management Area (HMA). This proposal is in conformance with the Lahontan Resource Management Plan (RMP).

Relationship to Other Environmental Documents

This EA is tiered to the Lahontan RMP Environmental Impact Statement (EIS) which analyzed the general ecological impacts of managing rangelands in the Lahontan area under a program including the monitoring and adjustment of wild horses and livestock. This EA is a project specific refinement of the RMP/EIS focused on the management of wild horses in the Granite Peak HMA. The decisions regarding overall rangeland management analyzed in the Lahontan RMP/EIS will not be changed by the Granite Peak HMAP. These documents are available for public review at the Carson City District Office.

B. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

1. Proposed Action

The proposed action is to achieve a thriving ecological balance between the vegetative community, wild horses, wildlife and livestock and maintain the wild horse population in a healthy state. The specific objectives and management methods are described in the Objectives and Management methods section of the HMAP. They include:

Objective: Maintain an interval between removals of at least 3 to 4 years.

Management Action: Maintain wild horses within a population range of 11 - 18.

Management Action: Apply contraceptives (chemical or mechanical) as they become available.

Management Action: Utilize a helicopter to herd horses into corrals constructed out of portable steel panels. Other motorized equipment will also be used.

Management Action: Nursing mares or foals which have become separated from nursing mares may need to be roped. However, based on past removals it is anticipated that less than 1 percent of the animals will require roping.

Management Action: The Bureau of Land Management may contract with a private party for the removal operation. If a contractor is used he/she would be supervised at all times by Bureau employee(s).

Objective: Placing only adoptable horses into the adoption program.

Management Action: Only animals less than 10 years of age will be placed into the adoption program, other excess unadoptable horses will either be released into another HMA or back into the Granite Peak HMA.

Objective: Maintain horses within the HMA.

Management Action: Place horses removed from areas outside of the HMA into the adoption program, other HMA's or release them back into the Granite Peak HMA.

2. No Action Alternative

The no action alternative would not include any of the objectives and management actions. The wild horses would not be maintained at a level compatible with their environment, and would continue to increase.

3. Alternatives considered but not analyzed

Herding from horseback and water trapping were considered, however, they are not feasible for this HMA. These horses water on private lands, and there are many springs and livestock waters in the general area precluding water trapping as a viable alternative. Wild horses cannot be effectively controlled with riders on saddle horses. Capturing wild horses from horseback would likely result in injuries to saddle horses and riders. Also, the wild horses would likely be herded further than they would be if helicopters were used and horses within individual bands would likely be separated, including foals.

C. AFFECTED ENVIRONMENT

The affected environment is described in sections E - K in the HMAP.

D. ENVIRONMENTAL IMPACTS

1. Proposed Action

Impacts on Vegetation

Managing horses between 11 to 18, a level which can be maintained by the vegetation (<= 55% total use) and is compatible with wildlife & livestock grazing will result in the vegetative community being maintained or improved. During years of lower population levels the vegetation may receive benefits associated with less grazing pressure and disturbance associated with removal operations would be minimized. During years of lower horse numbers the forage plants would receive less grazing pressure allowing for more storage of energy and an increase in the quantity and quality of seeds.

Numerous studies have documented the adverse effects of over and early season grazing to grass plants. Leithead (1963) showed that during the spring, grazing is detrimental because the grasses are using their stored reserves which are at their lowest level. Plants rely on theses reserves to begin growth. Branson (1956), Harris (1967) and Evans & Tisdale (1972) all found that removing the apical meristems greatly retards any further growth, which prevents the plants from producing more foliage, thus, preventing the plant from storing any energy and replacing stored energy used to form the early foliage growth. McLean and Wilkeem (1985) found that defoliation beyond the end of the growing period allows no opportunity for production of new foliage and subsequent accumulation of nutrient reserves before summer dormancy. Wilson et al. (1966) found that heavy spring grazing results in decreasing plant vigor, seed stalk production and eventually results in plant mortality. Wilson et al. (1966) also found that grazing bluebunch wheatgrass to 1" stubble height during boot state for 3 consecutive years will result in mortality. Mueggler (1975) found that bluebunch

wheatgrass may require 6 years of nonuse for recovery from a onetime removal of 50% of the shoot during the active growing period.

Impacts on Horses

From analysis of monitoring data it was determined that 18 wild horses are the maximum that the HMA can support (Appendix 1) while maintaining an ecological balance between vegetation, wild horses, wildlife and livestock. In order to minimize the stresses and disruption of band structures the population of wild horses will be reduced below 18 and allowed to increase back to 18

Managing horses between 11 to 18, a level which can be maintained by the vegetative community with other uses will minimize the stresses to the individual horses associated with limited food and space resources. Minimizing the day to day stresses will be especially important to the young animals. Managing the population which maximizes the intervals between removals minimizes the stresses associated with removals. Managing horses in harmony with their habitat and maximizing intervals between removals would result in only positive benefits (i.e. reduced stresses to the animals and a healthy vegetative community).

Managing the wild horses within a range (i.e. 11 - 18) would require that the population be reduced below the maximum allowable population level. A healthy viable population would be maintained.

Reducing horses below the maximum number (AML) that the habitat can support in concert with the other uses (i.e. wildlife, livestock grazing) will reduce the stress of gathers by allowing an interval of approximately 3 to 4 years between gathers (Appendix 4).

Using chemical or mechanical contraceptive techniques to slow the rate of increase would result in fewer animals captured and placed in the adoption program. This would result in positive impacts to both the animals and the taxpayer by minimizing the number of excess animals.

Applying contraceptive techniques to a proportion of the population will slow the rate of increase. This will allow greater intervals between gathers which will result in less disturbances and stress to the horses.

Applying reversible contraceptives randomly throughout the target age classes would minimize artificial selection, would have minimal impact to the genetic make up of the population and allow the population to continue to adapt to a free roaming existence.

Specific contraceptive techniques chosen will most likely be delivered via intramuscular injections and will be reversible with time. Treating mares with contraceptives delivered intramuscularly would not increase the handling time or stresses ordinarily involved with capture operations because the older animals (>2 years old) are restrained in a squeeze chute to determine age. While the mares are being aged an intramuscular injection would be delivered.

The release of unadoptable horses from other areas within the Resource Area would likely replace any alleles lost by stochastic events and would allow the Granite Peak population to function as part of a metapopulation which is how many natural populations of animals evolved. Furthermore, introduction of new genetic material will aid in maintaining and increasing the natural variability of the population. All impacts would be positive.

During periodic removals, animals captured from areas outside of the HMA will either be placed into the adoption program, released into other HMA's or released back into the HMA as far from the point of capture as possible. Horses are likely to return to their home ranges after release (Tyler 1972, Waring 1979 and post release census flights). Therefore, releasing animals back into the HMA will only be done when the other alternatives are not practical.

A combination of removing young animals and treating older animals with contraceptives will result in removing only readily adoptable young animals and slow the rate of increase. Thus, a minimal number of animals would need to be placed into the adoption program and the interval between gathers could be maximized. Leaving the older horses (10 years and older) in the population would preserve the genotypes that have proved most adapted to this HMA. The exact method or combination of methods will be determined prior to each gather and will be influenced by adoption demand, current rate of population increase and efficacy and cost of contraceptives and range condition. To insure no adverse impacts upon the population, the most adverse case was analyzed. However, it is unlikely that it would be fully implemented. The most adverse case would be to remove 90% of the animals 9 years of age and younger and to prevent conception in 90% of the remaining females for 2 years. This scenario would postpone the need for a subsequent removal for approximately 6 years.

Unavoidable impacts in the form of injuries to the horses may occur during the removal process. Death loss is not expected to exceed 1% of the horses captured at the trap site, based on past gathers. Potential injuries and fatalities can be limited through strict enforcement of contract specifications (Appendix 3) for safety and humane treatment of animals. BLM representatives would be monitoring the contractor's activities at all times during removal to ensure compliance with specifications and humane treatment of animals.

Some stress to the horses would be associated with the helicopter herding operations. However, after adoption the horses become accustomed to captivity.

Impacts on Wildlife

Managing horses within a range of 11 to 18 (total utilization <= 55%) would have positive impacts on wildlife by insuring adequate forage and space for wildlife species. This horse level would help in providing habitat requirements for wildlife, thus aiding in the maintenance biodiversity.

Other Impacts

By managing horses at the identified levels, forage would be available for grazing by livestock which will help meet RMP objectives and would allow a thriving ecological balance to be obtained and maintained between the vegetative community, wildlife, wild horses and livestock. This will result in positive impacts. The vegetative community, wild horse populations and wildlife populations would be stabilized. It is anticipated that after the reduction the utilization will decrease to 55% on key species.

The proposed action would not adversely impact air quality, ACECs, recreation, cultural resources, farmlands, floodplains, Native American religious concerns, T&E species, wastes, water quality, wetlands and riparian zones, wild and scenic rivers or wildernesses.

No impacts would occur to cultural resources, as proposed trap sites and holding facilities would be inventoried prior to construction in order to avoid those areas where cultural resources exist.

2. No Action

The wild horses would not be maintained at a level compatible with their environment, and they would continue to increase. As the wild horse numbers increase the degradation of vegetation would be accelerated. Eventually most of the desirable plants would be lost from the HMA and surrounding area. This action would directly affect wildlife and livestock by removing habitat and forage. A decrease in biodiversity would occur.

The vegetation (quantity, quality and species evenness) would eventually decrease to a point which could no longer support the horse population, at this point a large proportion of the horse population would die along with wildlife and livestock. However, prior to the population crash the habitat would have deteriorated, and undesirable exotic invader species such as halogeton (Halogeton glomeratus), cheatgrass (Bromus tectorum) and Russian thistle (Salsola kali) would have established themselves over large areas. Invader species have already established themselves in several HMA's within this Resource Area. Thus, the HMA's capacity to support horses would than be only a small percent of its potential capacity and it would take many decades of low or no grazing pressure to recover to its potential carrying capacity. The no action alternative would also preclude attainment of wildlife, soil, water and livestock objectives in the RMP.

Habitat improvement would not be realized with this alternative. The frequency of key species would decline. The animals would continue to search for food and further degrade their habitat, thereby reducing the carrying capacity of the area which would eventually lead to unacceptable adverse physiological stress and degraded vegetation condition.

Over utilization within and outside of the HMA would continue to occur and as the range becomes further deteriorated the carrying capacity of the HMA and allotments would be reduced. The objective of limiting utilization to 55 percent or less would never be met. Downward trend would occur, and ecological condition would decline. In the long-term, the excessive utilization would eliminate nearly all the forage plant species. Attainment of RMP objectives would not be met.

Further deterioration of the range would occur and the area would not be in a state of thriving ecological balance between wild horses, wildlife, vegetation and livestock.

E. Coordination and Consultation

This draft HMAP/Capture Plan, and EA has been sent to the following persons, groups and government agencies in order to solicit comments.

American Bashkir Curley Register
Animal Protection Institute
Barbara Eustis-Cross Executive Director L.I.F. E. Foundation
Bobbi Royle
C. Jean Richards
Carson City District Grazing Advisory Board
Commission for the Preservation of Wild Horses
Craig C. Downer
Dan Keiserman

Debora Allard
Feather River Ranch
Fund for Animals
Humane Society of Southern Nevada
International Society for the Protection of Mustangs and Burros
Michael Kirk
Kathy McCovey
Nan Sherwood
National Mustang Association
National Wild Horse Association
Nevada Cattlemen's Association
Nevada Department of Wildlife
Nevada Federation of Animal Protection Organization
Nevada Humane Society
Nevada Land Action Association
Nevada State Clearinghouse
Nevada State Division of Agriculture
Paula Askew
Rebecca Kunow
Resource Concepts Inc.
Save the Mustangs
Sierra Club
Steven Fulstone
Susan Alder
The Nature Conservancy
U.S. Fish and Wildlife Service
U.S. Humane Society
United States Wild Horse and Burro Foundation
Wild Horse Organized Assistance

VI. List of Preparers

Prepared by:

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12 May 93
Date

Reviewed by:

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5-12-93
Date

David Loomis
Environmental Planner
Carson City District

5-19-93
Date

Dan Jacquet
Assistant District Manager
Carson City District

6/1/93
Date

Karl Kipping
Associate District Manager
Carson City District

6/9/93
Date

## VII. FINDING OF NO SIGNIFICANT IMPACT AND DECISION RECORD

Decision: Implement the Granite Peak HMAP and Capture Plan. The subject plan directs management actions for the Granite Peak HMA. The major actions in the subject plan include limiting vegetation utilization to 55%, providing habitat for wild horses and wildlife, outlining studies to assure that Land Use Plan objectives are being met and removing excess wild horses. The selected alternative is the proposed action which contains the above mentioned features.

Finding of No Significant Impacts: Based on the analysis of potential environmental impacts contained in the environmental assessment, impacts are not expected to be significant and an environmental impact statement is not required.

The Lahontan RMP stated that Herd Management Area Plans would guide the management of wild horses, through the determination of proper horse use levels. By maintaining the population of wild horses between 11 and 18 the vegetation utilization levels will be maintained at sustainable levels ($\leq$ 55% use), this action is not significant because a population of wild horses will be maintained within the HMA and the vegetation, wildlife and livestock will not be adversely impacted.

Using chemical or mechanical contraceptive techniques to decrease the rate of increase would result in fewer animals captured and placed into the adoption program. Contraceptive techniques will allow greater intervals between gathers which will result in less disturbances and stress to the horses. These actions are not significant because they lie within the scope of managing horses at the minimum feasible level. If contraceptive techniques are not used, succeeding removals will need to be conducted more frequently and additional animals will need to be placed into the adoption program.

To avoid adverse impacts to foals, foals will be weaned from their mares prior to the release of older excess mares into other Herd Management Areas. This action is not significant because impacts are avoided.

Unavoidable impacts in the form of injuries to the horses may occur during the removal process. Death loss is not expected to exceed 1% of the horses captured at the trap site. Some stress to the horses would be associated with the capture operations, however, after adoption the horses become accustomed to captivity. Because the loss of animals due to accidents is low the impacts involved in the capture operation are not significant.

Rational for decision: The decision to implement the Granite Peak HMAP and Capture Plan is in conformance with the Lahontan RMP, approved in 1985, and will maintain the range in a thriving ecological balance and prevent a deterioration of the range, as analyzed in the subject EA, in accordance with Sec. 3(b) of the Wild Free-Roaming Horses and Burros Act, as amended, 16 U.S.C. 1333(b) (1989). This will result in reduced soil erosion and improve the physical condition of wild horses.

The proposed actions will not adversely impact air quality, ACECs, cultural resources, farmlands, floodplains, Native American religious concerns, T&E species, wastes, water quality, wetlands and riparian zones, wild and scenic rivers or wildernesses.

Recommended for Approval by:

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7/28/93
Date

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James W. Elliott
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Carson City District

7/30/93
Date

VIII. Literature Cited

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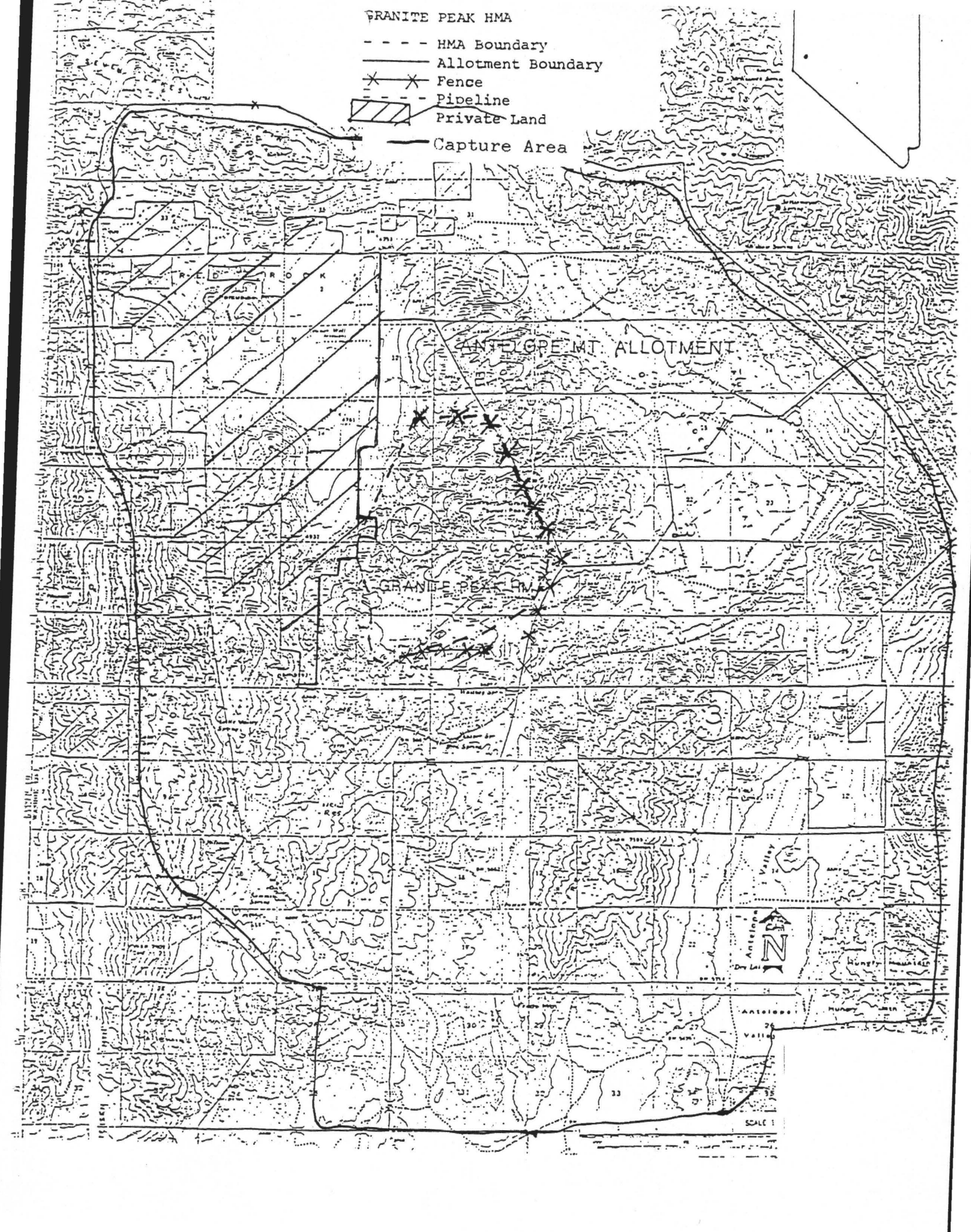
GRANITE PEAK HMA
HMA Boundary
Allotment Boundary
Fence
Pipeline
Private Land
Capture Area
ANTELOPE MT. ALLOTMENT
GRANITE PEAK HMA
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## Appendix 1, Animal Numbers

In 1993 a Multiple Use Decision (MUD) was issued for the Antelope Mountain grazing allotment which includes the Granite Peak HMA. This decision was based on monitoring data involving wild horses and livestock within the HMA. A draft MUD was sent out to the persons, groups and agencies requesting participation in the review and comment process, this decision were not protested and became final in 1993.

Utilization levels exceed 55% on the allotment. This was the result of grazing by both livestock and wild horses.

The latest complete census of this area was conducted in October of 1991 and documented 15 horses in the HMA and 33 outside of the HMA.

As previously stated, an AML of 15 was set for the HMA with a management range of 11 - 18 wild horses for the HMA.

Chemical or mechanical contraceptives may also be used to retard the rate of increase, thereby permitting gathers to be deferred for greater time intervals. Removing horses from various age groups will also be employed. It is not anticipated that removing animals older than 9 years of age will occur. The precise technique used at each removal will vary depending on the cost and efficacy of contraceptives versus the current adoption demand.

## Appendix 2, Utilization Levels and Monitoring Schedule

The Multiple Use Decisions issued set both livestock and horse numbers. However, future monitoring may indicate that adjustments in grazing use is required to meet RMP objectives. If overutilization occurs in dual use areas reductions in both livestock and horses will be required. A Multiple Use Decision would then be issued to reflect current monitoring information.

Monitoring will be done on or around 15 April, 1 November, 1 March. Use on previous years growth needs to be limited to 55% by the beginning of the growing season (March).

Appendix 3, Removal Procedures

I. Methods for Removal and Safety

The methods employed during this capture operation will be either herding horses with a helicopter to a trap built with portable panels or capturing the horses using portable panels around water troughs. The Bureau of Land Management may contract with a private party for part or all of this operation. If a private party is used for this operation Bureau employee(s) will be supervising the contractor at all times during the gathering operation. The following stipulations and procedures will be followed during the contract to ensure the welfare, safety and humane treatment of wild horses and that wild horses are removed from proper areas. If capture operations are preformed by Bureau personnel, the Bureau will follow the same stipulations that we require of a private contractor.

A. Roundup Procedures within Contract Area:

The Contracting Officer's Representative (COR) or Project Inspectors (PI) will determine specific roundup areas and numbers of animals within general contract areas as animal concentration, terrain, physical barriers and weather conditions dictate. Upon determination of the specific roundup areas, the COR/PI will select the general location of trap sites in which to herd the animals. Animal concentration, terrain, physical barriers and weather conditions will all be considered when selecting trap sites.

B. Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals.

2. Vehicles shall be in good repair, of adequate rated capacity, and operated so as to insure that captured animals are transported without undue risk of injury.

3. Only stock trailers shall be allowed for transporting animals from traps to temporary holding facilities. Only Bobtail trucks, stock trailers, or single deck trucks shall be used to transport animals from temporary holding facilities to final destination. Sides of stock racks of transporting vehicles shall be a minimum height of 6 feet 6 inches from vehicle floor. Single deck trucks with trailers 40 feet or longer shall have 2 partition gates to separate animals. Trailers less than 40 feet shall have at least 1 partition gate to separate the animals. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck trailers is unacceptable and shall not be allowed.

4. All vehicles used to transport animals to final destination shall be equipped with at least 1 door at the rear end of the vehicle which is capable of sliding either horizontally or vertically.

5. Floors of vehicles and loading chute shall be covered and maintained with a non-skid surface such as sand, mineral soil or wood shavings, to prevent the animals from slipping. This will be confirmed by a BLM employee prior to loading (every load).

6. Animals to be loaded and transported in any vehicle shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. A minimum of 1.4 linear foot per adult animal and .75 linear foot per foal shall be allowed per standard 8 foot wide stock trailer/truck.

The BLM employee supervising the loading of the wild horses to be transported from the trap to the temporary holding corral will require separation of small foals and weak horses from the rest, if they could be injured during the trip. Distance and condition of the road and animals will be considered in making this determination. Horses shipped from the temporary holding corral to the BLM facility will normally be separated by studs, mares and foals (including small yearlings). However, if the numbers of these classes of animals are too few in one compartment and too many in another, animals may be shifted between compartments to properly distribute the animals in the trailer. This may include placing a younger, lighter stud with the mares or a weak mare with the foals. Further separation may be required should condition of the animals warrant.

The BLM employee supervising the loading will exercise authority to off-load animals should there be too many horses on the trailer or truck.

7. The COR/PI shall consider the condition of the animals, weather conditions, type of vehicles, distance to be transported, and other factors when planning for the movement of captured animals. The COR/PI shall provide for any brand inspection or other inspection services required for the captured animals.

It is currently planned to ship all horses to the Palomino Valley facility. Communication lines have been established with the Palomino Valley personnel involved in off-loading the horses, to receive feedback on the condition of shipped horses. Should problems arise, shipping methods or separation of the horses will be changed in an attempt to alleviate the problems.

8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the contractor will be instructed to adjust speed. The maximum distance over which animals may have to be transported on dirt road is approximately 5 miles.

Periodic checks by BLM employees will be made as the horses are transported along dirt roads. If speed restrictions are placed in effect, then BLM employees will, at times, follow or time trips to ensure compliance.

C. Trapping and Care

1. The helicopter shall be used in such a manner that bands of horses will remain together. Foals shall not be left behind.

The Carson City District may use an observation helicopter to supervise the use of the project helicopter. In the absence of an observation helicopter a saddle horses may be used to place a BLM observer on a point overlooking the area of the helicopter herding operations. Mares will be checked soon after capture to determine if they are nursing. If nursing mares are captured without foals intensive monitoring will be conducted to identify the reason(s) foals are being abandoned and a solution will be developed. The

health and well being of the captured animals are paramount and foals will not be left behind.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

BLM will not allow horses to be herded more than 10 miles. The COR/PI may decrease the distance moved should the route to the trap site be steep or rocky enough to pose a danger or cause avoidable stress. Animal condition will also be considered in making distance and speed restrictions.

Special attention will be given to avoiding physical hazards such as fences. Map 1 shows locations of fences and any other potential hazards.

3. It is estimated that 1 trap location will be required to accomplish the work. All trap locations and holding facilities must be approved by the COR/PI prior to construction. Proposed trap sites and holding facilities will be inventoried prior to construction in order to avoid those areas where cultural resources exist. The contractor may also be required to change or move trap locations as determined by the COR/PI. All traps and holding facilities not located on public land must have prior written approval of the landowner.

If the tentative trap site (Map 1) is not located near enough to the concentrations of horses, then the trap site will not be approved. The COR/PI will move the general location of the trap closer to the horses. Trap sites will be located outside of the WSA. Trap sites will not be approved where barbed-wire fences are used as wings, wing extensions, or to turn the horses, during herding, toward the trap.

4. All traps, wings and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high, the bottom rail of which shall not be more than 12 inches from the ground level. All traps and holding facilities shall be oval or round in design.

b. The loading chute shall also be a minimum of 6 feet high.

c. All runways shall be a minimum of 20 feet long and a minimum of 6 feet high.

d. Wings shall not be constructed out of barbed-wire or other materials injurious to animals and must be approved by the COR/PI.

e. All crowding pens including the gates leading to the runways shall be covered with material which prevents the animals from seeing out (plywood, burlap, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level. Eight linear feet of this material shall be capable of being removed or let down to provide a viewing window.

5. No fence modification will be made without authorization from the COR/PI. The contractor shall be responsible for restoration of any fence modification which he has made.

If the route the contractor wishes to herd horses passes through a fence, the contractor will be required to roll up the fencing material and pull up the posts to provide at least one-eighth mile gap. The standing fence on each side of the gap will be well-flagged for a distance of 300 yards from the gap on each side.

6. When dust conditions occur within or adjacent to the trap or holding facility, the contractor shall be required to wet down the ground with water.

7. Alternate pens, within the holding facility shall be furnished by the contractor to separate mares with small foals, sick and injured animals, and estray animals from the other horses. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize injury due to fighting and trampling.

As a minimum, studs will be separated from the mares and foals when the animals are held overnight.

8. Animals shall be transported to final destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the COR/PI for unusual circumstances. Animals shall not be held in traps or temporary holding facilities on days when there is no work being conducted except as specified by the COR/PI. The contractor shall schedule shipments of animals to arrive at final destination between 6:00 a.m. and 4:00 p.m.

9. The contractor shall provide animals held for 5 hours or more in the traps or holding facilities with a continuous supply of fresh clean water at a minimum of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than 2 pounds of hay per 100 pounds of estimated body weight per day.

10. It is the responsibility of the contractor to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

11. The contractor shall restrain sick or injured animals if treatment by the government is necessary. The COR/PI will determine if injured animals must be destroyed and provide for destruction of such animals. The contractor may be required to dispose of the carcasses as directed by the COR/PI.

12. When refueling, the helicopter shall remain a distance of at least 1,000 feet or more from animals, vehicles (other than fuel truck), and personnel not involved in refueling.

13. Mares and foals will be paired up soon after capture and separated from other adult horses. Mares that are within the target age group for removal will be shipped to PVC with their foal. Foals of older mares (mares older than the ones selected for removal) that are old enough to wean, will be weaned and shipped to PVC. While holding animals at temporary corrals every effort will be made to pair up mares with foals. Any foals that do not pair up with an mare will be shipped to PVC.

14. Foals of older mares which are to young to wean will be released back into the HMA with their mare. In order to minimize stress to the foals, older mares and their foals will be released separately from other mares and stallions. Depending upon the situation they may be released prior to the other animals or after the other animals have been released. Also, we may transport the mares with very young foals in a stock trailer to areas close to their core areas when feasible. The objective will be to maximize the period of time between releasing small foals and other animals. Also, mares with foals will be released in small groups to minimize the likelihood of the adult horses running off to quickly for the foals to keep up.

15. Following the release of animals from corrals or trailers, the area surrounding the release site will be monitored to determine the success of the release prior to the contractor moving to another area or the termination of the task order.

II. Disposition of Removed Animals

The wild horses and burros will be sent to Palomino Valley Wild Horse and Burro Placement Center to be processed for adoption.

Impounded, privately-owned animals will be processed as outlined in the Bureau of Land Management, Nevada State Office Instruction Memoranda NV-84-116 and NV-85-416.

III. Responsibility

The District Manager is responsible for maintaining and protecting the health and welfare of the wild horses. To ensure the contractor's compliance with the contract stipulations, the COR and PIs all from the Carson City District, will be on site. Also, the Lahontan Area Manager and the Carson City District Manager are very involved with guidance and input into this removal plan and with contract monitoring. The health and welfare of the animals is the overriding concern of the District Manager, Area Manager, COR and PIs.

The COR and/or PI will constantly, through observation, evaluate the contractor's ability to perform the required work in accordance with the contract stipulations. Compliance with the contract stipulations will be through issuance of written instructions to the contractor, stop work orders and default procedures should the contractor not perform work according to the stipulations.

Prior to issuance of the "Notice to Proceed" to the contractor, the COR and PIs will inspect the equipment to be used during the contract, to insure the equipment meets or exceeds the standards contained in the contract stipulations. Prior (less than 20 days) to the start of the contract and constantly during the course of the contract the COR and/or PIs will evaluate the conditions which may cause undue stress to the animals. The factors considered will include animal condition, prevailing temperatures, drought conditions, soil conditions, topography, animal distribution, distance animals travel to water, quantity of available water and condition of roads that animals are to be transported over. These factors will be evaluated to determine if additional constraints other than those already discussed above, need be initiated in order to safely capture and transport the animals (i.e. veterinarian present, or delay of capture operations). This is of special concern during this year of drought which may intensify the impact of removal operations on the animals and the roads.

## Appendix 4, Rate of Increase

Several authors (Siniff 1986 and Garrott 1990a, 1991a, 1991b, 1991c) looked at rates of increase in wild horse herds and concluded that the lowest rate of increase is between 14 -15% annually, and in areas where sufficient forage is available, rates of increase can approach 23 -24% annually. Data specific for this HMA show a rate of increase of 18% annually, between 1989 and 1991 the population increased from 74 to 104 (includes animals outside of the HMA), solving for lambda, lambda = $e^r$; $N_t = N_o e^{rt}$ yield a annual rate of increase of 1.18 or 18%; Caughley 1977). However, it is likely that after a removal the annual rate of increase will increase due to more resources being made available to individual animals.