Original

FINAL
CLAN ALPINE HERD MANAGEMENT AREA PLAN AND CAPTURE PLAN

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I. Resource and Background Information

A. Introduction

This plan presents management direction for the Clan Alpine 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 Clan Alpine HMA is located approximately 75 miles east of Fallon, Nevada. The topography of the HMA ranges from rolling hills through mountainous terrain from 4,000 to 10,000 feet in elevation. Portions of the HMA boundaries are formed by existing fences (map 1).

It is generally accepted that wild horses within the HMA originated from ranch stock that were turned out in the area.

The HMA contains approximately 314,986 acres of public and private land within 3 grazing allotments (Clan Alpine, Cow Canyon and Dixie Valley). Approximately 50%, 48% and 35% of the Clan Alpine, Cow Canyon and Dixie Valley grazing allotments occurs within the HMA respectively. The HMA includes the entire herd area, that area delineated as the wild horse habitat after (1975) passage of the Wild Horse and Burro Act, P.L. 92-195 (map 1 & 2). In the 1992 Clan Alpine AMP the Bell Flat Allotment was incorporated as a winter pasture in the Clan Alpine Allotment. Therefore, all acres and AUM's referring to the Clan Alpine Allotment will pertain to the summer pasture (original allotment) unless otherwise stated.

An Interim Herd Management Area Plan for this herd area was prepared and approved in 1979, however the numbers set in this plan were never incorporated in the Resource Management Plan of 1982. The primary objective of that plan was to reduce the wild horse population to a level of 350 head and allow the population to increase to 550 head prior to the next removal.

The predominant vegetation consists of pinion pine (Pinus monophylla), both Bailey and black greasewood (Sarcobatus baileyi & vermiculatus), shadscale (Atriplex confertifolia), fourwing saltbrush (Atriplex canescens), big sagebrush (Artemisia tridentata), spiny hopsage (Grayia spinosa), Nevada ephedra (Ephedra nevadensis), Indian ricegrass (Oryzopsis hymenoides), pine bluegrass (Poa spp.), Nevada bluegrass (Poa nevadensis), Sandberg bluegrass (Poa secunda), Thurber needlegrass (Stipa thurberiana), Idaho fescue (Festuca idahoensis), and bottlebrush squirreltail (Sitanion hystrix).

The Clan Alpine Wilderness Study Area lies within the HMA.

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 Clan Alpine HMA:

1. Maintain sound thriving populations of wild horses within HMAs.

2. An HMAP will be developed for Clan Alpine HMA.

3. Initially manage for population levels of 709, 173 and 536 wild horses in the Clan Alpine Allotment, Cow Canyon Allotment and Dixie Valley Allotment portions of the HMA (1418 animals for the HMA). However, only 1,819 Animal Unit Months (AUM's; forage for 151 horses per year) of forage were reserved for wild horses in the Clan Alpine Allotment portion of the HMA.

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. Watershed management plans will be developed through consultation with interested parties and will be coordinated with livestock, wildlife and WH&B management plans. The goals of watershed management plans are to reduce accelerated soil erosion on public lands.

8. 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.

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

10. 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 Decisions 1992:

In 1992 Multiple Use Decisions (MUD's) were issued for the 3 grazing allotments involved in the Clan Alpine HMA. These decisions divided the available forage between wildlife, wild horses and livestock. Specific Appropriate Management Levels (AML's) and ranges in horse numbers were set for each allotment. Allotment specific AML's and ranges are 405, 253 - 405 Clan Alpine Allotment; 179, 112 - 179 Cow Canyon Allotment; 395, 247-395 and Dixie Valley Allotment with a total HMA maximum AML of 979, 612-979 horses. These numbers and ranges were based on vegetation monitoring with the goal of achieving a thriving natural ecological balance between wildlife, wild horses, livestock and the vegetative community. Wildlife use within the allotments was adjudicated in accordance with the Lahontan RMP - 1985.

2. Range Program Summary Update 1989:

a. Reduce the average use to 55% by 31 March on previous years growth on key species (Range Program Summary Update 1989; RPS Update).

b. Improve ecological condition in 20 years by 1 condition class (RPS Update, 1989).

c. Maintain or improve willow, chokecherry and aspen stands to have at least 20% of all stems produce young over 5 feet (6 feet for aspen; RPS Update, 1989).

d. Limit utilization on meadows in identified sage grouse habitat to leave a minimum of 4" of growth by 15 September (RPS Update, 1989).

e. Reduce streambank damage on identified portions of Cherry Creek and Horse Creek which maintain a fishery, to less than 20%; Riparian key species utilization not to exceed 30% (RPS Update, 1989). Manage riparian areas to achieve and maintain late-seral ecological condition (RPS Update, 1989).

f. Limit utilization to 55% on current years growth on riparian areas (RPS Update, 1989).

g. Insure against adverse physiological stress to wild horses, by monitoring water availability (RPS Update, 1989).

h. Maintain or improve wild horse habitat consistent with wildlife and livestock objectives (RPS Update, 1989).

i. Maintain or improve free roaming behavior of wild horses by protecting or enhancing wild horse home ranges (RPS Update, 1989).

j. Manage identified mule deer (Odocoileus hemionus) habitat to maintain a fair (26-50 rating) or better rating. Improve identified key deer summer range from fair to good (51-75 rating; RPS Update, 1989). Manage for 200 deer yearlong.

k. Manage identified bighorn sheep (Ovis canadensis nelsoni) habitat to maintain a good condition habitat rating above 59 (RPS Update, 1989). Manage for 300 bighorn sheep yearlong.

3. Allotment Management Plans:

There are allotment management plans (AMP) for 2 of the 3 allotments involved in the HMA (Clan Alpine and Dixie Valley allotments)

4. Wildlife Habitat Management Plan:

The Clan Alpine Range Bighorn Sheep Habitat Management Plan (HMP) was prepared for this area in 1986. When preparing this plan it was assumed that 966 wild horses would occupy the HMA. The Nevada Department of Wildlife (NDOW) expressed concern over resource conflicts between the bighorn sheep and wild horses. However, it was felt that if the wild horse numbers were maintained at 966 conflicts could be overcome. Potential exists for competition between wild horses and bighorn sheep because of their dietary overlap and the ability and willingness of wild horses to move into the rugged bighorn sheep habitat (Hansen, 1982).

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

The 1989 RPS Update identified as an objective the need to provide 360 AUMs for bighorn sheep and 402 AUM's deer yearlong.

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.

f. Establish HMAs with non-reproductive herds where unadoptable horses can be placed, or return unadoptable horses to other herd areas.

At the present time, the wild horses have unrestricted movement within the HMA and the majority of all 3 allotments. 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 census was conducted in September, 1992, and resulted in a total of 525 wild horses counted inside the HMA. A total of 346, 72 and 107 horses were counted within the Clan Alpine, Cow Canyon and Dixie Valley Allotment portions of the HMA respectively. During November of 1992 adoptable (<9 of age) horses that had established home ranges outside of the HMA were removed. However, older unadoptable animals were released back into the HMA and most if not all of theses older animals have returned to there home ranges outside of the HMA.

An estimated 513 wild horses occupied the HMA in 1971, after the passage of the Wild Horse and Burro Act.

Population data are summarized as follows:

Census Date	# of Horses Counted
1975	1,378
1979	1,543
1980	1,920
1981	1,258 1/
1982	894 2/
1985	1,688
1986	1,489 3/
1986	626 4/
1989	959
1991	459
1992	525

All censuses were conducted with rotary wing aircraft.

1/ Removed 565 horses prior to census.
2/ Removed 663 horses prior to census.
3/ This census and previous ones include animals outside of the HMA.
4/ Removed 798 horses prior to census.

2. Habitat Evaluation

Except for the northern portion of the HMA, water is reasonably abundant in the form of numerous springs and 7 perennial creeks. Except in the northern portion of the HMA water availability should not be a problem. During dry years water availability in the northern portion should be monitored to ensure that the wild horses do not undergo adverse physiological stress. If drought conditions persist it is unlikely that the remaining springs in the northern portion of the HMA can support the current number of wild horses.

Vegetation in the northern portion of the HMA is currently being overutilized by wild horses. Vegetation in some areas of the southern portion of the HMA is being overutilized, this is attributed to both cattle and wild horses.

F. Livestock Use

The HMA lies within 3 grazing allotments. The Clan Alpine, Cow Canyon and Dixie Valley grazing allotments have 9,200, 2,200 and 6,495 AUM's of active grazing preference respectively (RPS Update, 1989). In 1992 an AMP for the Clan Alpine Allotment added the Bell Flat Allotment to the Clan Alpine Allotment as a winter pasture which increased livestock AUM's for the Clan Alpine Allotment to 10,210. This action did not affect the HMA nor the distribution of livestock within in the HMA, therefore, throughout this document the AUM's and acreage used in the RPS Update of 1989 will be used.

Clan Alpine Allotment:

Normally 8,200 AUM's of livestock use occur on the Clan Alpine Allotment (excluding Bell Flat pasture). Cattle use is from 1 May through 1 December and sheep use is from December 1 through March 15.

Cow Canyon Allotment:

Normally 336 head of cattle (2,200 AUMs) graze the allotment from 1 May, through 15 November.

Dixie Valley Allotment:

Normally 541 head of cattle (6,495 AUMs) graze the allotment year round. As identified in the AMP, a grazing system was implemented which utilized a 4 pasture grazing system which rotates livestock use between pastures on a 2 year cycle.

G. Wildlife Use

The HMA includes habitat for bighorn sheep, mule deer, mountain lion (Felis concolor), sage grouse (Centrocercus urophasianus), prairie falcons (Falco mexicanus), golden eagles (Aquila chrysaetos), chukar partridge (Alectoris chukar), brook trout (Salvielinus fontinalis) and many other species.

There are no known threatened or endangered animal species within the HMA. However, the Nevada Department of Wildlife (NDOW) is concerned that the sage grouse habitat may be deteriorating. Furthermore, NDOW has released bighorn sheep within the HMA. If the reintroduction of bighorn sheep is to succeed it is crucial that bighorn sheep habitat be maintained in good condition.

H. Soils and Vegetation

The Clan Alpine Mountains, which are included within the Clan Alpine HMA, are typical of the north-south trending mountain ranges within the Great Basin. Soil parent material consists primarily of extrusive Tertiary rhyolitic flow materials, with an area of Triassic sedimentary material

(shale and silt-stone) just north of Byers Canyon. On the steeper slopes and at higher elevations, soils are typically shallow or lithic (less than 14 inches depth), with high percentages of coarse fragments (gravels, cobbles, and boulders) throughout. Percent organic matter can vary, but is usually relatively high in these high elevation soils. Lithic soils adjacent to peaks and ridges may be relatively deficient in this respect. Soil reaction in these high elevation soils is slightly alkaline. Soil temperature regimes in these soils is cryic in the highest elevations, and frigid in the Pinyon-Juniper zones.

Soils on mountain valley slopes and alluvial fans with moderate to gentle slopes typically will range in depth from moderately deep to very deep (>40 inches), and will contain a wide range of coarse fragments within the soil profile. Organic matter percentages within these soils is consistently higher, and the soil reaction (Ph) lower in areas within the mountain range than on the alluvial fans in either Dixie Valley or Edwards Creek Valley. Soil temperature regimes in the lower elevation mountains are frigid on north exposures and mesic elsewhere.

The most productive soils, which exceed by many times the vegetative production of all of the other soils within this mountain range, are the riparian soils (soils adjacent to perennial creeks, springs, seeps etc.), especially the wet meadow soils in Cherry Valley. Compared to these riparian soils, the vegetative production of the majority of soils within the HMA would have to be considered poor, with relatively little water-holding capacity, shallow depths, high percentages of rock fragments, and steep slopes.

The Lahontan Resource Area Vegetation Inventory of 1980-1982 collected the following data on ecological condition classes for sites in the allotments other than woodland and seedings which represent approximately 71% of the Clan Alpine Allotment. These condition classes were allotment wide, the HMA was not sequestered.

	% Ecological Condition			
Allotment	Early Seral	Mid Seral	Late Seral	PNC*
Clan Alpine	5	60	34	1
Cow Canyon	53	45	2	0
Dixie Valley	40	57	3	0

*Potential Natural Community (PNC)

The selection of studies methodology and key area/key species to which these studies are correlated was made in accordance with procedures established in Nevada Rangeland Monitoring Handbook (NRMH) and the District's Monitoring Plan. There are 5 key areas within the HMA. Key areas are selected, based on distance from water, typically receive moderate to heavy use, exhibit moderate potential and fair ecological condition, provide a significant amount of the available forage and are a likely indicator of any change of vegetation quality or quantity.

Clan Alpine Allotment portion of the HMA:

Utilization studies and use pattern mapping completed in 1988 documented that 30% of the Clan Alpine Allotment portion of the HMA was used exclusively by wild horses and received vegetation utilization above 55% (overutilization). Utilization during the growing season is particularly detrimental to the grass plants. The grass plants cannot be maintained at this current use level. This situation has not changed and is being further aggravated by the continuing drought.

Cow Canyon Allotment portion of the HMA:

Use pattern mapping shows areas of slight and light use within the HMA. However, for the most part the areas with slight and light use are not readily used by livestock or wild horses. Any increase in grazing pressure would likely result in the areas with moderate use going to heavy use.

Dixie Valley Allotment portion of the HMA:

Utilization studies and use pattern mapping documented that 18% of the Dixie Valley Allotment portion of the HMA received heavy use. This overutilzation was a result of both livestock and wild horse grazing.

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

There are no known threatened or endangered plants 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 Clan Alpine Mountain Wilderness Study Area (WSA). It is estimated that 2,026 visitor days are spent in the WSA yearly, of which 566 are associated with deer and chukar hunting. The remaining 1,460 days are spent in other recreational pursuits.

Interpretive signs directing the public toward areas frequented by wild horses may be erected.

J. Water and Riparian

There are 7 perennial streams, 2 of which contain trout, furthermore there are numerous springs and seeps. Some of the springs (approximately 15) require protection because of excessive trampling caused by wild horses. No streams are currently protected and only a few springs have functioning enclosures protecting them.

K. Other Activities

There are several ongoing mineral exploration projects within the HMA, however, their activities are not thought to adversely impact the wild horses.

L. Wilderness

The majority of the 196,128 acre Clan Alpine WSA lies within the herd management area. This WSA is recognized as having exceptional scenic quality, and outstanding opportunities for solitude and primitive recreation. A recognized special feature of the WSA is the opportunity to view wild horses in a natural unconfined setting.

The Bureau's Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP) define the current standards for management of the WSA. The Bureau will manage the lands under wilderness review in a manner so as to not impair the suitability of the area for preservation as wilderness, and take action to prevent unnecessary or undue degradation of the lands and their resources.

A temporary use or activity that does not create a surface disturbance or involve the permanent placement of structures may be allowed if it can be easily and immediately removed. New range improvements such as fencing and spring development would be approved only for the purpose of enhancing

wilderness values by better protecting the rangeland in a natural condition. In such cases the improvements would not require motorized access and are to be substantially unnoticeable.

M. Issue and Problem Summary

Vegetation is being over utilized and if continued will lead to a degraded range which will not be in a state of thriving ecological balance. Prior to livestock turnout vegetation use has already reached unacceptable levels in parts of the HMA. Furthermore, some springs and associated riparian areas 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 may be decreasing the flow of water.

Allotment Evaluations made the following recommendations:

Clan Alpine Allotment Evaluation 1990:

1. "Cherry Valley is considered to be critical not only from a wildlife and livestock standpoint but also watershed. In order to minimize erosion and subsequent deterioration of this area, grazing by domestic livestock should be eliminated for a minimum of 2 years with wild horse use eliminated on a permanent basis. Unavailability of this area to use by wild horses will have no affect on the current population of wild horses, as it encompasses less than 1% (0.007) of the total herd area. A portion of the Cherry Valley area (160 acres) is owned by the grazing permittee, Michael P. Casey. After the 2 year period, an evaluation should be completed and if conditions are improving then livestock grazing should be allowed on a limited basis, i.e., late summer and fall, with an upper utilization limit of 55% established or 4" stubble at 9/15. If conditions are not improving then no grazing should take place until such time that studies show the area can sustain utilization by animals."

2. Shoshone Creek Watershed: "These riparian areas are small stringer meadows and willow, chokecherry, and aspen stands associated with a spring. Proper utilization by wild horse without fencing is not a feasible option, therefore; in order to reach the riparian objective, exclusion of wild horses by fencing is needed, with waters piped outside for wild horse use."

3. Remaining canyons: "Grazing by domestic livestock should be delayed until July 1st of each year, and a utilization cap of 55% should be implemented."

"Wild horses, in addition to domestic livestock graze these areas. Use in Pony and Rock Creeks is being made by horses located outside of an established herd area. Eighty two (82) wild horses are consistently seen in these areas."

4. To correct overutilization: "...it is necessary that (1) all of the horses outside of the HMA be removed, utilization levels exceeding proper (more than 55%) be lowered to proper or less, and additional waters in the northeastern portion of the allotment be developed. Allotment wide, about 328 wild horses are sighted consistently outside of the herd area." "...Upon removal of wild horses in 1986, the area of heavy use (dual) dropped from 38,812 to 3,258 [acres] which indicates that horses are the major cause of this overutilization. Even following gathers, wild horses outside of the HMA are still contributing to this overuse. Development of water in the north east portion of the allotment would result in a transfer of grazing pressure by both wild horses and domestic livestock from the current area to this little used portion of the allotment."

5. "Based on the last census conducted in 1989 approximately 417 wild horses are using the Shoshone Creek Area of the allotment. In order to

reduce utilization in the Shoshone Creek Area approximately 253 horses have to be removed."

"Based on monitoring studies, the Shoshone Creek Watershed Area initially can support 3931 AUMs of use and still meet the objective of 55% overall utilization. Grazing use will be split evenly between wild horses and domestic livestock, each using 1,966 AUMs. This equates to 164 wild horses using the Shoshone Meadows Area."

6. "Key Areas should be established in both the Shoshone Meadow area and in the eastern portion of the Allotment near the New Pass Mountains. Utilization studies should be done prior to domestic livestock turnout and after removal of domestic livestock to ensure that the utilization limit of 55% is not exceeded."

Cow Canyon Allotment Evaluation 1988:

1. "Stocking levels for both domestic livestock (and) wild horses should be kept at their present levels, 2,200 AUM's cattle and 1,800 AUM's wild horses."

"Radical drops in the utilization levels in Key Area #2 and areas of heavy and severe (use), after gathers of wild horses indicate that excess wild horses were responsible for the over utilization in these areas. Maintenance of wild horse numbers (which are present yearlong) at their current level would assure proper use in this area."

2. "Movement of livestock in the higher elevations should be delayed until boot stage of Thurbers needlegrass approximately June 15th. In addition to delaying the damaging early use on key grass species and riparian areas it is felt that the overall use by livestock would be lowered."

Dixie Valley Allotment Evaluation 1989:

1. "Key Area #1. Because we are meeting the present ecological condition and utilization level on 65 percent of the area, we are not planning to change the intensity of grazing use as it is now occurring. To meet the long term objective identified for areas adjacent to Key Area #1 which are represented by this key area, the objectives are to improve 6,829 acres from low-seral to mid-seral. We must improve distribution, and relieve the repeated early grazing use of this area. This can be accomplished by identifying alternate use areas, deferring or rotating early use, which can and will be scheduled through an agreement or decision process."

2. "Key Area #2. Because we are meeting the present ecological condition and utilization level on 90 percent of the area, we are not planning to change the intensity of grazing use as it is now occurring. The objectives are to improve 10,00 acres from low-seral to mid-seral. This will be done by improving distribution, and relieving the repeated early grazing use of this area. This can be accomplished by alternating pastures, deferring or rotating early use, which can and will be scheduled through an agreement or decision process."

3. "By removing wild horses outside the herd areas and keeping wild horses within the proper appropriate management levels, short term goals for vegetation improvement for horse and cattle habitat will be improved."

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). 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's set in the multiple use decisions are 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.

In the northern part of the HMA water quantity may be a limiting factor. The population of wild horses in this area needs to be managed at a level which will insure adequate water for all individuals.

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. 612 - 979) below the maximum herd size indicated from analysis of monitoring data (Multiple Use Decisions 1992) will increase the time interval between captures, thereby reducing stress, injuries and deaths associated with capture operations.

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 17 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 979 (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 to 2 years and may be extended for 2 or more years, and is administered via an intramuscular injection.

If wild horses were only reduced to 979, gathers would need to be conducted on a yearly basis which would lead to frequent band disturbances and other forms of adverse stress. Furthermore, yearly gathers would not be physically or fiscally feasible. Removal procedures are contained in appendix 3. To minimize the stresses to pregnant mares and very young foals helicopter gathers will not be done during the foaling season unless circumstances indicate that overall most horses would benefit (i.e. emergency removal because of drought situations).

Objective 5

Provide an area to place excess unadoptable horses (i.e. older animals; Strategic Plan) captured during removals in other HMA's within the Lahontan Resource Area.

Management Method

During periodic removals horses would be reduced below 612 (appendix 1) by approximately 50 to 100 animals depending on the anticipated number of excess unadoptable horses to be captured during the removal interval.

If the population of horses in the HMA is above 612 during the release of unadoptable animals the mares may be sterilized prior to release (spaying or immunocontraception) to avoid accelerating the rate of increase. Also, the stallions may be gelded.

Objective 6

Remove only adoptable animals (Strategic Plan).

Management Method

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 7

Maintain genetic diversity.

Management Method

Some unadoptable (i.e. older) stallions released into the HMA may not be sterilized which will allow for gene flow between other HMA's within this Resource Area. If contraceptives are utilized the treated animals will be chosen from random within the target age classes to minimize artificial selection.

Objective 8

Minimize stress to released animals.

Management Method

Foals will be weaned from their mares prior to the release of mares from other HMAs. When mares with young foals are incorporated into new bands stallions may be aggressive toward foals and even kill them.

B. Habitat Objectives

Objective

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

Management Method

As stated earlier (vegetation section) the present stocking rate over the entire heavy use areas (Clan Alpine and Dixie Valley Allotments) needs to be adjusted downward. Based on current data as analyzed in appendix 1, an adjustment of the horse population within the HMA is required.

One or two grazing allotments within this HMA may not have a utilization problem while another may. This is because each allotment has unique characteristics and the wild horses do not evenly distribute themselves throughout the HMA. Therefore, Appropriate Management Levels (AML's) were set by allotment so that if 1 or 2 allotment(s) is/are being overutilized corrective actions can be taken on the allotment(s) with problems while letting the horse population(s) grow on other allotment(s) within the HMA. The alternative to this approach would be to set the AML for the entire HMA based on the allotment with the most limiting resources. This would necessitate removal of horses in other allotments at levels below the carrying capacity (potential maximum AML). Moving horses between allotments would not be practical in this situation because the horses would likely return to their original home range (Waring 1979, Tyler 1972, Resource Area observations).

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 and 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 July, August, September or October to include and identify young. These censuses will occur at 3 year intervals or less. 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 condition. It indicates whether the rangeland is moving toward or away from its potential or toward or away from 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 assure 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 Clan Alpine 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 AMP's, specific for each allotment. 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 removals need to be conducted more often.

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-030-93-004

Clan Alpine 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 maintain the range in a thriving ecological balance and multiple use relationship preventing deterioration of the vegetation community in the Clan Alpine 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 Clan Alpine HMA. The decisions regarding overall rangeland management analyzed in the Lahontan RMP/EIS will not be changed by the Clan Alpine 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 612 - 979.

Objective: Provide a area to place excess unadoptable (older) horses removed from other HMA's within the Lahontan Resource Area.

Management Action: When gathering of excess unadoptable (older) wild horses from other areas within the Lahontan Resource Area is anticipated, the population within the Clan Alpine HMA may be temporarily reduced to 512 animals prior to the release of excess horses.

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 Clan Alpine 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 Clan Alpine HMA.

Objective: Maintain and improve riparian areas.

Management Action: Construct enclosures around springs, seeps and creeks.

Water Trapping

Horses would be gathered in traps constructed around water sources.

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 they would continue to increase.

3. Alternatives Considered but not Analyzed

Herding horses from horse back was not analyzed because this alternative is not feasible in this HMA.

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 612 to 979, a level which can be maintained by the vegetation (<= 55% total use) with other uses (wildlife & livestock grazing) will result in the vegetative community being maintained or improved. By reducing and limiting the horse population some riparian areas will recover naturally, however, some riparian areas will require protection in the form of enclosures to recover and maintain the vegetative diversity associated with them. 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.

Impacts on Horses

From analysis of monitoring data it was determined that 979 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 979 and allowed to increase back to 979

Managing horses between 612 to 979, 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 positive benefits (i.e. reduced stresses to the animals and a healthy vegetative community). 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. Therefore, these wild horses will be reduced to a point that will allow the population to increase for 3 to 4 years until a successive removal is required.

Managing the wild horses within a range (i.e. 612 - 979) would require that the population be reduced below the maximum allowable population level. A healthy viable population would be maintained.

Using chemical or mechanical contraceptive techniques to decrease 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 decrease 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.

Temporarily reducing the population of horses below the lower limit (612) identified in the HMAP will allow for the release of unadoptable (older) wild horses from other HMA's within the Resource Area. The population would temporarily be reduced below the lower limit (612) by approximately 50 to 100 horses, depending upon the anticipated number of unadoptable animals. The population would be temporarily reduced, however, with the introduction of new horses it would quickly be brought back up to the identified numbers. Introduced mares may be sterilized to mitigate accelerated population increases. Introduced stallions would only contribute minimally to rates of population increases, because most if not all mares capable of conceiving would most likely be bred regardless of whether additional stallions were present. To avoid adverse impacts to foals, foals will be weaned from their mares prior to the release of older mares.

The release of unadoptable stallions would likely replace any alleles lost by stochastic events and would allow the Clan Alpine population to function as part of a metapopulation which is how many natural populations of animals evolved. Bowling (1988) conducted serological and electrophoretic analysis on horse blood samples taken from 2 separate locations within the HMA. No unique breeds were identified. The origin of these animals was draft and saddle breeds. Therefore, introduction of new genetic material from other HMA's within the Resource Area will not adversely affect the composition of the original stock. Furthermore, introduction of 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 animals (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. 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 was 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 612 to 979 (total utilization <= 55%) will have positive impacts on wildlife by insuring adequate forage and space for wildlife species. This horse level will help in providing habitat requirements for wildlife.

Other Impacts

Reducing the population of wild horses (612 - 979) will allow some of the springs and associated riparian areas, to recover naturally. However, some areas primarily in the northern portion of the HMA will still require construction of enclosures to protect the spring source and associated riparian vegetation. Water would either flow under the enclosures or be piped to a nearby trough. Some may view an enclosure as a unnatural addition to the range. However, the overall benefits would out weigh any negative impacts since spring flow would be maintained or increased and riparian vegetation and habitat would be available to wildlife.

By managing horses at the identified levels forage will be available for grazing by livestock which will help meet RMP objectives and will allow a thriving ecological balance to be obtained and maintained between the vegetative community, wildlife, wild horses and livestock. 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. Wild horse which are removed would be placed into private maintenance through the Bureau's Adopt a Horse Program.

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. Fencing around riparian areas and springs may occur, however, in these situations degraded areas will be turned into functioning riparian areas.

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

2. Alternative No. 1. Water Trapping

General impacts from a reduction in wild horse numbers would be identical to those outlined for the proposed action. Once captured, the handling and transportation of the animals would be the same as the proposed action. As most injuries to wild horses occur during handling and transportation, the injury and fatality rate would remain approximately the same. Once prepared for adoption, the animals become accustomed to captivity and most would receive proper care.

Small localized areas within the vicinity of trap sites and holding facilities would receive trampling and subsequent loss of vegetation. Overall, the vegetation resource would improve due to the reduction in grazing pressure. Forage availability should increase and utilization levels decrease. This would occur in both the short and long term.

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

Due to the time necessary for construction of complex water traps and the prolonged period it would take for the animals to become accustomed to using the traps, the horses would likely undergo more stress than with a helicopter capture. In addition it would take more manpower to implement this alternative, therefore, it would be significantly more expensive to the taxpayer than the proposed action.

3. 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.

The vegetation (quantity, quality and species evenness) would eventually decreases to a point which could no longer support the horse population, at this point a large proportion of the population would die. 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. Thus, the HMA's capacity to support horses would now 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

The draft of this document was sent to the following persons, groups and government agencies to soliciting 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
Dennis Rechel
Fund for Animals
Gary Snow
Humane Society of Southern Nevada
International Society for the Protection of Mustangs and Burros
Joyce Casey
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
Swan 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
NORA
Sierra Club
The Wilderness Society
National Wildlife Federation
Homestake Mining Co.

Joe McGloin
Nevada Wilderness Assn.
Paul Clifford
Jan Nachlinger
Rose Strickland
EHNI Enterprises
Churchill County Board of Commissioners
Ann Kersten
Marge Sill
The Sierra Club
Natural Resources Defense Council
BO-K Explorations

VI. List of Preparers

Prepared by:

John Axtell
Wild Horse and Burro Specialist
Lahontan Resource Area

16 Nov 92
Date

Reviewed by:

James M. Gianola
District Wild Horse and Burro Specialist
Carson City District

12-1-92
Date

David Loomis
Environmental Coordinator
Carson City District

12-2-92
Date

Karl Kipping
Associate District Manager
Carson City District

12/10/92
Date

VII. FINDING OF NO SIGNIFICANT IMPACT AND DECISION RECORD

Decision: Implement the Clan Alpine HMAP and Capture Plan. The subject plan directs management actions for the Clan Alpine 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, removing excess wild horses and maintaining and improving riparian areas. 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 612 to 979 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 mares from other HMAs, into the Clan Alpine HMA. 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 Clan Alpine HMAP and Capture Plan is in conformance with the Lahontan RMP, approved in 1985, and will restore the range to 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:

James M. Phillips — 7/26/93
James M. Phillips
Area Manager
Lahontan Resource Area

Date

Approved by:

James W. Elliott — 7/27/93
James W. Elliott
District Manager
Carson City District

Date

VIII. Literature Cited

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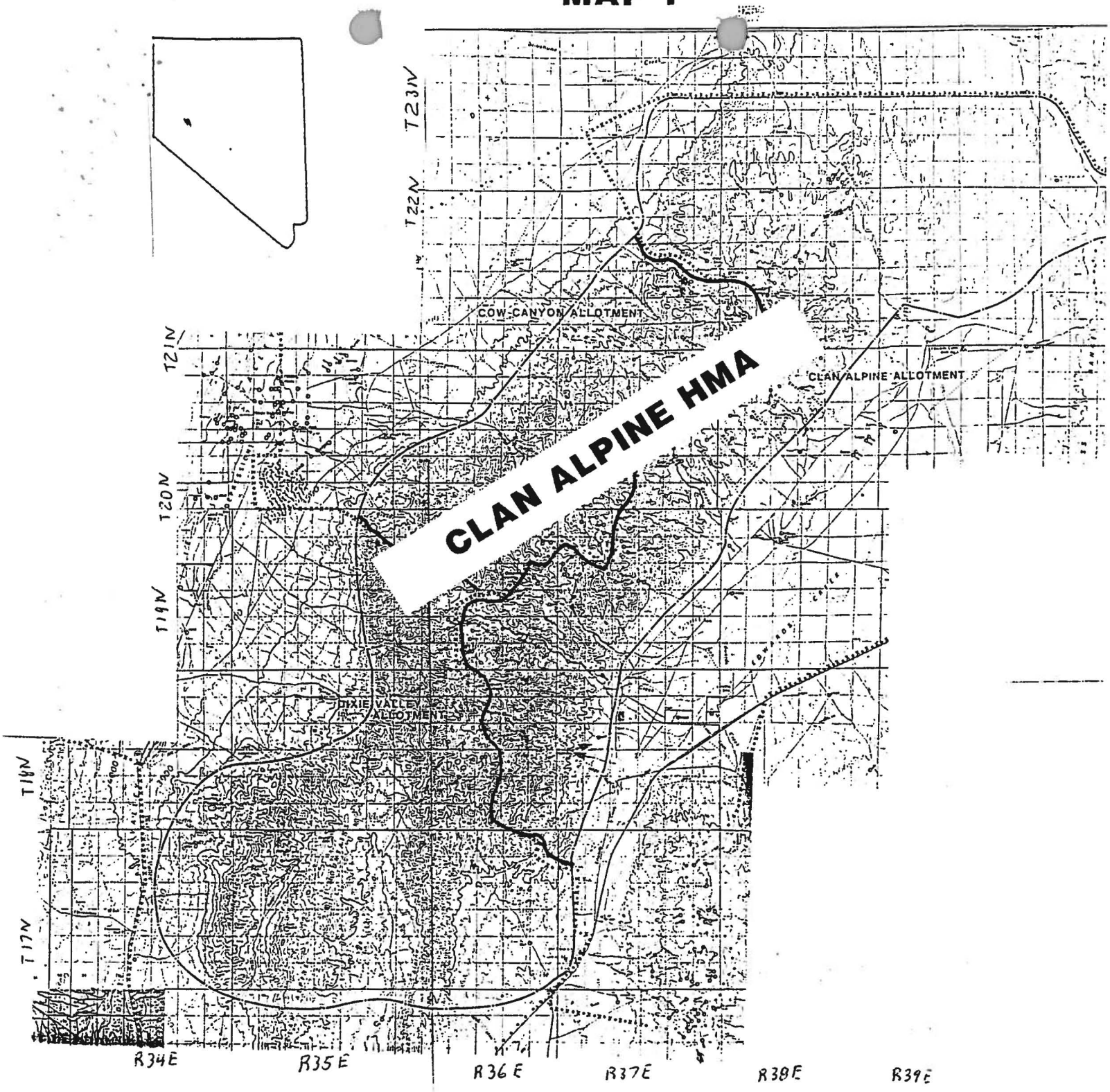
MAP 1



HMA Boundary

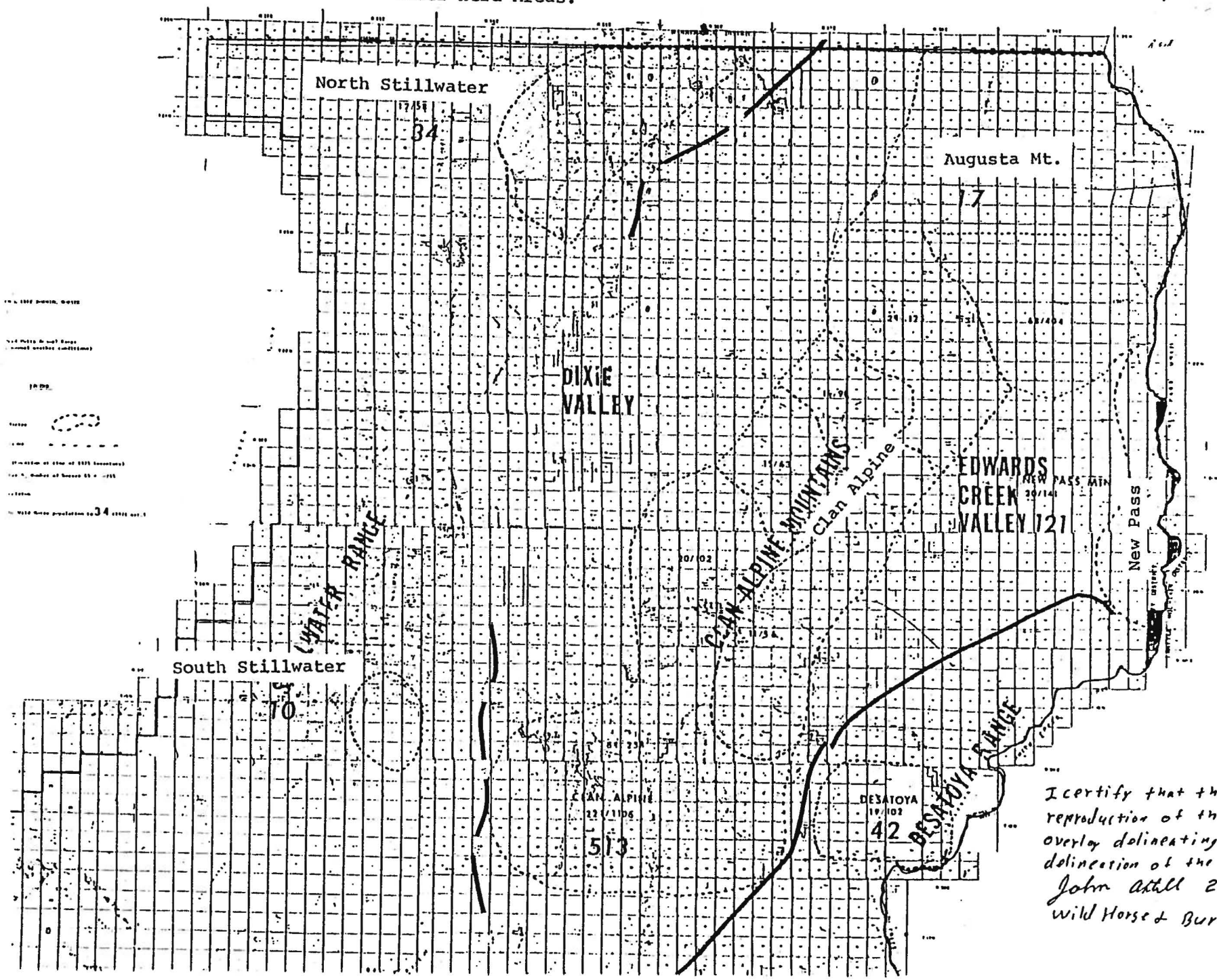
Fences

Allotment Boundaries

Tentative Trap Site

MAP 2

Augusta Mt., Clan Alpine, Desatoya Mt.
New Pass, North Stillwater, South Still-
water Herd Areas.



I certify that this is a accurate reproduction of the original UR overlay delineating the first & on delineation of the Herd Areas
John Axtell 24 Aug 88
Wild Horse & Burro specialist

Appendix 1, Animal Numbers

In 1992 Multiple Use Decisions (MUD's) were issued on the 3 allotments involved in the Clan Alpine HMA. These decisions were based on monitoring data involving wild horses and livestock within the HMA. Draft MUD's were sent to the persons, groups and agencies requesting participation in the review and comment process, these decisions were not protested and became final in 1992.

Utilization levels exceed 55% on 30% of the Clan Alpine Allotment portion of the HMA. This is the result of grazing by wild horses. Livestock have not been placed in the north western portion of this HMA due to the heavy use.

The latest complete census of this area was conducted in September of 1992 and documented 346 horses in the Clan Alpine Allotment portion of the Clan Alpine HMA. An estimated 3,072 AUMs (256 head; actual count 1989) of actual use occurred in the heavy use area.

In order to properly manage livestock in the Clan Alpine Allotment livestock use needs to be made in the northwest portion of the allotment/HMA. From the AMP (1992) there are 9,200 AUMs of livestock active preference in the Clan Alpine Allotment, 50% of the Allotment is within the HMA, therefore, approximately 4,600 AUMs (9,200 x .5 = 4,600) of livestock use would likely occur within the HMA. The RPS update also identified 709 horses (8,508 AUMs) as the initial monitoring level for wild horses. Therefore, horses initially were provided with 65% (8,508 / 8,508 + 4,600 = .65) of the AUMs. Thus, any changes in livestock and/or horse numbers should reflect the RPS update ratio.

A reduction of wild horse use is needed in the area of heavy use to limit utilization levels to 55%. There were an estimated 3,072 AUMs (256 horse) in the heavy use area and a reduction in AUMs is indicated and calculated as follows:

$$\frac{\text{Potential Actual Use (AUMs)}}{\text{Average Utilization}} = \frac{\text{Use (AUMs)}}{\text{Desired Average Utilization}} \quad \frac{3,072}{70} = \frac{x}{55} \quad = 2,414$$

Therefore, 658 AUMs (3,072 - 2,414 = 658) of use needs to be removed from the heavy use area. Of the 2,414 available AUMs in the north west portion of the HMA horses will receive 65% or 1,569 AUMs (131 head of horses); the remainder will go to livestock.

To properly manage this portion of the HMA horse numbers should be limited to a maximum number of 395 head (4,739 - 169 / 12 = 395).

As previously stated AML's were set for each allotment within the HMA through MUD's. AML's for the Clan Alpine, Cow Canyon and Dixie Valley Allotments are 405, 179 and 395 respectively for a total HMA AML of 979 wild horses. As previously stated this population will be managed within a range, the ranges for the Clan Alpine, Cow Canyon and Dixie Valley Allotments are 253 - 405, 112 - 179 and 247 - 395 respectively, for a total HMA range of 612 - 979. This range will allow for a gather approximately every 3 years without causing any resource damage (overutilization of vegetation). When information for the Multiple Use Decisions was analyzed the 1989 census was used.

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 then 9 years of age will occur. The precise technique used at each removal will very depending on the cost and efficacy of contraceptives versus the current adoption demand.

	AML (Range from MUD's)	Current # (1992)
Clan Alpine Allotment Portion of the HMA	253 - 405	346
Cow Canyon Allotment Portion of the HMA	112 - 179	72
Dixie Valley Allotment Portion of the HMA	247 - 395	107
HMA Total	612 - 979	525

Appendix 2, Utilization Levels and Monitoring Schedule

The Multiple Use Decisions issued set both livestock and horse numbers for all 3 allotments. However, future monitoring may indicate that adjustments in grazing use is required to meet RMP objectives. If either livestock or horse use can be shown to exceed 55% in areas where only one species graze then the offending species will be reduced. 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.

Clan Alpine Allotment Portion of the Clan Alpine HMA:

Monitoring in the dual use area will be done on or around 15 May and 15 December. The entire Clan Alpine Allotment portion of the Clan Alpine HMA will be monitored on or around 31 March. Use on previous years growth needs to be limited to 55% by the beginning of the growing season (March).

Winter use by domestic sheep occurs in the north eastern portion of the Clan Alpine Allotment. The majority of sheep use occurs outside of the HMA. Sheep use that does occur within the HMA occurs in the extreme northeastern portion which only minimally used by horses and no conflicts occur.

Cow Canyon Allotment Portion of the Clan Alpine HMA.

Monitoring in the dual use area will be done on or around 1 May and 15 November. The entire Cow Canyon Allotment portion of the Clan Alpine HMA will be monitored on or around 1 March. Use on previous years growth needs to be limited to 55% by the beginning of the growing season (March).

Dixie Valley Allotment Portion of the Clan Alpine HMA.

Parts of 3 pastures of the Dixie Valley Allotment occur within the HMA. Therefore, monitoring dates will vary with each pasture.

High Country Pasture: Monitoring in the dual use area will be done on or around 1 June and 20 August. As soon as roads permit in the spring, use on previous years growth will be monitored for the entire HMA portion of the High Country Pasture. Use needs to be limited to 55% by the beginning of the growing season.

Mid Country Pasture: Monitoring in the dual use area will be done on or around 21 August and 1 November. Monitoring for the entire Mid Country Pasture portion of the HMA will be done during February. Use on previous years growth needs to be limited to 55% by 1 March.

Low Country Pasture: Monitoring in the dual use area will be done on or around 1 November and 31 May. Monitoring for the entire Low Country Pasture portion of the HMA will be done during February. Use on previous years growth needs to be limited to 55% by 1 March.

Livestock numbers will be obtained from actual use statements. Horse numbers will be obtained from censuses which will be conducted every 2 to 3 years and after each removal.

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 employees 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 are required 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 15 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.

1. The helicopter shall be used in such a manner that bands of horses will remain together. Foals shall 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 12 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 4 trap locations will be required to accomplish the work. All trap locations and holding facilities must be approved by the COR/PI prior to construction. The contractor may also be required to change or move trap locations as determined by the COR/PI.

If tentative trap sites (Map 1) are 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 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. 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. 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. Animals which have been roped will not be tied down longer than 1 hour.

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 too 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 too 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 17% annually (Over a 3 year interval the population increased from 797 to 1,267 (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 1.1671 or 17%; 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.