

7-25-97

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UNITED STATES DEPARTMENT of the INTERIOR
BUREAU OF LAND MANAGEMENT
Caliente Field Station

P.O. Box 237
Caliente, Nevada 89008



In Reply Refer To:
4400/4700

JUL 25 1997

Dear Interested Public:

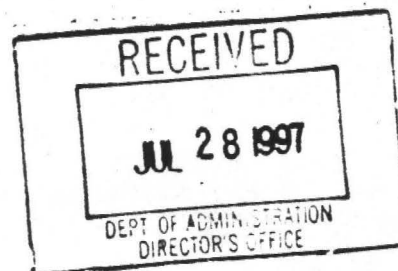
The Caliente Field Station, Ely District has completed a draft evaluation of the Henrie Complex Allotment. This evaluation was conducted to determine if the current grazing practices are consistent with the Land Use Plan (LUP) objectives for the Caliente Resource Planning Area. The Henrie Complex Evaluation will help to determine the need for any short term or long term changes in livestock grazing management for the Henrie Complex Allotment. The evaluation takes a comprehensive look at existing monitoring data to determine the appropriate management levels for portions of three wild horse herd management areas (Meadow Valley Mountains, Mormon Mountain, and Blue Nose Peak).

This document is being sent to those interested publics that responded to the evaluation scoping letter issued in May 1993, as well as cooperating agencies and additional interested publics identified since 1993. A thirty-day comment period has been established for this draft document. This review period ends on August 28, 1997. If you have any questions or information pertaining to this evaluation, please contact the Caliente Field Station Manager at the above address. All comments must be received in written form.

Sincerely,

Alfred W. Coulloudon
Caliente Field Station Manager
Ely District

Attachment: Henrie Complex Evaluation



HENRIE COMPLEX ALLOTMENT EVALUATION

BUREAU OF LAND MANAGEMENT
CALIENTE FIELD STATION
ELY DISTRICT
P.O. BOX 237
CALIENTE, NV 89008

JULY 1997

- BLM claim's
No mandate to
sustain viable
genetic
population.

- cc - ok
- Allocation by
proportions
leaves 10 horses

- Biological opinion
- Livestock Closure

- satellite
test
O graze

HENRIE COMPLEX ALLOTMENT EVALUATION

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Henrie Complex Allotment Evaluation
Meadow Valley Mountains, Blue Nose Peak and Mormon Mountains
Herd Management Areas

I. Introduction

A. Allotment Name and Number: Henrie Complex (#11034)

The Henrie (#11034) and Morrison-Wengert (#01046) allotments were combined by decision in January 1992, to form the Henrie Complex Allotment. (#11034) (Map #1, Appendix III). For the purposes of this evaluation, when discussing the combined allotments, the term Henrie Complex will be used. When discussing the allotments before they were combined, the terms Henrie Allotment and Morrison-Wengert Allotment will be used.

B. Permittees: Kevin Olson, Panaca, Nevada

Robert Lewis, Moapa, Nevada

C. Evaluation Period: 1992 to present.

D. Selective Management Category: "M" - Maintenance

II. Initial Stocking Level

A. Livestock Use

1. Land Use Plan Objective (AUMs)

PERMITTEE	ACTIVE AUMS	SUSPENDED AUMS	TOTAL AUMS
Kevin Olson	3185	0	3185
Robert Lewis	975	0	975

2. Season of Use: Yearlong (03/01-02/28); prior to the combining of the allotments, the Henrie allotment's season of use was 11/01-04/30 and the Morrison-Wengert allotment was 03/01-02/28.

3. Kind and Class of Livestock: Cattle - (cow/calf operation)

4. Use Areas: Prior to the combining of the allotments in 1992, Kevin Olson grazed livestock on both the Henrie and Morrison-Wengert

allotments while Henry Rice (transferred preference to Robert Lewis in 1992) grazed only on the Henrie allotment. Following the combining of the allotments, both permittees (Olson and Lewis) graze in common over the entire Henrie Complex.

5. Percent Federal Range: Kevin Olson - 85%
Robert Lewis - 100%

B. Wild Horse and Burro Use

1. Appropriate Management Levels (AML)

WRP ?
The Rangeland Program Summary (RPS) set initial management levels of 10 wild horses in the Blue Nose Peak HMA, 27 wild horses in the Mormon Mountains HMA, and 33 horses in the Meadow Valley Mountains HMA. These are initial stocking levels; however, future adjustments to these levels will be based upon vegetation monitoring studies, consultation and coordination, baseline inventory, or a combination of these. The Bureau is actually managing for a thriving natural ecological balance in implementing the land use plan.

2. Herd Use Areas Within the Allotment

The allotment contains portions of three Herd Management Areas (HMA). Refer to Map #2 in Appendix III for the HMA boundaries.

a. Meadow Valley Mountains HMA

The Meadow Valley Mountains HMA covers approximately 98,775 acres, of which 95% falls within the west half of the Henrie Complex. The remaining 5% is within the Schlarman allotment on the northernmost end of the HMA.

Vigo and Hackberry Canyons are the principal use areas. They are located in the southern half of the Meadow Valley Mountains HMA. Vigo Canyon is the main foraging area. Hackberry Canyon contains Hackberry Spring and Little Hackberry Spring, which are the only perennial water sources within the HMA other than portions of Meadow Valley Wash. Use occurs yearlong. The northern half of the HMA is utilized when water is available at Averett Reservoir.

b. Blue Nose Peak HMA

Blue Nose Peak HMA covers approximately 77,240 acres and encompasses portions of the Henrie Complex, White Rock and Garden Spring allotments.

The principal use area within the Henrie Complex portion of the HMA is located in the vicinity of Cherokee Mine in the northeast corner of the allotment . This site contains an unnamed spring which provides the only water in this portion of the allotment. It is believed to be perennial and is used yearlong by a small number of resident horses (estimated to be less than ten) and intermittently by horses coming from the adjacent Clover Mountain HMA. The mobility of the Clover Mountain herd suggests that this area should be attached to the Clover Mountain HMA instead of being identified as a separate HMA.

c. Mormon Mountains HMA

The Mormon Mountains HMA comprises the southeast quarter of the Henrie Complex, the southern half of the White Rock Allotment and the entire Mormon Peak Allotment. This HMA is approximately 175,400 acres in size. The Henrie Complex portion of the Mormon Mountains HMA contains a resident horse herd of less than ten animals in the area surrounding Paint Mine Canyon on the southern end of the Henrie Complex. The only perennial water is found in Meadow Valley Wash, along the northwest border of the HMA.

C. Wildlife Use

1. Reasonable Numbers

The Caliente Management Framework Plan (MFP) Wildlife Objective 4.0 recommends reasonable wildlife numbers by big game area. For the Henrie and Morrison-Wengert allotments, recommendations 4.8 and 4.9 respectively propose 667 AUMs for bighorn sheep and 646 AUMs for deer.

2. Key or Critical Management Areas Within the Allotment:

Desert Bighorn Sheep: The Meadow Valley Mountains are key management areas for desert bighorn sheep (*Ovis canadensis nelsonii*). The Mormon Mountains, which border the allotment to the south, also

provide desert bighorn habitat.

The desert tortoise (*Gopherus agassizii*) was listed as threatened in 1990 by the United States Fish and Wildlife Service (USFWS). Map #3, Appendix III shows the boundaries of the desert tortoise habitat with the Henrie Complex. Prescription 1 habitat is closed to grazing from March 1 to June 14. From June 15 to February 28, utilization limits are established on key perennial species to prevent deterioration of habitat. Prescription 2 habitat does not require closure from grazing but does set limits on utilization of key perennial species (Table 10). The Henrie Complex contains both Prescription 1 and 2 habitat. The Recovery Plan for the Desert Tortoise (Mojave Population) (June 1994) states that domestic livestock grazing and grazing by feral ("wild") burros and horses should be prohibited throughout all Desert Wildlife Management Areas (DWMAs) because they are generally incompatible with desert tortoise recovery. The Caliente Field Station is currently amending the Caliente MFP to incorporate the management of desert tortoise habitat as identified within the Recovery Plan.

The Meadow Valley Wash riparian area has the potential as nesting habitat for the Southwestern Willow Flycatcher. This species was listed as an Endangered Species by the USFWS in 1995. This species uses primarily dense willow and cottonwood stands, however, monotypic stands of exotic species (tamarix) are also used. Nesting generally occurs in May-July of each year. The BLM is currently working with USFWS and NDOW to survey the potential habitat areas within the Resource Area. Nesting pairs have been documented along the Virgin River, approximately 20 miles to the south of the Henrie Complex Allotment.

III. ALLOTMENT PROFILE

A. Description

The Henrie Complex is located approximately 25 miles south of Caliente, in Lincoln County, Nevada. The elevation ranges from approximately 2000 feet above sea level to about 5000 feet. The area can be described as transition from Mojave Desert Scrub to Great Basin Steppe. Climate for the area can be extreme, as summer temperatures can exceed 110 degrees regularly. Precipitation occurs mostly in the winter months with the possibility of brief, violent thunderstorms occurring in the summer. The majority of the allotment occurs in the five to eight inch annual precipitation zone.

The allotment is a mosaic of various plant communities. Blackbrush

Ephraim - Permit

(*Coleogyne ramosissima*) communities dominate much of the allotment. Saltbush (*Atriplex spp.*) and rabbitbrush (*Chrysothamnus spp.*) dominate the bottomland around Meadow Valley Wash which bisects the allotment. The Carp-Elgin Road and the Union Pacific Railroad run along the wash. Water flows perennially below Caliente and intermittently below Elgin. It becomes subterranean near the confluence of Cottonwood Canyon (north of the allotment boundary) and resurfaces on Kevin Olson's privately owned base property at Carp and remains on the surface through the remainder of the allotment.

Allowable use levels for key species within the Henrie Allotment were established by grazing decision dated February 10, 1984 (see Summary of Upland Studies Table in Appendix V).

No key areas were established by decision in the 1980's for the Morrison-Wengert Allotment. However, key areas were established in 1981 to monitor trend and utilization.

A Full Force and Effect Grazing Decision was issued on January 31, 1992 for the Henrie Complex allotment. This grazing decision added specific terms and conditions to the grazing permits to facilitate grazing in desert tortoise habitat (see Summary of Upland Studies Table in Appendix V).

The Meadow Valley Mountains Wilderness Study Area (WSA) encompasses a large portion of the Morrison-Wengert area of the Henrie Complex. Refer to the WSA map (Map #4) in Appendix III.

This allotment contains portions of three HMAs; Meadow Valley Mountains, Mormon Mountains, and Blue Nose Peak HMAs.

B. Acreage

Allotment Total: 169,505 Public Land Acres

C. Allotment Specific Objectives

1. The Caliente Management Framework Plan (MFP) is a Land Use Plan (LUP) that provides the BLM direction to manage its resources on a planning area basis. This LUP provides guidance for making decisions for the variety of land uses within the planning area. The Henrie Complex objectives are a quantification of LUP, Mojave-Southern Great Basin Area Resource Advisory Committee (RAC) Standards and Guidelines, Rangeland Program Summary (RPS) objectives, activity plan objectives (HMP), and down to site specific objectives. The

Henrie Complex multiple-use objectives are clearly consistent and in conformance with the Caliente MFP and Mojave-Southern Great Basin Area RAC Standards (see Appendix I).

a. Livestock

Short Term: Manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community as established in the 1984 Grazing Decision which addresses monitoring and the 1992 Full Force and Effect Grazing Decision, which set forth specific terms and conditions to the grazing permits to facilitate grazing in desert tortoise habitat.

Long Term: Manage for those ecological seral stages which maximize the sustained yield of livestock forage production.

b. Wild Horses

Short Term: Manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community as established in the 1984 Grazing Decision which addresses monitoring and the 1992 Full Force and Effect Grazing Decision, which set forth specific terms and conditions to the grazing permits to facilitate grazing in desert tortoise habitat.

Long Term: The long term objective is to manage for the appropriate ecological seral stage in order to meet the requirements of wild horses.

c. Wildlife Resources

(1) Bighorn Sheep:

Short Term: Manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community.

Long Term: The long term objective is to maintain key desert bighorn habitat in the fair to good condition.

(2) Mule Deer:

Short Term: Manage for allowable use levels (AULs) by season of use to improve or maintain the desired

vegetative community.

Long Term: The long term objective is to maintain key mule deer habitat in the fair to good condition.

(3) Desert Tortoise:

Short Term: Manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community.

Long Term: The long term objective is to maintain or improve the existing habitat conditions for desert tortoise habitat to stabilize desert tortoise populations at existing trend levels.

D. Key Species Identification

1. Uplands

<u>Key Area #</u>	<u>Common Name</u>	<u>Genus Species</u>
KA1	Nevada ephedra	<i>Ephedra nevadensis</i> (EPNE)
	Big galleta grass	<i>Hilaria rigidia</i> (HIRI)
KA2	Indian ricegrass	<i>Oryzopsis hymenoides</i> (ORHY)
	Globemallow	<i>Sphaeralcea</i> spp. (SPHAE)
	Nevada ephedra	<i>Ephedra nevadensis</i> (EPNE)
	Purple threeawn	<i>Aristida purpurea</i> (ARPU9)
KA3	Nevada ephedra	<i>Ephedra nevadensis</i> (EPNE)
	Purple threeawn	<i>Aristida purpurea</i> (ARPU9)
KA4	Nevada ephedra	<i>Ephedra nevadensis</i> (EPNE)
	Indian ricegrass	<i>Oryzopsis hymenoides</i> (ORHY)
	Big galleta grass	<i>Hilaria rigidia</i> (HIRI)
KA5	Indian ricegrass	<i>Oryzopsis hymenoides</i> (ORHY)
	Sand dropseed grass	<i>Sporobolus cryptandrus</i> (SPCR)
KA6	Big galleta grass	<i>Hilaria rigidia</i> (HIRI)
KA7	Big galleta grass	<i>Hilaria rigidia</i> (HIRI)
	Indian ricegrass	<i>Oryzopsis hymenoides</i> (ORHY)

IV. Management Evaluation

A. Purpose

The purpose of this section is to evaluate the nature of grazing that has occurred on the Henrie Complex and to measure effectiveness in meeting

specific management objectives identified in the land use plan. Included will be recommendations to make specific changes in current management where these allotment objectives are not being met.

B. Summary of Studies Data

Refer to Appendix IV for tabular depictions of monitoring data results. Compare Appendix IV with the following sections; licensed/actual use, utilization, and trend.

1. Actual Use

a. Livestock

The licensed and/or actual use ranged from a high of 4037 AUMs in 1992 to a low of 647 AUMs in 1996. Authorized use for these years was analyzed along with use pattern mapping data.

b. Wildlife

The Nevada Division of Wildlife 1996 estimates indicate that 12 bighorn sheep reside in the Meadow Valley Mountains. A portion of the range occurs in the Henrie Complex.

No actual use information is available for mule deer for the allotment. Henrie Complex occurs in Management Area 24 and Management Unit 243.

c. Wild Horses

Actual use was estimated from the census and gather information for the three HMAs occurring on the Henrie Complex. Table 1. shows the census and gather information documented for those herd management areas occurring on the Henrie Complex. Counts are not allotment specific unless noted.

Table 1. Wild Horse Census and Gather Data for the Period 1988-1996 for the Henrie Complex.

WILD HORSE CENSUS AND GATHER DATA FOR THE PERIOD 1988-1996 FOR THE HENRIE COMPLEX						
YEAR	HERD MANAGEMENT AREA			TOTAL AUMS BY HMA (Based on year-long use)		
	Meadow Valley Mountains	Mormon Mountains	Blue Nose Peak			
1988	--	--	14	--	--	168
1989	26	--	--	312	--	--
1992	63	0	10	756	0	120
1993	101*	--	--	1212	--	--
1994	25	0	11 (2)	300	0	132
1996	39 (45)**	0	0	468	0	0

NOTES:
 All census data listed is from actual counts from the census flight unless shown in **Bold Text** which is from gathers conducted within the HMA.
 Horse numbers identified for the Mormon Mountains and Blue Nose Peak HMAs are numbers for the whole HMA except where shown in parenthesis. (i.e. 1994 for Blue Nose Peak HMA).
 *101 horses were gathered due to wildland fire emergency, 15 horses were returned to the HMA following the gather operation.
 **39 horses were gathered due to drought, however 6 were observed on the allotment five months later.

Movement of horses in and out of the Henrie Complex has been documented in several locations. Movement between the Clover Mountains HMA and the Blue Nose Peak HMA in the Cherokee Mine area has been documented through visual observation (trailing and locations of horses during census flights). The relative ease of movement between the two areas identifies the need to manage this area as one HMA instead of two HMAs as currently being done.

A second area of movement is between the Mormon Mountains HMA and the adjacent Breedlove allotment, which is non-HMA. The horse population in this HMA is very small (less than 10 animals are believed to exist in the HMA) and are believed to use only the northwest quarter of the HMA (Henrie Complex portion). The only available water for this HMA is in this area. Movement between the two areas is a forage/water related movement and the horses tend to remain in the non-HMA area

versus the HMA.

The most observable emigration and immigration of wild horses is between the Meadow Valley Mountains HMA and the Breedlove allotment, which is non-HMA. Horses are routinely observed along the south boundary of the HMA, which is adjacent to the Breedlove allotment. The perennial spring sources in the northern portion of the Breedlove allotment as well as the spring sources within the Hackberry Canyon portion of the HMA are believed to be the principal cause of the movement. The horses travel between the two areas by trailing along Meadow Valley Wash and by crossing through several passes in the small mountain range that separates the Henrie Complex from the Breedlove allotment. It is not completely known if rising population levels within the Meadow Valley Mountains HMA accelerates the movement of the horses or if it is a forage/water related movement.

2. Precipitation

Precipitation data was collected at the Elgin weather station which is monitored by the National Oceanographic and Atmospheric Association (NOAA). The station is located approximately 13 miles north of the allotment's northern boundary. For this reason, data is used only as a guide to precipitation patterns for the region and for the allotment.

The 10-year average (1987-1996) for precipitation at the Elgin Station is 11.75 inches, with a high of 18.4 inches and a low of 4.1 inches (see Table 2.). According to the Soil Conservation Service range site guides, the major range sites on the Henrie Complex are Limy Fan 5-8 and Shallow Gravelly Loam 5-8 indicating the annual precipitation for most of the grazeable area only receives on an overall average five to eight inches precipitation annually. Most precipitation occurs during the winter months, with brief heavy downpours possible during the hot summer months.

Table 2. Annual Precipitation Data as Collected at the Elgin NOAA Weather Station for the Period 1983-1996.

Total Precipitation (in inches) at the Elgin Weather Station														
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Avg
20.9	18.2	M	13.3	12.7	8.2	4.1	10	10.5	18.4 M	16.4	11.4	16.35	9.41	13.1
M = Insufficient or partial data. M is appended to average/total values when 1-9 monthly values are missing. Only 14 years of data have been recorded at this site.														

3. Utilization

a. Use Pattern Mapping

Use pattern mapping on the allotment was conducted in 1993 for the 1992 grazing year, in 1995 for the 1995 grazing year, and in 1997 for the 1996 grazing year. The west half of the allotment, mainly the areas of Hackberry and Vigo Canyons and Meadow Valley Wash, indicate current and repeated overuse occurring due to grazing by wild horses and livestock combined. Each year in these areas, severe use was observed on perennial key species. The precipitation during these years was both above and below normal, indicating use was occurring beyond the average carrying capacity of the range.

Current use mapping is more representative of the current grazing patterns by the livestock and wild horses within the Henrie Complex allotment. Use pattern mapping indicates significant amounts of heavy and severe use away from the key areas. Based on extensive monitoring within the Henrie Complex, information collected from use pattern mapping will be the basis for which livestock and wild horse stocking levels will be evaluated and adjusted.

Table 3. 1992, 1995, and 1996 Use Pattern Mapping within the Henrie Complex Allotment.

YEAR	NOT MAPPED	SLIGHT (1-20%)	LIGHT (21-40%)	MODERATE (41-60%)	HEAVY (61-80%)	SEVERE (81-100%)
1992	52,380 (31)	81,250 (48)		7,946 (4.6)	2,500 (1.4)	25,429 (15)
1995 ¹						17,495 (10.3)
1996	107,026 (63)	20,460 (12)	2,992 (2)	994 (0.6)	3,652 (2)	34,381 (20)

(##) Represents the percentage of the allotment within each use category.
¹ Only the west side of the Henrie Complex allotment was observed in order to document use pattern changes within the principal use areas within the Meadow Valley Mountains HMA.

b. Key Areas

Although there are seven key areas on the allotment, recent intense monitoring efforts lead staff to believe that most of the key areas are placed too far from water and suitable forage. For the purposes of this evaluation, use pattern mapping data will be applied to evaluate livestock and wild horse stocking levels.

Key area #1 monitors use on big galleta and ephedra on Hackberry Flat about three miles from Hackberry Spring. This key area was originally identified as key area #1 for the Morrison-Wengert Allotment. This site was established to monitor the effects of wild horse and livestock use on a wildland burn within a blackbrush community. Use on the area is being made primarily during periods when ephemeral water (i.e. runoff and/or snow) is available. Currently, it is used to monitor livestock and wild horse use in Prescription 2 Desert Tortoise habitat.

Key Area #2 monitors use on the blackbrush burn about two and half miles south of Averett Reservoir. This key area was originally identified as key area #2 for the Morrison-Wengert Allotment. This site was established to monitor the effects of wild horse and livestock use on a wildland burn within a blackbrush community. Key species are threeawn, ricegrass, globemallow, and ephedra. This site burned again in 1993. Use occurs on the site by both livestock and wild horses when water is available at Averett Reservoir or ephemeral water is available in the area.

Key Area #3 monitors use on threeawn and ephedra in the extreme north-central portion of the allotment. This key area was originally identified as key area #2 for the Henrie Allotment. This site was established to monitor the effects of wild horse and livestock use on a wildland burn within a blackbrush community. This site is only useful during times when water is available at the Averett Reservoir over three miles to the west of the key area and/or when the permittee hauls water to the water haul approximately four miles to the south. This site does not receive any significant amounts of use by cattle or wild horses.

Key Area #4 monitors use on big galleta and ephedra on the east side of the allotment. The key area is only useful during cooler, wetter seasons allowing livestock to drift up the slope more than three miles from the water source on private land. This key area was originally identified as key area #1 for the Henrie allotment.

Key Area #5 monitors use on Indian ricegrass and sand dropseed grass in the north central portion of the allotment. This site and associated exclosure was established in 1994 to observe the degree to which this upland site (floodplain) will produce a plant community in association with the adjacent Meadow Valley Wash. This area receives heavy livestock pressure due to its proximity to the Wash.

Key Area #6 was established in 1997 to monitor use on big galleta on the east side of the allotment. The key area was selected to monitor an area that is representative of the current grazing patterns as documented by use pattern mapping. This site will be useful during the entire grazing season as livestock drift up the slope from the water source on private land approximately 1 1/2 miles to the west. Currently, it is used to monitor livestock and wild horse use in Prescription 2 Desert Tortoise habitat.

Key Area #7 was established in 1997 to monitor use on Indian ricegrass and big galleta grass on the northern portion of Vigo Canyon. The key area was selected to monitor an area that is representative of the current grazing patterns as documented by use pattern mapping. This site is within the principal use area for the wild horse herd and also receives use by livestock that drift up the slope from the water source on private land and Meadow Valley Wash approximately 1 1/2 miles to the east.

Currently, it is used to monitor livestock and wild horse use in Prescription 2 Desert Tortoise habitat.

Distance to water from some of the key areas (KA #1-4) is critical in their suitability for monitoring grazing and its associated influence on the plant community. Each of these key areas are 2 1/2 or more miles from water and grazing use is slight to light unless ephemeral water (i.e. snow, runoff in Averett Reservoir, etc.) is available. The grazing animals (both cattle and wild horses) are forced to use these areas when the forage is consumed closer to water when comparing the use patterns for 1992 and 1995-96. Key areas #5-7 are more representative of the current grazing patterns as they are situated in the major use areas and are within 1 1/2 miles of a water source.

4. Vegetative Community Trend

Frequency/trend transects have been established on three key areas within the Henrie Complex allotment. Results of the statistical analysis of frequency data (percent of species occurrence) for these key areas are located in Appendix IV.

Review of the analysis of the three frequency/trend sites shows that the indicated trend for key areas #1 and #2 was static to slightly downward based on the documented levels of annual species and broom snakeweed. Data indicated trend on key area #4 was static.

Analysis of utilization data indicates that key areas #1-4 are not located within a major area of use, therefore, this may affect the results of frequency/trend data.

5. Range Survey Data

The 1977 range survey indicated that the Henrie Allotment should be allocated 0 AUMs and the Morrison-Wengert Allotment 343 AUMs based on suitability for livestock grazing.

6. Ecological Status

Ecological status inventory (ESI) was determined in 1997 at the key areas within the Henrie Complex to determine current seral stage of the vegetative community in relation to Potential Natural Community (PNC). PNC is the community which would be expected to occur

without disturbances given the soils and climate at the site. Scores shown below are unadjusted for lack of key perennial species and only provide a current indicator of conditions at the key areas. Appendix VI contains the tabular presentation of the ESI data collected.

Key Area #1, is within a Shallow Gravelly Loam 5-8" (030XB029NV) range site with a condition rating of 10% of PNC by air dry weight, placing it in Early seral stage.

Key Area #2, is within a Shallow Gravelly Loam 5-8" (030XB029NV) range site with a condition rating of 12% of PNC by air dry weight, placing it in Early seral stage.

Key Area #3, is within a Shallow Gravelly Loam 5-8" (030XB029NV) range site with a condition rating of 7% of PNC by air dry weight, placing it in Early seral stage.

Key Area #4, is within a Valley Wash 5-8" (030XB028NV) range site with a condition rating of 24% of PNC by air dry weight, placing it in Early seral stage.

Key Area #5, no ecological status was completed on the site.

Key Area #6, is within a Limy 5-8" p. z. (030XB005NV) range site with a condition rating of 33% of PNC by air dry weight, placing it in Mid seral stage.

Key Area #7, is within a Valley Wash 5-8" (030XB028NV) range site with a condition rating of 10% of PNC by air dry weight, placing it in Early seral stage.

7. Wildlife Habitat

Specific wildlife habitat studies have not been established on the allotment. Use pattern mapping information will be applied to evaluate wildlife habitat condition.

8. Riparian/Fisheries Habitat

Three spring sources and approximately 21 miles of Meadow Valley Wash exist within the Henrie Complex. Hackberry and Little Hackberry Springs (within Hackberry Canyon) are developed and are contained within a trough. Unnamed spring in the northeast corner of the allotment is not developed and has very little riparian vegetation.

Meadow Valley Wash is sub-surface from the north boundary of the allotment down to the middle of the allotment (Carp area). From Carp south through the remainder of the allotment, Meadow Valley Wash flows on the surface. Riparian vegetation is extremely sparse in the north half of the allotment and is severely utilized on an annual basis by livestock. The southern half of the Wash is heavily covered with salt cedar (tamarix) and supplies little or no riparian vegetation. In the open areas with no salt cedar, the riparian vegetation that is present is being severely utilized by livestock and wild horses.

Specific riparian/fisheries habitat studies have not been established on the allotment. Use pattern mapping information will be used to evaluate the impacts of grazing on riparian/fisheries habitat. Key area #5 was established in the floodplain associated with Meadow Valley Wash in 1994 to monitor the impact of livestock on the Wash in the northern half of the allotment.

Proper Functioning Condition (PFC) rating was completed on the lotic portion of the Meadow Valley Wash within the Henrie Complex in 1993. The ID team classified the Meadow Valley Wash as a non-functional stream due to the extent of subsurface activity in the north half of the allotment and the extreme densities of the salt cedar infestations in the southern portion.

9. Wild Horse Habitat

In general, there appears to be adequate cover and living space for wild horses within the Henrie Complex. Perennial water and its associated distribution is critically limited within the allotment, especially during the hot summer months. As a result of the limited water distribution, perennial forage is severely impacted on an annual basis over most of the principal use areas for each of the HMAs found in the Henrie Complex. The horses are more reliant on ephemeral forage (annual grasses and forbs) on most of their range because of the dominance of blackbrush communities, outside of burned areas, which generally lack perennial grass species.

Sud
The southern half of the Meadow Valley Mountains HMA (including the principal use area) and all of the Mormon Mountains HMA portions of the Henrie Complex is within desert tortoise habitat. The impact of wild horses on desert tortoise habitat within the Henrie Complex could also have a limiting impact on desert tortoise habitat.

V. Conclusions

A. Referred to by number from III. C., and Appendix V.

1.a. Livestock Short/Long Term objectives:

Objective Not Met.

Rationale: Utilization data indicates that severe use has occurred in the Hackberry Canyon, Vigo Canyon, Meadow Valley Wash, and surrounding areas each year that data was collected. This indicates that forage and water availability in these areas is limited for livestock. Ecological status data is showing that the areas associated with the most of the key areas (except KA #6) are in an early seral stage due to the lack of key perennial grasses. Yearlong grazing by livestock is impacting the key perennial grasses by not allowing them to complete their life cycle (seed dissemination) and store root reserves. Yearlong grazing is impacting desert tortoise habitat by creating the vegetative condition identified as well as limiting available forage for the desert tortoise during critical periods of the year.

1.b. Wild Horse Short/Long Term Objectives:

Objective Not Met.

Rationale: Utilization data indicates that severe use has occurred in the Hackberry Canyon, Vigo Canyon, Meadow Valley Wash, and surrounding areas each year that data was collected. This indicates that forage and water availability in these areas is limited for wild horses. Ecological status data is showing that the areas associated with the most of the key areas (except KA #6) are in an early seral stage due to the lack of key perennial grasses. Yearlong grazing by wild horses is impacting the key perennial grasses by not allowing them to complete their life cycle (seed dissemination) and store root reserves. Yearlong grazing is impacting desert tortoise habitat by creating the vegetative condition identified as well as limiting available forage for the desert tortoise during critical periods of the year.

1.c. Wildlife Resources

(1) Bighorn Sheep Short/Long Term Objectives:

Objective Not Met.

Rationale: Portions of key habitat areas for desert bighorn sheep (Vigo and Hackberry Canyons) are receiving severe use each year by livestock and wild horses. Ecological status data is showing that these areas are in an early seral stage due to the lack of key perennial grasses.

(2) Mule Deer Short/Long Term Objectives:

Unknown.

Rationale: No allotment specific studies currently ongoing to monitor deer use.

(3) Desert Tortoise Short/Long Term Objectives:

Objective Not Met.

Rationale: Large portions of desert tortoise habitat is receiving severe use each year by livestock and wild horses. Ecological status data is showing that these areas are in an early seral stage due to the lack of key perennial grasses.

Bio Opus

VI. Technical Recommendations

A. Issues Identified on the Henrie Complex Allotment

- Allowable use levels exceeded by livestock and wild horses.
- Inadequate livestock and wild horse distribution.
- Period of use too long during critical growth periods for key forage species.
- Trend direction appears to be downward or static at all key areas.
- Inadequate water distribution.
- Insufficient forage available for livestock and wild horses demand.
- Specific use areas for each permittee not identified

The following recommendations are needed to meet the identified objectives and improve the rangeland forage conditions on the Henrie Complex.

B. Short Term Recommendations

1. **Change the season of use on the allotment from year-round to November 01 to April 30.**

Rationale: The current year-round season of use is inappropriate for the allotment which occurs in the Mojave desert ecotype. Summer temperatures can reach above 110 degrees. Current water distribution does not support use during periods of high summer temperatures. Hot season grazing has contributed greatly to the severe use patterns observed on the allotment. In addition, warm season plants which complete their growing cycle in the summer months need adequate rest from grazing pressure to allow for seed dissemination. Without the rest, range condition can degrade as plants are not afforded the opportunity to reproduce and store root reserves. Big galleta, one of the main forage species, is a warm season perennial.

The Caliente Grazing Environmental Impact Statement (EIS) proposed a season of use for this area of 11/01-04/30.

2. **Adjust the livestock stocking level for the allotment from the existing 4160 AUMs to 1249 AUMs. Stocking level calculations are located in Appendix II.**

Rationale: Since the evaluation process began, intensive monitoring efforts of the interior portion of the allotment in and around Hackberry Spring and Vigo Canyon have indicated use levels in the heavy and severe use categories year after year. This has occurred during years of above normal precipitation and below normal precipitation. It has occurred during active livestock grazing and with wild horses and no livestock grazing. These factors indicated that there are more animals using the same forage in the same areas repeatedly.

3. **Identify use areas for each permittee. Develop rangeline agreements where necessary.**

Option #1: Permittees run-in-common over the entire Henrie Complex Allotment.

Rationale: Under this option, management of the livestock would remain the same as it is currently but would have to be coordinated

between the two permittees in order to achieve the desired allotment objectives. The livestock could be distributed throughout the allotment to aid in improving the distribution problem identified through use pattern mapping. The increased management could be facilitated by new water hauls, placing of salt and mineral block, and herding of the livestock.

All areas within the Henrie Complex could be utilized during the identified season of use except that portion within Prescription 1 Desert Tortoise habitat. This area is located in the southeast corner of the allotment (south of Paint Mine Canyon) is closed to livestock grazing from March 1 to June 14.

Option #2: Each permittees would have specific areas within the Henrie Complex Allotment to manage their livestock. Kevin Olson would be able to graze the entire allotment based on use areas prior to the combining of the allotments and Robert Lewis would be restricted to the eastern half of the allotment based on historic use.

Rationale: Under this option, Kevin Olson could distribute his livestock over the entire allotment based on his historic use areas prior to 1992. His current active preference is based on grazing within both the Henrie and Morrison-Wengert allotments. This would ease his claim that Robert Lewis has no previous active preference within the old Morrison-Wengert area.

Robert Lewis would be required to maintain his livestock on the east side of Meadow Valley Wash, which makes up approximately 75% of the old Henrie Allotment. A rangeline agreement would have to be developed as a portion of his AUMs are based on use areas on the west side of Meadow Valley Wash but outside of the Morrison-Wengert area.

All areas within the Henrie Complex could be utilized during the identified season of use except that portion within Prescription 1 Desert Tortoise habitat. This area is located in the southeast corner of the allotment (south of Paint Mine Canyon) is closed to livestock grazing from March 1 to June 14.

This option would require the most management by both the permittees and the Bureau, as it would require that the Lewis cattle be closely managed to keep them on the east side of the Wash.

4. **Determine the applicability of exchange of use for Kevin Olson's permit.**

Rationale: Currently the permit is 85% public land use indicating the livestock can freely graze 15% of the time on private land. Mr. Olson's private property is not in agricultural production, nor does it offer any substantial amount of perennial forage. It is important to determine if an 85% exchange of use is appropriate for the permit.

5. **Implement an eartagging program for both permittees within the Henrie Complex.**

Rationale: Many questions exist on the number of livestock being turned out onto the allotment by each permittee. By implementing an eartagging program, when viewing livestock on the allotment it will aid in identifying ownership quicker due to the extremely wild nature of the permittees' cattle. By issuing consecutive numbers and different colors for each permittee, identification should be reliable.

The 1992 Full Force and Effect Decision for management of desert tortoise habitat required eartagging but was not implemented due to opposition by the permittees.

6. **Salting**

Rationale: Salting will occur at least 1/2 mile from all water sources. Salting away from these areas will improve livestock and possibly wild horse distribution.

7. **Establish a wild horse Appropriate Management Level (AML) for the Henrie Complex portion of the Meadow Valley Mountains HMA. Stocking level calculations are located in Appendix II. Two options exist for the establishment of an AML for the Meadow Valley Mountains HMA.**

Option 1: Establish the AML at 10 horses based on the stocking level calculations (Appendix II).

Rationale: Since the evaluation process began, intensive monitoring efforts of the interior portion of the allotment in and around Hackberry Spring and Vigo Canyon have indicated use levels in the severe use category year after year. This area is the primary use area for wild horses within the Meadow Valley Mountains HMA. These use levels have occurred during years of above and below normal precipitation. It

occurred during active livestock grazing and without livestock grazing. These factors indicated that there are more animals using the same forage in the same areas repeatedly.

Option 2: Establish the AML at zero (0) horses based on the stocking level calculations (Appendix II).

Rationale: The current year-round grazing by wild horses is inappropriate for the allotment which occurs in the Mojave desert ecotype. Summer temperatures can reach above 110 degrees. Current water distribution does not support use during periods of high summer temperatures. Hot season grazing has contributed greatly to the severe use patterns observed on the allotment. In addition, warm season plants which complete their growing cycle in the summer months, need adequate rest from grazing pressure to allow for seed dissemination. Without the rest, range condition can degrade as plants are not afforded the opportunity to reproduce and store root reserves. Big galleta, one of the main forage species, is a warm season perennial.

2 → The stocking level calculations identified a possible AML of 10 horses for the Meadow Valley Mountains HMA. Although the Wild Free-Roaming Horse and Burro Act does not require the BLM to manage for the genetic viability of a population, it is a concern with a AML at this low level. There is not any obvious ingress and egress of animals from other herd management areas to strengthen the genetics of the herd.

The Meadow Valley Mountains HMA would lose its status as a HMA, but will retain Herd Area status for future consideration for management, should conditions change.

8. **Establish a wild horse Appropriate Management Level for the Henrie Complex portion of the Mormon Mountains HMA at zero (0) animals.**

Rationale: The Mormon Mountains HMA is bordered on three sides by a proposed Desert Wildlife Management Area (DWMA) as identified in the Recovery Plan for the Desert Tortoise (Mojave Population) (June 1994). The Recovery Plan states that domestic livestock grazing and grazing by feral ("wild") burros and horses should be prohibited throughout all Desert Wildlife Management Areas (DWMAs) because they are generally incompatible with desert tortoise recovery. Though the Henrie Complex portion of the HMA is outside of the proposed DWMA, there is no physical barrier to prohibit the movement of horses

into the DWMA area. Due to available water within the DWMA (Meadow Valley Wash), this movement by horses will be a perpetual management problem. The Caliente Field Station is currently amending the Caliente MFP to incorporate the management of desert tortoise habitat as identified within the Recovery Plan.

The current year-round grazing by wild horses is inappropriate for an allotment which occurs in the Mojave desert ecotype. Summer temperatures can reach above 110 degrees. Current water distribution does not support use during periods of high summer temperatures. Hot season grazing has contributed greatly to the severe use patterns observed on the allotment. In addition, warm season plants which complete their growing cycle in the summer months, need adequate rest from grazing pressure to allow for seed dissemination. Without the rest, range condition can degrade as plants are not afforded the opportunity to reproduce and store root reserves. Big galleta, one of the main forage species, is a warm season perennial.

The Mormon Mountain HMA would lose its status as a HMA, but will retain Herd Area status for future consideration for management, should conditions change.

9. **Establish a wild horse Appropriate Management Level for the Henrie Complex portion of the Blue Nose Peak HMA. Two options exist for the establishment of an AML for this portion of the HMA. Manage the Blue Nose Peak HMA in conjunction with the Clover Mountain HMA.**

Option 1: Establish the AML at 10 horses.

Rationale: Based on observations and census numbers, it is believed that less than 10 wild horses exist within this portion of the Blue Nose Peak HMA. These horses are also spending a portion of their time within the Clover Mountain HMA, which borders the HMA to the north. The principal use area is located in the vicinity of Cherokee Mine in the northeast corner of the allotment. This area contains an unnamed spring which provides the only water in this portion of the allotment. It is believed to be perennial and is used yearlong by the small number of resident horses and intermittently by horses coming from the Clover Mountain HMA.

The mobility of the Blue Nose Peak and Clover Mountain herds suggests that this area should be managed with the Clover Mountain HMA instead of being identified as a separate HMA. Management and

AML objectives that are identified for the Clover Mountain HMA should also be placed on the Blue Nose Peak HMA. The Caliente Field Office is currently evaluating the management of the allotments associated with the Clover Mountain HMA.

Option 2: Establish the AML at zero (0) horses.

Rationale: Due to habitat constraints (perennial forage availability, terrain limitations) within both the Henrie Complex portion of the Blue Nose Peak HMA and Clover Mountain HMA, the most feasible option is to manage the area for zero wild horses. Preliminary findings in the evaluations associated with the Clover Mountain HMA are showing heavy to severe use within the principal use areas as well as the riparian areas. It is anticipated that an AML for each of the allotments adjacent to the Blue Nose Peak HMA will be relatively low or zero animals based on the use levels and habitat constraints. Due to the fact that the horses are using portions of both HMAs, management needs to be consistent for both areas.

B. Long Term Recommendations

1. **Increase water distribution by installing water hauls, pipeline extensions, etc. where feasible given constraints due to wilderness consideration, desert tortoise, slope and distance, etc.**

Rationale: Without increased water distribution, the grazing patterns observed will not alter very much as grazing animals will continue to be dependent on the historical areas of Hackberry Spring, Vigo Canyon, and Meadow Valley Wash.

2. **Construction of 2-6 slickrock catchments in the Meadow Valley Range to improve the habitat for desert bighorn sheep.**

Rationale: The construction of these catchments will improve approximately 27,500 acres of habitat by supplying water sources in areas that are suitable for bighorn use but currently lack reliable water sources.

3. **With the cooperation of the water right holder, complete a spring source improvement project at Hackberry Spring to allow for water availability at the source for desert bighorn sheep.**

Rationale: Completion of this project would improve approximately 6,800 acres around Hackberry Springs by supplying water at the source

for bighorn sheep. Currently, no improvements have been proposed or completed at the Hackberry Spring source.

C. Additional Monitoring Required

Monitoring studies will continue to be read, evaluated, and new studies established as necessary to measure the effectiveness of management actions in meeting objectives to resolve resource issues. The following studies are recommended depending on resource conflicts:

1. Utilization
2. Actual Use
3. Trend
4. Ecological Status
5. Establishment of additional key areas to facilitate subsequent evaluations.
6. Wild Horse Aerial Census

V. Consultations

Nevada Division of Wildlife (NDOW), Las Vegas; Panaca
Lincoln County Public Lands Commission
Lincoln County Commissioners
Nevada Commission for the Preservation of Wild Horses
Wild Horse Organized Assistance (WHOA)
U.S. Fish and Wildlife Service (USFWS)
Kevin Olson, Permittee
Robert Lewis, Permittee
Fraternity for the Desert Bighorn
Natural Resources Defense Council
Humane Society of the U.S.
Desert Bighorn Council
Resource Concepts, Inc.
National Wild Horse Association
National Mustang Association, Inc.
Nevada State Clearing House
Bryant Robison

APPENDIX I

STANDARDS AND GUIDELINES

MOJAVE-SOUTHERN GREAT BASIN AREA RESOURCE ADVISORY COUNCIL (RAC)

STANDARDS:

STANDARD 1. SOILS:

Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Soil indicators:

- Ground cover (vegetation, litter, rock, bare ground);
- Surfaces (e.g., biological crusts, pavement); and
- Compaction/infiltration.

Riparian soil indicators:

- Stream bank stability.

All of the above indicators are appropriate to the potential of the ecological site.

STANDARD 2. ECOSYSTEM COMPONENTS;

Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian indicators:

- Stream side riparian area are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.
- Elements indicating proper functioning condition such as avoiding acceleration erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
 - Width/Depth ratio;
 - Channel roughness;
 - Sinuosity of stream channel;
 - Bank stability;
 - Vegetative cover (amount, spacing, life form); and
 - Other cover (large woody debris, rock).
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical and biological constituents do not exceed the stat water quality standards.

The above indicators shall be applied to the potential of the ecological site.

STANDARD 3. HABITAT AND BIOTA:

Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Habitat indicators:

- Vegetation composition (relative abundance of species);

- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above indicators shall be applied to the potential of the ecological site.

Mojave-Southern RAC Guidelines:

Guidelines:

- 1.1 Upland management practices should maintain or promote adequate vegetative ground cover to achieve the standard.
- 1.2 Riparian-wetland management practices should maintain or promote sufficient residual vegetation to maintain, improve, or restore functions such as stream flow energy dissipation, sediment capture, groundwater recharge, and streambank stability.
- 1.3 When proper grazing practices alone are not likely to restore areas, land management practices may be designed and implemented where appropriate.
- 1.4 Rangeland management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

Guidelines:

- 2.1 Management practices should maintain or promote appropriate stream channel morphology and structure consistent with the watershed.
- 2.2 Watershed management practices should maintain, restore or enhance water quality and flow rate to support desired ecological conditions.
- 2.3 Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community.
- 2.4 Grazing management practices will consider both the economic and physical environment, and will address all multiple uses including, but not limited to, (i) recreation, (ii) minerals, (iii) cultural resources and values, and (iv) designated wilderness and wilderness study areas.
- 2.5 New livestock facilities will be located away from riparian and wetland areas if they conflict with achieving or maintaining riparian and wetland functions. Existing facilities will be used in a way that does not conflict with achieving or maintaining riparian and wetland functions, or they will be relocated or modified when necessary to mitigate adverse impacts on riparian and wetland functions. The location, relocation, design and use of livestock facilities will consider economic feasibility and benefits to be gained for management of lands outside the riparian area along with the effects on riparian functions.
- 2.6 Subject to all valid existing rights, the design of spring and seep developments shall include provisions to protect ecological functions and processes.
- 2.7 When proper grazing practices alone are not likely to restore areas of low infiltration or permeability, land management practices may be designed and implemented where appropriate. Grazing on designated ephemeral rangeland watersheds should be allowed only if (i) reliable estimates of production have been made, (ii) an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and (iii) adverse effects on perennial species and ecosystem processes are avoided.
- 2.8 Rangeland management practices should address improvement beyond these standards, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

Guidelines:

- 3.1 Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved.
- 3.2 Management practices should emphasize native species except when others would serve better, for attaining desired communities.
- 3.3 Intensity, frequency, season of use and distribution of grazing use should provide for growth, reproduction, and, when environmental conditions permit, seeding establishment of those plant species needed to reach long-term land use plan objectives. Measurements of ecological condition, trend, and utilization will be in accordance with techniques identified in the Nevada Rangeland Handbook.
- 3.4 Grazing management practices should be planned and implemented to provide for integrated use by domestic livestock and wildlife, as well as wild horses and burros inside Herd Management Areas.
- 3.5 Management practices will promote the conservation, restoration and maintenance of habitat for special status species.
- 3.6 Livestock grazing practices will be designed to protect fragile ecosystems of limited distribution and size that support unique sensitive/endemic species or communities. Where these practices are not successful, grazing will be excluded from these areas.
- 3.7 Where grazing practices alone are not likely to achieve habitat objectives, land management practices may be designed and implemented as appropriate.
- 3.8 Vegetation manipulation treatments may be implemented to improve native plant communities, consistent with appropriate land use plans, in areas where identified Standards cannot be achieved through proper grazing management practices alone. Fire is the preferred vegetation manipulation practice on areas historically adapted to fire; treatment of native vegetation with herbicides or through mechanical means will be used only when other management techniques are not effective.
- 3.9 Rangeland management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

APPENDIX II

STOCKING RATE CALCULATIONS

1. The desired stocking level for the Henrie Complex was determined using the following formula (BLM Technical Reference 4400-7):

$$\frac{\text{Actual Use (AUMs)}}{\% \text{ Utilization}} = \frac{\text{Desired Actual Use (AUMs)}}{\text{Desired Utilization}}$$

Actual Use data for livestock and wild horses for the 1992, 1995, and 1996 grazing years was used in the desired stocking rate equation. Wild horse use was estimated from aerial census data and field observations. A desired stocking rate was calculated for each year that had use pattern mapping data. The stocking rates were then averaged to come up with the desired stocking level for the allotment (1373 AUMs). The 1373 AUMs were allocated to the livestock and wild horses based upon the initial management levels identified for each user in the land use plan.

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Grazing Year	CATTLE AUMS	HORSE AUMS ¹	TOTAL AUMS	DESIRED UTIL.	ACTUAL UTIL.%	DESIRED AUMS
1992	4037	756	4793	.45	.90	2,397
1995	1963	360 ²	2323	.45	.90	1,162
1996	647	468	1115	.45	.90	558

¹ Horse AUMs are derived from number of horses identified for each corresponding year in Table 2 based on 12 months.

² 1995 horse numbers are derived from the 1994 census number times a 18% rate of increase based on 12 months.

Average AUMs for the Henrie Complex = 1373 AUMs

2. Proportions of available AUMs allocated to livestock and wild horses according to existing plans.

Land Use Plan and Range Program Summary:

Livestock: 4160 AUMs (91%)
Wild Horses: 396 AUMs (9%)

Allocation sucks

Cattle = 1373 x .91 = 1249 AUMs
Horses = 1373 x .09 = 124 AUMs

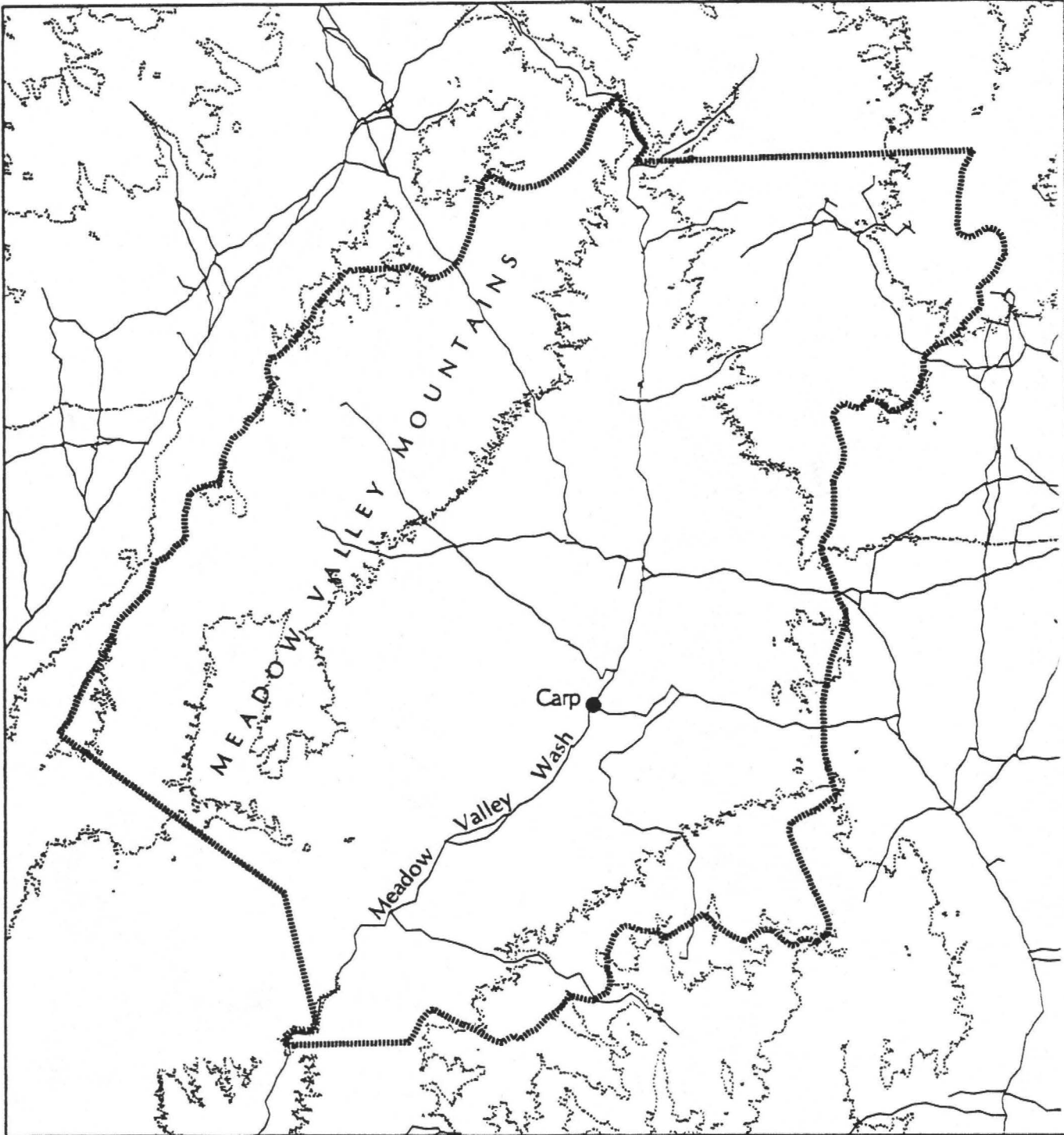
3. AUMs apportioned to each permittee based on their percent of permitted use:

Kevin Olson (76.6%): 957 AUMs = 160 cows for 6 months.
Robert Lewis (23.4%): 292 AUMs = 49 cows for 6 months.

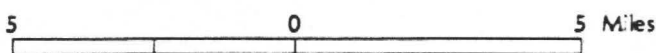
APPENDIX III

HENRIE COMPLEX SPECIFIC MAPS

HENRIE COMPLEX ALLOTMENT

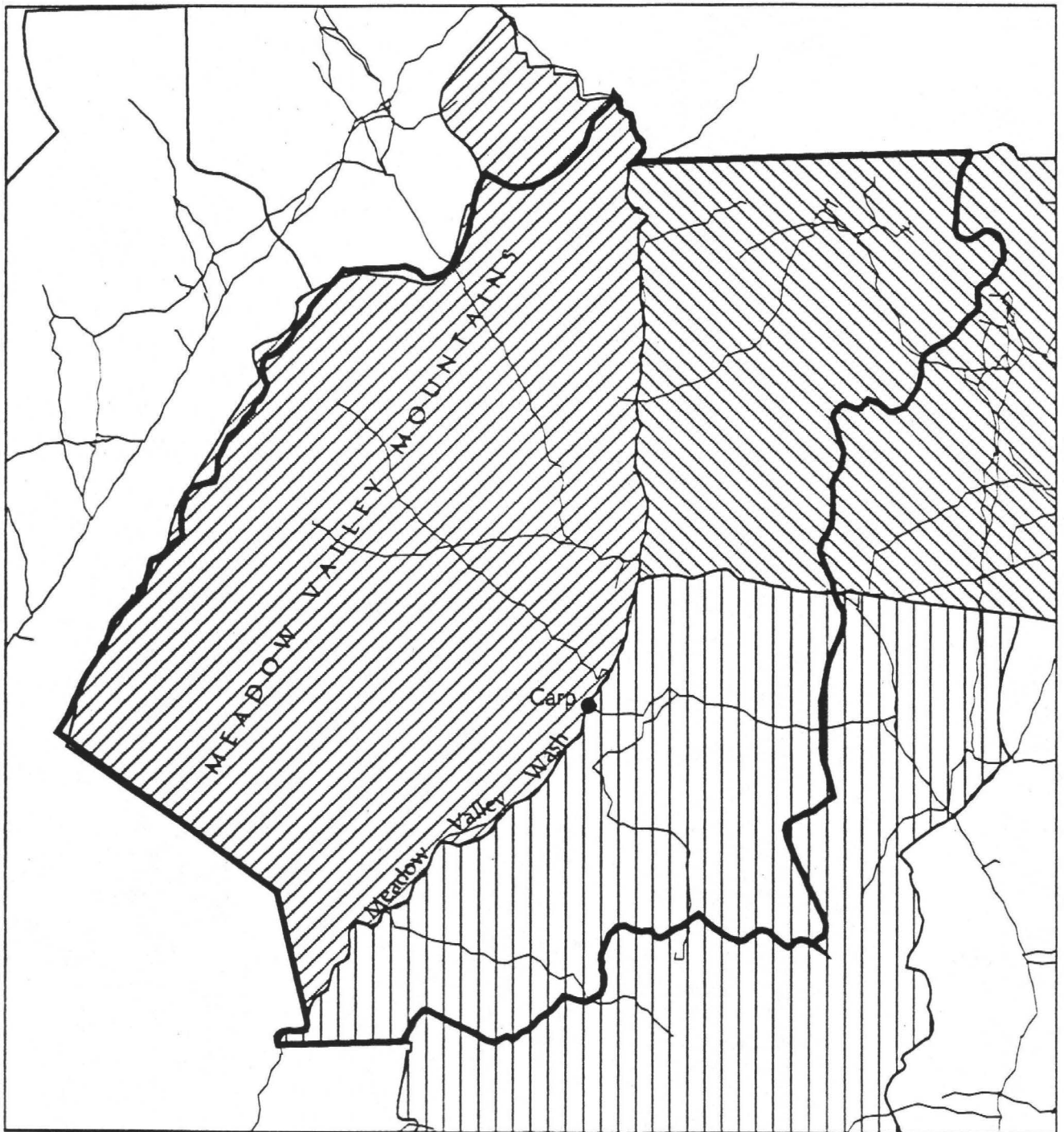





— Allotment Boundary



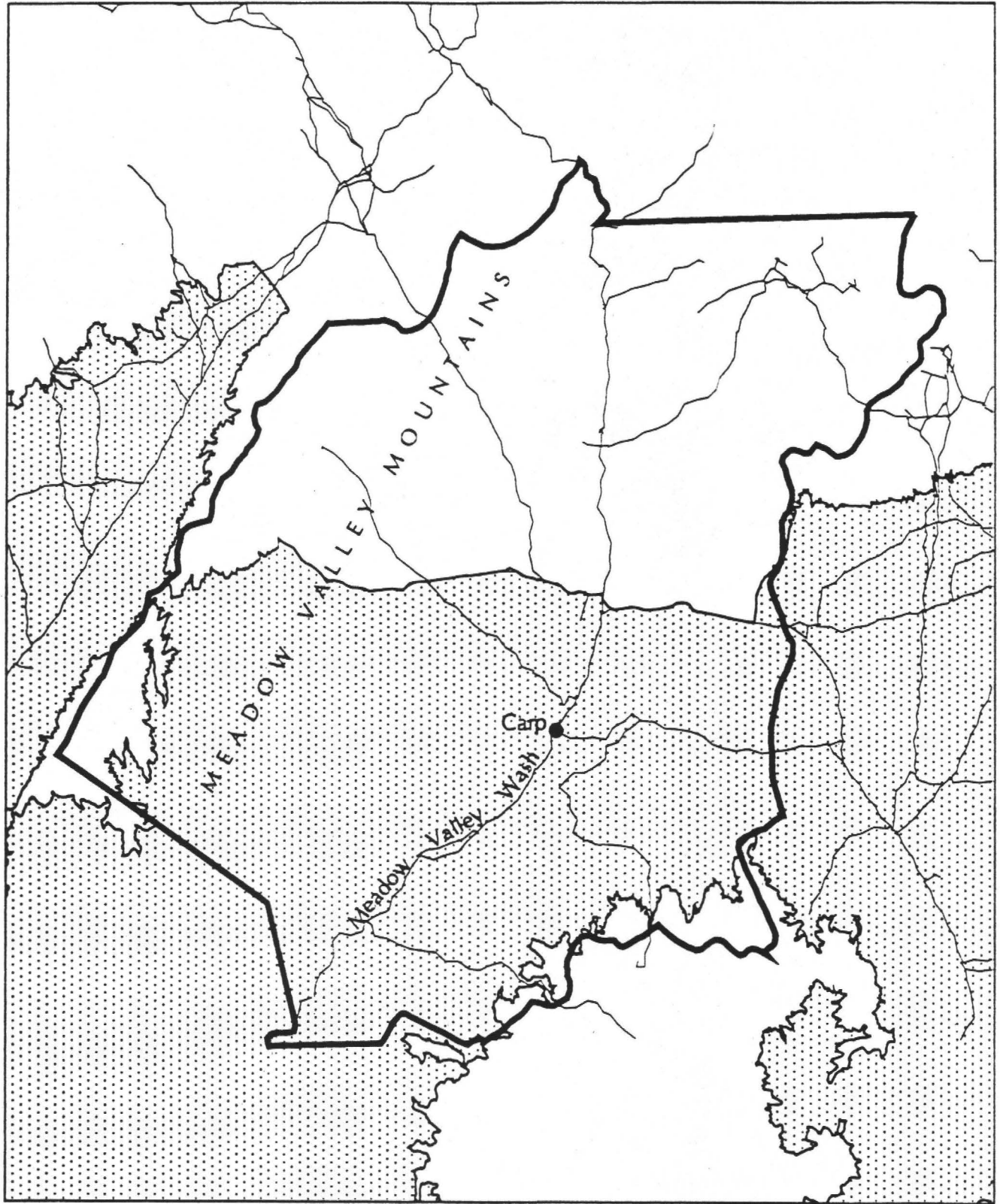
WILD HORSE HMAS WITHIN THE HENRIE COMPLEX

MAP 2



-  Blue Nose Peak HMA
-  Mormon Mountains HMA
-  Meadow Valley Mountains HMA

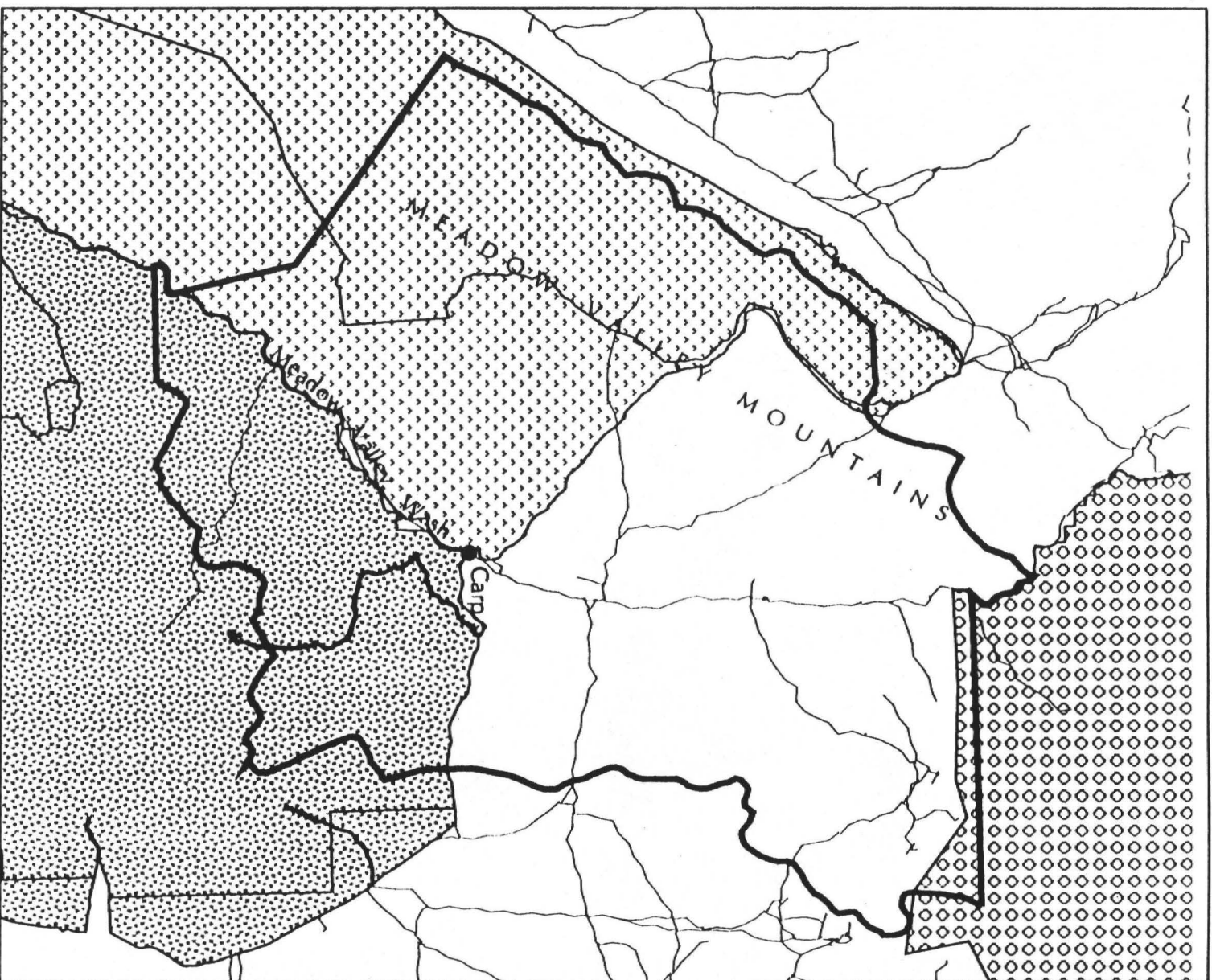
DESERT TORTOISE HABITAT WITHIN THE HENRIE COMPLEX



 Desert Tortoise Habitat

WILDERNESS STUDY AREAS WITHIN THE HENRIE COMPLEX

Map 4



Meadow Valley Range WSA



Clover Mountains WSA



Mormon Mountains WSA

APPENDIX IV

SUMMARY OF ALLOTMENT DATA

Table 4. Caliente MFP III Proposed Forage Allocation for Desert Bighorn Sheep.

Big Game Area*	Allotment	Reasonable Nos. (Bighorn AUMs)	Total Bighorn AUMs Available	Proposed Allocation (Bighorn AUMs)	Impact on Livestock (Livestock AUMs)*
BY-1	Henrie	215	452	215	76ps
	Gourd Spring	228	323	19	8s
	Mormon Peak	1081	2,298	1081	260s 165ps
	White Rock	38	389	38	13s
	Total	1562	3472	1353	422
BY-2	Breedlove	296	979	296	20ps
	Elgin	22	1083	22	14s
	Henrie	272	1114	272	160ps
	Morrison/ Wengert	180	1083	180	113ps
	Rox-Tule	13	21	13	0
	Schlarman	21	197	21	13ps
	Total	804	4477	804	320
<p>* BY = Bighorn Yearlong, s = Suitable AUMs, ps = Potential AUMs Elgin allotment has been split into the Rainbow and Lower Riggs allotments Morrison/Wengert and Henrie allotments have been combined into the Henrie Complex allotment</p>					

Table 5. Caliente MFP III Proposed Forage Allocation for Mule Deer.

Caliente MFP III Proposed Forage Allocation (Deer)					
Big Game Area*	Allotment	Reasonable Nos. (Deer AUMs)	Total Deer AUMs Available	Proposed Allocation (Deer AUMs)	Impact on Livestock (Livestock AUMs)*
DY-4	Schlarman	1	267	18	0
	Morrison/Wengert	238	304	238	1s 1ps
	Henrie	324	411	324	0
	Breedlove	4	28	4	0
	Total	567	1010	584	1s 1ps
DY-5	Henrie	23	487	23	0
	White Rock	4	10	4	
	Mormon	116	2405	116	
	Peak	1	39	1	
	Gourd Spring				
Total	144	2941	144	0	
DW-4	Garden	373	390	373	248s
	Spring	61	129	61	12ps
	Henrie	72	24	24	4ps
	White Rock				
	Total	506	543	458	248s 16ps
* DY = Deer Yearlong, DW = Deer Winter, s = Suitable AUMs, ps = Potential AUMs Morrison/Wengert and Henrie allotment have been combined into the Henrie Complex allotment					

Table 6. Licensed/Actual Use for the Henrie Complex Allotment for the Period 1986-1996*

YEAR	OPERATORS				TOTAL
	OLSON	LEWIS	RICE	BRUNDY	
1986	2214		480	980	3674
1987	653		480	327	1460
1988	3837		476		4313
1989	3185		514		3699
1990	3222		514		3736
1991	3196		498		3694
1992	3193	558	286		4037
1993	3192	120			3312
1994	979	994			1973
1995	979	984			1963
1996	407	240 (E)			647
					AVG: 2955.3

NOTE: (E) = Estimated Actual Use
 * All use identified for the years 1986-1991 is the cumulative total for both the Henrie and Morrison-Wengert allotments as these two allotments were combined formally in 1991 to form the Henrie Complex allotment.

Table 7. Results of Frequency Data Statistical Analysis (Percent of species occurrence out of 200 plots and analysis of significance at .90 confidence level) for Pasture 2 (Henrie) Key Area 1 Henrie Complex Allotment. Study read 09/28/82, 07/09/85, and 07/01/93.

FREQUENCY/TREND DATA ANALYSIS				
KEY AREA (Pasture)	SPECIES	YEAR MEANS (%)		
		1982	1985	1993
1 (2)	BRRU2	27.50*	66.00*	100.00*
	BOBA2	69.00*	37.50*	
	ERPU8	51.50	56.00	2.00*
	AAFF	48.00*	17.50*	
	ERIN4	7.00	6.50	20.00*
	SPAM2	23.50	13.00*	16.50
	EPNE	5.00	1.50*	5.00
	ARPU9	1.00	1.50	1.00
	HIRI	21.00	16.00	22.00
	MUPO2	.50	.50	3.50
	ORHY	.50	3.00	1.00
	SPCR	2.50	1.00	
	BAMU	3.00	7.50	2.00
	GRSP	.50	.50	2.00
	HAPLO2	2.50	3.50	4.50
	KRGR	4.00	6.00	2.50
	LATR2	1.50	4.00	1.50
LYAN	2.50	1.50	1.00	

* Significantly different mean(s).

Table 8. Results of Frequency Data Statistical Analysis (Percent of species occurrence out of 200 plots and analysis of significance at .90 confidence level) for **Pasture 1 (Morrison-Wengert) Key Area 1, Henrie Complex Allotment**. Study read 08/06/81, 09/14/84, 07/21/93, 06/03/94, and 12/15/95.

FREQUENCY/TREND DATA ANALYSIS						
KEY AREA (PASTURE)	SPECIES	YEAR MEANS (%)				
		1981	1984	1993	1994	1995
1 (1)	BRRU2	91.00*	100.00	100.00	99.00	80.50*
	BRTE	1.00*	100.00*	39.50*	12.50*	84.00*
	HIRI	39.50	49.50*	29.50*	32.00	41.00
	AAFF	10.00*	100.00*	67.00*	12.50	5.50
	ERC16	25.00*		63.50*	99.50*	65.50
	EPNE	3.00	4.00	6.50*	3.00	2.50
	GUSA2	15.50	18.50*	10.50*	0.50	15.50*
	ORHY	1.00		.00	0.50	0.50
	STSP3		.50	.00	0.50	0.50
	BAMU	1.50	.50	2.50	3.00	2.50
	SPAM2	9.50	7.50	5.50	6.50	11.50*
	ERIN4	.50	3.50	2.00	1.50	1.00
	LYAN		1.00	0.50	0.50	0.50
	PRFA	.00	.50	0.50	0.50	1.00
	ARPU9			1.00	2.00	1.00

* : Significantly different mean(s).

Table 9. Results of Frequency Data Statistical Analysis (Percent of species occurrence out of 200 plots and analysis of significance at .90 confidence level) for **Pasture 1 (Morrison-Wengert) Key Area 2, Henrie Complex Allotment**. Study read 08/07/81, 09/14/84, 07/08/93, and 07/24/95.

FREQUENCY/TREND DATA ANALYSIS					
KEY AREA (Pasture)	SPECIES	YEAR MEANS (%)			
		1981	1984	1993	1995
2 (1)	ARPU9	34.00*	78.00*	57.00*	48.00
	BRRU2	100.00	74.50*	100.00	100.00
	BRTE	1.00*		46.50*	88.00*
	ERPU8	16.50	26.50	4.00*	
	AAFF	.50*	90.50	92.50	88.00
	SPAM2	5.50*	11.50	8.50	3.50*
	ENCEL	.50	1.00	7.00*	1.50*
	GUSA2	4.50	3.50	29.50*	1.00*
	ORHY	.00		1.00	0.50
	BAMU	23.50		17.00	18.50
	CORA	1.00	.50	1.00	
	EPNE	.00	1.00	1.00	
	HYSA	3.50	3.50	.50	23.50*

* : Significantly different mean(s).

APPENDIX V

UPLAND STUDIES SUMMARY TABLE

Table 10. Upland Studies Summary

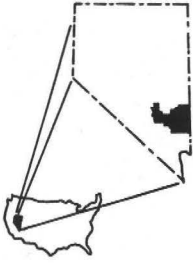
ALLOTMENT: HENRIE COMPLEX				PRESENT STATUS		LONG TERM OBJECTIVES			SHORT TERM OBJECTIVES				RATIONALE			
STUDY AREA	KEY AREA LOCATION	ECOLOGICAL SITE NO.	KEY SPP.	KEY SPP % COMP. BY WT	SERAL STAGE (%PNC)	MAINTAIN OR IMPROVE	KEY SPP % COMP BY WT.	SERAL STAGE (% PNC)	ALLOWABLE USE LEVEL					SEASON OF USE *LHW	MET	NOT MET
									SP	S	F	W				
KA1 Hackberry Flat	T.10 S R.66 E SEC 6	030XB029NV CORA-HIRI Blackbrush burn	EPNE	trace	Early Seral ¹ 10% [1]	IMPROVE	3%	Mid Seral >26%	40	40	45	45	YL L, H [2]	X		Use levels acceptable. Trend static to downward.
			HIRI	4%			5%		40	40	50	50				
KA2 Averett Reservoir	T.9 S R.66 E SEC 11	030XB029NV CORA-HIRI Blackbrush burn	ORHY	trace	Early Seral ¹ 12% [1]	Maintain or IMPROVE	3%	Mid Seral >26%	50	50	60	60	YL L, H		X	Use levels acceptable. Trend static to downward.
			SPAM2	1%			2%		50	50	60	60				
			EPNE	trace			3%		30	50	50	50				
			ARPU9	27%			27%		50	50	60	60				
KA3 Carp Pass burn	T.8 S R.67 E SEC 19	030XB029NV CORA-HIRI Blackbrush burn	EPNE	1%	Early Seral ¹ 7% [1]	Maintain or IMPROVE	3%	Mid Seral >26%	30	50	50	50	YL L, H	X		Use levels acceptable.
			ARPU9	39%			39%		50	50	60	60				
KA4 North Lyman Crossing	T.9 S R.68 E SEC 17	030XB028NV Valley Wash 5-8 LATR2 - AMBRO/HIRI	EPNE	6%	Early Seral ¹ 24%	Maintain or IMPROVE	6%	Mid Seral >26%	30	50	50	50	YL L, H	X		Use levels acceptable. Trend static
			ORHY	1%			5%		50	50	60	60				
			HIRI	6%			10%		50	50	60	60				
KA5 ** Meadow Valley Wash	T.8 S R.67 E SEC 14		ORHY			IMPROVE			50	50	60	60	YL L, H		X	Use levels unacceptable.
			SPCR						50	50	60	60				
KA6 *** South Lyman Crossing	T.9 S R.68 E SEC 19	030XB005NV Limy 5-8 LATR2 - AMDU2/HIRI	HIRI	6%	Mid Seral ¹ 33%	Maintain	8%	Mid Seral >33%	40	40	50	50	YL L, H [2]	X		Use levels acceptable.
KA7 *** North Vigo Canyon	T.9 S R.68 E SEC 20	030XB028NV Valley Wash 5-8 LATR2 - AMBRO/HIRI	HIRI	trace	Early Seral ¹ [1]	IMPROVE	10%	Mid Seral >26%	40	40	50	50	YL L, H [2]		X	Use levels unacceptable.
			ORHY	trace			5%		40	40	50	50				

* L = Livestock; H = Wild Horses; W = Wildlife; [1] = Ecological data and frequency data indicates that the present seral stage of these sites is not meeting the desired plant community objectives for livestock and wild horses. [2] = PRESCRIPTION 2 Desert Tortoise Habitat

** ESI was not completed on KA5, *** KA6 & KA7 were established in June 1997

¹ The identified seral stage for each area could be down-graded one seral stage, where possible, due to lack of perennial grasses and dominance of introduced annual grasses and forbs.

EPNE=Nevada Ephedra, HIRI=Big Galleta, ORHY=Indian Ricegrass, SPAM2=Desert Globemallow, ARPU9=Purple three-awn, SPCR=Sand dropseed, CORA=Blackbrush, AMBRO=Bursage spp., LATR2=Creosote bush, AMDU2=White Bursage

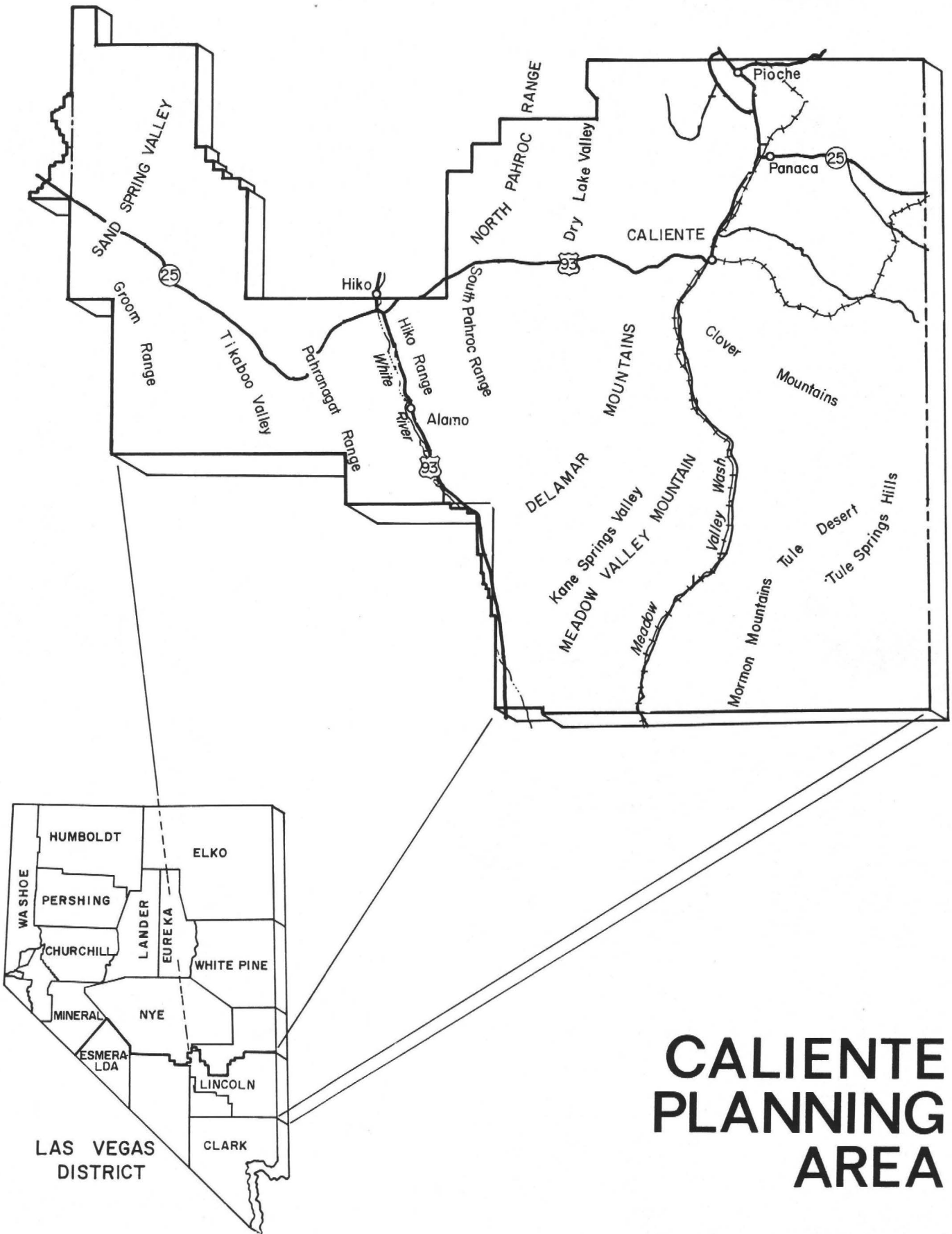


CALIENTE PLANNING AREA

RANGELAND MANAGEMENT PROGRAM



U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAS VEGAS DISTRICT, NEVADA
FEBRUARY, 1980



CALIENTE PLANNING AREA

LAS VEGAS DISTRICT
NEVADA

INTRODUCTION

Livestock ranching has been a way of life in the Caliente Environmental Statement (ES) area of Nevada for about one hundred years. Ranchers have developed operations dependent upon a variety of forage resources available on private lands, Forest Service lands, and BLM-administered public lands both within the Caliente area and in other areas of Nevada and Utah.

The Caliente ES area includes 3.5 million acres of which 98 percent is BLM-administered public land. There are 86 grazing allotments located in the ES area of which five are currently operating under Allotment Management Plans (AMPs).

Range surveys and their resulting adjustments in public land livestock use have been conducted by the BLM at various times between 1960 and 1976. During this period the total grazing preferences were adjusted to 187,327 Animal Unit Months (AUMs) of forage. Of this total 117,758 AUMs have been classified as active preference available for use. The balance was placed in suspended non-use. During the 1977 grazing year 77,513 AUMs of forage were used by livestock on 86 grazing allotments operated by 74 ranchers.

Other major consumptive users of vegetation have been deer, bighorn sheep, and wild horses and burros. Deer populations are believed to be slightly increasing from a record low in 1967. Historically, bighorn sheep were present in most of the mountain ranges in the ES area; presently, these animals number about 750 and are found on only four ranges. Wild horse and burro populations have been expanding rapidly in recent years; in 1977 these animals numbered 1,072 in the Caliente ES area. No specific allocations of vegetation to any of these species have occurred.

This combination of uses by livestock, wild horses and burros, and wildlife has subjected the vegetation resources in the area to grazing demands above the current forage production capabilities of the range. Livestock forage conditions indicated 689,000 acres to be in good livestock forage condition; 1,375,000 acres to be in fair condition; and 512,000 acres to be in poor condition (see Table C). Major consideration was given to improving the forage condition and vegetation production of the range in this rangeland management program.

In September 1979, a Final Environmental Statement (FES) on livestock grazing in the Caliente area was completed. The FES analyzed the probable environmental impacts of the proposed action and alternatives from which this rangeland management program was derived.

THE PROGRAM

What It Is

With the completion of the Caliente Final Environmental Statement, the BLM has developed management guidelines for the area - the Rangeland Management Program. This program incorporates appropriate parts of three separate ES alternatives - the Proposed Action, Alternative Six (Reduced Management Intensity), and Alternative Seven (Locally Suggested Vegetation Allocation Program). In this way, it is felt that the program proposed is the most environmentally preferable and responsive to the mandates of the Federal Land Policy and Management Act and the National Environmental Policy Act, as well as to major social economic and land use objectives.

The substantive elements of the program to be implemented are as follows:

Livestock

1. Initiate Allotment Management Plans (AMPs) implementation within five years as specified in Alternative Six (Reduced Management Intensity) with the following exceptions: a) Rabbit Springs would have no AMP; b) Buckhorn and Lower Lake allotments would be combined into one AMP; c) Enterprise allotment would have an AMP. There would be 17 new AMPs consisting of combinations of 38 current allotments. Two existing AMPs would continue to be managed as at present. Table A summarizes management intensity.

*- which ones
mustangs
Sand Springs*

TABLE A
Summary of Management Intensity and Allocation Levels
1980

	<u>Acres</u>	<u>Allotments</u>	<u>AUMs</u>
AMP*	2,568,691	40	62,031
Non-AMP	825,358	38	12,390
No Livestock Grazing	101,755	8	---
Total	3,495,804	86	74,421

* 19 AMPs consisting of combinations of 40 allotments

2. Establish proper periods-of-use for livestock by developing AMPs and by restricting use on non-AMP areas to provide a two-month no-grazing period in the spring. This two-months-off period for livestock is recommended to enable key forage species to meet their biological needs for development and continued reproduction. Grazing management systems on AMP allotments also

would be established to provide periods of rest to lessen adverse effects on vegetation. Livestock periods-of-use would be increased on four allotments and further restricted on six allotments.

3. Adjust livestock grazing to its proper capacity as specified in the proposed action as mitigated with the following exceptions: a) allow consideration of snow and water hauls in licensing additional AUMs under temporary non-renewable permits on winter sheep allotments; b) allow continued livestock grazing on Ash Flat allotment with 43 AUMs of perennial forage allocated as specified in Alternative Seven; c) allocate 480 AUMs in Wild Horse and Burro Area 3 to livestock in the Rattlesnake and Oak Springs allotments. Table B compares the 1980 planned allocation with 1977 use and possible future allocations.

TABLE B

Comparisons of Forage Allocation
(1977, 1980, 1990, 2015)

	<u>Livestock AUMs</u>	<u>Wildlife AUMs</u>	<u>Wild Horse and Burro AUMs</u>
Current Use (1977)	77,513	---a/	12,624
Planned Allocation (1980)	74,421	15,104	5,476
Possible Future Allocation (1990)	105,000	17,000	5,800
Possible Future Allocation (2015)	115,000	18,000	6,700

a/ Current numbers of wildlife unavailable

4. Establish range improvements and vegetation manipulation necessary for proper grazing management as specified in Alternative Six, with the following modifications: a) Rabbit Spring allotment would have no improvements; b) Buckhorn and Lower Lake allotments would have additional improvements. Range improvement projects would consist of: 230 miles of fencing; 20 spring developments; 188 miles of water pipelines; 90 water troughs; 26 reservoirs; 13 wells; 28,780 acres of mechanical treatments; and 48,320 acres of prescription burning. Total costs are estimated to be about \$2.8 million.

*See also Table B. states that
the proposed action*

Wildlife

1. Allocate sufficient vegetation within vegetation capacity to meet "reasonable numbers"* of wildlife as specified in the proposed action (15,104 AUMs total - deer: 12,748 AUMs, bighorn sheep: 2,308 AUMs, antelope: 48 AUMs). This would be the first time that vegetation allocations would be made for specific species in the ES area.
2. Implement vegetation treatments associated with AMPs in wildlife habitat areas with insufficient wildlife forage to meet "reasonable numbers".
3. Implement a Habitat Management Plan on the Mormon Peak Allotment to increase bighorn sheep populations. The locations and types of water developments that could be constructed to allow habitat expansion and the necessity of fences to prevent livestock movement into bighorn crucial areas would be determined. Implementation would minimize present and potential conflicts between bighorn sheep and livestock in the Mormon Peak area.
4. Implement a Habitat Management Plan in Deer Winter Range 5 where critical deer forage shortages are occurring. Vegetation manipulations and water developments designed primarily to benefit deer and other wildlife would be constructed. Modifications to existing projects - e.g., lowering the top wire of fences to allow deer passage, adding bird ladders to livestock troughs - would also be completed. Implementation would reduce deer depredation upon private land in Rose Valley while allowing deer to increase to "reasonable numbers". In addition, creating new waters would allow habitat expansion and increased forage for many other wildlife species.

Wild Horses and Burros

1. Allocate sufficient vegetation to wild horses and burros as specified in the proposed action and Alternative Seven. Total allocation to wild horses and burros will be 5,476 AUMs -enough to support an average population of about 450.
2. Excess wild horses and burros would be placed in the custody of private persons, organizations, or other agencies.

* "Reasonable Numbers" defined as: that number of animals which the wildlife management agency is striving to maintain within a given planning unit under a multiple use concept on a sustained yield basis.

3. Develop and implement five Wild Horse and Burro Management Plans which would emphasize small healthy herds (between 38 and 170 animals) rather than allow them to increase in numbers exceeding the capacity of the resource. The plans would identify where improvements may be necessary to allow wild horses and burros to use the designated habitat areas. Such improvements could include development of dependable yearlong water sources where none presently exist, vegetation manipulations to improve forage quality, removal of fences that presently restrict wild horse movement, and construction of fences to prevent horse movement into areas designated for other uses.
4. Fence five miles of riparian vegetation along Clover Creek to eliminate adverse impacts from yearlong use by wild horses.

Elements identified as mitigating measures in the Final Environmental Statement for the rangeland management program are: 1) monitor endangered plant species; 2) limit livestock use on Mormon Peak allotment to current use levels until a Habitat Management Plan for bighorn sheep is developed; 3) fence five miles of riparian vegetation along Clover Creek to eliminate adverse impacts from yearlong use by wild horses; 4) develop and implement Herd Management Plans and Allotment Management Plans on Deer Winter Range 5 where deer forage shortages are occurring; 6) provide for a three year period for livestock operators with yearlong use to adjust to periods-of-use requiring two months of no grazing in the spring.

The rangeland management program described in this publication is a dynamic program that is subject to change. Further analysis of range improvement projects may modify some of these proposals. Monitoring and data collection systems, wilderness inventories, endangered species and cultural resource clearances will all have impacts on actual on-the-ground implementation of this program. Elements of this program not analyzed in the Final Environmental Statement would be analyzed in Environmental Assessments before implementation. External changes which result in changes in land use within the ES area would be considered. One such change is the proposal to establish a portion of the MX missile system on public lands in the ES area. This could cause significant modifications in this rangeland management program.

What It Does

It is felt that this rangeland management program is the optimum combination of proposals from the proposed action and alternatives. It incorporates the features of protection and enhancement of wildlife and wild horse and burro habitat as well as protection of the soil and vegetative resources. Further, the program provides for allocations to domestic livestock that would minimize adverse impacts

to local ranching operations.

Total soil loss should be reduced by about nine percent per year by 2015. Fifty-seven miles of riparian vegetation should improve. Livestock forage condition of the range should improve by the year 2015 as shown in Table C.

TABLE C

Present and Future Range	Livestock Forage Conditions by Acreage		
	<u>Acres Good</u>	<u>Acres Fair</u>	<u>Acres Poor</u>
Present (1976)	689,000	1,375,000	512,000
Future * (2015)	1,119,000	1,013,000	444,000

* Forage condition should improve throughout this period, much of the improvement should occur prior to 2015.

Livestock forage available at the start of the program would be 74,421 AUMs, which is 96 percent of the present level of use. By 2015, it is expected that there may be 115,000 AUMs allocated to livestock. Reasonable numbers of bighorn sheep (1,098) and mule deer (8,820) are expected to be achieved by the year 2015. Wild horse and burro numbers would be decreased to about 450 by 1981. Possible future allocations by 2015 would support a population of about 560. Ranch income would be decreased by about \$67,000 per year below 1977 levels in the short term; however, by 2015 it is expected to increase by about \$71,000 per year above 1977 levels. This estimated increase in future income is based on the assumption that ranchers would continue to use only a portion of the livestock forage available.

Significant beneficial impacts that would result from implementation of this rangeland management program are summarized in Table D.

TABLE D

Summary of Long-Term Beneficial Impacts

Resource Element	Impact	Cause for Change
Soil Sediment Yield	Decrease of about 200,000 tons per year (9%) by 2015	Increased Vegetation
Riparian Vegetation	Increased vegetation on 57 miles of streambank	Decreased Grazing Pressure
Livestock Forage Condition	Decrease in poor and fair condition range of 430,000 acres and increase in good condition range of 430,000 acres by 2015	Decreased Grazing Pressure, Increased Management Intensity Vegetation Manipulation
Livestock Forage Allocation	Possible active use by 2015 would be about 115,000 AUMs, a 47% increase over 1977 licensed use	Decreased Grazing Pressure, Increased Management Intensity Vegetation Manipulation
Bighorn Sheep Populations	Reasonable numbers-1,098 would be achieved by 2015	Decreased competition for space, water, and forage
Mule Deer Populations	Reasonable numbers - 8,820 would be achieved by 2015	Vegetation manipulation, water developments, and decreased competition for forage
Ranch Income	Increase of about \$71,000 per year by 2015	Increase in vegetation production

ALTERNATIVES IN THE ES

Environmental Statement Proposed Action

The proposed action considers adjusting livestock grazing from 77,513 AUMs used in 1977 to 74,293 presently suitable AUMs in 1980. Adjustments in livestock numbers would be initiated in 1980 to be fully implemented within three years after the final ES is filed. Wild horse numbers would be reduced by 53 percent from 1,072 to 497 animals (5,956 AUMs) in 1980, and management would be intensified. Twenty-seven AMPs would be developed and implemented by 1990. Approximately 400,000 acres of vegetation would be evaluated for treatment to provide an additional 40,000 AUMs of forage. Proper periods-of-use (no grazing from April 1 to May 30 except in areas with implemented AMPs), numbers, and kind of livestock would be established. Range improvement cost is estimated to be \$9.6 million.

Required forage to satisfy wildlife management levels ("reasonable numbers") would be provided when possible. A total of 17,926 AUMs would satisfy wildlife.

The vegetation allocations of the proposed action for wildlife, wild horse and burro (with the exception of one area), and periods-of-use recommendations for livestock on 74 allotments from the proposed action were incorporated into the range management program. The level of management intensity was not selected because estimated costs were expected to be greater than anticipated benefits.

Alternative One: No Action (Continuation of Present Management)

Under this alternative, livestock use from 1980 to 2015 would remain stable at 77,513 AUMs, wild horse and burro numbers would be controlled at 1,072 requiring a stable 12,864 AUM demand through 2015; wildlife AUM reasonable numbers (17,926) would represent demand from 1980 to 2015.

This alternative was eliminated because it failed to respond to the problems and issues of multiple use management in the Caliente area and the vegetation resource would be over-obligated.

Alternative Two: Elimination of Livestock, Wild Horse and Burro Grazing

Under this alternative all livestock, wild horses, and burros would be removed from the area, allowing maximum vegetation utilization by wildlife. All vegetation would be available for wildlife, watershed protection, and recreation use. The five AMPs would be terminated. Range improvements would not be maintained or constructed unless

necessary for other programs. Wildlife forage would be maximized at 44,179 AUMs - the total wildlife forage capacity. It is assumed wildlife populations would increase to the forage capacity level and remain stable through the analysis period. Livestock AUMs would be reduced from 77,513 AUMs used in 1977 to zero in 1980. Wild horse and burro populations would be reduced from 1,072 in 1977 to zero in 1980.

This alternative was eliminated because it failed to provide for multiple use management and would result in severe adverse economic impacts.

Alternative Three: Minimum Constraints on Wild Horses and Burros

Under this alternative, wild horse and burro populations would be maximized within the capability of existing forage. All available forage within the present wild horse and burros use areas (suitable and potentially suitable with water development, excluding competitive wildlife AUMs) would be allocated to wild horses and burros. In allotments receiving excessive horse use above their forage capacities, animals may be relocated to other wild horse use allotments which produce the required forage amounts. This would continue until all wild horse use allotments are being used at their 1980 forage capacities (34,361 AUMs or 2,863 animals compared to 1,072 in 1977). There would be no expansion of present wild horse and burro habitat. Livestock AUMs would be reduced from 77,513 used in 1977 to 54,188 allocated in 1980. Possible long-term allocation would be 96,870 in 2015. Yearly wildlife allocations would be 15,204 AUMs from 1980 through 2015.

This alternative was eliminated because of severe impacts to many of the ranching operations and lack of local support. Further, it is not multiple use management.

Alternative Four: Restricted Periods-of-Use by Livestock

This alternative provides low intensity grazing management by eliminating livestock grazing during the March 1 through July 15 growing season on perennial and ephemeral-perennial ranges. Grazing would be permitted on ephemeral forage when it is available. Total allocation to livestock would be reduced from 77,513 in 1977 to 59,387 in 1980. No vegetation treatments and no range improvements would be implemented, resulting in a livestock allocation of 113,658 AUMs in 2015. Wild horses and wildlife would be allocated AUMs and managed as in the proposed action. This would result in a reduction in wild horse and burro populations from 1,072 in 1977 to about 500 in 1980. Wildlife would be allocated 15,104 AUMs.

This alternative was eliminated because of severe impacts to many livestock operations, particularly those with limited acreage of

private land or yearlong grazing on public lands. Alternative sources of livestock feed would be difficult to obtain during the restricted period.

Alternative Five: Reduced Levels of Livestock Grazing

This alternative allows for grazing use at 50 percent of the proposed 1980 vegetation allocation permitted under the proposed action, and livestock use would remain at this level until 2015. Livestock allocations would decrease from 77,513 AUMs used in 1977 to 37,163 allocated from 1980 to 2015. Periods-of-use are identical to those of the proposed action. Vegetation treatments would not be implemented. Wild horses, burros, and wildlife would be allocated AUMs and managed as in the proposed action. This would result in a reduction of wild horse and burro populations from 1,072 in 1977 to about 500 in 1980. Wildlife would be allocated 15,104 AUMs in 1980.

This alternative was eliminated because it fails to respond to problems and issues of multiple resource management, and it would result in severe impacts to many livestock operations.

Alternative Six: Reduced Management Intensity

This alternative would allocate forage as described in the proposed action. Livestock allocations would be reduced from 77,513 used in 1977 to 74,293 in 1980. Expected long-term allocation would be about 115,000 AUMs. Wild horses and wildlife would be allocated AUMs, and managed as specified in the proposed action. Wild horse populations would decrease from 1,072 in 1977 to about 500 in 1980. Wildlife would be allocated 15,104 AUMs in 1980. Periods-of-use would be identical to those in the proposed action. Management intensity would be reduced from 27 AMPs in the proposed action to 16 AMPs for this alternative. Range improvement projects would be completed at a greatly reduced level. Implementation of intensive management systems would be completed on an accelerated schedule. Total cost of range improvements for this alternative is estimated to be \$2.6 million.

Range improvements and management intensity for this alternative were incorporated into the range management program. The cost of improvements for this alternative is within expected manpower and budget limits.

Alternative Seven: Locally Suggested Vegetation Allocation Program

This alternative would allocate 81,868 AUMs to livestock in 1980 compared to 77,513 used in 1977; 2,308 AUMs to wild horses and burros (enough to support a population of 192 - compared to 1,072 in 1977); and 15,109 AUMs to wildlife. Periods-of-use would be identical to those under the proposed action on 59 allotments, while

periods-of-use would be modified on 27 allotments to allow more grazing during the spring. Management intensity would be the same as under the proposed action on 77 allotments. On five allotments it would be changed from no grazing to non-AMPs. Four allotments designated as non-AMP under the proposed action would have AMPs developed and implemented, if feasible. Adjustments from the the proposed action in range classification would occur on seven allotments.

The provisions in this alternative for increased sources of water on sheep winter-use areas, continued livestock grazing in the Meadow Valley area, and reallocation of forage in Wild Horse and Burro Area 3 to livestock were incorporated into the range management program.

PUBLIC INVOLVEMENT

This section summarizes the public involvement schedule that accompanied the planning, environmental analysis, and decision-making phases of the Caliente grazing program:

Management Framework Plan

Planning and development of the Caliente Management Framework Plan (MFP) was initiated in 1978. The MFP public participation plan was conducted concurrently with the ES plan.

Draft Environmental Statement

October, 1978 - Statewide news release from Nevada State Office of the BLM in Reno issued the initial announcement of plans for preparation of an ES on the Caliente area.

February 20, 1979 - Letter issued from the Las Vegas District Office announcing the assembly of an interdisciplinary team for writing of the Caliente ES was sent to public interest groups. The letter was accompanied by a news release and map of the Caliente resource area.

February 27, 1979 - Notice of Intent to prepare the Caliente ES was published in the Federal Register (Vol. 44, No. 40, p. 11129).

March, 1979 - Update and progress reports on the Draft ES were presented (as part of MFP briefings) to the Nevada Clearinghouse and Congressional staff, as well as the Nevada Legislature's Agriculture Committee.

May 25, 1979 - Draft ES filed with the Environmental Protection Agency and made available to the public (File No. INT DES 79-28).

May 31, 1979 - Federal Register notice and national news release from the Department of Interior announced availability of the Draft ES and the beginning of the 45-day public review period.

June 1, 1979 - Statewide news release announced public hearing dates and availability of Draft ES.

July 10, 1979 - Public hearing on the Draft ES in Caliente, Nevada; 60 persons attended, 16 gave testimony.

July 11, 1979 - Public hearing on Draft ES in St. George, Utah; 10 persons attended, 6 presented testimony.

July 12, 1979 - Public hearing on Draft ES held in Las Vegas, Nevada; six persons attended, 2 gave testimony.

July 16, 1979 - End of 45-day public review and comment period; 40 comment letters received.

Final Environmental Statement

September 21, 1979 - Final ES filed with the Environmental Protection Agency and made available to the public (File No. INT FES 79-44).

September 26, 1979 - Federal Register notice of availability of FES for Caliente (Vol. 44, No. 188, p. 55441.)

September 28, 1979 - BLM statewide news release announced availability of Caliente FES.

ACTION PLAN

Administrative Actions

It is the goal to have intensive grazing management systems on 19 proposed Allotment Management Plans (AMPs) on combinations of 40 existing allotments; to have 38 non-AMP allotments; to have six allotments totally allocated to wild horses; and to have no grazing on two allotments. By allotment, the following would be established:

1. Period-of-use for each kind of livestock
2. Proper livestock grazing capacity
3. Allocation of forage to meet management goals for wildlife and wild horses
4. Proper grazing system for each allotment
5. Necessary range improvements needed to fully implement the grazing system
6. Establish a period of two months of no grazing during the spring on non-AMP allotments.
7. Initiate Wild Horse and Burro Removal and complete it within 2 years.
8. Complete wildlife allocation to available capacity.

Provide for a three-year period to phase yearlong grazing operations to the recommended two-months-off period. Adjustments in livestock grazing use would be worked out individually with the livestock operators prior to issuance of formal decisions. All proposed AMPs would be written and implemented in six years.

Related Actions

The Caliente rangeland management program includes implementation of the following programs.

- Management Framework Plan multiple-use recommendations
- Habitat Management Plan for Mormon Peak allotment
- Habitat Management Plan for Deer Winter Range 5
- Wild Horse and burro management plans
- Protection of riparian vegetation by Clover Creek fencing

Handwritten notes:
Have all
AMPs
checked
Priority

Range Improvement Projects

A variety of range improvements and vegetation treatments will be necessary to achieve the goals and objectives of the Caliente grazing program. These improvements, which are estimates based upon professional judgment and analysis, include the following projects: 230 miles of fencing; 20 spring developments; 188 miles of water pipelines; 90 water troughs; 26 reservoirs; 13 wells; 28,780 acres of mechanical treatment; 48,320 of prescription burning.

Grazing Use Adjustments

Adjustments in grazing use, both upward and downward, will be extensive. Although the total change between current use and the programs allocation amounts to about four percent, there will be a wide variation in adjustments on individual allotments - ranging from a 100 percent decrease to a 500 percent increase from 1977 licensed use. Of the total 86 allotments, 37 will have decreases from 1977 licensed use to the 1980 allocation, 19 will be at the same level, and 30 will have increases.

Appropriations

Development of range improvement facilities and grazing management systems are based on current appropriations, and the rate of development will be subject to change in future appropriations.

Successful implementation and monitoring will be dependent upon securing adequate funding and manpower to accomplish the tasks outlined.

Monitoring

A monitoring system will determine the effectiveness of the rangeland management program. Monitoring studies would be implemented in 1980 and conducted at regular intervals. Livestock, wildlife, and wild horse and burro grazing use will be monitored by studies which measure changes in plant composition and ground cover; actual grazing use, vegetation utilization, range condition and trend, and climate analysis (BLM Manual, section 4413.3). Additional monitoring of wildlife habitat, aquatic habitat, riparian vegetation, endangered plants, and watershed will be conducted as appropriate.

Data from these studies will be evaluated to determine the effectiveness of present management and to assist in making future adjustments.

*monitoring has
to be accomplished
yearly. several levels
funding to address
if objectives are
being met.
Monitoring
should be
funded as a
priority.*

If monitoring and evaluation determine that specific management objectives are not being met, management modifications could include changes in management intensity, the grazing system, livestock numbers, and periods-of-use, or any combination of revisions. An Environmental Assessment would need to be completed before any change could be effected. Temporary adjustments in livestock grazing use could be made in periods-of-use during drought or other emergencies.



**COMMISSION FOR THE
PRESERVATION OF WILD HORSES**

1105 Terminal Way
Suite 209

Reno, Nevada 89502
(702) 688-2626

August 11, 1997

Ms. Julie Butler
Environmental Advocate
Nevada State Clearinghouse
Blasdel Bldg., Suite 200
Carson City, Nevada

Subject: Henrie Complex Allotment Evaluation

Dear Julie:

The Commission for the Preservation of Wild Horses appreciates this opportunity to review and comment on the Henrie Complex Allotment Evaluation. To our knowledge, this is the first allotment evaluation conducted under the Caliente Grazing Environmental Impact Statement and Management Framework Planning Decisions. Serious drought and wild fire have spawned emergency actions that abolished the Meadow Valley Mountain Wild Horse Herd. Administrative appeals to these actions were settled by a Stipulated Agreement with the District that initiated proper planning processes to assess resource monitoring data. We encourage that the District has accomplished this important stipulation to better determine the destiny of this herd management area and restore range health to the Henrie Complex.

Please consider the following comments:

Page 2, Appropriate Management Levels

The Range Program Summary expressed the direction set in the Preferred Alternative and Management Framework Plan Decisions. It committed the District to develop five Wild Horse and Burro Management Plans. These plans would implement the consolidation of small herd areas and adjust appropriate management levels.

Ms. Julie Butler
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Page 5, Allotment Profile

Range inventories determined portions of the allotment that were ephemeral and ephemeral-perennial vegetation communities. These data should be expressed in the text. We appreciate Appendix V showing all allowable use levels that were established 13 years ago.

Page 8, Actual Use

According to our files, the Henrie Complex was closed to livestock grazing in 1995 due to the drought and dying wild horses. We are confused that actual livestock use was observed.

Page 16, Wild Horse Habitat

The ephemeral portion of the herd management area could have a significant impact on the welfare of wild horses. As observed over the duration of this evaluation, wild horses suffer catastrophic die-offs during severe drought on ephemeral ranges of southern Nevada. As found in the original grazing environmental statement, the Henrie Complex is not suitable for yearlong ungulate use.

Page 17, Conclusions

The Fish and Wildlife Service biological opinion should be included.

Page 18, Recommendations

Carrying capacity was determined without weight-averaging use pattern mapping data or yield indexing precipitation data that would compromise the observed heavy and severe use of key forage species. We appreciate the creditable use of data and procedures. However, the allocation of forage to support only 10 wild horses is contrary to the Act. If the herd management area has adequate habitat components, the Bureau of Land Management has the obligation to sustain a viable herd. This obligation includes viable genetic diversity.

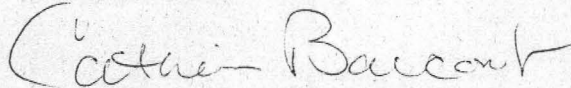
We support an appropriate management level of zero. Data clearly shows that the Henrie Complex lack adequate water sources and perennial forage to support wild horses in the long term. In respect to your present land use plan, this option is consistent with the Preferred Alternative.

Ms. Julie Butler
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We support a season of use adjustment for livestock to restore the health of the land. Hopefully, this option is feasible with the permittee to assure a long term authorization. Any past misunderstandings with the District over this matter could have been avoided through this allotment evaluation.

We hope the above comments will assist you in the issuance of a multiple use decision in the Caliente Resource Area.

Sincerely,

A handwritten signature in cursive script that reads "Catherine Barcomb". The signature is written in dark ink and is positioned above the typed name.

CATHERINE BARCOMB
Executive Director