M 2-5-98

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

FEB 05 1998

Dear Interested Public:

The Caliente Field Station, Ely District recently sent copies of a draft Management Action Selection Report (MASR) and Final evaluation of the Henrie Complex Allotment to our identified Interested Publics on January 23, 1998. It has been brought to our attention that some of the copies received were missing pages and had duplicates of other pages. Please pardon our mistake with the copying of the document. The attached copy contains all the appropriate pages.

The original cover letter established a comment period of 30 days for the review of the draft management action selection report (MASR), which was to end on February 23, 1998. This review period has been extended to March 15, 1998 due to the identified mistakes in copying. The attached allotment evaluation document is considered final and no additional comments will be accepted. If you have any questions or information pertaining to the MASR, please contact the Caliente Field Station at the above address. All comments must be received in written form.

Sincerely,

Acting for Paul E. Podborny
ADM Renewable Resources
Ely District

Attachment: Henrie Complex Final Evaluation
Draft MASR

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

JAN 23 1998

Dear Interested Public:

The Caliente Field Station, Ely District has completed a draft Management Action Selection Report (MASR) and Final 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). The draft MASR identifies those management actions needed to meet the multiple use objectives and improve rangeland forage conditions for the Henrie Complex Allotment.

These documents are 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. The draft evaluation was issued on July 25, 1997. The attached evaluation document is considered final and no additional comments will be accepted. A thirty-day comment period has been established for the draft management action selection report (MASR). This review period ends on February 23, 1998. If you have any questions or information pertaining to the MASR, please contact the Caliente Field Station at the above address. All comments must be received in written form.

Sincerely,

Paul E. Podborny
ADM Renewable Resources
Ely District

Attachment: Henrie Complex Final Evaluation
Draft MASR

MANAGEMENT ACTION SELECTION REPORT

HENRIE COMPLEX ALLOTMENT

CALIENTE FIELD STATION

A. INTRODUCTION

The Henrie Complex Allotment Evaluation was conducted in accordance with the direction set forth in the Washington Office Instruction Memorandum No. 86-706, and is based on monitoring data collected between 1992 and 1996. The draft allotment evaluation was sent out for consultation, cooperation, and coordination with interested publics and the affected permittees on July 25, 1997.

A moderate amount of public comment was received pertaining to the Henrie Complex Allotment Evaluation conducted in the Caliente Field Station, Ely District. Copies of the comment letters pertaining specifically to this allotment can be found in Section VII of the allotment evaluation summary, located in the Caliente Field Station files. All allotment specific comments were carefully considered for incorporation into the final evaluation. Responses to comments can be found in Section VII of the Evaluation.

Conclusions of the evaluation were based on upon monitoring data collected and consultation, cooperation, and coordination from the following sources:

Range, wildlife, and wild horse monitoring files compiled by the Caliente Field Station staff.

Input from Permittee: Kevin Olson through letters and meetings dated March 7, 1997, August 26, 1997, and September 26, 1997.

Input from interested publics: Lincoln County Commissioners through letter dated August 25, 1997, Lincoln County Public Lands Commission through letter dated August 29, 1997, Bryant Robinson (potential buyer of Olson base property and privileges) through letter dated September 15, 1997, Nevada Division of Wildlife (NDOW) through letter dated September 19, 1997, Nevada Division of Water Resources (DWR) through letter dated August 5, 1997, Nevada Division of Agriculture through letter dated August 18, 1997, and Nevada Commission for the Preservation of Wild Horses through letter dated August 11, 1997.

B. ANALYSIS OF MONITORING DATA

Based on the identified issues of the evaluation, four of the five land use plan objectives for the allotment are not being met under the existing management practices; therefore, implementation of management actions and/or adjustments to livestock and wild horse numbers are necessary to meet these objectives. Allowable use levels for key management areas #5-7 have been exceeded and use pattern mapping indicates large areas of severe use

and poor distribution of livestock and wild horses. The documented livestock and wild horse actual use levels are not achieving the identified multiple use objectives. Grazing use by livestock and wild horses has concentrated on the principal use areas which make up approximately 8% of the allotment. This concentrated use has contributed to over utilization and plant degradation. This allotment's forage base is made up of 80 percent blackbrush communities that produce little or no perennial grasses and generally, only small amounts of annual forage. Ecological status inventory (ESI) data shows that 6 out of 7 key areas are at early seral stage due to lack of key perennial species. The riparian area and floodplain associated with Meadow Valley Wash is in a degraded condition and receiving severe use on an annual basis. Vegetative community trend is showing static or downward trend at all key areas within the allotment.

Wildlife use on the allotment has not contributed to the non-attainment of the multiple use objectives. Desired use levels within desert tortoise habitat have been exceeded based on use pattern mapping.

Wild horse use on a yearlong basis within the allotment has contributed to the non-attainment of the multiple use objectives. Severe use has been documented within the principal use areas with as few as 30 wild horses (1995).

C. SELECTED MANAGEMENT ACTION

The selected management actions are a combination of the options listed under Section VI of the Henrie Complex Allotment Evaluation and input from the present permittees and affected interests. The short-term and long-term management actions implement the guidelines to meet the multiple use objectives and standards. Short term management actions for livestock and wild horses will be implemented the first year. The long term management actions are necessary to make progress towards attainment of multiple use objectives. Implementation of long-term management actions such as range improvement projects are dependent on staff and funding availability.

The selected management actions for the Henrie Complex Allotment are as follows:

1. Short Term Management Actions

    a. Change the season of use on the allotment from year-round to November 01 to April 30. The current year-round season of use is inappropriate for the allotment which occurs in the Mojave desert ecotype. Hot season and yearlong 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 will continue to 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 season of use is also consistent with the Caliente Grazing Environmental Impact Statement (EIS), which recommended a season of use for this area of 11/01-04/30.

Yearlong use is also contributing to degradation of desert tortoise habitat by exceeding use levels identified in the 1992 Full Force and Effect Grazing Decision which limits available forage for the desert tortoise during critical periods of the year.

This management action does not change the established period of use within Prescription 1 desert tortoise habitat as identified within the 1/31/92 Full Force and Effect Grazing Decision. The southeast corner of the allotment (below Paint Mine Canyon) is closed to grazing from March 1 to June 14.

Guideline: This management action is related to Guidelines 1.1, 1.2, 1.4, 2.3, 2.4, 3.3, 3.4, 3.5, and 3.6. These guidelines will be applied to achieve the standards for multiple use.

b. Adjust the livestock stocking level for the allotment from the existing 4160 AUMs to 1249 AUMs. This level of use should meet the multiple use objectives for the allotment.

Kevin Olson:

Livestock No.	Kind	Period of Use	Permitted Use
160	C	11/01 - 4/30	957

Robert Lewis:

Livestock No.	Kind	Period of Use	Permitted Use
49	C	11/01 - 4/30	292

Guideline: This management action is related to Guidelines 1.1, 1.2, 1.4, 2.3, 2.4, 3.3, 3.4, 3.5, and 3.6. These guidelines will be applied to achieve the standards for multiple use.

c. Assign each permittee specific areas within the Henrie Complex Allotment to manage their livestock.

Kevin Olson's use area will be based on his historic use areas prior to 1992 (refer to Map #1 in Appendix III). Mr. Olson grazed livestock on

both the Henrie and Morrison-Wengert allotments prior to 1992.

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 (refer to Map #1 in Appendix III). Prior to the combining of the allotments in 1992, Mr. Lewis was authorized to graze only the Henrie Allotment. This action will require an increased level of intensive management by both the permittees.

Guideline: This management action is related to Guideline 3.3. This guideline will be applied to achieve the standards for multiple use.

d. Water hauling

Improve water distribution within the allotment through the placement of a minimum of two new water hauls locations. At least one of these locations will be established along the Lyman Crossing Road near the White Rock Allotment boundary to facilitate the authorization of livestock use. The hauling of water will be stipulated to any authorization of use within the eastern half of the allotment.

Robert Lewis will be required to haul water on the east side of the Meadow Valley Wash (which is his recognized use area) in order to be authorized for grazing use.

Guideline: This management action is related to Guideline 3.3. This guideline will be applied to achieve the standards for multiple use.

e. Exchange of use will no longer be authorized as part of the permitted use for Kevin Olson's permit. Billings will be issued as 100% public land.

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.

f. Salting will occur at least 1/2 mile from all water sources. Salting away from these areas will improve livestock distribution.

Guideline: This management action is related to Guideline 3.3. This guideline will be applied to achieve the standards for multiple use.

g. Establish a wild horse appropriate management level (AML) for the Henrie Complex portion of the Meadow Valley Mountains HMA at zero (0) horses. 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. All AUMs identified within the desired stocking rate calculations will be allocated for livestock use based on the establishment of the zero (0) AML for this HMA.

The current year-round grazing by wild horses is inappropriate for the allotment which occurs in the Mojave desert ecotype. Current water distribution does not support use during periods of high summer temperatures. Hot season grazing by wild horses has contributed greatly to the severe use patterns observed on the allotment and the non-attainment of the multiple use objectives.

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

h. Establish a wild horse appropriate management level (AML) for the Henrie Complex portion of the Mormon Mountains HMA at zero (0) animals. This portion of the HMA will be set at zero (0) due to no use by horses in this portion of the allotment.

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.

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

i. Establish a wild horse appropriate management level (AML) for the Henrie Complex portion of the Blue Nose Peak HMA at zero (0) horses. Manage the Blue Nose Peak HMA in conjunction with the Clover Mountain HMA.

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 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. Due to this fact, management goals and objectives need to be consistent for both areas.

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

2. Long Term Management Actions

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

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

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

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.

c. 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.

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.

Guideline: The above management actions are related to Guidelines 1.3, 2.5, and 3.7. These guidelines will be applied to achieve the standards for multiple use.

d. Change the selective management category from Maintenance (M) to Improve (I).

The Maintenance category, by definition, means the range condition is satisfactory. The Improve category means the present range condition is unsatisfactory. Resource conflicts and controversy also exists within the allotment. This evaluation has clearly shown that the latter is true for the Henrie Complex.

Guideline: This management action is related to Guideline 3.9. This guideline will be applied to achieve the standards for multiple use.

D. OBJECTIVES

The allotment objectives under which grazing use, as stated above will be monitored and evaluated are as follows (Appendix II for site specific objectives):

1. Allotment Specific Objectives

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.

a. Livestock

The short term objective will be accomplished through managing 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. (Refer to Standard #1, 2, & 3)

The long term objective will be accomplished by managing for those ecological seral stages which maximize the sustained yield of livestock forage production. (Refer to Standard #1, 2, & 3)

b. Wild Horses

The short term objective will be accomplished through managing 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. (Refer to Standard #1, 2, & 3)

The long term objective will be accomplished by managing for the appropriate ecological seral stage in order to meet the requirements of wild horses. (Refer to Standard #1, 2, & 3)

c. Wildlife Resources

(1) Bighorn Sheep:

The short term objective is to manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community. (Refer to Standard #1, 2, & 3)

The long term objective is to maintain key desert bighorn habitat in the fair to good condition. (Refer to Standard #1, 2, & 3)

(2) Mule Deer:

The short term objective is to manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community. (Refer to Standard #1, 2, & 3)

The long term objective is to maintain key mule deer habitat in the fair to good condition. (Refer to Standard #1, 2, & 3)

(3) Desert Tortoise:

The short term objective is to manage for allowable use levels (AULs) by season of use to improve or maintain the desired vegetative community. (Refer to Standard #1, 2, & 3)

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. (Refer to Standard #1, 2, & 3)

E. GRAZING ADJUSTMENTS

Permitted use will be adjusted as follows (See Appendix I for Stocking Rate Calculations):

From:	Total	Suspended	Active Preference
	4,160	0	4,160

To:	Authorized Use*
	1,373**

*the total number of animal unit months (AUMs) of specified livestock grazing
**represents the total number of AUMs calculated in the Desired Stocking Rate Calculation

Permitted livestock use effective March 1, 1998 will be as follows:

Kevin Olson:

Livestock No.	Kind	Period of Use	Permitted Use
176	C	11/01 - 4/30	1,056

Robert Lewis:

Livestock No.	Kind	Period of Use	Permitted Use
54	C	11/01 - 4/30	324

The following terms and conditions for the grazing permit are as follows:

1. Improve livestock distribution through placement of salt and/or mineral block a minimum of 1/2 mile from water and by herding of livestock. (Guideline 3.3)

2. Improve water distribution within the allotment through the placement of a minimum of two new water hauls locations. At least one of these locations will be established along the Lyman Crossing Road near the White Rock Allotment boundary to facilitate the authorization of livestock use.

   Robert Lewis will be required to haul water on the east side of the Meadow Valley Wash (which is his recognized use area) in order to be authorized for grazing use. (Guideline 3.3)

3. Actual use reports will be submitted to the Caliente Field Station office within 15 days after the end of the authorized grazing period.

F. FUTURE MONITORING AND GRAZING ADJUSTMENTS

The Caliente Field Station will continue to monitor all existing studies and establish additional studies as identified in Section VI of the Allotment Evaluation. This monitoring data will continue to be collected in the future to provide the necessary information for subsequent evaluations following the decision. These evaluations are necessary to determine if the allotment specific objectives are being met under the new grazing management strategies. In addition, these subsequent evaluations will determine if additional adjustments are required to meet the established allotment specific objectives.

As funding becomes available, annual censuses will be conducted to document additional wild horse gather needs within the allotment.

APPENDIX I

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.

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%)

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 II Upland Studies Summary

ALLOTMENT: HENRIE COMPLEX				PRESENT STATUS		LONG TERM OBJECTIVES			SHORT TERM OBJECTIVES				
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
									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]
			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
			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
			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
			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
			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]
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]
			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

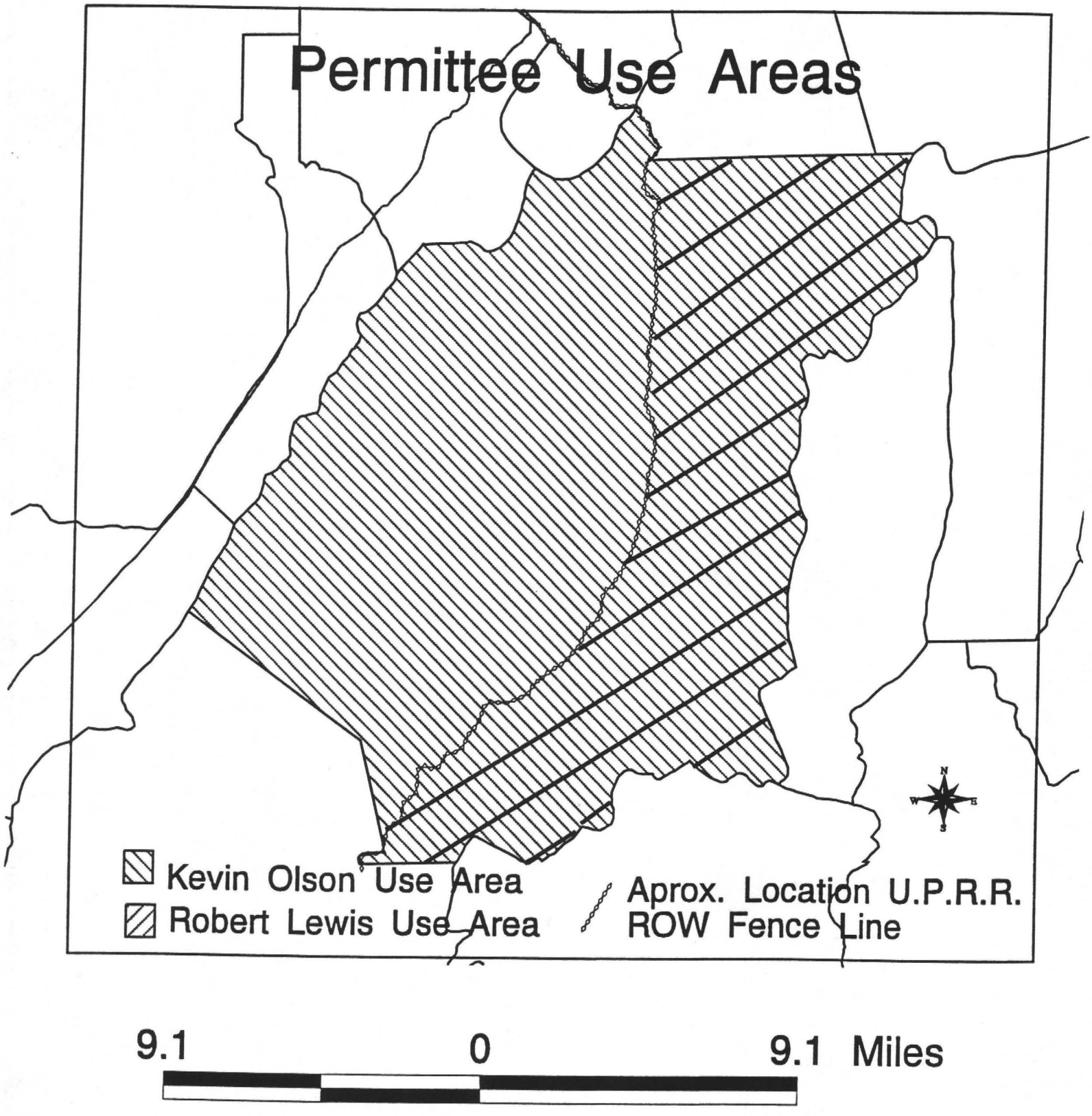
[1] The identified seral stage for each area could be down-graded one seral stage, where possible, due to lack of perennial grasses and dominance of introduced annual grasses and forbs.

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

APPENDIX III

PERMITTEE USE AREA MAP

MAP 1


Permittee Use Areas
Kevin Olson Use Area
Robert Lewis Use Area
Aprox. Location U.P.R.R. ROW Fence Line
N
W
E
S
9.1
0
9.1 Miles

HENRIE COMPLEX ALLOTMENT EVALUATION

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

JANUARY 1998

HENRIE COMPLEX ALLOTMENT EVALUATION

TABLE OF CONTENTS

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 IV). 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 operations)

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) could graze in common over the entire Henrie Complex, even though Lewis actually held no priority on the Morrison-Wengert Allotment.

Based on the existing information, the principal use areas for livestock within the Henrie Complex are associated with the available water sources in and around Meadow Valley Wash. This area supports the largest concentrations of livestock due to the available water.

Use is being made in association with a temporary water haul located near Cherokee Mine, in the northeast portion of the allotment. A water source at the Meadow Valley Ranch at Carp, NV, services the Lyman Crossing area and out to the eastern allotment boundary. Cattle make use within the area of Vigo and Hackberry Canyons as well as the area serviced by Averett Reservoir, when it contains water.

5. Percent Federal Range: Kevin Olson - 85%

Robert Lewis - 100%

B. Wild Horse and Burro Use

1. Appropriate Management Levels (AML)

The Caliente Grazing Environmental Impact Statement (EIS) recommended (proposed) that the Henrie and Morrison-Wengert (Henrie Complex) Allotments' portions of the Meadow Valley Mountains HMA, Mormon Mountains HMA, and Blue Nose Peak HMA be managed for zero (0) wild horses. The Caliente Management Framework Plan (MFP) Step-3 Decisions were to manage for current estimated numbers based on the current census (FY81). The Rangeland Program Summary (RPS) set initial management levels of 10 wild horses in the Blue Nose Peak Herd Management Area (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 HMAs. Refer to Map #2 in Appendix IV 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 Henrie Complex contains approximately 40 percent of this HMA.

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 contains approximately 20 percent of the HMA.

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 IV 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 limit reduction of cover and forage for tortoise and 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, Appendix V). 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-August 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, heavy 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 (*Coleogyne ramosissima*) communities dominate much of the allotment (approximately 80% of the total allotment area). 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 Meadow Valley Wash and 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 Upland Studies Summary Table in Appendix VI). 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

and combined the Henrie and Morrison-Wengert allotments into one management unit, the Henrie Complex (see Upland Studies Summary Table in Appendix VI).

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 IV.

This allotment contains portions of three Herd Management Areas (HMAs); Meadow Valley Mountains, Mormon Mountains, and Blue Nose Peak HMAs. Based on census data, wild horses use the allotment yearlong. Wild horses have not been observed during annual aerial counts in the Mormon Mountains HMA portion of the allotment and less than 10 animals on the Blue Nose Peak portion of the allotment. The Meadow Valley Mountains portion of the allotment has had a horse population as high as a minimum of 101 horses to a low of 15 horses. The HMA has had two horse gathers due to emergency situations which removed 86 horses in 1993 (due to fire rehab) and 39 horses in 1996 (due to drought).

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 the public lands 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 consistent and in conformance with the Caliente MFP and Mojave-Southern Great Basin Area RAC Standards. Refer to Appendix I for the Mojave-Southern Great Basin Area RAC Standards. Refer to Appendix II for the Land Use Planning Objectives Table. Refer to Appendix VI for site specific objectives.

   a. Livestock

      Short Term: Manage for allowable use levels (AUL) 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

Key Area #	Common Name	Genus/Species/Identifier
KA1	Nevada ephedra	*Ephedra nevadensis* (EPNE)
	Big galleta grass	*Hilaria rigida (HIRI)*
KA2	Indian ricegrass	*Oryzopsis hymenoides (ORHY)*
	Globemallow	*Sphaeralcea spp.* (SPHAE)
	Nevada ephedra	*Ephedra nevadensis* (EPNE)
	Purple threeawn	*Aristida purpurea* (ARPU9)
KA3	Nevada ephedra	*Ephedra nevadensis* (EPNE)
	Purple threeawn	*Aristida purpurea* (ARPU9)
KA4	Nevada ephedra	*Ephedra nevadensis* (EPNE)
	Indian ricegrass	*Oryzopsis hymenoides (ORHY)*
	Big galleta grass	*Hilaria rigidia (HIRI)*
KA5	Indian ricegrass	*Oryzopsis hymenoides (ORHY)*
	Sand dropseed grass	*Sporobolus cryptandrus* (SPCR)
KA6	Big galleta grass	*Hilaria rigida (HIRI)*
KA7	Big galleta grass	*Hilaria rigida (HIRI)*
	Indian ricegrass	*Oryzopsis hymenoides (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 the standards and 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 Allotment Studies Data

Refer to Appendix V for tabular depictions of monitoring data results. Compare Appendix V with the following sections: licensed/actual use,

utilization, and trend.

1. Actual Use

a. Livestock

The licensed and/or actual use during the evaluation period ranged from a high of 4037 AUMs in 1992 to a low of 647 AUMs in 1996. The average from 1986-1991 was 3,429. The low stocking rates during 1994-1996 were due to the closure due to fire.

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 ***Italics 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 parentheses. (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 is 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 20 miles north of Carp, NV. The station is located at the mouth of two canyons, thereby receiving heavier rainfall than the allotment. The other NOAA weather station is at Logandale, about 40 miles south, which would understate the precipitation. For this reason, Elgin 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 grazable 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 (see Appendix VII). 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 that mapping was conducted in these areas, severe use was observed on perennial key species. The precipitation during these years varied between average and drought, indicating use was occurring beyond the average carrying capacity of the range.

Current use pattern 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 previously established key areas. Based on extensive monitoring within the Henrie Complex since 1993, information collected from use pattern mapping will be the basis for which livestock and wild horse stocking levels will be evaluated and adjusted.

While use patterns may indicate large areas of ungrazed area, these areas are affected by such factors including water, forage typed and availability, timing of use, topography, etc.

Table 3. Use Pattern Mapping Conducted for 1992, 1995, and 1996 within the Henrie Complex Allotment. Numbers Represent Acres Within Each Use Category.

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, the locations of key areas 1 through 5 do not reflect the effects of grazing use over that portion of the allotment represented by the key area. They are not located in areas which contain significant amounts of palatable forage and are located too far from water. Key Areas #6 and #7 were established in 1997. 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. The closest permanent water source is Hackberry Spring, about six miles away. Use is incidental. Currently, the site monitors 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 the associated exclosure were 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 from the water source on private land and Meadow Valley Wash approximately 1 1/2 miles to the east. It will be 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 V.

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, frequency/trend data may not be measuring the affects of grazing on vegetative management species.

5. Range Survey Data

The 1977 range survey indicated that the Henrie Allotment should be allocated 0 AUMs and the Morrison-Wengert Allotment 229 AUMs based on suitability for livestock grazing.

Range condition was determined in conjunction with the 1977 forage (range) surveys. Range condition, does not refer to ecological condition but refers only to quality of forage (livestock forage condition) of each vegetative type for the kind and class of livestock authorized to graze on each allotment, and not to productivity. Condition class was determined from the percentage of plants in each of three classes (desirable, intermediate, or undesirable for livestock) which make up the total composition of all plants in the vegetative type. Therefore, using this system, an area may only have sparse plant density but still be considered in good condition if the plants present are either in the desirable or intermediate classification. Table 4 identifies the range condition as it pertains to the original Henrie and Morrison-Wengert allotments based on the 1977 range survey.

Table 5 contains the 1977 range survey information pertaining acreage of plant communities within the original allotments.

Table 4. Range Condition Based on the 1977 Range Survey

	ACRES WITHIN CONDITION CLASS				
ALLOTMENT	GOOD	FAIR	POOR	UNSUITABLE	TOTAL[1]
HENRIE	1,371	16,262	85,840	27,410	130,883
MORRISON-WENGERT	0	9,584	1,576	1,529	12,689
COMBINED	1,371	25,846	87,416	28,939	142,201

[1] 22,759 Acres were unclassified during the 1977 Range Survey for the combined Henrie Complex Allotment

Table 5. Plant Communities Within the Henrie Complex Allotment Based on the 1977 Range Survey

Plant Community Type	Acres within Community Type	Percentage of Total Acres
Mid-grass Bunch	374	0.2
Rabbitbrush	5,694	3.5
Juniper	11,908	7.2
Creosote bush	7,835	4.7
Blackbrush	133,694	81.0
Other desert shrubs	2,102	1.3
Bursage	2,417	1.5
Cheatgrass	141	0.1
Steep/Rocky	795	0.5
TOTAL	164,960[1]	100%
[1] 4,545 acres within the Henrie Complex were unclssified according to plant community type.		

The plant communities associated with the allotment has lead the animals to be reliant on certain areas, which in turn, has lead to over-utilization and plant degradation. This allotment's forage base is made up of 80 percent blackbrush communities that produce little or no perennial grasses and generally, only small amounts of annual forage (red brome and cheatgrass). The most productive areas, which appear to be creosote and rabbitbrush communities, make up approximately 8 percent of the allotment. The rabbitbrush community is located where the riparian and upland floodplain communities should be. This community supports several perennial grass species (primarily Indian ricegrass, sand dropseed, bottlebrush squirreltail, and big galleta) in very small amounts due to severe over-utilization and the degraded condition of the community. Livestock use this community on a yearlong basis.

The creosote community supports the only perennial grass (big galleta and small amounts of Indian ricegrass) outside of burned areas and the rabbitbrush communities. These small communities are located within the larger blackbrush communities and adjacent to the rabbitbrush communities along Meadow Valley Wash. These communities can not support yearlong use by the current livestock numbers as well as a wild horse population. The current yearlong grazing by livestock and wild horses is not allowing the big galleta and other grasses to produce seed each year due to being grazed before the process can be finished. This is degrading these communities.

Portions of the blackbrush community have been burned by wild fire and man-caused fire creating open areas within the blackbrush. These burned areas are re-establishing into a purple three-awn and snakeweed community. Though, the burned areas may contain purple three-awn in substantial amounts, this species is not a desirable forage plant for livestock and wild horses except during early growth when the forage is green. Generally, purple three-awn shows no use or only slight use by grazing animals while the more desirable grasses (galleta, ricegrass, squirreltail) generally receive much higher use levels (moderate to severe use categories).

6. Ecological Status

Ecological status 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. Range Site Descriptions and Seral stages 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 ecological status 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" (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. Based on the existing information, over-utilization by livestock and wild horses could be impacting desert tortoise habitat by limiting preferred forage species and alter the vegetative communities to one that is unfavorable to the desert tortoise.

Over-utilization by livestock and wild horses may be impacting habitat for desert bighorn sheep and muledeer but specific studies addressing these concerns have not been implemented within the Henrie Complex. Use pattern mapping is showing heavy to severe use within portions of the allotment that are identified as key habitat areas for desert bighorn sheep (Hackberry and Vigo Canyons).

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, NV.). 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 a annual basis by livestock. The southern half of the Wash is heavily covered with salt cedar (*Tamarix spp.*) 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.

Meadow Valley Wash provides habitat for the Meadow Valley Wash desert sucker (*Castostomus clarki ssp.*) and Meadow Valley Wash speckled dace (*Rhinichthys osculus ssp.*), which are classified as sensitive species. Specific riparian/fisheries habitat studies have not been established on the allotment for these species. Use pattern mapping information will be used to evaluate the impacts of grazing on

riparian/fisheries habitat. Current information shows that the upper half of the Henrie Complex's portion of the Meadow Valley Wash is in a degraded condition due to severe use by livestock and dewatering of the channel for irrigation purposes. The southern half, though heavily covered in salt cedar and over-utilized by liverstock and wild horses, does provide potential habitat for the desert sucker and speckled dace due to the existence of free-flowing water. Over-utilization is causing the loss of the riparian vegetation, which facilitated the development of over-hanging banks, shaded the stream, and supplied feeding and hiding cover for the fish. 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 a 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, which generally lack perennial grass species.

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 negative impact on desert tortoise habitat.

V. Conclusions

Standards for Grazing Administration

The following is a summary of the analysis of monitoring data which evaluates the management practices applied during the evaluation period to determine if those management

practices are in conformance with the Mojave-Southern Great Basin Standards.

Henrie Complex Allotment Monitoring Data:

Forage utilization, ecological condition and frequency/trend data were used to determine the attainment of the standards. Use pattern mapping was conducted on the allotment for the 1992, 1995 and 1996 grazing years. Ecological condition was conducted in 1997 at all seven key areas established on the allotment. Frequency/trend studies have been established on three key areas within the Henrie Complex Allotment. Frequency/trend data has been collected over a 15 year period. Trend is static or slightly downward at all 3 key areas within the allotment.

STANDARD 1. SOILS:

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

Findings:
Their two major upland sites on the allotment in early seral condition and contain fragile soils. Early seral stage indicates that the vegetative composition and production of plant community species are lacking. The lack of perennial grass composition and production indicates that ground cover (vegetation and litter) is reduced. Continued reduction in composition and production of vegetative species will further reduce the amount of cover needed to protect and maintain the watershed soils. The soil factors of Black Brush Sites burned and unburned consist of soils that are shallow and well drained. Textures are gravelly clay loams to loams and have lime in the profile. Water intake rates are moderate to slow. Available water capacity is low. Runoff is medium to rapid depending on slope gradients. The creosote sites contain soils that are deep, formed in alluvium from mixed sources. Textures are fine to sand, moderately coarse sands, and are well drained to excessively drained. Water intake rates are rapid. Available water capcity is very low to low

Heavy utilization year after year reduces the amount of surface ground cover litter and vegetation. Continuous grazing especially during the critical growth period will not improve vegetative composition or cover to maintain upland or riparian watershed conditions. In addition, deterioration of range conditions can result and eventually undesirable ecological condition.

Conclusion: Standard not achieved.
Existing grazing management and levels of grazing use on the public lands within the Henrie Complex allotment are significant factors in failing to achieve this standard. Changes in grazing management will be implemented no later than the start of the next grazing year: Refer to the Technical Recommendation section of the evaluation for those proposed actions or practices to be applied to ensure significant progress toward fulfillment of the standards and toward conformance with the guidelines.

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)."

Findings:
The current canopy and ground cover, including litter, and live vegetation are not appropriate to the potential of the ecological sites in the allotment. The reduction in composition and production of the vegetative cummunity components as indicated by early seral stage also causes a reduction in the amount of cover needed to protect and maintain the watershed soils. This coupled with continuous heavy utilization year after year also reduces the amount of ground cover litter thus reducing the capability of the watershed to maintain ecological processes.

Meadow Valley Wash is 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.

Conclusion: Standard not Achieved
Existing grazing management and levels of grazing use on the public lands within the Henrie Complex allotment are significant factors in failing to achieve this standard. Changes in grazing management will be implemented no later than the start of the next grazing year: Refer to the Technical Recommendation section of the evaluation for those proposed actions or practices to be applied to ensure significant progress toward fulfillment of the standards and toward conformance with the guidelines.

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."

Findings:
Vegetative composition and vegetative productivity of plant species has changed and has been reduced as indicated by the early seral stage of the majority of the key areas. This is due primarily to a lack of key perennial species present in the plant community. Grazing use by cattle and wild horses has concentrated on the principal use areas which make up approximately 8% of the allotment. This concentrated use has contributed to over utilization and plant degradation in the principal use areas. This allotment's forage base is made up of 80 percent blackbrush communities that produce little or no perennial grasses which have

been replaced by only small amounts of annual forage. The replaced forage is less palatable to livestock, wildlife, and wild horses. As a result of the reduction in plant productivity and composition, protection of the watershed has been reduced. Vegetative community trend is showing static or downward trend at all key areas within the allotment.

The riparian area and floodplain associated with Meadow Valley Wash is in a degraded condition and receiving severe use on an annual basis.

Allowable utilization levels have been exceeded within desert tortoise habitat. Yearlong grazing is impacting desert tortoise habitat by limiting available forage for the desert tortoise during critical periods of the year.

Habitats and watersheds currently do not sustain a level of biodiversity appropriate for the area and conducive to appropriate uses.

Conclusion: Standard not Achieved
Existing grazing management and levels of grazing use on the public lands within the Henrie Complex allotment are significant factors in failing to achieve this standard. Changes in grazing management will be implemented no later than the start of the next grazing year: Refer to the Technical Recommendation section of the evaluation for those proposed actions or practices to be applied to ensure significant progress toward fulfillment of the standards and toward conformance with the guidelines.

Allotment Specific Objectives:

Allotment Specific Objectives are referred to by number from III. C., and Appendix VI. 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 and II).

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 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:

Objective Met

Rationale: No allotment specific studies are currently being used to monitor deer use. Use pattern mapping within the areas known to be used by muledeer is showing slight to severe use with the majority of the areas being slightly used.

(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.

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.
- Wilderness Study Area limitations pertaining to livestock management facility needs.
- Threatened and Endangered Species habitat.
- Lack of adequate livestock management.

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.

   Guideline: This management action is related to Guidelines 1.1, 1.2, 1.4, 2.3, 2.4, 3.3, 3.4, 3.5, and 3.6 These guidelines will be applied to achieve the standards for multiple use.

   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 and yearlong 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 late summer months need adequate rest from grazing pressure to allow for seed dissemination. Without the rest, range condition will continue to 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 Prescription 1 desert tortoise habitat in the southeast corner of the allotment (below Paint Mine Canyon) is closed to grazing from March 1 to June 14 as identified in 1/31/92 Full Force and Effect Grazing Decision.

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.

Guideline: This management action is related to Guidelines 1.1, 1.2, 1.4, 2.3, 2.4, 3.3, 3.4, 3.5, and 3.6. These guidelines will be applied to achieve the standards for multiple use.

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 repeatedly using the same forage in the same areas.

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

Guideline: This management action is related to Guideline 3.3. This guideline will be applied to achieve the standards for multiple use.

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, fencing, 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 permittee 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 (refer to Map #8 in Appendix IV).

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 an increased level of intensive management by the permittees., as it would require the Lewis cattle be closely managed to keep them on the east side of the Wash.

4. Cancel 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.

Guideline: This management action is related to Guidelines 1.1, 2.3, 2.4, 3.3, and 3.5. These guidelines will be applied to achieve the standards for multiple use.

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

Guideline: This management action is related to Guideline 3.3. This guideline will be applied to achieve the standards for multiple use.

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 rate calculations are located in Appendix III. Two options exist for the establishment of an AML for the Meadow Valley Mountains HMA.

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

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

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 rate calculations (Appendix III). All AUMs identified within the desired stocking rate calculations will be allocated for livestock use.

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.

The stocking rate 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.

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

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

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.

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.

Guideline: This management action is related to Guidelines 1.1, 2.3, and 3.4. These guidelines will be applied to achieve the standards for multiple use.

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.

Guideline: The above management actions are related to Guidelines 1.3, 2.5, and 3.7. These guidelines will be applied to achieve the standards for multiple use.

4. Change the selective management category from Maintenance (M) to Improve (I).

Guideline: This management action is related to Guideline 3.9. This guideline will be applied to achieve the standards for multiple use.

The Maintenance category, by definition means the range condition is satisfactory. The Improve category means the present range condition is unsatisfactory. This evaluation has clearly shown that the latter is true for the Henrie Complex.

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

VII. Consultations and Coordination

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, J.D.L.R. Ranch

A. Public Comments Based on Draft Evaluation Review

NEV. DIV. OF AGRICULTURE:

1. Applying Standards & Guidelines to Evaluation in Relation to Allotment Objectives

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, 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. If allotment specific objectives are not being met, then the Mojave-Southern Great Basin Area RAC Standards and Guidelines are not being met.

References to each appropriate Standard and Guideline as it pertains to the allotment specific short and long term objectives has been addressed within Section III. C. of this evaluation.

2. Utilization by HMA

Utilization was not broken out by HMA for this evaluation. Overall, the majority of the horse use occurred on the Meadow Valley Mountains HMA, as it has the largest

horse population. Use on the Blue Nose Peak and Mormon Mountain HMAs is primarily associated with the same areas as the livestock so it is difficult to identify use levels by specific grazing animal. By viewing the use pattern maps in Appendix VII, one can observe the general locations of grazing use within each of the HMAs.

3. Meeting of Utilization Objectives vs Problem Areas

The goal of the management of any allotment is to achieve or meet the allotment's identified objectives. The Henrie Complex is an area where the initial allotment objectives are easily achieved based on the fact that the key areas used to monitor the management of the allotment are established outside of the primary use areas for livestock and wild horses. These areas are 2 1/2 or more miles from water and the grazing animals do not use these sites until the forage around the water sources and easily accessed areas are receiving heavy to severe use. The current livestock management on the allotment does not involve the moving of the cattle to light use areas and hauling water to support these moves. In doing this, it would help to alleviate these problem areas but would not eliminate them based on the current management.

The current limited water availability within the allotment hampers wild horse management as the horses are dependent on specific portions of the HMAs due to available water, similar to that of the current livestock management. The horses tend to remain in principle use areas and contribute to the heavy and severe utilization. Movement out of these areas does occur when ephemeral water (snow, rains, etc.) is available in the outlying areas.

COMMISSION FOR THE PRESERVATION OF WILD HORSES:

1. RPS Commitment to Development of 5 HMAs to Consolidate Small HMAs and Adjustment AMLs (Pg 2)

The Caliente Rangeland Program Summary (RPS) does not identify the number of HMAs to be managed for within the Caliente Field Station area. The Caliente Environmental Impact Statement (EIS) for Livestock Grazing Management proposed 6 HMAs and removal of all wild horses outside of these areas. The Caliente Management Framework Plan (MFP) Step-3 Decisions were to manage for 12 HMAs and manage for current estimated numbers based on the current census (FY81). These Step-3 Decisions were approved by the Nevada State Director on 11/12/81 and were confirmed by the BLM Director on 02/26/82.

2. Need to Express Ephemeral and Ephemeral/Perennial Vegetation Communities Data in Text of Eval. (Pg 5)

Information pertaining to ephemeral and ephemeral/perennial communities has been

added to the text of the evaluation in the allotment profile and range survey sections. This information is compiled from the range survey that was conducted in 1977 for the Caliente Grazing Management EIS.

3. Actual Use of Livestock in 1995 When Identified as Closed to Livestock Due to Drought and Dying Horses (Pg 8)

The west half of the Henrie Complex containing the Meadow Valley Mountains HMA was closed to livestock grazing in 1996 due to drought conditions. This area had been closed to livestock grazing since 1993 due to wildfire. It was scheduled to be opened in 1995 to livestock grazing based on the attainment of fire rehab objectives but the opening of the area was delayed due to appeal of the grazing decision necessary to reopen the area. The fire area was opened in 1996 following a out-of-court agreement (settlement) with the appellant and the BLM.

A small amount of livestock use (approximately 600 AUMs) was authorized on the eastern half of the allotment in 1996. Wild horses were removed from the Meadow Valley Mountains HMA due to drought conditions in 1996. No other portions of the Henrie Complex were affected by these emergency actions.

4. Ephemeral Portion of HMA as Found in Original Grazing Environmental Statement (EIS) (Pg 16)

The Caliente Grazing Management EIS does not specifically address the ephemeral vegetation portions of allotments and HMAs in specific terms. It does supply information on plant community size based on acreage and percentage of the allotment. This information as it pertains to the Henrie Complex can be found in the range survey portion of the evaluation.

5. Inclusion of USFWS Biological Opinion

The USFWS Biological Opinion is too large of a document to be included with the evaluation. A copy of this document can be received from the USFWS or the BLM.

RECOMMENDATIONS

Supports AML of 0 Based on Lack of Adequate Water and Perennial Forage - Action is Consistent with Preferred Alternative in EIS

Supports Season of Use Adjustment for Livestock

LINCOLN COUNTY COMMISSIONERS (REY FLAKE):

1. Inclusion of Use Pattern Maps - Where, How Mapped

Use pattern maps for the Henrie Complex have been included within Appendix VII. The use mapping was conducted within the principal use areas for both wild horses and livestock within the allotment. All key areas were observed and use documented. During use pattern mapping, all use zones were identified and mapped along the area transversed. The use pattern mapping was conducted in accordance with the Nevada Rangeland Monitoring Handbook procedure.

2. Failed to Distinguish Between Livestock vs Wild Horse Use

Separation of use between livestock and wild horses was based on actual use for this evaluation. A combined total of all the AUMs used within the allotment was used in the determining of the stocking levels and future stocking levels. Both livestock and horses move freely through the allotment and it would be very difficult to determine forage utilization by forage species made specifically by livestock or wild horses.

3. Why KA's 5-7 Were Established in 1997 (Pg 13)

Key Area #5 was established in 1994 to monitor utilization within the upland (floodplain) associated with Meadow Valley Wash. This area receives heavy livestock pressure (documented severe use) due to adjacent water sources.

Key Area #6 was established in 1997 to monitor utilization on big galleta on the east side of the allotment. This area was selected based on existing grazing patterns as documented through use pattern mapping and is within 1 1/2 miles of a water source. This site will document utilization and trend within Prescription 2 desert tortoise habitat.

Key Area #7 was established in 1997 to monitor utilization on Indian ricegrass and big galleta on the northern portion of Vigo Canyon. This site was selected based on current grazing patterns and its proximity to a water source (1 1/2 miles). This area is within the principal use area for the wild horse herd within the Meadow Valley Mountains HMA, within Prescription 2 desert tortoise habitat, and also receives grazing pressure from livestock.

All three of these key areas were established to monitor the areas of the Henrie Complex that are representative of the current grazing patterns within the allotment and associated HMAs. All three of the areas are within 1 1/2 miles from water sources where as key areas #1-4 are from 2 1/2 to 4 miles from water and receive limited grazing pressure due to the long distances from water.

4. None of the 4 KA's Established Long Enough to Give Useable Data Show Unacceptable Use (Table 10, Pg 44)

Key areas #1-4 were established in 1981-82 to facilitate the monitoring of the Henrie and Morrison-Wengert allotments. Each of these key areas were established 2 1/2 to 4 miles from available water sources thus receive no use to slight use on the average year. These areas are only representative of existing grazing use when ephemeral water is available (snow, rain puddles, collected water in Averett reservoir, etc.) or water is hauled to support the livestock. They are used as a last resort when the other more accessible areas are receiving heavy and severe use. Of the four areas, key area #2 receives the highest use levels (varies from slight to severe, depending on the key species and year) as it is in proximity to Averett Reservoir (2 1/2 miles) and on the northern portion of the wild horse principal use area.

Though these areas show acceptable use levels, they are in early seral stage based on the potential natural community (PNC). With the exception of purple three-awn (KA #2 and #3), the key forage species for each of the sites make up significantly low percentage of the community (trace to 6%). Even with documented acceptable use levels, the key forage species have not responded by increasing their percentages of the communities. Though purple three-awn shows a larger percentage of community, this species is not a desirable forage plant for livestock and wild horses except during early growth when the forage is green. Generally, purple three-awn shows no use or only slight use by grazing animals at the key areas monitored. The more desirable grasses (galleta, ricegrass, squirreltail) generally receive much higher use levels (moderate to severe use categories) when the areas are grazed by livestock and wild horses.

5. Problem Appears to Be One of Distribution of Livestock and Horses Rather than Overuse

Based on the existing information, the overall problem is a combination of animal numbers, season of use, livestock management, inadequate distribution due to limited water and forage, and wild horse use. The principal parts of the combination that appear to be leading to the problem is lack of water and forage, wild horse use, and livestock management. The lack of water distribution has led the livestock and wild horses to be dependent on only a few locations, which has led to over utilization and plant degradation within the areas supported by the waters.

Grazing use by cattle and wild horses has concentrated on the principal use areas which make up approximately 8% of the allotment. This concentrated use has contributed to over utilization ansd plant degradation. This allotment's forage base is made up of 80 percent blackbrush communities that produce little or no perennial grasses and generally, only small amounts of annual forage (red brome and cheatgrass). The most productive areas, which appear to be creosote and rabbitbrush

communities, make up approximately 8 percent of the allotment. The rabbitbrush community is located where the riparian and upland floodplain communities should be. This community supports several perennial grass species (primarily Indian ricegrass, sand dropseed, bottlebrush squirreltail, and big galleta) in very small amounts due to severe over-utilization and the degraded condition of the community. Livestock tend to use this community on a yearlong basis.

The creosote community supports the only perennial grass (big galleta and small amounts of Indian ricegrass) outside of burned areas and the rabbitbrush communities. These small communities are located within the larger blackbrush communities and adjacent to the rabbitbrush communities along Meadow Valley Wash. These communities can not support yearlong use by the current livestock numbers as well as a wild horse population. The current yearlong grazing by livestock and wild horses is not allowing the big galleta and other grasses to produce seed each year due to being grazed before the process can be finished. This is degrading these communities.

Portions of the blackbrush community has been burned by wild fire and man-caused fire creating open areas within the blackbrush. These burned areas are re-establishing into a purple three-awn and snakeweed community. Though, the burned areas contain purple three-awn in large amounts, this species is not a desirable forage plant for livestock and wild horses except during early growth when the forage is green. Generally, purple three-awn shows no use or only slight use by grazing animals while the more desirable grasses (galleta, ricegrass, squirreltail) generally receive much higher use levels (moderate to severe use categories).

Wild horse management within the Henrie Complex was minimal prior to 1993 when intensive monitoring began within the allotment. A man-caused fire burned a significant portion of the Meadow Valley Mountain HMA, resulting in the removal of 86 horses from the HMA. During the summer of 1996, an additional 39 horses were removed due to drought conditions within the HMA. Based on the existing information pertaining to the allotment and associated HMAs, management will be directed towards managing for zero wild horses within the Henrie Complex based on the current forage and water availability.

The current livestock management is basically a wild cow operation, where the cattle are allowed to move from area to area as they wish. They are not moved from areas that are receiving higher use levels. Very little initiative has been taken to haul water to various locations to take advantage of the burned areas or areas that have some form of perennial forage other than blackbrush and rabbitbrush. The livestock are essentially fending for themselves in the areas associated with the water sources.

LINCOLN COUNTY PUBLIC LANDS COMMISSION (JULE WADSWORTH):

1. Inclusion of Use Pattern Maps

Use pattern maps for the Henrie Complex have been included within Appendix VII.

2. Evaluation of Standards and Guidelines like LUP Objectives

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, 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. If allotment specific objectives are not being met, then the Mojave-Southern Great Basin Area RAC Standards and Guidelines are not being met.

References to each appropriate Standard and Guideline as it pertains to the allotment specific short and long term objectives has been addressed within Section III. C. of this evaluation. As stated above, if the allotment specific objectives are being met, then the Mojave-Southern Great Basin Area RAC Standards and Guidelines are being met.

3. How Use Pattern Mapping Was Conducted

The use mapping was conducted within the principal use areas for both wild horses and livestock within the allotment. All key areas were observed and use documented. Mapping utilization patterns involves transversing the management unit to document use patterns. Use pattern mapping was conducted in accordance with the Nevada Rangeland Monitoring Handbook procedures.

4. Fire History

Based on the fire information available for this evaluation, the fire cycle for this area is approximately 40-50 years. A large fire scar (approximately 35,000 acres) exists on the west side of the allotment along the Meadow Valley Mountains. This fire is believed to have occurred in the early 1950's. A large portion (over 21,000 acres) of this fire reburned in 1993 due to a man-caused event.

The best available data shows that this allotment has had 37 fires since 1980. Sixteen of these fires were caused by lightning and varied in size from less than 1 acre to 2000 acres (ten of these fires are less than 10 acres in size). Twenty-one fires were man-caused and ranged from less than 1 acre to 21,686 acres (twelve of these fires are less than 10 acres in size).

Based on this information and the locations of these fires, it appears that a majority of the fires are occurring on areas that burned previously due to the presence of annual grasses and forbs that established on the burn scars. With the increase of annual grasses, primarily red brome, the likelihood of larger fires is reasonably high.

5. Percent Use by Cattle

See answer to comment #2 for the Lincoln County Commissioners (Rey Flake).

6. Percent Use by Wild Horses

See answer to comment #2 for the Lincoln County Commissioners (Rey Flake).

7. Weighted Average Stocking Rate Calculation based on Use Pattern Mapping Information.

Lincoln County Public Lands Commission presented a weighted average calculation to determine a potential stocking rate for the Henrie Complex. A potential stocking rate is the level of use that could be achieved on a management unit, at the desired utilization figure, assuming utilization patterns could be completely uniform. Potential stocking levels are most useful when assessing the benefits of improved distribution and changes in numbers of livestock. For example, a pasture or unit of land would have to exhibit uniform production, water distribution, topography in order to have uniform livestock distribution patterns.

In the case of the Henrie Complex, it is not possible to assume that utilization throughout the allotment is uniform. The Henrie Complex has too many variables that cause the utilization to be non-uniform such as extensive areas of low production (i.e. blackbrush), limited water, topography, and the lack of livestock management. Grazing on this allotment is dependent on extensive utilization in Vigo Canyon and Meadow Valley Wash. A desired stocking rate is more appropriate for determining stocking levels for the allotment. The calculation of a desired stocking level depends on the assumption that management, specifically utilization patterns, will not change following a change in the stocking level.

The calculation of a desired stocking level also depends on the identification of a key management area. A key management area is an area of land that influences or limits the use of the land surrounding it. Examples of key management areas could be riparian, wetland, or meadow areas surrounded by uplands. Maintaining proper use on the meadow could cause low utilization on the uplands. A key management area is the key area that overrides the indicators of the other key areas within the management unit. Management actions are based on the key management area. Vigo Canyon and Meadow Valley Wash combined together is the key management area within the Henrie Complex. The management of the remainder of the allotment is dependent on

the management of this area. Based on this information, the stocking rate calculations in the evaluation are appropriate.

BRYANT ROBISON, MANAGER OF J.D.L.R (Under Purchase Contract to Buy Kevin Olson's Base Property and Associated Grazing Privileges):

1. Drastic Reduction in AUMs Is Completely Unwarranted - Understood There Would Be a Slight, Temporary Reduction in AUMs.

Based on the current conditions of the allotment and present management, the changes recommended for this allotment and associated HMAs is warranted. If the current livestock numbers are allowed to remain on the allotment for the yearlong period, the forage plants will continue to be severely impacted. The appropriate management action is to implement the necessary changes and then reanalyze the allotment after a period of operation under the new management.

All discussions between the BLM staff and Mr. Robison identified the need to make a significant reduction in livestock and wild horse numbers and change the season of use for the allotment. These changes were deemed critical to the achievement of the allotment's management objectives and would be implemented as quickly as possible.

2. Disagree with the Short Term Recommendation to Limit Period of Use to Six Months.

The current year-round season of use 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.

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 cool season perennial grasses (Indian ricegrass, squirreltail, *Stipa* spp.) found within the Henrie Complex will also benefit from the 6 month use period by being able to have regrowth occur in late spring period after the livestock leave the allotment.

The Caliente Grazing Environmental Impact Statement (EIS) proposed a season of use for this area of 11/01-04/30. This season of use will place the Henrie Complex into similar, more suitable use periods as neighboring desert allotments.

This shorter use period should have a beneficial impact on the wildlife species, especially the T&E species, that are known to exist on the allotment by reducing competition during the late spring and early fall months.

NEVADA DIVISION OF WILDLIFE - REGION III

1. Opposed to the Use of "Reasonable Numbers" of Wildlife (Pg. 3, Sect C, #1).

The reasonable number levels were the best attempt at the time during the planning process to get an estimate of big game use in an average year. The reasonable number is a starting point that can be adjusted up or down based on monitoring data.

2. Change Nesting Season for Southwest Willow Flycatcher From "May through July" to "May through August" (Pg 4).

The nesting period has been changed to identify the appropriate nesting period. At the time of the draft this was the best information available for the nesting period for the southwest willow flycatcher.

3. Is "Completing Spring Improvement at Hackberry Spring to allow for Water Availability at the Source for Desert Bighorn Sheep" a Requirement or an Option for the Water Rights Holder?

This modification of an existing range improvement is an option for the water right holder to cooperate with the BLM to supply water at the source for desert bighorn sheep. The BLM wildlife biologist and range management specialist will review the potential of the project and discuss the project with the permittees on the Henrie Complex.

4. Recommended that "Monitoring for Parasitism by Brown-headed Cowbirds" be added to Additional Monitoring Required Section (Pg 25, Section C).

This type of monitoring is outside the scope of the monitoring completed by the BLM. The BLM will assist the appropriate agency (NDOW, USFWS) in the collection of this data but will not conduct the studies.

5. Delineate Potential Elk Habitat within the Northern Meadow Valley Mountains as Identified in the Lincoln County Elk Plan.

Based on the information provided by the Caliente Wildlife Biologist (core team member on the Lincoln Co. Elk Plan), the area identified for potential elk habitat is outside of the Henrie Complex. It is unlikely that elk could establish themselves in this area due to the lack of reliable water and forage sources.

KEVIN OLSON - PERMITTEE ON HENRIE COMPLEX

1. The BLM proposed changes would put me out of business. The season of use would end my business since there isn't anywhere else to go and it is only a matter of time until BLM cuts the Clover Creek (Cottonwood Allotment). A 160-head, 6-month permit wouldn't be worth running, since it costs more to run it than I would be able to get from that size herd.

It is not intention of the BLM to put an operator "out of business" while conducting an allotment evaluation. Based on the existing data and condition of the allotment's forage, the existing management is not meeting the allotment management objectives. The current yearlong use and active preference does not allow for the achievement of management objectives.

2. I do not agree with the 6-month season of use. Anything but a year-long season of use would put me out of business.

The current year-round season of use 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. The severe use patterns associated with Meadow Valley Wash and its floodplain, Vigo Canyon, and Hackberry Canyon are due to limited water distribution resulting in the animals concentrating in these areas.

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. Portions of the Henrie Complex (Vigo Canyon) is degraded due to continuous yearlong grazing by wild horses and livestock.

The cool season perennial grasses (Indian ricegrass, squirreltail, and *Stipa* spp.) found within the Henrie Complex will also benefit from the 6 month use period by being able to have regrowth occur in late spring after the livestock leave the allotment.

The Caliente Grazing Environmental Impact Statement (EIS) proposed a season of use for this area of 11/01-04/30. This season of use will place the Henrie Complex into similar use periods as the neighboring desert allotments.

This shorter use period should have a beneficial impact on the wildlife species, especially the T&E species, that are known to exist on the allotment by reducing competition during the late spring and early fall months.

3. The proposal to run both permittees on a rotation basis allows Robert Lewis to run on the former Morrison-Wengert allotment which he has no legal right to do and never has. Robert Lewis has not spent any money on the allotment, nor has he done any work. If I put money and time into making my permit work, he gets the benefit.

The allotment evaluation presented two options for grazing use areas on the allotment. A grazing system will be established through the allotment evaluation based on range condition, forage availability (plant phenology), and management facilities and not necessarily on past management practices or areas of use. The primary purpose of a grazing system is to achieve or progress towards achieving the standards and multiple use management objectives for the allotment. The grazing permittees are encouraged to present an option that they both agree on and will achieve or progress towards achieving the standards and multiple use objectives for the allotment. Where permittees grazing in common on an allotment cannot agree and work together, the Bureau will establish a grazing system based on the ability of the system to achieve standards and not necessarily on the ability of the permittees to get along with each other.

4. I agree with keeping cows off the creek (Meadow Valley Wash). A fence for the east side of the creek would be necessary from the Jensen's Ranch to Leith (about 6 miles) and tied into the railroad fence. If the BLM supplies the materials I will install and maintain the fence. This will keep the cows off the creek. The fence would need to be situated so that cows wouldn't get cut off due to steep slopes.

   A cattleguard would have to be installed at both ends of the fenceline to keep cows out of the riparian. My cows can jump a normal cattleguard, so they would have to be double-deep.

   Maybe in the future if it was decided that there was enough feed in the bottom (Meadow Valley Wash), we could use it as a limited use pasture.

The fencing of the upper portion of Meadow Valley Wash could have beneficial results to the riparian area and adjacent floodplain. It is unknown how long it will take or to what extent that the improvement will be. This area is severely degraded due to livestock grazing, railroad activity, and dewatering of the Wash for farming practices. The riparian zone may never fully recover, but with some form of management, it improves the possibility.

The floodplain adjacent to the Wash should show the most improvement due to fencing the area. This area receives yearlong use by livestock and the perennial forage plants show very poor vigor. The elimination of grazing will allow these plants to reproduce and store critical root reserves.

5. The use in the Hackberry and Vigo Canyons has been made mostly by horses. A few of my cows drift in there but don't usually stay. The condition of those areas may be permanently altered, but perhaps could show improvement in about five years or so.

The Hackberry and Vigo Canyon area is the principal use area for the wild horses within the Meadow Valley Mountain HMA. The horses tend to concentrate the majority of their use within this area on a yearlong basis. The horses appear to only leave this area when ephemeral water is available outside of this area and when they have grazed out the available forage.

During the monitoring trips to this area, livestock sign was observed on all areas. It is unknown how many animals were using the area but fresh sign of the animals was common on the area.

The current yearlong use by livestock and wild horses has degraded this area. The available perennial forage plants (big galleta and Indian ricegrass) are very small in size and show low plant vigor. These plants are routinely grazed in the heavy to severe use category and are seldom ever allowed to complete reproduction. This has contributed to the degradation of the area. It is unknown how long it will take to improve this area if it can be improved.

6. The horses don't typically graze up by the Averett Reservoir.

Based on the available information and staff observations, wild horses generally do not use the area around Averett Reservoir. The major reason for this lack of use, is that the reservoir generally doesn't hold water for long periods of time and the forage is not as palatable as in the Vigo area. The horses and livestock generally rely on annual forage (red brome and cheatgrass) when using this area.

7. Water availability needs to be increased on both sides of the allotment. Right now I have a water lot on the west side. More water lots could be developed on both sides off the existing pipeline.

Water availability and distribution is extremely limited within the Henrie Complex. Water is currently available at 3 locations along a pipeline that ends at the Jensen Ranch, a trough on private ground at Carp Ranch, Meadow Valley Wash south of the Carp Ranch, Hackberry Spring, and Cherokee water haul. Though they appear to be a fair amount of sources, all are distributed along the center of the allotment and do not encourage livestock to venture away from the wash. This has resulted in concentrated livestock use within Meadow Valley Wash as shown on the use pattern maps.

Increasing the water availability within the allotment will aid in distributing the livestock use. It will help to relieve some of the severe use patterns within Meadow

Valley Wash and Vigo Canyon by moving the use into the burned blackbrush areas where the livestock are not making any use at the current time.

8. At least three water hauls are needed on top. One water haul on the "Tule" side (east) would service the area next to Newby's permit.

See answer to comment #7 above. Proposals for water haul sites by the permitees will be evaluated and processed as possible, given constraints by desert tortoise habitat objectives, state water laws, etc.

9. The railroad gaps need to be fenced.

The fencing under the railroad trestles will help to control the use on Meadow Valley Wash as well as control use within the Prescription 1 desert tortoise habitat. By fencing these areas, the livestock could be controlled in areas where they can graze by controlling their access to water.

10. I own the water rights to Hackberry Springs.

It is believed that Mr. Olson is referring to having water available to wild horses and wildlife with this statement. If he quits maintaining the spring sources and/or shuts the troughs off, the wild horses within the HMA would be further impacted by losing these water sources. This would further limit the area of utilization and use limits by horses and livestock.

11. I propose to install these improvements and initiate a five-year program to reanalyze the grazing after these improvement are made. If conditions have improved, we move on. If not, then discuss needed changes.

Based on the current conditions of the allotment and present management, the changes recommended for this allotment as presented in the evaluation for both livestock use and wild horse use need to be implemented. The existing management is not meeting the allotment management objectives. The current yearlong use and active animal unit months does not allow for the achievement of management objectives.

Additional stocking levels above those presented in the evaluation could be authorized in those few areas where additional forage may be available on the allotment. Opportunities to increase stocking levels would be contingent upon improved and more intensive management practices to distribute and control livestock use in these areas. Management actions such as water hauling which could improve livestock distribution may allow for an increase in stocking levels. Any increase would be based on forage availability and allowable use levels in the immediate vicinity of the water haul site.

An allotment re-evaluation could be conducted after five years to determine if the changes in grazing practices and stocking levels are meeting or progressing towards meeting the standards for the allotments.

12. I would need about one year to put projects in place.

Any grazing use that could be authorized based upon construction of projects and water hauling as presented in #11 above would not be authorized until construction is completed and Range Improvement Permits or Cooperative Agreements are issued. The project planning process is currently a three-year process.

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 emphasized 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

LAND USE PLANNING OBJECTIVES TABLE

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT TERM OBJECTIVES
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HENRIE COMPLEX ALLOTMENT	
Range Management 1.0 Continue to manage grazing of domestic livestock on the Federal range for maximum yield of livestock forage in the Caliente Planning Unit.			OBJECTIVE 3.0 Improve water quality by achieving an 800 mg./L ceiling on total dissolved solids in waters draining into the Colorado River. (Decision: protect spring sources from animal wastes, trampling and wallowing.)	**HENRIE ALLOTMENT:** Maintain management, development, and project maintenance at a level which will provide 1950 for livestock; as well as maintaining the present satisfactory Resource Value Rating (RVR); and maintain a static or upward trend in ecological status. Ensure implementation of plans which will be project development and management specific; which also provides for maintenance of existing projects to achieve the objectices of this allotment. **MORRISON-WENGERT:** Continue management, and development at a level which will maintain forage production at 2210 AUMs for livestock on a sustained yield basis and sustain a downward trend in ecological status. Continue to permit rangeland improvement project development and maintenance which will achieve the objectives for this allotment.	Short Term: **HENRIE ALLOTMENT:** Key Area Objectives by 02/10/1984 Proposed Decision - Use levels set for KA1 Spring, Summer, Fall, and Winter: Nevada Ephedra: 30%, 50%, 50%, 50%; Big Galleta Grass: 50%, 50%, 60%, 60%; KA2 Spring Summer, Fall and Winter: Purple Three-awn grass: 30%, 50%, 50%, 50%; Nevada Ephedra: 30%, 50%, 50%, 50%. **MORRISON-WENGERT:** No key areas were established by decision in the 1980's. **HENRIE COMPLEX:** Allowable use levels and use periods per grazing prescription as identified in 1992 Full Force and Effect Grazing Decision for the Desert Tortoise. **Prescription 1:** 06/15-10/14 all perennial species ≤40%, 10/15-02/28 key perennial grasses ≤50%, key perennial shrubs and forbs ≤40%, and 03/01-06/14 no livestock use will be allowed during this period. **Prescription 2:** KA1 06/15-10/14 all perennial species ≤40%, 10/15-02/28 key perennial grasses ≤50%, key perennial shrubs and forbs ≤45%, and 03/01-06/14 all perennial species ≤40%.

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT TERM OBJECTIVES
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HENRIE COMPLEX ALLOTMENT	
Range Management 5.0 Obtain data on plant phenology and ephemeral range carrying capacity.					
Wildlife 1.0 Sponsor or conduct the research, studies, and inventories necessary to insure adequate data for decision-making relative to expansion, improvement, and maintenance of wildlife habitat.	#6 Assist the range activity in the development of AMPs and other means of grazing management on areas containing crucial wildlife habitat by providing basic data on the habitat requirements of wildlife. #7 Initiate studies to identify habitat condition and trend of crucial areas for endangered and other non-game species, areas of heavy competition among cattle, horses and wildlife, and gather other information which will aid in the mgmt. of this area.			Implement plans which will achieve habitat management objectives for the allotment by: providing riparian habitat protection at the water source; provide forage and habitat for desert tortoise; and manage crucial bighorn sheep habitat.	
Wildlife 2.0 Reestablish native fauna on historic range or use areas and increase species diversity and distribution of desired animals throughout a variety of habitat type in the Caliente Planning Unit.					

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT TERM OBJECTIVES
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HENRIE COMPLEX ALLOTMENT	
Wildlife 3.0 Provide sufficient quantity and quality of food, cover, and shelter to satisfy the demands of all species utilizing habitats in the planning unit though habitat improvement methods on 94,600 acres of terrestrial upland, 400 acres of riparian lands, and 50 miles of stream. Encourage species diversity by improving habitats through: developing 95 new waters, protecting 33 existing waters, modifying 6 spring fences and 35 miles of existing pasture fence, developing instream structures, improving riparian zones through plantings, and by removing excessive forage competitors in important wildlife use zones, thereby reducing limiting or discriminating factors affecting species populations and the habitat in which they live.	#2 Improve availability of already existing waters to wildlife by developing springs, installing bird ladders in livestock waters, etc. #4 Maintain or improve riparian habitat for small animals along the Meadow Valley wash and Clover Creek and near other water sources.	#1 Improve or maintain 76,250 acres to support viable population of 319-352 bighorn sheep in the Meadow Valley Range by the year 2020. Population estimates will be revised as necessary through monitoring. #2 Improve approximately 27,500 acres of habitat in the Meadow Valley Range from a weighted average of 146.3 points to a weighted average of 162 points by the construction of 2-6 slickrock catchments in the southern part of the range, including improvement or replacement of Tri-canyon catchment. Maintain approximately 36,050 acres of crucial habitat at a weighted average of 146.3 points. Maintain or improve approxiamtely 5,900 acres of current watered habitat around the Sunflower Mountain area at a weighted average of at least 156 points. #3 With the cooperation of the water right holder, improve approxiamtely 6,800 acres around Grapevine and Hackberry springs through spring improvement, from a weighted average of 129 points to 160 points.		**HENRIE ALLOTMENT:** Provide sufficient forage to sustain existing populations of and future reasonable numbers agreed to be 49 deer winter, 108 deer summer, and 90 bighorn yearlong. **MORRISON-WENGERT:** Provide sufficient forage to sustain existing populations of and future reasonable numbers agreed to be 50 deer yearlong and 75 bighorn yearlong.	

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT TERM OBJECTIVES
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HEANRIE COMPLEX ALLOTMENT	
Wildlife 4.0 Maintain through surveillance, acquisition, or management decision 3,413,706 acres of terrestrial habitat, 400 acres of riparian or pond habitat and 100 miles of aquatic stream habitat in order to maintain existing species populations until activity plans are developed to determine the degree/need to enhance, improve, or maintain present habitat conditions.					
Wild Horse 1.1 Manage wild horse and burro populations in those areas (Wild Horse and Burro Areas) where they existed at the passage of the Wild and Free-Roaming Horse and Burro Act (PL-92-125) on December 15, 1971.					

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HENRIE COMPLEX ALLOTMENT	TERM OBJECTIVES
Wild Horse 2.0 Obtain information on wild horses and burros in the eight proposed herd management areas through the use of inventories and studies.				**HENRIE ALLOTMENT:** Continue to manage wild horses in the recognized herd management areas at the time of the enactment of P.L. 92-195 in Dec. 1971. Provide forage for 33 wild horses in the Meadow Valley Mountain Herd Area. This allotment comprises 100% of the herd area. Develop the Meadow Valley Mountain HMAP. **MORRISON-WENGERT:** Continue to manage wild horses in the recognized herd management areas at the time of the enactment of P.L. 92-195 in Dec. 1971. Provide forage for 10 wild horses in the Blue Nose Peak Herd Area. This allotment comprises 77% of the herd area. Develop the Blue Nose Peak Mountain HMAP.	
Watershed 1.0 Construct small scale water control facilities on tributaries to the following major drainages: Clover Creek; Meadow Valley Wash though Panaca and Caliente; the White River Drainage above Crystal Springs and through Pahranagat Valley. Specific sites are to be determined after closer inspection on the ground.					

CALIENTE MFP III LAND USE PLAN	AREA WIDE OBJECTIVES			RANGELAND PROGRAM SUMMARY OBJECTIVES	LONG TERM SHORT
	BEAVER DAM HABITAT MANAGEMENT PLAN (HMP)	MEADOW VALLEY, ARROW CANYON, DELAMAR HMP FOR BIGHORN SHEEP	DRAFT NV. COLORADO RIVER BASIN SALINITY PROJECT	HENRIE COMPLEX ALLOTMENT	TERM OBJECTIVES
Watershed 2.0 Reduce flood and sediment damage occurring on watersheds in the planning unit.					

APPENDIX III

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.

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%)

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:

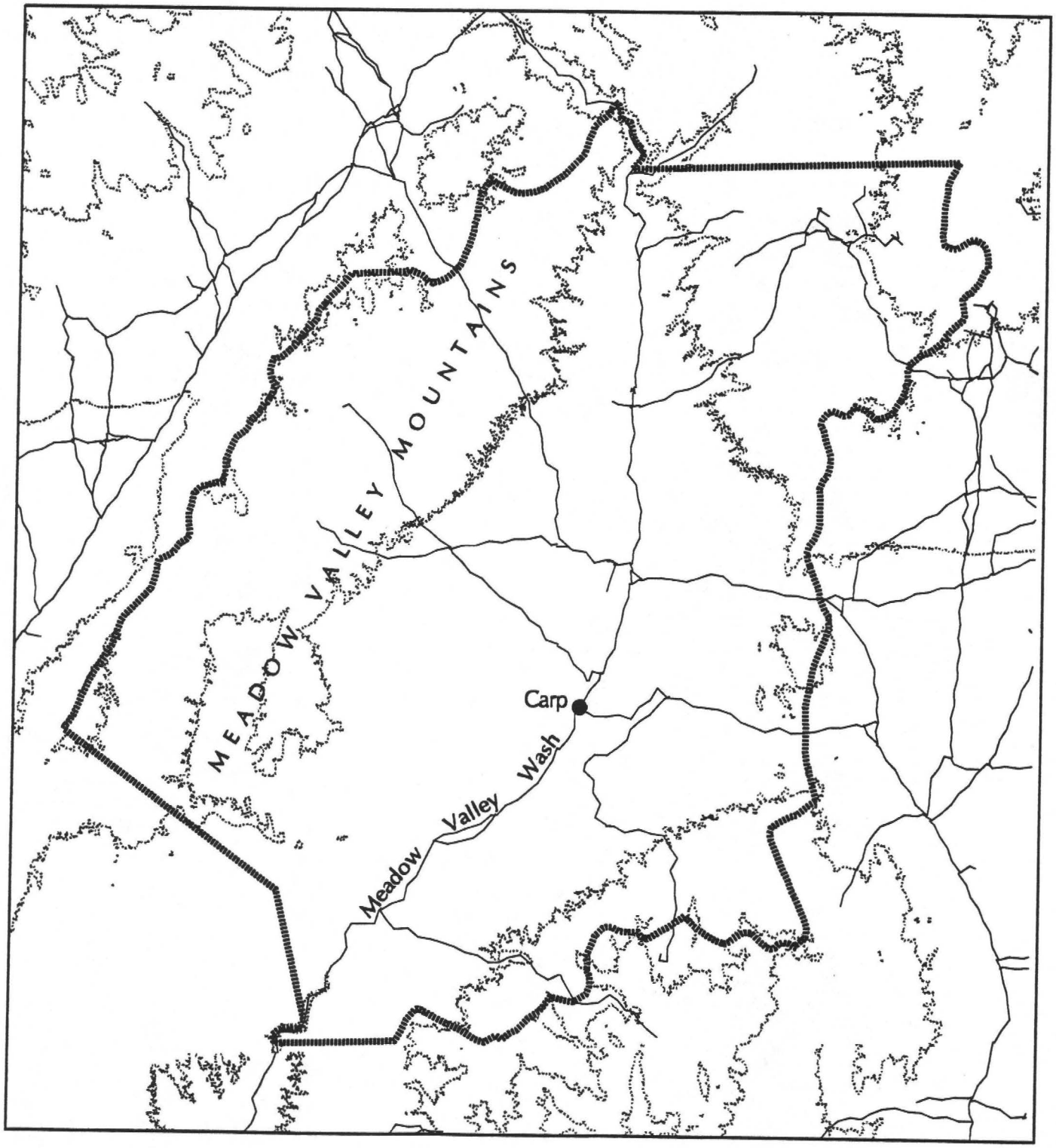
Kevin Olson (76.6%): 957 AUMs = 160 cows for 6 months.
Robert Lewis (23.4%): 292 AUMs = 49 cows for 6 months.

APPENDIX IV

HENRIE COMPLEX SPECIFIC MAPS

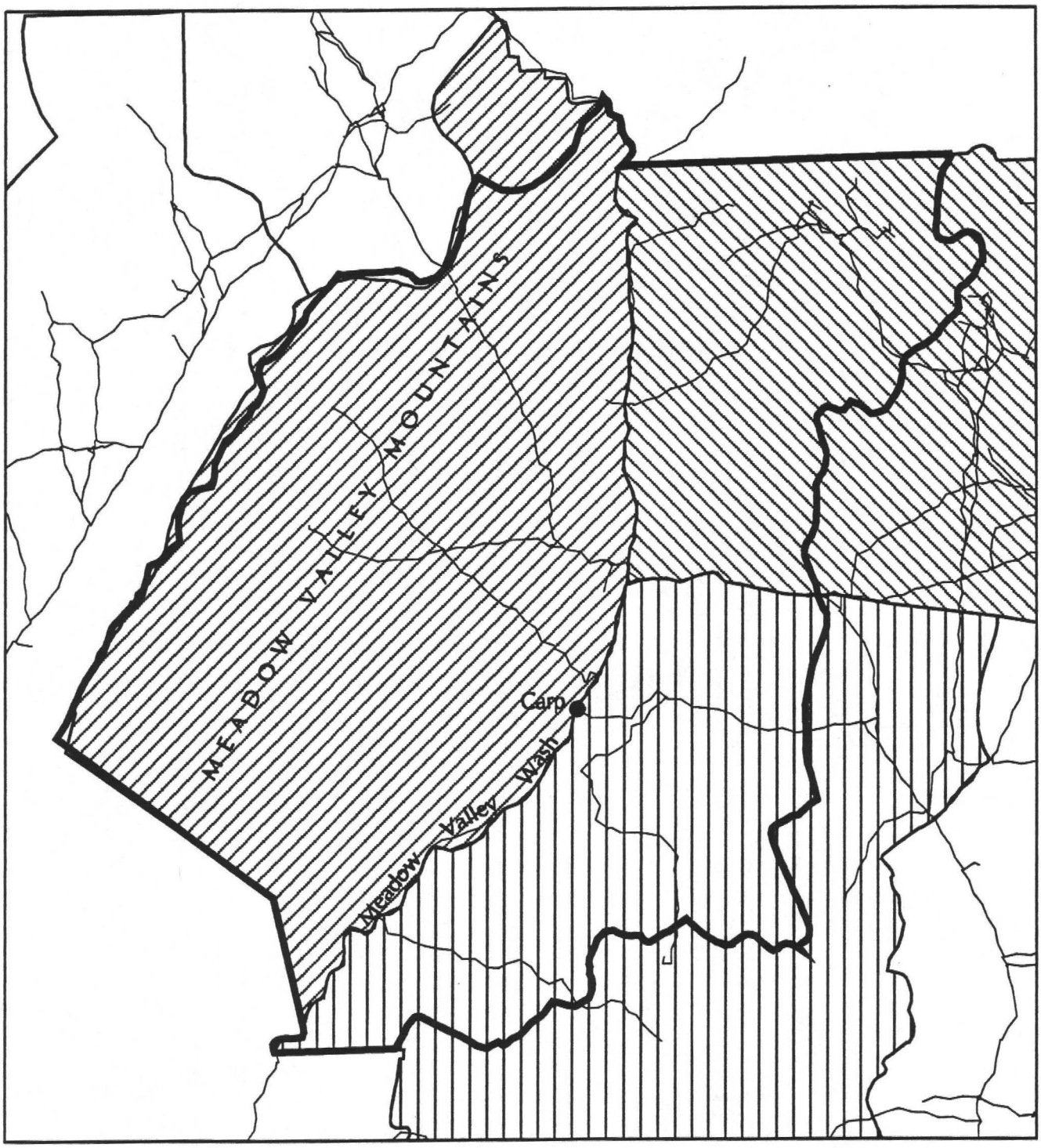
Map 1

HENRIE COMPLEX ALLOTMENT



MAP 2

WILD HORSE HMAS WITHIN THE HENRIE COMPLEX

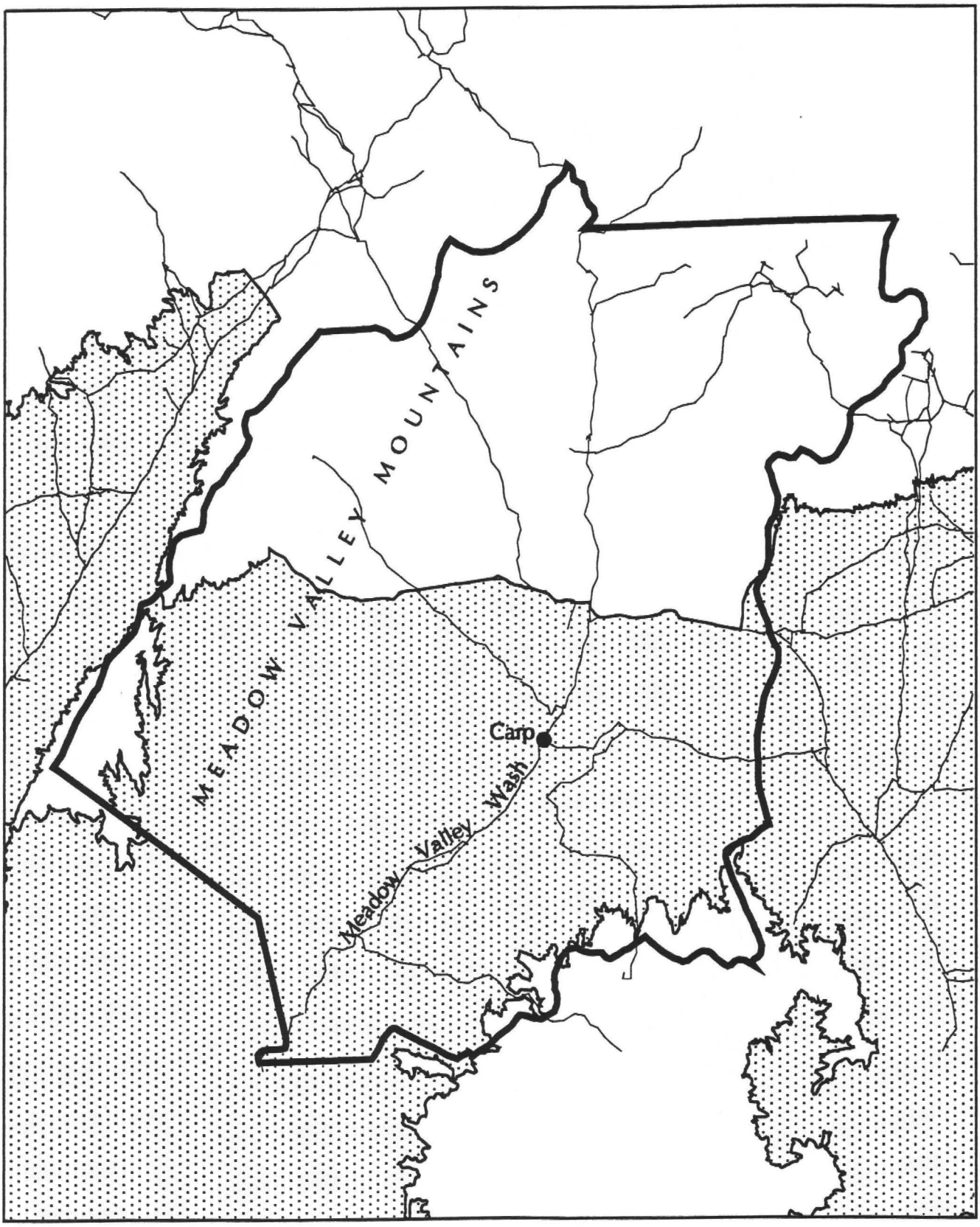


Blue Nose Peak HMA

Mormon Mountains HMA

Meadow Valley Mountains HMA

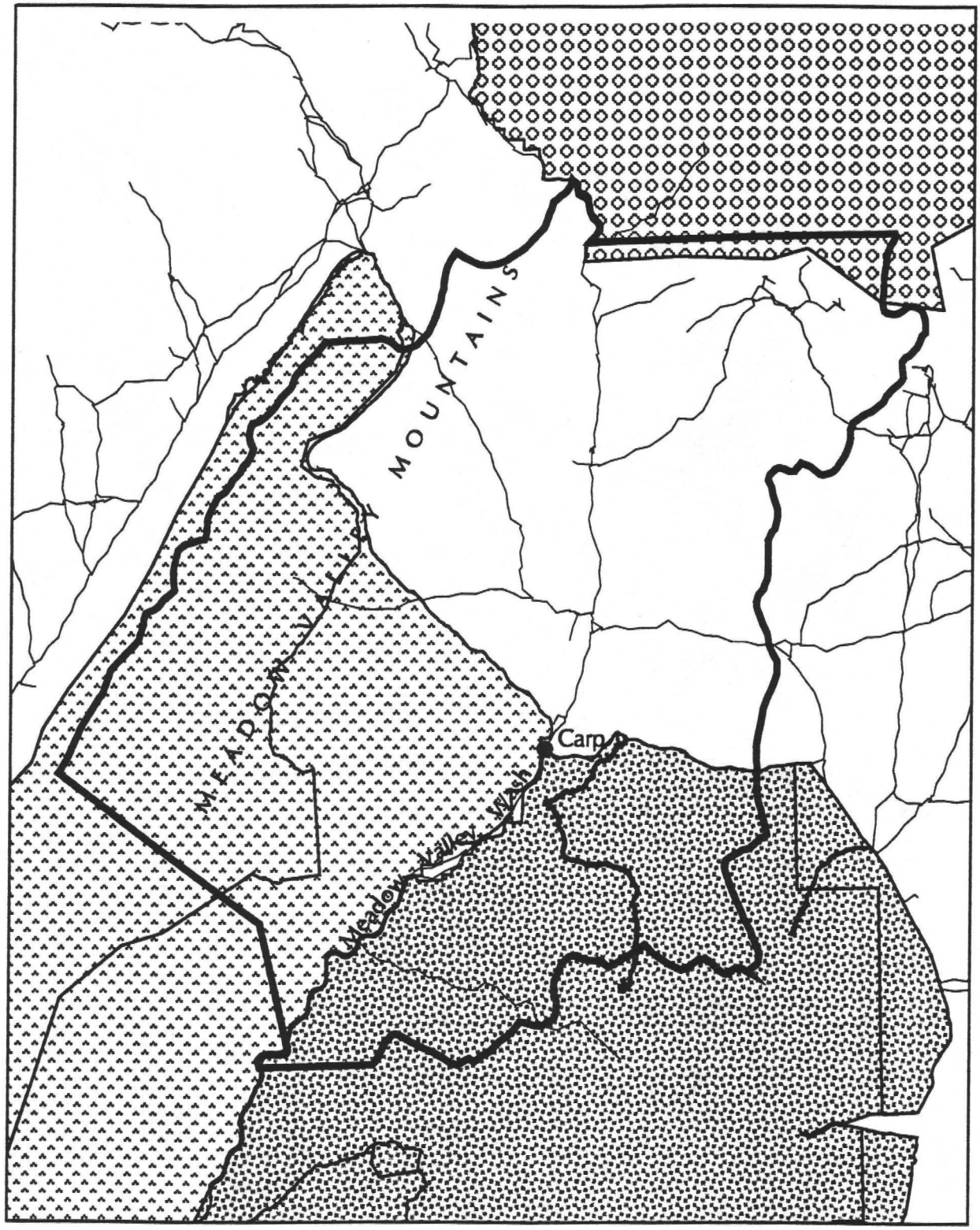
DESERT TORTOISE HABITAT WITHIN THE HENRIE COMPLEX



Desert Tortoise Habitat

WILDERNESS STUDY AREAS WITHIN THE HENRIE COMPLEX

Map 4

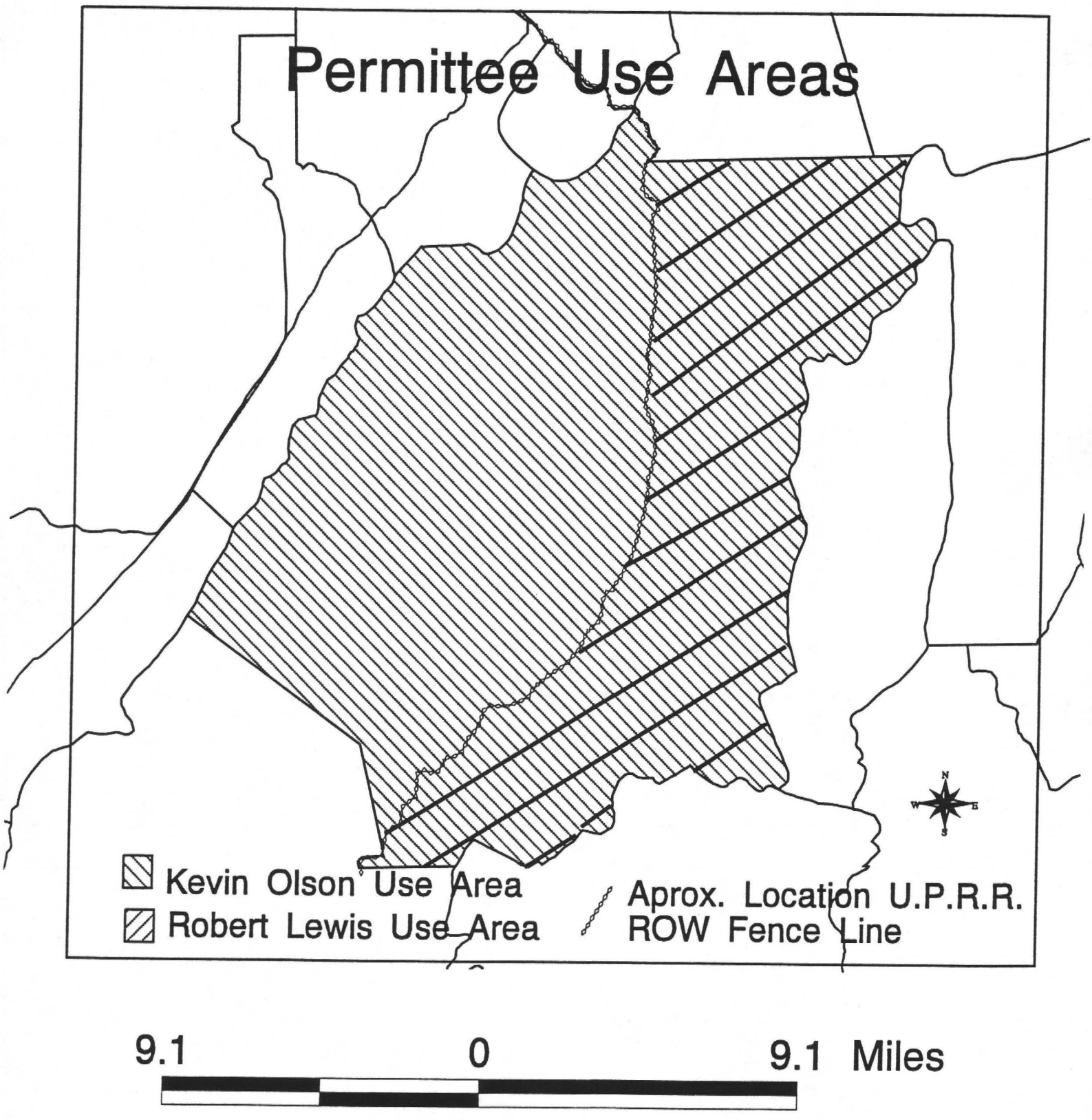


Meadow Valley Range WSA

Clover Mountains WSA

Mormon Mountains WSA

MAP 8


Permittee Use Areas
Kevin Olson Use Area
Robert Lewis Use Area
Aprox. Location U.P.R.R. ROW Fence Line
N
W
E
S
9.1
0
9.1 Miles

APPENDIX V

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

* 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

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*

	OPERATORS				
YEAR	OLSON	LEWIS	RICE	BRUNDY	TOTAL
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
	ERCI6	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 VI

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.
			HIRI	4%			5%		40	40	50	50				Trend static to downward.
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.
			SPAM2	1%			2%		50	50	60	60				Trend static to downward.
			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.
			ORHY	1%			5%		50	50	60	60				Trend static
			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

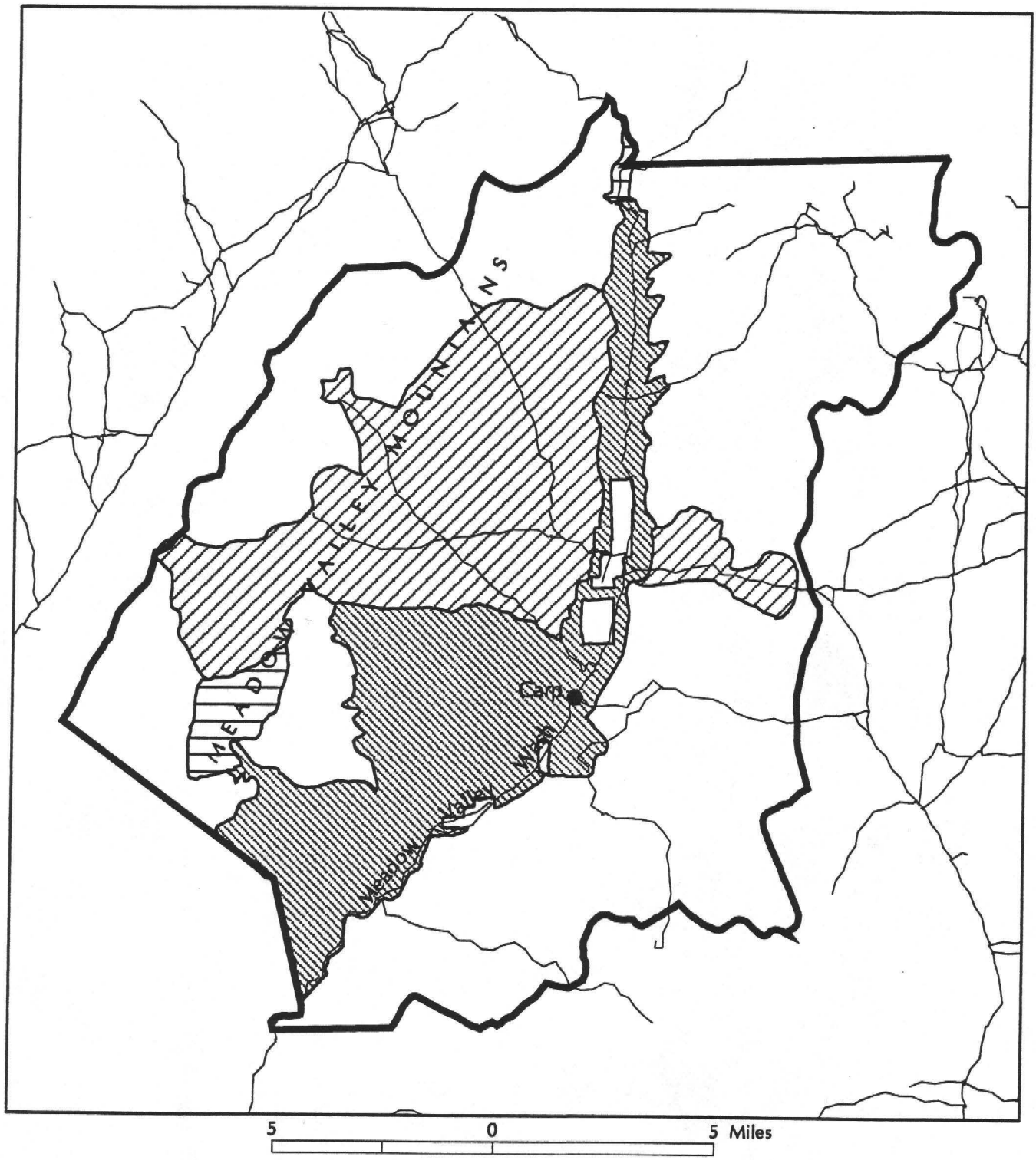
[1] The identified seral stage for each area could be down-graded one seral stage, where possible, due to lack of perennial grasses and dominance of introduced annual grasses and forbs.

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

APPENDIX VII

USE PATTERN MAPS

HENRIE COMPLEX
USE PATTERN MAP 1993



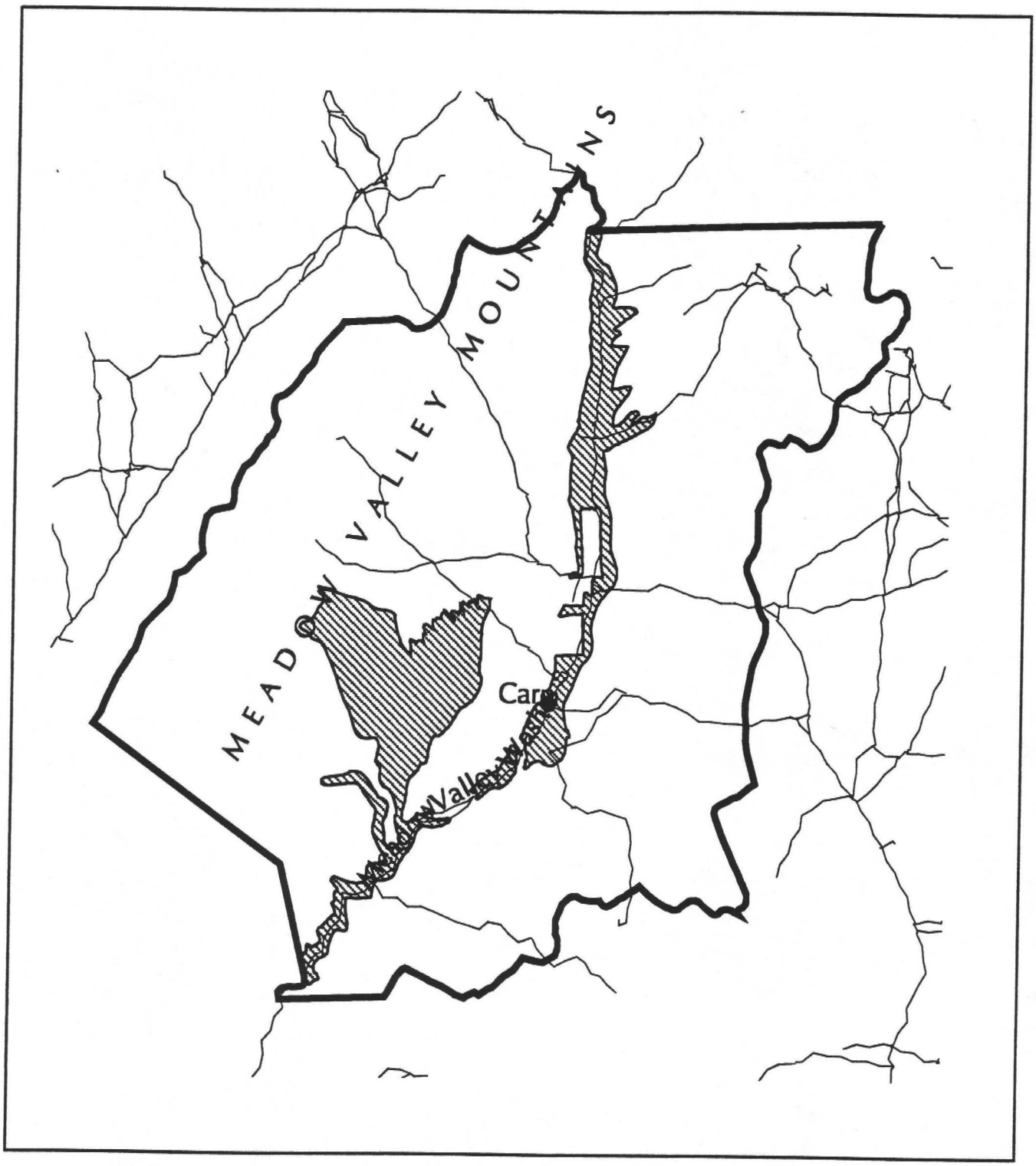
Light

Moderate

Severe

HENRIE COMPLEX
USE PATTERN MAP 1995

Map 6

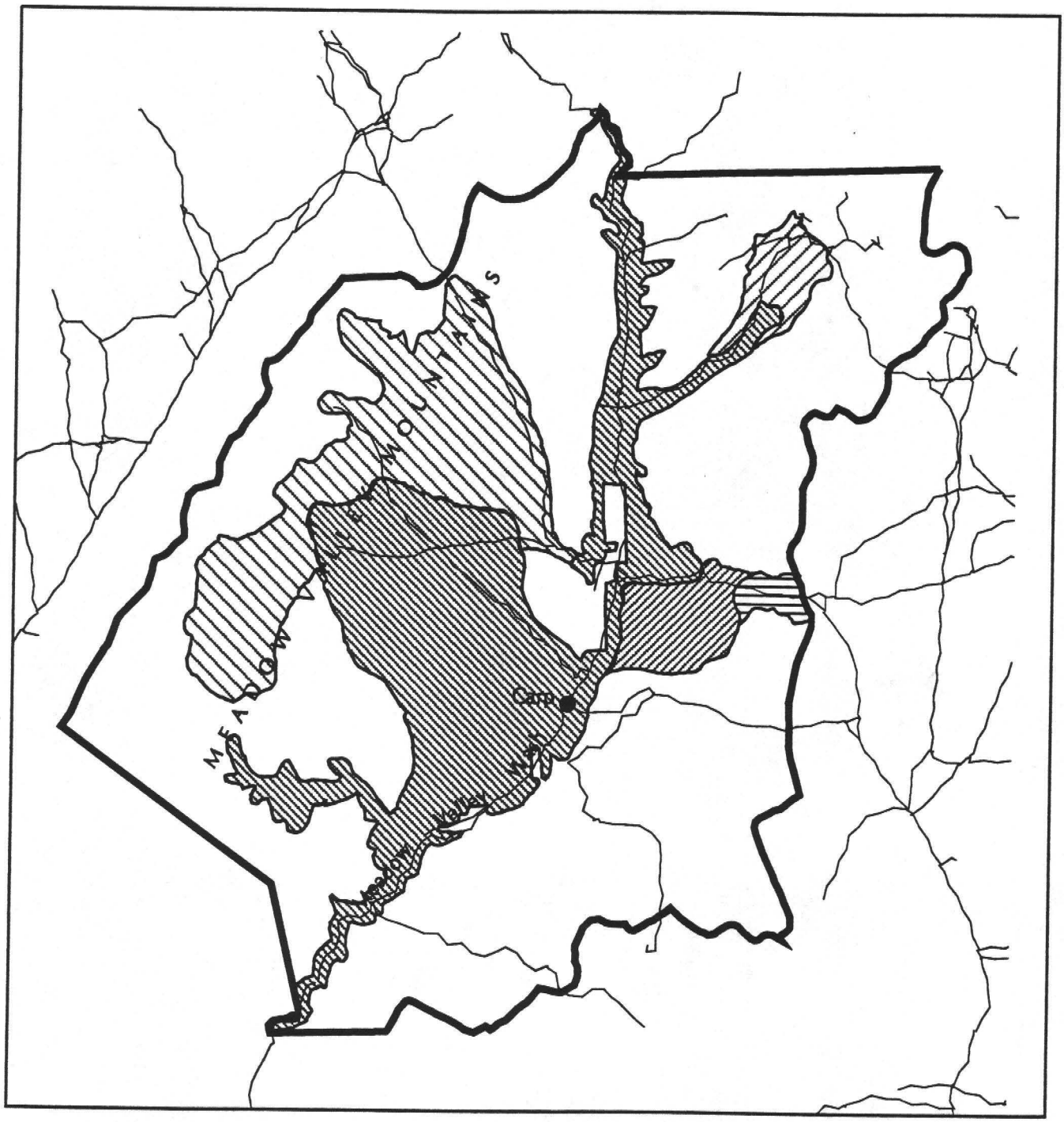


5 0 5 Miles

Severe

Map 7

HENRIE COMPLEX
USE PATTERN MAP 1996



5 0 5 Miles

Slight

Light

Moderate

Heavy

Severe

BOB MILLER
Governor

STATE OF NEVADA

CATHERINE BARCOMB
Administrator

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
COMMISSION FOR THE PRESERVATION OF WILD HORSES
123 W. Nye Lane, Room 248
Carson City, Nevada 89706-0818
Phone (702) 687-1400 • Fax (702) 687-6122

February 24, 1998

Paul E. Podborny, ADM
Renewable Resources
BLM Ely District
Caliente Field Station
PO Box 237
Caliente, NV 89008

RE: Henrie Complex Draft MASR & Allotment Evaluation

Dear Paul,

The Nevada Wild Horse Commission appreciates the opportunity to review and comment on the Henrie Complex Allotment Evaluation and MASR. These documents and pending Final Multiple Use Decision will suffice the stipulated agreement between our two agencies.

We strongly support the allotment evaluation use of land use plan objectives, habitat management plan objectives and present Standards and Guidelines for the evaluation of monitoring data. Supportive use pattern mapping and key area data with actual livestock and wild horse use data allows the evaluation to determine the cause and effect relationships on the Henrie Complex.

Wild horse habitat was evaluated to determine overall suitability for the herd management area. Carrying capacity determinations did not weight average or yield index data that would compromise critical habitats. Available forage to wild horses could not support a viable herd.

We support the recommendations to reduce livestock stocking rates, adjust livestock season of use to the land use plan's preferred alternative and manage the herd management area as horse free.

The ephemeral range conditions and apparent lack of perennial waters cannot support a viable wild horse herd. Wild horse numbers have historically cycled with climatic conditions in southern

Nevada. During common droughts, wild horses are typically at high numbers that are jeopardized during the hot season months. These events are catastrophic to horses and rangelands over the long term. We support the management alternative to resolve this issue and encourage the Field Station to issue a final decision.

We wish to complement the Caliente Field Station for its professional efforts to resolve this ongoing controversy. It is our hope that the Ely District will carry this as the example to implement its obligations under the present land use plan in southern Nevada.

Sincerely,

CATHERINE BARCOMB
Administrator

cc: Gene Kolkman
Ely District Manager