



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

ELY DISTRICT OFFICE

Star Route 5, Box 1
Ely, Nevada, 89301



IN REPLY REFER TO:

1784.3
(NV-046)

JUL 19 1989

Dear Participant:

We appreciate your interest in being involved in the consultation process and enclosed for your information and review is the Sampson Creek Allotment Monitoring Evaluation. This is your opportunity again to provide allotment specific information and also to provide comments to the evaluation. We would appreciate receiving your information and/or comments by August 18, 1989, to allow adequate time to review all input and to adhere to our deadlines. All of the information received will be evaluated and considered in the final portion of the evaluation which is the selection of a management action.

We appreciate your participation and solicit your continued involvement in the consultation process.

Sincerely,

Gerald M. Smith, Manager
Schell Resource Area

1 Enclosure

1. Sampson Creek Evaluation (49 pp)

JUL 19 1989

Antelope
Ely

**SAMPSON CREEK
ALLOTMENT
MONITORING
EVALUATION**

EVALUATION SUMMARY

I. INTRODUCTION

- A. Allotment Name and Number - Sampson Creek, 10105
(see Map 1)
- B. Permittee - Warren Robison
- C. Evaluation Period - 1981 through 1988
- D. Selective Management Category and Priority - Improve, High

II. INITIAL STOCKING LEVEL

A. Livestock Use

- 1. Land Use Plan Objective (AUMs)
 - a. Total Preference - 1,592
 - b. Suspended - 0
 - c. Active - 1,592
 - d. TNR - 0
- 2. Season of Use 3/1 - 9/30
- 3. Kind and Class of Livestock - Sheep
- 4. Percent Federal Range/Exchange of Use - 100%/None
- 5. Other Information - The physiological requirement of the vegetation on the allotment can best be accommodated under a spring/summer use due to the topography and climate of the allotment.

B. Wild Horse and Burro Use

- 1. [Appropriate Management Levels (AML) census] - 149 AUMs (1983 census).
- 2. Herd Use Areas within the Allotment - The entire allotment is part of the Antelope Herd Management Area. Wild horses use the west half of the allotment during summer and the east half during winter.

C. Wildlife Use (see Map 2)

- 1. Mule Deer
 - Reasonable Numbers - 169 AUMs
 - Key/Crucial Areas - None identified
- 2. Pronghorn Antelope
 - Reasonable Numbers - 4 AUMs
 - Key/Crucial Areas - None identified
- 3. Sage Grouse - 1 active strutting ground on the allotment, and 2 active strutting grounds within 2 miles of the allotment.

4. Ferruginous Hawks - 1 occupied nest, and 2 unoccupied nests immediately adjacent to the allotment.
5. Threatened and Endangered Species - Bald Eagles and Peregrine Falcons may be found on the allotment any time of the year, but no special use areas have been identified.

III. ALLOTMENT PROFILE

A. Description

The allotment is located approximately 40 miles northeast of Ely, Nevada. It is on the east bench of the Schell Creek Range just east and south of Becky Peak. Elevation ranges from 6,574 to 9,993 feet.

The allotment consists of one large pasture. The southern boundary is fenced; the north, east, and west are not. Topography, soils, and vegetation types create four strata which are used differently by the users on the allotment. The four strata and the use made on each are:

Stratum 1 - Low sagebrush/bluebunch wheatgrass summer range represented by key management area SCR1 includes most of the deer use, approximately 20 percent of the wild horse use, and all the sheep use after June.

Stratum 2 - Black sagebrush bench represented by SCR2 includes all antelope use, some spring deer use, approximately 30 percent of the wild horse use, and the sheep use during the spring prior to moving up to the summer range.

Stratum 3 - Winterfat bottom represented by SCR3 includes approximately 50 percent of the wild horse use. No livestock use is made in this stratum.

Stratum 4 - Closed pinyon/juniper community. Very little, if any, use is made in this stratum because there is almost no forage. This stratum does provide important cover for wild horses and mule deer.

B. Acreage

The allotment encompasses 13,232 acres administered by the BLM.

C. Allotment Specific Objectives

1. Land Use Plan/Rangeland Program Summary Objectives

a. Livestock

- (1) The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired vegetative community (see Appendix I).
- (2) The Long Term objective is to improve those acres in poor or fair livestock forage condition and maintain all acres presently in good livestock forage condition by managing for those seral stages which optimize livestock forage production (see Appendix I).

b. Wild Horses

- (1) The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired vegetative community (see Appendix I).
- (2) The Long Term objective is to manage for the most appropriate seral stages to provide desired quantity, quality, variety, and density of forage in order to meet the requirements of the wild horses (see Appendix I).

c. Mule Deer

- (1) The Short Term objective is to limit yearlong use on key species to 40 percent for perennial grasses, grass-like plants, and forbs and to 35 percent for shrubs if the mule deer range is in poor habitat condition. If the range is in fair condition or better, the objective is to limit yearlong use on key species to 55 percent for perennial grasses, grass-like plants, and forbs and to 45 percent for shrubs.
- (2) The Long Term objective is to maintain mule deer range in at least fair habitat condition by providing diversity of forage species.

d. Pronghorn Antelope

- (1) The Short Term objective is to limit use on key species listed for pronghorn antelope to 55 percent for perennial grasses, grass-like plants, and forbs; and to 45 percent for shrubs yearlong.
- (2) The Long Term objective is to maintain antelope range in at least fair habitat condition by providing appropriate vegetation quantity and quality.

e. Sage Grouse

- (1) The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired vegetative community (see Appendix 1).
- (2) The Long Term objective is to manage big sagebrush sites within 2 miles of active strutting grounds for late mid to Potential Natural Community (PNC) seral stage with at least 30 percent shrubs .

f. Ferruginous Hawks

- (1) The Short Term objective is to limit use on winterfat near occupied ferruginous hawk nests to 45 percent yearlong (see Appendix I).
- (2) The Long Term objective is to manage winterfat stands (silty range site) near occupied ferruginous hawk nests in mid-late seral stage (see Appendix I, Key Area SCR3).

g. Riparian Areas

- (1) The Short Term objective is to limit use on wet meadows to 30-50 percent for grass and grass-like species by all animals yearlong (see Appendix I).
- (2) The Long Term objective is to manage all wet meadows for late seral stage (80-85 percent grass and grass-like plants, 10-15 percent forbs, and 5 percent shrubs).

2. Activity Plan Objectives

a. Antelope Wild Horse Herd Management Area Plan

- (1) The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired vegetative community (see Appendix 1).
- (2) The Long Term objectives are to manage for the most appropriate seral stage to provide desired quantity, quality, variety, and density of forage in order to meet the requirements of the wild horses and other foraging animals (see Appendix 1); and to improve distribution and provide water yearlong for wild horses throughout the herd management area where possible.

b. Antelope Range Habitat Management Plan

- (1) The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired vegetative community (see Appendix 1).

- (2) The Long Term objectives are:

Manage for the most appropriate seral stages to provide desired quantity, quality, variety and density of forage in order to meet the requirements of the key foraging animals.

Provide nesting, brooding and wintering habitat for upland game species. Minimize the impacts of livestock grazing on sage grouse strutting/nesting grounds.

Protect raptor nesting habitat and provide and protect habitat for raptor prey species.

Manage riparian areas for late seral stage or appropriate stage for a specific use.

3. Threatened and Endangered Plants and Animals

No objectives identified.

D. Key Species Identification

1. Uplands

- a. Livestock
 - Key Area SCR1 - Bluebunch wheatgrass - AGSP
 - Key Area SCR2 - Black sagebrush - ARARN
 - Key Area SCR3 - Winterfat - EULA
- b. Mule deer
 - Snowberry - SYMPH
 - Mountain mahogany - CELE
 - Bitterbrush - PUTR
- c. Pronghorn antelope
 - All forbs
 - All perennial grasses
 - Black sagebrush - ARARN
 - Douglas rabbitbrush - CHVI

2. Riparian Areas

All grass and grass-like species.

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this document is to evaluate the nature of grazing that has occurred on the Sampson Creek Allotment and to measure effectiveness in meeting specific management objectives identified in the land use plan (LUP). Included will be recommendations to make specific changes in current management where the LUP objectives are not being met.

B. Summary of Studies Data

1. Key Management Area Evaluation Summary, Form No. 4400-17 (see Appendix II).

2. Actual Use

- a. Livestock - Use was estimated from past licenses (see Appendix III). Over the last seven years, use has varied from 0 AUMs to 903 AUMs. The average use for this period is 404 AUMs which is 25 percent of preference.
- b. Wildlife - Use was extrapolated from Nevada Department of Wildlife's estimates of mule deer herd numbers and surveys of pronghorn antelope numbers. The estimated use is based on the amount of deer and pronghorn antelope range that is on the allotment and the season the animals are on that range (see Appendix III).

- c. Wild Horses - Use was estimated from censuses conducted during the past several years (see Appendix III). Only animals counted on the allotment were considered to be using the allotment. Wild horse use has steadily increased during the evaluation period. In 1982, the estimated use was 36 AUMs, and in 1987 it was 1,104 AUMs.

3. Precipitation

Data from the National Oceanic and Atmospheric Administration weather station located at Ely, Nevada is being used for this evaluation. The average annual precipitation for the last thirty reporting years is 8.70 inches. Most of the precipitation occurs during the spring, late summer, and fall months.

Precipitation data will be used to calculate a yield index for each year (Sneva et al. 1983). The yield index will be used to adjust the utilization levels for above or below normal precipitation. The first step is to calculate the crop yield, which is the effective precipitation for plant growth. According to Sneva et al., for the Intermountain Big Sagebrush Region it is the precipitation that falls from September through June. The crop yield is then divided by the normal crop yield to determine the precipitation index for each year. The normal crop yield for Ely for the period 1951-1980 was 7.75 inches. The yield index is then calculated using the linear regression equation $Y = -23 + 1.23X$, where Y=the yield index and X=the precipitation index. Table 1 shows the yield index for Ely for the evaluation period.

Table 1. Yield Index for Ely.

YEAR	CROP YIELD	PRECIPITATION INDEX	YIELD INDEX
1981	9.31	120%	125%
1982	10.24	132%	139%
1983	16.21	209%	1234
1984	7.55	97%	96%
1985	10.80	139%	148%
1986	9.76	126%	132%
1987	8.02	103%	104%
1988	8.17	105%	106%

4. Utilization

a. Key Areas

Data was collected at key management areas SCR1 and SCR2 for six years and area SCR3 for seven years. The allowable use level was exceeded at SCR1 two out of six years, and at SCR3 six out of seven years. The AUL was not exceeded at SCR2 any year (see Appendix I). Spring sheep use on the black sagebrush bench represented by SCR2 is made under a deferred/rotation grazing system between the Sampson Creek Allotment and the Chin Creek Allotment. No sheep use is made at SCR3. The use on this area is being attributed to wild horses.

The percent utilization determined at the key areas is multiplied by the yield index (discussed in the previous section) to calculate a utilization figure normalized by precipitation (see Table 2).

Table 2. Utilization normalized by precipitation.

	1981	1982	1983	1984	1985	1986	1987
Yield Index(%)	125	139	234	96	148	132	104
Actual Utilization(%)							
SCR1	45	50	-	75	60	70	-
SCR2	4	2	-	25	6	7	16
SCR3	38	78	59	62	90	80	72
Normalized Utilization(%)							
SCR1	56	70	-	72	89	92	-
SCR2	5	3	-	24	9	9	17
SCR3	48	108	138	60	133	106	75

b. Use Pattern Mapping

Use pattern mapping was conducted in 1985 and 1986 (see Maps 3 & 4).

5. Trend

Trend was determined for the key species at the three key areas using frequency data from 1981 to 1986. The trend was down at all three areas (see Appendix II). The change was significant at the .05 level of significance for SCR2 and SCR3, but not for SCR1.

6. Range Survey Data

The 1979 Ocular Reconnaissance Forage Survey indicated there were 1,038 AUMs available on the allotment for livestock.

7. Ecological Status

Ecological status at the three key areas was determined in 1984. Key areas SCR1, SCR2, and SCR3 were rated at 66, 51, and 68 percent, respectively, which is considered late seral stage (Appendix I).

8. Wildlife Habitat

Because there are no key/crucial areas identified on the Sampson Creek Allotment, no wildlife habitat studies have been established.

9. Riparian/Fisheries Habitat

Based on subjective evaluations during the water resources inventory completed in 1983, three of eleven springs are in less than good condition, and are being overgrazed and trampled. No ecological status survey has been completed on these areas (see Appendix I).

10. Wild Horse Habitat

The habitat rating for the Antelope Wild Horse Herd Management Area has not yet been determined.

V. CONCLUSIONS

A. Refer to Section IIIC for allotment specific objectives.

1. Land Use Plan/Rangeland Program Summary Objectives

a. Livestock (1) & (2)

Not met. Allowable use levels were exceeded six out of seven years. In addition, trend is down at all three key areas.

b. Wild Horses (1) & (2)

Not met. Allowable use levels were exceeded six out of seven years, and use pattern mapping indicates heavy and severe use in 1985 and 1986 in the area where no livestock use is made. In addition, trend is down at all three key areas.

c. Mule Deer (1) & (2)

Not met. Allowable use levels were exceeded in 1984.

d. Pronghorn antelope (1) & (2)

Not met. Although allowable use levels were not exceeded, trend appears to be down.

e. Sage Grouse (1) & (2)

Met. No big sagebrush sites have been identified in the area (most likely they are inclusions within the black sagebrush site). The black sagebrush site is in late seral stage (51%), and utilization did not exceed allowable use levels.

f. Ferruginous Hawks (1) & (2)

Not met. Utilization of winterfat exceeded 45 percent six out of seven years. In addition, trend is down at key area SCR3.

g. Riparian Areas (1) & (2)

Not met. Three of eleven springs are in less than good condition, and use pattern mapping indicates heavy use around some of the springs in 1986.

2. Activity Plan Objectives

a. Antelope Wild Horse HMAP (1) & (2)

Not met. Allowable use levels were exceeded six out of seven years. In addition, trend is down at all three key areas.

b. Antelope Range HMP (1) & (2)

Not met. Allowable use levels were exceeded six out of seven years. In addition, trend is down at all three key areas.

VI. TECHNICAL RECOMMENDATIONS

Problems identified on the Sampson Creek Allotment include:

Allowable use levels exceeded,
Poor distribution,
Trend down at key areas, and
Three springs in less than good condition.

A. Short Term Solutions

Adjust numbers
Haul Water

1. Option 1 - Reduce Wild Horse Use to AML

To determine the desired stocking level for the allotment, the following formula was used:

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

The desired stocking level was determined for each stratum by calculating the use for each year data was available, and then computing the mean for those figures (see Appendix IV).

Because the key area utilization data for Stratum 1 is on bluebunch wheatgrass, the desired use was determined only for livestock and wild horses. Although deer use has increased over the years, use on primary browse species above AUL has not been documented. The desired utilization for Stratum 1 is 30 percent which is the short term objective to improve the riparian area in this stratum. The desired stocking level by year for Stratum 1 is:

1981	49 AUMs
1982	91 AUMs
1984	230 AUMs
1985	11 AUMs
1986	82 AUMs

The mean desired stocking level for those five years is 93 AUMs.

The desired stocking level for Stratum 2 was calculated based on livestock, wild horse, and pronghorn antelope use. Some spring deer use is made in this stratum, but it is made at the very north end of the allotment. The key area where the utilization data was collected is at the south end of the allotment.

A desired stocking level figure was determined for sheep and pronghorn antelope based on the use of black sagebrush. The desired utilization is 45 percent which is the AUL for black sagebrush under yearlong use. In addition, a desired stocking level figure was determined for wild horses based on the use of Indian ricegrass. The desired utilization is 55 percent which is the AUL for Indian ricegrass

under yearlong use. The desired stocking level based on sheep and pronghorn antelope use by year for Stratum 2 is:

1985	1,946 AUMs
1986	687 AUMs
1987	343 AUMs

The mean desired stocking level for those three years is 992 AUMs.

The desired stocking level based on wild horse use by year for Stratum 2 is:

1981	402 AUMs
1987	250 AUMs

The mean desired stocking level for those two years is 326 AUMs. Only data from 1981 and 1987 were used because wild horse numbers were based on winter/spring counts those years which more accurately reflect the use in this stratum.

The desired stocking level for Stratum 3 was calculated based on wild horse use because only wild horses use this stratum. The desired utilization is 45 percent which is the AUL for winterfat under yearlong use. The desired stocking level by year for Stratum 3 is:

1981	216 AUMs
1986	228 AUMs
1987	332 AUMs

The mean desired stocking level for those three years is 258 AUMs.

If wild horse use was reduced to the appropriate management level listed for the Sampson Creek Allotment, livestock use would have to be adjusted down to 1,511 AUMs (see Table 3). The 281 AUMs available for livestock in Stratum 2 may be more suitable for cattle because the AUMs are based on the use of Indian ricegrass.

The use in Stratum 3 is based on the use of winterfat. The livestock season of use would have to be adjusted to include winter grazing to be able to use those 184 AUMs.

Table 3. Desired stocking level by user for each stratum under Option 1.

Stratum	Desired Stocking Level	Livestock	Wild Horses	Pronghorn Antelope
1 (AGSP)	93 AUMs	63 AUMs	30 AUMs	--
2 (ARARN)	992 AUMs	983 AUMs	--	9 AUMs
2 (ORHY)	326 AUMs	281 AUMs	45 AUMs	--
3 (EULA)	258 AUMs	184 AUMs	74 AUMs	--
Total	1,669 AUMs	1,511 AUMs	149 AUMs	9 AUMs

Under Option 1, active grazing preference would be reduced from 1,592 AUMs to 1,511 AUMs resulting in 81 AUMs of suspended nonuse. If the livestock season of use was not adjusted to include winter grazing, the 184 AUMs in Stratum 3 would not be available, and active grazing preference would be reduced to 1,327 AUMs.

2. Option 2 - Reduce Wild Horse Use and Livestock Use

The limiting factor for wild horse use on the allotment is the desired stocking level for Stratum 1, the summer range. Use in this stratum is approximately 20 percent of the total wild horse use. Therefore, wild horse use would have to be adjusted down to 465 AUMs for the entire allotment so not to exceed the 93 AUMs in Stratum 1 (see Table 4). Livestock use would have to be reduced to 1,195 AUMs. In addition, no livestock use could be made in Stratum 1 because the desired stocking level of that stratum is allocated to wild horses.

Table 4. Desired stocking level by user for each stratum under Option 2.

Stratum	Desired Stocking Level	Livestock	Wild Horses	Pronghorn Antelope
1 (AGSP)	93 AUMs	0 AUMs	93 AUMs	--
2 (ARARN)	992 AUMs	983 AUMs	--	9 AUMs
2 (ORHY)	326 AUMs	186 AUMs	140 AUMs	--
3 (EULA)	258 AUMs	26 AUMs	232 AUMs	--
Total	1,669 AUMs	1,195 AUMs	465 AUMs	9 AUMs

Under Option 2, wild horses would be reduced from the existing level of 1,104 AUMs to 465 AUMs which is over 300 percent of AML. At the same time, active grazing preference would be reduced from 1,592 AUMs to 1,195 AUMs resulting in 397 AUMs of suspended nonuse.

3. Option 3 - Haul Water

Grazing use within Stratum 2, black sagebrush bench, is primarily made adjacent to water which is in the bottom of Spring Valley and along Sampson Creek. If troughs were placed higher up on the bench, and water hauled to these sites, livestock distribution would improve (see Map 5). Additional AUMs would not be made available under this option, but the AUMs that are available would be better utilized.

B. Long Term Solutions

1. Option 1 - Fence Riparian Areas

The limiting factor in Stratum 1, at this time, is the short term objective for riparian areas. Because several of these areas are being overgrazed and trampled, and are in less than good condition, the allowable use level is only 30 percent. Fencing the riparian areas would protect these areas from overgrazing, and should improve the seral stage of each site. If the riparian areas were fenced, the allowable use level for Stratum 1 would be raised from 30 to 50 percent. The desired use for Stratum 1 would increase from 93 AUMs to 154 AUMs. The additional 61 AUMs would be available for livestock and/or horses depending on which short term management option is selected (see Appendix V).

2. Option 2 - Improve Access

Because of the thick pinyon/juniper cover and deteriorated road conditions, the only access to the summer range is up the Sampson Creek drainage. This access and the good water supply in the area result in moderate to heavy use in this portion of the summer range, and only slight to light use in the southern end of this range (see Map 4).

There are roads up Box Canyon and Horse Canyon that should be improved and maintained (see Map 5). The livestock permittee would then be able to move his camp and herd his sheep into these areas. He would also be able to haul water into these areas. This would improve distribution over the entire summer range. It may then be possible to increase stocking levels without exceeding allowable use levels; however, the actual stocking level would have to be calculated based on monitoring data collected after distribution is improved.

3. Option 3 - Develop Water Sources

There are several springs in Box Canyon and Horse Canyon (see Map 5). If there was sufficient flow at any of these springs, they could be developed. Permanent water in these areas would improve distribution, and eliminate the need to haul water up these canyons.

In addition, a pipeline could be laid from any of these springs downhill approximately two miles to the black sagebrush bench. This would improve distribution in this stratum and eliminate the need to haul water (Short Term Option 3).

4. Option 4 - Implement Grazing System

A deferred rotation grazing system for sheep use could be implemented that would provide rest during the growing season for seedling establishment and increased forage production. In addition, it would reduce conflicts between sheep and wildlife, primarily sage grouse and pronghorn antelope. The system would involve a common use area with a portion of the Chin Creek Allotment (see Map 6).

Under the grazing system, lambing from 5/1 to 5/20 would be rotated between the black sagebrush bench on the Sampson Creek Allotment (Stratum 2) and the Robison Seeding and North Creek Seeding on the Chin Creek Allotment. Each area would be used one out of three years. After lambing is over, the ewes and lambs would be moved onto the native range in the two units not used for lambing that year. The sheep would remain there until 6/30 and then moved up to the summer range (see Figure 1).

Cattle from the Chin Creek Allotment would graze the common use area from 7/1 to 10/31 after sheep have been moved up to the summer range (see Figure 1). This grazing system would eliminate the need for an allotment boundary fence in the bottom of Spring Valley between the two allotments. Such a fence could have negative impacts on wild horse movement in the area.

Implementation of a grazing system should increase the available AUMs by 5 percent in the long term. Herbage response to livestock adjustments that reduce use from heavy to moderate could be expected to increase forage production in those areas by 21 percent (Van Poolen and Lacey, 1979).

C. Additional Monitoring Required

Determine existing numbers of horses by season of use for each stratum.

Estimate use on wet meadows and stream riparian areas.

Develop ecological site descriptions for riparian areas, and determine ecological status (seral stage) of wet meadows.

Establish monitoring studies on key riparian areas.

GRAZING FORMULA

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
REST												
LAMBING					■							
SPRING SHEEP USE					■	■						
SUMMER SHEEP USE							■					
SUMMER CATTLE USE							▨	▨	▨	▨		

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19	A				■		▨	▨	▨	▨		
	B					■	▨	▨	▨	▨		
	C					■	■					
	D							■				
Second Year 19	A					■	▨	▨	▨	▨		
	B					■	▨	▨	▨	▨		
	C					■	■					
	D							■				
Third Year 19	A					■	▨	▨	▨	▨		
	B					■	▨	▨	▨	▨		
	C					■	■					
	D							■				
Fourth Year 19												
Fifth Year 19												
Sixth Year 19												

Figure 1. Long Term Option 4 Grazing System. 17

Literature Cited

Sneva, Forest and Britton, C.M. 1983. Adjusting and Forecasting Herbage Yields in the Intermountain Big Sagebrush Region of the Steppe Province. Agricultural Experiment Station, Oregon State University, Station Bulletin 659. 61 pp.

Van Poolen, H. Walt and Lacey, John R. 1979. Herbage Response to Grazing Systems and Stocking Intensities. Journal of Range Management 32(4):250-253.

APPENDIX I

ALLOTMENT: Sampson Creek

STUDY #	KEY AREA LOCATION	ECOLOGICAL SITE #	KEY SPECIES	PRESENT SITUATION		LONG TERM OBJECTIVE			SHORT TERM OBJECTIVE			
				KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	MAINTAIN OR IMPROVE	KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	ALLOWABLE USE LEVEL	SEASON OF USE	MET OR NOT MET	RATIONALE
SCR1	Becky Peak Bench Sec. 2, T24N, R65E	028BY037NV	AGSP	2	66	Maintain	1	64-68	50%	Summer	Not met	AUL Exceeded 1984=75%
SCR2	W.Spring Valley Bench Sec. 30, T24N, R66E	028BY011NV	ARARN	76	51	Maintain	50	42-52	45%	Year-long	Met	AUL Not Exceeded
SCR3	Spring Valley Bottom Sec. 32, T24N, R65E	028BY013NV	EULA	58	68	Maintain	50	62-72	45%	Year-long	Not met	AUL Exceeded 1982=78% 1983=59% 1984=62% 1985=90% 1986=80% 1987=72%

APPENDIX I

ALLOTMENT: Sampson Creek

STUDY #	KEY AREA LOCATION	ECOLOGICAL SITE #	KEY SPECIES	PRESENT SITUATION		LONG TERM OBJECTIVE			SHORT TERM OBJECTIVE			RATIONALE		
				KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	MAINTAIN OR IMPROVE	KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	ALLOWABLE USE LEVEL	SEASON OF USE	MET OR NOT MET			
Horse Spring	NWNE, sec14 T24N, R65E	unknown	Grasses and grass-like								50%	Year-long	Met	Good Condition. Based on use pattern mapping AUL not exceeded.
Gravel Spring	NESE, sec14 T24N, R65E	unknown	Grasses and grass-like								50%	Year-long	Met	Good Condition. Based on use pattern mapping AUL not exceeded.
Mus-tang Spring	NESE, sec14 T24N, R65E	unknown	Grasses and grass-like								50%	Year-long	Met	Based on use pattern mapping AUL not exceeded.
Skull Spring	NENW, sec23 T24N, R65E	unknown	Grasses and grass-like								40%	Year-long	Not Met	Grazed and Trampled
Grouse Spring	NWNW, sec23 T24N, R65E	unknown	Grasses and grass-like								40%	Year-long	Not Met	Grazed and Trampled

APPENDIX I

ALLOTMENT: Sampson Creek

STUDY #	KEY AREA LOCATION	ECOLOGICAL SITE #	KEY SPECIES	PRESENT SITUATION		LONG TERM OBJECTIVE			SHORT TERM OBJECTIVE				
				KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	MAINTAIN OR IMPROVE	KEY SPP % COMP BY WEIGHT	SERAL STAGE (% OF PNC)	ALLOWABLE USE LEVEL	SEASON OF USE	MET OR NOT MET	RATIONALE	
Spring and Res.	NWNE, sec 2 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				50%	Year-long	Met	Good Condition. Based on use pattern mapping AUL not exceeded.
Spring	SWNE, sec 2 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				50%	Year-long	Met	Good Condition. Based on use pattern mapping AUL not exceeded.
Spring	SENW, sec 2 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				50%	Year-long	Met	Good Condition. Based on use pattern mapping AUL not exceeded.
Spring	SENW, sec 2 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				50%	Year-long	Met	Based on use pattern mapping AUL not exceeded.
Seep	SESW, sec 2 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				50%	Year-long	Met	Based on use pattern mapping AUL not exceeded.
Camp Spring	NWNE, sec 11 T24N, R65E	unknown	Grasses and grass-like			No ecological status survey completed to date				30%	Year-long	Not met	Based on use pattern mapping exceeded allowable use levels in 1986.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
KEY MANAGEMENT AREA
EVALUATION SUMMARY

District

ELY

Planning Area

MORIAH

Date

7/29/88

Allotment

Sampson Creek

Key Management Area

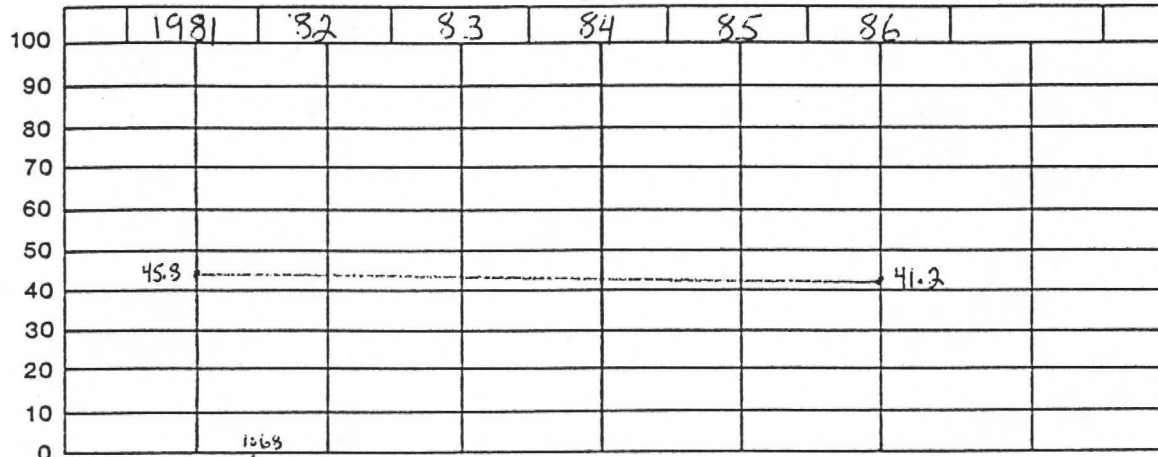
SCR1

Trend Index (Frequency)

Code

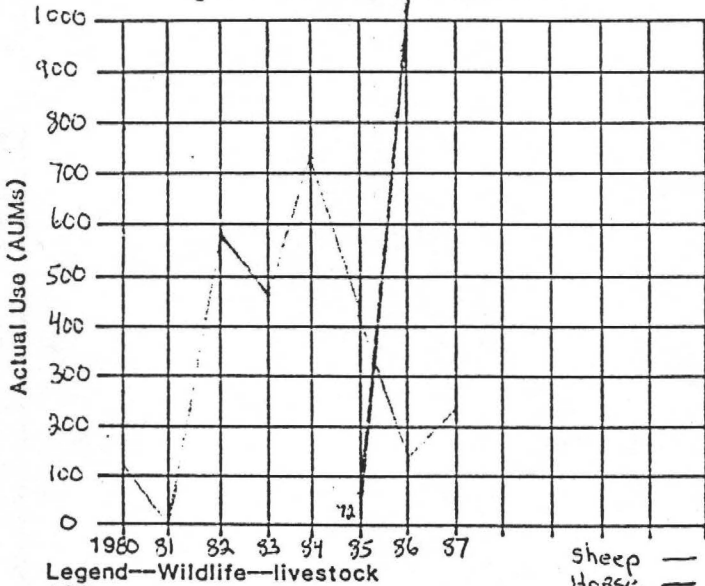
Date

Key Species-Color

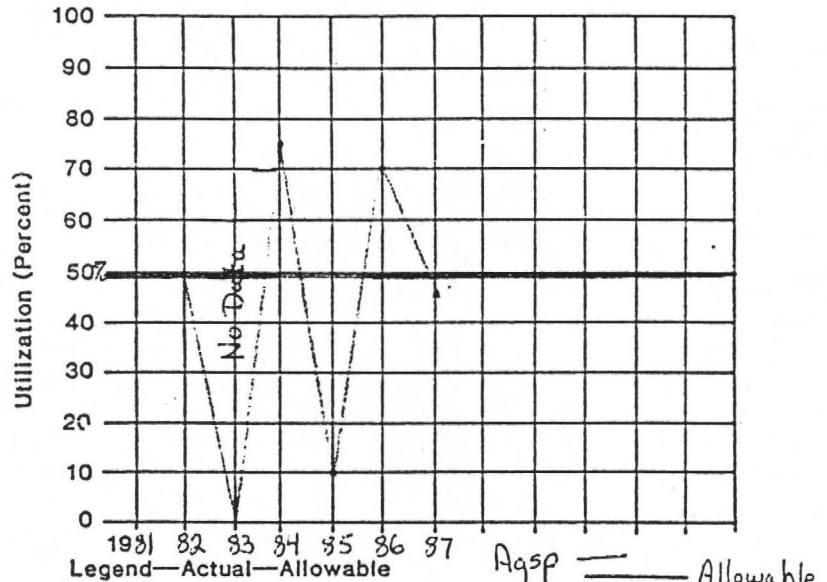


Agsp —

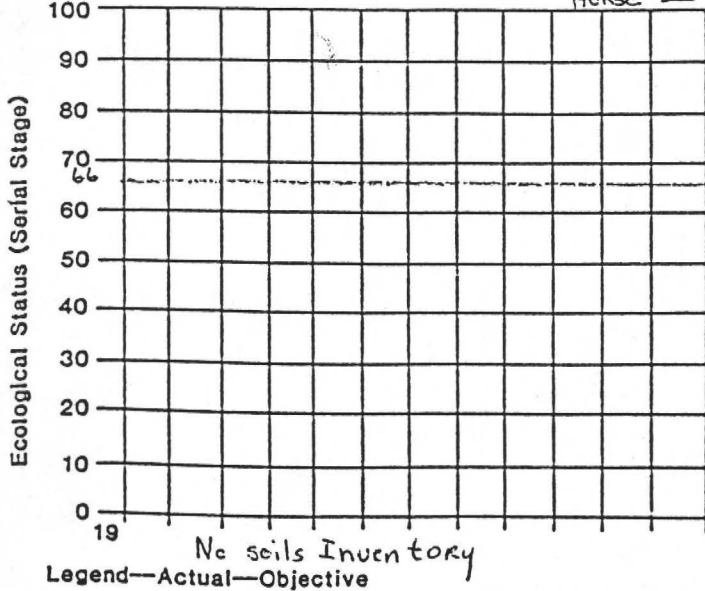
Percent



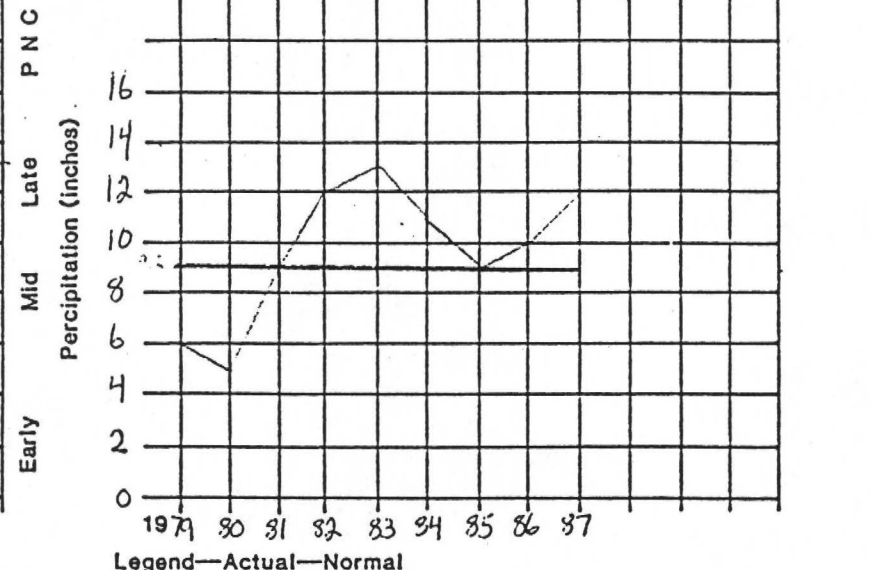
Legend—Wildlife—livestock
Sheep —
Horse —



Legend—Actual—Allowable
Agsp — Allowable



Legend—Actual—Objective



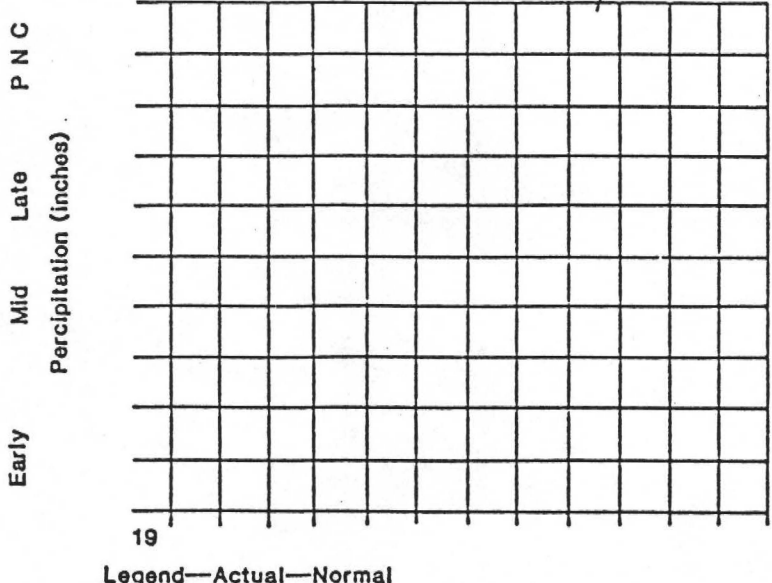
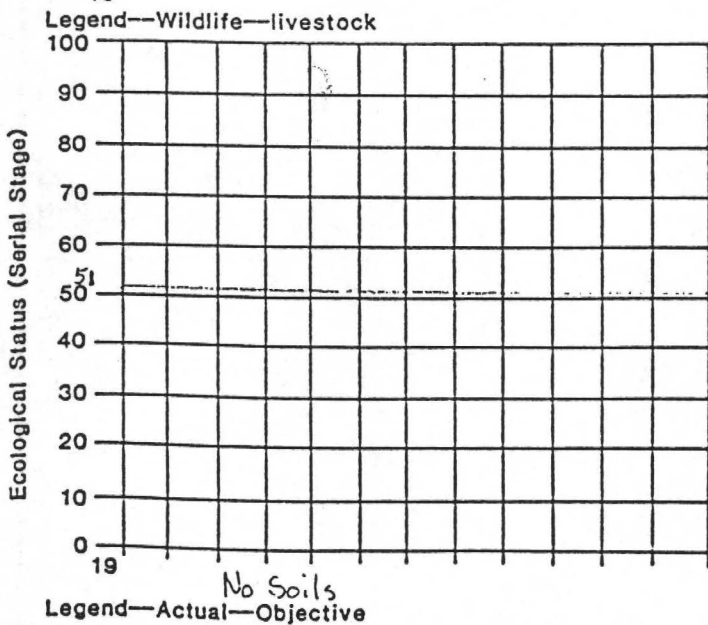
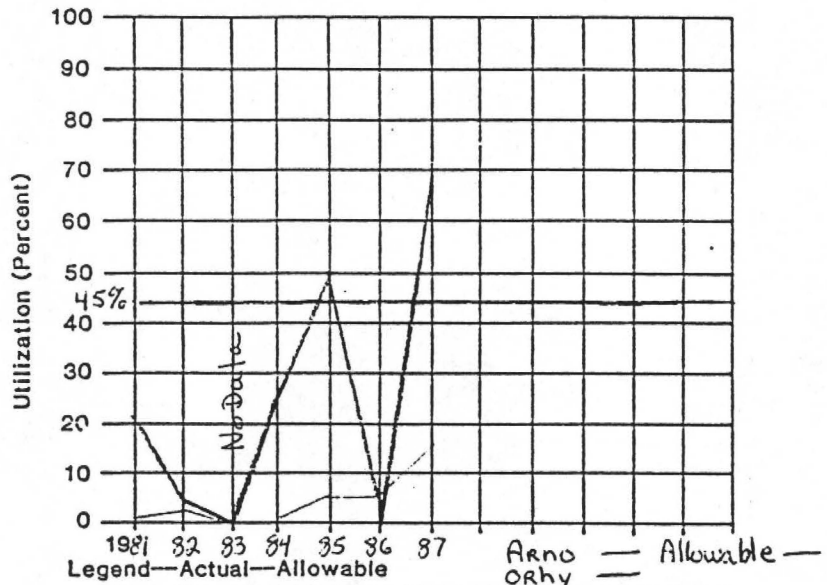
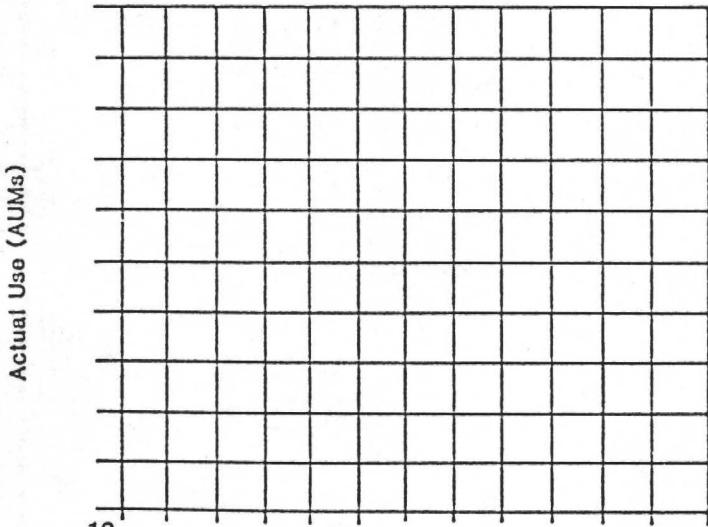
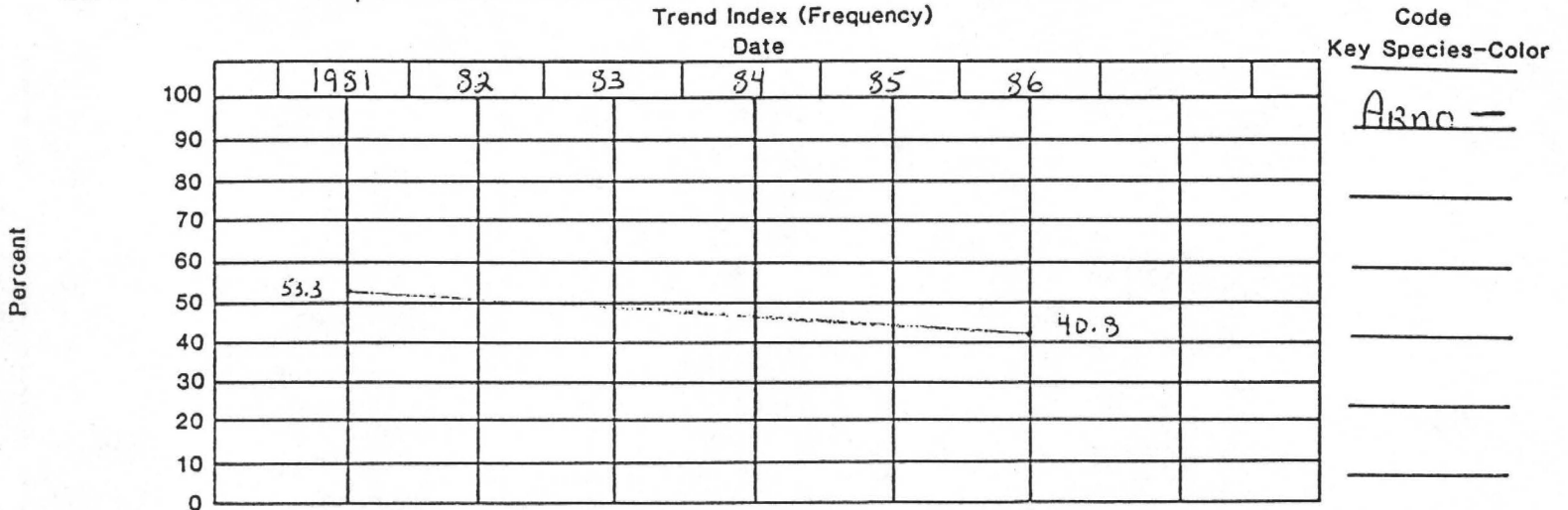
Legend—Actual—Normal
Annual ppt —
mean ppt —

APPENDIX II

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
KEY MANAGEMENT AREA
EVALUATION SUMMARY

District	ELY	
Planning Area	Meriah	Date
		7-29-88

Allotment	Sampson Creek	Key Management Area	SCR 2
-----------	---------------	---------------------	-------



APPENDIX II

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
KEY MANAGEMENT AREA
EVALUATION SUMMARY

District

ELY

Planning Area

Moriah

Date

7-29-88

Allotment

Sampson Creek

Key Management Area

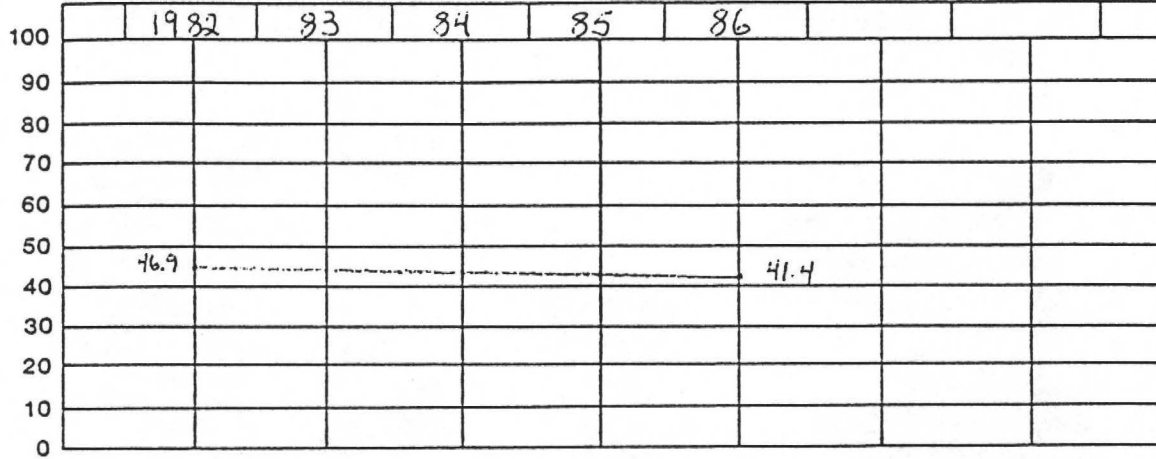
SCR3

Trend Index (Frequency)

Date

Code

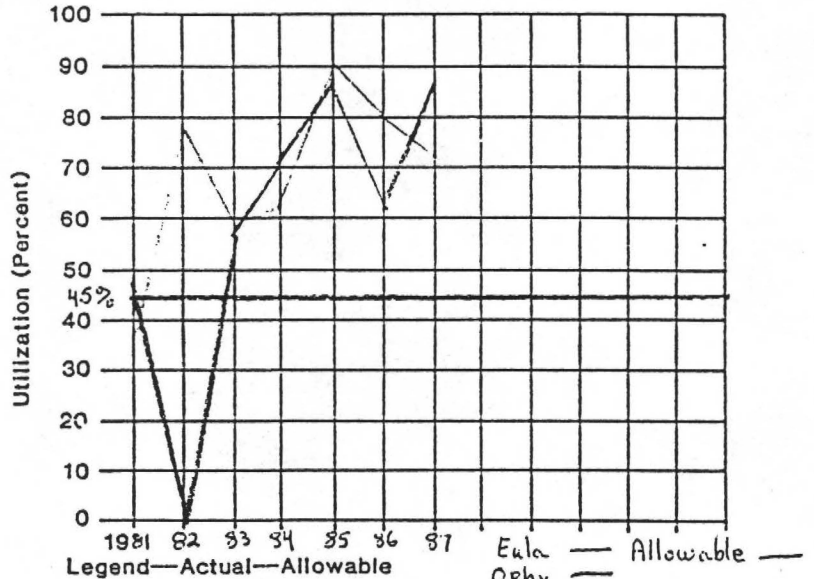
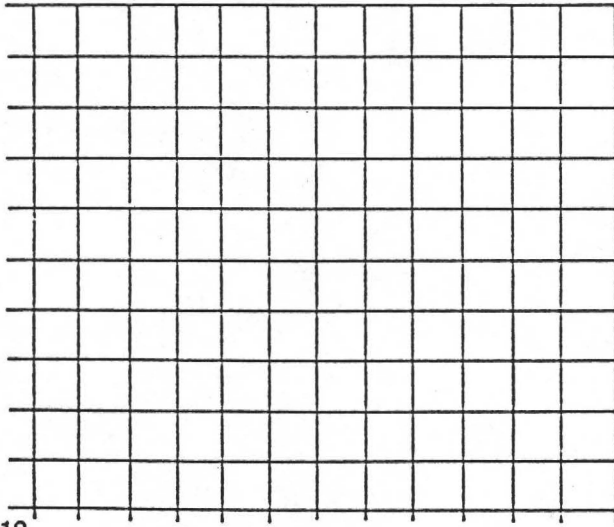
Key Species-Color



Eula —

Percent

Actual Use (AUMs)



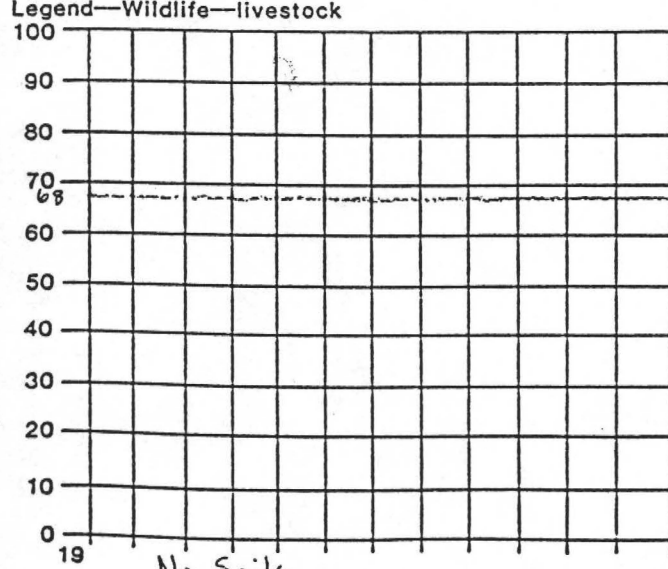
Legend—Actual—Allowable

Eula — Allowable —
Orhy —

Ecological Status (Serial Stage)

P N C
Late
Mid
Early

Precipitation (inches)



Legend—Actual—Objective

Legend—Actual—Normal

APPENDIX III

Year	Licensed Livestock Use (AUMs)	Estimated Wildlife Use(AUMs)		Estimated Wild Horse Use (AUMs)	Total Estimated Use (AUMs)	Actual Utilization
		Deer	Antelope			
1981						
SCR1	-0-	227	-0-	91 ^{1/}	318	45%
SCR2	-0-	77	4	137	218	4%(ARARN) 15%(ORHY)
SCR3	-0-	-0-	-0-	228	228	38%
1982						
SCR1	204	215	-0-	7 ^{2/}	426	50%
SCR2	379	73	2	11	465	No Data
SCR3	-0-	-0-	-0-	18	18	78%
1983						
SCR1	60	190	-0-	10 ^{2/}	260	No Data
SCR2	398	65	3	14	480	No Data
SCR3	-0-	-0-	-0-	24	24	59%
1984						
SCR1	542	282	-0-	10 ^{2/}	834	75%
SCR2	361	96	6	14	477	No Data
SCR3	-0-	-0-	-0-	24	24	62%
1985						
SCR1	19	323	-0-	14 ^{2/}	356	60%
SCR2	380	110	4	22	516	6%(ARARN) 50%(ORHY)
SCR3	-0-	-0-	-0-	36	36	90%
1986						
SCR1	39	436	-0-	214 ^{1/}	689	70%
SCR2	132	148	9	320	609	7%
SCR3	-0-	-0-	-0-	534	534	80%
1987						
SCR1	191	703	-0-	221 ^{1/}	1115	No Data
SCR2	120	239	7	331	697	16%(ARARN) 70%(ORHY)
SCR3	-0-	-0-	-0-	552	552	72%

^{1/} Based on winter/spring counts.

^{2/} Based on summer counts.

APPENDIX IV: CALCULATED STOCKING RATES FOR SAMPSON CREEK(3 STRATA)

STRATUM 1 ACTUAL USE (AUMS)					MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO TOTAL	UTIL INDEX	UTIL	UTIL	UTIL	USE(AUMS)
1981/AGSP	0	91	0	0 91	45%	1.25	56.3%	30%	49
1982/AGSP	204	7	0	0 211	50%	1.39	69.5%	30%	91
1984/AGSP	542	10	0	0 552	75%	0.96	72.0%	30%	230
1985/AGSP	19	14	0	0 33	60%	1.48	88.8%	30%	11
1986/AGSP	39	214	0	0 253	70%	1.32	92.4%	30%	82

STRATUM 2 ACTUAL USE (AUMS)					MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO TOTAL	UTIL INDEX	UTIL	UTIL	UTIL	USE(AUMS)
1985/ARNO	380	0	0	4 384	6%	1.48	8.9%	45%	1946
1986/ARNO	132	0	0	9 141	7%	1.32	9.2%	45%	687
1987/ARNO	120	0	0	7 127	16%	1.04	16.6%	45%	343

STRATUM 2 ACTUAL USE (AUMS)					MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO TOTAL	UTIL INDEX	UTIL	UTIL	UTIL	USE(AUMS)
1981/DRHY	0	137	0	0 137	15%	1.25	18.8%	55%	402
1987/DRHY	0	331	0	0 331	70%	1.04	72.6%	55%	250

STRATUM 3 ACTUAL USE (AUMS)					MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO TOTAL	UTIL INDEX	UTIL	UTIL	UTIL	USE(AUMS)
1981/EULA	0	228	0	0 228	38%	1.25	47.5%	45%	216
1986/EULA	0	534	0	0 534	80%	1.32	105.6%	45%	228
1987/EULA	0	552	0	0 552	72%	1.04	74.9%	45%	332

AVERAGE COMPUTED STOCKING RATES(KEY AREA UTIL)

SHORT TERM OPTIONS 1 AND 2

(ARNO) (DRHY)

YEAR	STRAT.1	STRAT.2	STRAT.2	STRAT3
1981	49		402	216
1982	91			
1984	230			
1985	11	1946		
1986	82	687		228
1987		343	250	332
AVERAGE	93	992	326	258

APPENDIX V: CALCULATED STOCKING RATES FOR SAMPSON CREEK(3 STRATA)

STRATUM 1 ACTUAL USE (AUMS)						MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO	TOTAL	UTIL	INDEX	UTIL	UTIL	USE(AUMS)
1981/AGSP	0	91	0	0	91	45%	1.25	56.3%	50%	81
1982/AGSP	204	7	0	0	211	50%	1.39	69.5%	50%	152
1984/AGSP	542	10	0	0	552	75%	0.96	72.0%	50%	383
1985/AGSP	19	14	0	0	33	60%	1.48	88.8%	50%	19
1986/AGSP	39	214	0	0	253	70%	1.32	92.4%	50%	137

STRATUM 2 ACTUAL USE (AUMS)						MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO	TOTAL	UTIL	INDEX	UTIL	UTIL	USE(AUMS)
1985/ARND	380	0	0	4	384	6%	1.48	8.9%	45%	1946
1986/ARND	132	0	0	9	141	7%	1.32	9.2%	45%	687
1987/ARND	120	0	0	7	127	16%	1.04	16.6%	45%	343

STRATUM 2 ACTUAL USE (AUMS)						MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO	TOTAL	UTIL	INDEX	UTIL	UTIL	USE(AUMS)
1981/ORHY	0	137	0	0	137	15%	1.25	18.8%	55%	402
1987/ORHY	0	331	0	0	331	70%	1.04	72.8%	55%	250

STRATUM 3 ACTUAL USE (AUMS)						MEAS YIELD ADJUS DESIR DESIRED				
YEAR/KEY SP	SHEEP	W.HORSES	DEER	ANTELO	TOTAL	UTIL	INDEX	UTIL	UTIL	USE(AUMS)
1981/EULA	0	228	0	0	228	38%	1.25	47.5%	45%	216
1986/EULA	0	534	0	0	534	80%	1.32	105.6%	45%	228
1987/EULA	0	552	0	0	552	72%	1.04	74.9%	45%	332

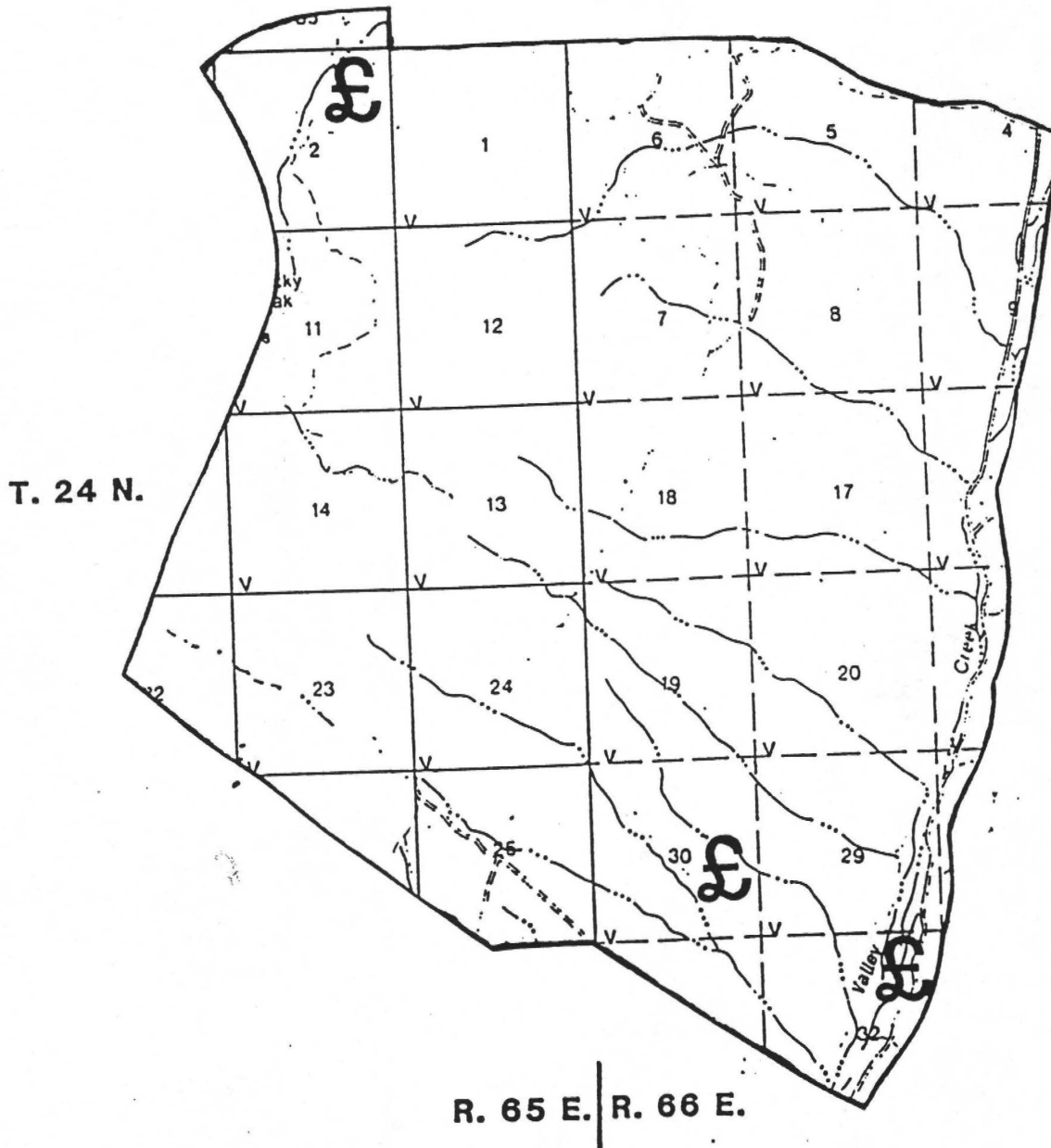
AVERAGE COMPUTED STOCKING RATES(KEY AREA UTIL)

LONG TERM OPTION 1 (ARND) (ORHY)				
YEAR	STRAT.1	STRAT.2	STRAT.2	STRAT3
1981	81		402	216
1982	152			
1984	383			
1985	19	1946		
1986	137	687		228
1987		343	250	332
AVERAGE	154	992	326	259

SAMPSON CREEK ALLOTMENT

KEY USE AREAS (£)

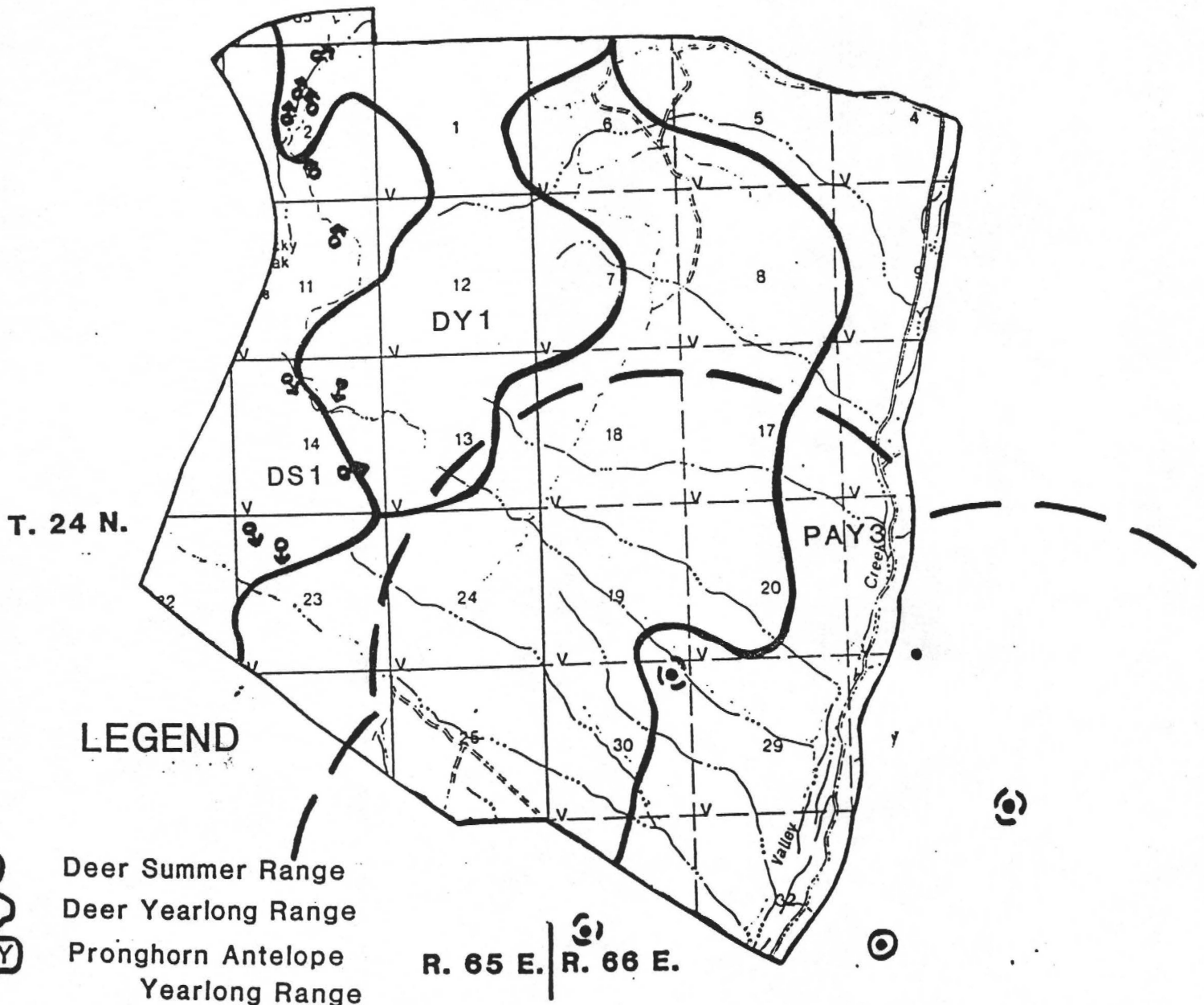
Map 1



SAMPSON CREEK ALLOTMENT

WILDLIFE USE AREAS

Map 2



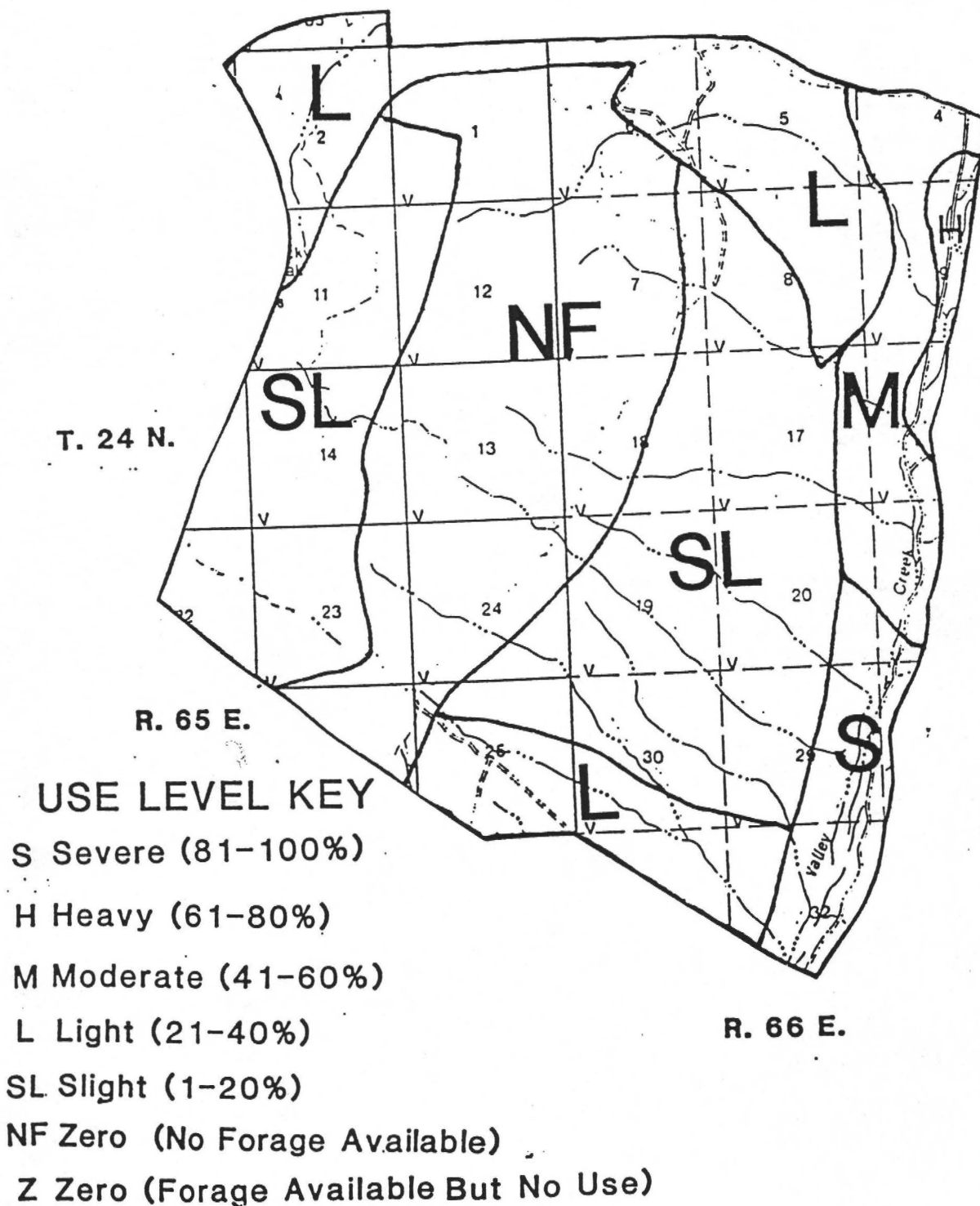
LEGEND

- DS** Deer Summer Range
- DY** Deer Yearlong Range
- PAY** Pronghorn Antelope Yearlong Range
- Sage Grouse Strutting Ground
- Ferruginous Hawk Nest occupied
- Ferruginous Hawk Nest unoccupied
- Springs/Wet Meadows

SAMPSON CREEK ALLOTMENT

1985 UTILIZATION PATTERN MAP

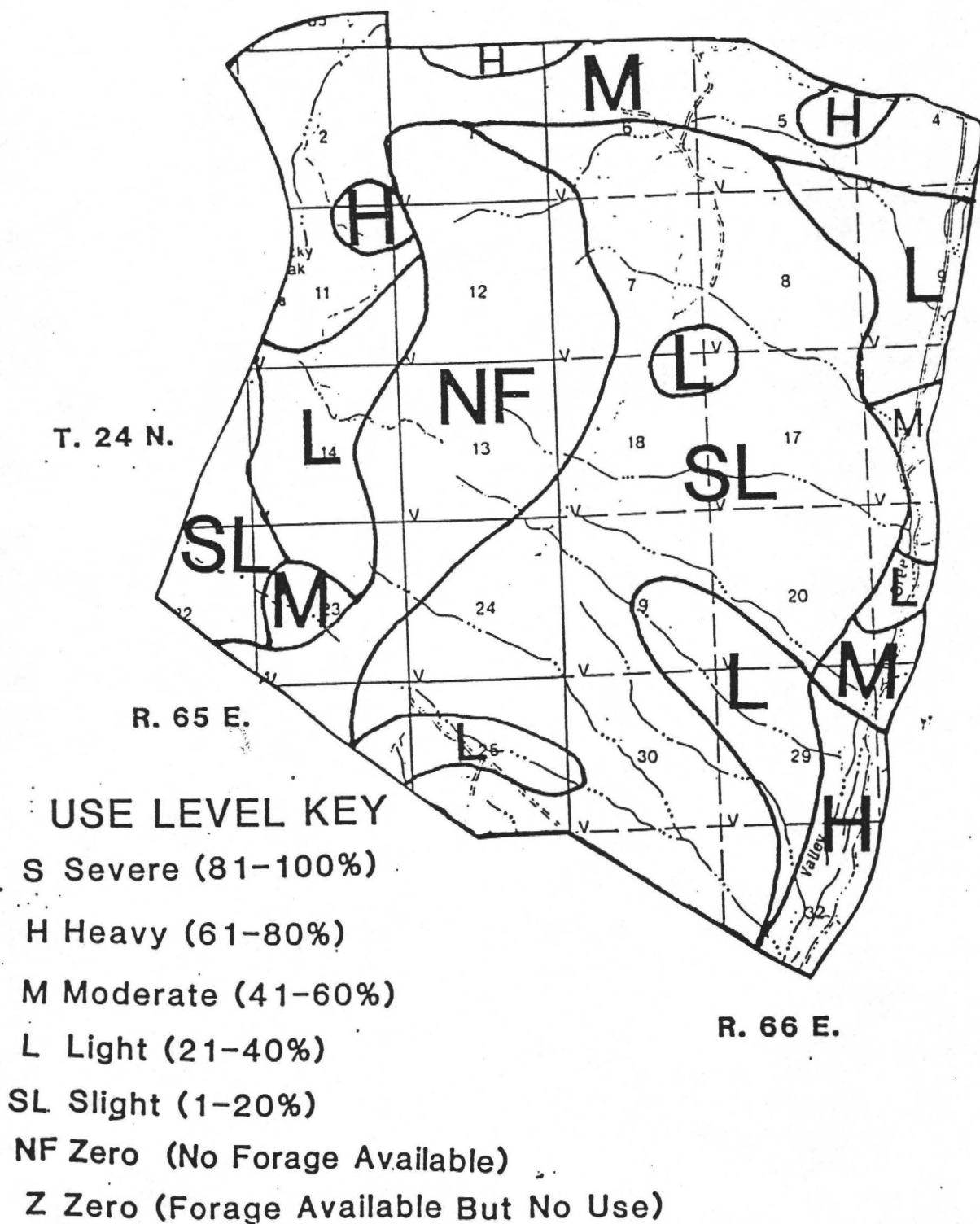
MAP 3



SAMPSON CREEK ALLOTMENT

1986 UTILIZATION PATTERN MAP

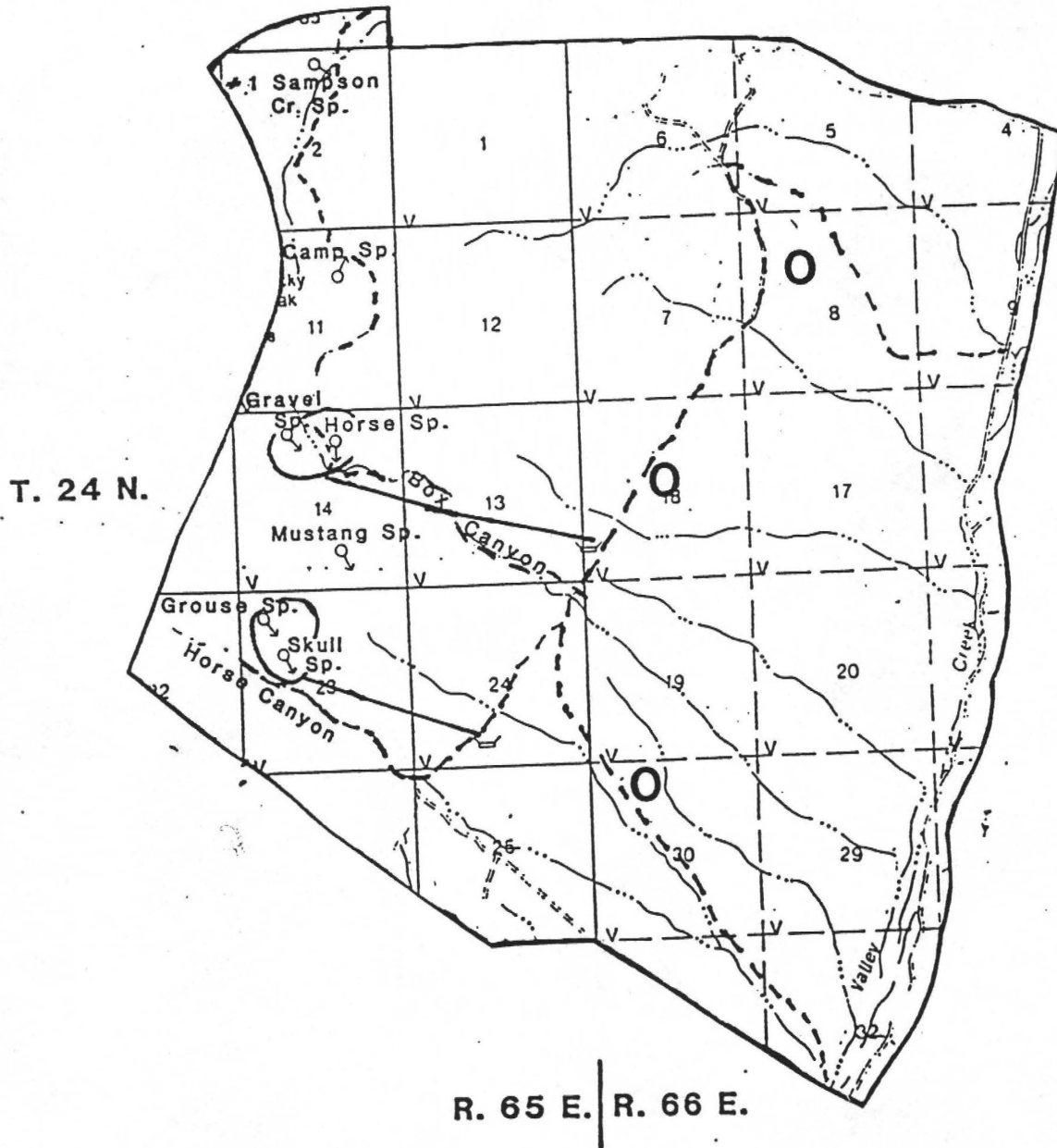
Map 4



SAMPSON CREEK ALLOTMENT

WATER DEVELOPMENT AND ROAD ACCESS

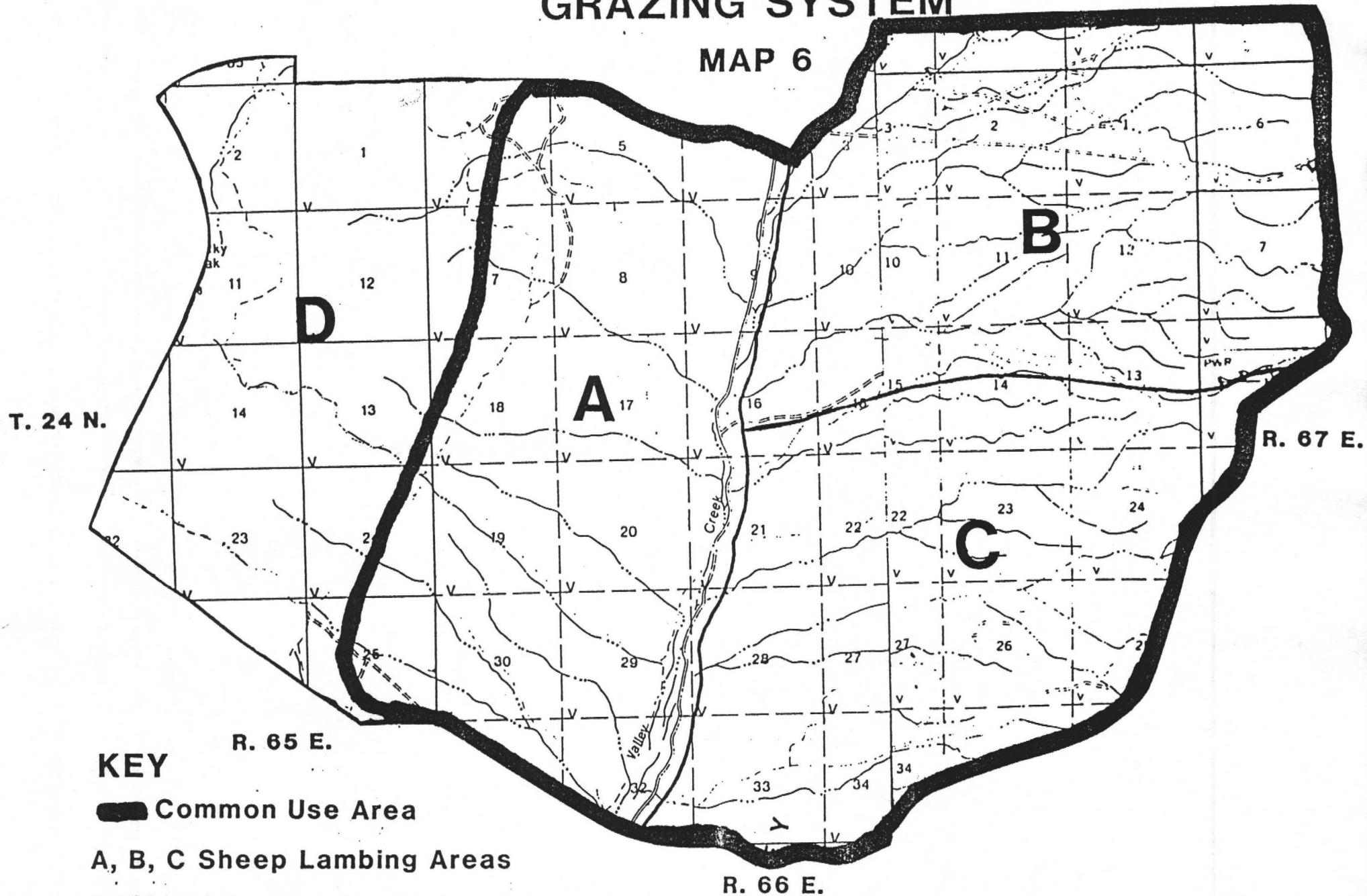
Map 5



- Water Development / pipe line and trough
- Road Improvement / Maintenance
- O Water Hauling Sites

SAMPSON CREEK ALLOTMENT CHIN CREEK ALLOTMENT GRAZING SYSTEM

MAP 6



KEY

 Common Use Area

A, B, C Sheep Lambing Areas

D Sheep Summer Area

BOB MILLER
Acting Governor

STATE OF NEVADA

TERRI JAY
Executive Director



**COMMISSION FOR THE
PRESERVATION OF WILD HORSES**

Stewart Facility
Capitol Complex
Carson City, Nevada 89710
(702) 885-5589

COMMISSIONERS

Deloyd Satterthwaite, Chairman
Spanish Ranch
Tuscarora, Nevada 89834

Dawn Lappin
15640 Sylvester Road
Reno, Nevada 89511

Michael Kirk, D.V.M.
P.O. Box 5896
Reno, Nevada 89513

August 14, 1989

Gerald Smith, Area Manager
Schell Resource Area
Ely District Office
Star Route 5, Box 1
Ely, Nevada 89301

Dear Mr. Smith,

Thank you for the opportunity to comment on the Sampson Creek Allotment Monitoring Evaluation.

The first concern that I have with this document, is the use of the "Yeild Index" to produce an adjusted utilization. To the best of my knowledge, if you eat 90% of a plant, you have eaten 90% of the plant. No amount of rain and sunshine is going to save it.

I hereby request that you use only measured utilization and actual use to make adjustments in grazing on the public lands.

My next concern is in regard to the use of AML's or Appropriate Management Levels for herd numbers. In light of the recent IBLA ruling, the AML no longer exists. It is important now to manage horses in a thriving ecological balance as per IBLA. Please modify your documents to remove all notations of an AML and replace with "a thriving ecological balance."

I feel that at this time, in looking at allotments that contain wild horses as an integral part of the ecosystem, it is important to intigrate the Draft Wild Horse And Burro Habitat Evaluation Procedures Users Guide. This guide has already been used by the Carson City District.

In order to best determine how to manage a multiple-use allotment, the needs of the horses must be taken into consideration just as the needs of critical wildlife habitat are considered. This may help to better define key horse use areas.

Gerald Smith
August 14, 1989
Page 2

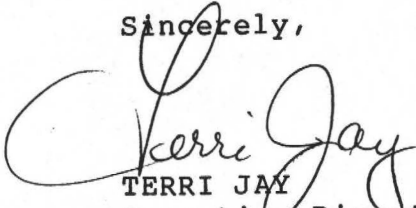
In your options, you propose water developments to help distribution and utilization. Since this allotment is in a herd area, the Commission might be interested in funding some of these projects.

If I can provide you with a grant application for this purpose, please feel free to contact me and I will assist you in this matter.

In conclusion, I appreciate the opportunity to comment on the Sampson Creek Allotment Monitoring Evaluation, and look forward to working with you further.

Thank you for your time.

Sincerely,

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

TERRI JAY
Executive Director



**COMMISSION FOR THE
PRESERVATION OF WILD HORSES**

Stewart Facility
Capitol Complex
Carson City, Nevada 89710
(702) 885-5589

COMMISSIONERS

Deloyd Satterthwaite, *Chairman*
Spanish Ranch
Tuscarora, Nevada 89834

Dawn Lappin
15640 Sylvester Road
Reno, Nevada 89511

Michael Kirk, D.V.M.
P.O. Box 5896
Reno, Nevada 89513

May 4, 1990

Gerald M. Smith, Area Manager
Schell Resource Area
BLM - Ely District Office
Star Route 5, Box 1
Ely, Nevada 89301

Dear Mr. Smith,

This letter is in response to your Proposed Multiple Use Decision for the Sampson Creek Allotment.

The Commission is an affected interest in this matter since we have been participating in the allotment evaluation process for all allotments that are in herd areas and we are concerned for the welfare of wild horses in Nevada.

The Commission is protesting the decision for several reasons.

First of all, the reduction in wild horses must be done in increments over five years, the same as the livestock. Otherwise, when and if more forage becomes available, the horses would not be able to receive an increase. You must stipulate that horses will be reduced gradually, with monitoring to continue so that the horses will not have to take the complete reduction if livestock do not.

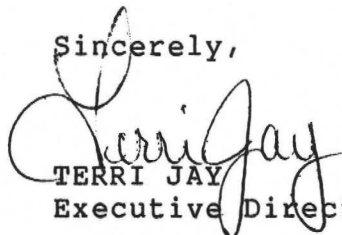
This will also lessen the complication of where to get more horses to take advantage of the increase should one become available.

The Antelope HMAP should also be modified to reflect a gradual reduction, with changes in the AML to reflect the availability of additional forage.

This is the only way to make the Proposed Decision fair and equitable for the users.

Thank you for the opportunity to participate in the allotment evaluation process.

Sincerely,


TERRI JAY
Executive Director