m 6-29-95

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Ely District Office
HC 33 Box 33500
Ely, Nevada 89301-9408

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

4400 (NV-046)

AUG 23 1995

Dear Participant:

Enclosed for your information and review is the draft Sunnyside Allotment Monitoring Evaluation. We appreciate your interest in being involved in the consultation process. 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 September 28, 1995, to allow adequate time to review all input and adhere to our schedule. All of the information received will be evaluated and considered prior to the development of the Management Action Selection Report, which completes the monitoring evaluation process.

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

Sincerely,

Alfred W. Coulloudon
Acting for,

Gerald M. Smith, Manager
Schell Resource Area

Enclosure

SUNNYSIDE ALLOTMENT EVALUATION

TABLE OF CONTENTS

EVALUATION SUMMARY

I. INTRODUCTION

A. Allotment Name and Number: Sunnyside, 01023

B. Permittee: Chester Johnson

C. Evaluation Period: 1982 - 1995

D. Selective management category and priority: M category, moderate priority

II. INITIAL STOCKING LEVEL

A. Livestock Use:

1. Land Use Plan Objective

a. Total Preference: 8,787 AUMs

b. Suspended Preference: O AUMs

c. Active: 8,787 AUMs

2. Season of Use

a. EIS - 3/01 to 2/28

3. Kind and Class of Livestock

a. Cattle (Cow/Calf)

4. Percent Federal Range

a. 100% Federal Range

B. Wild Horse and Burro Use

1. Appropriate Management Levels (AML)

The Schell Record of Decision set the initial stocking level for each herd area as determined by the 1983 inventory. The 1987 Rangeland Program Summary document recognized an appropriate management level of 131 AUMs for the allotment. This includes portions of the Seaman and Dry Lake Herd Management Area's (HMA).

The 131 AUMs identified in the RPS is no longer a valid AML. The Interior Board of Land Appeal's

June 7, 1989 decision (IBLA 88-591, 88-638, 88-648, 88-679) ruled in part: "an AML established purely for administrative reasons because it was the level of wild horse use at a particular point in time cannot be justified under the statute". The IBLA further ruled that AML must be established through monitoring "in terms of the optimum number which results in a thriving natural ecological balance and avoids a deterioration of the range".

2. Herd Use Area

The allotment is partially within the Seaman and Dry Lake Herd Management Areas (see map 14).

C. Wildlife Use (See Maps 5&6)

1. Mule Deer:

a. Reasonable Numbers: 347 AUMs

b. Key/Critical Areas: None identified.

2. Elk:

a. Reasonable Numbers: 110 AUMs

b. Key/Critical Areas: None identified

3. Pronghorn Antelope:

a. Reasonable Numbers: None identified. 80 pronghorn antelope were released in White River Valley in 1984, and another 36 in 1985.

b. Key/Critical Areas: None identified

4. Desert Bighorn Sheep:

a. Reasonable Numbers: None identified. Nineteen desert bighorn sheep were released into the South Egan Range in July 1986. An additional 20 sheep were released in October 1993.

b. Key/Critical Areas: None identified

5. Threatened and Endangered Species:

Bald eagles, a threatened species, may be found on the allotment any time of the year, but no special

use areas have been identified. The White River spinedace, an endangered species, is found in Flag Spring and associated outflows which are designated critical habitat. Flag Spring is located on the Wayne Kirch Wildlife Management Area just south of the ranch headquarters.

Category 2 candidate wildlife species that may be found on the allotment include the White River desert sucker, White River speckled dace, White River wood nymph butterfly, black tern, white-faced ibis, northern goshawk, and ferruginous hawk.

The Eastwood's milkweed (Asclepias eastwoodiana) and the green-gentian (Frasera gypsicola) are Category 2 candidate plant species that may be found on the allotment.

III. ALLOTMENT PROFILE

A. Description

The Sunnyside Allotment is located in the Nye and Lincoln Counties, Nevada within the Schell Resource Area of the Ely District. The allotment is 60 miles southwest of Ely, Nevada and is in the south half of Cave and White River Valleys. Topography consists of two mountain ranges: the Egan Range which divides White River and Cave Valley and the Schell Creek Range which borders Cave Valley on its east side. The valleys are mostly flat to rolling hills. The elevation ranges from 4,984 to 9,212 feet above sea level. Sunnyside is bordered by Wayne Kirch Wildlife Management Area, Needles Allotment, and Forest Moon Allotment on the west. Hardy Springs Allotment and Shingle Pass Allotment border on the northern end and Timber Mountain Allotment on the far southern end. The Wilson Creek Allotment, Fox Mountain Allotment, and Geyser Ranch Allotment border Sunnyside on its east side.

Water sources include the White River, various developed springs and undeveloped springs, wells, and reservoirs. White River valley is fenced, except on its south western boundary. Cave Valley has very little fencing and drift occurs on the north boundary into the Shingle Pass Allotment (see map 2).

The Sunnyside Allotment has a adjudicated sheep trail (White River Trail) that stretches 8 miles across the

allotment. This trail is used by 1 sheep operator with a grazing permit adjacent to the allotment (see map 12).

Approximately 60 percent of the Far South Egan Wilderness Study Area (WSA) extends into the Sunnyside Allotment. The Weepah Springs WSA borders the southwest corner of the allotment.

There are no anticipated or pending land or mineral actions which will affect the allotment in the foreseeable future.

B. Acreage

1. Allotment total: Federal - 219,519 acres
Private - 6,540 (see map 1)

2. Pastures: No official pastures, although the permittee uses Cave Valley Use Area traditionally June 1 through October 15 every year and White River Valley the rest of the year.

C. Allotment Specific Objectives (See Appendix II)

1. The following allotment specific objectives tie the Schell Resource Area Land Use Plan (LUP), Rangeland Program Summary, and Activity Plans together into quantified objectives for the Sunnyside Allotment.

a. Livestock

(1) The short term objective will be accomplished through managing the allowable use levels (AUL) by season of use to improve or maintain the desired vegetation community (see appendix II).

(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 II).

b. Wild horses

(1) The short term objective will be accomplished through managing the allowable use level (AUL) by season of

use to improve or maintain the desired vegetative community (see appendix II).

(2) The long term objective is to manage for the appropriate seral stage to provide desired quantity of forage in order to meet the requirements of the wild horses (see appendix II).

c. Mule Deer

(1) The short term objective is to limit yearlong use on key perennial grasses, grass-like plants, and forbs to 55 percent by all users, and to 45% for key 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. Elk

(1) The short term objective is to limit yearlong use on key perennial grasses, grass-like plants, and forbs to 55 percent by all users, and to 45% for key shrubs.

(2) The long term objective is to manage for the most appropriate seral stage to provide the desired quantity, quality, variety, and density of forage in order to meet the requirements of elk.

e. Pronghorn Antelope

(1) The short term objective is to limit yearlong use on key perennial grasses, grass-like plants, and forbs to 55 percent by all users, and to 45% for key shrubs.

(2) The long term objective is to maintain antelope range in at least fair habitat condition by providing appropriate vegetation quantity and quality.

f. Desert Bighorn Sheep

(1) The short term objective will be

accomplished through managing the allowable use level (AUL) by season to improve or maintain the desired vegetation community.

(2) The long term objectives are to manage for the most appropriate seral stage to provide the desired quantity, quality, variety, and density of forage in order to meet the requirements of bighorn sheep.

g. Riparian Areas

(1) The short term objective is to limit use on wet meadows and stream riparian areas for 30-50 percent utilization for grass and grass-like species, and 45 percent for shrubs by all animals yearlong.

(2) The long term objectives are 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), and to manage all stream riparian areas for late seral stage (exact composition of plant species will be based on the appropriate ecological site for that area).

h. Wilderness Areas

(1) The short term objective is to maintain/improve the current vegetation within the wilderness study area to provide future wilderness values and biodiversity.

(2) The long term objective is to manage the vegetative community to enhance or restore the natural ecosystem.

2. Activity Plan:

Operations Plan for the South Egan Desert Bighorn Sheep Augmentation.

(1) The short term objective is to limit yearlong use for key perennial grasses, grass-like plants, and forbs to 55 percent by all users, and to 45% for key shrubs.

(2) The long term objectives are to identify key/crucial areas, which are absolutely basic to maintaining the population during certain seasons of the year or specific reproduction periods (e.g., winter range, kidding grounds); and once identified, maintain key/crucial areas in good or excellent habitat condition by providing appropriate vegetation quantity, quality, and diversity.

D. Key Species Identification

1. Uplands: (See Appendix II)

a. Livestock and Wild Horses

Key Area	Common Name	Genus Species
SS01:		
	winterfat	Eurotia lanata (EULA5)
	indian ricegrass	Oryzopsis hymenoides (ORHY)
	bud sage	Artemisia spinescens (ARSP5)
SS02:		
	indian ricegrass	Oryzopsis hymenoides (ORHY)
	black sagebrush	Artemisia arbuscula nova(ARARN)
	Galleta grass	Hilaria jamesii (HIJA)
SS03:		
	winterfat	Eurotia lanata (EULA5)
	indian ricegrass	Oryzopsis hymenoides (ORHY)
SSCV02		
	winterfat	Eurotia lanata (EULA5)
	indian ricegrass	Oryzopsis hymenoides (ORHY)
	bottlebrush squirreltail	Sitanion hystrix (SIHY)

b. Wildlife

Mule Deer:

black sagebrush	Artemisia arbuscula nova(ARARN)
Mexican cliffrose	Cowania mexicana (COME5)
green ephedra	viridis (EPVI)
antelope bitterbrush	Purshia tridentata (PUTR2)

Elk:

Bluebunch wheatgrass	Agropyron spicatum (AGSP)
Indian Ricegrass	Oryzopsis hymenoides (ORHY)
Bluegrass	Poa spp. (POA++)
Needle and Thread	Stipa comata (STCO4)
Mountain mahogany	Cercocarpus spp. (CERCO)
Antelope bitterbrush	Purshia tridentata (PUTR2)

Pronghorn Antelope:

Black sagebrush	Artemisia arbuscula nova(ARARN)
Shadscale	Atriplex confertifolia (ATCO)
Rabbitbrush	Chrysothamnus visidifloris (CHVI8)

Desert Bighorn Sheep:

Buckwheat	Eriogonum (ERIOG)
Galleta	Hilaria jamesii (HIJA)
Needle and Thread	Stipa comata (STCO4)
Mountain mahogany	Cercocarpus spp. (CERCO)
Mexican cliffrose	Cowania mexicana (COME5)
Mormon tea	Ephedra spp. (EPHED)

2. Riparian:

Sedge	Carex spp. (CAREX)
Rush	Juncus spp. (JUNCU)
Bluegrass	Poa spp. (POA++)
Alkali sacaton	Sporobolus airoides (SPAI)

3. Crucial Habitat: None identified at this time.

IV. MANAGEMENT EVALUATION

A. Purpose

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

B. Summaries of Studies Data

1. Appendix III, Key Management Area Evaluation Summary (Form No. NV 4400-17) summarizes the monitoring studies data in graphic form. Compare Appendix III with the following sections; actual use, precipitation, utilization, trend, and ecological status.

2. Actual Use (See Appendix I)

a. Livestock

Actual use during the evaluation period has

ranged from a low of 4050 to a high of 5415 AUMs (see Appendix I). Actual use was determined from licensed use and actual grazing use report forms submitted during the evaluation period. The permittee has taken an average of 47% non-use from 1982-1993.

b. Wild Horses

Wild horse aerial census was conducted during the evaluation period for the Seaman and the Dry Lake HMAs. The following table shows the number of horses counted in the Sunnyside Allotment during the aerial censuses. Wild horses have not been found during any censuses in the Dry Lake HMA portion of the allotment and no use by horses is known to occur there (see map 14).

Date	Seaman HMA
3/95	76/4 = 80
1/95	96/0 = 96
9/94	68/24 = 92
5/93	79/4 = 83
8/92	61/9 = 70
4/91	112/13 = 125
3/89	25/1 = 26
6/87	52/9 = 61
4/79	47/0 = 47

(#adults/#foals = total)

c. Wildlife

Mule deer use was extrapolated from Nevada Division of Wildlife's estimates of herd numbers. The estimated use is based on the amount of mule deer range that is on the allotment and the season the animals are on that range (see Appendix I).

In 1994, NDOW estimated there were 69 desert bighorn sheep in the South Egan Range, all on the Sunnyside Allotment. NDOW also estimated there were 75 - 80 pronghorn antelope in White River Valley. It is unknown how many are found on the allotment. There is no estimate of the number of elk on the allotment because the number of animals in the area is low (see maps 5&6).

3. Precipitation

Precipitation data for this evaluation was obtained from the National Oceanic and Atmospheric Administration weather station located at Sunnyside, Nevada. The average annual precipitation for the last fourteen reporting years was 11.37 inches with a range from 6.94 inches to 17.11 inches.

Precipitation data was used in the formulation of a yield index in the calculation of a long term stocking rate. The first step was to calculate the crop yield, the effective annual precipitation for plant growth occurring between September and June of each year. The crop yield for each year was arrayed to determine the median long term crop yield. The median crop yield for the Sunnyside reporting station was 8.78 inches. The individual yearly crop yields during the evaluation period were then divided by the long term median crop yield to determine a precipitation index for each year. The yield index was then determined from the precipitation index by using the linear regression equation $Y = -23 + 1.23X$, where Y represents the yield index and X represents the precipitation index. Table I shows the precipitation and yield indexes (Sneva, Forest, and Britton. August 1983).

Table 1. Crop Yield, Precipitation Index and Yield Index for Sunnyside Reporting Station, Nevada.

Year	Crop Yield	Precipitation Index	Yield Index
1982	8.52	97	96
1983	12.02	137	145
1984	6.42	73	67
1985	7.15	81	77
1986	8.92	102	102
1987	7.74	88	85
1988	12.33	140	150
1989	6.37	73	66
1990	6.49	74	68
1991	7.46	85	82
1992	9.80	112	114
1993	9.49	108	110

A yield index is not used to "correct" utilization levels. Whether or not allowable use level objectives were exceeded is based on the actual utilization that was measured. The index is used to account for the affect of yearly climatic variations in the calculation of an appropriate stocking level for all users. Since it is not feasible to adjust numbers of all grazing animals (livestock, wildlife, and wild horses) on a yearly basis to respond to annual fluctuations in precipitation, an average long-term carrying capacity was determined based on a "normal" year. The affects of precipitation on carrying capacity must be considered.

4. Utilization

a. Key Area

Key management areas have been established on the allotment (see Appendix II and map 4). The key management area utilization and actual use data was used in determining, establishing, and calculating the desired stocking rate analysis for the allotment.

b. Use Pattern Mapping

Use pattern mapping (UPM) was completed on the allotment in 1989 1990, 1991, and 1992. The patterns of grazing use for this allotment are shown on maps 7-11 (see attached maps).

c. Yield Index

The yield index, discussed in the previous section was multiplied by the measured utilization to determine what the utilization would be in relation to a normal precipitation year.

5. Trend

Quadrate Frequency was established in 1981 at the four key areas. A gross statistical analysis using confidence intervals was applied to the 4 established key areas. For statistical considerations additional frequency data will be collected in the future to further help quantify what direction trend is moving, ie. downward, static, or upward. At that time, data will be applied to a more detailed analysis. (Table II & map 4).

TABLE II QUADRATE FREQUENCY STUDIES

PERCENT FREQUENCY OF KEY SPECIES BY YEAR

	SS01	
	1981	1995
ORHY	13	7
EULA	76	74
ARSP	30	22
HAGL	4	3
BRTE	.5	87

	SS02	
	1981	1994
ORHY	1	0
SIHY	2	0
HIJA	49	72
ARNO	0	4
ARSP	8	0

	SS03	
	1981	1994
ORHY	.5	1
EULA	76	81

	SSCV01	
	1981	1994
ORHY	6	1
SIHY	59	60
EULA	64	39

Summary of Frequency Data:

SS01- Due to the decrease of ARSP5 and ORHY, and the great increase in BRTE, which is a indicator of a deteriorating range site, the data indicates that trend is moving in a downward direction from 1981 to 1995.

SS02- The key area appears to be on a degraded black sage site due to the high amount of galleta grass and low frequency of black sage. It is recommended that a key area evaluation be done to determine if the study site needs to be relocated in a more representative site.

SS03- There was no significant change in frequency of key species. The data indicates a static trend from 1981 to 1994.

SSCV02- A decrease in frequency of occurrence of EULA5 and ORHY is an indicator of downward trend.

6. Range Survey Data

The 1979 Ocular Reconnaissance Forage Survey indicated that there were 3,789 AUMs available for livestock. The 3,789 AUM figure reflects the application of suitability criteria and competitive/non-competitive criteria.

7. Ecological Status

Ecological status survey was completed in 1984 at all the key areas (see Appendix II & map 4).

Key Area SS01, is within a Silty 8-10 ppz" (028BY013NV) range site with a condition rating

of 61% of Potential Natural Community (PNC) by air dry weight. The site was adjusted to a mid-seral stage due to the increase of annuals and forbs.

Key Area SS02, is within a Shallow Calcareous Loam 8-12 ppz" (029XY008NV) range site with a condition rating of 20% of Potential Natural Community (PNC) by air dry weight. The key area appears to be on a degraded black sagebrush site. It is recommended that a key area evaluation be done to determine if the study site needs to be relocated in a more representative area for the ecological site.

Key Area SS03, is within a Silty 5-8 ppz" (029XY020NV) range site with a condition rating of 70% of Potential Natural Community (PNC) by air dry weight. The site was adjusted to a mid-seral stage due to the low composition of grass species.

Key Area SSCV02, is within a Silty 8-10 ppz" (028BY013NV) range site with a condition rating of 76% of Potential Natural Community (PNC) by air dry weight, placing it in PNC.

8. Wildlife Habitat

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

9. Riparian/Fisheries Habitat

In 1995, Rapid Riparian Functionality Assessment was completed on Horse Spring, Perry Spring, Sidehill Spring, and Trough Spring. The assessment was completed to determine the condition of the riparian areas, i.e. proper functioning, functioning at risk, or non functional (see table III).

TABLE III
Stream Functionality 1995

SPRING NAME	CONDITION
Horse Spring	NA*
Perry Spring	Proper Functioning
Sidehill Spring	Proper Functioning
Trough Spring	Proper Functioning

* spring is piped and no riparian area found

10. Wild Horse and Burro Habitat

Wild horses in the Seaman HMA use the southwest portion of the allotment year round. In dry years, water is not available for wild horses and they tend to move northwest into the Forest Moon Allotment. Permanent water needs to be developed to support the wild horses in the area. Space and cover are adequate for wild horses but forage is in poor condition. There is no horse use in the Dry Lake HMA portion of the allotment.

11. Wilderness Study Area

No ecological status has been collected on the portion of the allotment within the Far South Egan WSA.

V. CONCLUSIONS

Refer to by number from section III.C., and Allotment Specific Objectives and Appendix II.

A. Livestock

(1) Objective Attainment Determination:

Not met.

(2) Rationale: Measured utilization at the key areas and use pattern mapping away from key areas indicated the allowable use level (AUL) for key forage species was exceeded in 1984, 1985, and

1989 through 1992. The non attainment of this objective is primarily due to inadequate livestock distribution. The use patterns appear to conform to the topography of the allotment. Livestock spend more time along the lower slopes, valleys, ridges, slopes, and canyons nearest water, while steeper slopes and areas further from water receive slight to no use. Use pattern mapping for the Sunnyside Allotment also reflects changes in forage production.

B. Wild horses

(1) Objective Attainment Determination:

Not met.

(2) Rationale: Measured utilization at the key areas and use pattern mapping away from key areas indicated the allowable use level (AUL) for key forage species was exceeded in 1984, 1985, and 1989 through 1992.

C. Mule Deer

(1) Objective Attainment Determination:

Met.

(2) Rationale: Use pattern mapping indicates slight use in the South Egan and Schell Creek Ranges.

D. Elk

(1) Objective Attainment Determination:

Met.

(2) Rationale: Use pattern mapping indicates slight use in the South Egan Range.

E. Pronghorn Antelope

(1) Objective Attainment Determination:

Not met.

(2) Rationale: Measured utilization at the key areas and use pattern mapping away from key areas indicated the allowable use level (AUL) for key forage species was exceeded.

F. Desert Bighorn Sheep

(1) Objective Attainment Determination:

Met.

(2) Rationale: Use pattern mapping showed slight use in the South Egan Range.

G. Riparian Areas

(1) Objective Attainment Determination:

Met.

(2) Rationale: Use pattern mapping indicated the allowable use level on key riparian species was not exceeded at the key springs (Horse Spring, Perry Spring, Sidehill Spring, and Trough Spring).

H. Wilderness Study Area

(1) Objective Attainment Determination:

Met.

(2) Rationale: Use pattern mapping showed slight use in the South Egan Range.

VI TECHNICAL RECOMMENDATIONS

A. Issues Identified on the Sunnyside Allotment

-Insufficient forage available for livestock and wild horse demand.
-Allowable use levels exceeded by livestock and wild horses.
-Inadequate livestock and wild horse distribution.
-Period of use too long during critical spring growth.
-Lack of water for wild horses on public land.
-Trend direction appears to be static at 1 and downward at 2 of the 4 key areas.

B. Short Term Recommendations

1. Adjust Livestock and Wild Horse Use

Monitoring data indicates that livestock and wild horses have contributed to unacceptable levels or patterns of utilization within certain areas of

the allotment. Active preference of 8,787 AUMs for livestock would be adjusted by 3,402 AUMs for attainment of allotment objectives. Leaving a stocking level of 5,385 AUMs. The 5,385 AUMs would consist of 3,915 AUMs in White River Valley and 1,470 AUMs in Cave Valley (see Appendix IV).

Wild horses in the Seaman HMA portion of the allotment would be managed at an appropriate management level of 224 AUMs or 19 animals yearlong ±15% (190 to 258 AUMs; 16 to 22 wild horses yearlong). The range of ±15% allows the number of wild horses to vary to allow for movements between allotments and means removals would not need to occur as frequently (see Appendix IV).

2. Establishment of Use Areas

The establishment of use areas will improve livestock distribution, more effectively manage use, and/or improve/maintain vegetation condition. The proposed use areas and stocking levels by use area are necessary in order to meet the multiple use objectives for the allotment.

The use areas will be identified as follows:

Cave Valley (CV)
North White River (North)
South White River (South)

The North and CV Use Areas will be separated by the Egan Mountain Range, and North and South Use Areas will be separated by the Gap Mountain Recreation Area road. If excessive drift occurs a fence could be constructed to divide the two use areas.

3. Change Season Of Use

The permittee has agreed to change the season of use from yearlong to 6/1-3/31. The permittee will remove all livestock from public lands from April 1 through May 31. The change in season of use will increase forage production, grass and forb composition, winterfat vigor throughout the use areas, and avoid grazing the critical growth period.

4. Deferred Grazing System/Adjustment of Season of Use

The permittee has agreed to implement a three pasture grazing system using the three proposed use areas. The implementation of a grazing system will rotate late spring/summer use. The grazing system will accommodate 538 cattle from June 1 to March 31 for a total of 5,385 AUMs (see Table IV).

TABLE IV

A 06/01 - 08/20
B 08/21 - 12/09
C 12/10 - 03/31
D 06/01 - 09/18
E 09/19 - 12/09
F 04/01 - 05/31

YEAR	NORTH	SOUTH	CAVE VALLEY	REST
1	B	C	A	F
2	C	D	E	F
3	C	B	A	F
4	D	C	E	F
5	SAME AS YEAR 1			

5. Salting

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

6. Change Trailing Route for Permittee using the White River Trail

This recommendation pertains to the permittee who trail sheep through the Sunnyside Allotment. To insure no unnecessary contact with domestic and wild sheep the White River Trail would be changed to the following: Sheep would continue to be trailed on the west side of Highway 318 to Gap Mountain, but then would be trailed along the

west bench 2 miles to the southern end of the mountain, then east through the pass (T.5 N. R.62 E. sec. 18) to the Fox Mountain Allotment. Authorization to trail east of Highway 318 would no longer exist (see map 12 & 13). This would help in preventing any passing of domestic viruses to wild sheep populations.

C. Long Term Recommendations

1. Vegetation Manipulation

2500 acres in White River Valley has been identified for two potential seedings (see map 3). The proposed areas are on big sagebrush (ARTR) sites with deep to very deep soils. The understory is poor due to the large ARTR plants, but soils would produce excellent grass and forb production. The proposed improvements would enhance livestock, wild horse, and wildlife habitat through the establishment of grasses and forbs. Once the seeding projects are completed the areas would be rested for a minimum of two growing seasons. An evaluation of the seedings would be done to determine an initial stocking rate. The seedings would continue to be evaluated to determine a stocking rate under a sustained yield basis.

2. Water Developments

Improve livestock and wild horse distribution by locating and developing water sources on public land. This would provide water for horses year round and better distribute livestock.

D. Additional Monitoring Required

Continue to collect the following types of monitoring data and any other monitoring data to measure attainment of allotment objectives.

1. Utilization
2. Actual Use
3. Climate
4. Trend
5. Ecological Status
6. Wild Horse Census
7. Use Pattern Mapping

Literature Cited:

Sneva, Forest, and C.M. Britton, 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. P. 61.

APPENDIX I
ALLOTMENT: SUNNYSIDE - ACTUAL USE

	CATTLE AUMS	HORSE AUMS	DEER AUMS	ANTELOPE AUMS	ELK AUMS	Bighorn	TOTAL
82-83 WHITE R. CAVE V.	2,837 1,213	**	525	*	*	*	4,575
83-84 WHITE R. CAVE V.	2,918 1,568	**	581	*	*	*	5,067
84-85 WHITE R. CAVE V.	3,368 1,568	**	690	*	*	*	5,626
85-86 WHITE R. CAVE V.	3,293 1,568	**	1,120	*	*	*	5,981
86-87 WHITE R. CAVE V.	3,593 1,568	**	1,273	*	*	*	6,434
87-88 WHITE R. CAVE V.	3,086 1,568	732	1,824	*	*	*	7,210
88-89 WHITE R. CAVE V.	3,580 1,568	**	1,413	*	*	*	6,561
89-90 WHITE R. CAVE V.	3,580 1,568	528	1,756	*	*	*	7,216
90-91 WHITE R. CAVE V.	3,580 1,568	**	1,492	*	*	*	6,640
91-92 WHITE R. CAVE V.	3,595 1,568	1,248	1,184	*	*	*	7,847
92-93 WHITE R. CAVE V.	3,381 1,719	840	988	*	*	*	6,928
93-94 WHITE R. CAVE V.	3,396 1,704	996	***	*	*	*	6,096
94-95 WHITE R. CAVE V.	2,289 1,704	1,104	***	*	*	*	5,097

Livestock period of use = YEARLONG (3/1 - 2/28)

* Antelope, Elk, and Bighorn Sheep use on the allotment is low. The actual amount of use (AUMs) has not been determined
** Horse numbers not censused
*** Estimated Mule Deer AUMs not available

APPENDIX II

KEY MANAGEMENT OBJECTIVES

ALLOTMENT : SUNNYSIDE (Livestock, Horses & Wildlife)

			PRESENT SITUATION			LONG TERM OBJECTIVES		SHORT TERM OBJECTIVES				
Study No.	Key Area Location	Ecological Site No. *	Key Species	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
SS01	T. 8 N. R. 62 E. Sec. 32	028BY013NV Silty 8-10	ORHY EULA5	ORHY- 6 GRASS- 7 EULA5- 89 SHRUBS- 93	61	IMPROVE	ORHY 7-10 EULA5 <89 GRASS >10 FORBS T-2 SHRUBS <89	>61	GRASS-50% FORBS-45% SHRUBS-45%	6/1-3/31	NOT MET	Measured utilization indicated AUL exceeded 1989 and 92
SS02	T. 4 N. R. 61 E. SEC. 34	029XY008NV SHALLOW CALCAREOUS LOAM 8-12	ORHY STCO ARARN	ORHY- 0 HIJA- 54 ARARN- 3 SHRUBS- 46	20	IMPROVE	ORHY 1-2 HIJA <54 ARARN >5 GRASS <54 FORBS 1-2 SHRUBS <46	>26	GRASS-50% SHRUBS-45%	6/1-3/31	NOT MET	Measured utilization indicated AUL exceeded 1989 and 91
SS03	T. 3 N. R. 62 E. SEC 16	029XY020NV Silty 5-8	ORHY EULA5	ORHY- T EULA5- 99	70	IMPROVE	ORHY 1-2 EULA5 <99 GRASS 1-3 FORBS T-2 SHRUBS <99	>70	GRASS-50% FORBS-45% SHRUBS-45%	6/1-3/31	NOT MET	Measured utilization indicated AUL exceeded 1984 and 85
SSCV02	T. 6 N. R. 64 E. SEC 19	028BY013NV Silty 8-10	ORHY SIHY EULA5	ORHY- 3 SIHY- 32 EULA5- 65	76	IMPROVE	ORHY >5 SIHY <32 EULA5 60-70 GRASS <32 FORBS T-2 SHRUBS 60-70	75	GRASS-60% FORBS-60% SHRUBS-60%	6/1-3/31	NOT MET	Measured utilization indicated AUL exceeded 1984,89,90, and 92.

* Ecological Sites listed here can be refered to SCS Ecological Site Descriptions.
** This is the seral stage that would have the greatest value for all resource users (livestock, horse and wildlife).
*** Allowable use levels for utilization are the objectives established to meet the long term composition objectives.

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

Appendix III

District: Ely

Planning Area: White River

Date: 1994

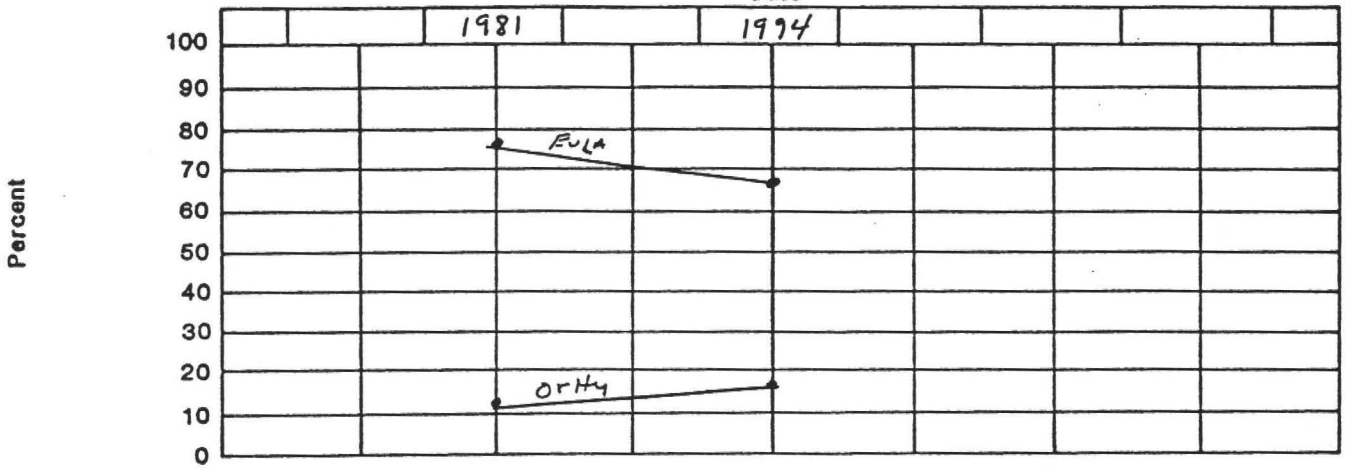
Allotment: Sunnyside

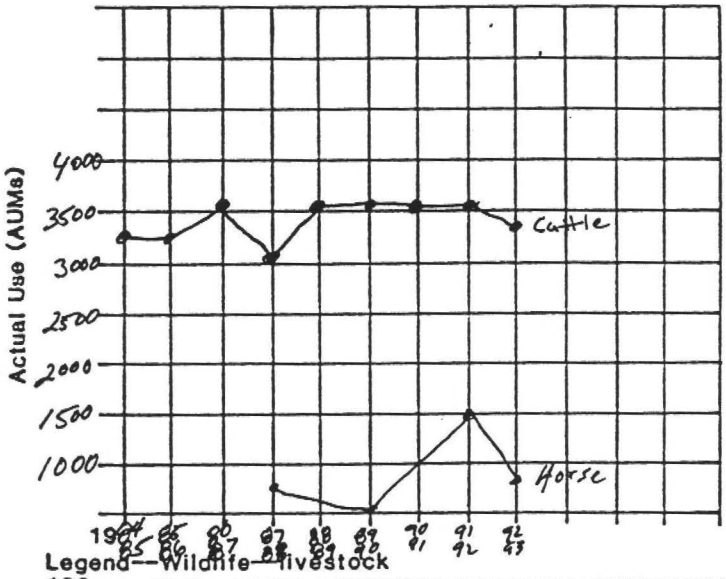
Key Management Area: 55 & 1

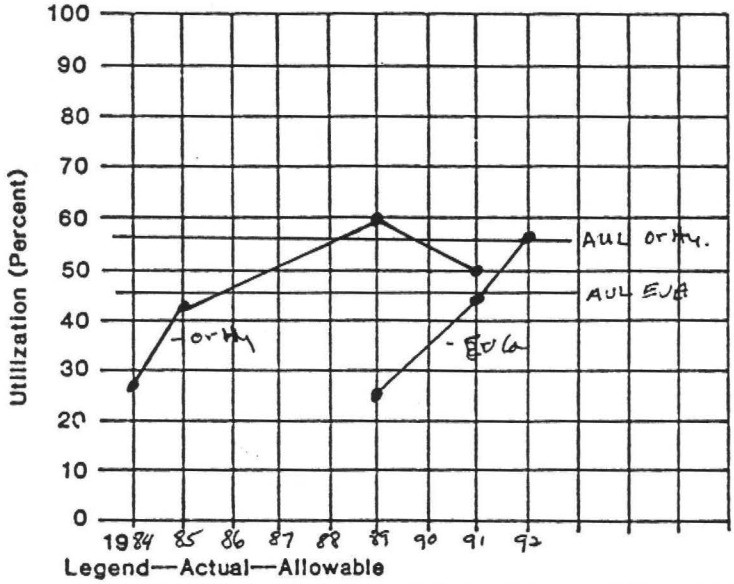
Trend Index (Frequency)

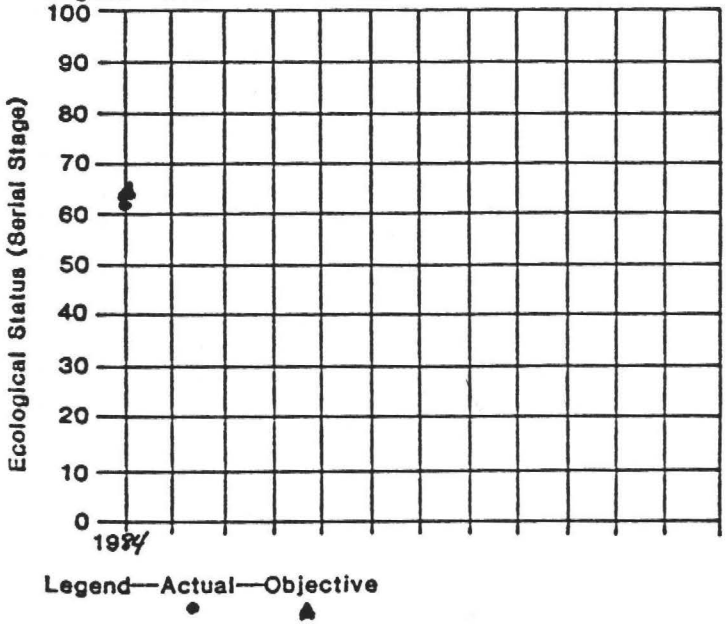
Date: 1981 — 1994

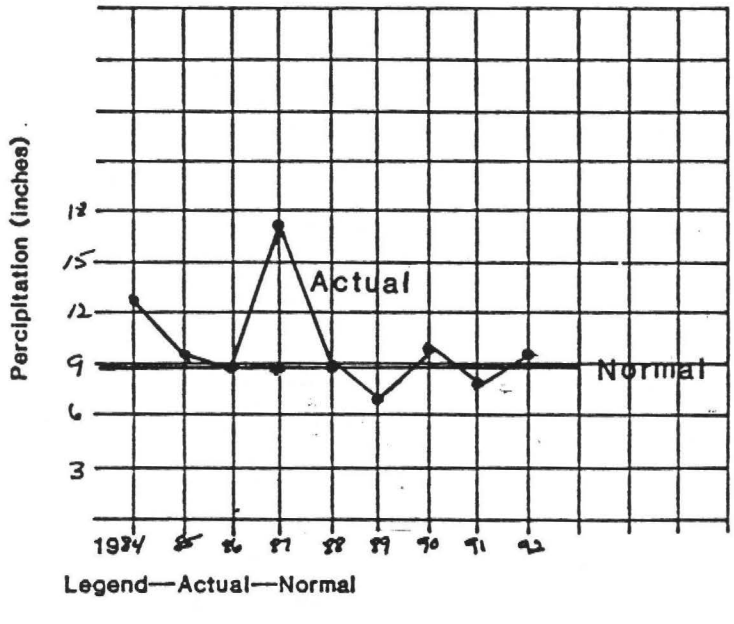
Code Key Species-Colo: ORHY, EULA5











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

Appendix III

District: Ely

Planning Area: White River

Date: 1994

Allotment: Sunnyside

Key Management Area: 55 Q3

Trend Index (Frequency)

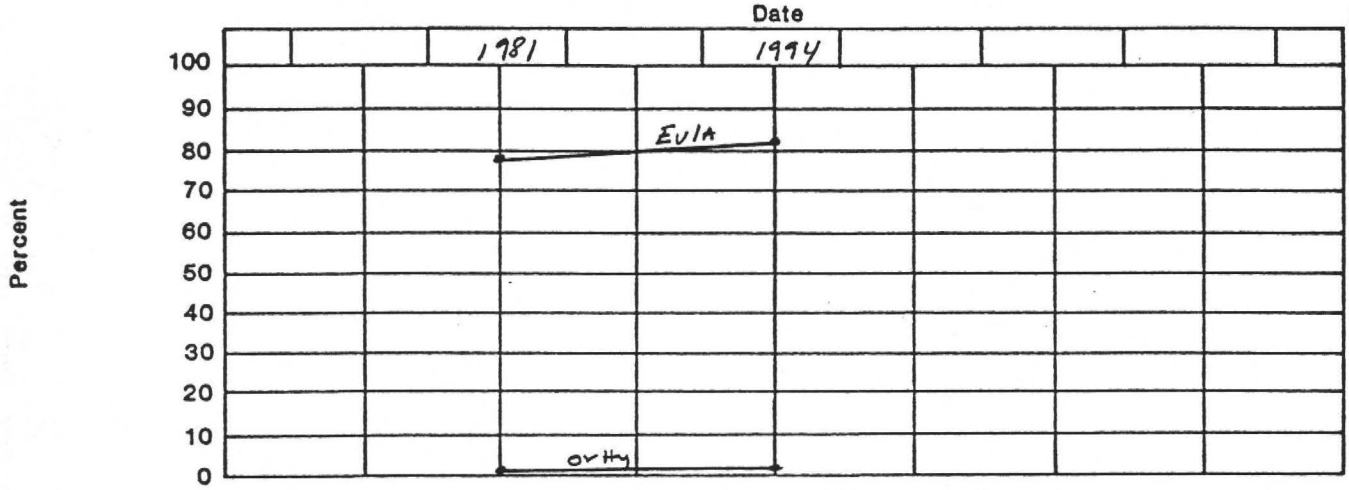
Date

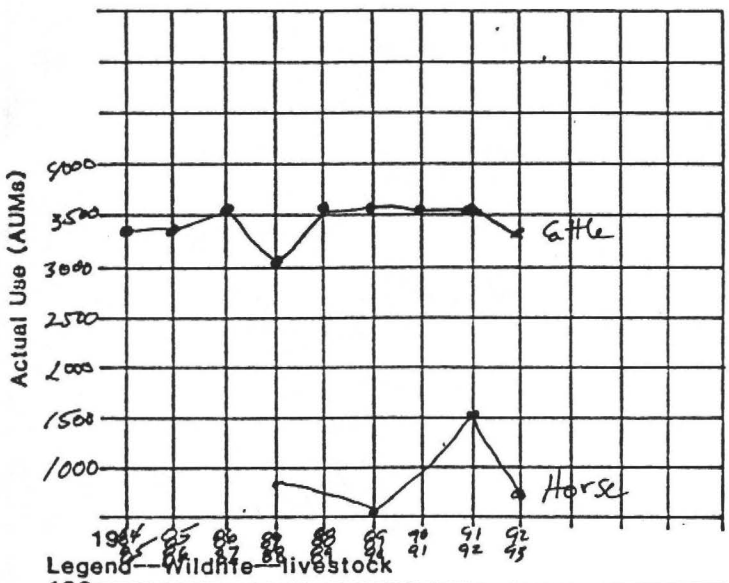
Code

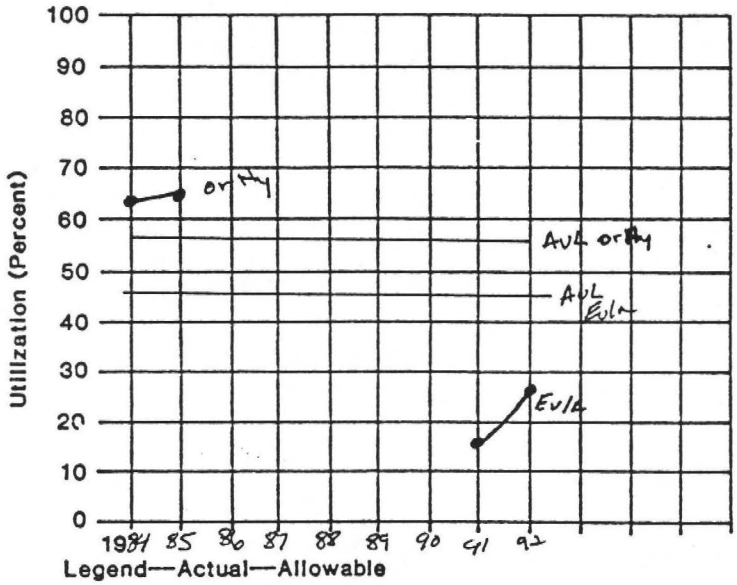
Key Species-Colo

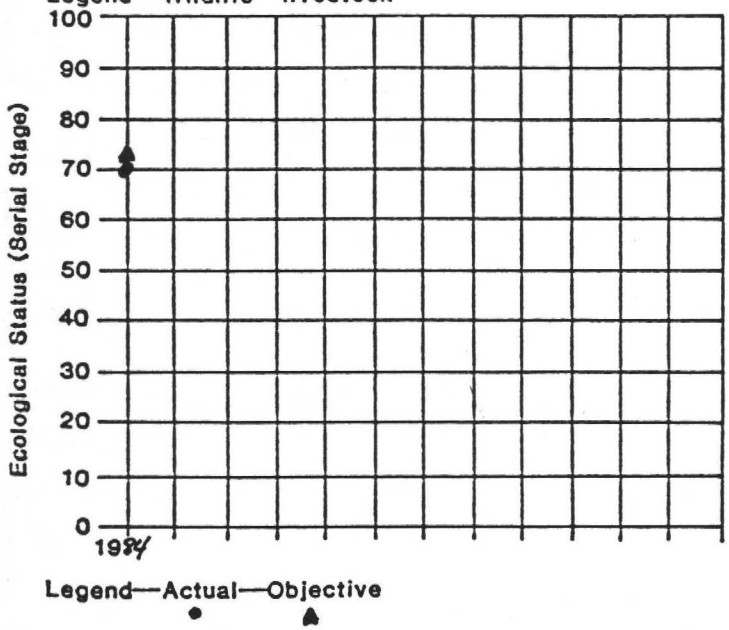
ORHy

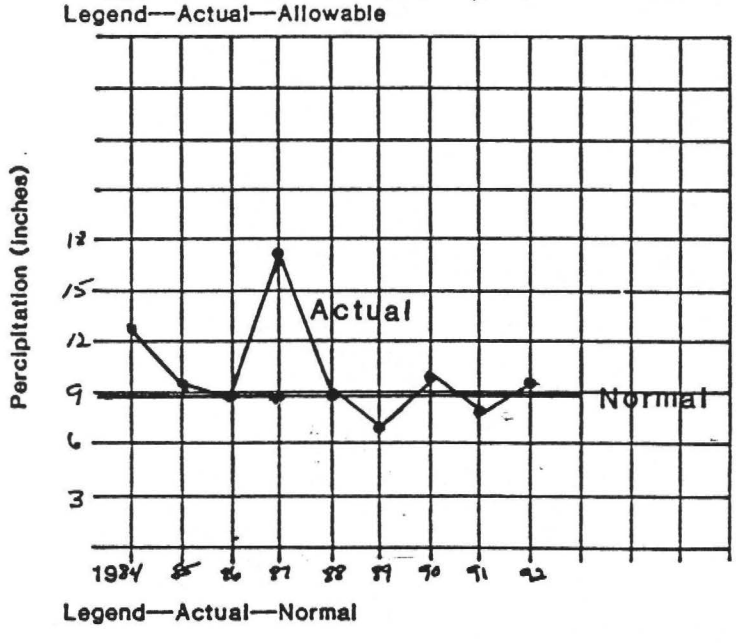
EUla5











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

Appendix III

District: Ely

Planning Area: White River

Date: 1994

Allotment: Sunnyside

Key Management Area: 55CV82

Trend Index (Frequency)

Date

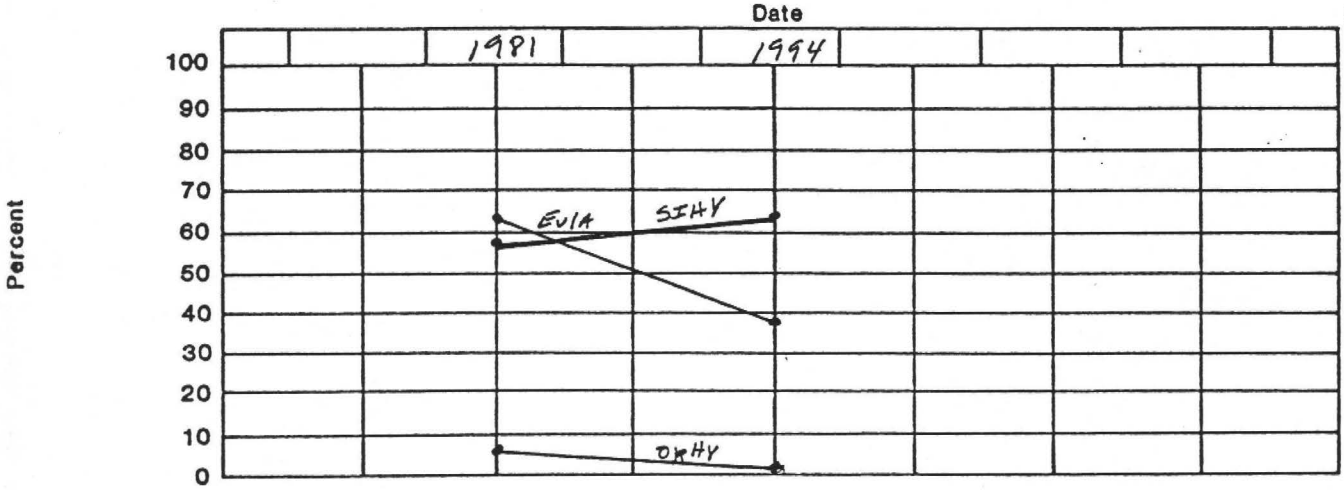
Code

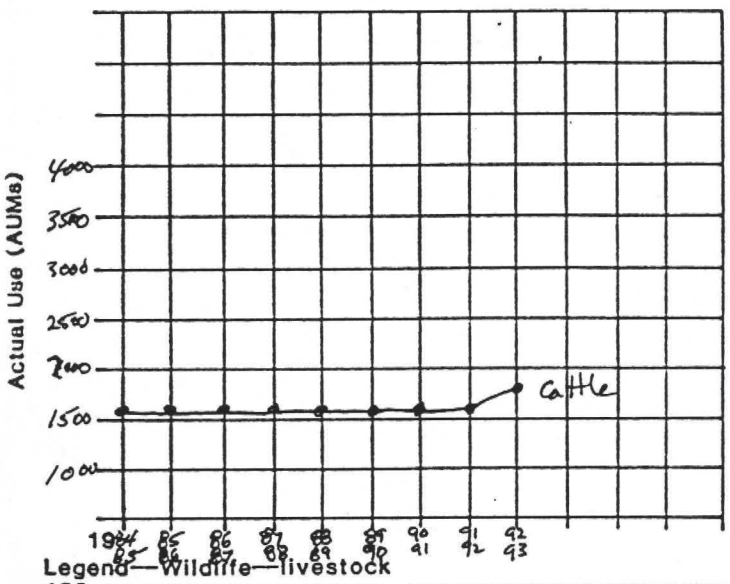
Key Species-Color

ORHy

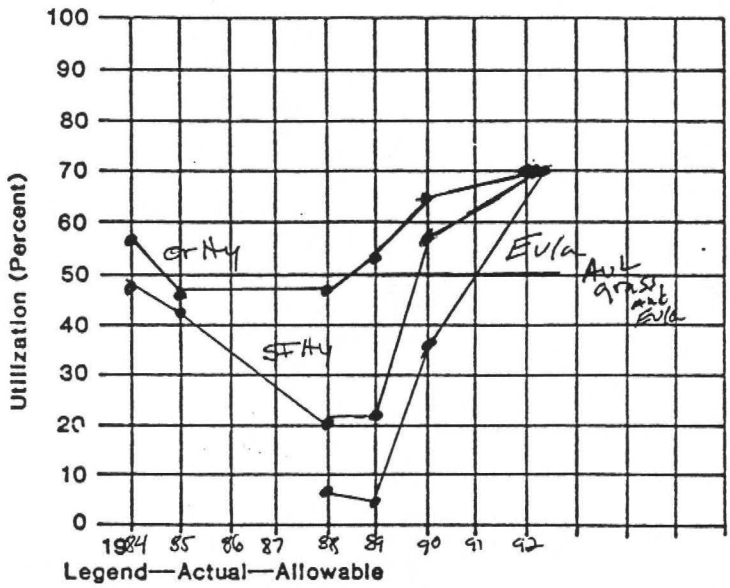
SIHy

EUIA5

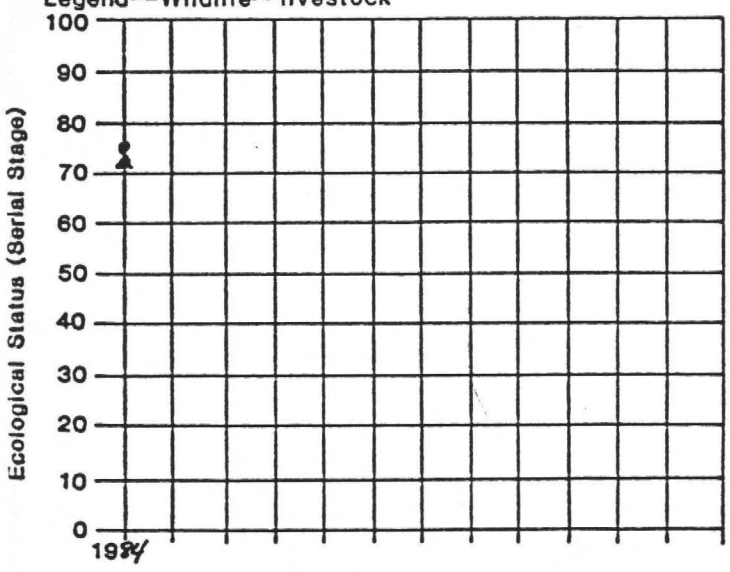




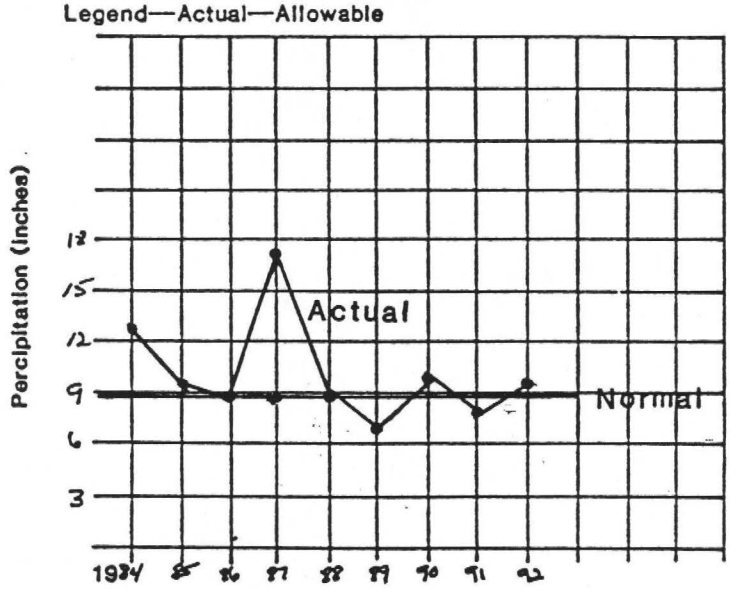
Legend—Wildlife—livestock



Legend—Actual—Allowable



Legend—Actual—Objective



Legend—Actual—Normal

APPENDIX IV

STOCKING LEVEL CALCULATION PROCEDURE
SUNNYSIDE ALLOTMENT

The desired stocking level for the Sunnyside Allotment was determined using the following formula (BLM Technical Reference 4400-7):

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

Actual livestock use and utilization data were collected for the allotment between 1984 and 1992. Precipitation data was used in the formulation of a yield index (BLM Technical Reference 4400-7, Appendix 3). Wild horse use was estimated from aerial census data and field observations. A stocking rate was calculated for each year that also had utilization data. The stocking rates were then averaged to come up with the desired stocking level for the allotment(5,609 AUMs). The 5,609 AUMs were allocated to the livestock and wild horses based on the proportions in the Schell Resource Area Land Use Plan(LUP). The three year average for livestock and the initial stocking level for wild horses were used from the LUP(see table IV-1).

TABLE IV-1

WHITE RIVER USE AREA

GRAZING YEAR	CATTLE AUMS	HORSE AUMS	TOTAL AUMS	MEASURED UTILI.%	YIELD INDEX	ADJUSTED UTILI. %	DESIRED UTILI.%	DESIRED AUMS
92/93	3,381	840	4,221	50	1.14	57	50	3,703
91/92	3,595	1,248	4,843	70	.82	57	50	4,248
89/90	3,580	528	4,108	70	.66	46	50	4,465

White R. AVE. TOTAL 4,139

CAVE VALLEY USE AREA

GRAZING YEAR	CATTLE AUMS	MEASURED UTILI.%	YIELD INDEX	ADJUSTED UTILI. %	DESIRED UTILI.%	DESIRED AUMS
92/93	1,719	70	1.14	80	50	1,074
90/91	1,568	70	.68	48	50	1,633
89/90	1,568	70	.66	46	50	1,704

Cave V. AVE. TOTAL 1,470

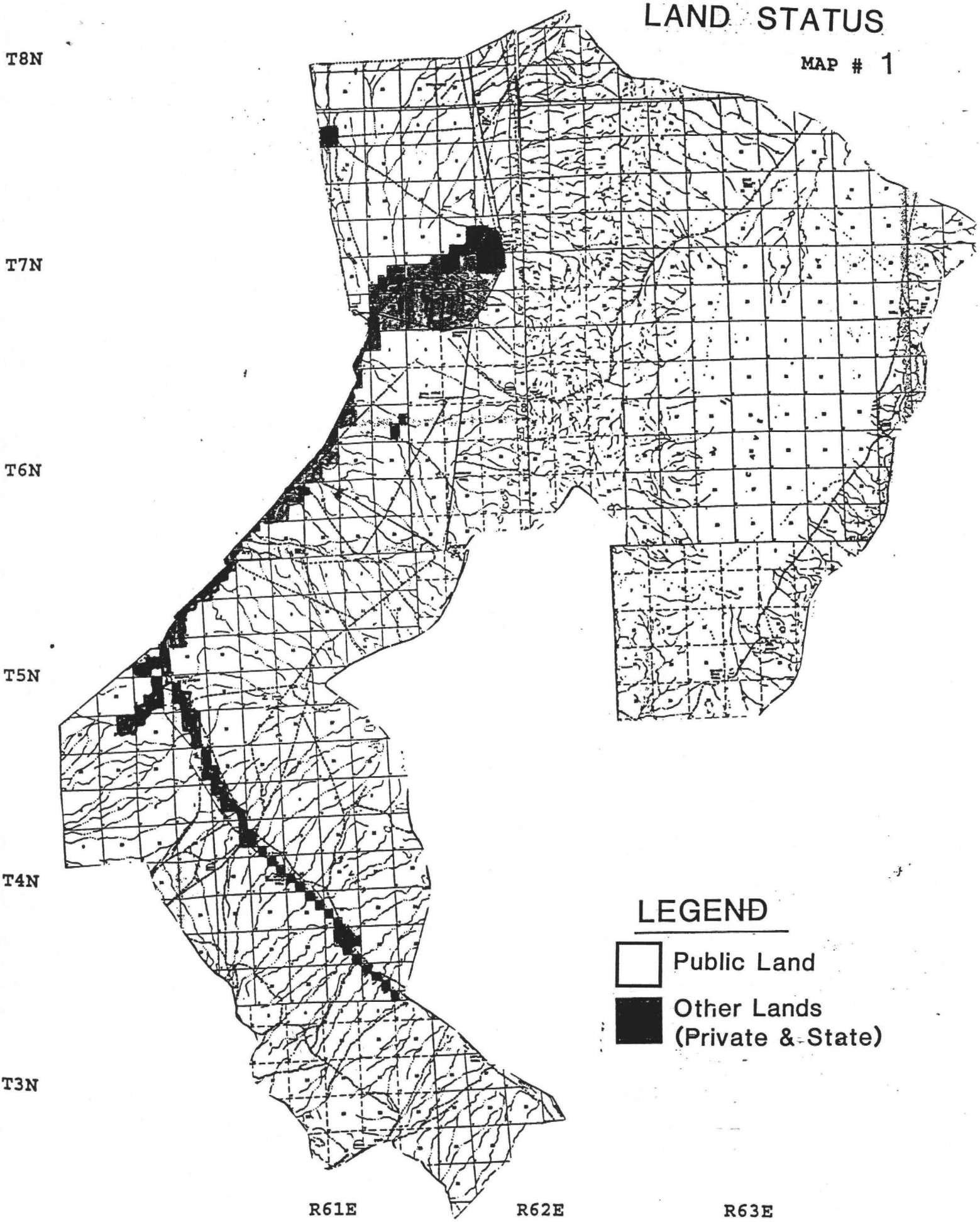
AVERAGE AUMS FOR ALLOTMENT
5,609

Land Use Plan percentages

5609 AUMS total available

Cattle 96% 5609 x 96% = 5,385 AUMs
Horses 4% 5609 x 4% = 224 AUMs or 19 horses yearlong

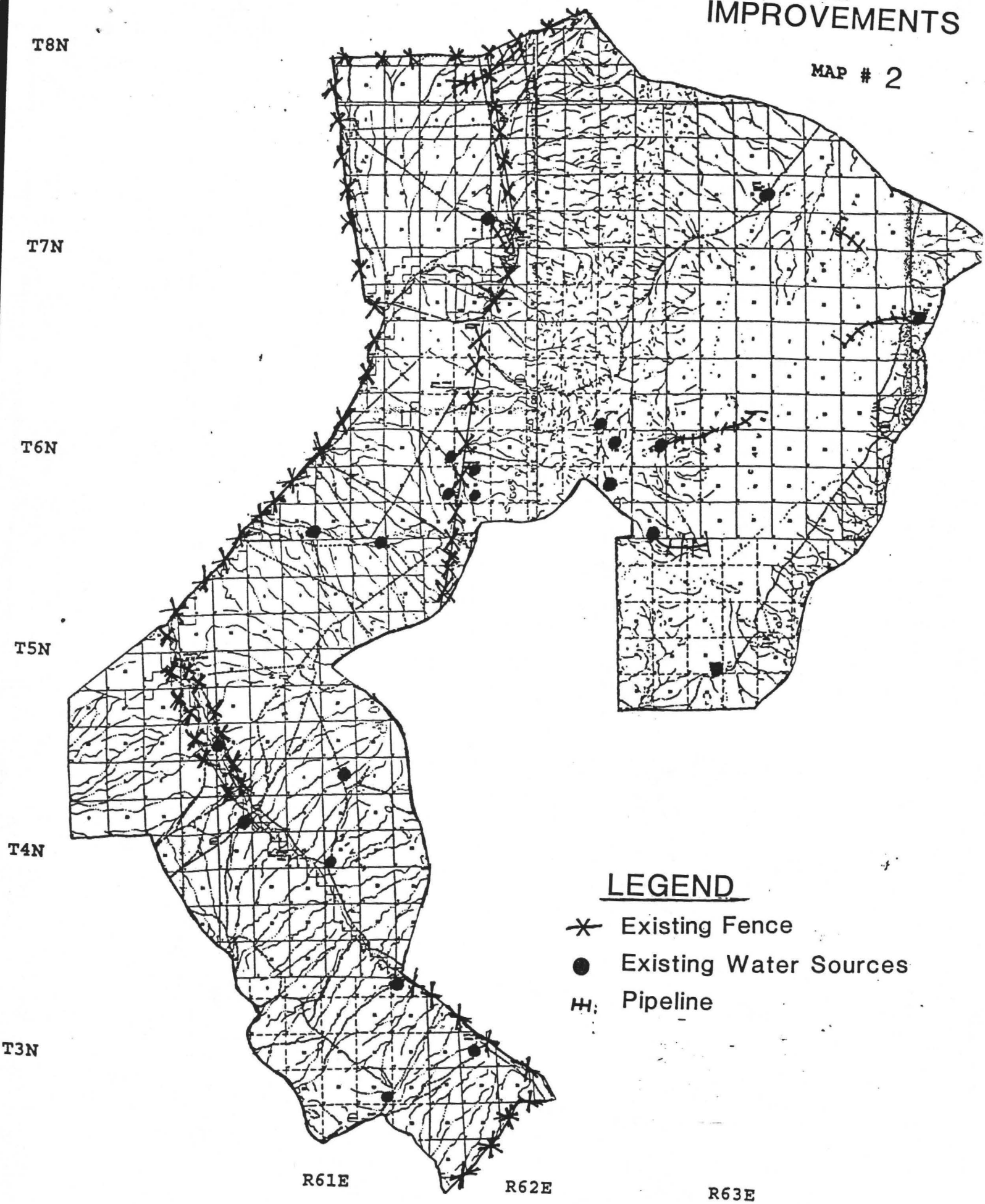
SUNNYSIDE ALLOTMENT



SUNNYSIDE ALLOTMENT

EXISTING IMPROVEMENTS

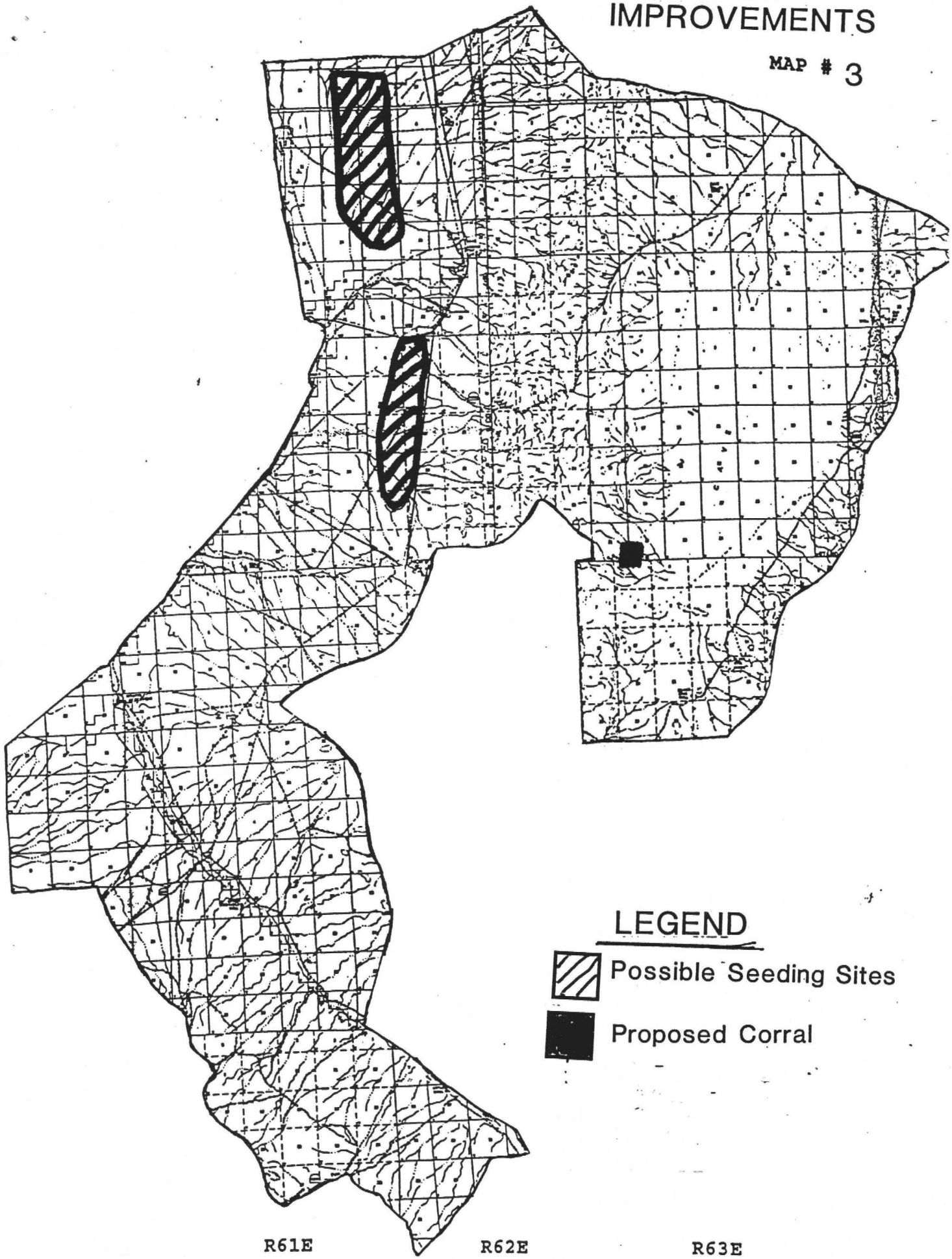
MAP # 2



SUNNYSIDE ALLOTMENT

PROPOSED IMPROVEMENTS

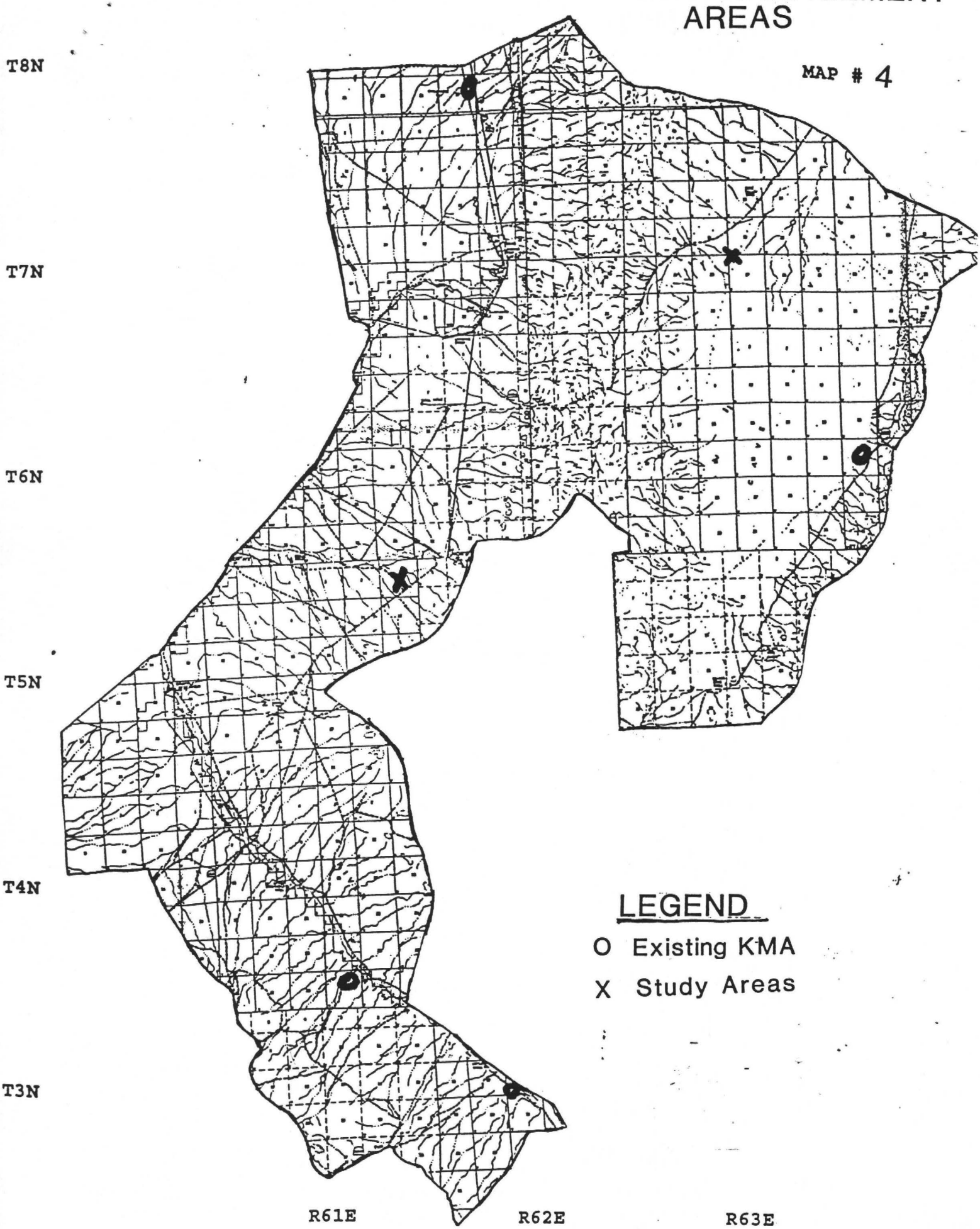
MAP # 3



SUNNYSIDE ALLOTMENT

KEY MANAGEMENT AREAS

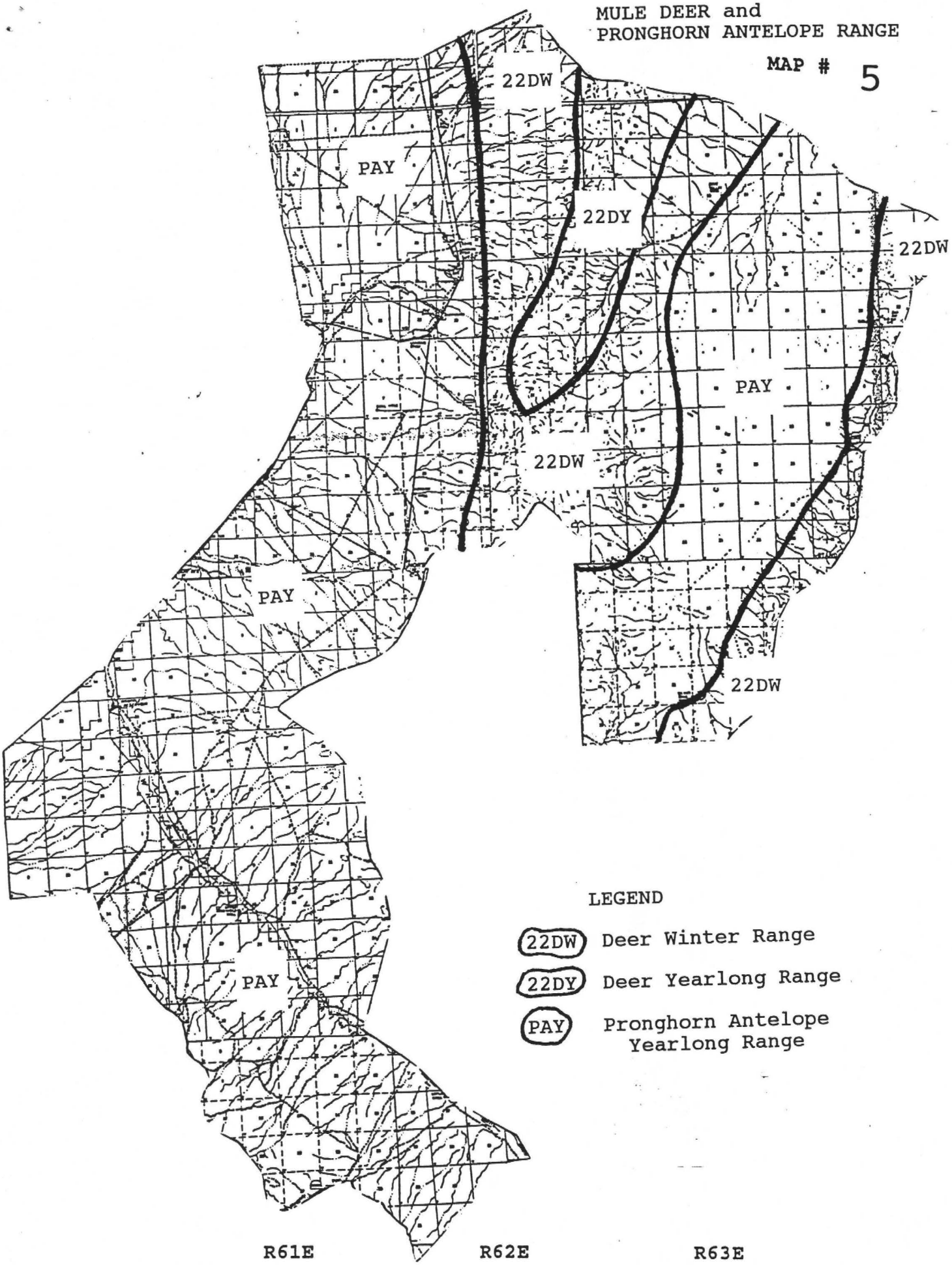
MAP # 4



SUNNYSIDE ALLOTMENT

MULE DEER and
PRONGHORN ANTELOPE RANGE

MAP # 5



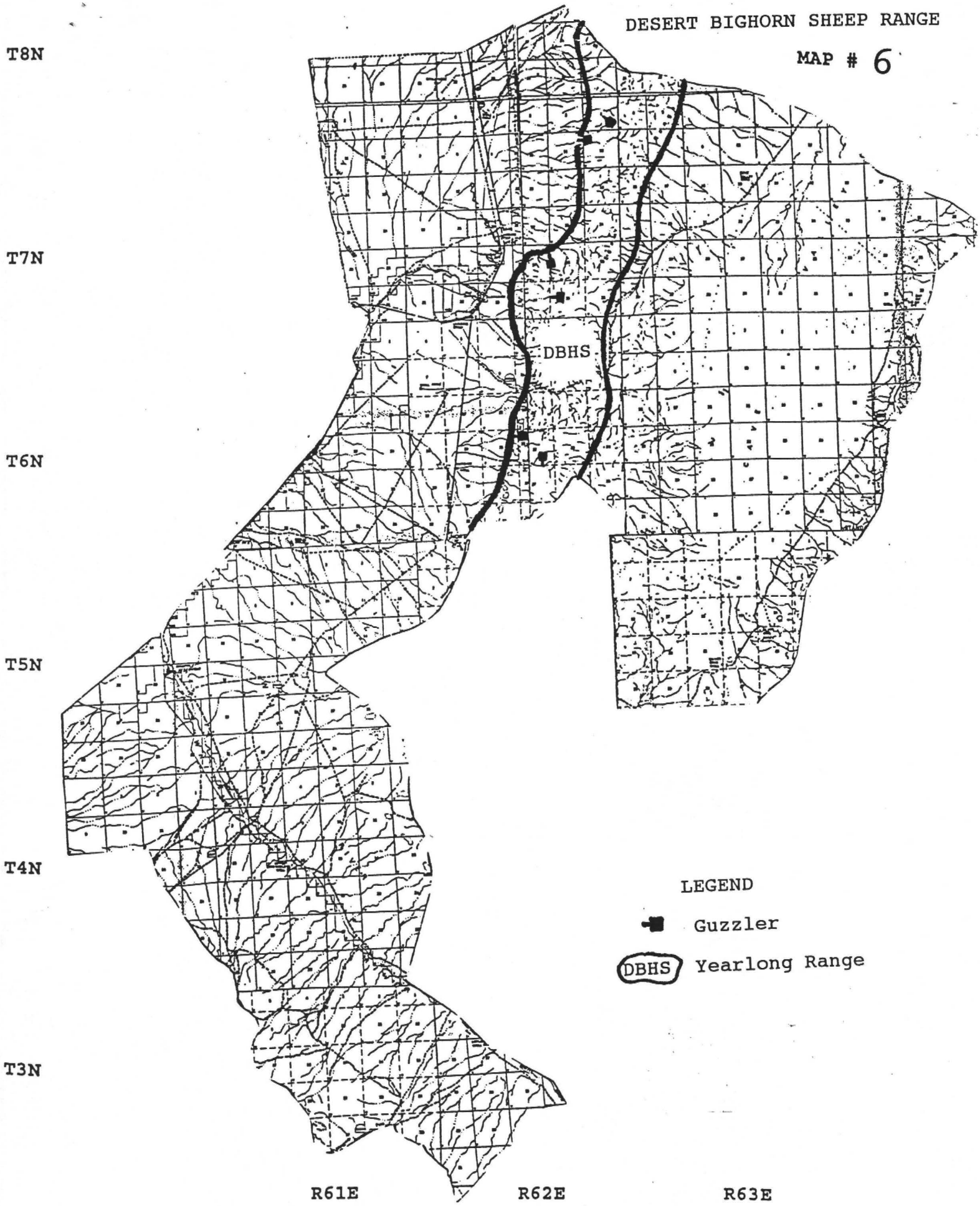
LEGEND

22DW Deer Winter Range

22DY Deer Yearlong Range

PAY Pronghorn Antelope Yearlong Range

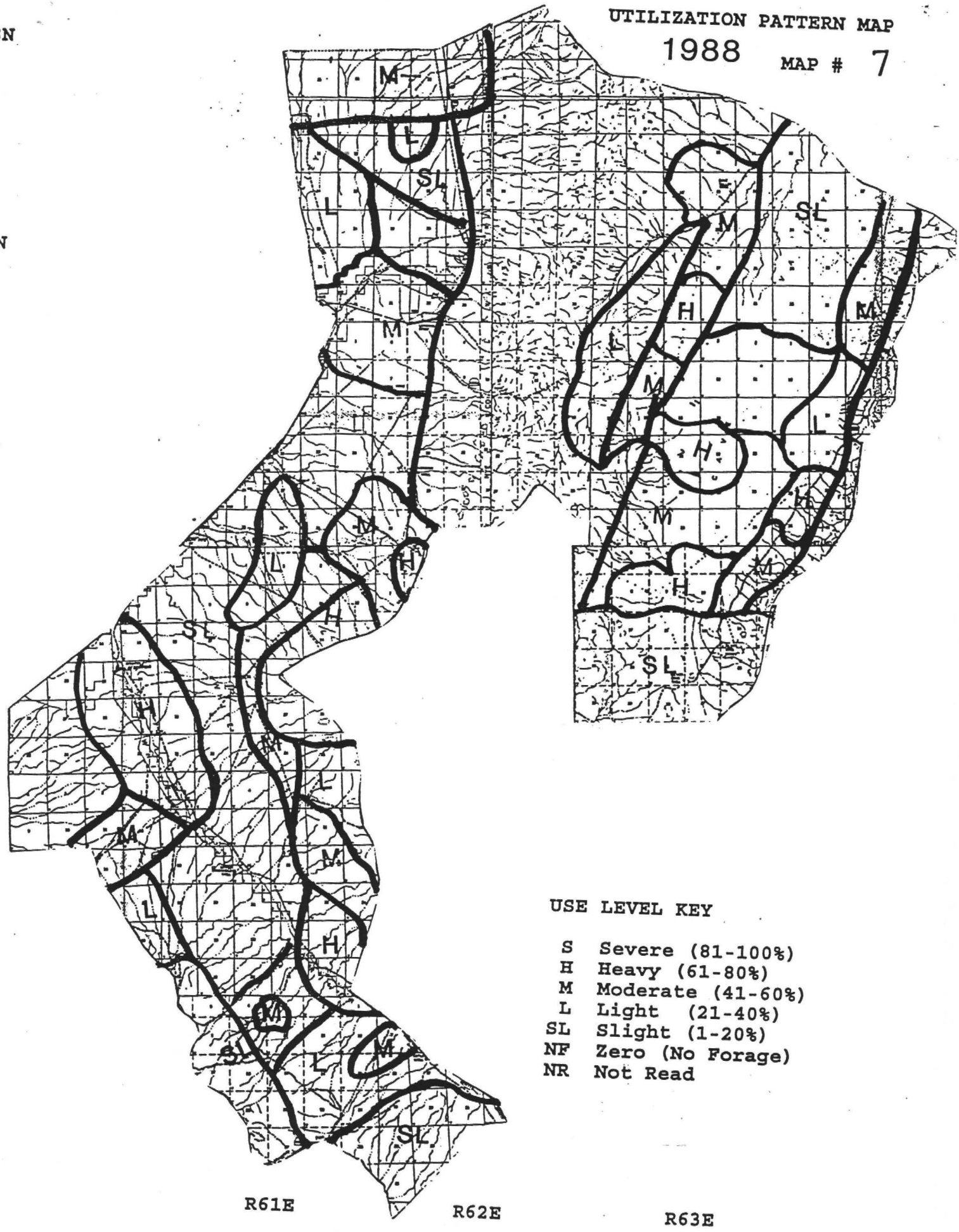
SUNNYSIDE ALLOTMENT



SUNNYSIDE ALLOTMENT

UTILIZATION PATTERN MAP

1988 MAP # 7



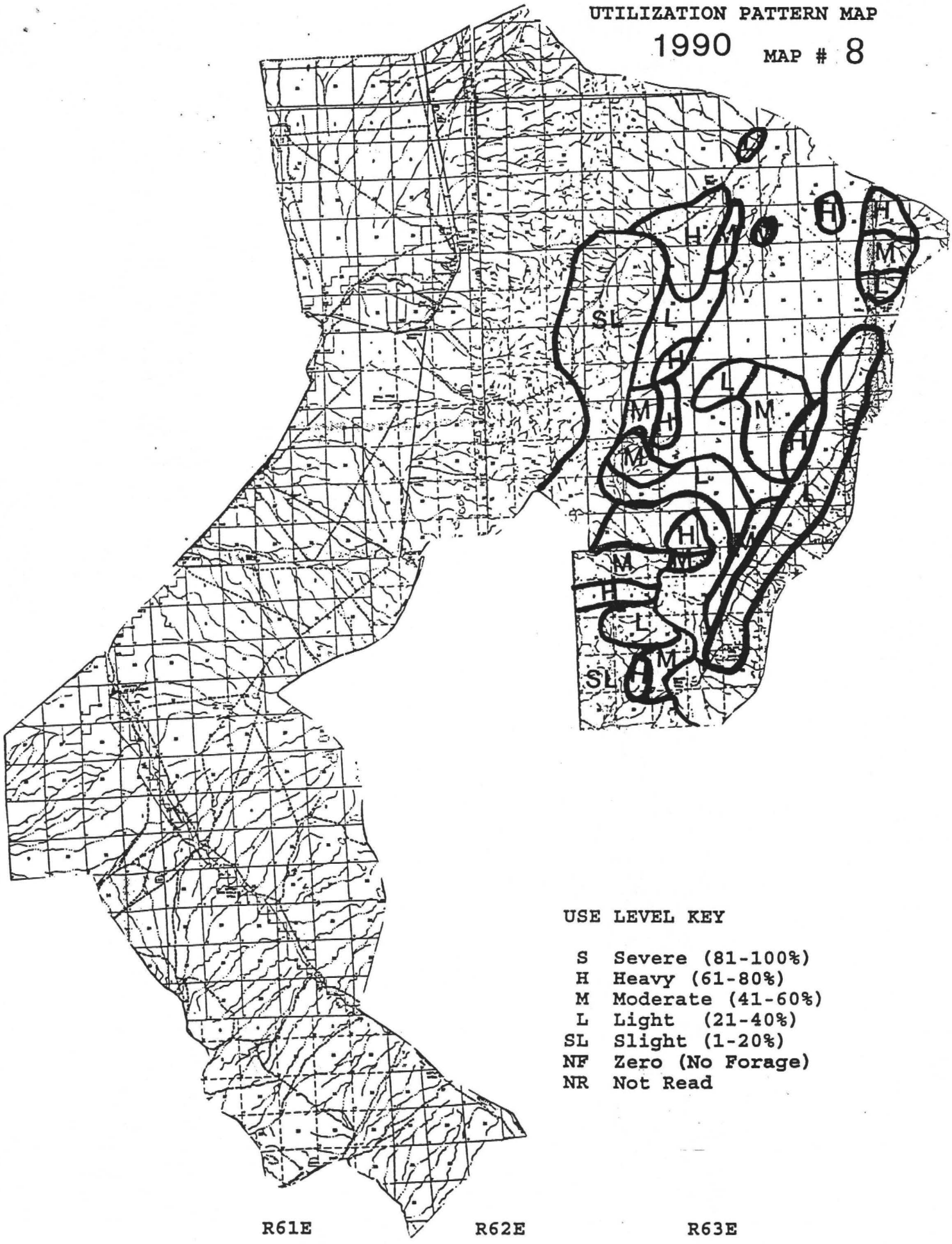
USE LEVEL KEY

S	Severe (81-100%)
H	Heavy (61-80%)
M	Moderate (41-60%)
L	Light (21-40%)
SL	Slight (1-20%)
NF	Zero (No Forage)
NR	Not Read

SUNNYSIDE ALLOTMENT

UTILIZATION PATTERN MAP

1990 MAP # 8



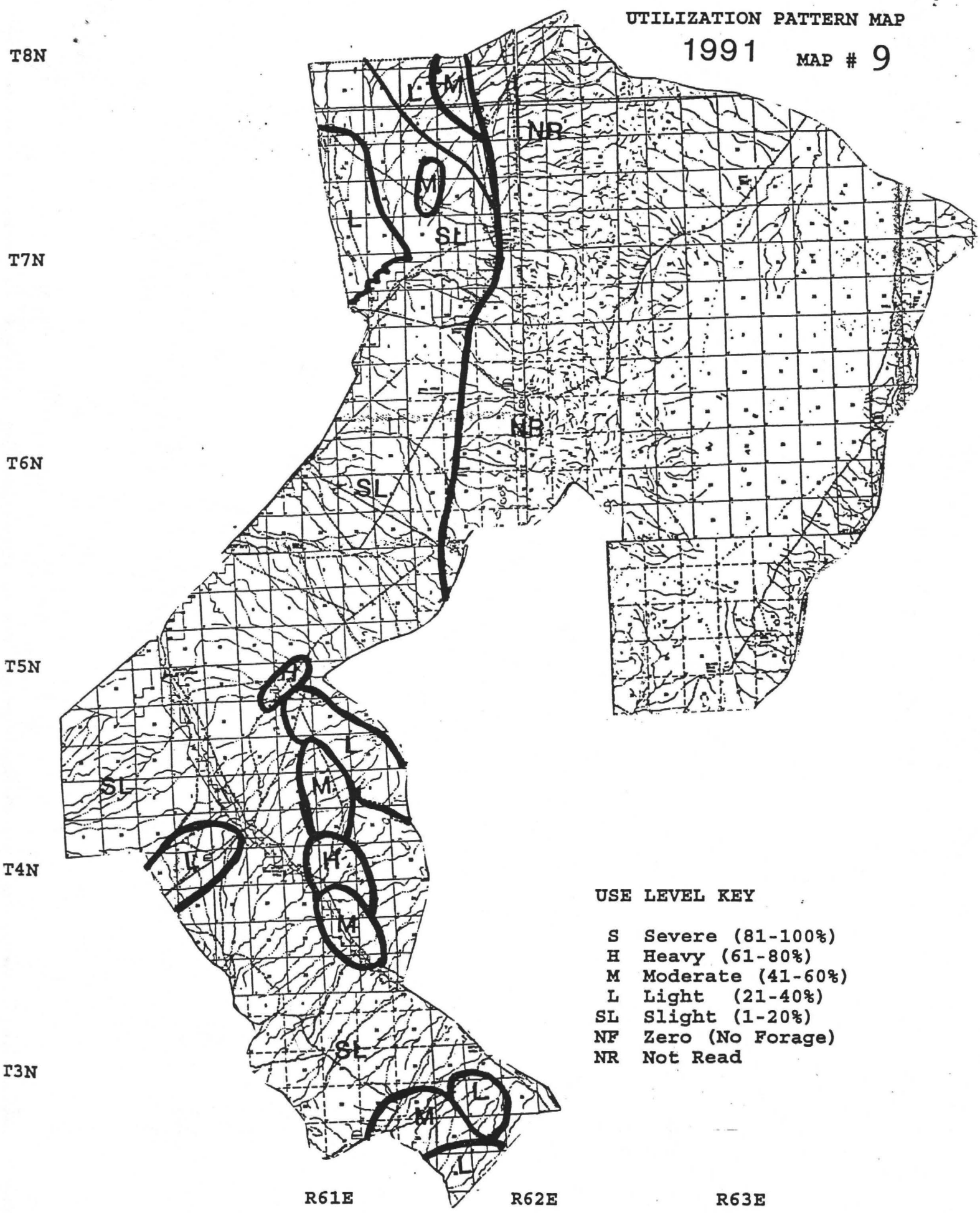
USE LEVEL KEY

S	Severe (81-100%)
H	Heavy (61-80%)
M	Moderate (41-60%)
L	Light (21-40%)
SL	Slight (1-20%)
NF	Zero (No Forage)
NR	Not Read

SUNNYSIDE ALLOTMENT

UTILIZATION PATTERN MAP

1991 MAP # 9



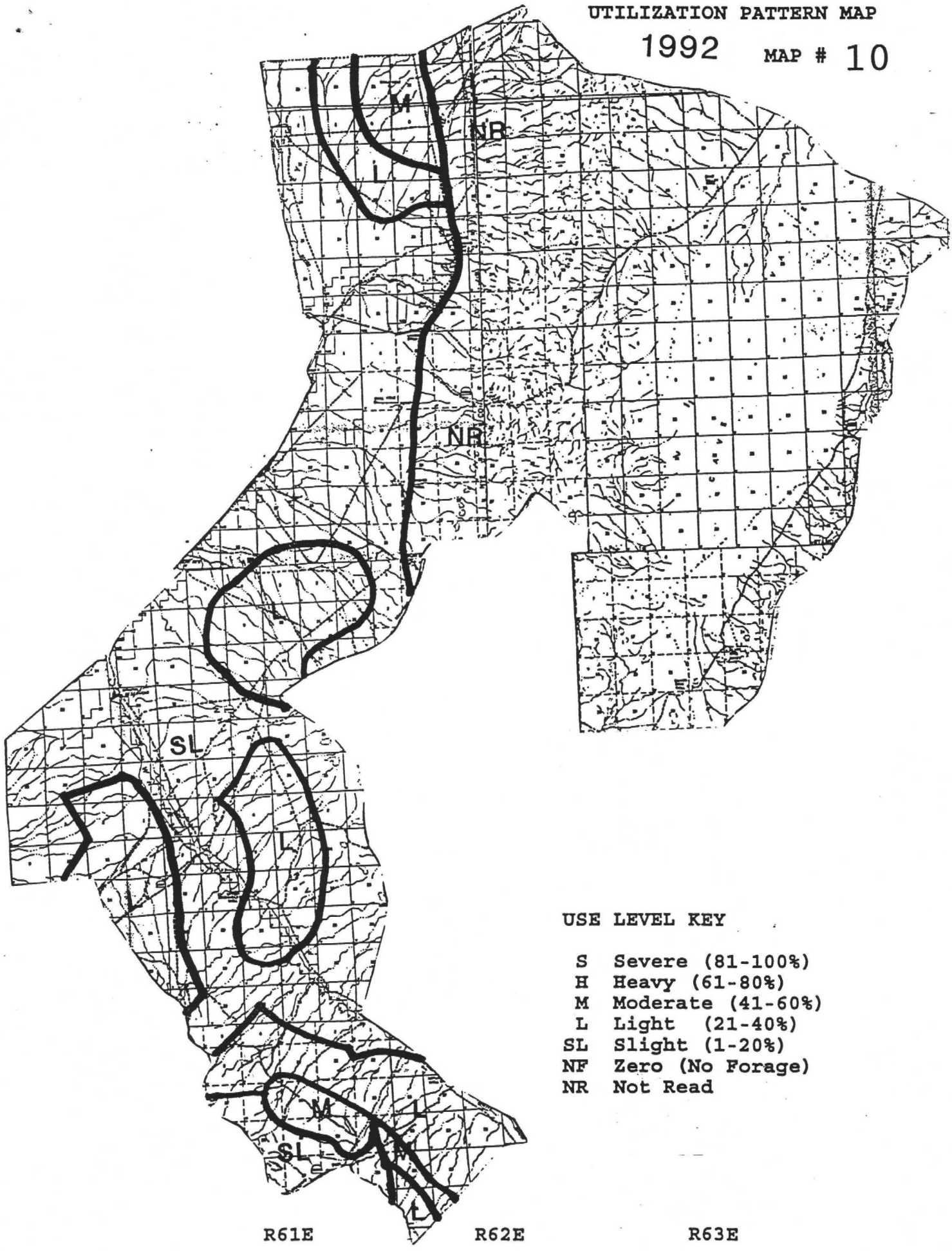
USE LEVEL KEY

S	Severe (81-100%)
H	Heavy (61-80%)
M	Moderate (41-60%)
L	Light (21-40%)
SL	Slight (1-20%)
NF	Zero (No Forage)
NR	Not Read

SUNNYSIDE ALLOTMENT

UTILIZATION PATTERN MAP

1992 MAP # 10



USE LEVEL KEY

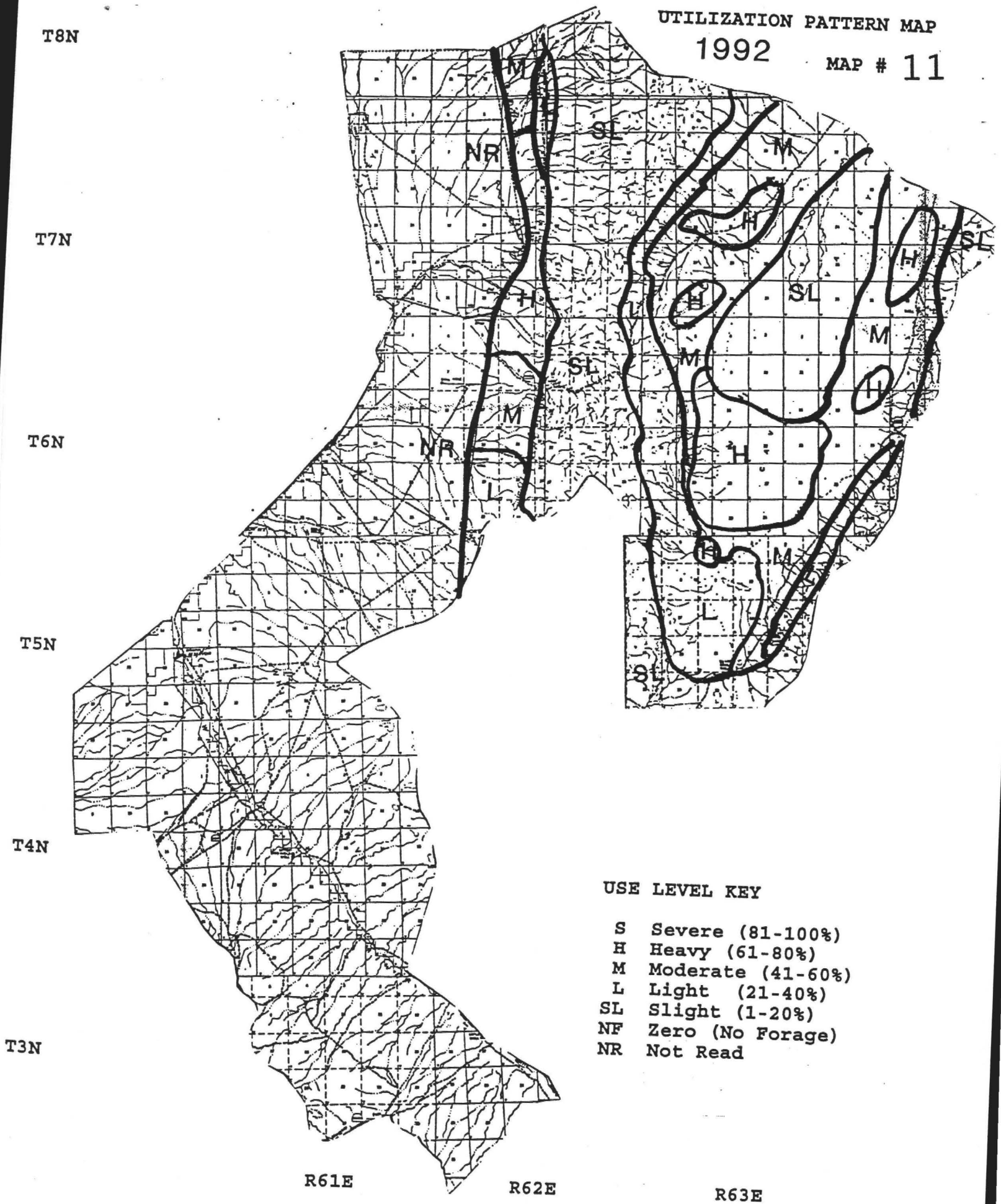
S	Severe (81-100%)
H	Heavy (61-80%)
M	Moderate (41-60%)
L	Light (21-40%)
SL	Slight (1-20%)
NF	Zero (No Forage)
NR	Not Read

SUNNYSIDE ALLOTMENT

UTILIZATION PATTERN MAP

1992

MAP # 11

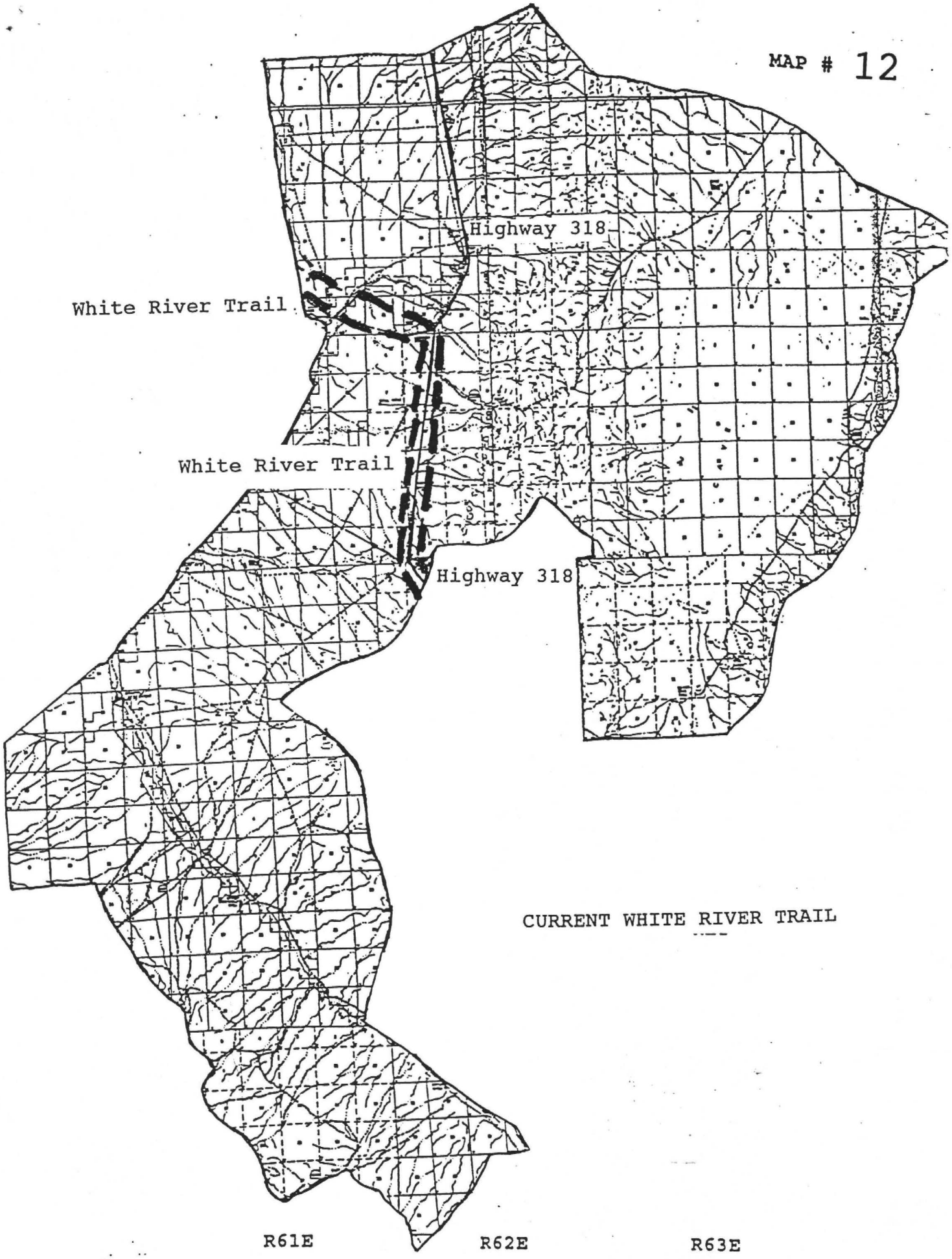


USE LEVEL KEY

S	Severe (81-100%)
H	Heavy (61-80%)
M	Moderate (41-60%)
L	Light (21-40%)
SL	Slight (1-20%)
NF	Zero (No Forage)
NR	Not Read

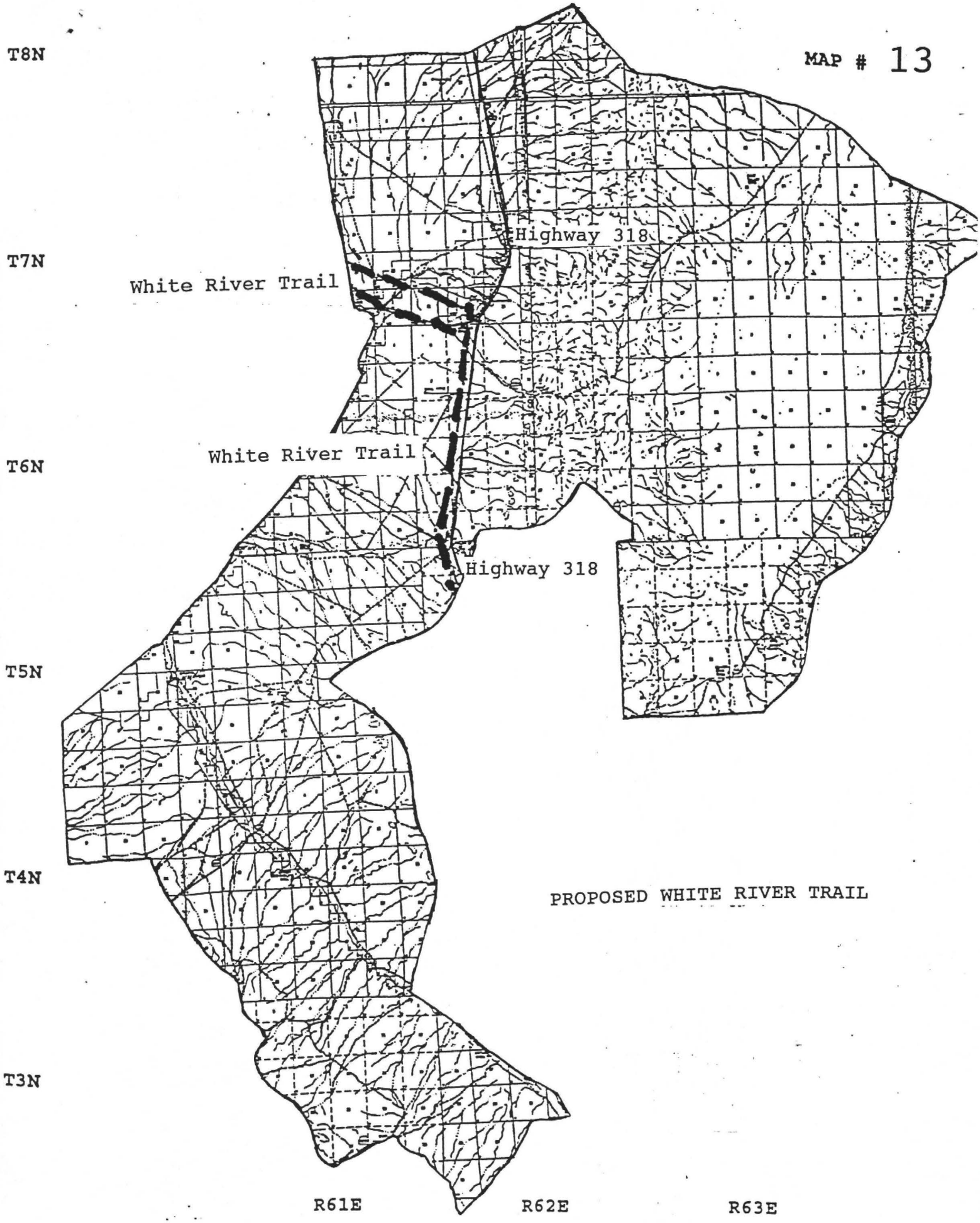
SUNNYSIDE ALLOTMENT

MAP # 12



SUNNYSIDE ALLOTMENT

MAP # 13



SUNNYSIDE ALLOTMENT

HERD MANAGEMENT AREAS (HMA)

MAP # 14