9/29/93

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:

1748.3 (NV-046)

SEP 29 1993

Dear Participant:

We appreciate your interest in being involved in the consultation process. Enclosed for your information and review is the Draft Deep 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 November 1, 1993, to allow adequate time to review all input and to adhere to our deadlines. All of the information received will be evaluated and considered prior to 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,

Gerald M. Smith

Gerald M. Smith, Manager
Schell Resource Area

1 Enclosure
1. Deep Creek Allotment Evaluation (23 pp)

DEEP CREEK ALLOTMENT EVALUATION

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List of Appendices and Maps

APPENDIX III - Maps

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DEEP CREEK ALLOTMENT (Nevada portion)
EVALUATION SUMMARY

I. INTRODUCTION

A. Allotment Name and Number: Deep Creek, 10103 (see Appendix III, Map 1 and 2)

B. Permittees: Kyle W. Bateman, Gail Parker, Reed B. Robison, Mabel Bates

C. Evaluation Period: 1984 through 1993

D. Selective Management Category and Priority: Custodial (C), High

II. INITIAL STOCKING LEVEL

A. Livestock Use

1. Land Use Plan Objective (LUP)

a.	Total Preference:	-	2,934 AUMs
b.	Suspended Preference:	-	None
c.	Active:	-	2,934 AUMs
d.	Temporary Nonrenewable:	-	None

Table 1. Livestock Preference

Permittee	Preference (AUMs) NV	UT	Total
Parker, G.	512 (75%)	170 (25%)	682
Bateman, K.	990 (66%)	507 (34%)	1,497
Robison, R.	410 (100%)	0	410
Bates, M.	173 (50%)	172 (50%)	345
Total	2,085	849	2,934

Table 1 reflects the percent of each permittees' active preference by state. The Schell Resource Area is responsible for billing and use authorizations for the Nevada and Utah portions of the allotment.

Livestock are licensed in Ely for the Nevada and Utah portions of the allotment. The above percentages reflect the amount of preference in each State. However, a lack of permanent water in Nevada causes the livestock to predominantly use the Utah side. Utilization levels in Nevada are consistently light to slight and are heavy to severe in portions of Utah.

2. Season of Use: 03/01 to 02/28 (DUP/EIS)

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

4. Percent Federal Range/Exchange of Use: 100%/None

B. Wild Horse and Burro Use

1. Appropriate Management Levels (AML)

The 1983 Rangeland Program Summary (RPS) identified 709 AUMs (59 animals) of wild horse use within the allotment.

The 59 horses identified in the RPS is no longer a valid AML. The Interior Board of Land Appeals 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 deterioration of the range."

2. Herd Management Area

The entire Nevada side of the allotment is within the Antelope Herd Management Area (HMA). The portion of the allotment within Utah is not within an HMA. (see Map 3). The Antelope HMA is managed in accordance with the Antelope Herd Management Area Plan (HMAP).

C. Wildlife Use

1. Pronghorn Antelope
   a. Reasonable Numbers: 28 AUMs
   b. Key/Crucial Areas: None identified
   c. Wildlife on the allotment are managed in accordance with the Antelope Range Habitat Management Plan (HMP).

2. Threatened and Endangered Species

Endangered bald eagles and peregrine falcons may be found on the allotment, but no special use areas have been identified.

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III. ALLOTMENT PROFILE

A. Description

The Deep Creek Allotment is located in eastern White Pine County, Nevada, and western Tooele County in Utah. The allotment crosses the state line. The allotment was administered by the Salt Lake District until 1984 when a Memorandum of Understanding was signed by both districts assigning administration to the Ely District.

The northern boundary of the allotment in Nevada is the Elko/White Pine County line, 70 miles north of Ely, Nevada. Topography consists of rolling hills and shallow benches. Elevation ranges from 5,300 to 6,000 feet above sea level.

An area along the Nevada/Utah state line is unfenced and cattle can drift between Utah and Nevada. Portions of the Elko/White Pine County Line are unfenced also. Wildlife and wild horses are not restricted in their movements throughout the allotment.

There are no permanent water sources in the Nevada portion of the allotment and only three ephemeral reservoirs.

The native range consists of sagebrush/grass and pinyon-juniper.

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

B. Acreage/AUMs

Table 2. Deep Creek Acreage

	Nevada		Utah		Total	
	Acres	AUMs	Acres	AUMs	Acres	AUMs
Federal	23,957	2,085	10,651	849	34,608	2,934
State	0	0	879	79	879	79
Private	0	0	1,873	170	1,873	170
Total	23,957	2,085	13,403	1,098	37,360	3,183

C. Allotment Specific Objectives:

1. The allotment specific objectives tie the Land Use Plan/Rangeland Program Summary together into quantified objectives for this allotment.

a. Livestock

The short term objective will be accomplished through managing the allowable use level (AUL) by season of use to improve or maintain the desired vegetation community (see Appendix I).

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

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 I).

The long term objective is 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 (see Appendix I).

c. Pronghorn Antelope

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.

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

D. Key Species Identification

1. Uplands

a. Livestock and Wild Horses

The key species are:

(ORHY)	Oryzopsis hymenoides, Indian ricegrass
(HIJA)	Hilaria jamesii, galleta
(SIHY)	Sitanion hystrix, bottlebrush squirreltail
(STCO)	Stipa comata, needle and thread

b. Wildlife
Unit 113 (Pronghorn Antelope)
The key species are:
(POSE) Poa secunda, Sandberg bluegrass
(ORHY) Oryzopsis hymenoides, Indian ricegrass
(ATCO) Atriplex confertifolia, shadscale
(ARSP5) Artemisia spinescens, Bud sagebrush

2. Riparian Areas - None identified.

3. Key/Crucial Areas - None identified

IV. MANAGEMENT EVALUATION

A. Purpose:

This evaluation addresses only the portion of the allotment within the Schell Resource Area in Nevada. The purpose of this document is to evaluate the nature of grazing that has occurred on the Nevada portion of the Deep Creek Allotment and to measure effectiveness in meeting specific management objectives identified in the land use plan (LUP), HMAP and HMP. Included will be recommendations to make specific changes in current management where these LUP, HMAP and HMP objectives are not being met.

B. Summaries of Studies Data

1. Appendix II, Key Management Area Evaluation Summary (Form NV 4400-17) summarizes the monitoring studies data in graphic form. Compare Appendix II with the following sections on actual use, precipitation, utilization, trend, and ecological status.

2. Actual Use

a. Livestock

Use was determined from actual use reports and past licensed use.

b. Wild Horses

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The wild horse censuses conducted in the Antelope HMA showed the following numbers in the Deep Creek Allotment:

Date	Number	AUMs
3/78	8	96
4/79	0	0
5/81	0	0
3/87	31	372
2/88	15	180
3/90	66	396 (6 months)
9/90	102	612 (6 months)*
2/91	16	192
2/92	34	102 (3 months)
5/92	53	159 (3 months)
8/92	65	195 (3 months)
11/92	41	123 (3 months)
12/92	2	2 (1 month)

* This census was conducted immediately following a removal in adjacent allotments and horses moved to Deep Creek as a result of all the activity.

Management of the wild horses in the allotment is directed by the Antelope HMAP (Herd Management Area Plan).

Management of the Antelope HMA is based on the entire herd area, and individual allotments are a subset to the total herd area, recognizing that horses freely roam throughout the HMA.

The Antelope HMA is a high priority HMA but Deep Creek Allotment makes up less than 6% of the HMA. Based on aerial distribution flights conducted once per season in 1992 and 1993, it has been determined that horses are present on the allotment yearlong but spring and summer use is more prevalent. Wild horse use occurs in Nevada and Utah but aerial censuses have never revealed horses in Utah.

The only source of permanent water within the allotment is in Utah and horses that are found in the allotment during dry summer months are assumed to be using the water in Utah. Water is available five miles to the west, in the Chin Creek Allotment, and horses do use this water source heavily. Livestock utilization in Utah is heavy and horses probably contribute to the heavy utilization when in Utah for water.

c. Wildlife

Use was extrapolated from the Nevada Department of Wildlife's (NDOW) estimates of pronghorn antelope numbers. The estimated use for the Deep Creek Allotment is based on the amount of pronghorn antelope range that is on the allotment and the season the animals are on that range. The estimated pronghorn antelope use on the Nevada portion of the Deep Creek Allotment is 25-28 AUMs per year.

3. Precipitation

Data for this evaluation was obtained from the National Oceanic and Atmospheric Administration weather station located at Ibapah, Utah. Ibapah is located approximately 4 miles east of the allotment. That weather station best represents the climatic conditions of the allotment. The normal annual precipitation for the eighteen reporting years from 1973 to 1990 is 9.31 inches. Precipitation was below normal for 7 of the 18 years.

Precipitation data was used in the formulation of a yield index. The crop yield is 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 Ibapah reporting station is 8.76 inches.

The individual yearly crop yields during the evaluation period were 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 $\hat{Y} = -23 + 1.23X$, where $\hat{Y}$ represents the yield index and X represents the precipitation index. 1/ Table 3 shows the precipitation and yield indexes.

1/ Sneva, Forest, C. M. Britton. August 1983. Adjusting and forecasting herbage yields in the Intermountain Big Sagebrush Region of the Steppe Province. Agricultural Experiment Station, Oregon State University, Corvallis. Station Bulletin 659, Page 61.

Table 3. Yield Index for Ibapah, Utah.

Year	Crop Yield	Precipitation Index	Yield Index
1980	12.04	137	146
1981	8.76	99	99
1982	8.88	101	101
1983	14.84	169	185
1984	11.07	126	132
1985	7.29	83	79
1986	9.44	107	109
1987	10.92	124	130
1988	10.96	125	131
1989	7.11	81	77
1990	8.42	96	95
1991	8.77	100	100

4. Utilization

a. Key Area

One key management area has been established on the allotment (see Appendix I and Map 2). Key area DCR1 is located at T. 26N, R. 70E, sec. 33 SW in Nevada. Five other key areas are located in Utah.

The yield index, discussed in the previous section, was multiplied by the measured utilization to normalize the utilization figure in relation to a normal precipitation year. Table 4 shows the actual measured and the normalized utilization/precipitation figures used to calculate a long term stocking level.

A yield index is not used to "correct" utilization levels. The actual measured utilization is used to determine if the allowable use level objective has been exceeded for a given use area. The index is used to account for the effect 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" precipitation year. The affects of precipitation on carrying capacity must be considered.

Table 4 Adjusted Utilization

	1980	1981	1982	1983	1984	1992
Yield Index	146	99	101	185	132	100
Actual Utilization (%)						
ORHY	47	40	64	12	18	28
HIJA	11	22	--	4	6	16
SIHY	10	--	--	--	10	19
STCO	23	--	46	10	35	--
Normalized Utilization (%)						
ORHY	39.4	39.6	64.6	22.2	23.8	28.0
HIJA	16.1	21.8	----	7.4	7.9	16.0
SIHY	14.6	----	----	----	13.2	19.0
STCO	33.6	----	46.5	18.5	46.2	----

b. Use Pattern Mapping

Use pattern mapping was conducted on the Nevada portion of the allotment in April 1993 to detect use from the 1992 grazing year. (See Map 7).

Utilization levels in Nevada were slight to light over most of the allotment and moderate near the Utah border. Utilization studies indicate a lack of water in Nevada causes livestock to use the Utah side almost exclusively.

5. Trend

Trend at DCR1 was determined in 1981 and again in 1992. A review of frequency data indicates a significant change in frequency of SIHY, a significant decrease in CHVI, and a significant increase in POSE. All other changes in species frequency were not significant. Significant changes in frequency and the presence of many ORHY seedlings and young plants indicates an upward trend.

6. Range Survey Data

The 1979 Ocular Reconnaissance Forage Survey indicated that there were 728 AUMs available for livestock grazing on the Nevada side of the allotment.

7. Ecological Status (see Appendix I)

An ecological status survey was completed in 1981 at key area DCR1. The area was rated at 23 percent of the potential natural community (PNC). Another ecological status survey was conducted in 1992. The area was rated at 47% of PNC. (Soil Conservation Service (SCS) site descriptions were revised in Jan. 1992 and the raw data from 1981 was re-analyzed using the new site write-ups to obtain the 23% of PNC.) The change in ecological status from 1981 to 1992 was due to an increase in the percentage of bud sage (ARSP) present and the fact that there was greater diversity in plant species present in 1992. Plants which showed up in 1992 that were not detected in 1981 included: galleta (HIJA), needle and thread (STCO), and grey molly kochia (KOAM).

8. Wildlife Habitat

Because animal numbers are low and there are no key/crucial areas identified on the Deep Creek Allotment, no wildlife habitat studies have been established.

9. Riparian/Fisheries Habitat

There are no springs or riparian areas within the Nevada portion of the allotment. There are three manmade ephemeral reservoirs.

10. Wild Horse Habitat

Wild horse habitat ratings have not been conducted, although a test of a habitat rating model was conducted on the entire Antelope HMA. The tentative rating showed that forage was generally the most limiting factor in the HMA.

Habitat condition in the Deep Creek Allotment appears to be good with sufficient forage and cover available for present wild horse use. Water is available adjacent to the allotment at Ibapah where numerous springs flow and in the Chin Creek Allotment to the west.

V. CONCLUSIONS

Refer to Section III. C. for specific objectives.

A. Livestock

1. Objective Attainment Determination

Met.

2. Rationale

Analysis of utilization data indicates that the short term objectives were met 4 out of five years. Therefore, data indicate that long term objectives should be met at the current level of use in the Nevada portion of the allotment. Data also indicate that the forage demand by livestock is low because very little grazing use can occur due to lack of permanent water sources.

Utilization read at the key area was slight to light in 1980, 1981, 1983, and 1984. In 1982, AULs were exceeded by approximately 10%. This heavy use for one grazing season is not necessarily an indication of a problem which needs solving at this time. However, problems would be created if high levels of utilization occurred over an extended period of time. The fact that long term objectives are being met, as shown by an improvement in ecological status by a full seral stage, suggests that one year of heavy use was not beyond the scope of the objectives.

B. Wild Horse

1. Objective Attainment Determination

Met.

2. Rationale

Utilization read at the key area was slight to light in 1980, 1981, 1983, and 1984. In 1982, AULs were exceeded by approximately 10%. This overutilization in only one year is not necessarily an indication of a problem which needs solving. The fact that long term objectives are being met, as shown by an improvement in ecological status by a full seral stage, suggests that the overutilization in 1982 was not beyond the scope of the objectives.

C. Pronghorn Antelope

1. Objective Attainment Determination

Met

2. Rationale

Based on utilization data.

VI. TECHNICAL RECOMMENDATIONS

Issues identified on the Deep Creek Allotment include:

- Lack of permanent water on the Nevada side
- Poor livestock distribution - over-utilization in Utah, under-utilization in Nevada

A. Short Term Recommendations

No change in stocking levels are proposed at this time for the Nevada portion of the allotment because short and long term objectives are being met under current management.

Season of use will be changed from yearlong to 10/01 to 05/15.

To improve livestock distribution, providing water at the Nevada reservoirs will be required as a term of the grazing permit. If water is not provided, either naturally or by water hauling, use will not be authorized in the Nevada portion of the allotment. The three reservoirs or locations which need to have water prior to livestock use are located as follows:

Deep Creek Reservoir #1 - T.26 N., R.70 E. sec. 28

Deep Creek Reservoir #2 - T.25 N., R.70 E. sec. 6

Deep Creek Reservoir #3 - T.25 N., R.70 E. sec 29

Placing salt in the allotment will also be required as a term of the grazing permit to help distribute livestock use. Salt will be placed no closer than ¼ mile from identified water sources.

The Schell Resource Area RPS identified an Appropriate Management Level (AML) for wild horses as 59 animals yearlong. This number was established as an initial stocking level and adjustments were to be made based on

monitoring data. The fact that livestock are not using the Nevada side of the allotment to preference levels makes it difficult to determine whether stocking levels are appropriate. Because overutilization is not occurring in the Nevada portion of the allotment, AML will be the existing number of wild horses. Based on the four seasonal distribution flights conducted in 1992, an average of 48 horses are using the allotment. Without much livestock use, 48 wild horses can be supported on the allotment. AML will remain at 48 horses ± 15% (i.e. 41 to 55 horses) until livestock begin to use the allotment and stocking levels for all users are re-evaluated.

Table 5 shows the stocking level by user for each portion of the allotment. Wildlife use was not figured into the calculation due to the low animal numbers and lack of specific use data.

Table 5. Stocking rate (AUMs) by user for each pasture.

	Livestock Cattle	Wild Horses	Total
Nevada	2,085	576	2,661
Utah	849		849
Total	2,934	576	3,510

B. Long Term Recommendations

Develop Permanent Water Sources in Nevada and then Construct State Line Boundary Fence. However, when water is developed in Nevada, a boundary fence may or may not be necessary.

Develop Water

Develop permanent water sources in the Nevada portion of the allotment to facilitate livestock, wildlife and wild horse use in Nevada.

When water is developed and livestock begin to use the Nevada side at licensed levels, stocking levels for livestock and wild horses will need to be re-evaluated. The need for a boundary fence will also be evaluated after water is developed in Nevada.

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C. Additional Monitoring

1. Collect actual use by area for livestock.

2. Conduct wild horse aerial censuses to determine animal numbers and seasonal use areas

3. Collect use pattern mapping for the allotment.

4. Collect utilization data for key species at key areas.

5. Continue to read frequency studies on key area DCR1.

6. Establish another key area in the southern portion of the Nevada side of the allotment.

7. Coordinate monitoring efforts for the allotment with the Pony Express Resource Area, Salt Lake District.

APPENDIX I

ALLOTMENT: Deep Creek - Livestock, Wild Horse and Wildlife Objectives

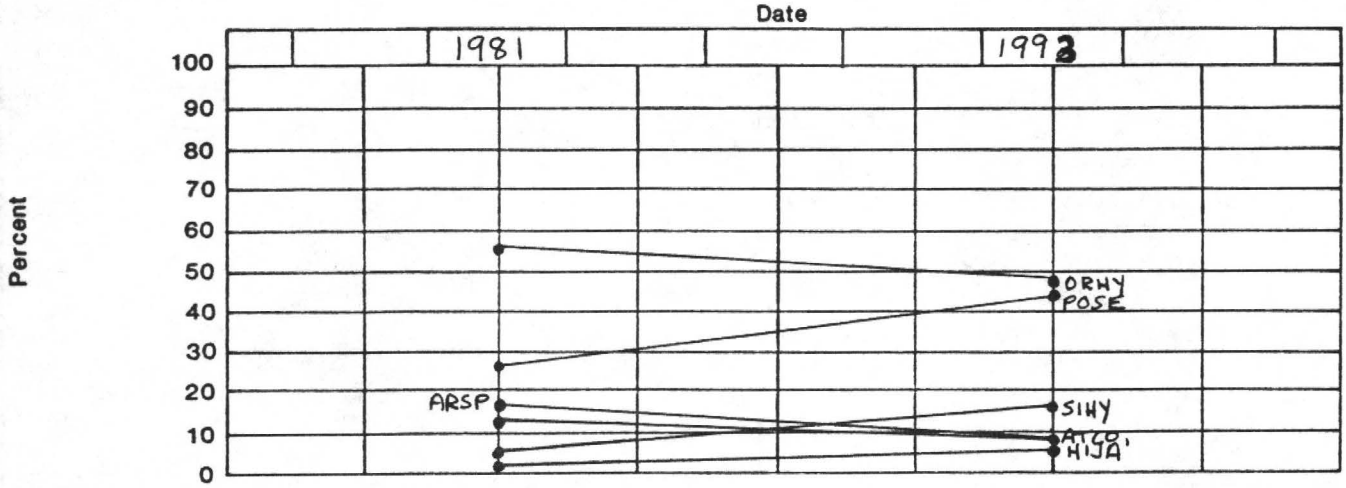
				PRESENT SITUATION			LONG TERM OBJECTIVES		SHORT TERM OBJECTIVES			
Study No.	Key Area Location	Ecological Site No.	Key Species	Key Spp % Comp By Weight	Seral Stage (% of PNC)	Maintain or Improve	Key Spp % Comp By Weight	Seral Stage (% of PNC)	Allowable Use Level	Season of Use	Met or Not Met	Rationale
DCR1	T. 26 N., R. 70 E., Sec 33, SW	028AY012NV	ORHY SIHY HIJA STCO POSE ATCO ARSP Grasses Forbs Shrubs	2% 1% 4% 3% 5% 16% 10% 15% 19% 66%	Late-Mid, 47%	MAINTAIN	1-5% 1-5% 1-5% 1-5% 1-5% 10-20% 10-20% 10-20% 10-20% 50-70%	Late-Mid to PNC	55% 55% 55% 55% 55% 45% 45%	Yearlong	Met	Allowable Use Levels Not Exceeded

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

District: Ely NV040
Planning Area:
Date: 6/93

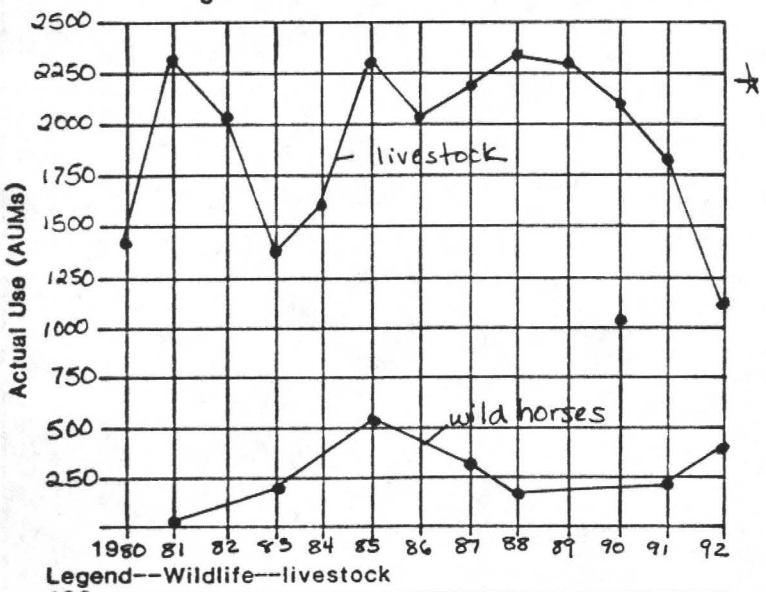
Allotment: Deep Creek
Key Management Area: DCR1

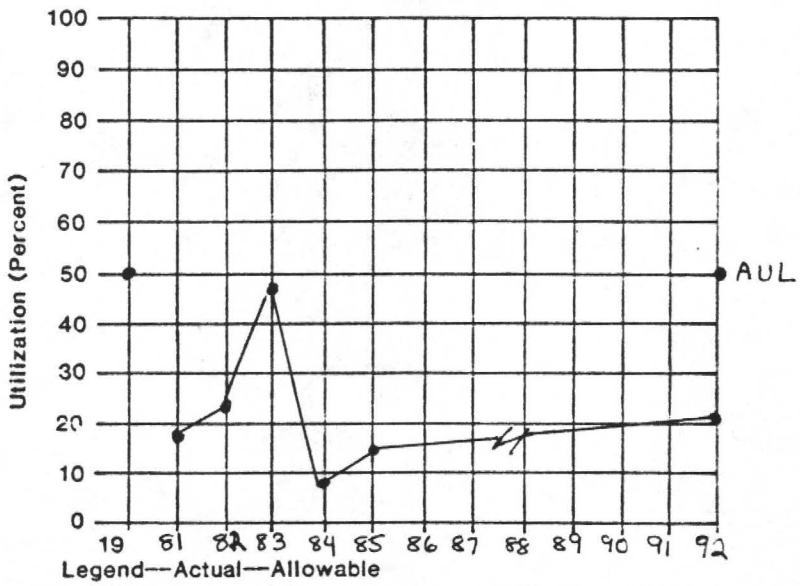
Trend Index (Frequency)
Date

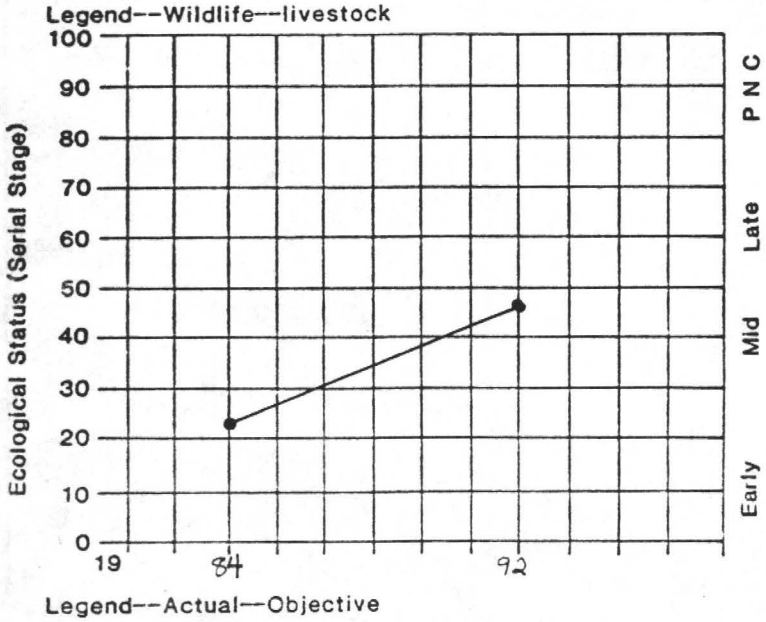


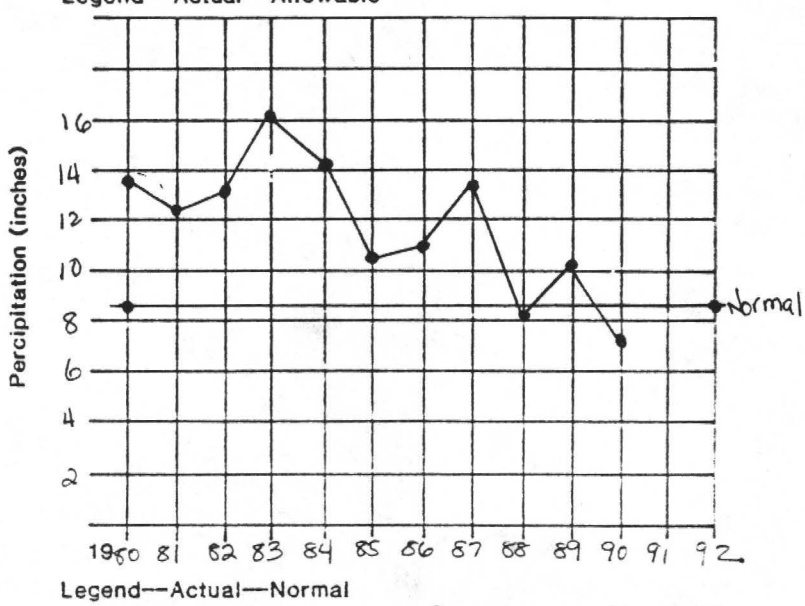
Code
Key Species-Color

ORHY
SIHY
HIJA
POSE
ATCO
ARSP



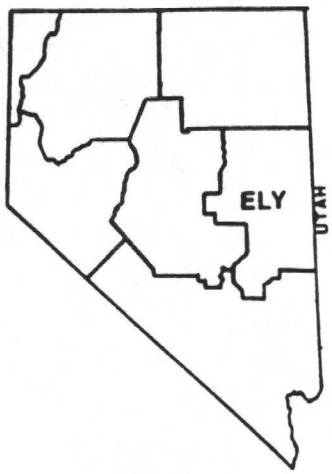


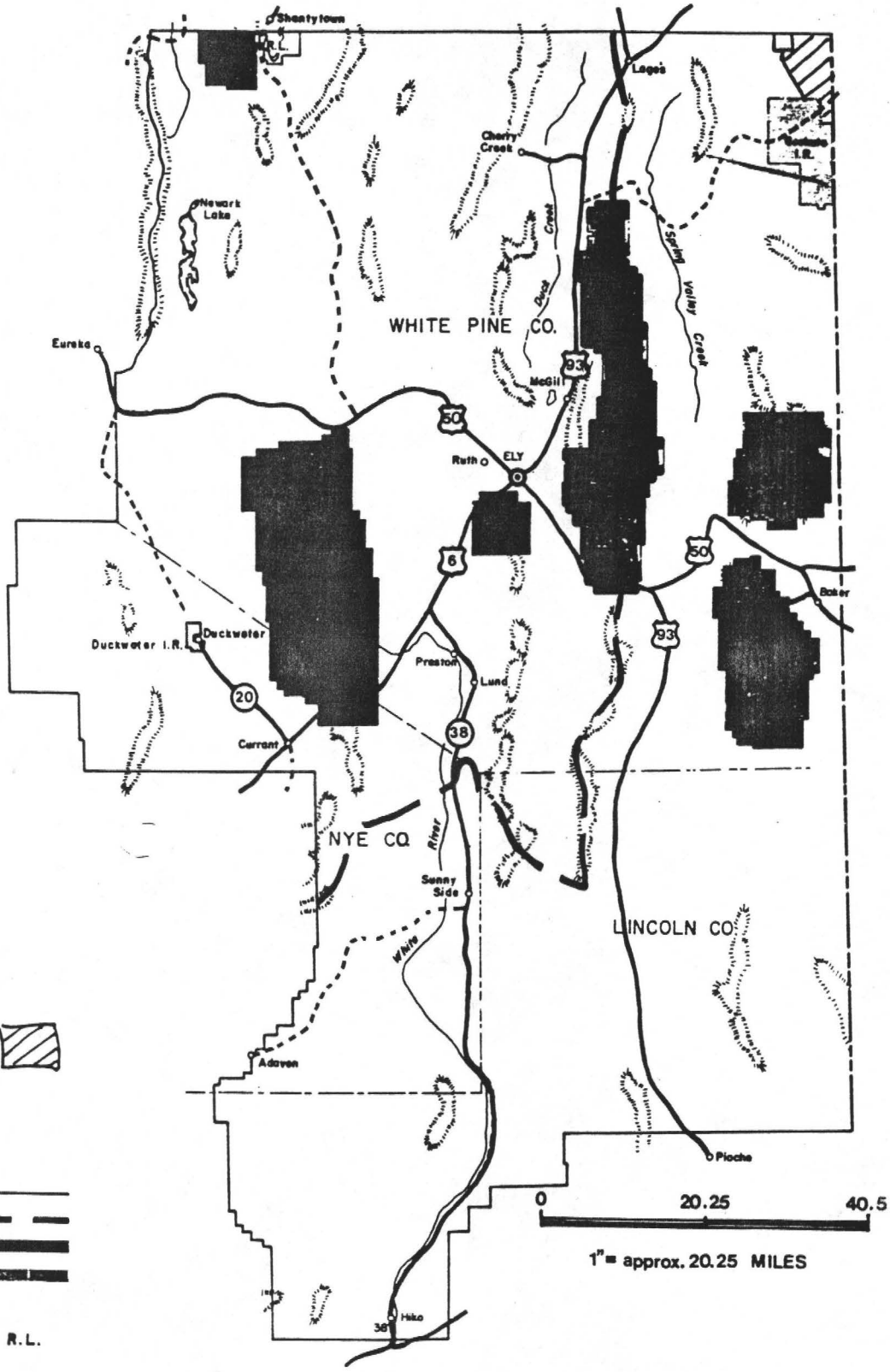




* Actual Use includes Nevada and Utah use.

Appendix II
NV 4400-17(March 1985)





Deep Creek Allotment

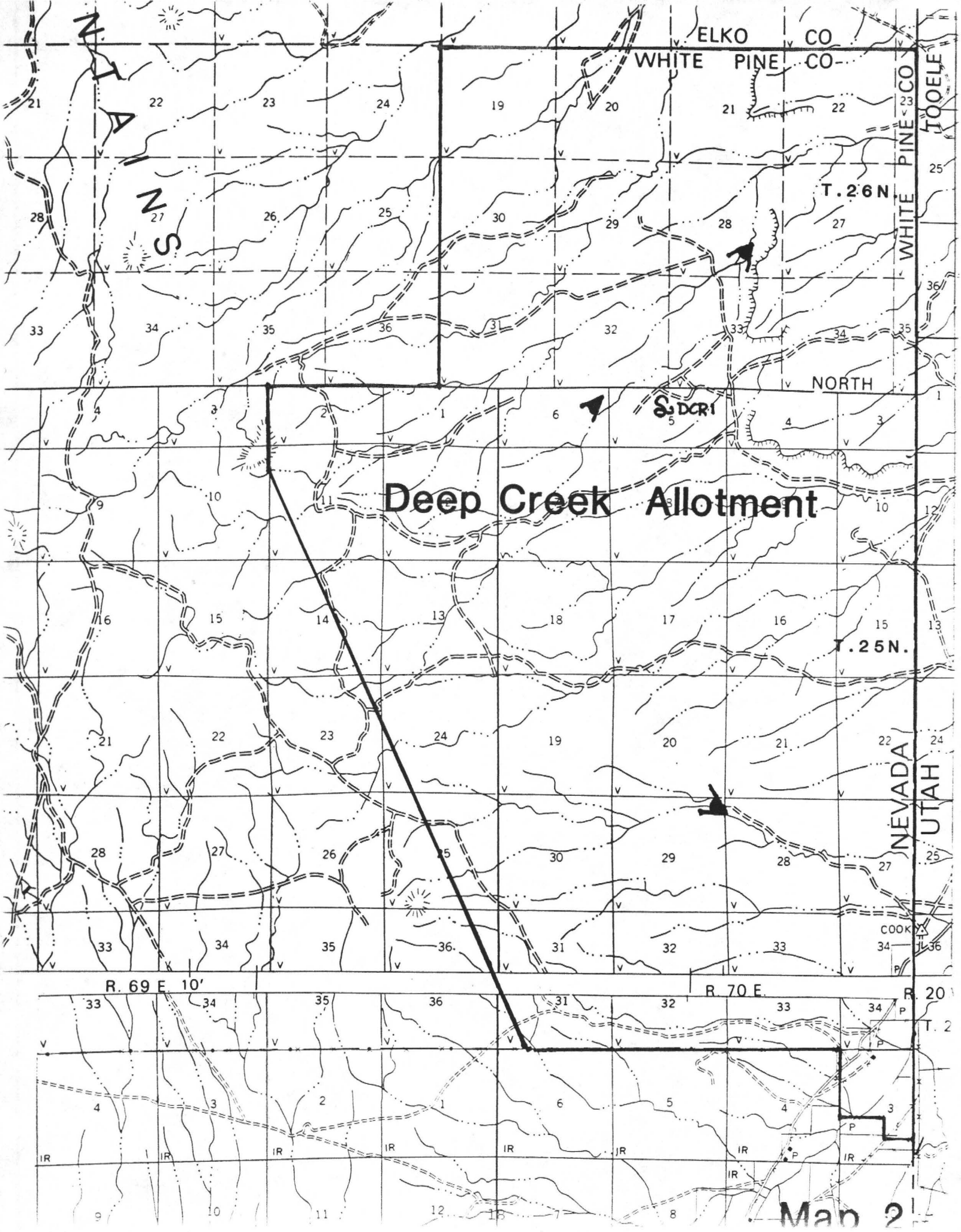
District Boundary
Resource Area Boundary
Humboldt National Forest
Indian Reservation
Ruby Lake National Wildlife Refuge

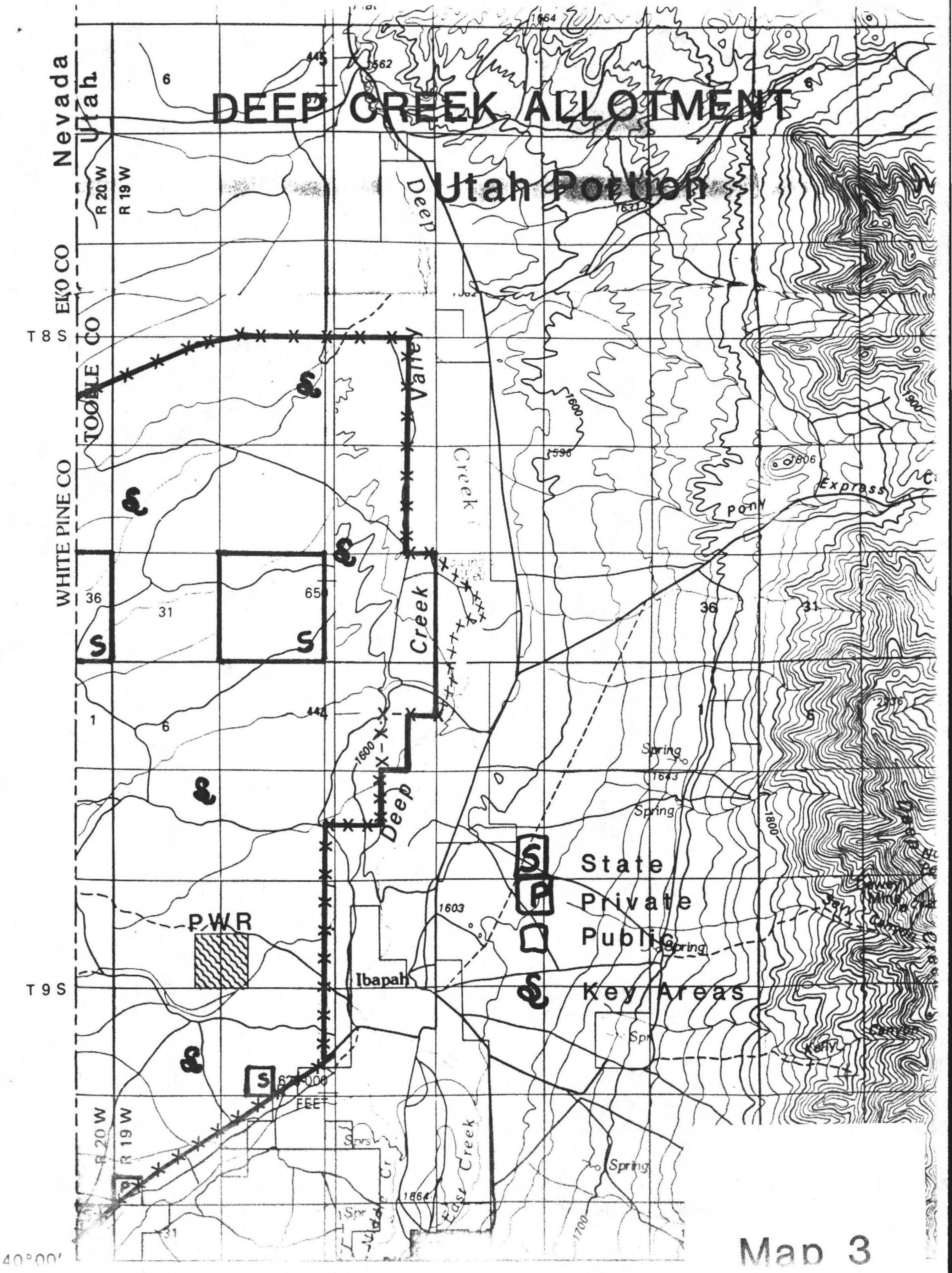
R.L.

ELY DISTRICT

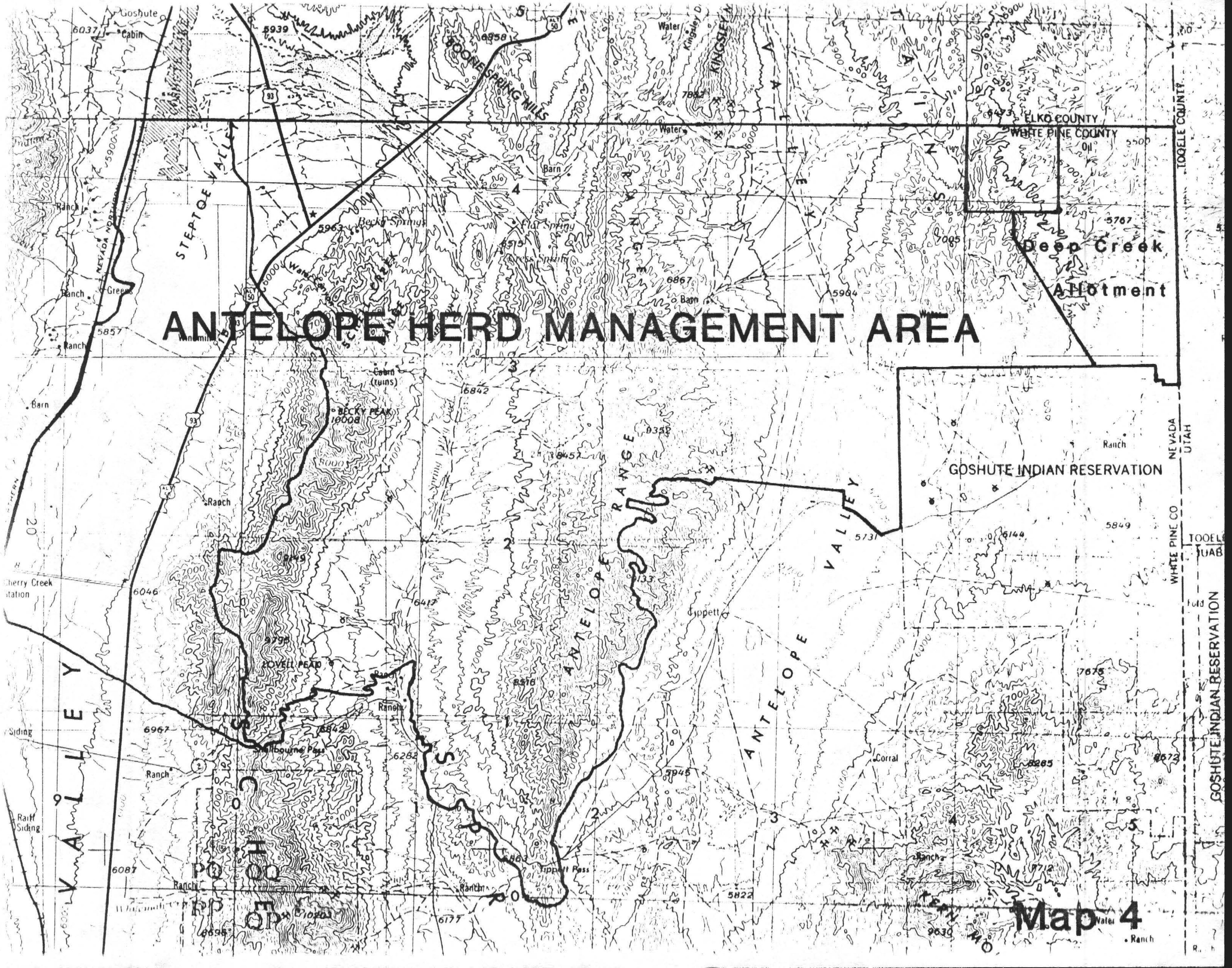
BUREAU OF LAND MANAGEMENT
U. S. DEPARTMENT OF THE INTERIOR

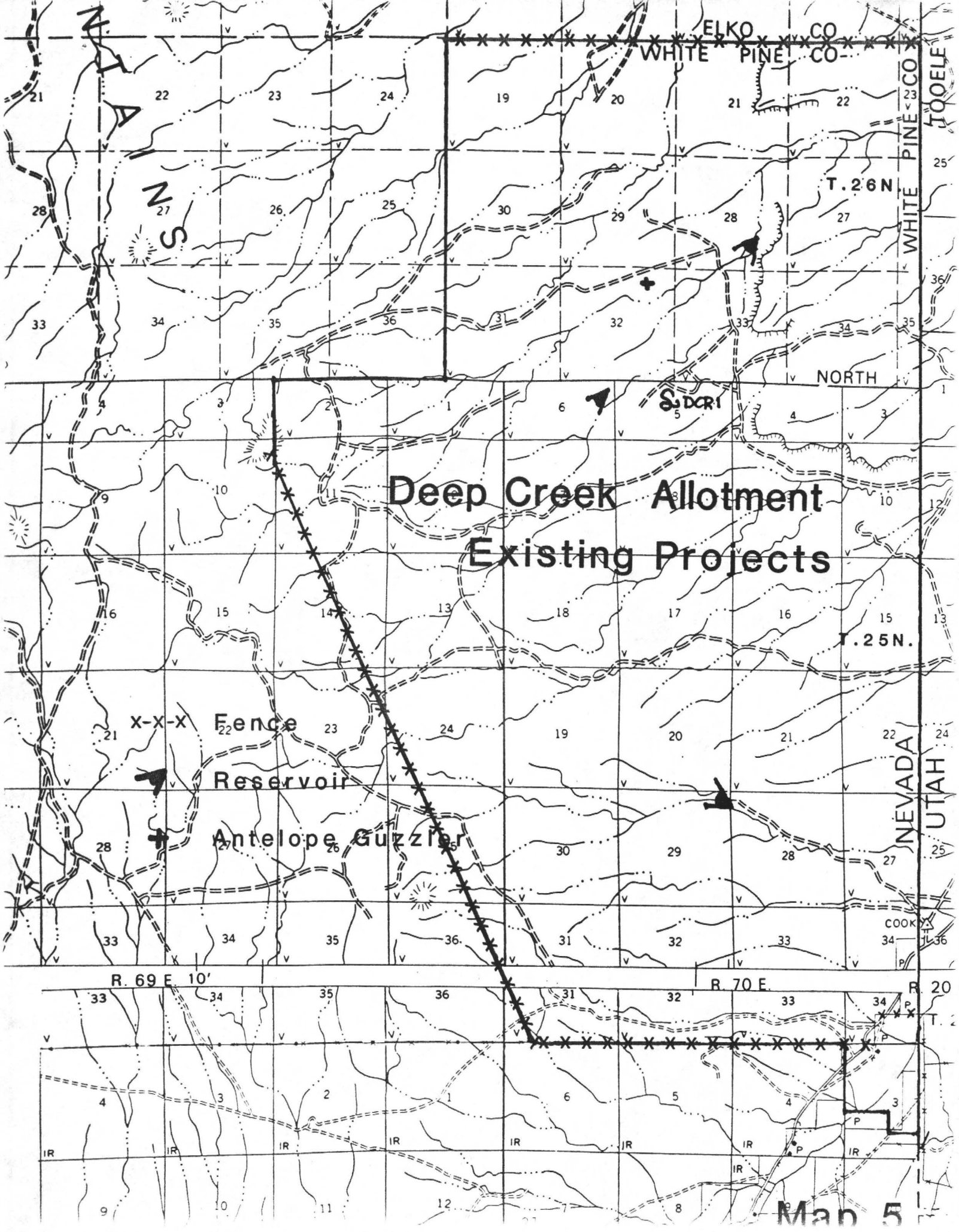
Map 1

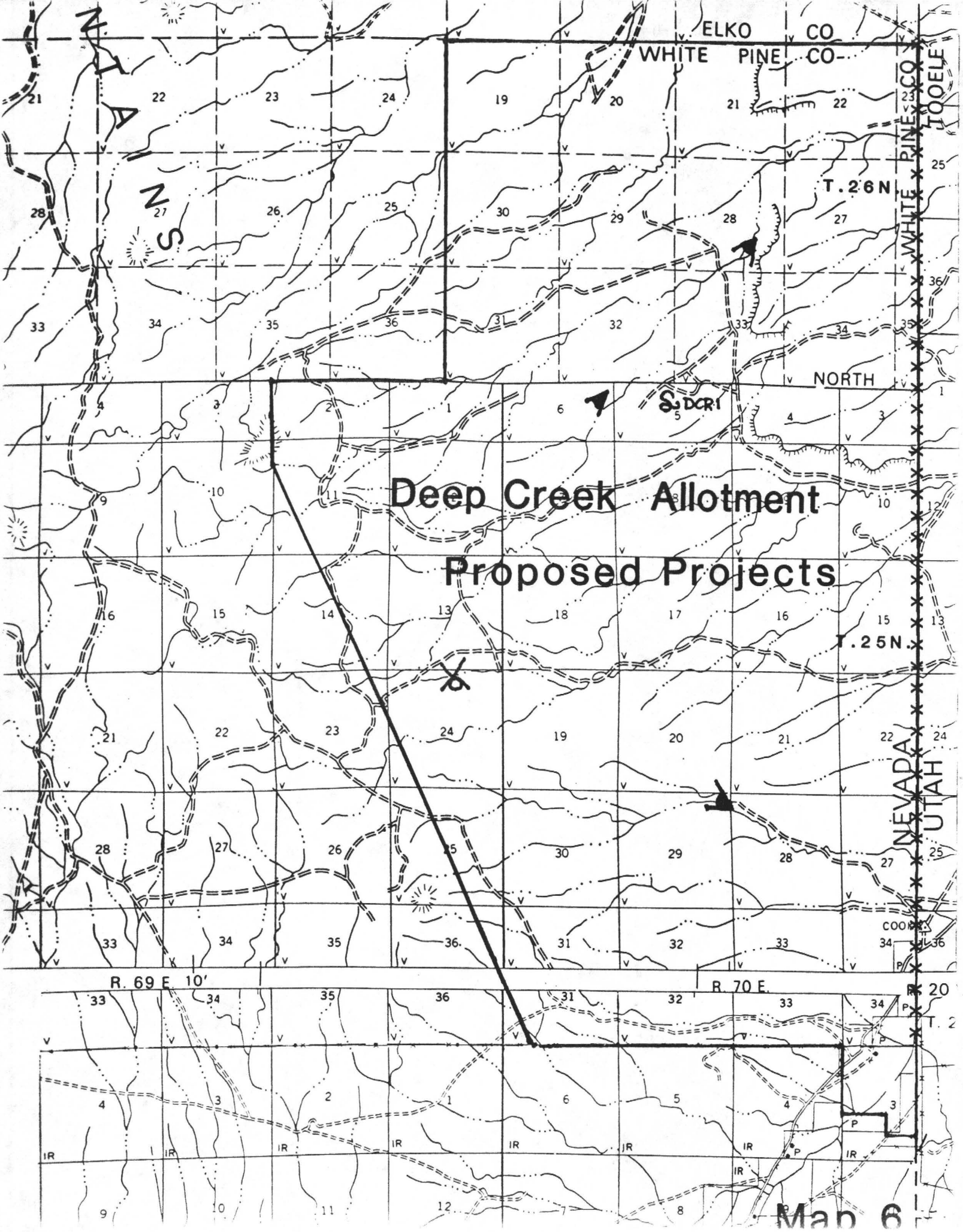

ELKO CO
WHITE PINE CO
TOOELE
WHITE PINE CO
T.26N.
NORTH
DCR1
Deep Creek Allotment
T.25N.
NEVADA
UTAH
COOK
R. 69 E. 10'
R. 70 E.
R. 20
T. 2
Map 2

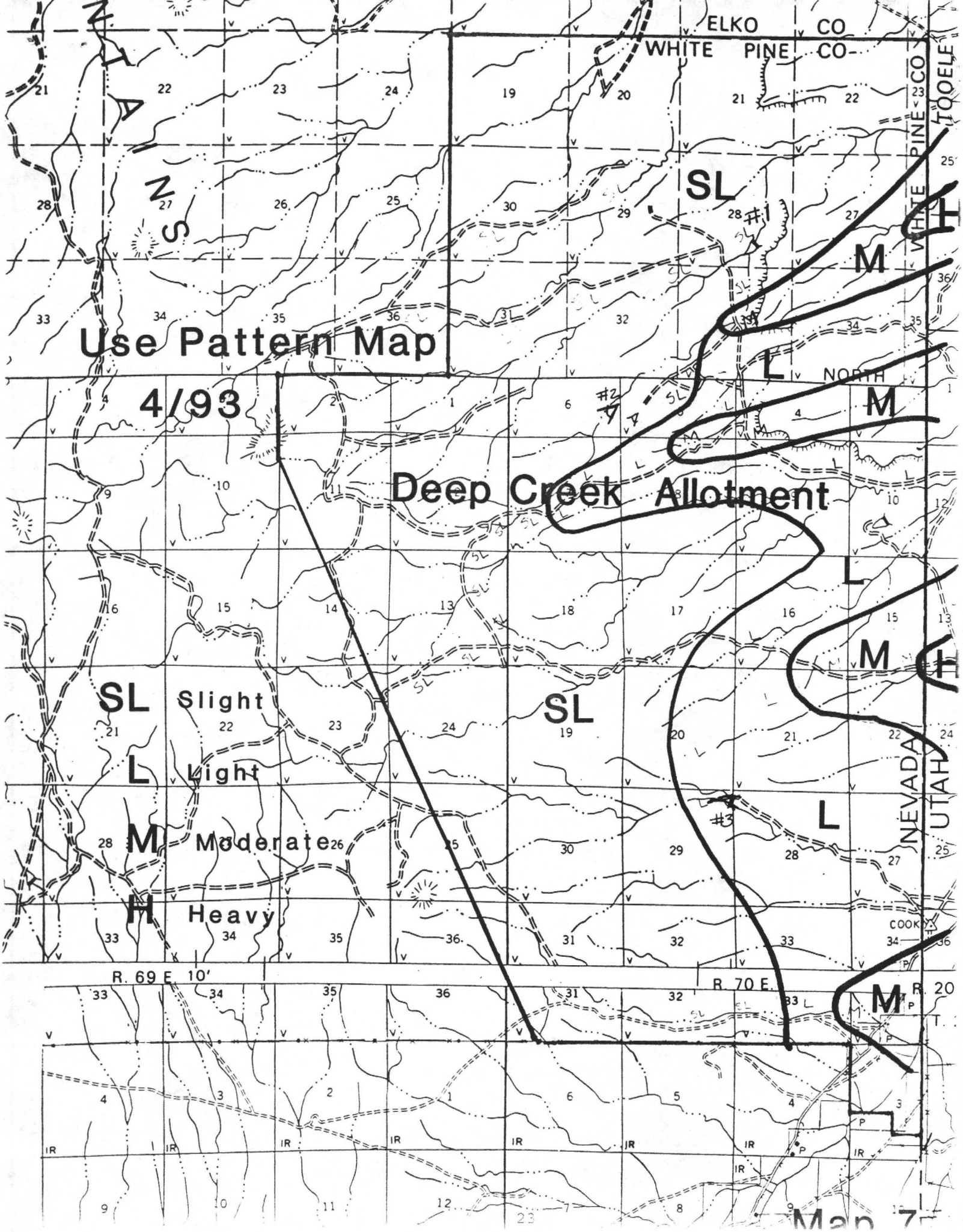

DEEP CREEK ALLOTMENT
Utah Portion
Nevada
Utah
ELKO CO
TOOELE CO
WHITE PINE CO
T 8 S
T 9 S
R 20 W
R 19 W
Deep Creek Valley
Deep Creek
Pony Express
PWR
Ibapah
Spring
East Creek
S State
P Private
Public
Key Areas
40°00'

Map 3


ANTELOPE HERD MANAGEMENT AREA
Deep Creek Allotment
GOSHUTE INDIAN RESERVATION
ELKO COUNTY
WHITE PINE COUNTY
TOOELE COUNTY
NEVADA
UTAH
STEPTOE VALLEY
ANTELOPE RANGE
ANTELOPE VALLEY
BOONE SPRING HILLS
BECKY PEAK
LOVELL PEAK
Becky Springs
Goshute
Cherry Creek Station
Tippett
Tippett Pass
Corral
Map 4


ELKO CO
WHITE PINE CO
TOOELE
WHITE PINE CO
T. 26 N.
NORTH
T. 25 N.
NEVADA
UTAH
COOK
R. 69 E.
R. 70 E.
R. 20
Deep Creek Allotment
Existing Projects
x-x-x Fence
Reservoir
Antelope Guzzler
Map 5


ELKO CO
WHITE PINE CO
TOOELE
WHITE PINE CO
T.26N.
NORTH
DCRI
Deep Creek Allotment
Proposed Projects
T.25N.
NEVADA
UTAH
R. 69 E. 10'
R. 70 E.
R. 20
T. 2
Map 6


ELKO CO
WHITE PINE CO
TOOELE
WHITE PINE CO
NEVADA
UTAH
COOK
NORTH
Use Pattern Map
4/93
Deep Creek Allotment
SL Slight
L Light
M Moderate
H Heavy
#1
#2
#3
R. 69 E.
R. 70 E.
R. 20
Map 7

10/28/93

WHOA
WILD HORSE ORGANIZED ASSISTANCE
P.O. BOX 555
RENO, NEVADA 89504

. . . a note from

Dawn Y. Lappin

October 28, 1993

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

Dear Mr. Smith,

Thank you for the opportunity to review and comment on the Deep Creek Allotment Evaluation.

Our comments are as follows:

Page 13: Water sources should be identified in the final evaluation. If these sources are developed a rotation plan should also be developed.

Page 12: What effect will the change to winter/spring use have on ATCO and ARSP? Has this been considered?

If you have any questions, please feel free to call.

Sincerely,

DAWN Y. LAPPIN
Director