

6/28/89



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)

JUN 28 1989

Dear Participant:

We appreciate your interest in being involved in the consultation process and enclosed for your information and review is the Geyser Ranch 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 July 31, 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. Geyser Ranch Evaluation (58 pp)

Allotment Evaluation Summary

JUN 27 1989

I. Introduction

- A. Allotment Name and Number: Geyser (01101)
- B. Permittee: Federal Land Bank (unqualified as of 3/1/88).
- C. Evaluation Period: 1982 to 1987
- D. Selective Management Category and Priority: Improve, Moderate.

II. Initial Stocking Level

A. Livestock use

- 1. Land Use Plan Objective (AUMs)
 - a. Total preference - 12,318 AUMS.
 - b. Suspended - 10.
 - c. Active - 12,308.
 - d. Temporary Non-Renewable - 4,500.
- 2. Season of use - 3/1 to 2/28.
- 3. Kind/Class - Cattle, pairs.
- 4. Percent Federal Range - 100%.
- 5. Other information - Three year average in EIS - 16,820 AUMS. In 1984 Grassy Mtn. Allotment was incorporated into Geyser Ranch Allotment resulting in an overall increase of 200 AUMS in grazing preference.

B. Wild Horse and Burro use

- 1. The allotment includes portions of the Wilson Creek and Dry Lake Herd Management Areas (HMA). Appropriate Management Level (AML) for the Wilson Creek Herd is 576 AUMS, and for the Dry Lake herd the AML is 612 AUMS based on the 1983 census (actual horses counted on the allotment). The combined AML from the portions within the Geyser Allotment is 1188 AUMS.

The Schell RPS management level of 572 AUMS will be updated as it does not agree with the 1983 censused population. The Schell MFP established AML at the 1983 census level.

- 2. Herd use areas - Refer to Map 1

C. Wildlife Use (see Map 1)

1. Mule Deer

- a. Reasonable Numbers: 2,398 AUMs
- b. Key/Crucial Areas:

- KDW-22A (Dutch John) 1,990 acres
- KDW-22B (Grassy Spring) 3,380 acres
- KDS-22B (Robbers Roost) 1,990 acres
- KDS-22C (Patterson Pass) 2,780 acres.

2. Pronghorn Antelope

- a. Reasonable Numbers: 163 AUMs
- b. Key/Crucial Areas: None Identified

3. Elk

- a. Reasonable Numbers: 110 AUMs
- b. Key/Crucial Areas: None Identified

4. Rocky Mountain Bighorn Sheep

- a. Reasonable Numbers: Nineteen Bighorn Sheep were released near North Creek on Mt. Grafton in 1986. In 1987, two additional rams were released in the same area.
- b. Key/Crucial areas: None identified; however, a general use area has been delineated.

5. Ferruginous Hawks: Two occupied nests, and six unoccupied nests.

III. Allotment Profile

A. Description

The ranch headquarters are located approximately 55 miles south of Ely, Nevada, on U.S. Highway 93. The allotment is in the Lake Valley planning unit in the Schell Resource Area.

The Geyser Ranch Allotment includes portions of two wilderness study areas (Fortification and Mt. Grafton), 6,400 acres of Bristlecone Pine protection area, and Mt. Grafton and North Creek scenic areas. Visual Resource Management ratings are in Class I (areas of outstanding visual values).

Major vegetative types are 81,763 acres of native range 50,022 acres of Crested Wheatgrass/Russian Wildrye and 105,628 acres of Pinyon-Juniper.

B. Acreage

1. Allotment Totals - 237,413 acres Federal, 9,657 acres private.
2. Pasture System - 3-Rest rotation grazing units, 4 pastures each, 1184 cattle, 12,048 AUMS from 4-1 to 1-31. Two winter bull pastures, 52 cattle, 11/1 to 3/30, 260 AUMS, The system was established in 1968 and revised in 1978

C. Allotment Specific Objectives

1. Land Use Plan/Rangeland Program Summary Objectives

a. Livestock

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).

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 1).

b. Wild Horse and Burro Use

The Short Term objective will be accomplished through managing the allowable use level by season of use to improve or maintain the desired forage 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. Provide forage for 1,188 AUMs of wild horse use by managing production to sustain existing numbers as of the 1983 census. (see Appendix I).

c. Mule Deer

The Short Term objective is to manage the allowable use level of key species on key/crucial areas by season of use to improve or maintain the habitat condition of the key/crucial areas (see Appendix 2).

The Long Term objective is to improve or maintain the habitat condition of key/crucial areas in good or excellent condition (see Appendix 2).

d. 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.

e. Elk

The Short Term objective is to limit use on key species listed for elk to 55 percent for native perennial grasses and 60 percent for seeded perennial grasses yearlong.

The Long Term objective is to manage the native range for late mid seral stage to the Potential Natural Community (PNC) with high diversity of forage species.

f. Rocky Mountain Bighorn Sheep

The Short Term objective is to limit use on key species listed for bighorn sheep to 55 percent for perennial grasses, grass-like plants, and forbs; and to 45 percent for shrubs yearlong.

The Long Term objective is to manage the native range used by bighorn sheep (see Map 2) for mid seral stage to Potential Natural Community (PNC) with high diversity of forage species.

g. Ferruginous Hawks

The Short Term objective is to limit use by livestock, wild horses, and wildlife on winterfat near occupied ferruginous hawk nests to 45 percent yearlong.

The Long Term objective is to manage winterfat stands (silty range sites) near occupied ferruginous hawk nests in mid to late seral stage.

h. Stream Habitat

The Short Term objective is to limit use on streamside riparian vegetation to 50 percent yearlong.

The Long Term objective is to maintain bank cover and bank stability at over 60 percent of optimum on North Creek and Geyser Creek (see Appendix 2).

i. Riparian Areas

The Short Term objective is to limit use on wet meadows and stream riparian areas to 30-50 percent for grass and grass-like species by all animals yearlong (see Appendix 1).

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); and to manage all stream riparian areas for good to excellent condition (based on greater than 50 percent cover of riparian plant species and rock).

2. Activity Plan Objectives

a. Muleshoe HMP

The Long Term objectives are to reduce plant decadence and increase vigor of existing bitterbrush stands; increase reproduction and seedling establishment of bitterbrush from 0% to 5% of stand composition; and increase reproduction and seedling establishment of existing grass species from 0% to 5% of stand composition.

3. Threatened and Endangered Plants and Animals

Allotment has occasional use by endangered bald eagles and peregrine falcons, however no specific use areas are known. No conflicts with livestock use have been identified.

D. Key Species Identification

1. Livestock

Winterfat
Crested Wheatgrass
Russian Wildrye
Indian Ricegrass

2. Riparian Areas

All perennial grass and grass-like species

3. Key/Crucial Areas (Mule deer)

KDW-22A: Cliffrose (COME)
Sagebrush (ARTEM)
All forbs

KDW-22B: Cliffrose (COME)
Sagebrush (ARTEM)
All forbs

KDS-22B: Serviceberry (AMELA)
Snowberry (SYMPH)
Hawksbeard (CREPI)

KDS-22C: Snowberry (SYMPH)
Big Sagebrush (ARTR)
Hawksbeard (CREPI)

4. Pronghorn Antelope

All forbs
All grasses
Black sagebrush (ARARN)
Douglas rabbitbrush (CHVI)

5. Elk

Crested wheatgrass (AGCR)
Bluebunch wheatgrass (AGSP)
Indian ricegrass (ORHY)
Needle and thread (STCO)

6. Rocky Mountain Bighorn Sheep

All forbs
Bluebunch wheatgrass (AGSP)
Bluegrass (POA++)
Black sagebrush (ARARN)

IV. Management Evaluation

A. Purpose

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

B. Summary of studies data

1. See Appendix I (10 pages), Appendix II (2 pages) Management Evaluation Summary Index
 - a. Crop Yield Index for Pioche and Lake Valley Steward Reporting Stations.
 - b. Actual use, utilization, precipitation Unit I, (Form No. 4400-17).
 - c. Actual use, utilization, precipitation Unit II, (Form No. 4400-17).
 - d. Actual use, utilization, precipitation Unit III, (Form No. 4400-17).
 - e. Actual use, utilization Winter Bull Pasture, (Form No. 4400-17)
 - f. Ecological Status Range.
 - g. Ecological Status Wildlife.
 - h. Utilization Wildlife.
 - i. Utilization Wildlife.
 - j. Phototrend Winter Bull Pasture.
 - k. Phototrend Unit I, Pasture 1-4.
 - l. Phototrend Unit II, Pasture 5-7.
 - m. Phototrend Unit II, Pasture 8.
 - n. Phototrend Unit III, Pasture 9-12.
 - o. AMP Grazing Formula.
 - p. 10-Year Annual Precipitation.
 - q. Desired Stocking Rate using Lake Valley Steward and Pioche weather data (4 pages).

2. Actual Use

a. Livestock

Use was taken from past livestock licenses. Cattle use varied from 8786 AUMs in 1983 to 15181 AUMs in 1984. The allotment has been in non-use since February of 1988. Refer to Table I, Summary of Estimated Use, and Appendix B-E for actual use by year - all users.

Table I. GEYSER - CATTLE

Activated	Preference	AUMs	AUM Preference
1988	11%	1,366	12,308
1987	80%	9,875	12,308
1986	98%	12,116	12,308
1985	93%	11,446	12,308
1984	125%	15,181	12,108
1983	73%	8,786	12,108
1982	121%	14,697	12,108

b. Wild Horses

Use was estimated from periodic aerial census inventories, populations estimated are as follows.

	Dry Lake Herd (AUMs)	Wilson Creek Herd (AUMs)
1983	612	576
1987	660	588
1988	---	408

The 1983 census established AML's and a demand of 1,188 AUMs in this allotment. In 1987 census data indicated that horse use had increased by 60 AUMs, however in the Wilson Creek Herd use will vary based on water conditions. Additional census information is scheduled to be collected in 1989. Use areas are primarily pastures 9 & 10 for the Dry Lake herd, and pastures 3 & 6 for the Wilson Creek herd.

c. Wildlife (existing numbers)

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 the range.

There have been some reports documenting elk use on the allotment; however, there have been no surveys on the allotment quantifying the amount of use.

Year	Deer	Pronghorn Antelope	Elk	Rocky Mountain Bighorn Sheep
	2,398	Reasonable Numbers 163	110	No estimate
		Existing Numbers (AUMs)		
1980	1,213	103	NA	NA
1981	997	105	NA	NA
1982	1,692	138	NA	NA
1983	2,175	171	NA	NA
1984	2,226	186	NA	NA
1985	3,988	153	NA	NA
1986	2,662	122	NA	NA
1987	3,535	122	NA	NA
1988	3,375	124	NA	NA

NA - Not Available

Estimated use (AUMS) by all users by year

1988	5,507
1987	14,658
1986	17,869
1985	16,835
1984	18,811
1983	12,320
1982	17,715

3. Precipitation

Weather station data shows significant precipitation variation within the allotment. Geysers Ranch headquarters received an average of 8.5 inches, Lake Valley Station (only 600 feet higher at the south end of the allotment) received 19.4 inches during the evaluation period.

Precipitation data has been used to adjust the utilization levels for the allotment evaluation years. The first step was to calculate the crop yield, the effective precipitation for plant growth occurring between September and June of each year. The crop yield for the past ten years ranged from 12.23 inches to 23.14 inches. The crop yield was then arrayed to determine the average. The average was 14.53 inches. The crop yield was then divided by the average to determine the precipitation index for each year. The precipitation index ranged from 80 to 136. The yield index was then determined from the precipitation index by using the linear regression equation $Y = -23 + 1.23 X$. 1/ (see Appendix X).

1/ Sneva, Forrest and 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.

4. Utilization

a. Key Area Use

The yield index discussed in the previous section was then multiplied by the actual recorded utilization level. The result of this is a utilization level normalized by precipitation (see Appendix Y).

Utilization data was collected for four of the eight years during the evaluation period

b. Use Pattern Mapping

Use pattern mapping occurred during the years 1982-85 and was limited to crested wheatgrass seedings.

5. Trend

Phototrend data is available for the years 1971 through 1987, refer to Appendix K-N.

6. Range Survey Data

The 1979 Ocular Reconnaissance Forage Survey indicated that there were 8,492 AUMS available for livestock grazing on the allotment. Refer to Table II.

Table II. Summary of Range Survey Data by Unit.

Unit	Key Species	AUMS 1970 Survey	AUMS 1979 Survey	AUMS Maximum Use AMP	Acres
I-North	AGCR, SIHY, PUTR	6228	3907.3	7162	102,980
II-Middle	AGCR, SIHY, EULA	4580	2288.9	5267	72,392
III-South	AGCR, SIHY, EULA	3547	2070.4	4079	55,353
Bull	EULA, SIHY, ORHY	259	225.3	300	5,250
	TOTAL	14614	8491.9	16808	235,975

7. Ecological status

See Appendix F-G which shows specific status information on 4 key management areas.

8. Wildlife Habitat

Wildlife studies have been established on the allotment; for habitat condition refer to Appendix 2.

9. Riparian/Fisheries Habitat

a. Riparian

Based on subjective evaluations during the water resources inventory completed in 1982, two of fourteen springs/wet meadows are being over utilized. No ecological status survey has been completed on these areas (see Appendix 1).

b. Fisheries

Appendix 2 lists stream fishery habitat in the allotment, which consist of North Creek and Geyser Creek, both are in good habitat condition in 1988 stream survey. Bank cover and bank stability on North Creek is down 10-14 percent from 1981. Bank stability on Geyser Creek is down 6 percent form 1981.

10. Wild Horse and Burro Habitat

A Nevada state wild horse and burro habitat rating system is pending approval, and will not be available for the evaluation period.

V. Conclusions.

Refer to Section III.C. for specific objectives

A. Livestock

1. Objective Attainment Determination

Not met.

2. Rationale

Allowable use levels at key areas were exceeded on 9 of 20 pastures/subpastures during the four years that data was collected (see Appendix 1).

B. Wild Horses and Burro

1. Objective Attainment Determination

Not met.

2. Rationale

Allowable use levels at key areas were exceeded on pastures 3, 8, 9, and 10 on one of the four years that data was collected (see Appendix 1).

C. Mule Deer

1. Objective Attainment Determination

Not met.

2. Rationale

Key deer winter range 22A (Dutch John) is in only fair habitat condition. Browse vigor rating is low because the age class of cliffrose is unsatisfactory---no seedlings, few young plants, and many decadent plants. The forage quality/diversity index is also low. In addition, utilization in the area exceeded allowable use level (see Appendix 2).

D. Pronghorn Antelope

1. Objective Attainment Determination

Not met.

2. Rationale

E. Elk

1. Objective Attainment Determination

Met.

2. Rationale

Allowable use levels not exceeded.

F. Rocky Mountain Bighorn Sheep

1. Objective Attainment Determination

Not met.

2. Rationale

Seral stage at key area within use area is less than desirable (see Appendices 1, Key Area GRR1).

G. Ferruginous Hawks

1. Objective Attainment Determination

Not met.

2. Rationale

Utilization of winterfat near occupied nests exceeded allowable use level (see Appendix 1).

H. Stream Habitat

1. Objective Attainment Determination

Met.

2. Rationale

Bank cover and bank stability on North Creek and Geyser Creek are over 60% of optimum as measured in 1988 stream habitat survey, and utilization did not exceed allowable use levels.

I. Riparian Areas

1. Objective Attainment Determination

Not met.

2. Rationale

Exceeded allowable use levels on two springs (see Appendix 1).

VII Problems/Solutions/Recommendations

A. Identified Issues

Field data from 1981 to 1985 indicate use levels recommended in the Nevada Rangeland Monitoring Task Force Guidelines were exceeded on 9 of 20 pastures/subpastures.

Appropriate management level for wild horses has been exceeded since 1983.

Stream riparian data indicates that North and Geyser Creeks are in good condition, but trend is downward.

The grazing system schedule has not been followed.

Distribution of livestock is poor in some pastures.

Livestock forage condition was less than good in 2 of 20 pastures/subpastures.

Utilization of winterfat by livestock near occupied ferruginous hawk nests exceeded allowable use level.

Utilization by wild horses exceeded allowable use level on two springs/wet meadows on the allotment.

Seral stage of key area within bighorn sheep use area is less than desirable.

Actual use exceeded stocking levels recommended in the Geyser Ranch AMP for most pastures in most years. (see Table 3).

1. Short Term Solutions

Option - 1 Adjust livestock numbers

Authorize livestock use by pasture in proportion to the stocking levels recommended in the AMP but not to exceed preference (12,308 AUMs), and follow the AMP grazing schedule.

Except for the winter bull pastures, all the other pastures on the Geyser Ranch Allotment include a crested wheatgrass seeding. Most of the livestock use is made on those seedings. Only a small amount of the use is made on the native range. Therefore, the desired stocking rates were calculated based on monitoring data collected on the seedings and the winter bull pastures using guidelines established by the Nevada Range Studies Task Group for desired utilization levels, and the following formula:

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

Appendix Q illustrates the calculation of desired stocking levels by pasture for the years 1982 through 1985 using crop yield index adjustment values from two weather stations (Lake Valley/Steward and Pioche Station). Table 4 shows the average desired stocking rates by pasture calculated using the yield indices based on data from both weather stations for the years 1982-85.

Table 3 AVERAGE ACTUAL USE BY PASTURE (1982-85)

Pasture	1982		1983		1984		1985		4 Year Average		AMP Recommended
	Live-stock	Total	Live-stock	Total	Live-stock	Total	Live-stock	Total	Livestock	Total	
1	2955	2955		0	3101	3101	1949	1949	2668	2668	1666
2	136	136	2012	2012	1810	1810	2450	2450	1602	1602	1363
3	1951	2527	1711	2287	2796	3384		588	2153	2197	1912
4	2530	2530	387			0	1257	1257	1391	1391	1681
(Unit I)	7572	9143	4110	5990	7707	9609	5656	8477	6261	8305	6622
5	726	726		0	1394	1394	438	438	853	853	1025
6		0	762	762	484	484	1336	1336	861	861	1115
7	973	973	582	582	1017	1017		0	857	857	1483
8	1040	1040	896	896	438	474	964	1000	835	835	796
(Unit II)	2739	3041	2240	2620	3333	3769	2738	3409	2763	3210	4419
9	794	1106		312	936	1266	138	468	623	788	929
10	807	1107	708	1008	165	459	821	1115	625	922	914
11		0	392	392	1866	1866	1068	1068	1109	1109	950
12	1363	1363	1209	1209	680	680		0	1084	1084	754
(Unit III)	2964	4068	2309	3531	3647	4914	2027	3825	2737	4085	3547
West Bull	775	816	62	114	261	316	397	496	374	436	157
East Bull	647	647	65	65	233	233	372	372	329	329	102
Total	14697	17715	8786	12320	15181	18841	11190	12464	16364	16364	14847

Table 4: AVERAGE CALCULATED STOCKING RATE
(Lake Valley Steward Crop Yield Index)

Pasture	1982	1983	1894	1985	Ave Stock
1				2168	2168
2	174	997	2282	2530	1496
3	16130	1133	4266		7176
4	1794	192		1298	1095
(Unit I)	8337	2968	12112	8754	8043
5			2460	519	1490
6			1424		1424
7	1035	696	1282		1004
8		1036		1033	1035
(Unit II)	3235	3029	6651	3520	4109
9	1177				1177
10	785	699	1013	1151	912
11			5488		5488
12			984		984
(Unit III)	3709	2449	7226	3950	4334
West Bull	3410	48	852	1429	1435
East Bull	823	31	309	913	519
Total	19514	8525	27150	18566	18439

Table 4: AVERAGE CALCULATED STOCKING RATE
(Pioche Crop Yield Index)

Pasture	1982	1983	1894	1985	Ave Stock
1				1894	1894
2	165	937	1892	2211	1301
3	15315	1065	3537		6639
4	1704	180		1134	1006
(Unit I)	7916	2790	10044	7648	7100
5			2040	453	1247
6			1180		1180
7	983	654	1063		900
8		974		902	938
(Unit II)	3072	2848	5516	3076	3628
9	1117				1117
10	745	657	840	1006	812
11			4551		4551
12			816		816
(Unit III)	3522	2303	5993	3451	3817
West Bull	3238	45	707	1249	1310
East Bull	781	29	256	798	466
Total	18529	8015	22516	16222	16321

Conclusion

Analysis of utilization data (Appendix Q) indicates that there is not enough information to conclusively determine appropriate stocking levels by pasture. Since allowable use levels were exceeded on most pastures in most years, it is assumed that average actual use was too high.

Recommendation

It has been determined that livestock use should be limited to the active preference of 12,308 AUMs. The 4,500 AUMs of temporary non-renewable use authorized in the AMP would no longer be automatically allowed. This would result in a level of use up to 2,873 AUMs less than the highest level of use received during the evaluation period. It has been further determined that stocking levels by pasture should be in proportion to the stocking levels recommended in the AMP, but not to exceed preference. Table 5 compares AMP recommended stocking rates, proposed stocking rates adjusted to active preference, average actual use (Table 3), and average calculated stocking rates (Table 4) by pasture.

Livestock use would be to levels proposed in Table 5 and would follow the existing AMP grazing schedule, refer to Appendix O.

Option - 2 - Adjust utilization levels in the Bull Pasture.

To meet the AUL objective (Appendix 1) in the Bull Pasture license to levels identified in the Geyser Ranch AMP, (providing Option 1 is not adopted).

Option - 3 - Reduce numbers of wild horses

It is not reasonable, due to both economics and logistics problems to initiate a horse gather to reduce wild horses by 60 AUMs (5 horses yearlong) on a single allotment. A horse removal is proposed in FY89 for both the Wilson Creek and Dry Lake HMA's. Every effort will be made to remove horses from those areas where numbers are known to be above AML and where resource damage is occurring whenever possible.

Option - 4 - Distribution of grazing animals

Use pattern mapping indicates that there is poor distribution in Pastures 2, 3, 6, and 7. Herding, water hauling, and proper salt placement along the east of these pastures would improve distribution to meet the AUL objectives.

Table 5: RECOMMENDED STOCKING RATES COMPARED TO CALCULATED RATES

PASTURE	AMP PROPOSED RECOMMENDED	WILDHORSE CATTLE	EXISTING AML	EXISTING DEER	EXISTING ANTL	TOTAL STOCKING	AVER LV/ST	CALC. CYI	RATES PIOC	CYI
1	1666	1381				1381		2168		1894
2	1363	1130				1130		1496		1301
3	1912	1585	576			2161		7176		6639
4	1681	1394				1394		1095		1006
(Unit I)	6622	5490	576	1905	41	8012		8043		7100
5	1025	850				850		1490		1247
6	1115	924				924		1424		1180
7	1483	1229				1229		1004		900
8	796	660				660		1035		938
(Unit II)	4419	3663	0	483	53	4199		4109		3628
9	929	770	318			1088		1177		1117
10	914	758	294			1052		912		812
11	950	788				788		5488		4551
12	754	625				625		984		816
(Unit III)	3547	2940	612	917	24	4493		4334		3817
West Bull	157	130		70	6	206		1435		1310
East Bull	102	85				85		519		466
Total	14847	12308	1188	3375	124	13995		18439		16321

Option - 5 - Change class of animal

To improve livestock distribution encourage permittee to change class of animal from cow/calf to yearling cattle. Yearling cattle tend to graze a greater distance from water which could improve distribution.

Option - 6 - Change kind of animal.

To improve livestock distribution and to meet the AUL objective encourage permittee to change up to 30% of the active preference to sheep East U.S. 93 to avoid conflicts with Bighorn sheep in the Mt. Grafton Area. Sheep grazing would require herding and water hauling and would control areas of use.

Option - 7 -

Because ungulate damage has decreased bank cover and bank stability, authorize livestock use to levels identified in Table 5; proposed cattle.

2. Long Term Solutions (Refer to Map II)

- Develop permanent waters
- Improve livestock forage condition
- Fence riparian areas.

Option - 1 - Range Improvements

Develop waters in the waterless areas along the eastern side of Pastures 2, 3, 6, and 7 to improve user distribution.

Possibilities are listed below by area: See Map 3.

- a. Redevelop (South Lake Valley Well No. 2 (Bitter well) and lay a four mile pipeline southwest into Pasture 7.
- b. Develop unnamed spring located at T8N R67E, Sec. 20 and lay a seven mile pipeline southeast into Pasture 7.
- c. Develop unnamed spring located at T8N, R67E, Sec. 33 and lay a 3 mile pipeline west into central area of Pasture 3.

Option - 2 - Improve user forage condition

Improve livestock forage condition in pasture 8 (north section) from fair to good and in pasture 10 (north section) from poor to good by initiation of seeding maintenance. Maintenance would consist of removal of shrubs and reseeding or an interseeding of desirable grasses.

Option 3 - Riparian pasture

Because bank cover and bank stability are in downward trend on North Creek and Geyser Creek construct a riparian pasture of approximately 7700 acres to protect these streams from further damage.

This pasture would also include the use area of the bighorn sheep.

Option - 4 - Fence Riparian Areas

Fence livestock and wild horses from Campbell Spring and Grassy Spring. This will prevent overuse of the riparian vegetation associated with these springs.

B. Identified Issue - Wildlife

Key deer winter range 22A (Dutch John) is in only fair habitat condition. Utilization in the area exceeded the allowable use level.

1. Short Term Solutions

Option 1

Limit livestock use to grazing preference and not to upper limits of flexibility identified in Geyser Ranch AMP. Livestock use in Pasture 8 not only exceeded the grazing preference three out of four years, but also exceeded the stocking level recommended in the AMP. Livestock use in Pastures 9 and 10 exceeded the grazing preference two out of four years. This has resulted in excessive use on the key deer winter range.

Option 2

Follow the grazing system described in the AMP. During the four year period, 1982-1985, Pastures 8 and 10 did not receive any rest from livestock grazing. This did not allow seedlings of key browse and grass species to become established.

2. Long Term Solutions

Option 1

Revise the grazing schedule in the AMP for Unit II. The carrying capacity of the four pastures within Unit II are very disproportionate with Pasture 8 having only half the capacity of Pasture 7. This has resulted in excessive use on Pasture 8.

Option 2

Mechanically treat cliffrose stands to reduce decadent plants and encourage new growth in the form of sprouts and seedlings. This will improve browse vigor by improving the age class of cliffrose.

In addition, grasses and forbs will reestablish naturally in the area which will improve forage quality/diversity index.

C. Additional Monitoring Data Required

1. Collect use pattern data at the end of each use period per pasture with emphasis on those pastures with significant wildlife and wild horse use and include those years where no livestock use occurs.
2. Collect use data each spring on winter ranges.
3. Collect utilization data at key springs/wet meadows.
4. Determine amount of elk and bighorn sheep use that is being made on the allotment, and if there are any key/crucial areas.

Crop Yield Index
 Pioche Reporting Station

<u>Year</u>	<u>Crop Yield</u>	<u>Crop Year Median PPT</u>	<u>PPT Indices</u>	<u>Yield Indices</u>
1978	19.9	11.9	1.67	175
1979	14.99	11.9	1.26	129
1980	15.03	11.9	1.26	129
1981	9.98	11.9	.84	83
1982	10.59	11.9	.89	88
1983	18.16	11.9	1.53	159
1984	5.27	11.9	.44	38
1985	10.28	11.9	.86	85
1986	10.96	11.9	.92	92
1987	9.47	11.9	.79	77
1988	12.67	11.9	1.06	107

Crop Yield Index
 Lake Valley Steward Reporting Station

<u>Year</u>	<u>Crop Yield</u>	<u>Crop Year Median PPT</u>	<u>PPT Indices</u>	<u>Yield Indices</u>
1978	18.88	14.53	1.29	136
1979	17.25	14.53	1.19	123
1980	14.28	14.53	.98	98
1981	12.23	14.53	.84	80
1982	13.88	14.53	.95	94
1983	23.14	14.53	1.59	173
1984	10.74	14.53	.74	68
1985	12.50	14.53	.86	83
1986	15.43	14.53	1.06	107
1987	14.54	14.53	1.00	100

APPENDIX 1

ALLOTMENT: Geysir Ranch - Seeding

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE			SHORT TERM OBJECTIVE			
				Key Spp % Comp By Cover	Livestock Forage Condition	Maintain or Improve	Key Spp % Comp By Cover (not Less than)	Seral Stage (% of PNC)	Allowable Use Level	Season of Use	Met or Not Met	Rationale
4-20	Pasture 4 North	N/A	AGCR	50%	Good	Maintain	48%	N/A	60	Y/L	Not Met	AGCR 70% 1985
4-21	Pasture 4 East	N/A	AGCR	100%	Good	Maintain	95%	N/A	60	Y/L	Not Met	AGCR 70% 1985
4-23	Pasture 4 West	N/A	ORHY PUTR	24% 73%	Good	Maintain	22% 71%	N/A	60	Y/L	Met	Allowable use levels not exceeded
4-22	Pasture 5 West	N/A	AGCR	200%	Good	Maintain	95%	N/A	60	Y/L	Met	Allowable use levels not exceeded
4-24	Pasture 5 East	N/A	AGCR	89%	Good	Maintain	85%	N/A	60	Y/L	Not Met	AGCR 61% Use 1985
4-41	Pasture 6 West	N/A	ELJU	100%	Good	Maintain	95%	N/A	60	Y/L	Met	Allowable use levels not exceeded

APPENDIX 1

ALLOTMENT: Geyser Ranch - Seeding

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE		SHORT TERM OBJECTIVE				
				Key Spp % Comp By Cover	Livestock Forage Condition	Maintain or Improve	Key Spp % Comp By Cover (not Less than)	Seral Stage (% of PNC)	Allowable Use Level	Season of Use	Met or Not Met	Rationale
4-42	Pasture 6 East	N/A	ELJU	75%	Good	Maintain	72%	N/A	60	Y/L	Met	Allowable use not exceeded
4-40	Pasture 7 West	N/A	ELJU	53%	Good	Maintain	51%	N/A	60	Y/L	Met	Allowable use not exceeded
4-39	Pasture 7 East	N/A	AGCR	100%	Good	Maintain	95%	N/A	60	Y/L	Met	Allowable use not exceeded
4-35	Pasture 8 South	N/A	AGCR	20%	Fair	Improve	18%	N/A	60	Y/L	Met	Allowable use not exceeded
4-25	Pasture 8 West	N/A	AGCR	46%	Good	Maintain	44%	N/A	60	Y/L	Met	Allowable use not exceeded
4-30	Pasture 8 Central	N/A	AGCR	51%	Good	Maintain	48%	N/A	60	Y/L	Met	Allowable use not exceeded

APPENDIX 1

ALLOTMENT: Geysers Ranch - Seeding

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE		SHORT TERM OBJECTIVE					Rationale
				Key Spp % Comp By Cover	Livestock Forage Condition	Maintain or Improve	Key Spp % Comp By Cover (not Less than)	Seral Stage (% of PNC)	Allowable Use Level	Season of Use	Met or Not Met		
4-31	Pasture 8 North	N/A	AGCR	41%	Fair	Improve	39%	N/A	60	Y/L	Met	Allowable use not exceeded	
4-34	Pasture 9 West	N/A	AGCR	83%	Good	Maintain	83%	N/A	60	Y/L	Met	Allowable use not exceeded	
4-36	Pasture 10 North	N/A	AGCR	6%	Poor	Improve	4%	N/A	60	Y/L	Not Met	AGCR 81% 1981 70% 1985	
4-19	Pasture 10 South	N/A	AGCR	100%	Good	Maintain	95%	N/A	60	Y/L	Met	Allowable use not exceeded	
4-17	Pasture 11	N/A	AGCR	100%	Good	Maintain	95%	N/A	60	Y/L	Met	Allowable use not exceeded	

APPENDIX 1

ALLOTMENT: Geyser Ranch - Seeding

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE		SHORT TERM OBJECTIVE				
				Key Spp % Comp By Cover	Livestock Forage Condition	Maintain or Improve	Key Spp % Comp By Cover (not Less than)	Seral Stage (% of PNC)	Allowable Use Level	Season of Use	Met or Not Met	Rationale
4-18	Pasture 12 North	N/A	AGCR EULA	20% 50%	Good	Maintain	45% 45%	N/A	60	Y/L	Not Met	Use on AGCR 61 1984
4-38	Pasture 12 West	N/A	AGCR	56%	Good	Maintain	53%	N/A	60	Y/L	Met	Allowable use not exceeded
4-37	Pasture 12 South	N/A	AGCR	60%	Good	Maintain	58%	N/A	60	Y/L	Met	Allowable use not exceeded
4-11	West Winter Bull Pasture	N/A	EULA ORHY	37% 15%	Good	Maintain	35% 13%	N/A	50/30 55/50	Winter/ Spring	Not Met	Use exceeded in 1983/ 1984
4-12	East Winter Bull Pasture	N/A	EULA ORHY	42% 13%	Good	Maintain	40% 11%	N/A	50/30 55/50	Winter/ Spring	Not Met	Use on SIHY 65% 83, 70% 84 EULA-65-83

APPENDIX 1

Study No.	Key Area Location	Ecological Site No.	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
GRR1	North Creek	Mt. Ridge 12-16"	Pose	4%	Mid. (44%)	Improve	6-10%	Mid	60%	Y/L	Met	Allowable use not exceeded
FH	T. 10 N., R. 65 E., sec. 14	0288Y013 (near nest)	EULA ORHY SIHY	No ecological status survey completed to date				45% 55% 55%	Winter/ Spring	Not Met	Allowable use levels exceeded	
FH	T. 9 N., R. 66 E., sec. 26											
Geyser Spring	T. 10 N., R. 65 E., sec. 34 SW1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Y/L			
Deer Track Spring	T. 10 N., R. 64 E., sec. 12 SW1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Y/L			

APPENDIX 1

ALLOTMENT: Geysers Ranch

Study No.	Key Area Location	Ecological Site No.	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	
Grassy Spring (Complex)	T. 6 N., R. 65 E., Sec. 22 NE1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong	Not Met	Utilization exceeded allowable use level at time of water resources inventory in 1982.
Jasper Spring	T. 7 N., R. 64 E., Sec. 34 SW1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong		
Spring Complex	T. 7 N., R. 64 E., Sec. 34	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong		
Roadside Spring	T. 8 N., R. 65 E., Sec. 5 NE1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong	Met	Allowable Use Level not exceeded (exclosure around spring)
Milk Ranch Spring	T. 8 N., R. 65 E., Sec. 19 SW1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong		
Spring Complex	T. 8 N., R. 65 E., Sec. 19	Unknown	Grasses and grass-like	No ecological status survey completed to date					50%	Yearlong		

APPENDIX 2

ALLOTMENT: Geyser Ranch

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE		SHORT TERM OBJECTIVE			
				Habitat Condition Rating 1/		Maintain or Improve	Habitat Condition Rating 1/	Allowable Use Level	Season of Use	Met or Not Met	Rationale
North Creek	secs. 19, 20, 21, 27 & 28		Grasses & grass-like	Bank cover: 75% (Good)		Maintain	Bank Cover: 75% (Good)	50%	Yearlong	Met	Allowable Use Levels not exceeded
	T. 10 N., R. 65 E.,		Forbs & Shrubs	Bank stability: 79% (Good)			Bank Stability: 79% (Good)	50% 45%			
Geyser Creek	secs. 34 and 35		Grasses & grass-like	Bank cover: 70% (Good)		Maintain	Bank Cover: 70% (Good)	50%	Yearlong	Met	Allowable Use Levels not exceeded
	T. 10 N., R. 65 E.		Forbs & Shrubs	Bank Stability: 72% (Good)			Bank Stability: 72% (Good)	50% 45%			

1/ For Mule Deer, habitat condition is based on browse vigor rating and forage quality rating; for pronghorn antelope, habitat condition is based on vegetation quality rating, diversity index, and vegetation quantity rating; and for perennial streams, habitat condition is based on bank cover and bank stability.

APPENDIX 2

ALLOTMENT: Geyser Ranch

Study No.	Key Area Location	Ecological Site No.	Key Species	PRESENT SITUATION		LONG TERM OBJECTIVE		SHORT TERM OBJECTIVE			
				Habitat Condition Rating 1/		Maintain or Improve	Habitat Condition Rating 1/	Allowable Use Level	Season of Use	Met or Not Met	Rationale
KDW-22A	Dutch John sec. 14, T. 7 N., R. 65 E.,	Unknown	COME	51% Fair		Improve	61% Good	20%	By 11/1	Not Met	Utilization exceeded AUL 82-83 = 67% 83-84 = 47%
KDW-22B	Grassy Spring T. 6 N. R. 65 E.	No Studies established to date									
KDS-22B	Robbers Roost sec. 12, T. 10 N., R. 64 E.,	Unknown	CREPI AMELA SYMPH	63% Good		Maintain	63% Good	55% 45% 45%		Met	Allowable use levels not exceeded
KDS-22C	Patterson Pass sec. 19, T. 9 N., R. 65 E.,	Unknown	CREPI LUPIN SYMPH	75% Good		Maintain	75% Good	55% 55% 45%		Met	Allowable use levels not exceeded

1/ For Mule Deer, habitat condition is based on browse vigor rating and forage quality rating; for pronghorn antelope, habitat condition is based on vegetation quality rating, diversity index, and vegetation quantity rating; and for perennial streams, habitat condition is based on bank cover and bank stability.

APPENDIX 1

ALLOTMENT: Geyser Ranch

Study No.	Key Area Location	Ecological Site No.	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	
Graham Spring	T. 9 N., R. 65 E., Sec. 7 SE1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong			
Dupont Spring	T. 9 N., R. 65 E., Sec. 8 SE1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong			
Schwartz Spring	T. 9 N., R. 65 E., Sec. 19 SW1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong			
Spring Complex	T. 9 N., R. 65 E., Sec. 31	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong			
Campbell Spring	T. 10 N., R. 65 E., Sec. 18 NE1/4	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong	Not Met	Utilization exceeded allowable use levels at time of water resources inventory in 1982.	
North Creek Spring Complex	T. 10 N., R. 65 E., Sec. 19	Unknown	Grasses and grass-like	No ecological status survey completed to date				50%	Yearlong			

Crop Yield Index
Pioche Reporting Station

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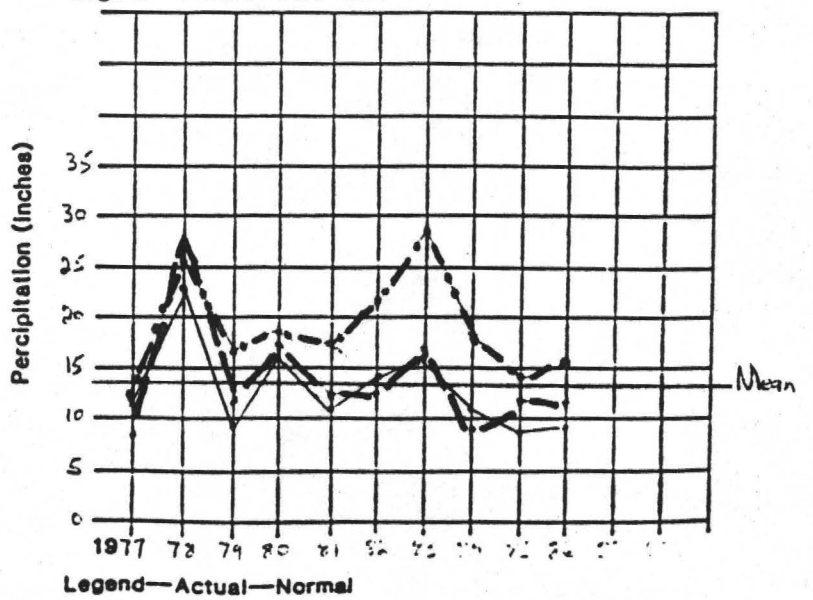
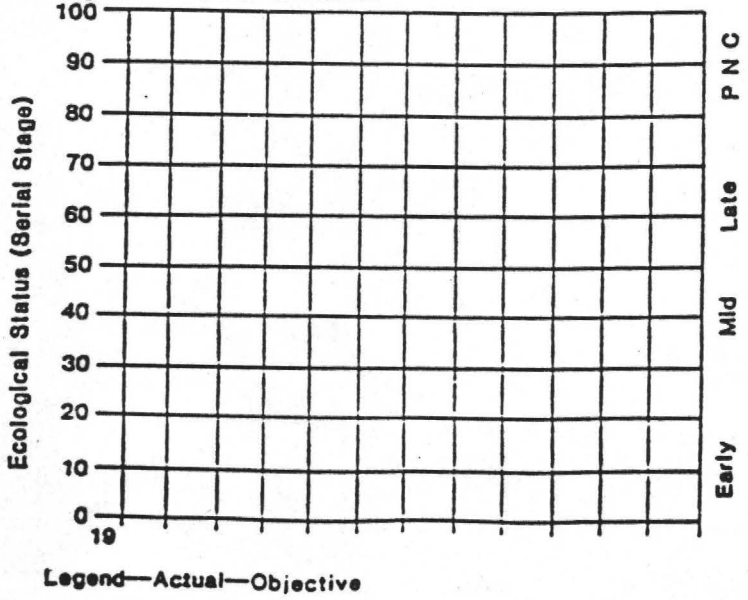
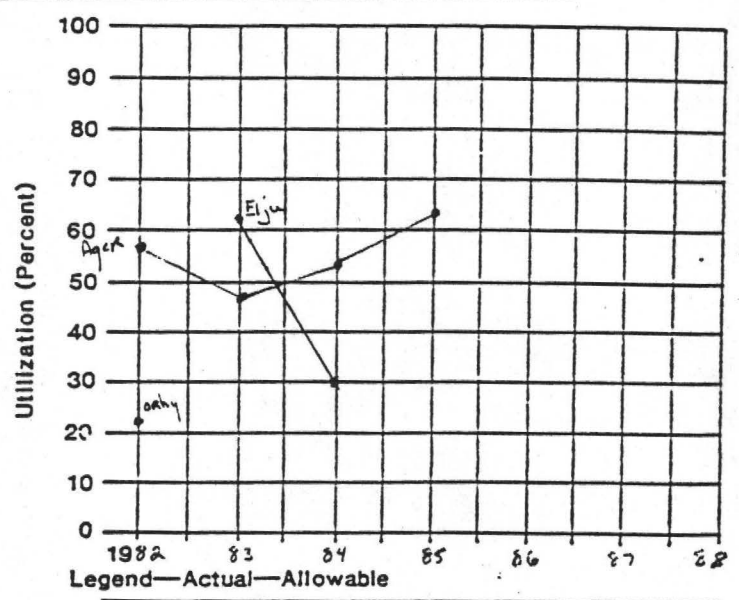
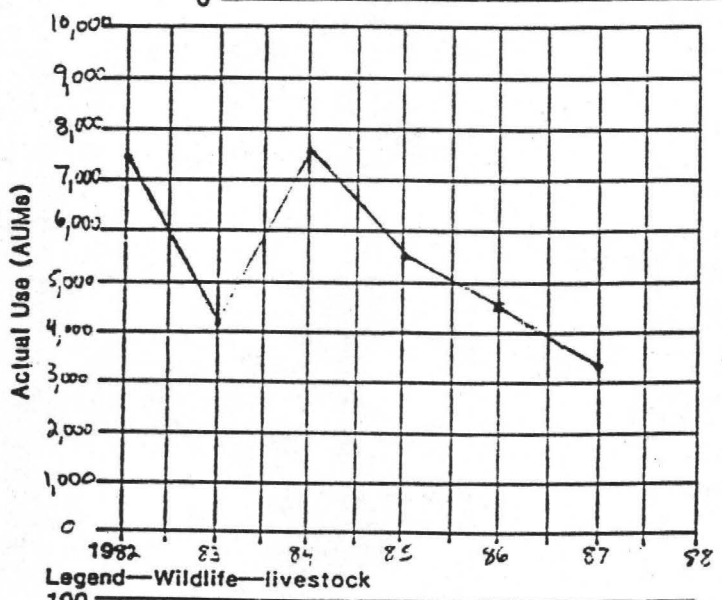
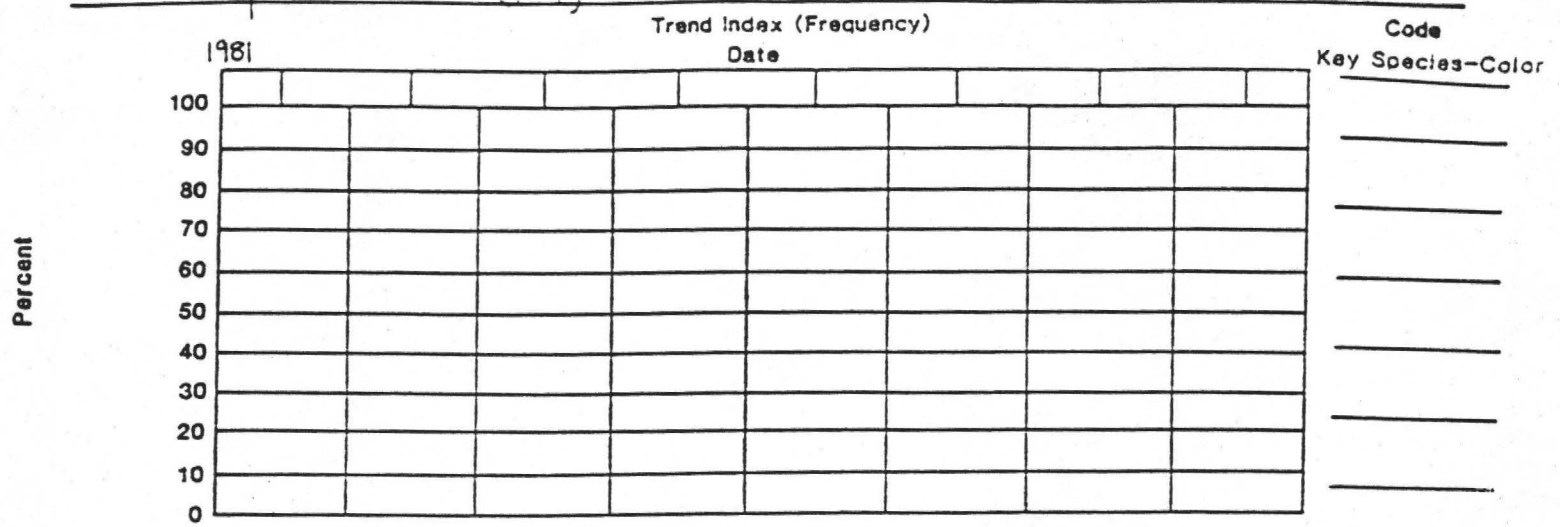
Crop Yield Index
Lake Valley Steward Reporting Station

<u>Year</u>	<u>Crop Yield</u>	<u>Crop Year Median PPT</u>	<u>PPT Indices</u>	<u>Yield Indices</u>
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1981	12.23	14.53	.84	80
1982	13.88	14.53	.95	94
1983	23.14	14.53	1.59	173
1984	10.74	14.53	.74	68
1985	12.50	14.53	.86	83
1986	15.43	14.53	1.06	107
1987	14.54	14.53	1.00	100

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

District _____ Appendix E
 Planning Area _____ Date _____

Allotment Geyer - Unit 1 Pastures (1-4) Key Management Area _____



--- Piöche
 — Sp Valley (State Park) NV 4400-17 (March 1985)
 Lake Valley

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

District

Appendix C

Planning Area

Date

Allotment

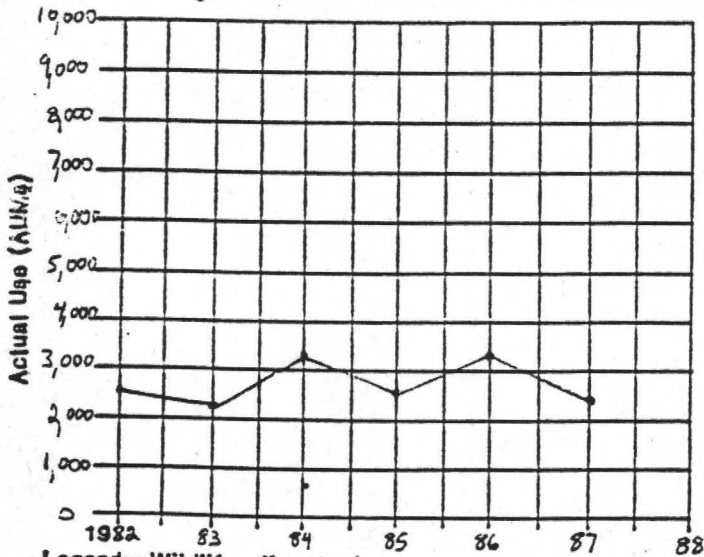
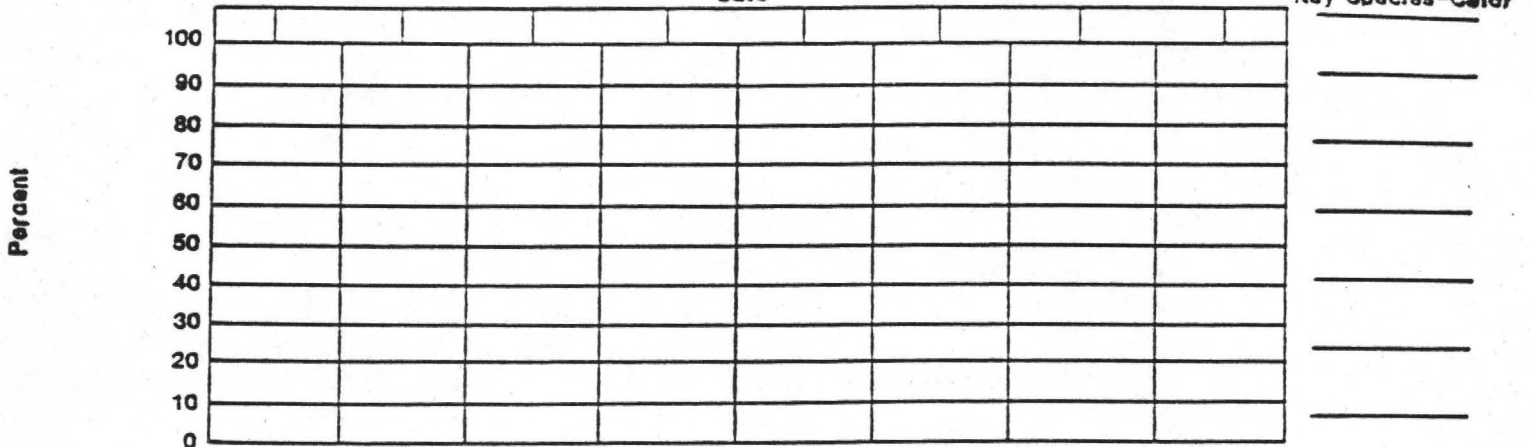
Geysers - Unit 2 ^{Pastures} (5-8)

Key Management Area

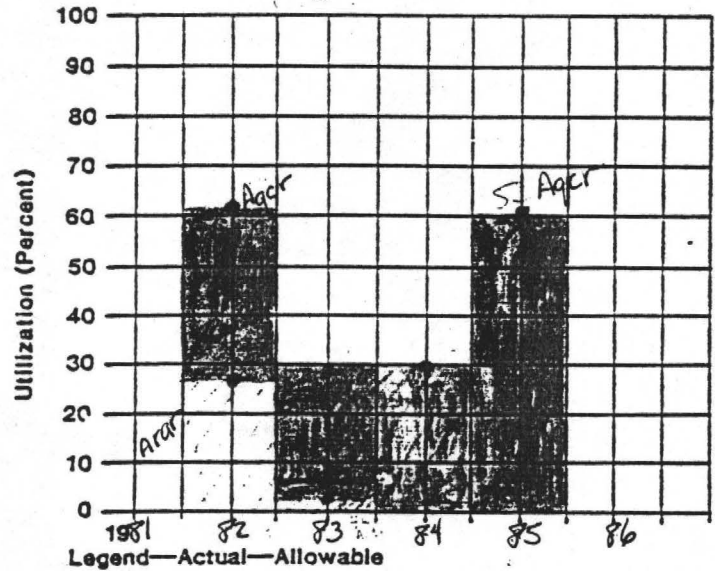
Trend Index (Frequency)
 Date

CS-1

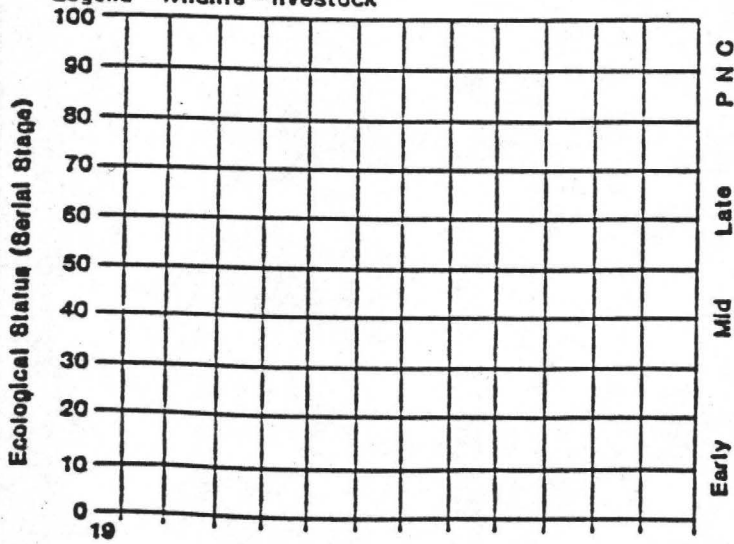
Key Species-Color



Legend—Wildlife—livestock



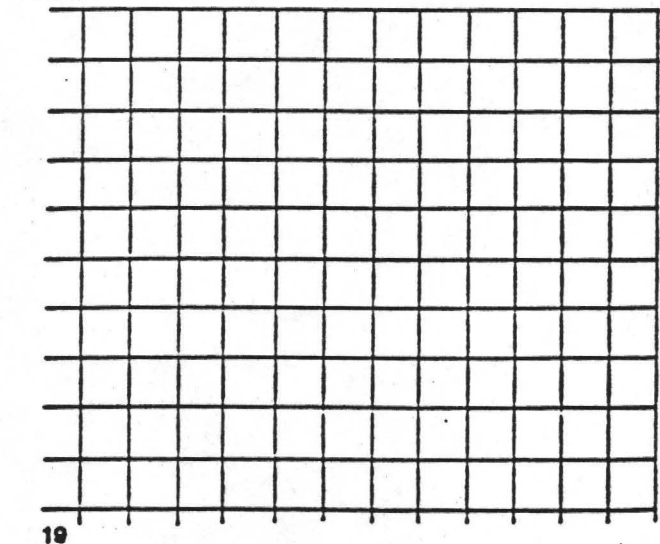
Legend—Actual—Allowable



Legend—Actual—Objective

Early Mid Late P N C

Precipitation (inches)



Legend—Actual—Normal

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

District

Appendix D

Planning Area

MAR 19

Allotment

Geyser - Unit 3 Pastures (9-12)

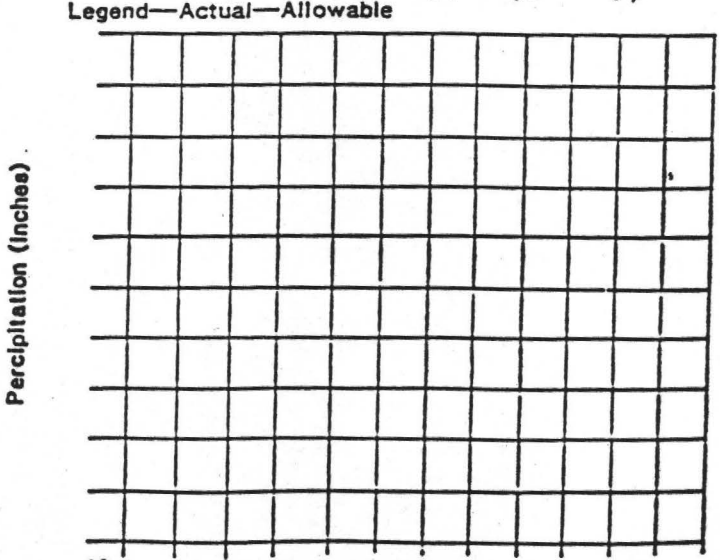
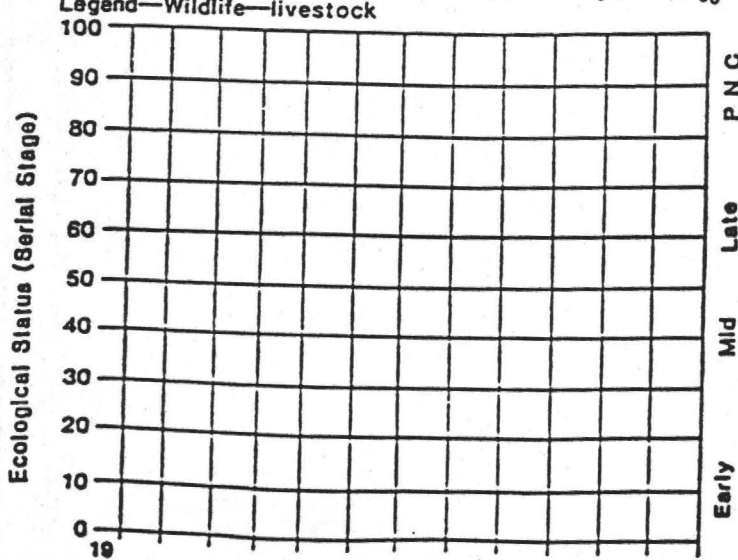
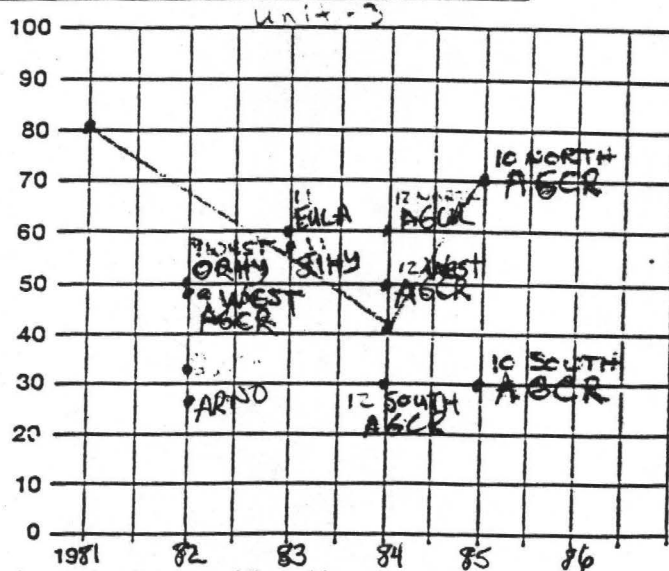
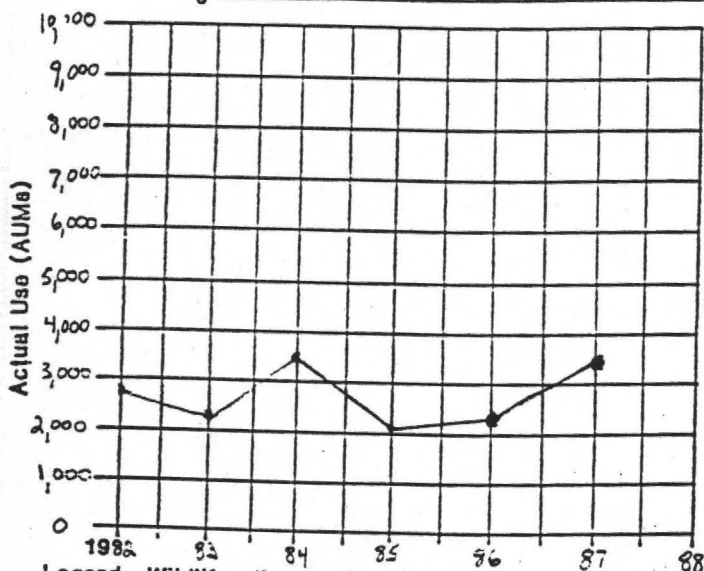
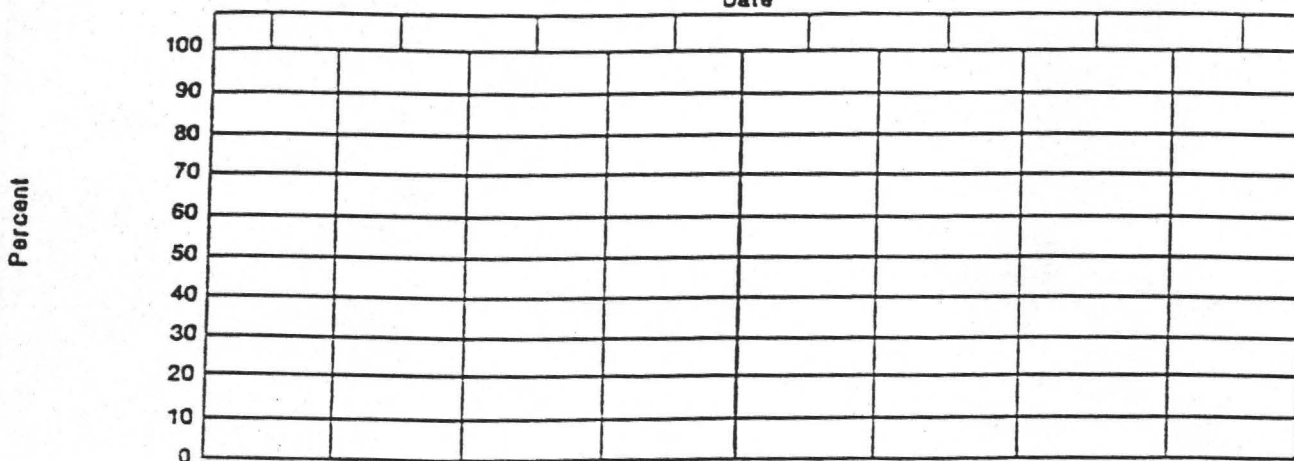
Key Management Area

Trend Index (Frequency)

Date

Code

Key Species-Color



Legend—Actual—Objective

Legend—Actual—Normal

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

Planning Area

Date

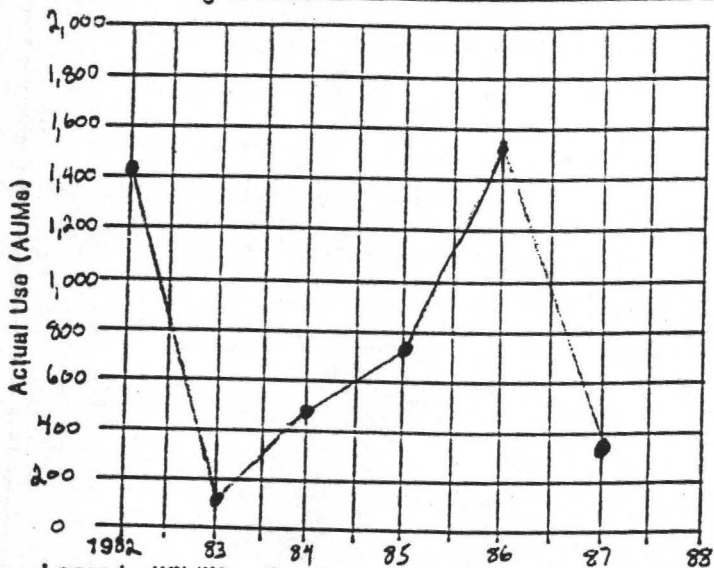
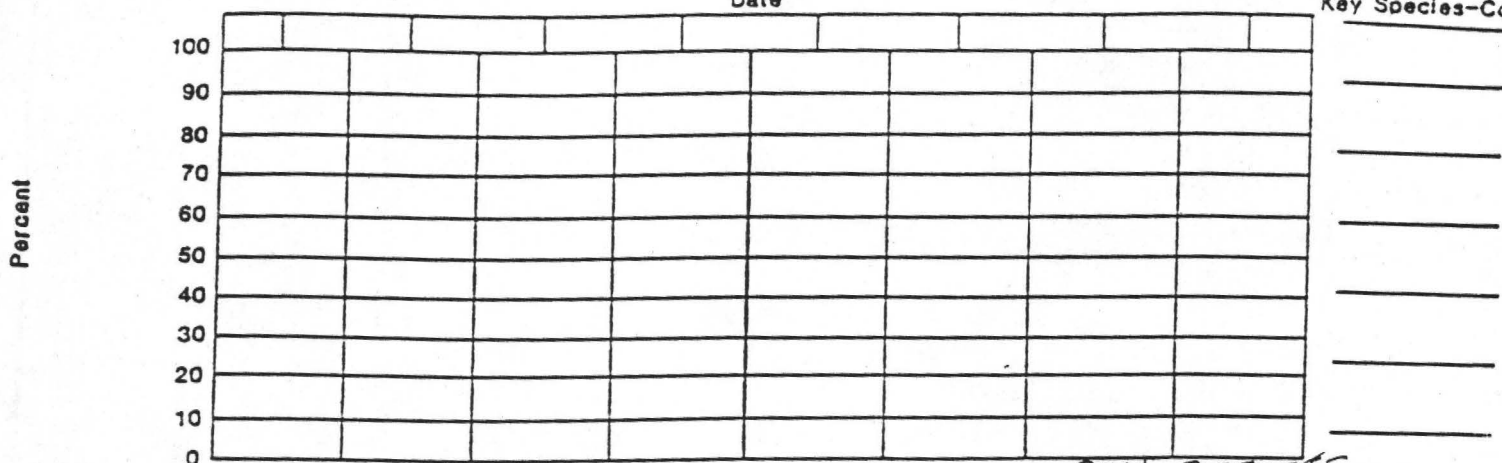
Allotment

Geyser - Bull Pasture

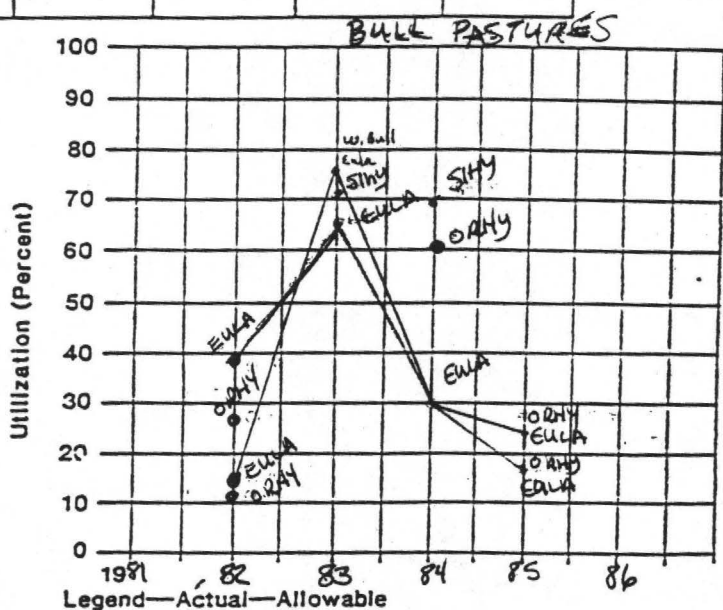
Key Management Area

Trend Index (Frequency)
Date

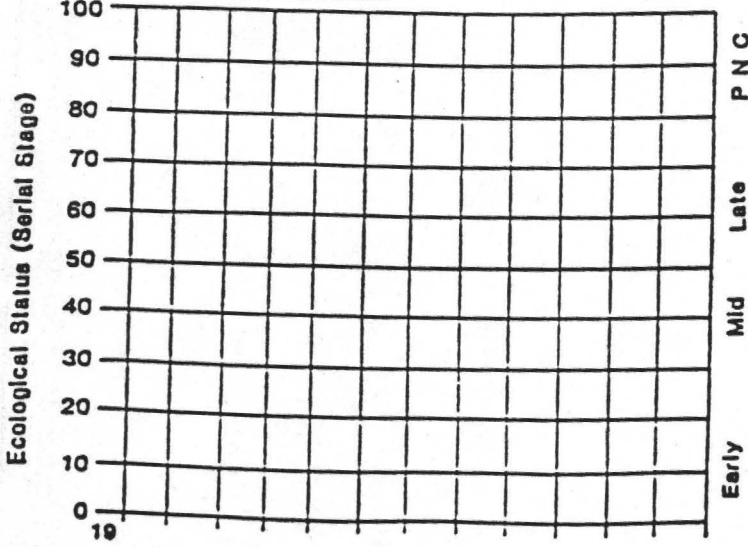
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Key Species-Color



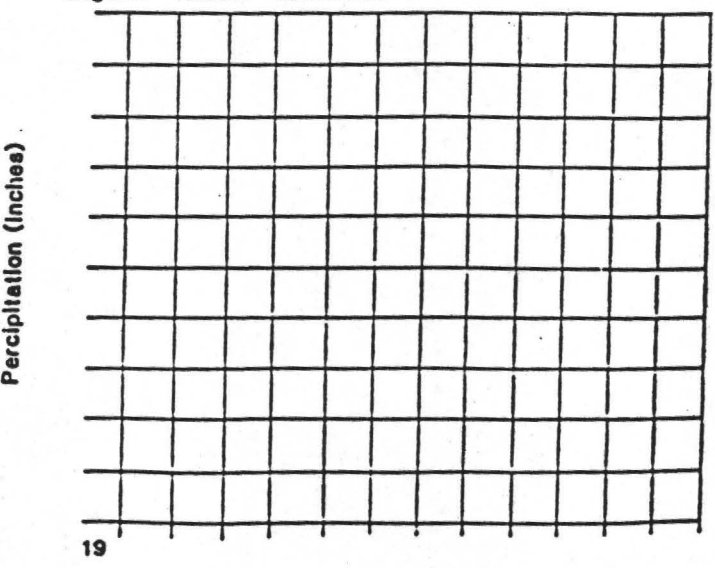
Legend—Wildlife—livestock



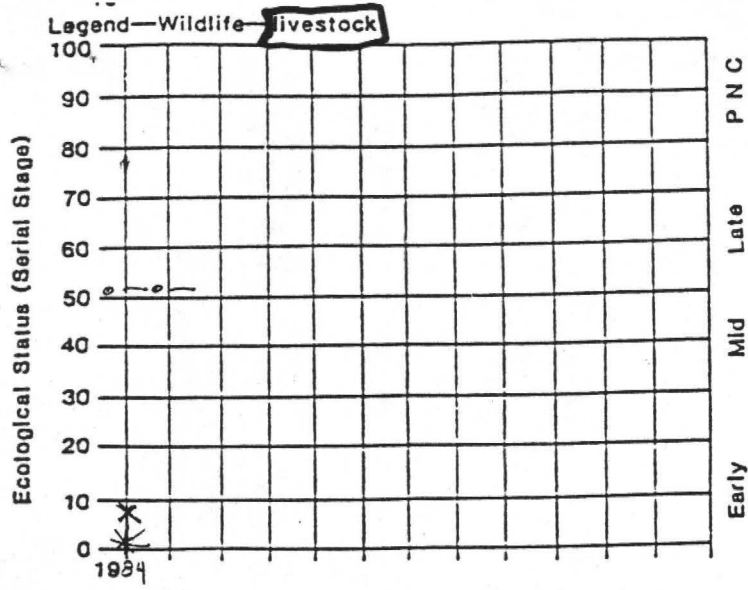
Legend—Actual—Allowable



Legend—Actual—Objective



Legend—Actual—Normal



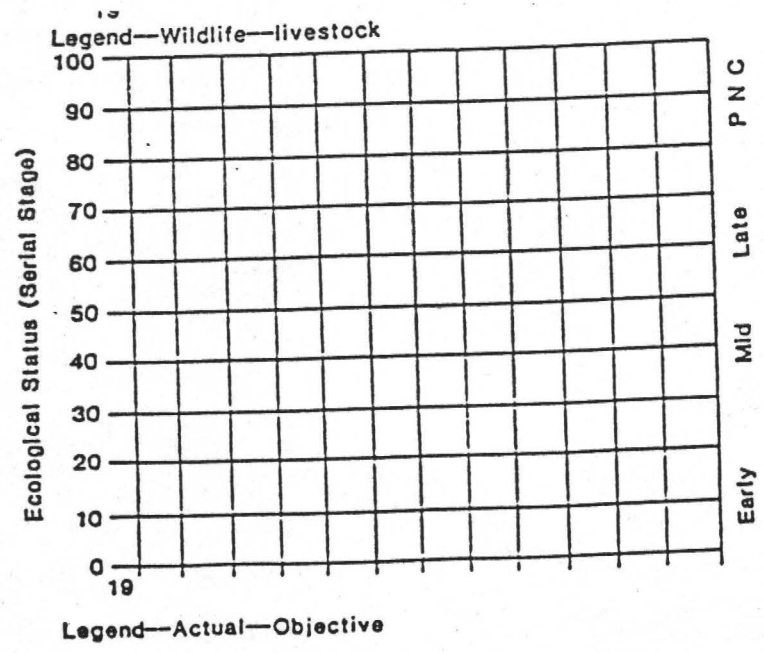
Legend—Actual—Objective

GRASS - Agsp *

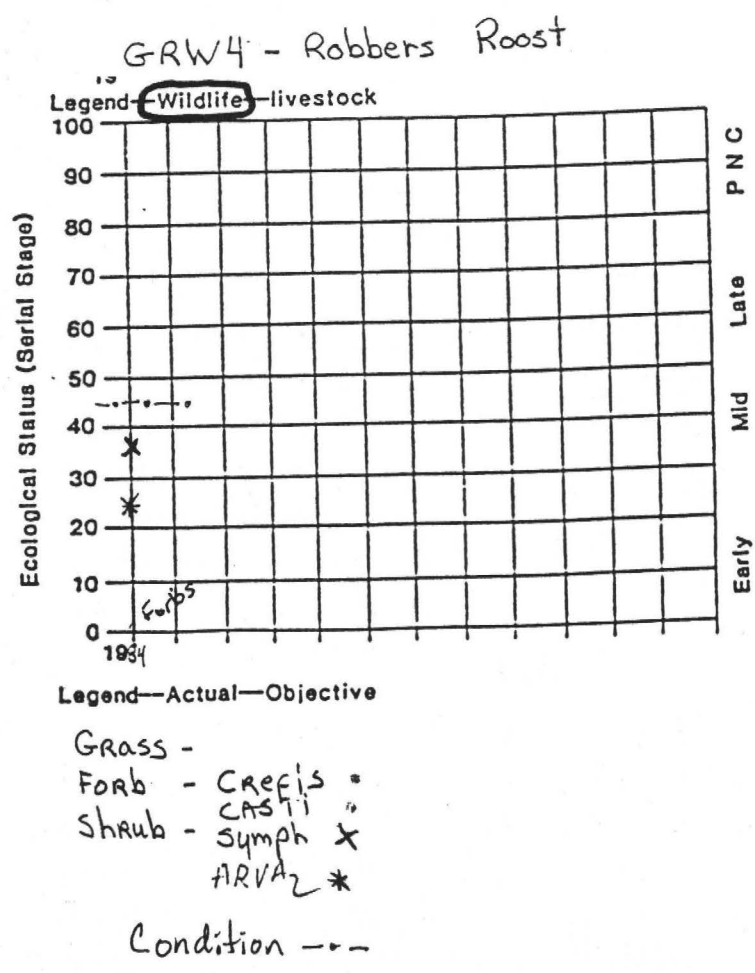
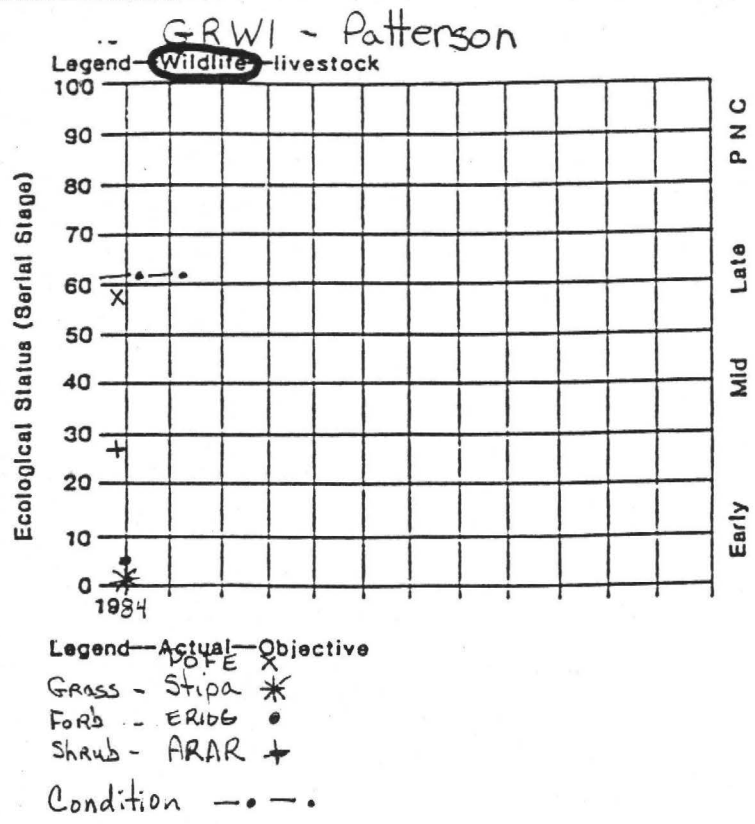
Forb - ERCA X

Shrub - ARAR o

Condition o - - - o

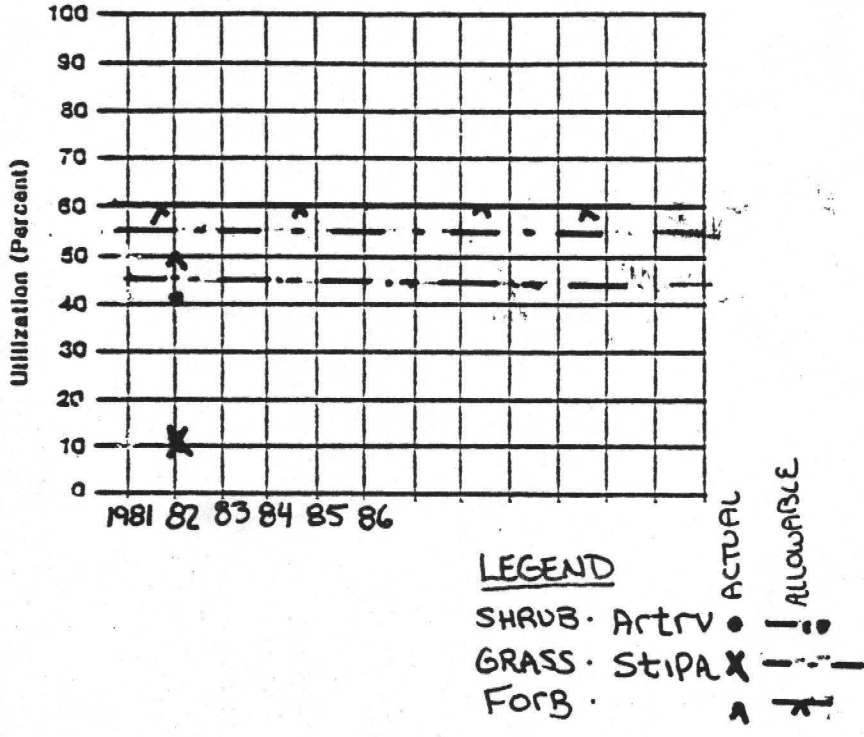


Range Ecological Status

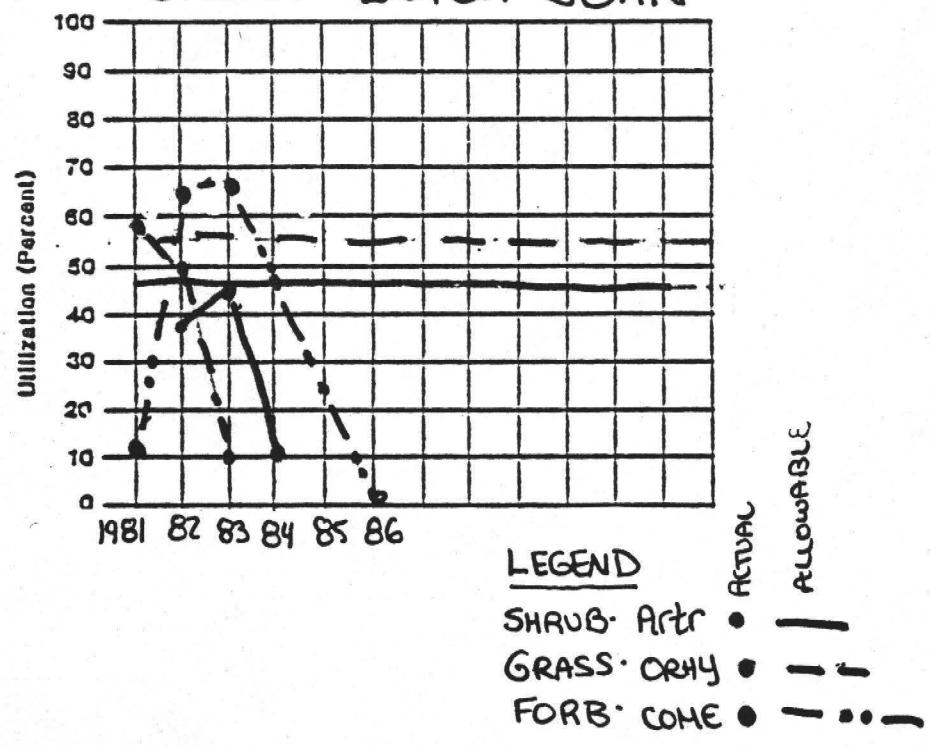


Wildlife Ecological Status

GRW1 - PATTERSON

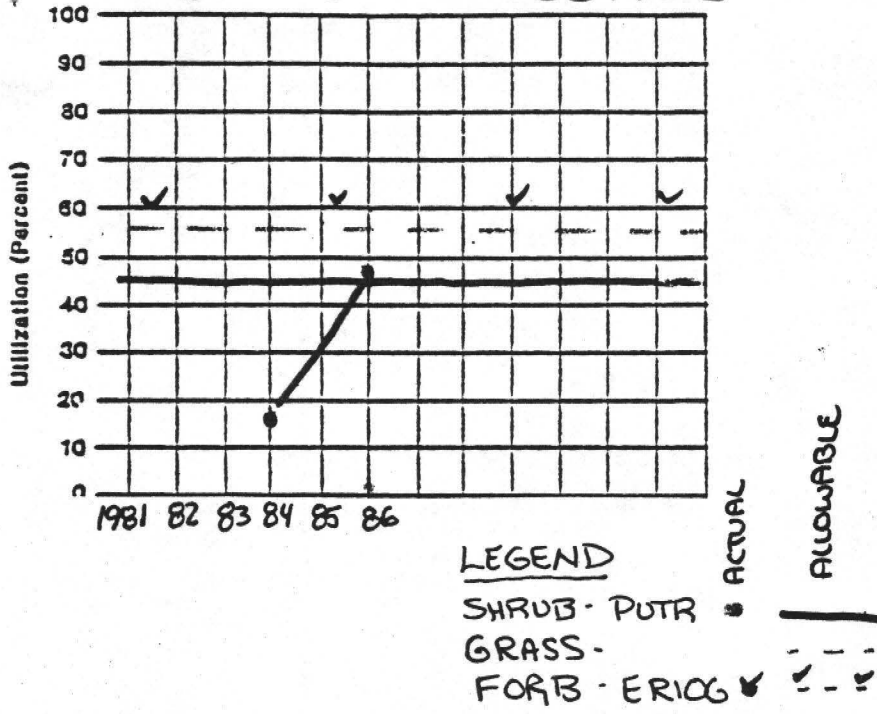


GRW2 - DUTCH JOHN



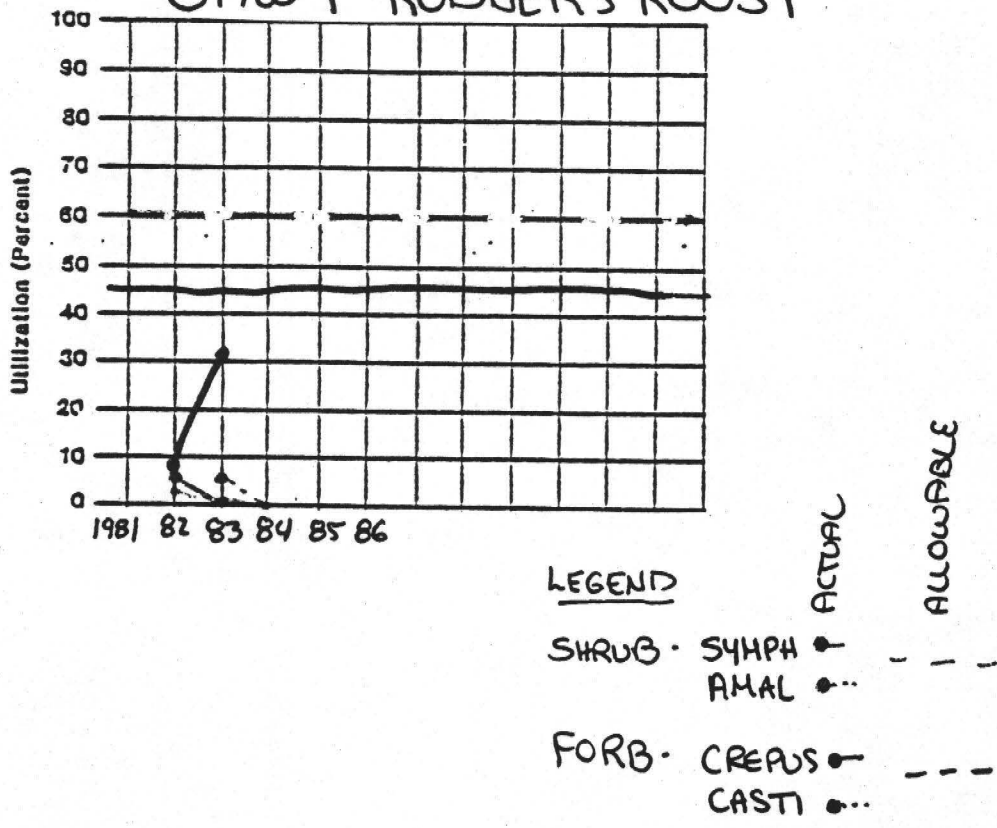
- WILDLIFE -
UTILIZATION

GRW3 - MULESHOE



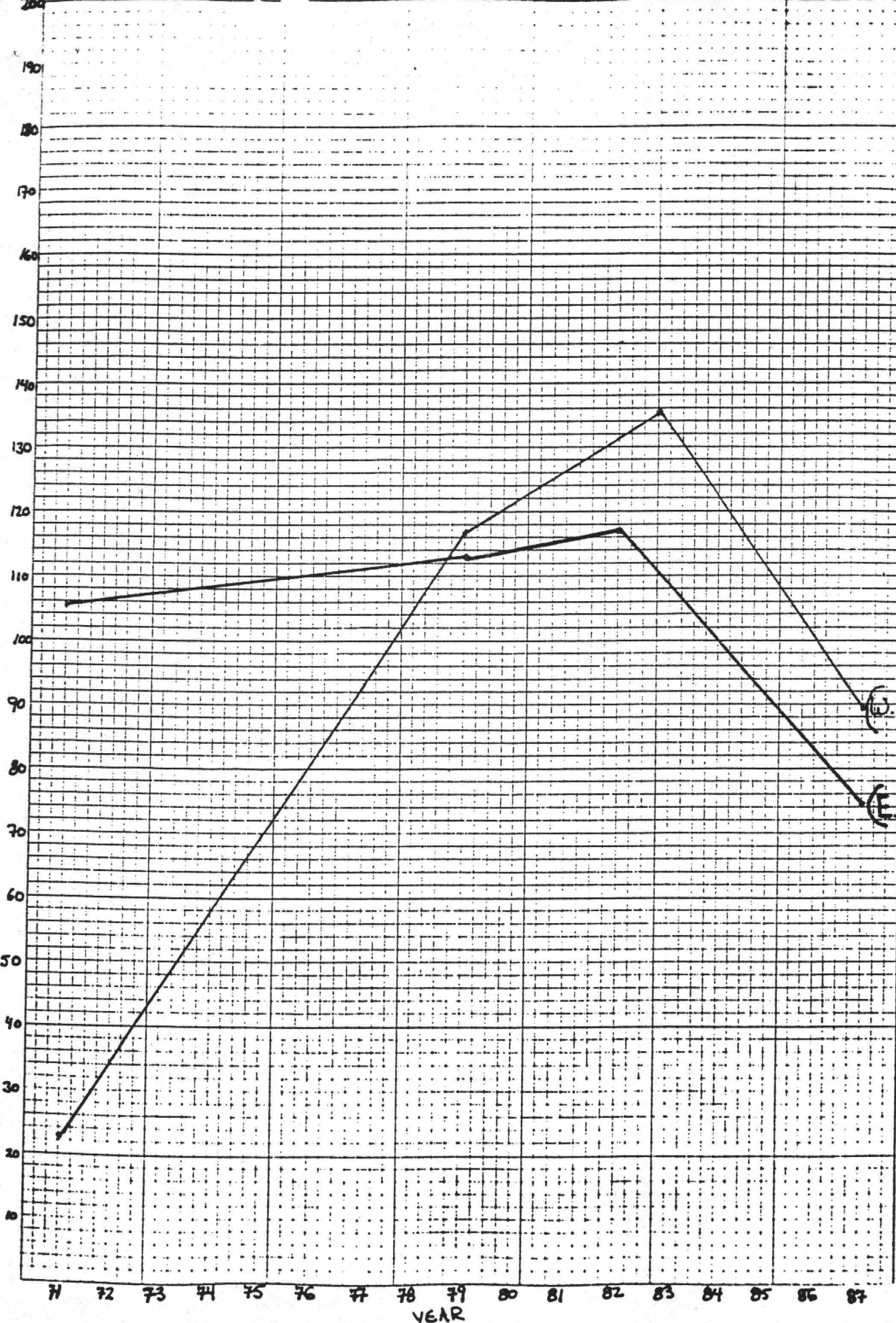
- WILDLIFE -
UTILIZATION

GRW4 - ROBBERS ROOST



PHOTOTREND INDEX

PHOTOM - 10 X 10 1 INCH
10IN LINE HEAVY



(W.B.P.) 4-11

(E.B.P.) 4-1

WINTER PAST.

PHOTO TREND INDEX

FROM 10 X 10 TO 1 INCH
100% LINE HEAVY

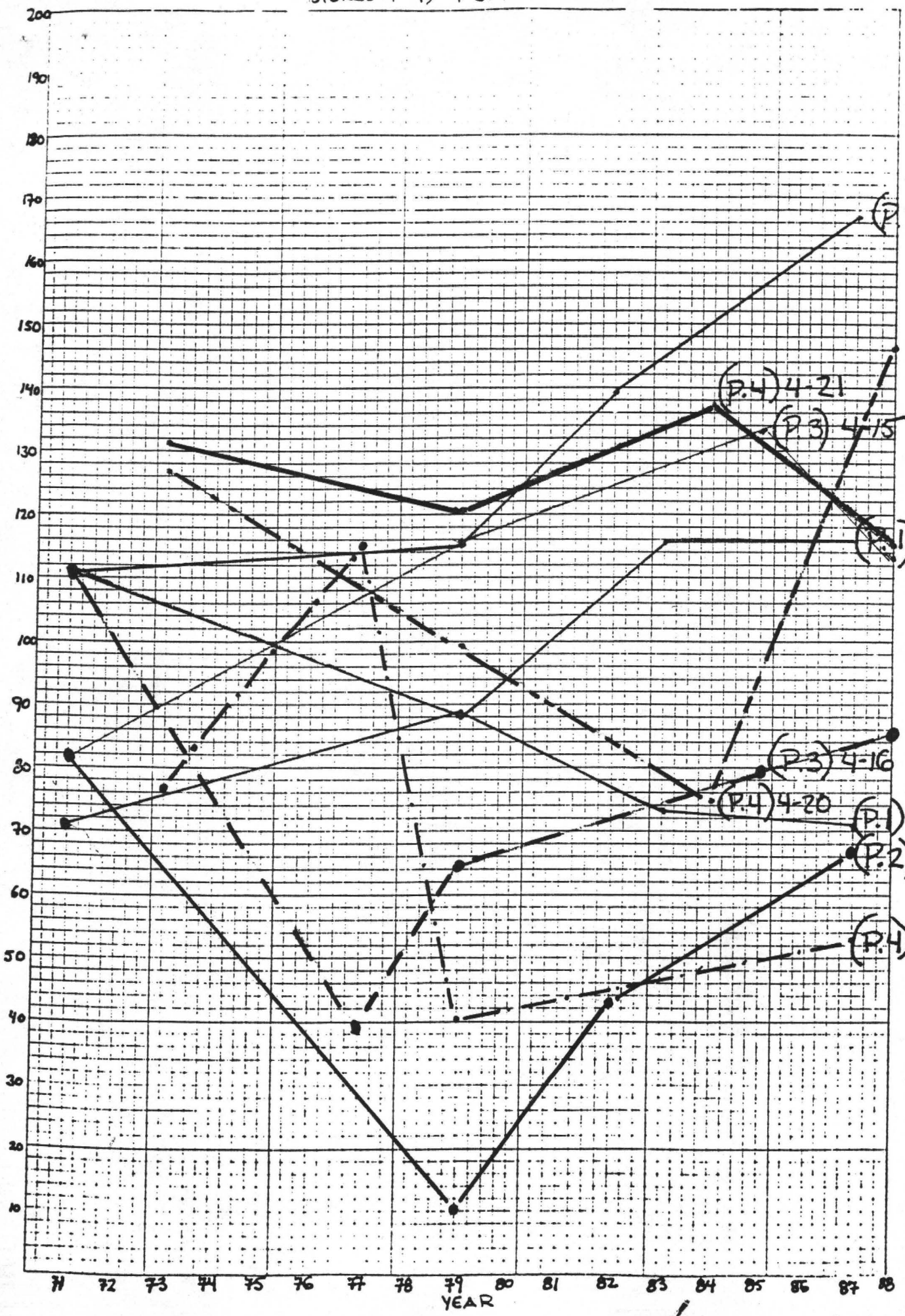
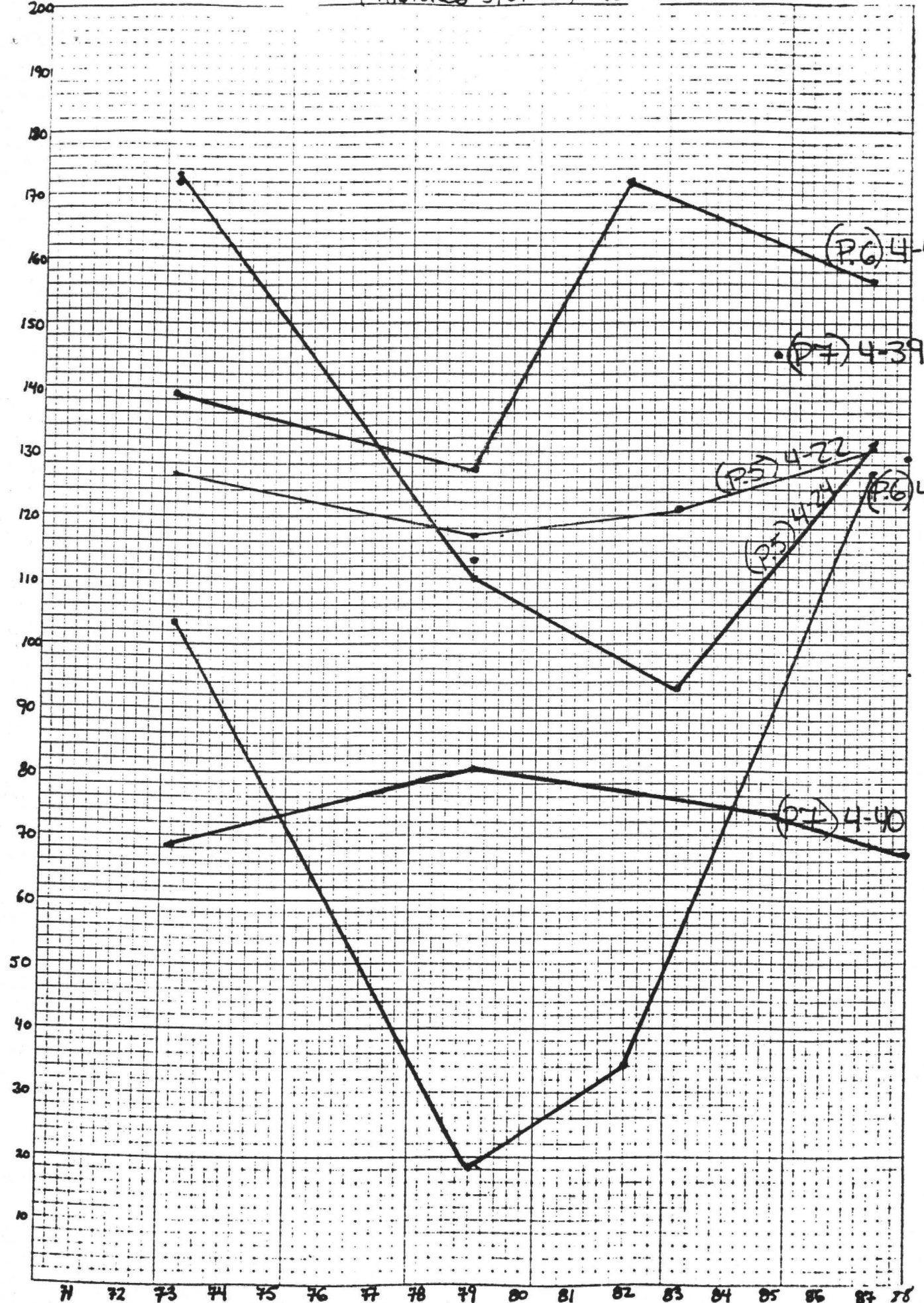


PHOTO INDEX

FILM 18 X 10 TO 1 INCH
100 LINE HEAVY

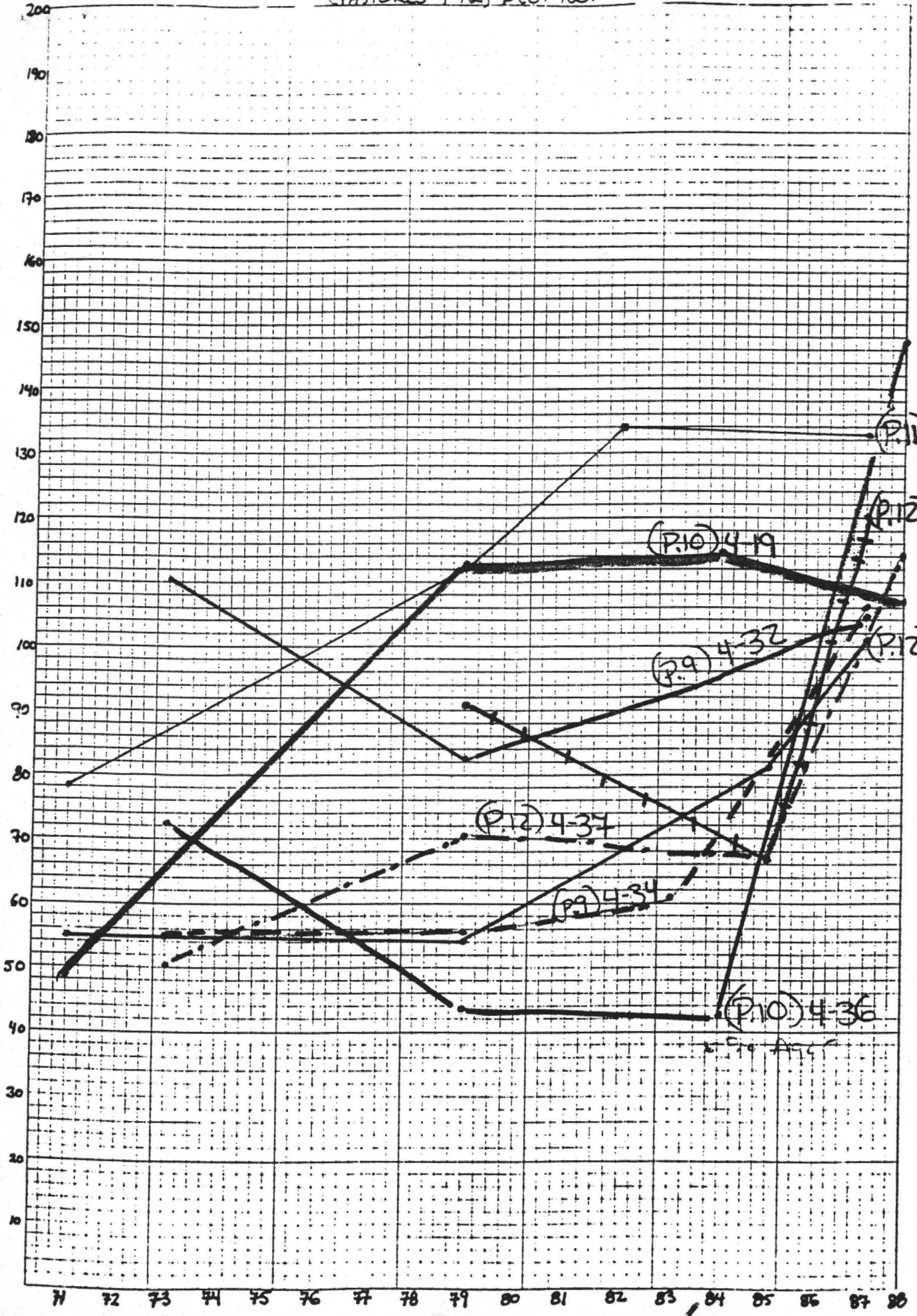


YEAR

UNIT 2

PHOTOTRENS INDEX

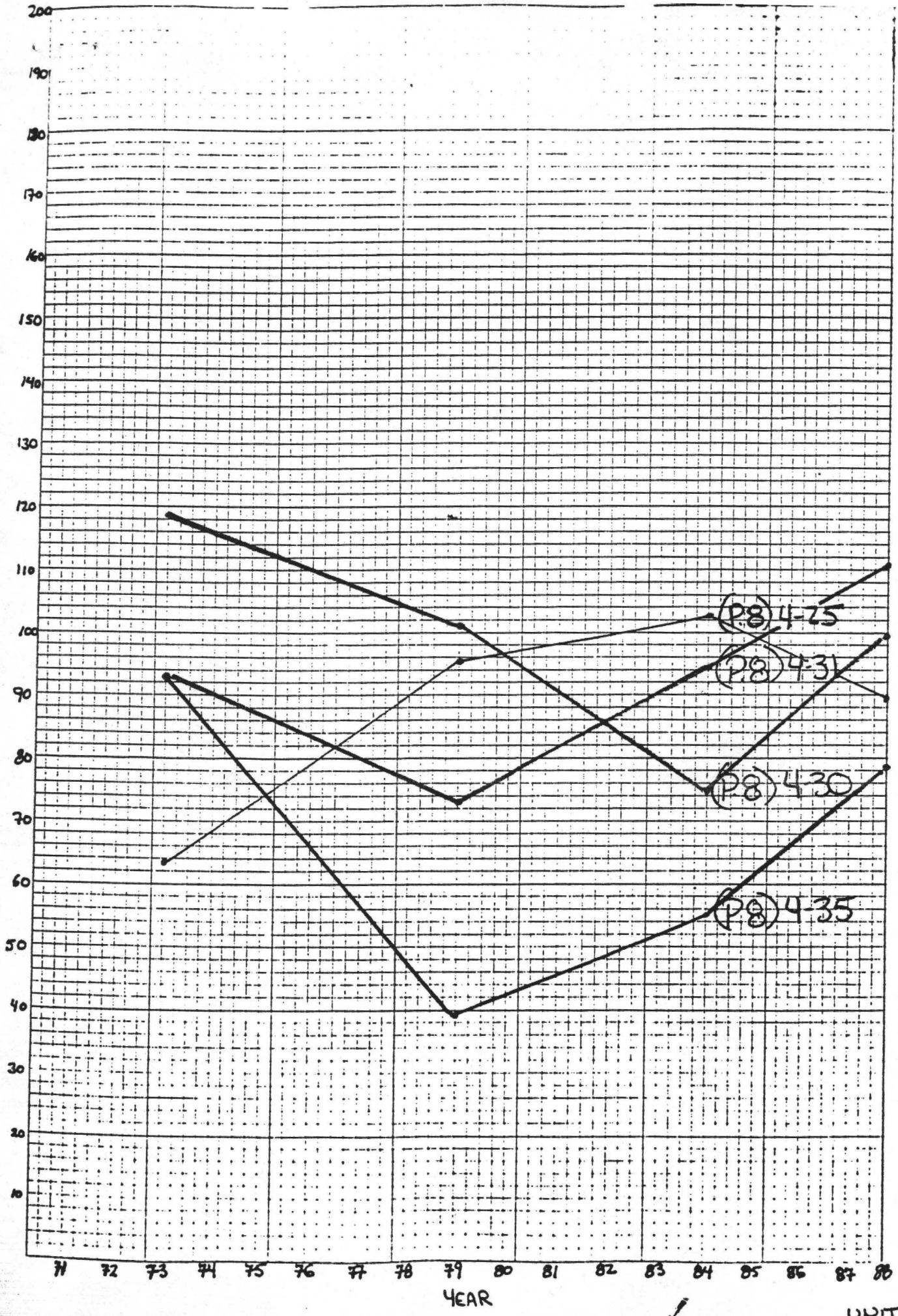
PHOTOM. 10 X 10 TO 1 INCH
100% LINE HEAVY



YEAR

PHOTOREF. INDEX

FFLOW 10 X 10 TO 1 INCH
10MM LINE MAY



UNIT 2

198

4-1 to 1-31

GRAZING FORMULA

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
Graze (G)				////	////	////	////					
Rest for Vigor (RV)	////					////	////	////	////	////	////	////
Rest for Seed (RS)	////							////	////	////	////	////
Year long rest (RR)					R E S T							

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 1978	1	////						////	////	////	////	////
	2				R E S T							
	3				////	////	////	////				
	4	////				////	////	////	////	////	////	////
Second Year 1979	1				R E S T							
	2				////	////	////	////				
	3	////				////	////	////	////	////	////	////
	4	////						////	////	////	////	////
Third Year 1980	1				////	////	////	////				
	2	////						////	////	////	////	////
	3	////						////	////	////	////	////
	4				R E S T							
Fourth Year 1981	1	////				////	////	////	////	////	////	////
	2	////						////	////	////	////	////
	3				R E S T							
	4				////	////	////	////				
Fifth Year 19												
Sixth Year 19												

REPEAT SEQUENCE 1982 THROUGH 1985

GRAZING FORMULA

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
Graze (G)				////	////	////	////					
Rest for Vigor (RV)	////					////	////	////	////	////	////	////
Rest for Seed (RS)	////							////	////	////	////	////
Year long rest (RR)				R E S T								

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	
First Year 1978	5	////						////	////	////	////	////	
	6				R E S T								
	7			////	////	////	////						
	8	////				////	////	////	////	////	////	////	
Second Year 1979	5				R E S T								
	6			////	////	////	////						
	7	////						////	////	////	////	////	
	8	////						////	////	////	////	////	
Third Year 1980	5			////	////	////	////						
	6	////						////	////	////	////	////	
	7	////						////	////	////	////	////	
	8				R E S T								
Fourth Year 1981	5	////				////	////	////	////	////	////	////	
	6	////						////	////	////	////	////	
	7				R E S T								
	8				////	////	////	////					
Fifth Year 19													
Sixth Year 19				REPEAT SEQUENCE 1982 THROUGH 1985									

GRAZING FORMULA

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
Graze (G)				////	////	////	////					
Rest for Vigor (RV)	////					////	////	////	////	////	////	////
Rest for Seed (RS)	////							////	////	////	////	////
Year long rest (RR)						R E S T						

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19 78	9	////						////	////	////	////	////
	10	////				////	////	////	////	////	////	////
	11				R E S T							
	12			////	////	////	////	////	////	////	////	////
Second Year 19 79	9				R E S T							
	10	////						////	////	////	////	////
	11			////	////	////	////	////	////	////	////	////
	12	////				////	////	////	////	////	////	////
Third Year 19 80	9			////	////	////	////	////	////	////	////	////
	10				R E S T							
	11	////				////	////	////	////	////	////	////
	12	////						////	////	////	////	////
Fourth Year 19 81	9	////				////	////	////	////	////	////	////
	10			////	////	////	////	////	////	////	////	////
	11	////					////	////	////	////	////	////
	12				R E S T							
Fifth Year 19												
Sixth Year 19												

GRAZING FORMULA

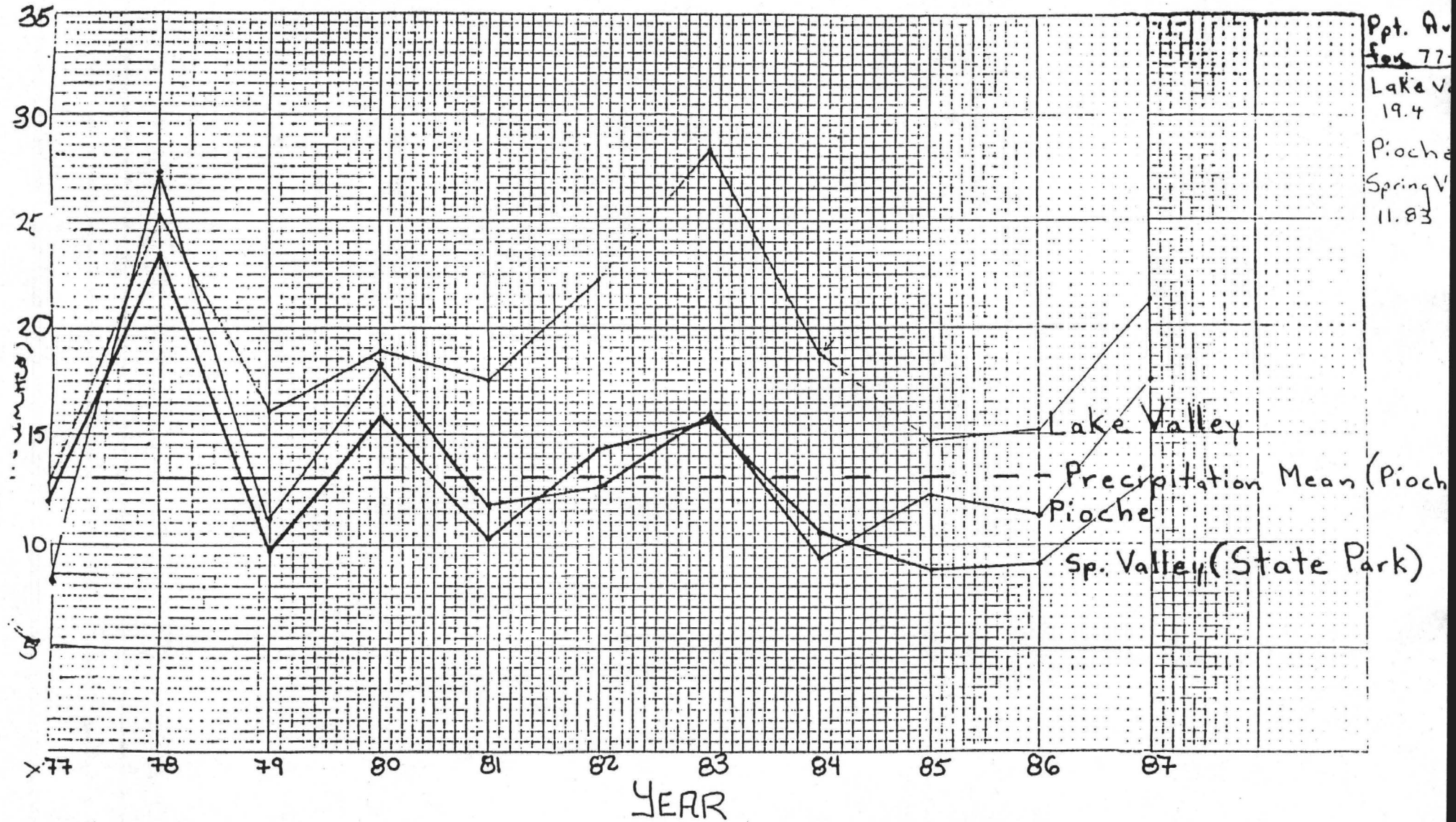
TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
Graze (G)	////	////	////								////	////

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19	Bull	////	////	////							////	////
Second Year 19	Bull	////	////	////							////	////
Third Year 19	Bull	////	////	////							////	////
Fourth Year 19												
Fifth Year 19												
Sixth Year 19												

11 YEAR ANNUAL PPT
THREE STATIONS - WILSON CRK. ALLOTMENT

Appendix P



APPENDIX Q: CALCULATED STOCKING RATES (LAKE VALLEY/STEWART CROP YIELD INDEX)

1982

PASTURE	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1	2955				2955		0.94		60%	
2	136				136	50%	0.94	47.0%	60%	174
3	1951	576			2527	10%	0.94	9.4%	60%	16130
4	2530				2530	90%	0.94	84.6%	60%	1794
(UNIT I)	7572	576	949	46	9143	70%	0.94	65.8%	60%	8337
5	726				726		0.94		60%	
6					0		0.94		60%	
7	973				973	60%	0.94	56.4%	60%	1035
8	1040				1040		0.94	0.0%	60%	
(UNIT II)	2739	0	243	59	3041	60%	0.94	56.4%	60%	3235
9	794	312			1106	60%	0.94	56.4%	60%	1177
10	307	300			1107	90%	0.94	84.6%	60%	785
11					0		0.94	0.0%	60%	
12	1363				1363		0.94	0.0%	60%	
(UNIT III)	2964	612	465	27	4068	70%	0.94	65.8%	60%	3709
WEST BULL	775		35	6	816	14%	0.94	13.2%	55%	3410
EAST BULL	647				647	46%	0.94	43.2%	55%	823
TOTAL	14697	1188	1692	138	17715					19515

1983

PASTURE	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1					0		1.73	0.0%	60%	
2	2012				2012	70%	1.73	121.1%	60%	997
3	1711	576			2287	70%	1.73	121.1%	60%	1133
4	387				387	70%	1.73	121.1%	60%	192
(UNIT I)	4110	576	1247	57	5990	70%	1.73	121.1%	60%	2968
5					0		1.73	0.0%	60%	
6	762				762		1.73	0.0%	60%	
7	582				582	29%	1.73	50.2%	60%	696
8	896				896	30%	1.73	51.9%	60%	1036
(UNIT II)	2240	0	307	73	2620	30%	1.73	51.9%	60%	3029
9		312			312		1.73	0.0%	60%	
10	708	300			1008	50%	1.73	86.5%	60%	699
11	392				392		1.73	0.0%	60%	
12	1209				1209		1.73	0.0%	60%	
(UNIT III)	2309	612	577	33	3531	50%	1.73	86.5%	60%	2449
WEST BULL	62		44	8	114	76%	1.73	131.5%	55%	48
EAST BULL	65				65	67%	1.73	115.9%	55%	31
TOTAL	9786	1188	2175	171	12320					8524

APPENDIX Q: CALCULATED STOCKING RATES (LAKE VALLEY/STEWART CROP YIELD INDEX)

1984

PASTURE	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1	3101				3101	0.68		0.0%	60%	
2	1810				1810	70%	0.68	47.6%	60%	2282
3	2796	588			3384	70%	0.68	47.6%	60%	4266
4					0	0.68		0.0%	60%	
(UNIT I)	7707	588	1252	62	9609	70%	0.68	47.6%	60%	12112
5	1394				1394	50%	0.68	34.0%	60%	2460
6	484				484	30%	0.68	20.4%	60%	1424
7	1017				1017	70%	0.68	47.6%	60%	1292
8	438	36			474	0.68		0.0%	60%	
(UNIT II)	3333	36	320	80	3769	50%	0.68	34.0%	60%	6651
9	936	330			1266	0.68		0.0%	60%	
10	165	294			459	40%	0.68	27.2%	60%	1013
11	1866				1866	30%	0.68	20.4%	60%	5488
12	680				680	61%	0.68	41.5%	60%	984
(UNIT III)	3647	624	608	35	4914	60%	0.68	40.8%	60%	7226
WEST BULL	261		46	9	316	30%	0.68	20.4%	55%	852
EAST BULL	233				233	61%	0.68	41.5%	55%	309
TOTAL	15181	1248	2226	186	18841					27151

1985

PASTURE	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1	1949				1949	65%	0.83	54.0%	60%	2168
2	2450				2450	70%	0.83	58.1%	60%	2530
3		588			588	0.83		0.0%	60%	
4	1257				1257	70%	0.83	58.1%	60%	1298
(UNIT I)	5656	588	2182	51	8477	70%	0.83	58.1%	60%	8754
5	438				438	61%	0.83	50.6%	60%	519
6	1336				1336	0.83		0.0%	60%	
7					0	0.83		0.0%	60%	
8	964	36			1000	70%	0.83	58.1%	60%	1033
(UNIT II)	2738	36	569	66	3409	70%	0.83	58.1%	60%	3520
9	138	330			468	0.83		0.0%	60%	
10	821	294			1115	70%	0.83	58.1%	60%	1151
11	1068				1068	0.83		0.0%	60%	
12					0	0.83		0.0%	60%	
(UNIT III)	2027	624	1145	29	3825	70%	0.83	58.1%	60%	3950
WEST BULL	397		92	7	496	23%	0.83	19.1%	55%	1429
EAST BULL	372				372	27%	0.83	22.4%	55%	913
TOTAL	11190	1248	3988	153	16579					18567

APPENDIX Q: CALCULATED STOCKING RATES (PIOCHE STATION CROP YIELD INDEX)

1982	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1	2955				2955		0.99		60%	
2	136				136	50%	0.99	49.5%	60%	165
3	1951	576			2527	10%	0.99	9.9%	60%	15315
4	2530				2530	90%	0.99	89.1%	60%	1704
(UNIT I)	7572	576	949	46	9143	70%	0.99	69.3%	60%	7916
5	726				726		0.99		60%	
6					0		0.99		60%	
7	973				973	60%	0.99	59.4%	60%	983
8	1040				1040		0.99	0.0%	60%	
(UNIT II)	2739	0	243	59	3041	60%	0.99	59.4%	60%	3072
9	794	312			1106	60%	0.99	59.4%	60%	1117
10	807	300			1107	90%	0.99	89.1%	60%	745
11					0		0.99	0.0%	60%	
12	1363				1363		0.99	0.0%	60%	
(UNIT III)	2964	612	465	27	4068	70%	0.99	69.3%	60%	3522
WEST BULL	775		35	6	816	14%	0.99	13.9%	55%	3238
EAST BULL	647				647	46%	0.99	45.5%	55%	781
TOTAL	14697	1188	1692	138	17715					18529

1983	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1					0		1.84	0.0%	60%	
2	2012				2012	70%	1.84	128.8%	60%	937
3	1711	576			2287	70%	1.84	128.8%	60%	1065
4	387				387	70%	1.84	128.8%	60%	180
(UNIT I)	4110	576	1247	57	5990	70%	1.84	128.8%	60%	2790
5					0		1.84	0.0%	60%	
6	762				762		1.84	0.0%	60%	
7	582				582	29%	1.84	53.4%	60%	654
8	896				896	30%	1.84	55.2%	60%	974
(UNIT II)	2240	0	307	73	2620	30%	1.84	55.2%	60%	2848
9		312			312		1.84	0.0%	60%	
10	708	300			1008	50%	1.84	92.0%	60%	657
11	392				392		1.84	0.0%	60%	
12	1209				1209		1.84	0.0%	60%	
(UNIT III)	2309	612	577	33	3531	50%	1.84	92.0%	60%	2303
WEST BULL	62		44	8	114	76%	1.84	139.8%	55%	45
EAST BULL	65				65	67%	1.84	123.3%	55%	29
TOTAL	8786	1188	2175	171	12320					8015

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APPENDIX Q: CALCULATED STOCKING RATES (PIOCHE STATION CROP YIELD INDEX)

1984

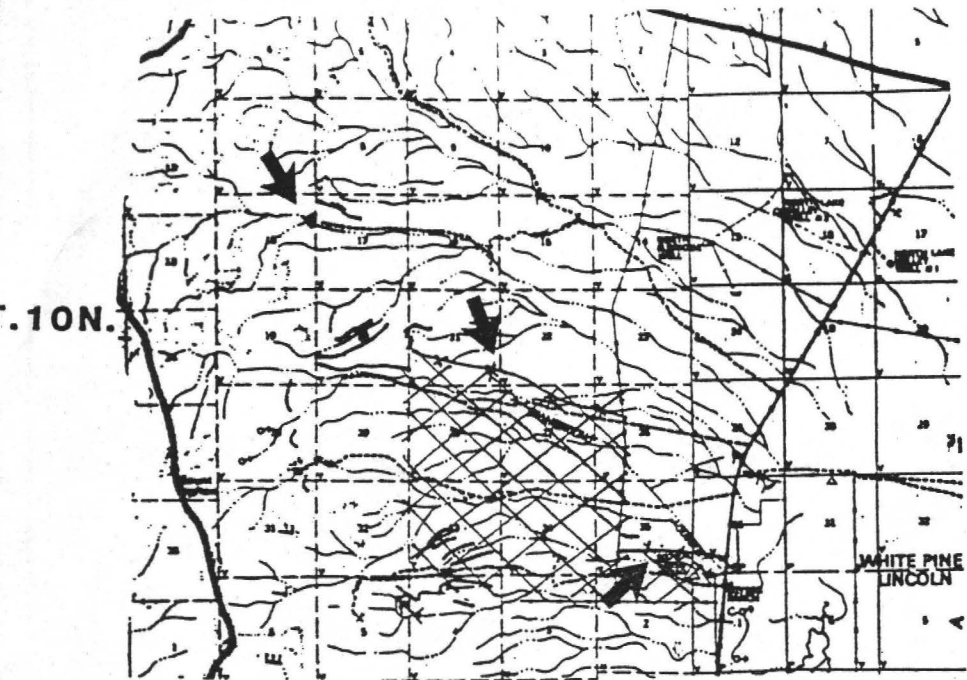
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1	3101				3101		0.82	0.0%	60%	
2	1810				1810	70%	0.82	57.4%	60%	1892
3	2796	588			3384	70%	0.82	57.4%	60%	3537
4					0		0.82	0.0%	60%	
(UNIT I)	7707	588	1252	62	9609	70%	0.82	57.4%	60%	10044
5	1394				1394	50%	0.82	41.0%	60%	2040
6	484				484	30%	0.82	24.6%	60%	1180
7	1017				1017	70%	0.82	57.4%	60%	1063
8	438	36			474		0.82	0.0%	60%	
(UNIT II)	3333	36	320	80	3769	50%	0.82	41.0%	60%	5516
9	936	330			1266		0.82	0.0%	60%	
10	165	294			459	40%	0.82	32.8%	60%	840
11	1866				1866	30%	0.82	24.6%	60%	4551
12	680				680	61%	0.82	50.0%	60%	816
(UNIT III)	3647	624	608	35	4914	60%	0.82	49.2%	60%	5993
WEST BULL	261		46	9	316	30%	0.82	24.6%	55%	707
EAST BULL	233				233	61%	0.82	50.0%	55%	256
TOTAL	15181	1248	2226	186	18841					22515

1995

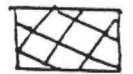
PASTURE	AUMS STOCK	AUMS HORSES	AUMS DEER	AUMS ANTL	AUMS TOTAL	MEASURED UTIL. (%)	YIELD INDEX	ADJUSTED UTIL. (%)	DESIRED UTIL. (%)	DESIRED USE (AUMS)
1	1949				1949	65%	0.95	61.8%	60%	1894
2	2450				2450	70%	0.95	66.5%	60%	2211
3		588			588		0.95	0.0%	60%	
4	1257				1257	70%	0.95	66.5%	60%	1134
(UNIT I)	5656	588	2182	51	8477	70%	0.95	66.5%	60%	7648
5	438				438	61%	0.95	58.0%	60%	453
6	1336				1336		0.95	0.0%	60%	
7					0		0.95	0.0%	60%	
8	964	36			1000	70%	0.95	66.5%	60%	902
(UNIT II)	2738	36	569	66	3409	70%	0.95	66.5%	60%	3076
9	138	330			468		0.95	0.0%	60%	
10	821	294			1115	70%	0.95	66.5%	60%	1006
11	1068				1068		0.95	0.0%	60%	
12					0		0.95	0.0%	60%	
(UNIT III)	2027	624	1145	29	3825	70%	0.95	66.5%	60%	3451
WEST BULL	397		92	7	496	23%	0.95	21.9%	55%	1249
EAST BULL	372				372	27%	0.95	25.7%	55%	798
TOTAL	11190	1248	3988	153	16579					16222

LONG TERM SOLUTIONS

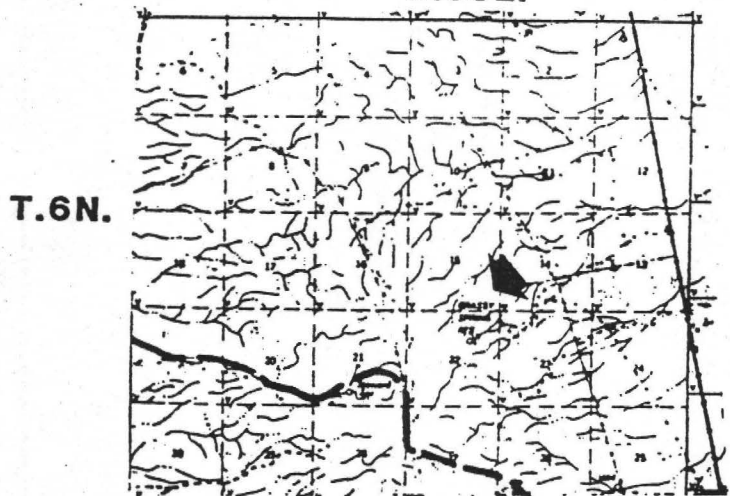
MAP 2



**RIPARIAN PASTURE
and
SPRING ENCLOSURE**

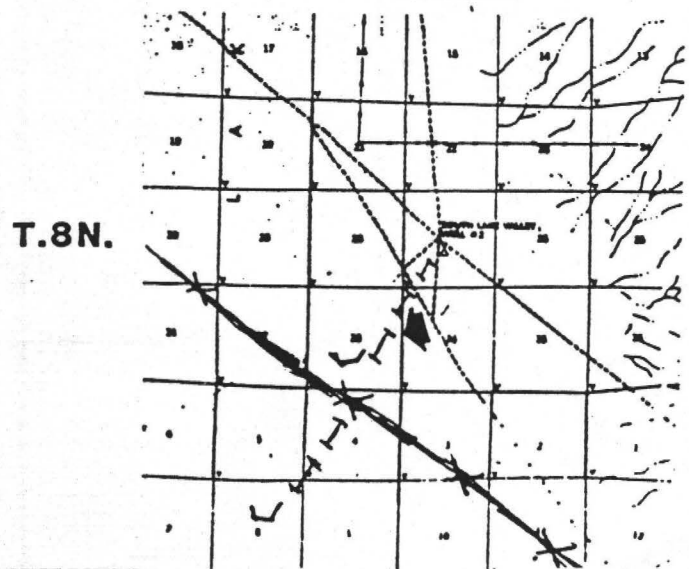


R.65E.



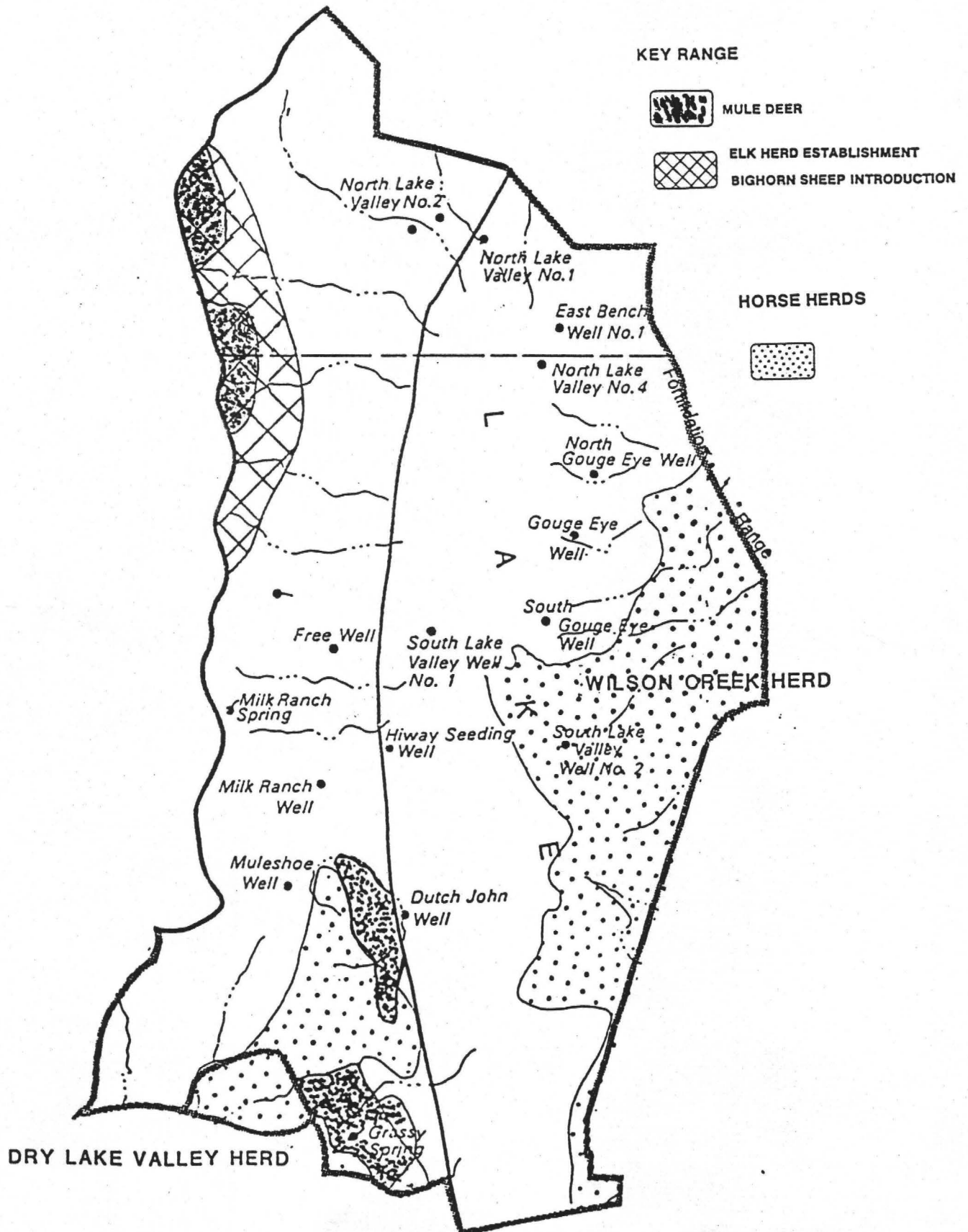
SPRING ENCLOSURE

R.65E.



PPLN OPTION

GEYSER RANCH ALLOTMENT



W H O A

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



July 28, 1989 . . . a note from

Dawn Y. Lappin

Mr. Gerald M. Smith, Manager
Schell Resource Area
Ely District Office
Bureau of Land Management
Star Route 5, Box 1
Ely, Nevada 89301

Dear Mr. Smith:

Thank you very much for the opportunity to provide comments pertaining to the Geyser Allotment Evaluation.

The Geyser Allotment Evaluation was an excellent evaluation document. It is clear, the necessary tables, maps, and information easy to understand. The only flaw that I saw was the indexing.

D. Please insert the Draft Habitat Suitability Rating into for Wild Horses into the evaluation. If Carson City can use the Habitat Suitability to propose capture, you certainly could use it to identify key species and habitat.

Were the AUMs over preference TNR?

3. I repeat my strong objection to the use of SNEVA for the evaluation document. (See Wilson Creek, Dry Farm) You are not following BLMs procedures for Monitoring as provided for in the Nevada Rangelands Monitoring Handbook. The Evaluation document is not a stocking level document, only analysis of the monitoring. Decisions and or agreements will be based on the evaluation of the monitoring...

Table 4.

Average Calculated Stocking Rate is unacceptable in this document.

Option 3. The AML no longer applies. Your monitoring will become an important factor in establishing a "thriving natural ecological balance." (IBLA 6/89)

Appendix Q

Pasture w, with a 70% measured utilization shows the yield index has reduced the measured utilization to less than proper use.

$$\frac{60}{X} \times \frac{57.4}{3384} = 2030 \text{ divided by } 57.4 = 3536 \text{ AUMs}$$

MEASURED UTILIZATION.

If you did not use the yield index factor you would have on the same pasture:

$$\frac{60}{X} \quad \frac{70}{3384} \quad = 2030 \text{ divided by } 60 = 3383$$

Your measured utilization would show the necessity of REDUCING the livestock use $3384 - 2900 = 484$ AUMs

The plant is being eaten at a 70% level, which according to the PROPER USE of that particular specie is unacceptable and threatens the productivity. Please see attachment.

Recommendations:

Base adjustments on measured utilization (%) and actual use by the grazing animals.

Inject Wild Horse and Burro Habitat Suitability.

Most sincerely,

Dawn Y. Lappin (Mrs.)
Director

cc: Board of Trustees
David A. Hornbeck, Esq.

BOB MILLER
Acting Governor

STATE OF NEVADA



**COMMISSION FOR THE
PRESERVATION OF WILD HORSES**

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

July 27, 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 Wilson Creek, Geyser Ranch, Batterman Wash, and Dry Farm Allotment Evaluations.

The concerns that I have for how wild horses were evaluated in the documents, are similar for all of the documents, so I have taken the liberty of combining my comments for your review.

The first concern that I have with all of the documents, 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. It appears as though you have tried to come up with some kind of a scheme to prevent having to force the livestock cuts that have been too long in coming.

I hereby request that you use only measured utilization and actual use to make adjustments in grazing on the public lands. OR, you must use the same "Yeild Index" in looking at forage consumption by wild horses.

In some of the documents, an estimated actual use was also used. If there is a question of trespass or unauthorized use, this should be assessed so ONLY the true ACTUAL use will be used in making decisions.

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 integrate the Draft Wild Horse And Burro Habitat Evaluation Procedures Users Guide. This guide has already been used by the Carson City District.

7-27-89
TERRI JAY
Executive Director

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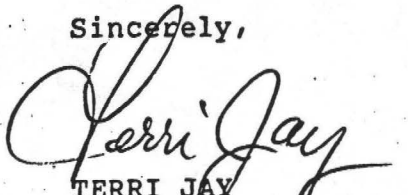
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In order to best determine how to manage a multiple-use allotment, the needs of the horses must be taken into consideration just as the needs of critical wildlife habitat are considered. This may help to better define key horse use areas.

In conclusion, I appreciate the opportunity to comment on the aforementioned documents and look forward to working with you further on the allotment evaluations.

Thank you for your time.

Sincerely,


TERRI JAY
Executive Director