

White Basin Allot.

4-10-90



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
STATELINE RESOURCE AREA
4765 VEGAS DRIVE
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LAS VEGAS, NEVADA 89126



IN REPLY REFER TO:
4100
(NV-054)

APR 10 1990

Wild Horse Organized Assistance, Inc.
P.O. Box 555
Reno, Nevada 89504

Gentlemen:

Enclosed are copies of the ~~Arrow Canyon, Upper Mormon Mesa and White Basin~~
Allotment Interpretation Evaluations. As an affected interest, please review
these evaluations and return your comments within thirty days of receipt.

If you have any questions, please contact Jeffrey G. Steinmetz or myself at
(702) 646-8800.

Sincerely,

Runore Wycoff
Area Manager

1. Enclosure
1. Allotment Interpretation Evaluations (3)

DRAFT

White Basin Allotment
Evaluation Documentation
Narrative

April 5, 1990

Bureau of Land Management
Las Vegas District
Stateline Resource Area
Las Vegas, Nevada

White Basin Allotment
Evaluation Documentation
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Evaluation Summary
for the
White Basin Allotment
Documentation

Allotment Name and Number: White Basin, 02026
Las Vegas District Office
Stateline Resource Area

Acreage: Public 89,107 Acres
NPS 82,253 Acres
171,360 Total

I. Grazing Practices

There is no intensive grazing system for the White Basin Allotment. Grazing has been year-round since the time priority was established with cattle movement being determined by seasonal climatic change and the availability of forage. The allotment is classified as ephemeral range. Grazing is authorized when forage is available as determined by range inspection.

II. Evaluation Summary in relation to Management Objectives

	<u>Met</u>	<u>Not Met</u>
Allotment Objectives		
AO-1	x	
AO-2		x
AO-3	x	
AO-4		x
AO-5		x
AO-6	x	
AO-7		x
AO-8	x	
AO-9		x
AO-10	x	
AO-11	x	
Key/Crucial Management Objectives		
Specific Key Area Objectives		
KA-1		x
Watershed Objective (Long and Short Term)		
W-1	x	

Riparian Objective

RA-1		x
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Wildlife Objectives (Long and Short Term)

WL-1L		x
WL-2L	x	
WL-3L		x
WL-1S	x	

Use Pattern Mapping

UP-1		x
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Wild Burro Objectives (Long and Short Term)

WB-1S		x
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III. Summary of Recommendations

1. Implement the following management guidelines for the White Basin Allotment

Phase in the following management guidelines for rangeland classified as ephemeral over the next ten (10) years. Conduct intensive monitoring and frequent evaluations to quickly detect the need for changes in management. An interim management approach is identified for the phase-in period.

- A. Authorize livestock grazing below 4000 feet in Category II tortoise habitat from October 15 to March 15. Utilization on perennial forage species will be no greater than 55 percent of the previous years growth on perennial grasses and 45 percent on shrubs or as stated in this section of the technical recommendations, part D (interim management), sections 1, 2 a, b, c, and d, pages ii - iv. This is the time of the year when most tortoises are inactive.
- B. After the phase-in period grazing will not be authorized in Category II habitat between March 16 and October 14 if supported by monitoring data or as stated in this section of the technical recommendations, part D (interim management), sections 1, 2 a, b, c, and d, pages ii - iv. This period is during the time desert tortoise are active.

- C. Livestock would continue to be authorized for ephemeral allotments in uncategorized habitat areas based upon the availability of forage. Utilization on perennial forage species will be no greater than 55 percent of the current years growth on perennial grasses and 45 percent on shrubs. Monitoring data will be closely reviewed to assess any changes identifying a need for change in management.
- D. Interim management would be as follows:
1. Authorize livestock grazing below 4000 feet in tortoise habitat from October 15 to March 15. Utilization on perennial forage species will be no greater than 55 percent of the previous years growth on perennial grasses and 45 percent on shrubs. This is the dormant time for vegetation and the desert tortoise.
 2. Authorize livestock grazing below 4000 feet in desert tortoise habitat from March 16 to October 14 with the following guidelines:
 - a. A range inspection by the BLM will be conducted prior to the period of use applied for by the permittee, to determine that a minimum of 100 to 150 pounds per acre of annual plant species total air dry weight production is available.

This guideline will allow livestock grazing only during average or better growing conditions for a specific location. This will provide for a rest about 50 percent of the time. No grazing will be authorized during below average growing conditions on a site specific basis. This will reserve all the vegetation produced for the tortoise, improvement of the vegetative community, and the watershed.
 - b. During the production study or follow-up study, determine whether or not tortoise have emerged from their burrows in the spring. If the climate is unusually cold and tortoise emergence is delayed, use may be permitted for a specified period of time after March 15 until emergence

or warmer weather occurs. This would be determined on a case by case basis and use will be closely monitored for short periods of time.

- c. If production studies determine that 100 to 150 pounds per acre of annual plant species air dry production exists and grazing is authorized, the maximum utilization level of the current years perennial forage species growth allowed will be 50 percent. Less than 50 percent utilization may be stipulated on a case by case basis if management objectives and/or conditions supported by monitoring data warrant it. Monitoring data shows that moderate or lower utilization levels in the Mojave Desert results in static to upward vegetative trend with increases in cover and species diversity (Crescent Peak allotment evaluation and Bulletin 483, March 1971, "Effect of Season and Intensity of Use On Desert Vegetation", C. Wayne Cook).
- d. Where there is a significant perennial forage component and the ecological condition is Late Seral (good condition) or better, use after March 15 may be authorized without considering the production guideline for annual species on a site specific basis. The maximum utilization level of the current years perennial forage species growth allowed will be 55 percent on perennial grasses and 45 percent on shrubs. Less than 55 percent utilization may be stipulated on a case by case basis if management objectives and/or conditions supported by monitoring data warrant it.

These management guidelines will aid in meeting objectives AO-4, AO-5, KA-1, WL-1L, WL-1S, and UP-1 and maintain objectives AO-1, AO-3, AO-6, AO-8, W-1 and WL-2L at current management levels.

2. Establish a frequency trend transect at Key Area 1, during the spring of 1991. This will determine if objectives AO-1, AO-3, and W-1 being maintained or improved under current management.

3. Select wild burro key areas and established frequency trend and utilization study plots during the spring of 1991. This will aid in meeting objectives AO-9, UP-1, WB-1L, and WB-1S and determining if objectives AO-1 and W-1 are being maintained at current acceptable levels.
4. Establish transects in the spring of 1991, to gather data to be used in the revised Universal Soil Loss Equation. This will determine if objectives AO-1 and W-1 are being maintained at current acceptable levels.
5. By FY90, identify springs sources and riparian areas within portions of the White Basin Allotment administered by the Bureau of Land Management for possible riparian enhancement. Through consultation with staff specialists, develop alternatives for potential enhancement of Bitter Springs. This will help meet objectives AO-2, AO-5, AO-7, WL-1L, WL-3L, RA-1 and UP-1 and maintain objectives AO-1, AO-11 and W-1 at current acceptable levels.

White Basin Allotment Evaluation Summary

I. Introduction

- A. Allotment name: White Basin Allotment
Allotment Number: 02026
- B. Permittees: Emerson Leavitt
Lowell Leavitt
- C. Evaluation Period: 1984 to 1989
- D. Selective Management Category: "M" Maintenance
- E. Kind (Class) of Livestock: Cattle
- F. Average AUM's (1977 - 1989): 790 AUM's

II. Livestock Use, Burro Use, Wildlife Use

A. Livestock Use

1. Classification and Preference

In 1969, the White Basin Allotment was classified as ephemeral range. Preference for ephemeral forage is expressed in terms of the allotment or area used and not in terms of Animal-Unit-Months (AUMs). The existing 10-year permit specifies only the area of use. Under the 1968 ephemeral range rule, livestock use is adjusted to the annual capacity available from year to year.

Grazing on National Park Service lands is managed in accordance with the Interagency Agreement grazing agreement, which is currently being revised.

2. Grazing System

There is no established intensive grazing system for the White Basin Allotment. Livestock have grazed year-round since priority was established in 1944. Cattle movement is determined by seasonal climatic change and the availability of forage.

B. Wild Horse and Burro Use

The White Basin Allotment is located within the Muddy Mountain Herd Management Area (HMA). The 1988 census in the White Basin Allotment showed the number of burros at eleven plus three young.

C. Wildlife Use

1. Desert Bighorn Sheep

The White Basin Allotment includes Big Game Area BY-11 for bighorn sheep crucial habitat. The reasonable numbers established for the area are 251 bighorn sheep (602 AUM's) (LUP Decision Range Management 1.1).

2. Gambel's Quail

One hundred percent of the White Basin Allotment is considered quail habitat, of which 53,122 acres is considered crucial summer habitat.

3. Desert Tortoise

Category II desert tortoise habitat is present on 3,800 acres of the White Basin Allotment. Desert tortoise habitat is generally defined as land that is less than 4000 feet in elevation and supports a creosote vegetative type. See map 1, Appendix A for tortoise habitat.

III. Allotment Profile

A. Description:

The White Basin Allotment is located thirty-five miles east by northeast of Las Vegas, Nevada. The allotment is bordered by Lake Mead to the east and south, by the Muddy Mountains and Valley of Fire State Park to the west and the Pacific Union Railroad to the north. See map 1, appendix A.

The Black Mountains and the east slope of the Muddy Mountains are contained within the allotment, both of which are excellent bighorn sheep habitat. The elevational variation is from 1250 ft. along Lake Mead to 5450 ft. in the Muddy Mountains.

Most of the acreage used by wild burros and domestic livestock are in Bitter Spring Valley, Pinto Valley, White Basin, the gentle slopes west of Lake Mead and the area between the Valley of Fire State Park and the Pacific Union Railroad.

The majority of Valley of Fire State Park is located within the White Basin Allotment and is not fenced to keep out cattle. On occasion, portions of the state

park are grazed by domestic livestock.

The following White Basin Allotment vegetative information is from the Clark County Range Survey:

<u>Vegetation Types and Sub-types</u>	<u>Acreage</u>	<u>%</u>
creosotebush - creosotebush	137,313	81.85
desert shrub - other desert shrubs	20,510	12.23
desert shrub - bursage	5,446	3.25
desert shrub - blackbrush	3,417	2.04
saltbrush - shadscale	327	0.19
half shrub - snakeweed	87	0.05
sagebrush - rabbitbrush	84	0.05
saltbrush - other saltbrushes	58	0.03

Semi-desert grasses are either dominant or subdominant on about 4000 acres near Overton Beach at the junction of highway's 12 and 40. These grasses are located on sandy sites which can be considered the most productive on the allotment. The majority of the allotment is dominated by perennial shrubs and annuals. Important year-round perennial shrubs includes white bursage, ephedra and range ratany. Winter and summer ephemeral forbs and grasses are produced anywhere soil moisture and temperatures are favorable. Of these annuals, filiree and six-weeks grama can be important livestock forage during the spring and fall.

B. Allotment Specific Objectives

The following allotment level objectives have been tiered from the Land Use Plan/MFP III objectives or decisions. If the respective allotment objective(s) have been met, the LUP/MFP III objective(s)/decision(s) have been met. The key management area objectives are tiered from the allotment objectives as noted in parenthesis at the end of each objective. Whether or not an allotment objective is met is determined by the results of the respective key, riparian, or wildlife area evaluation conclusions.

1. (AO-1) Maintain existing ground cover as defined by the revised Universal Soil Loss Equation (W 3.0 & W 4.0).
2. (AO-2) Maintain or improve the riparian vegetative community of Bitter Spring (RM 1.2(4), WL 1.1, & WL 1.35).
3. (AO-3) Maintain static or upward trend on key perennial forage species on key area 1 (LG 1.0, RM 1.0, RM 1.1, RM 1.2(2), RM 1.2(3), RM 1.10, RM 2.0, & WL 2.0).

4. (AO-4) Maintain utilization levels at the allowable use levels identified on key/crucial management areas and recorded through use pattern mapping (LG 1.0, RM 1.0, RM 1.1, RM 1.2(2), RM 1.2(3), RM 1.10, RM 2.0, & WL 2.0).
5. (AO-5) Maintain or improve habitat conditions for bighorn sheep (RM 1.2(3), RM 1.10, WL 1.0 & WL 2.0).
6. (AO-6) Maintain or improve desert tortoise habitat (WL 1.0 & WL 3.0).
7. (AO-7) Maintain or improve habitat conditions for Gambel's Quail (RM 1.2(7), WL 1.0).
8. (AO-8) Prior to issuing an ephemeral grazing permit, a field inspection will be made to determine if sufficient forage is available (LG 2.0, RM 1.0, RM 1.9, & RM 2.0).
9. (AO-9) Maintain or improve wild burro habitat in the Muddy Mountains Herd Management Area (HMA), if such use is consistent with the attainment of the vegetative objectives and maintains the burros in a thriving ecological balance (RM 1.1; WH&B 1.1) (HMAP-A).
10. (AO-10) Protect or improve wild burro free roaming behavior by preserving or enhancing home ranges (ie. prohibit new fences that may restrict movement or encourage the removal of existing fences that may increase movement) (RM 1.1, & RM 2.0; WH&B 1.0, WH&B 1.1, & WH&B 2.0) (HMAP-A).
11. (AO-11) Maintain or improve wild burro habitat by providing waters where possible (excluding rain water catchments for wildlife) (WH&B 2.0).

Key/Crucial Management Area Objectives

1. Specific Key Area

Long and Short Term Objective (KA-1)

Maintain the utilization below for the key species in each key area (AO 3 & AO 4).

key area 1

45% mormon tea

Key Area 2

45% mormon tea

55% indian ricegrass

55% big galleta grass

2. Watershed (W-1)

Long and Short Term

Maintain or sustain any increase for the combined perennial vegetative canopy and litter components as measured at Key Area 1 and 2. All live annual species, persistent and non-persistent litter are considered as litter (AO 1 & AO 3).

3. Riparian (RA-1)

Long and Short Term

Utilization by foraging animals on Bitter Springs will not exceed 55% utilization of the current years vegetative growth. When 55% utilization is reached, livestock will be removed (AO 1, 2 & 4).

4. Wildlife

Long Term Objectives

- a. (WL-1L) Maintain or improve the habitat condition of bighorn sheep (AO 5).
- b. (WL-2L) Maintain or improve the range condition on category II desert tortoise habitat to a minimum of late seral stage (AO 6).
- c. (WL-3L) Maintain or improve the habitat condition for Gambel's quail by keeping utilization at or below the allowable-use levels throughout the allotment, especially within a 1.5 mile radius of all waters used by the Gambel's quail (AO 7).

Short Term Objectives

- a. (WL-1S) In Category II Desert Tortoise Habitat authorize grazing between October 15th and March 15th of each year and at use levels not to exceed 55% of the current year's growth on key forage species. Grazing at other times of the year must be in accordance with the management guidelines defined in the technical recommendations (AO 6)

5. Use Pattern Mapping (UP-1)

Maintain utilization levels on key species by all ungulates at or below the following use levels for the periods and locations identified (consistent with other utilization objectives) (AO-3, AO-4, AO-5, AO-6, AO-9).

Maximum Utilization Level Allowed

	Category II Desert Tortoise Habitat (1)	Remaining Allotment
<u>Key Species</u>	<u>10/15-3/15</u>	<u>Yearlong</u>
Perennial	≤ 55%	≤ 55%
Herbaceous		
Shrubs	≤ 45%	≤ 45%

- (1) Through section 7 consultation with the U.S. Fish and Wildlife Service, all impacts to desert tortoise habitat will be mitigated as required by the 1973 Endangered Species Act.

6. Wild Burros

Short Term Objective (WB-1S)

Maintain the utilization at allowable-use levels for key species in wild burro key areas (AO 3, 4 & 9).

C. Threatened and Endangered Species

The following plants are listed by the Nevada Department of Forestry as threatened with extinction and were placed on the Nevada list of fully protected species in November, 1987:

golden bear poppy
Arctomecon californica

sticky buckwheat
Eriogonum viscidulum

three-cornered pod Geyer milk-vetch
Astragalus geyeri var. triguetrus

These plants have been reported on the White Basin Allotment. At this time, these three taxons are not listed by the U.S. Fish and Wildlife Service as threatened and endangered but are considered as category two sensitive species by the Bureau of Land Management.

IV. Management Evaluation

A. The purpose of this evaluation is to determine if present management is meeting the Land Use Plan objectives and allotment objectives and to recommend any changes in allotment management and/or grazing practices necessary to meet those objectives.

B. Summary of studies data

1. Actual Use

The licensed-use was employed as an estimate of the livestock actual-use due to incomplete records. Over the thirteen year period (1977 to 1989) of licensed-use data utilized, the White Basin Allotment received the following average seasonal and annual licensed-use:

Licensed Use (1977 to 1989)

Year	Spring	Summer	Fall	Winter	Total AUM's
1977	360	180	300	360	1200
1978	360	240	255	330	1185
1979	360	210	250	285	1105
1980	300	180	200	240	920
1981	240	100	220	255	815
1982	240	130	235	255	860
1983	255	155	205	255	870
1984	255	75	255	185	770
1985	255	130	155	225	765
1986	225	90	170	240	725
1987	240	150	69	114	573
1988	114	60	75	68	317
1989	81	30	30	30	171

For a detailed presentation of the last thirteen grazing years licensed-use refer to figure 1 & 2 of Appendix C.

2. Weather Data

The Valley of Fire State Park NOAA weather station and the University of Nevada Exp. Farm at Logandale weather data were used because of similar elevation proximity to the White Basin Allotment. The following information is based on seventeen years of data collection:

Valley of Fire State Park NOAA Weather Station

Annual ppt. (in.)	7.58
Warm-season ppt. (in.)	2.72
Cool-season ppt. (in.)	4.92
Annual temp. (F°)	68.39
Warm-season temp. (F°)	83.32
Cool-season temp. (F°)	57.23

University of Nevada Exp. Farm at Logandale

Annual ppt. (in.)	5.29
Warm-season ppt. (in.)	2.00
Cool-season ppt. (in.)	3.31
Annual temp. (F°)	64.70
Warm-season temp. (F°)	78.50
Cool-season temp. (F°)	54.58

Annual precipitation and temperature is based on the water year, October to September. The warm-season is from July to October, while the cool-season is from November to May. For a detailed presentation of the weather data, refer to figures 1-4 in Appendix B.

3. Utilization

Utilization is an estimation of the total annual growth removed by foraging animals. Using the Key Forage Species Method, utilization estimates on key species for each key area was conducted along a transect walked in approximately the same compass heading each year. See appendix A, Map 1 for location of key areas.

Allowable-use is the maximum amount of utilization which is desirable on a key species for a given key area. Allowable-use on perennial grasses and

forbs is 55% and for shrubs is 45%.

Utilization on key area 1 was estimated on mormon tea. Overall use has been light, below allowable-use levels. Due to present stocking rates and distribution of domestic livestock, the majority of utilization at key area 1 has been by wild horses and burros in recent years.

Utilization on key area 2 was estimated on indian ricegrass, mormon tea and big galleta grass. Overall use has been slight and allowable use levels have never been exceeded.

4. Trend and Cover

Vegetational and cover trends are measured by the quadrat frequency method described in the BLM "Rangeland Monitoring - Trend Studies (TR 4400-4)" handbook. These monitoring studies have not been established on the White Basin Allotment as of this time.

V. Conclusions

A. Allotment Level Objectives

1. (AO-1) Maintain existing ground cover, as defined by the revised Universal Soil Loss Equation (W 3.0 & W 4.0).

This objective has been met. Refer to Watershed Objective (W-1).

2. (AO-2) Maintain or improve the riparian vegetative community of Bitter Spring (RM 1.2(4), WL 1.1, & WL 1.35).

This objective has not been met. Refer to Riparian Objective (RA-1).

3. (AO-3) Maintain static or upward trend on key perennial forage species on key areas (LG 1.0, RM 1.0, RM 1.1, RM 1.2(2), RM 1.2(3), RM 1.10, RM 2.0, & WL 2.0).

This objective has been met. Trend studies have not been established at or near key areas 1 and 2. However, utilization levels of key species at both key areas have been below allowable-use levels as indicated by utilization studies and use pattern mapping. Professional judgement indicates that the

trend of key species at both key areas is static.

4. (AO-4) Maintain utilization levels at or below the prescribed allowable-use levels identified on key/crucial management areas and recorded through use pattern mapping (LG 1.0, RM 1.0, RM 1.1, RM 1.2(2), RM 1.2(3), RM 1.10, RM 2.0, & WL 2.0).

This objective has not been met. Refer to key area objective (KA-1S). Use at key area 1 and 2 has been maintained below allowable-use levels and according to use pattern mapping, utilization levels through the majority of the allotment have been slight to light. However, small areas of heavy use occurred around Bitter Springs and various springs located in the Muddy Mountain HMA.

5. (AO-5) Maintain or improve habitat conditions for bighorn sheep (RM 1.2(3), RM 1.10, WL 1.0 & WL 2.0).

This objective has not been met. Refer to Wildlife objective (WL-1L).

6. (AO-6) Maintain or improve category II desert tortoise habitat (WL 1.0 & WL 3.0).

This objective has been met. Refer to Wildlife Objective (WL-2L).

7. (AO-7) Maintain or improve habitat conditions for Gambel's Quail (RM 1.2(7), WL 1.0).

This objective has not been met. Refer to Wildlife Objective (WL-3L).

8. (AO-8) Prior to issuing an ephemeral grazing permit, a field inspection will be made to determine if sufficient forage is available (LG 2.0, RM 1.0, RM 1.9, & RM 2.0).

This objective has been met. A field inspection is conducted to assure adequate forage is available prior to issuing grazing permits. This is a standard operating procedure for issuing grazing authorizations on ephemeral rangelands.

9. (AO-9) Maintain or improve wild burro habitat in the Muddy Mountains HMA, if such use is consistent with the attainment of the vegetative objectives and maintains the burros in a thriving ecological balance (RM 1.1; WH&B 1.1) (HMAP-A).

This objective has not been met. Use pattern mapping and utilization transect studies shows that utilization levels throughout the allotment is below allowable-use levels. However, utilization levels at Bitter Springs and other springs located in the Muddy Mountain HMA have exceeded allowable-use levels, thereby degrading wild burro habitat.

10. (AO-10) Protect or improve wild burro free roaming behavior by preserving or enhancing home ranges (ie. prohibit new fences that may restrict movement or encourage the removal of existing fences that may increase movement) (RM 1.1, & RM 2.0; WH&B 1.0, WH&B 1.1, & WH&B 2.0) (HMAF-A).

This objective has been met. Fences which could restrict the movement of wild burros have not been authorized or constructed. Existing fences do not adversely effect the free roaming behavior of wild burros.

11. (AO-11) Maintain or improve wild burro habitat by providing waters where possible (excluding rain water catchments for wildlife) (WH&B 2.0).

This objective has been met. Water is available to burros at springs and other water development within the HMA.

B. Key/Crucial Management Area Objectives

1. Specific Key Area

Long and Short Term Objective (KA-1)

Maintain the utilization below for the key species in each key area (AO-3, AO 4).

key area 1

45% mormon tea

Key Area 2

45% mormon tea

55% indian ricegrass

55% big galleta grass

The objective has not been met. Grazing use has not exceeded moderate use at both key areas. However, small areas of heavy use occurred around Bitter Springs and other springs located in wild burro habitat.

2. Watershed Objective (W-1)

Long and Short Term

Maintain or sustain any increase for the combined perennial vegetative canopy and litter components as measured at Key Area 1 and 2. All live annual species, persistent and non-persistent litter are considered as litter (AO 1).

This objective has been met. Utilization studies and use pattern mapping shows that utilization levels at key area 1 and 2 are below allowable-use levels, thereby maintaining vegetative cover at both key areas.

3. Riparian (RA-1)

Long and Short Term

Utilization by foraging animals on Bitter Springs will not exceed 55% utilization of the current years vegetative growth. When 55% utilization is reached, livestock will be removed (AO 1, 2 & 4).

This objective has not been met. Use pattern mapping shows that allowable-use levels have been exceeded at springs located in wild burro habitat. The heavy use has caused a loss of cover and degradation of riparian areas.

4. Wildlife Objectives

Long Term Objectives

- a. (WL-1L) Maintain or improve the habitat condition for bighorn sheep (AO 5).

This objective has not been met. Use at springs used by bighorn sheep has exceeded allowable-use levels because of heavy use by wild burros and horses according to use pattern mapping. Eight bighorn sheep water developments have been established in the Muddy Mountains.

- b. (WL-2L) Maintain or improve the condition on category II desert tortoise habitat to a minimum of late seral stage (AO 6).

This objective has been met. Little to no licensed livestock grazing occurs on category II desert tortoise habitat because of present stocking rates. The majority of tortoise habitat is located on the northwest boundary of the Valley of Fire State Park where little water is available to support livestock. The vegetative community is shrub dominant and trend is static. Professional judgement indicates that ecological condition has been maintained at late seral.

- c. (WL-3L) Maintain or improve the habitat condition for Gambel's quail by keeping utilization at or below the allowable-use levels throughout the allotment, especially within a 1.5 mile radius of all waters used by Gambel's quail (AO 7).

The objective has not been met. Heavy use at springs used by Gambel's quail has led to deterioration of quail habitat. No guzzlers have been established on the allotment.

Short Term Objectives

- a. (WL-1S) In Category II Desert Tortoise Habitat authorize grazing between October 15th and March 15th of each year and at use levels not to exceed 55% of the current year's growth on key forage species. Grazing at other times of the year must be in accordance with the management guidelines located in the technical recommendations (AO 6).

This objective has been met. Although grazing has occurred year-round since priority was established, livestock grazing rarely occurs on tortoise habitat because of lack of water sources and present stocking rates. Grazing usually occurs in the winter in tortoise habitat and does not exceed slight use (0 -20%).

5. Use Pattern Mapping

category II desert tortoise habitat
 Maintain utilization levels on key species by all ungulates at or below the following use levels for the periods and locations identified (consistent with other utilization objectives) (AO-3, AO-4, AO-5, AO-6, AO-9).

Maximum Utilization Level Allowed

	Category II Desert Tortoise Habitat (1)	Remaining Allotment
Key Species	10/15-3/15	Yearlong
Perennial	≤ 55%	≤ 55%
Herbaceous		
Shrubs	≤ 45%	≤ 45%

(1) Through section 7 consultation with the U.S. Fish and Wildlife Service, all impacts to desert tortoise habitat will be mitigated as required by the 1973 Endangered Species Act.

This objective has not been met. Use in category II habitat has not exceeded slight use (0-20%). However, use pattern mapping shows that heavy use occurs at springs located within burro areas. The remaining area of the allotment has slight to light use from livestock and wild burro.

5. Wild Burros

Short Term Objective (WB-1S)

Maintain the utilization at allowable-use levels for key species in wild burro key areas (AO 3, 4 & 9).

The objective has not been met. Use pattern mapping and utilization studies show that utilization levels have not exceeded allowable-use levels throughout the allotment. However, use pattern mapping shows areas of heavy use occurs at springs located in wild burro habitat.

VI. Summary of Recommendation

1. Implement the following management guidelines for the White Basin Allotment:

Phase in the following management guidelines for rangeland classified as ephemeral over the next ten (10) years. Conduct intensive monitoring and frequent evaluations to quickly detect the need for changes in management. An interim management approach is identified for the phase-in period.

- A. Authorize livestock grazing below 4000 feet in Category II tortoise habitat from October 15 to March 15. Utilization on perennial forage species will be no greater than 55 percent of the previous years growth on perennial grasses and 45 percent on shrubs or as stated in this section of the summary of recommendations, part D (interim management), sections 1, 2 a, b, c, and d, pages 15 - 17. This is the time of the year when most tortoises are inactive.
- B. After the phase-in period grazing will not be authorized in Category II habitat between March 16 and October 14 if supported by monitoring data or as stated in this section of the summary of recommendations, part D (interim management), sections 1, 2 a, b, c, and d, pages 15 - 17. This period is during the time desert tortoise are active.
- C. Livestock would continue to be authorized for ephemeral allotments in uncategorized habitat areas based upon the availability of forage. Utilization on perennial forage species will be no greater than 55 percent of the current years growth on perennial grasses and 45 percent on shrubs. Monitoring data will be closely reviewed to assess any changes identifying a need for change in management.
- D. Interim management would be as follows:
 1. Authorize livestock grazing below 4000 feet in tortoise habitat from October 15 to March 15. Utilization on perennial forage species will be no greater than 55 percent of the previous years growth on perennial grasses and 45 percent on shrubs. This is the dormant time for vegetation and the desert tortoise.

2. Authorize livestock grazing below 4000 feet in desert tortoise habitat from March 16 to October 14 with the following guidelines:

- a. A range inspection by the BLM will be conducted prior to the period of use applied for by the permittee, to determine that a minimum of 100 to 150 pounds per acre of annual plant species total air dry weight production is available.

This guideline will allow livestock grazing only during average or better growing conditions for a specific location. This will provide for a rest about 50 percent of the time. No grazing will be authorized during below average growing conditions on a site specific basis. This will reserve all the vegetation produced for the tortoise, improvement of the vegetative community, and the watershed.

- b. During the production study or follow-up study, determine whether or not tortoise have emerged from their burrows in the spring. If the climate is unusually cold and tortoise emergence is delayed, use may be permitted for a specified period of time after March 15 until emergence or warmer weather occurs. This would be determined on a case by case basis and use will be closely monitored for short periods of time.

- c. If production studies determine that 100 to 150 pounds per acre of annual plant species air dry production exists and grazing is authorized, the maximum utilization level of the current years perennial forage species growth allowed will be 50 percent. Less than 50 percent utilization may be stipulated on a case by case basis if management objectives and/or conditions supported by monitoring data warrant it. Monitoring data shows that moderate or lower utilization levels in the Mojave Desert results in static to upward vegetative trend with increases in cover and species diversity (Crescent Peak

allotment evaluation and Bulletin 483, March 1971, "Effect of Season and Intensity of Use On Desert Vegetation", C. Wayne Cook).

- d. Where there is a significant perennial forage component and the ecological condition is Late Seral (good condition) or better, use after March 15 may be authorized without considering the production guideline for annual species on a site specific basis. The maximum utilization level of the current years perennial forage species growth allowed will be 55 percent on perennial grasses and 45 percent on shrubs. Less than 55 percent utilization may be stipulated on a case by case basis if management objectives and/or conditions supported by monitoring data warrant it.

These management guidelines will aid in meeting objectives AO-4, AO-5, KA-1, WL-1L, WL-1S, and UP-1 and maintain objectives AO-1, AO-3, AO-6, AO-8, W-1 and WL-2L at current management levels.

2. Establish a frequency trend transect at Key Area 1, during the spring of 1991. This will determine if objectives AO-1, AO-3, and W-1 being maintained or improved under current management.
3. Select wild burro key areas and established frequency trend and utilization study plots during the spring of 1991. This will aid in meeting objectives AO-9, UP-1, WB-1L, and WB-1S and determining if objectives AO-1 and W-1 are being maintained at current acceptable levels.
4. Establish transects in the spring of 1991, to gather data to be used in the revised Universal Soil Loss Equation. This will determine if objectives AO-1 and W-1 are being maintained at current acceptable levels.
5. By FY90, identify springs sources and riparian areas within portions of the White Basin Allotment administered by the Bureau of Land Management for possible riparian enhancement. Through consultation with staff specialists, develop alternatives for potential enhancement of Bitter Springs. This will help meet objectives AO-2, AO-5, AO-7, WL-1L, WL-3L, RA-1 and UP-1 and maintain objectives AO-1, AO-11 and W-1 at current acceptable levels.

VII. Consultation

Forester Johnny Jones of the Nevada Department of Forestry, was consulted as to current status of Threatened and Endangered Plants of the State of Nevada that are known to occur on the White Basin Allotment.

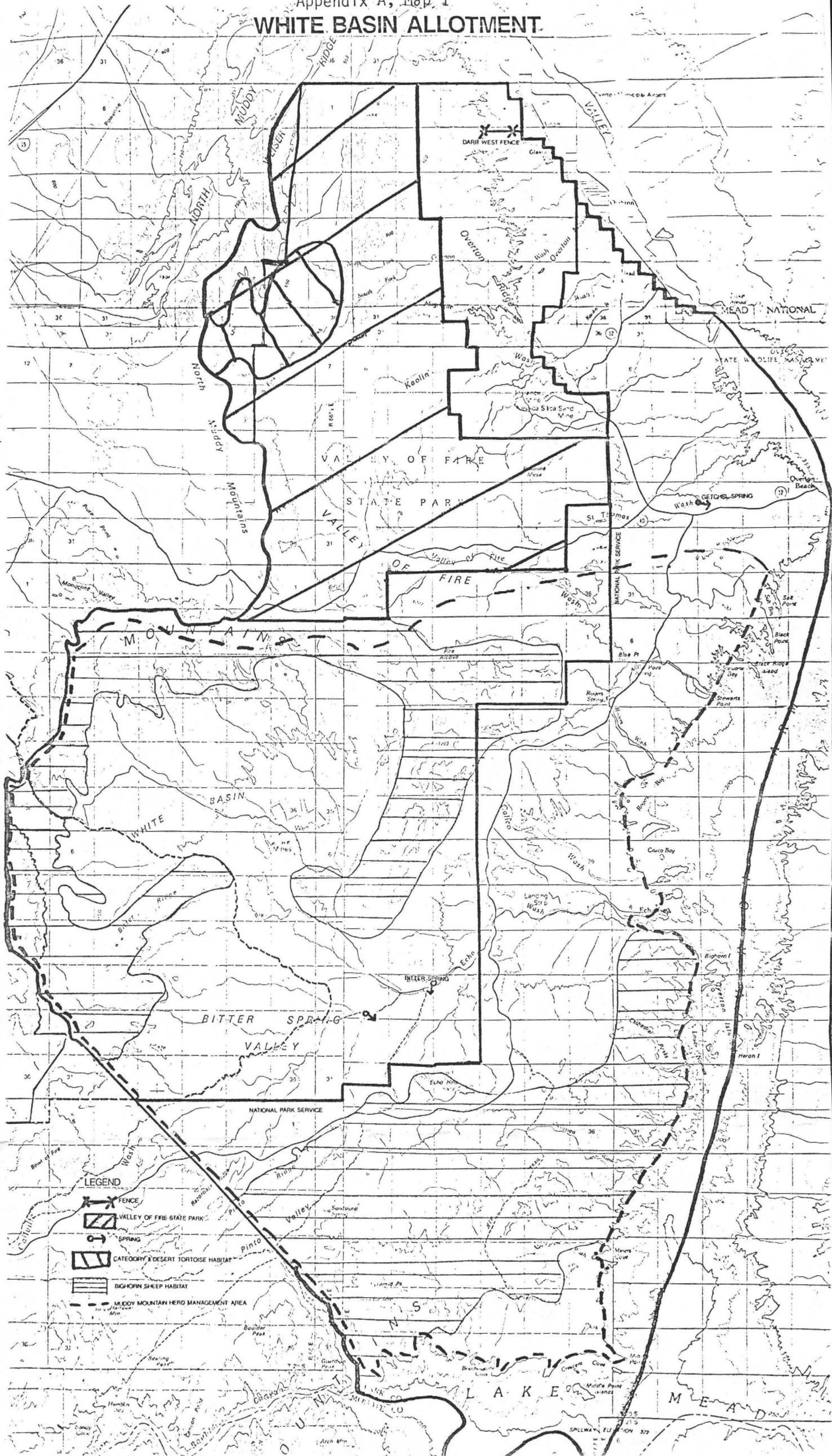
Wildlife Biologist Dan Delaney of the Nevada Department of Wildlife was consulted as to the current status of bighorn sheep in the Black and Muddy Mountain ranges.

BLM Wildlife Biologists Jeannie Cole, Mark Maley and Sid Slone were consulted for information and recommendations concerning bighorn sheep and desert tortoise.

BLM Range Conservationists Terry Driver, Susan Gray, Jack Pfeiffer, Bob Stager, Jeff Steinmetz and Bruce Sillitoe were consulted in reference to range management information and recommendations.

BLM Hydrologist Dave Schafersman was consulted regarding riparian and watershed information and recommendations.

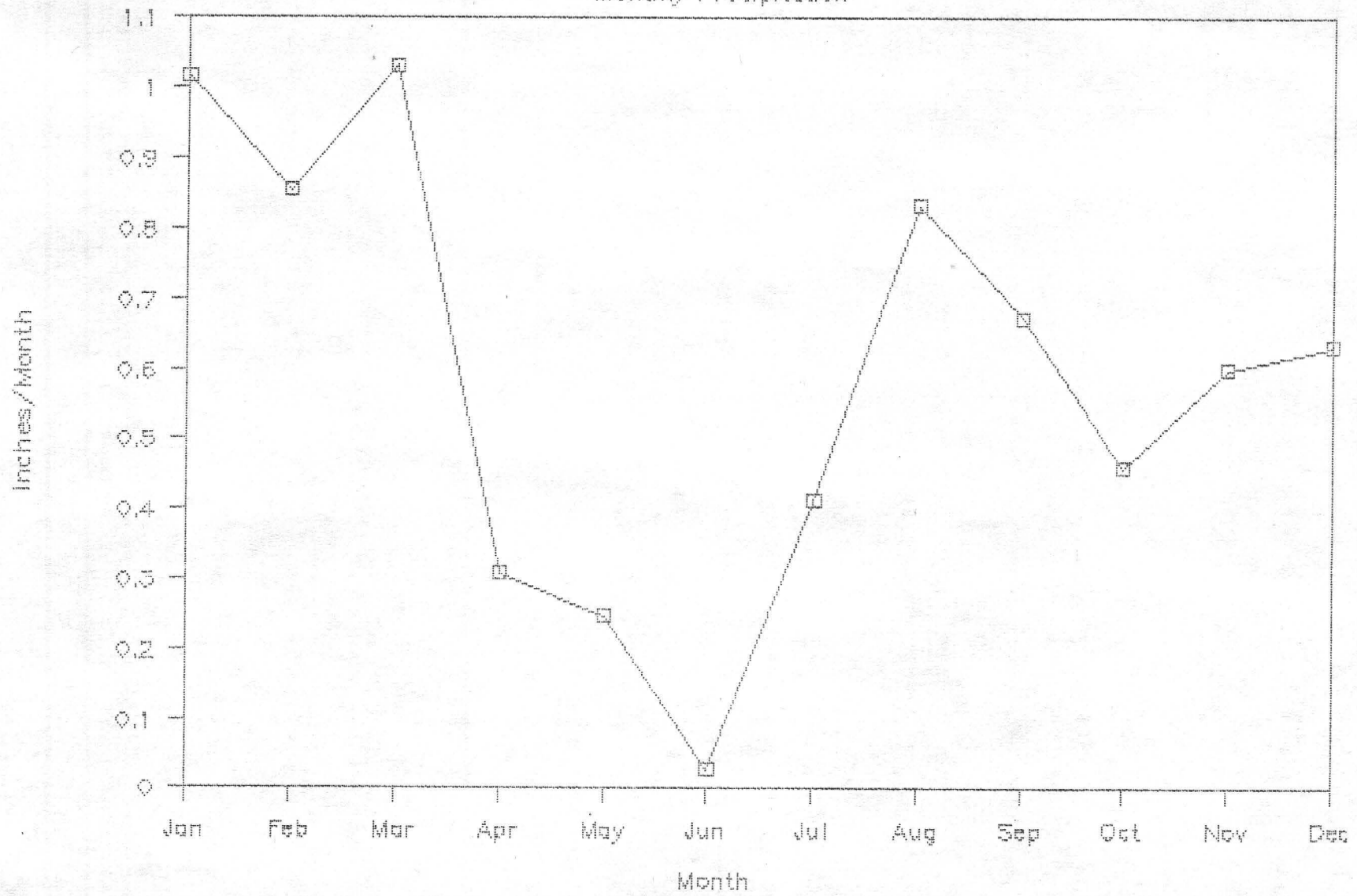
Appendix A, Map 1
WHITE BASIN ALLOTMENT



Appendix B, Figure 1

Valley of Fire State Park

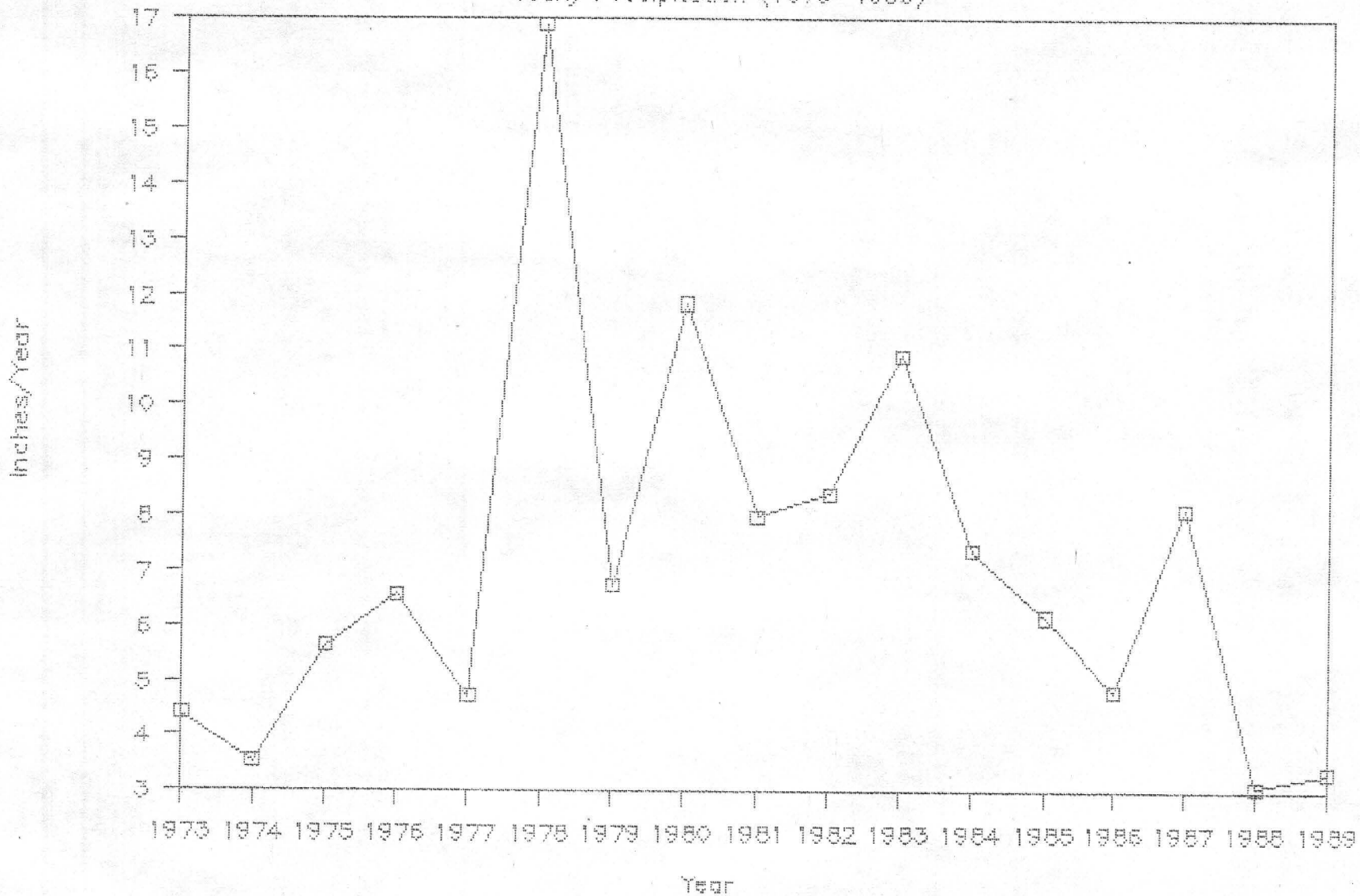
Monthly Precipitation



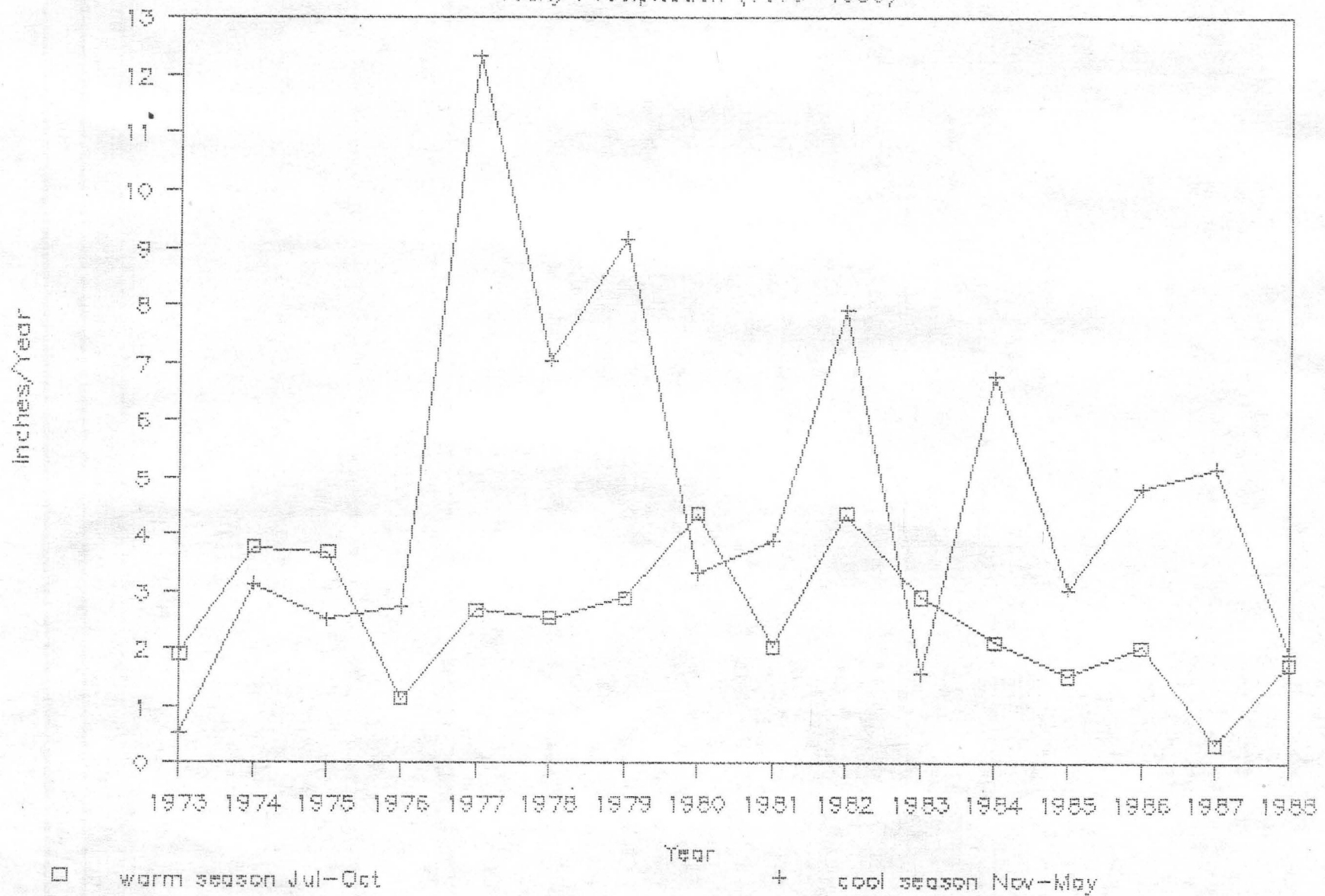
Appendix B, Figure 2

Valley of Fire State Park

Yearly Precipitation (1973-1989)



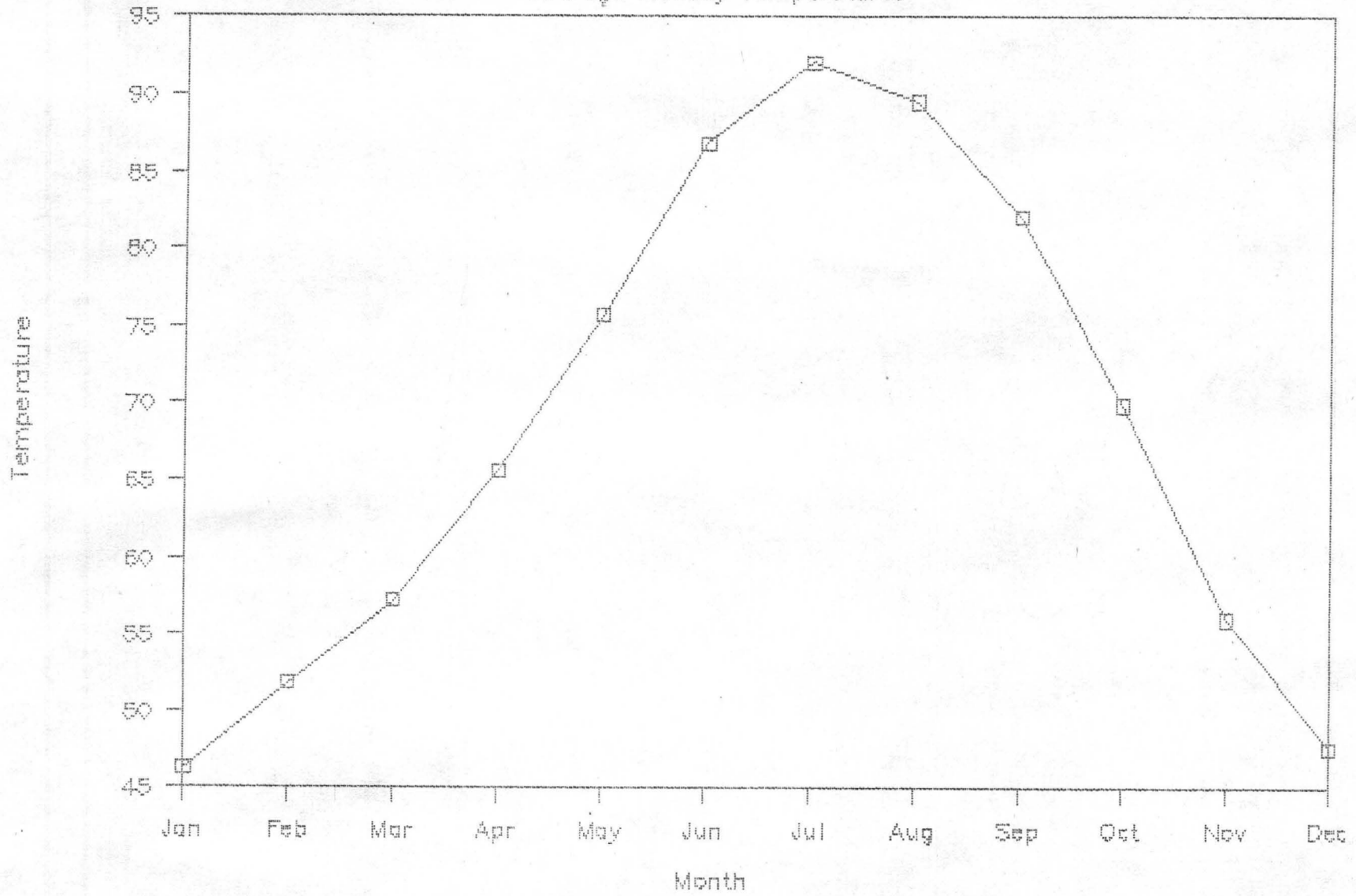
Appendix B, Figure 3
Valley of Fire State Park
Yearly Precipitation (1973-1989)



Appendix B, Figure 4

Valley of Fire State Park

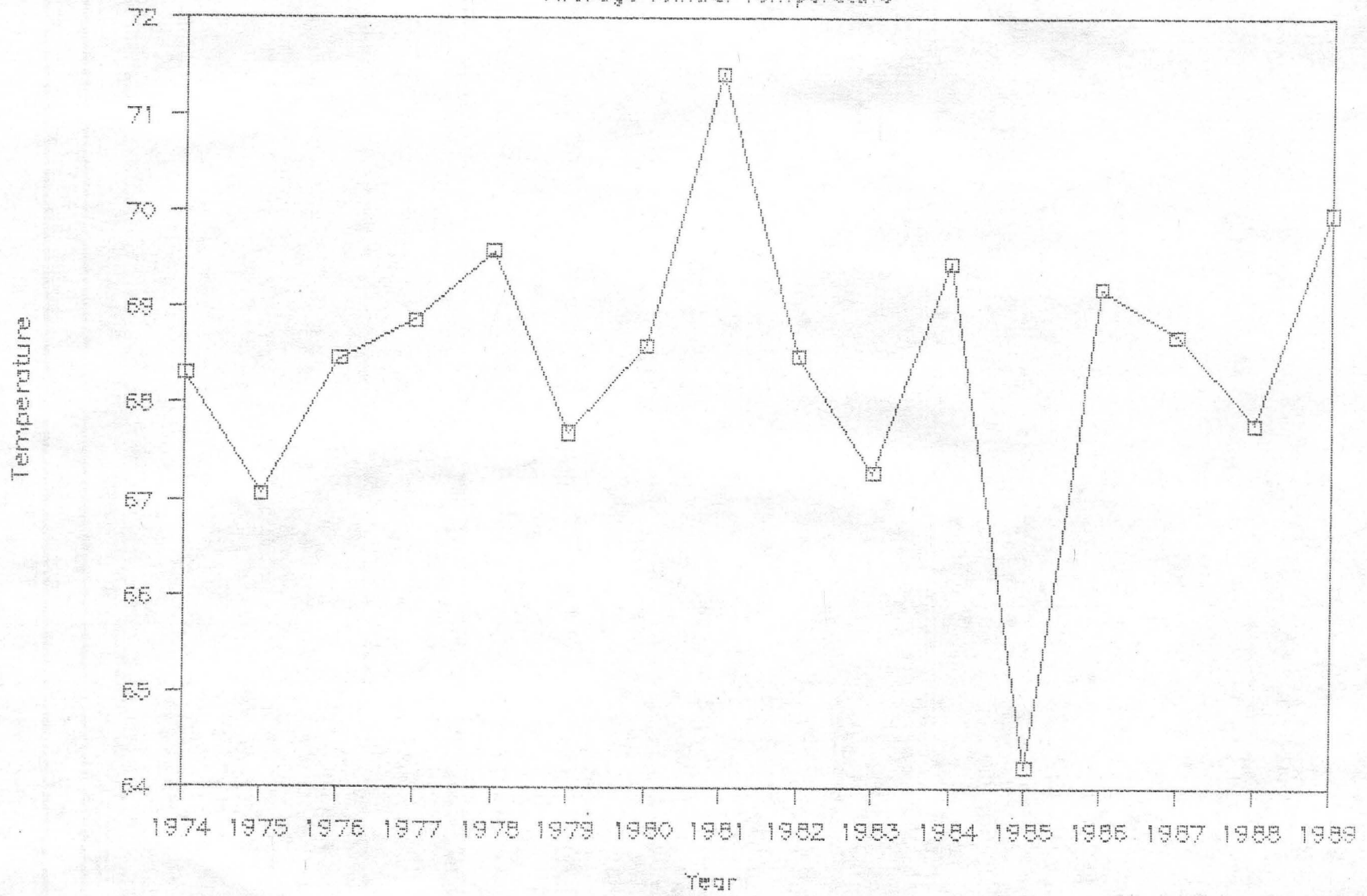
Average Monthly Temperatures



Appendix B, Figure 5

Valley of Fire State Park

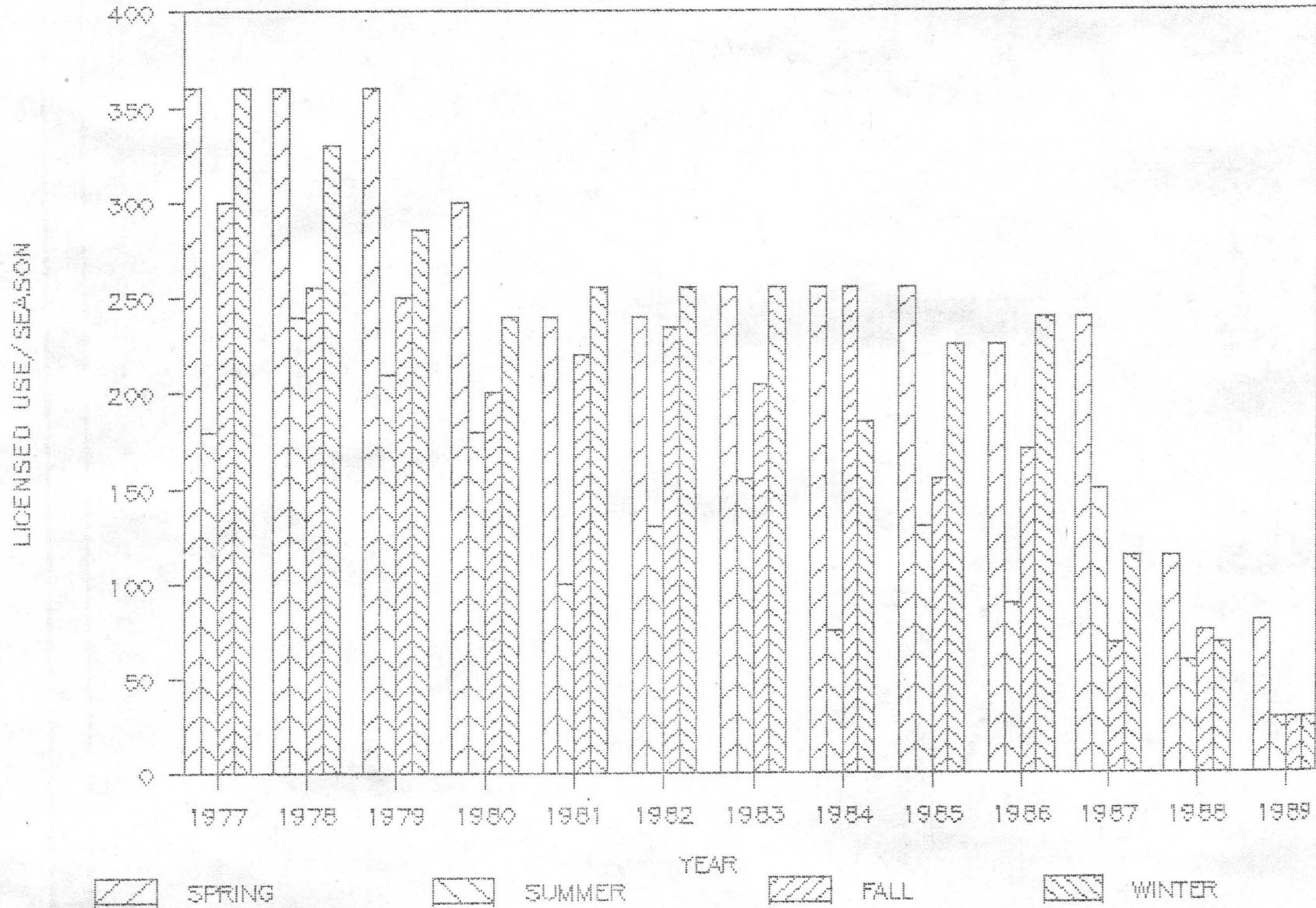
Average Annual Temperature



Appendix C, Figure 1

WHITE BASIN ALLOTMENT

SEASONAL USE



Appendix C, Figure 2
White Basin Allotment

licensed use 1977-1989

