

m 5/12/94

**MISSISSIPPI CANYON ALLOTMENT
EVALUATION**

**MAY 12, 1994
LAHONTAN RESOURCE AREA
CARSON CITY DISTRICT OFFICE
1535 HOT SPRINGS ROAD
SUITE 300
CARSON CITY, NEVADA 89706**

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I. INTRODUCTION:

The purpose of the allotment evaluation process is to determine if the current grazing practices are consistent with attainment of the Land Use Plan (LUP) and Lahontan Rangeland Program Summary (RPS) specific objectives for the Mississippi Canyon Allotment (03025). If current grazing practices are not consistent with the attainment of these objectives, then appropriate changes in management will be identified and implemented. Furthermore, the evaluation can determine if Land Use Planning and Lahontan Rangeland Program Summary Objectives are reasonable and attainable. The allotment is classified as category Custodial, with no specific priority (Figure 1). The evaluation period is from 1989 to 1993.

II. INITIAL STOCKING LEVEL:

A. Livestock Use:

1. Permittee:

- a. Current lessee - M. Joyce Casey.
- b. Owner - Gary Snow.

2. Adjudicated AUM's:

- a. Total Preference: 150 Animal Unit Months (AUM's).
- b. Suspended: 0 AUM's.
- c. Active: 150 AUM's.

3. Period of Use:

March 1 to February 28.

4. Number & Kind of Livestock:

12 Cattle.

5. Class of Livestock:

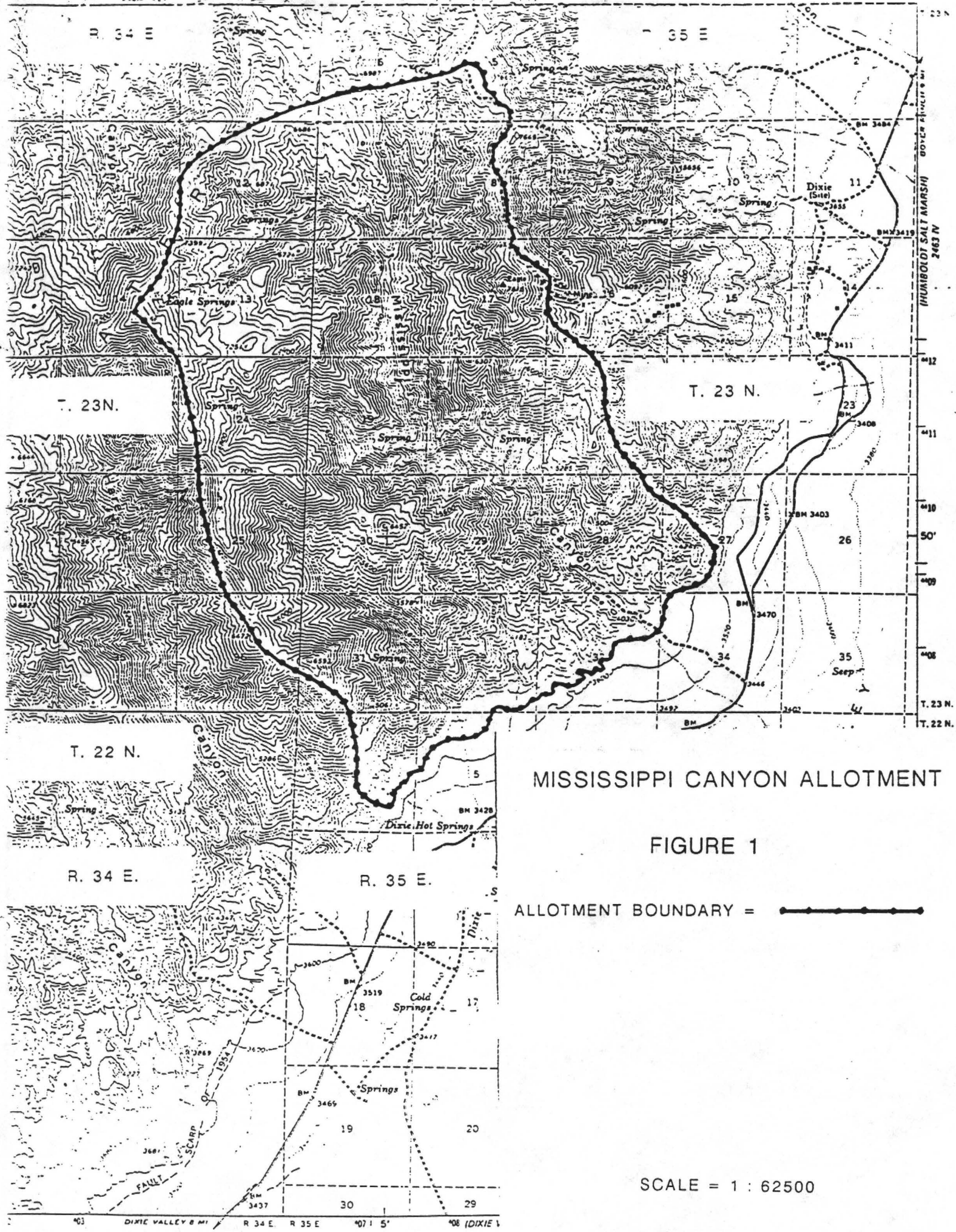
M. Joyce Casey the permittee is a commercial range cattle operation. Ms. Casey runs a cow and calf herd, with replacement heifers, and yearlings.

6. Percent Federal Range:

100% Federal Range.

B. Wild Horse and Burro Use:

The Mississippi Canyon Allotment is partly within the North Stillwater Wild Horse and Burro Herd Management Area (HMA) (Figure 2). The Mississippi Canyon Allotment comprises 2 percent of this HMA. This portion of the HMA consists of steep mountainous terrain, most of which is heavily wooded. Because of the physical characteristics of this portion of the HMA very few wild horses utilize this area. During the HMA delineation process 2 horses were observed within the allotment, however, no horses have been identified within the allotment since 1989.

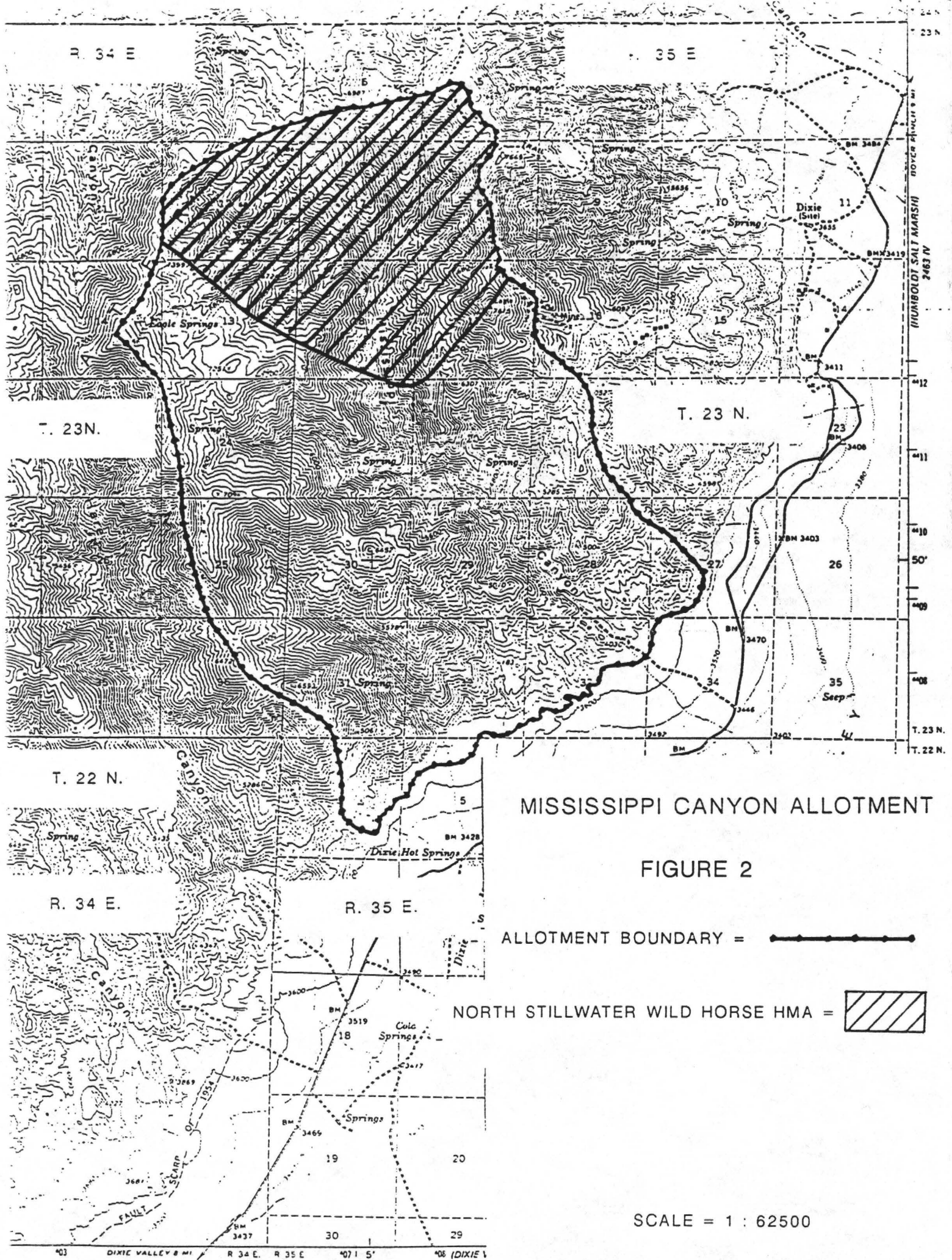


MISSISSIPPI CANYON ALLOTMENT

FIGURE 1

ALLOTMENT BOUNDARY = 

SCALE = 1 : 62500



MISSISSIPPI CANYON ALLOTMENT

FIGURE 2

ALLOTMENT BOUNDARY = 

NORTH STILLWATER WILD HORSE HMA = 

SCALE = 1 : 62500

Despite a year round water source and forage, wild horses do not utilize the allotment. The HMA portion of the allotment contains very steep terrain and a relatively dense population of mountain lions exist in the Stillwater Mountain Range.

C. Wildlife Use:

Various wildlife species use this allotment.

1. Desert Bighorn Sheep:

Desert bighorn sheep (Ovis canadensis nelsoni) were historical residents of the area. But, as in much of Nevada, they disappeared at or near the turn of the century. Reintroduced Desert Bighorn Sheep are priority species, since much of the east side of the Stillwater Mountains is suitable habitat for bighorns and the entire allotment is now Desert bighorn sheep habitat.

2. Mule Deer:

No crucial habitat for mule deer (Odocoileus hemionus) is found anywhere in the allotment.

3. Chukar:

Chukar (Alectoris chukar) populations are found throughout the majority of the mountainous portions of the Stillwater Range. Population levels vary yearly with weather conditions. [14]

4. Other Mammals:

Large predators present in the area are mountain lion (Felis concolor), bobcat (Lynx rufus), and coyote (Canis latrans). Both gray fox (Urocyon cinereoargenteus) and kit fox (Vulpes macrotis) may occur in low numbers in the area.

The most common small mammals present in the allotment are jackrabbits (Lepus californicus), cottontail rabbits (Sylvilagus nuttalli), Great Basin kangaroo rats (Dipodomys microps) and deer mice (Peromyscus maniculatus).

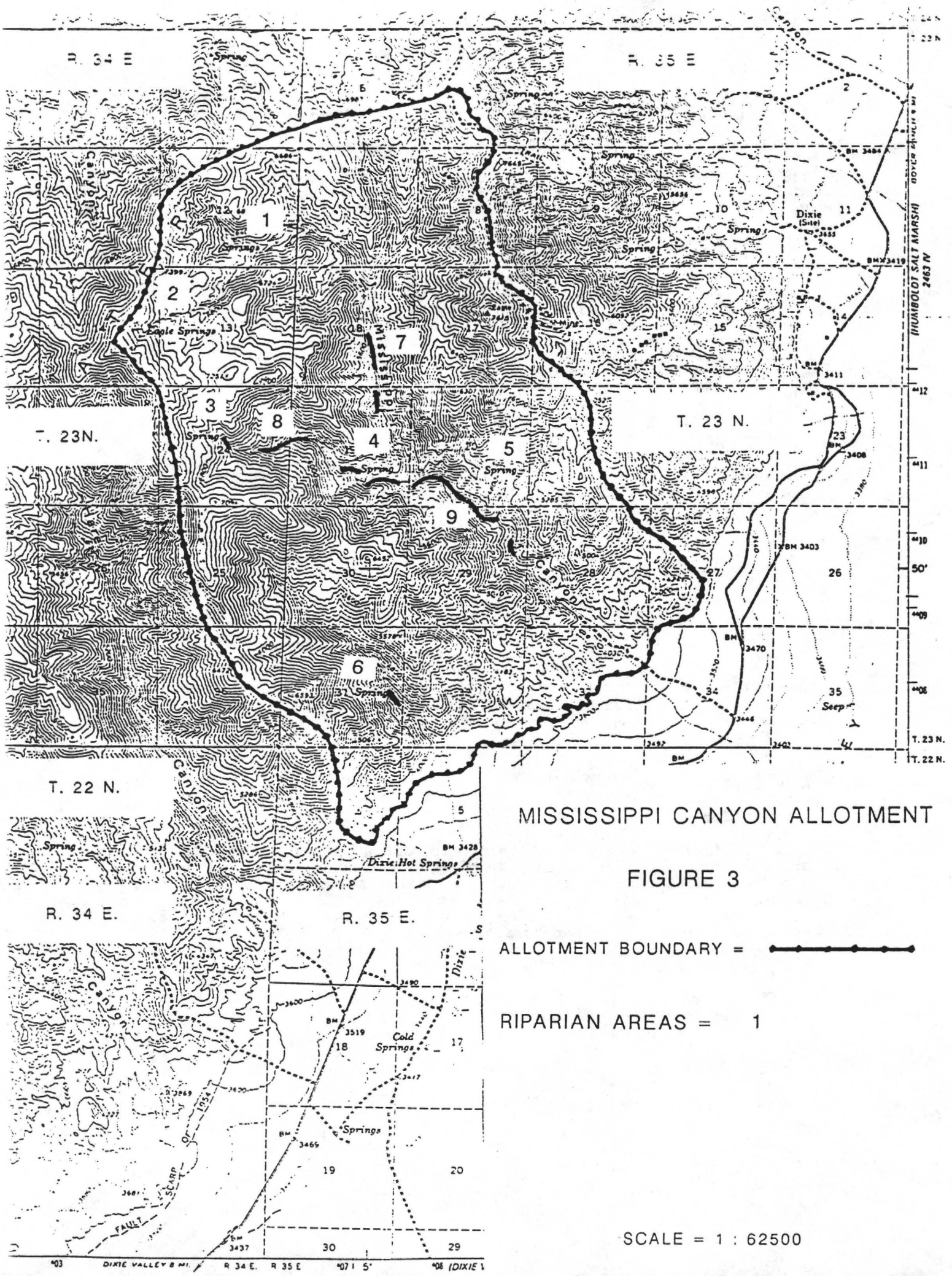
III. ALLOTMENT PROFILE:

A. Description:

The Mississippi Canyon Allotment is situated in Churchill County approximately 45 miles north east of Fallon, Nevada. The allotment lies along the northeastern slope of the Stillwater Mountains between the north end of Dixie Valley and the crest of the Stillwater Mountain range. It is approximately 6 miles long north to south and 4 miles wide east to west. The entire allotment drains into the Humboldt Salt Marsh.

1. Topography:

The elevation ranges from 3,700 feet above sea level in Dixie Valley, at the southeast boundary, to 7,615 feet above sea level at Eagle Peak, also on the east boundary.



MISSISSIPPI CANYON ALLOTMENT

FIGURE 3

ALLOTMENT BOUNDARY = 

RIPARIAN AREAS =  1

SCALE = 1 : 62500

2. Soils:

The soils of the allotment are extremely variable. They are of volcanic, sedimentary and alluvial origin freely intermixed.

3. Water Resources:

Water sources located on public land within the allotment include 9 spring areas (Figure 9).

4. Vegetation:

Some of the dominant range sites on the Mississippi Canyon Allotment include:

A. Gravelly Loam 4-8" P.Z. - 27-18:

The plant community is dominated by Bailey greasewood, shadscale and Indian ricegrass. Potential vegetation composition is about 30% grasses, 5% forbs and 65% shrubs.

This site occurs on piedmont slopes. Slopes range from 0 to 30 percent, but slope gradients of 2 to 15 percent are most typical. The soils of this site are typically shallow with a soil layer restrictive to root development.

B. Loamy Slope 8-10" P.Z. - 27-07:

The plant community is dominated by Wyoming big sagebrush and Thurber needlegrass. Potential vegetative composition is about 50% grasses, 5% forbs and 45% shrubs.

The site occurs on sideslopes of rock pediments, rolling hills, and lower mountains on all exposures. Slopes range from 15 to 75 percent, but slope gradients of 30 to 50 percent are most typical. Soils in this site are shallow to very shallow and are well drained.

5. Vegetation - Key Species:

Key grass species are Indian Ricegrass (Oryzopsis hymenoides) and Thurber's Needlegrass (Stipa thurberiana).

6. Threatened or Endangered Species:

No Federally listed threatened or endangered plant or animals species are known to occur within the allotment.

The loggerhead shrike (Lanius ludovicianus) a Category 2 candidate species likely occurs in the lower elevations. Another Category 2 candidate, the mountain quail (Oreortyx pictus) was introduced in the allotment in the 1930's has not been observed since 1976.

7. Recreation:

Recreation use is very slight over most of the allotment, and low to moderate along the Stillwater Range. Small numbers of recreationists participate in dispersed recreation forms such as rock hounding and chukar hunting throughout the allotment. More intense uses such as camping, hiking and deer hunting occur along the Stillwater Range.

8. Wilderness Study Areas:

The Stillwater Range Wilderness Study Area (WSA) encompasses the allotment. Approximately 10,936 acres of this WSA is within this allotment (Figure 4).

The area is being managed in accordance with Section 603 (c) of the Federal Land Policy Management Act and the Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP) (1979) in order to preserve its wilderness character. Management under the IMP will continue until Congress either designates it as Wilderness and includes it in the National Wilderness Preservation System, or officially releases it from further wilderness consideration.

During this period of Congressional review, existing grazing uses may continue in the same manner and degree as they were on the date of the approval of FLPMA.

B. Grazing Treatment:

The Mississippi Canyon Allotment has no grazing system. Four out of the last five years the grazing operator has applied for nonuse.

C. Allotment Specific Objectives:

1. Land Use Plan Objectives (Lahontan RMP, 1985):

The Rangeland Program Summary (1989) developed more specific objectives for the Mississippi Canyon Allotment based on the Land Use Plan Objectives (Lahontan RPS) Update Objectives (1989). Further refinement of these objectives (by habitat area) will be identified in the Conclusions and proposed in Technical Recommendations sections.

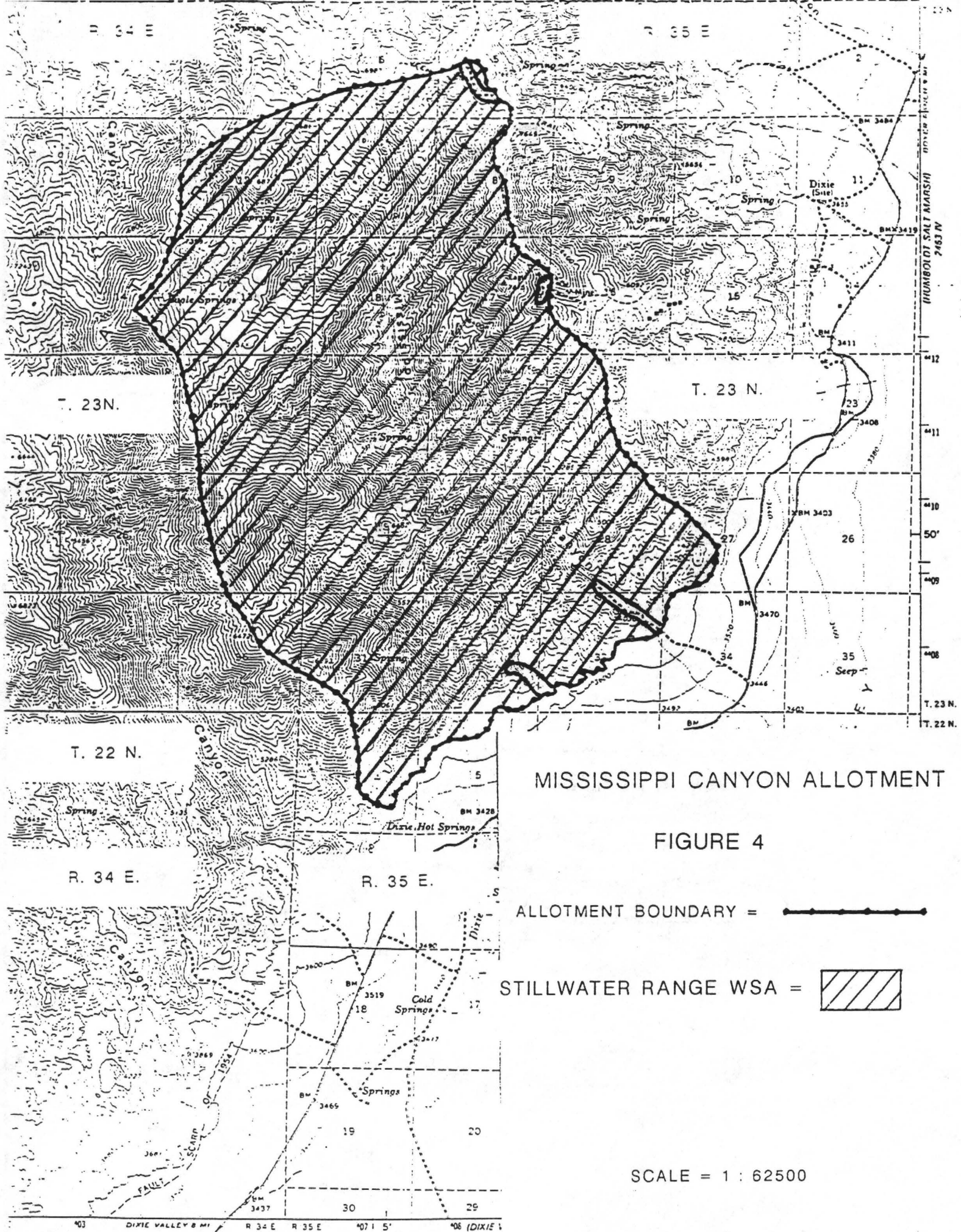
2. Rangeland Program Summary Update Objectives (1989):

a. Long Term:

1. Maintain existing ecological condition and trend.
2. Maintain or improve wild horse habitat consistent with wildlife and livestock objectives.
3. Maintain or improve free-roaming behavior of wild horses by protecting or enhancing wild horse home ranges.
4. Maintain or improve wild horse habitat by assuring that all waters remain open to use by wild horses.

b. Short Term:

1. Maintain utilization not to exceed 55% on identified key species on upland key areas.
2. Initially allow 150 AUM's for cattle.
3. Initially provide approximately 24 AUM's of forage for approximately 2 wild horses.



IV. MANAGEMENT EVALUATION:

A. Summary of Studies Data:

1. Actual Use:

Livestock actual use is recorded from an actual use report provided by the permittee. Data are verified by field checks and occasional counts. Actual use data are obtained from the livestock operators at the end of the specific grazing periods. Actual use data contain dates, numbers and classes of livestock turned out, moved or gathered, as well as deaths.

a. Livestock:

Actual Use Records for the Mississippi Canyon Allotment have been collected and are depicted in Table 1:

Table 1. Actual Use Records and Licensed Use for the Mississippi Canyon Allotment from 1989-90 to 1993-94.

Actual Use Records & Licensed Use		
Year	Cattle AUM's	Total
1989-90	0	0
1990-91	0	0
1991-92	143	143
1992-93	0	0
1993-94	0	0
TOTAL	143	143
AVERAGE	29	29

b. Wildlife (Existing Numbers):

Existing numbers for the key wildlife are as follows:

Desert Bighorn Sheep:

Estimated population of the Desert bighorn sheep in the entire Stillwater Mountains from 1989 to 1992 is presented in Table 2.

Table 2. Shows the Desert Bighorn Sheep population estimates by Nevada Department of Wildlife.

Year	Ewes	Lambs	Rams	Total
1989	61	25	29	115
1990	65	29	30	124
1991	56	45	42	143
1992	56	45	42	143

The numbers were based on estimates by Nevada Division of Wildlife (NDOW). This data comes from the Big Game - Status and Hunting Season Recommendations 1990 and Quota Recommendations from 1991 to 1993.

The population has shown an increasing or stable trend. There is no way to obtain a firm estimate for the Mississippi Canyon Allotment as the bighorn are scattered throughout the Stillwaters and some adults (rams), may seasonally migrate the length of the range.

2. Precipitation:

Nevada has been experiencing a drought since 1988. The critical time for precipitation for the key species is during the winter and early spring periods. Moisture storage in the soil is essential for the plants to initiate growth of twigs and foliage. This in turn allows the plants to increase rooting depth and size, increase root reserves, and enhance vigor.

No permanent weather station is in the Mississippi Canyon Allotment. To cover the area, Fallon, Nevada weather data is included with this allotment evaluation. The Fallon, Nevada weather station is approximately 45 miles from the Mississippi Canyon Allotment boundary.

Precipitation during the evaluation period has been extremely low. The total precipitation varied from a low of 0.91 inches in 1989-90 to a high of 2.25 inches in 1988-89. The total precipitation was 1 year above average and 3 years below average. The last 3 years have been below average.

3. Utilization:

Due to the non-use taken by the permittee, utilization was only collected for one year, 1993, with 98% of the allotment in the slight category.

4. Trend:

The Mississippi Canyon Allotment has no trend study established.

5. Phenology:

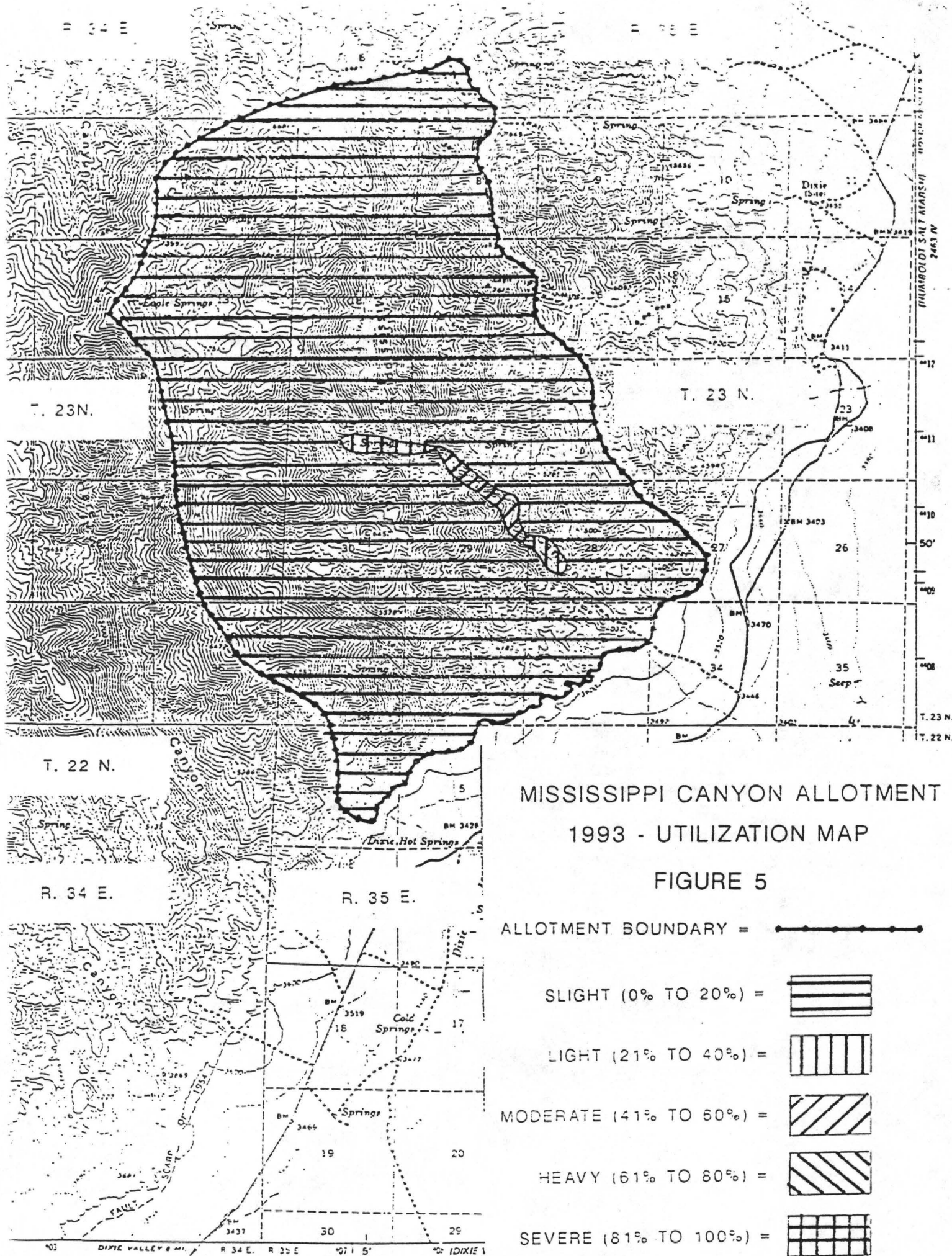
The critical growth period for most of the perennial grass species in the Mississippi Canyon Allotment is approximately March through mid-July with growth often beginning by the first week of March. This early growth uses carbohydrate root reserves stored the previous year, during the critical growth period. Most perennial grasses reach the seed ripe stage by July, and by August, replenish their root reserves and complete their life cycles.

6. Ecological Status:

Total Area:

Table 6. The Ecological Condition in acres for the Mississippi Canyon Allotment.

Year	Ecological Condition (Acres)					Total
	Excellent	Good	Fair	Poor	Unclassified	
1980	0	0	5,421	5,133	1,682	12,236
1994	222	1,562	3,888	4,882	1,682	12,236



MISSISSIPPI CANYON ALLOTMENT
1993 - UTILIZATION MAP

FIGURE 5

- ALLOTMENT BOUNDARY =
- SLIGHT (0% TO 20%) =
- LIGHT (21% TO 40%) =
- MODERATE (41% TO 60%) =
- HEAVY (61% TO 80%) =
- SEVERE (81% TO 100%) =

SCALE - 1 : 62500

The Mississippi Canyon Allotment ecological condition from the vegetation inventory is included above and the numbers come from the Lahontan Resource Management Plan & Environmental Impact Statement from pages 3-4 and 4-3 (8). For 1980-82 Potential Natural Community (PNC) data, the number is the original rating derived from 1980-82 Soil Conservation Service (SCS) range site descriptions. The 1994 rating reflect updated values derived from 1989 and 1992 SCS range site descriptions. The 1994 data also includes the unclassified data with no defined range site.

7. Wildlife Habitat:

Desert Bighorn Sheep:

During this 5 year evaluation period, the allotment had utilization below 55% in the critical Desert bighorn sheep range.

8. Riparian Habitat:

Utilization during the evaluation period in the riparian habitat was below 55% (Figure 3).

B. Other Issues:

It is not feasible to manage the Mississippi Canyon Allotment as a integral part of or in conjunction with the Dixie Valley Allotment. This was the reason why Mississippi Canyon was not included in the Dixie Valley Allotment Management Plan (AMP) and kept as a separate allotment.

The Mississippi Canyon Allotment lies adjacent to the Dixie Valley Allotment, Hare Canyon Pasture but is not readily assessable through Hare Canyon. The main access is up Mississippi Canyon itself, through the Boyer Ranch Allotment. To graze cattle on the entire allotment, cattle must be driven by horseback across Boyer Ranch Allotment which requires a trailing permit. The allotment is divided into two areas which are separated by natural terrain including a waterfall in the drainage near the bottom of Mississippi Canyon. The waterfall divides the upper and lower country from each other. The upper country can not be accessed through the lower portion of Mississippi Canyon.

To access the remaining upper portion of the allotment, cattle must be trucked to the other side of the mountain, then trailed several miles through the Copper Kettle Allotment to the top of the Mississippi Canyon Allotment. Also, there is no fencing to keep the cattle on the top portion of the allotment. It requires a great deal of effort to get a few head of cattle on this allotment.

Because it is so difficult to access and time consuming to put cattle in the Mississippi Canyon area permittees have chosen not to. Therefore, creating a situation that by not using the AUMs in the area authorized, Mississippi Canyon, there was a potential to over-obligate the main Dixie Valley Allotment by 150 AUM's.

This was solved temporarily by authorizing non-use at the permittees request. However, by Decision on 11/09/89 the Area Managers Decision identified the Mississippi Canyon pasture as a separate grazing allotment. In the Decision it stated, "Therefore, the Mississippi Canyon Pasture and the associated 150 AUMs were removed from the Dixie Valley Allotment and authorized separately." The decision also included a statement that said: "Should you fail to make substantial grazing use of the Mississippi Canyon Allotment as authorized for two (2) consecutive fee years, the 150 AUMs of preference attached to the Mississippi Canyon

Allotment will be cancelled in accordance with the regulations."

In March of 1990, the BLM postponed this (2) years non-use requirement when we authorized non-use on the allotment due to the current drought conditions in the area. In 1991, the permittee applied for use and paid the bill for 19 head of cattle. But cattle were never placed on the allotment. From 1992 until 1994, BLM has authorized non-use due to the persistent drought that has been effecting this area. As of this date we have not yet started the (2) years requirement. If a decision is issued to split the allotment, the (2) year requirement will be abandon.

What has been occurring on this portion of the allotment is that cattle from the Copper Kettle Allotment make their way on to the upper portion of the Mississippi Canyon Allotment. With no fencing between the two allotments, cattle may drift back and forth during the summer months when cattle are using the upper country on Copper Kettle. It is a logical way to graze this area and originally if the actual grazing patterns had been considered when the allotment boundaries were set up it may have been part of the Copper Kettle Allotment.

What has been occurring on this lower portion of the allotment is that cattle from the Boyer Ranch Allotment have been grazing the area from the gap fence at the mouth of the canyon to below the falls, which consists of a narrow canyon with limited grazing capacity approximately 22 head of cattle for 6 weeks.

The current owner of the allotment understands with this rational and proposed solution to the problem.

V. CONCLUSIONS:

A. Conclusion of Studies Data:

1. Actual Use:

a. Livestock:

The actual use reports were returned to the BLM office in 1991 and the number of cattle entering and leaving the allotment were recorded. The three other years were based on licensed use.

b. Wildlife:

Desert Bighorn Sheep:

No actual use data exists for this allotment, however, the desert bighorn sheep population in the entire Stillwater Range has increased from 1989 to 1992. Comparing the 1986 numbers to 1992 numbers, the ewes, lambs and rams increased from 35 to 42, 13 to 45 and 54 to 56 (respectively).

2. Precipitation:

The weather data at Fallon, Nevada between 1988-89 and 1991-92 showed that the last three years (1989-90, 1990-91 & 1991-92) were below normal for winter precipitation. The weather data between 1989 and 1992 showed that the last two years (1991 & 1992) were below normal (2.06) for summer precipitation.

3. Utilization:

The one year of completed utilization data indicate that slight to moderate use occurred in the Mississippi Canyon area.

4. Trend:

The Mississippi Canyon Allotment has no quadratic frequency established.

5. Phenology:

The time period of approximately 03/01 to 07/15 is the critical growing period for the key plant species. Thurber's needlegrass and Indian ricegrass usually start plant growth by 03/01.

6. Ecological Status:

Total Area:

Figures indicating ecological condition for the Mississippi Canyon Allotment changed because of the updated 1989 and 1992 range site descriptions by the Soil Conservation Service. The range sites that changed the most were 27-07 and 27-18. The Wyoming Big Sagebrush composition has increased on the 27-07. The Bailey Greasewood and Shadscale composition has increased on the 27-18 site.

7. Wildlife Habitat:

Desert Bighorn Sheep:

From the data available, the utilization was below 55% on identified bighorn sheep habitat in 1993.

8. Riparian Habitat:

- a. In 1993, the 9 identified riparian habitat sites for the allotment had use below 55% on current's year's growth on key species.
- b. If willow or aspen stands are found specific monitoring sites will be established (if needed).
- c. In order to comply with BLM's Riparian-Wetland Initiative for the 1990's [13], Instruction Memorandum No. NV-93-120 [11] and Information Bulletin No. 92-420 [12], a long term objective is needed. The added management objective is:

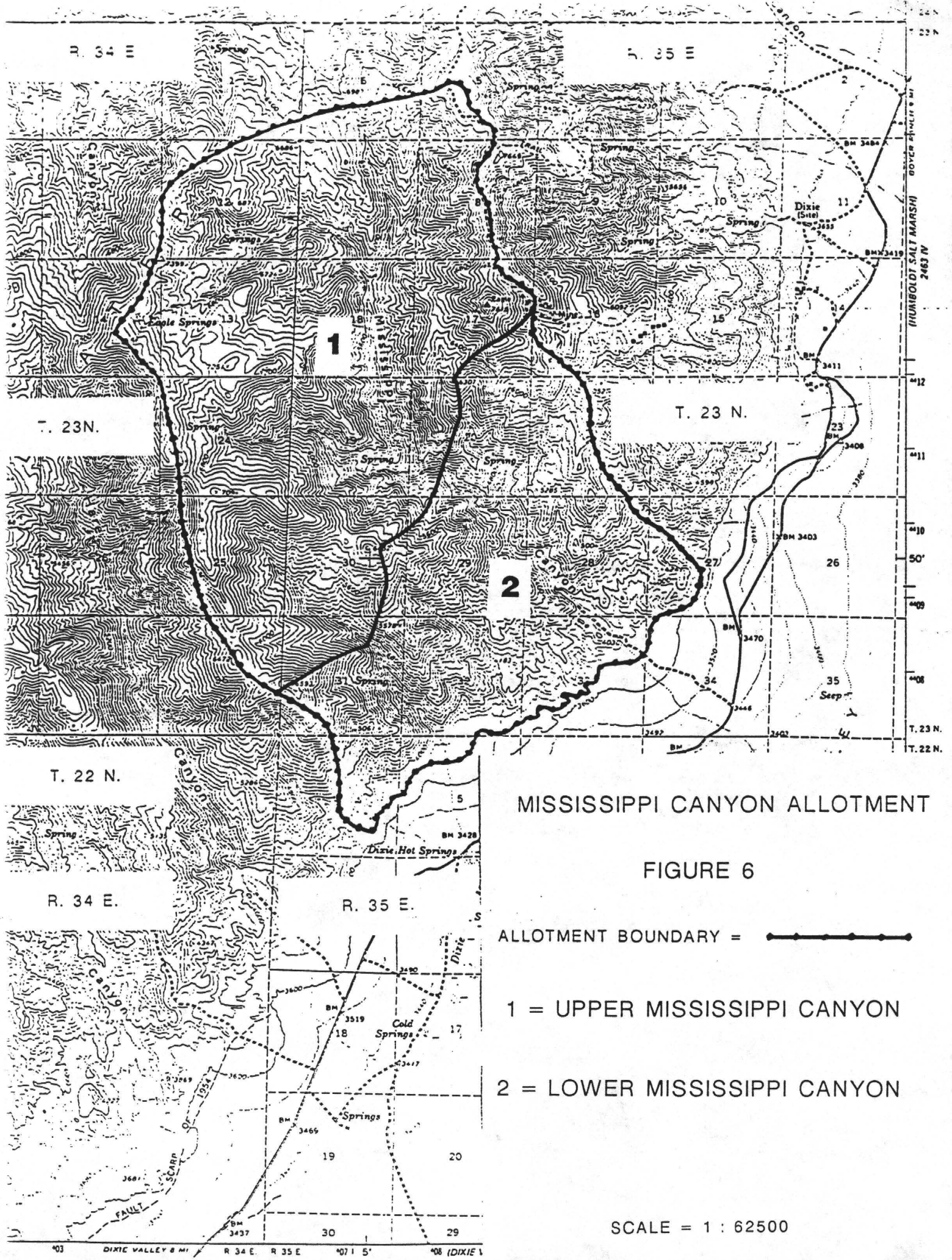
Riparian:

Long term:

Achieve and maintain proper functioning condition of all riparian areas within the allotment.

B. Other Issues:

In order to actively manage this allotment in an orderly fashion to meet land use plan objectives, a change in the allotment boundaries should be completed.



MISSISSIPPI CANYON ALLOTMENT

FIGURE 6

ALLOTMENT BOUNDARY = 

1 = UPPER MISSISSIPPI CANYON

2 = LOWER MISSISSIPPI CANYON

SCALE = 1 : 62500

To correct the current situation a rangeline division should be made between the Boyer Ranch Allotment and Copper Kettle Allotment whereby portions of Mississippi Canyon Allotment will be attached to each.

The Lower Mississippi Canyon portion of the Mississippi Canyon Allotment should be included in the Boyer Ranch Allotment. This portion would be called the Mississippi Pasture (Figure 6).

A determination was made to allow the 31 AUM's of cattle to graze the Mississippi pasture every other year from 05/01 to 05/31. This determination was made based on the potential of the resource to improve with grazing and to maintain the riparian vegetation within the Mississippi Canyon. All observations of the Mississippi Canyon Allotment over the past two years indicate that the riparian vegetation will maintain itself.

The adjustment to be made in the upper Mississippi Canyon Allotment will add 107 AUM's to the Copper Kettle Allotment (Figure 6). This will increase the number of AUM's allowed on the allotment plus add the upper Mississippi Canyon country to the Copper Kettle Allotment. This will increase the number of AUM's allowed on the Copper Kettle Allotment by 9 cattle yearlong. 9 cattle from 03/01 to 02/28 100% public land (107 AUM's). By adding the 9 cattle to the Copper Kettle preference, the present grazing preference would be adjusted from the following use of:

194 cattle from 03/01 to 02/28 100% public land 2,328 AUM's.

To the following:

203 cattle from 03/01 to 02/28 100% public land 2,436 AUM's.

The use of the 107 AUM's on the upper portion of the Mississippi Canyon Allotment added to the Copper Kettle Allotment is yearlong but cattle will only use that portion of the allotment during the summer months due to terrain and presence of snow.

C. Analysis of Allotment Specific Objectives:

1. Land Use Objectives:

In 1989, the Rangeland Program Summary (RPS) listed more specific objectives for the Mississippi Canyon Allotment, based on the Land Use Plan (Lahontan RMP) Update Objectives (1989).

2. Rangeland Program Summary (RPS) Update Objectives (1989):

a. Long Term:

1. Maintain existing ecological condition and trend.

The objective has been met.

Although this has not been measured due to the non-use taken, we can assume that we had maintained the existing ecological condition and trend.

2. Maintain or improve wild horse habitat consistent with wildlife and livestock objectives.

The objective has been met.

Existing wild horse habitat has been maintained. From the data available, we have enough forage to support 2 wild horses yearlong for a total of 24 AUM's.

3. Maintain or improve free-roaming behavior of wild horses by protecting or enhancing wild horse home ranges.

The objective has been met.

The free-roaming behavior of wild horses has been maintained by protecting or enhancing wild horses home ranges.

4. Maintain or improve wild horse habitat by assuring that all water remain open to use by wild horses.

The objective has been met.

All spring areas are open for use by wild horses within the HMA.

b. Short Term:

1. Maintain utilization not to exceed 55% on identified key species on upland key areas.

The objective has been met.

Total nonuse has been taken on the allotment.

2. Initially allow 150 AUM's.

The objective has not been met.

Although the forage is present, total nonuse has been taken.

3. Initially provide approximately 24 AUM's of forage for approximately 2 wild horses.

The objective has been met.

There is enough forage to support 2 wild horses yearlong for a total of 24 AUM's.

VI. TECHNICAL RECOMMENDATIONS:

TR1. Refer to V.A.8.c.:

Add the following objectives:

Riparian:

Long term:

Achieve and maintain proper functioning condition of all riparian areas within the allotment.

TR2. Refer to V.B.:

A rangeland division should be made between the Boyer Ranch Allotment and Copper Kettle Allotment whereby portions of Mississippi Canyon will be attached to each.

VII. CONSULTATIONS:

- A. Animal Protection Institute.
- B. Nevada Department of Wildlife.
- C. U.S. Fish & Wildlife Service.
- D. Gary Snow.
- E. Joyce Casey.

VIII. MANAGEMENT ACTION SELECTED:

- A. I recommend the following Technical Recommendations to be implemented to meet management objectives on the Mississippi Canyon Allotment.

The two recommendations listed in the Technical Recommendations Section VI.

Peter Raffetto
Peter Raffetto, Range Conservationist
Lahontan Resource Area

04/05/94
Date

Concurrence:

R.H. Wolfe
R.H. Wolfe, Supervisory Range Conservationist
Lahontan Resource Area

5/9/94
Date

- B. Acceptance or Modification by Area Manager:

James M. Phillips
James M. Phillips, Area Manager
Lahontan Resource Area

5/12/94
Date

IX. REFERENCE:

1. Nevada Department Of Wildlife, Reno Nevada. 1991. **Big Game Status and Quota Recommendation.** Nevada Department Of Wildlife, Reno Nevada. Tables 51 & 55.
2. Nevada Department Of Wildlife, Reno Nevada. 1992. **Big Game Status and Quota Recommendation.** Nevada Department Of Wildlife, Reno Nevada. Tables 53 & 54.
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4. Nevada Department Of Wildlife, Reno Nevada. 1990. **Big Game - Status Investigations and Hunting Season Recommendations.** Nevada Department Of Wildlife, Reno Nevada. Table 39.
5. Nevada Range Studies Task Group. 1984. **Nevada Rangeland Monitoring Handbook.** Cooperative Effort by: Soil Conservation Service, Forest Service, Bureau of Land Management, University of Nevada, Reno, Agricultural Research Service and Range Consultants.
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APPENDIX