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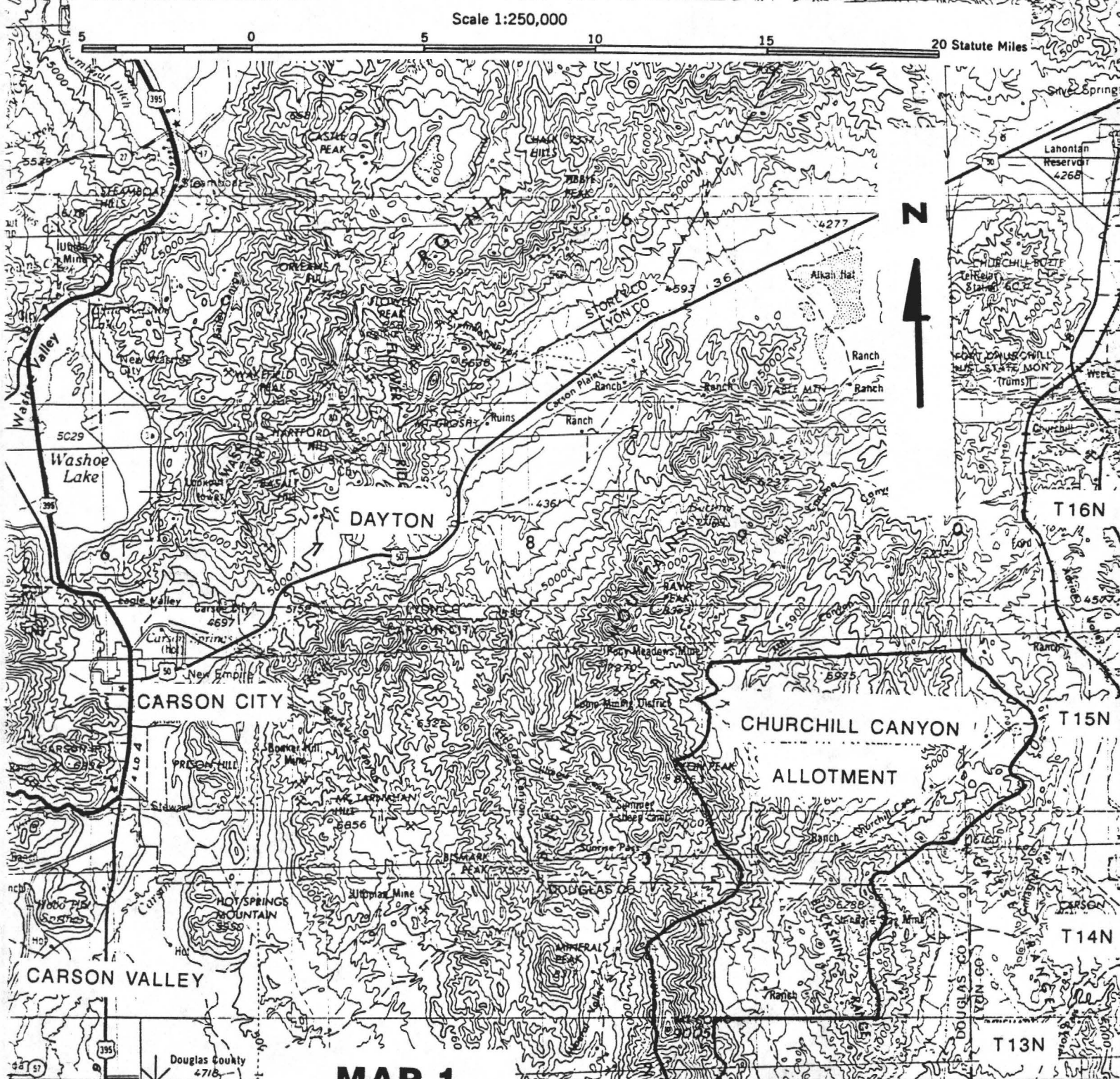
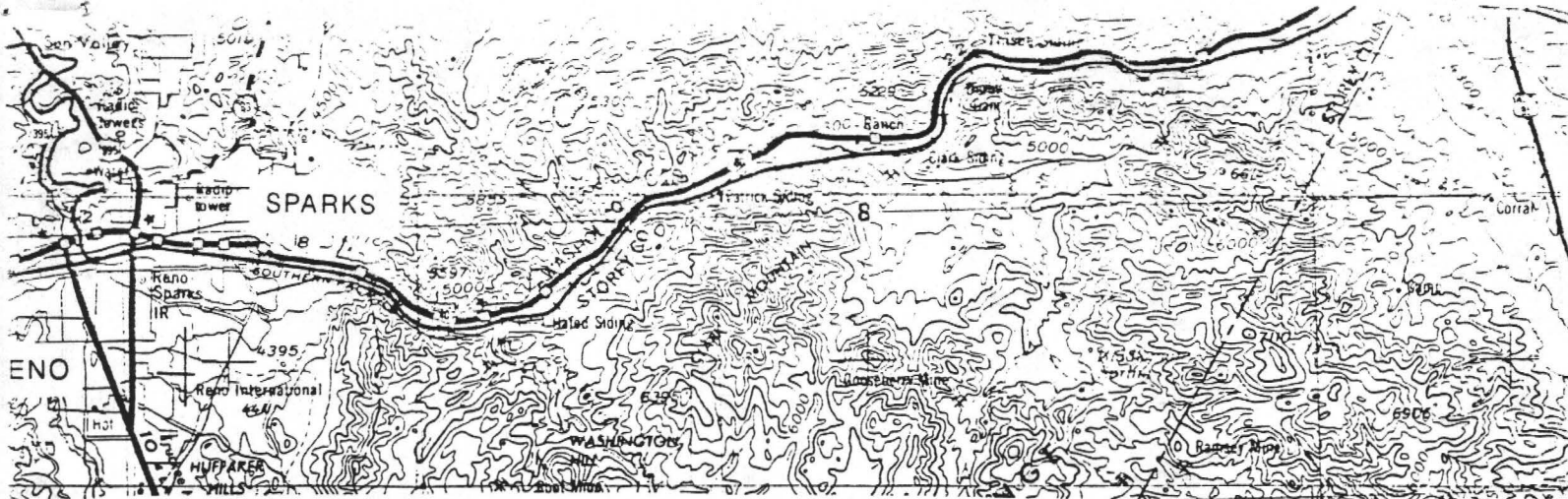
**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

**Carson City District Office
1535 Hot Springs Road, Suite 300
Carson City, Nevada 89706-0638**

**CHURCHILL CANYON
ALLOTMENT EVALUATION**

JANUARY 12, 1994





MAP 1

26 45' 28 R22E 29 R23E 30 15'

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CHURCHILL CANYON ALLOTMENT EVALUATION

I. Introduction

A. Purpose and Need

In June, 1992, the Bureau of Land Management issued its *Strategic Plan for Management of Wild Horses and Burros on Public Lands*. One of the objectives is to establish initial Appropriate Management Levels (AMLs) for all herd areas by 1995. In order to establish an AML for wild horses in the Pine Nut Herd Management Area (HMA), it is necessary to evaluate resource management within all nine of the allotments included within the HMA. One of these is Churchill Canyon Allotment.

Specifically, the purpose of the allotment evaluation process is to determine if the current grazing practices are consistent with attainment of the 1985 Walker Resource Management Plan (RMP) and allotment specific objectives for the Churchill Canyon Allotment. If current or proposed grazing practices are not consistent with attainment of these objectives, then appropriate changes in management needed to meet these objectives will be identified and implemented.

B. Allotment Name and Number: Churchill Canyon (03518)

C. Permittee: Richard Huntsberger

D. Evaluation Period: 1975 (completion of first Management Framework Plan and establishment of first photo trend plots) to present.

E. Selective Management Category: "I" (This is an allotment we intend to improve).

II. Initial Stocking Rate

A. Livestock Use

1. Preference

Preference (AUMs)			Kind of Live-stock	Period of Use	Percent ** Federal Range Use
Active	Suspended	Total			
1074	0	1074	Cattle	11/01 - 03/31	86%

** Percentage based on carrying capacity for livestock (AUMs)

2. Historical and Current Operations

The area of land which has become the Churchill Canyon allotment was the historic grazing area of the Sario Livestock Company. During the priority period, and lasting from 1936 to 1947, the Churchill Canyon allotment was grazed by Mono Land and Livestock Company. In 1947 the name was changed from Mono to Sario Livestock Company. An analysis of the operation dated 8/26/55 showed a priority for 4646 aums in the area which is now Churchill Canyon (3826 aums in the Como Unit and 820 aums in West Smith Valley Unit).

The "Notice of Advisory Board Adverse Recommendation" dated 3/29/60 recognized 5215 aums in Churchill Canyon (4495 in Como Unit and 720 in Smith Valley Unit).

The District Manager's Decision of 10/17/60 reduced Smith Valley Unit, Monument Peak allotment, from 720 aums to 223 aums, and a letter of 12/31/61 noted the renaming of Monument Peak to Churchill Canyon (Smith Valley Unit).

The District Manager's Decision of 4/9/62 raised Churchill Canyon (Como Unit) to 5194 aums. The total in the now combined Churchill Canyon allotment would be 5417 aums (5194 + 223). But a case analysis of 2/7/83, which is carried on into the Walker RMP and Record of Decision, recognized Churchill Canyon to have 5394 aums. Of the 4000 acres of private land within the allotment, Sario Livestock owned 2400 acres for which they received credit for production of 485 AUMs which was authorized under an Exchange-of-use agreement. In 1989 Sario Livestock donated this private land to *Nevada Bighorns Unlimited, Reno Chapter*.

I & M Sheep Company leased the base property from Sario Livestock starting 11/17/82 and continuing on until 1993. I & M tried using the allotment but it did not fit with their California-based sheep operation and they ceased using the allotment. A letter from the Area Manager dated 10/10/90 warned the permittee that use should be made or the grazing privileges could be lost. Sario Livestock applied to convert from sheep to cattle so that the allotment could be marketed, and the conversion was completed on 11/2/92 and allowed 1074 aums cattle use on Churchill Canyon, on a 3-year trial so that actual use/utilization data could be obtained to finalize the preference.

On 9/23/93 Richard Huntsberger acquired Churchill Canyon allotment from Sario Livestock: he presented proof-of-control of the JW Ranch property and a completed application to transfer base property privileges from Huntoon Ranch to the JW Ranch. This transfer was approved by the Area Manager on 9/23/93 subject to completion of allotment boundary fencing to prevent straying of cattle onto adjacent allotments. The required boundary fence was completed in winter of 1993.

B. Wild Horse and Burro Use

1. Herd Management Areas (HMAs) in Allotment

The Northern Pinenut HMA includes approximately the northwestern portion of Churchill Canyon Allotment, or about 8500 acres of the Churchill Canyon allotment. So the Churchill Canyon allotment contains about 8% of the Northern Pinenut HMA (see map 2). The Mill Canyon and Rawe Peak allotments to the north and west are not physically separated from Churchill Canyon allotment: the bands of Northern Pinenut horses ranging upon the Churchill Canyon allotment also graze the Rawe Peak and Mill

Canyon allotments and so census and utilization data for these three allotments will be combined for analysis.

2. Management Levels

The Appropriate Management Level (AML) for the Pine Nut HMA will be based on stocking levels for wild horses determined for all the allotments within the HMA. The stocking level for the Churchill Canyon Allotment will be determined through the analysis of monitoring data contained within this document. Appendix II shows the results of these calculations for the Churchill Canyon/Rawe Peak/Mill Canyon horses and for the total of the Pine Nut HMA.

C. Wildlife Use

1. Mule Deer (*Odocoileus hemionus*)

a. Existing Numbers

Based on 1991 Nevada Division of Wildlife population estimates and predicted distribution, 15 head of deer use the Churchill Canyon Allotment yearlong, and an additional 100 deer use the allotment in winter (6 months). Existing numbers are converted to AUMs below in order to compare to reasonable numbers from the 1982 Reno Grazing Environmental Impact Statement discussed in the Conclusions Section.

No. of Deer	Period of Use (Months)	Percent Public Land ***	AUMs
15	Yearlong (12)	91%	41
100	11/01 to 04/30 (6)	91%	137
Total AUMs =			178

Reasonable Numbers (From Reno EIS) = 256 AUMs

*** Percentage based on acres

b. Key Mule Deer Range

The key mule deer summer range is found in the high elevations of the northwestern and southwestern parts of the allotment below Lyon Peak or Mount Como. Below the summer range lies deer winter range, with additional wintering areas in the northern and in the southeastern portions of the allotment (see map 3).

2. Other Species

Most of the allotment provides habitat for a low density of chukar partridge (*Alectoris chukar*), while the southwestern corner, with the meadow habitat which is mostly on private intermingled land, provides habitat for sage grouse (*Centrocercus urophasianus*) see Map 4.

Additionally the Churchill Canyon allotment provides good to excellent habitat for cougar (*Felis concolor*) in the mid to high elevations of the southwest. Coyotes (*Canis latrans*), cottontail rabbit (*Sylvilagus nuttalli*), jack rabbit (*Lepus californicus*) grey fox (*Urocyon cinereoargenteus*), spotted skunk (*Spilogale putorius*), and striped skunk (*Mephitis mephitis*) are found throughout. California quail (*Lophortyx californicus*) are found in the bottom of Churchill Canyon drainage with mountain quail (*Oreortyx pictus*) in the headwaters of Spring Gulch in the southwest portion of the allotment. Also living in the allotment are numerous species of small rodents, reptiles, song birds, and raptors.

III. Allotment Profile

A. Description

The Churchill Canyon allotment lies on the eastern slope of the Pinenut mountains about 10 miles west of Wabuska. It consists of some 48,000 acres of land of which about 44,000 acres are public (see Appendix I and Map 7). Elevations range from approximately 4700 feet along the Churchill Canyon drainage in the northeast to over 9000 feet on Mt. Como in the southwest portion of the allotment. Much of the allotment boundary in the south, east, and northeast is either fenced or controlled by topography (see Map 4).

Both major roads crossing the Pinenut Mountains come through Churchill Canyon, and the north-south road along the bottom of Churchill Canyon is a major all-weather road which receives a moderate amount of recreational traffic, as well as occasionally heavy use by Hodges Transportation drivers testing military vehicles. All the main roads have cattleguards and little conflict among users has occurred.

The Churchill Canyon allotment was classified as a category I allotment in the Reno EIS and ROD for the following reasons:

1. The allotment is primarily well-blocked public land. The range condition is primarily early seral, with a downward trend in 1981.
2. There are conflicts among livestock (sheep at the time of the Reno EIS), wild horses, and mule deer. The allotment will respond to livestock management without a major expenditure of range improvement funds.

B. Acreage

Within the Churchill Canyon allotment boundaries are approximately 44,000 acres of public land, 4,000 acres of private land of which the livestock permittee owns 40 acres and leases an additional 2400 from Nevada Bighorns Unlimited (Map 7). These lands are divided between 2 counties (Appendix III).

C. Allotment Specific Objectives

1. Land Use Plan Objectives

From the Reno Management Framework Plan (Reno MFP), issued in 1982.

- a. Allotments in the I category will be managed to improve resource conditions.
- b. A Herd Management Plan will be developed in the Pine Nut HMA.

- c. 1982 wild horse numbers will be adjusted as indicated through monitoring or as agreed to by consultation and coordination through a public process.
 - d. The JW Ranch area will be opened to woodcutting for a one year period to improve forage for wintering deer.
 - e. Assure ecological condition does not decline in non-woodland sites.
 - f. Maintain mule deer habitat so it does not decline.
2. Pine Nut Habitat Management Plan (HMP) - revised in 1987
 - a. Protect and improve riparian areas to a good or better condition class with special emphasis on mule deer key areas by May 1989 within the Pine Nut Planning Unit.
 - b. Manage big game habitat to fair or good condition to support big game populations.
 - c. Evaluate Churchill Canyon allotment for suitability as pronghorn habitat.
 3. Churchill Canyon Allotment Management Plan (AMP) of 1986
 - a. Increase the % frequency of key species by a statistically significant amount by 1998.
 - b. Allow adequate rest periods from domestic livestock grazing to restore vigor and provide more ground cover to stabilize erosion.
 - c. Provide 3500 - 4000 AUMs livestock use on public lands.
 - d. Improve mule deer habitat to provide for 256 AUMs of use and protect identified riparian areas.

D. Threatened and Endangered Species

No Federally listed threatened or endangered species have been identified in the Churchill Canyon allotment. No candidate plant species¹ have been observed in the allotment. Candidate animals that may occur in the allotment are Sierra Nevada red fox (*Vulpes vulpes*), spotted bat (*Euderma maculatum*), and pygmy rabbit (*Brachylagus idahoensis*).

The Sierra Nevada red fox, if present, would likely occupy higher elevations (above 6000') using brushlands and wooded areas. Prey species would include marmots, ground squirrels, mice, wood rats, hares, birds, and even grasshoppers. Dens would be located in a natural network of cavities available in the rock slides which are abundant in its preferred habitat. A small amount of this habitat occurs on the slopes of Mt. Como and on Lyon Peak, so the possibility exists that red fox do use a portion

¹Candidate species include plants and animals on which the currently existing information indicates that listing may be warranted, but for which substantial biological information to support a listing is lacking. BLM Manual 6840 requires that management be such as not to require listing of these species.

of the Churchill Canyon allotment.

The spotted bat uses caves, cliffs, and talus slopes both for reproduction and for shelter during daylight hours; generally feeding on flying insects in the vicinity of juniper grasslands and tall sagebrush. The pygmy rabbit reproduces and feeds in sagebrush/grasslands and riparian habitats. Since all these habitats occur throughout the Pine Nut Range, there is a possibility that the spotted bat and the pygmy rabbit occur in the Churchill Canyon allotment.

E. Key Species Identification

1. Uplands

Based on their importance to wildlife, livestock, wild horses, and watershed stability, late seral perennial grasses² and palatable shrubs are considered key species. These include Indian ricegrass (*Oryzopsis hymenoides*), several species of needlegrass (*Stipa* spp.), and in some ecological sites, squirreltail (*Sitanion hystrix*). Antelope bitterbrush (*Purshia tridentata*) and winterfat (*Eurotia lanata*) are key species due to their importance as winter forage for livestock and mule deer. Important indicator species which provide information about the ecological status of upland sites would be big sagebrush (*Artemisia tridentata*), low sagebrush (*Artemisia arbuscula*), indian tea (*Ephedra nevadensis*) and/or the tree species of juniper (*Juniperus osteosperma*) or pinyon (*Pinus monophyla*)

2. Riparian

Churchill Canyon contains about 20 acres of riparian vegetation. Riparian vegetation is important to wildlife, wild horses, livestock and humans. Woody species include aspen (*Populus tremuloides*), coyote willow (*Salix exigua*), Pacific tree-willow (*Salix lasiandra*), and wild rose (*Rosa woodsii*). Meadow species include Nevada bluegrass (*Poa nevadensis*), Nebraska sedge (*Carex nebrascensis*), silver sedge (*Carex praegracilis*), Baltic rush (*Juncus balticus*), tufted hairgrass (*Deschampsia caespitosa*), spikerush (*Eleocharis palustris*), Kentucky bluegrass (*Poa pratensis*), and creeping wildrye (*Elymus triticoides*).

IV. Management Evaluation

A. Actual Use

Authorized livestock use is shown below. Refer to page 11 for wild horse census data.

²Refer to footnote 3, page 9, for discussion of seral stages.

CHURCHILL CANYON ALLOTMENT LIVESTOCK GRAZING HISTORY

GRAZING YEAR	GRAZING ANIMAL	WINTER SEASON	WINTER USE (AUM's)	SPRING/ SUMMER	SP/SU USE (AUM's)	TOTAL USE (AUM's)
1975	Sheep	12/1 to 2/15	1167	4/1 to 7/15	2833	4000
1976	Sheep	12/1 to 2/15	1167	4/1 to 7/15	2833	4000
1977	Sheep	12/1 to 2/15	527	4/1 to 7/15	2833	3360
1978	Sheep	12/1 to 2/15	743	4/1 to 7/15	2120	2863
1979	Sheep	12/1 to 2/15	743	4/1 to 7/15	2168	2911
1980	Sheep	12/1 to 2/15	479	4/1 to 7/15	2168	2647
1981	Sheep	12/27 to 1/21	522	4/1 to 7/15	2168	2690
1982	Sheep	12/18 to 2/7	546	5/1 to 7/15	2294	2840
1983	Sheep	12/28 to 1/10	207	5/1 to 7/15	1407	1614
1984	Sheep	not used		4/1 to 7/15	1787	1787
1985	Sheep	not used		not used		
1986	Sheep	2/20 to 2/28	84	not used		84
1987	Sheep	not used		3/1 to 5/26	800	800
1988	Sheep	not used		not used		
1989	Sheep	not used		5/19 to 7/12	143	143
1990	Sheep	not used		not used		
1991	Sheep	not used		not used		
1992	Sheep	not used		not used		
1993**	Cattle	11/20 to 3/10	1037			1037

** Grazing was converted from sheep in winter/spring/summer to cattle during winter / spring in 1993

B. Precipitation

The Churchill Canyon Watershed Study collected allotment specific precipitation for 15 years, from 1960 to 1975. This showed the allotment to have average precipitations ranging from 7 inches at the lower elevations to 12 inches at the higher elevations.

C. Utilization

In Fall of 1993 the Bureau range and wild horse specialists performed an intensive use pattern mapping of wild horse use prior to the entry of cattle into the allotment. Then in early Spring a second mapping effort looked at the area which had been grazed by the cattle during the winter.

Appendix IV shows the results of the use mapping and the production capacity estimates produced by the mapping in combination with the known forage consumption. The wild horses are using the portion of the allotment within the Herd Management Area at a heavy level, and in fact are making extensive use outside the HMA at a moderate utilization level. The cattle used the low elevation pasture at a low-moderate level.

Mule deer use on browse species within the winter range is only at a slight level: in many areas it is difficult to find a browsed bitterbrush plant.

D. Trend

The Churchill Canyon Allotment has two key areas established in 1982 (Map 2).

Plot CC1: (A Sandy 8"-10" site) is located just north of the junction of Como and Churchill Canyon roads. This plot has, since 1982, shown slight (not statistically significant) increases in grasses (ricegrass and needlegrass) and decreases in shrubs (big sagebrush and indian tea). Utilization observations showed no use this year, although the cattle grazed all around the site at a light level. This area appears to be static in trend.

Plot CC2: Located in moderately deep gravelly soil (Loamy 8"-10" range site) in the northeastern portion of the allotment. This area, mid-way between Sario and Churchill Canyon wells (Map 5), is grazed whenever livestock use the allotment (moderate to heavy use in 1994), but does not receive horse use. Since 1982 the area shows a slight, but not statistically significant increase in needlegrass and ricegrass, with statistically significant increases in squirreltail and decreases in sagebrush and indian tea. Trend appears static to slightly upward.

There are three "Phenological Study Plots" (small exclosures) in the allotment (Map 2), established in 1969 by the University of Nevada, Reno. We have no photographs; the value of the plots is in comparing inside and outside the fenced area.

Phenological Plot 1: Inside has more squirreltail and rush; outside has more basin wildrye and forbs. Either would be placed in a mid-seral ecological status.

Phenological Plot 2: Inside and outside are much alike in comparing the normally fenced portion, but the small portion with rodent-proof fence has a noticeably higher proportion of perennial grass.

Phenological Plot 3: Inside and outside are not visibly different in grass population, but outside has more brush and also a noticeably higher litter cover and less bare ground.

There are three photo trend plots in the allotment, established by the BLM in 1975 (Map 2).

Plot TP1: The close view shows an increase in grass plants of 50%; the overall view shows little change other than a slight increase in pinyon with young trees visible in the distance. This area received moderate to heavy use by horses in 1993. The trend appears static to slightly upward.

Plot TP2: This plot shows no grass in any pictures. The close view shows that the bitterbrush plant has dominated the site and choked out two small sagebrush plants. Overall view shows little change in any factor other than an increase in size of pinyon trees.

Plot TP3: From 1975 to 1979 no grass of any kind is visible. In 1980 the annual cheatgrass is apparent; and by 1993 several squirreltail plants are visible in the overall view. The close view shows a decrease in winterfat; the overall view shows that winterfat has reduced slightly, but low sagebrush and squirreltail have both increased. The site appears to have accumulated topsoil: the stones are less evident in the latest photographs. Trend is apparently upward.

Professional observations: The trend plot data indicates that trend is static to upward. On-the-ground inspection leads to the same conclusion, with the following observations:

The big sagebrush sites are producing far below potential but they are on sandy sites and exhibit normal erosional patterns. The low sagebrush sites which make up nearly half the allotment have moderate amounts of grass, considerable rock in the soil, and little erosion.

The low sagebrush sites within the horse-use area have very little perennial grass other than the low-growing Sandburg bluegrass, with a consequent very limited forage production, but they have not lost their topsoil and appear stable. The low-sagebrush sites on the east side of the allotment, outside the normal horse use area, show considerably better production with squirreltail and some thurber needlegrass and a stable to upward trend (perennial grass seedlings are present).

Some areas within the pinyon/juniper zone show accelerated erosion, but for the most part this PJ zone exhibits only normal erosional patterns. The pinyon areas in the north end of the allotment are natural pinyon sites: the trees are on rocky soils, are widely spaced, and grow a modest understory which appears ecologically stable. The pinyon areas in the southwest are on potentially very productive shrub-grass sites (Loamy 12"-14"). Understory vegetation is far below potential but only spot areas of accelerated erosion are evident.

E. Ecological Status

In 1979 a soil and vegetation inventory of the Churchill Canyon Allotment (Map 6) produced weight estimate data on all species of grasses, forbs and shrubs to determine species composition of the existing plant communities. From this inventory Churchill Canyon was determined to be 68% early seral, 13% mid-seral, and 11% late-seral. The 1979 vegetation survey did not identify natural pinyon-juniper sites. These sites were identified as invaded range sites, and therefore were generally recorded as early seral condition.

The Soil Surveys for Douglas and Lyon Counties (USDA-SCS 1984), and the site descriptions for Major Land Resource Area 26 (USDA-SCS 1992) recognized that some soils will support ecological sites with potential natural communities (PNCs)³ dominated by pinyon-juniper. Based on the analysis of soils data for the allotment, some 2,925 acres, or about 7%, of public land in the Churchill Canyon Allotment should support a PNC dominated by pinyon - juniper woodland (refer to the table below) while 90% of the allotment should support a PNC dominated by grasses, shrubs or other tree species. The "barren areas"

³Note that the Bureau currently uses concepts and terminology described in the BLM Manual Handbook H-4410-1, *National Range Handbook* (NRH), released on 7/12/84. H-4410-1 definition of Potential Natural Community (PNC): "The biotic community (potential natural plant community and wild animal community) that would become established if all successional sequences were completed without interferences by man under the present environmental conditions". It is important to remember that the existing vegetation may be quite different from the PNC due to such factors as improper grazing, mechanical vegetative manipulation, etc. A plant community that has not achieved PNC is a seral plant community. If all plants were killed within an ecological site, the plant community that first appears would probably be composed of plant species very different from those in the PNC (probably annual grasses and forbs). This would be described as a early seral plant community. As the early seral plant species are replaced by plants found in the PNC (late seral plant species), the plant community undergoes a process referred to as plant succession. This includes four seral stages (early seral, mid seral, late seral, and finally, PNC). These stages are usually determined by the similarity of plant species to those found in the PNC (0-25% = early seral, 25-50% = mid seral, 50-75% = late seral, 75%-100% = PNC). The present state of vegetation in relation to PNC (i.e., the seral stage) is referred to as ecological status. Note that this is a very simplified explanation of a very complex process that is influenced by many factors. One of these influences is wild fires caused by lightning storms during the hot and dry periods of the year, which was a natural element in many plants communities prior to human influences. Therefore, the PNC for ecological sites that evolved under the presence of wild fires would be composed of fire tolerant plant species. Removal of this element (i.e., fire prevention) may cause the fire tolerant species to be replaced by more competitive fire sensitive species and the plant community would move away from PNC.

category identified below includes areas such as rock outcrops that have the potential of supporting very sparse stands of vegetation.

Potential Natural Community	Acres Public Land	Percent Public Land
Pinyon-Juniper Woodland	2,925	7%
Ecological sites with PNC dominated by species other than pinyon or juniper.	39,982	90%
Barren areas (eg., rock outcrops)	1,337	3%

F. Wildlife Habitat

Mule deer winter range was rated based on procedures from the Bureau's 6630 Manual, Nevada State Office Release No. 6-41 (1982). Overall the habitat was rated at fair: The pinyon and juniper trees, or in some cases the big sagebrush, are of a density to provide good hiding and thermal cover, and water distribution is usually adequate, but many bitterbrush plants are low in vigor with little reproduction occurring. No use of bitterbrush was being made by livestock, and only slight use by deer. The range sites in the area mapped as "Deer Winter Range" in the allotment appear to have aged to a point where they are not highly productive of deer forage⁴.

G. Riparian Habitat

Riparian areas were visited in 1992, 1993, or 1994 (Refer to Map No. 2 for locations). These areas were evaluated based on the definition of healthy and functioning riparian areas described in the *Riparian - Wetland Initiative for the 1990's*⁵.

Churchill Canyon Creek. Functional-at-risk. Upland watershed conditions may have resulted in the creek becoming entirely ephemeral. Moderate stands of willow and herbaceous understory are capable of slowing and filtering average flows, but are not vigorous enough to handle a large event without allowing cutting of banks. Problems are lack of live water.

Mud Spring. Functional-at-risk. This is a favored watering place for the wild horses and is used nearly year-around. Kentucky bluegrass is the primary riparian species due to its ability to sustain heavy continuous grazing. The drainage banks presently are mostly stable and can sustain normal-year runoff events, but are vulnerable to cutting in a high flow event. Problems are heavy season-long grazing use and poor watershed condition due to heavy

⁴Leckenby, Donavin A., Dennis P. Sheehy, Carl H. Nellis, Richard J. Scherzinger, Ira D. Luman, Wayne Elmore, James C. Lemos, Larry Doughty, and Charles E. Trainer (1986) *Wildlife habitats in managed rangelands - the Great Basin of Southeastern Oregon*. USDA Forest Service and USDI-BLM General Technical Report PNW-139.

⁵BLM, 1991. Pages 6 to 8.

pinyon growth in the area above the spring.

Twin Spring. The spring is in proper functioning condition: a fence around the spring area with water piped outside has allowed the small meadow to fully develop diversity with more age structure.

Upper Spring Gulch. Proper functioning condition -- good herbaceous growth and age structure of aspen. Able to handle heavy runoffs.

Willow Spring. The spring area is in proper functioning condition. The area around the watering point is heavily impacted year-around by horses but they have not concentrated on the riparian area in the drainage below the water point.

5 O'Clock Spring. Functional-at-risk. A small group of horses use the area throughout the summer and the spring has suffered from the attention.

H. Wild Horse Habitat and Numbers

Wild horses within the herd area on the Churchill Canyon allotment obtain most of their forage from Sandburg bluegrass and annual weeds growing in low sagebrush sites. This is a sparse, but generally reliable, forage base. At the present population level, however, the horses are forced to range far beyond their normal herd area to obtain forage. The low productivity of the range sites are limiting factors for wild horses in the allotment. Census data specific to Churchill Canyon allotment is shown below:

Year	Wild Horse Numbers	AUMs
1989	29	348
1992	26	312
1993	31	372

Census and removal data available for the entire HMA is shown below, but the data was not obtained in a form where numbers could be tabulated for individual allotments.

Year	Numbers Counted during Census	Numbers removed during major Gathers
1981	820	
1984	664	235
1985		335
1986	273	233
1989	279	
1990	351	
1992	467	
1993	491	

I. Livestock Management Factors

Wild horse utilization is such that the northwest half of the allotment does not have enough forage remaining to support livestock. This leaves the Churchill Canyon bottom area and the Buckskin Mountains on the east to provide forage for wintering cattle. This, however, is productive of modest amounts of grass and of some shrubs, which makes the area good for wintering cattle. The fences on the boundary are adequate to prevent straying by all but the most determined of livestock.

Although several years of utilization observations will be needed to establish the final grazing preference under the conditions of the conversion from sheep to cattle, the 1993 use / utilization observations show that the 1074 AUMs allowed is a good starting point in grazing the allotment with a new class of livestock. Appendix IV.

V. Conclusions

The accomplishment of the objectives shown in Section III C (Page 4) is discussed below. Objectives have been grouped due to similarities.

A. Trend and Condition

Allotments in the I category will be managed to improve ecological condition. Reno MFP

Assure ecological condition does not decline in non-woodland sites. Reno RPS

Increase the % frequency of key species by a statistically significant amount by 1998.
Improve mule deer habitat. Churchill Canyon AMP

Based on analysis of Churchill Canyon allotment trend photo plots and frequency studies (see map 3 for locations) the trend in ecological condition is no longer downward, but now appears static to slightly upward. The land is stable, but improvement in key plant species has been extremely slow. We are meeting the stability, non-decline portion of these objectives, but are not meeting the improvement portions of the objectives.

B. Wild Horses

A Herd Management Area Plan (HMAP) will be developed in the Pine Nut HMA. Reno RMP

1982 Wild horse numbers will be adjusted as indicated through monitoring or as agreed to by consultation and coordination through a public process. Reno RMP

Monitoring the vegetation and wild horse use was the first step in developing the HMAP, and now this evaluation is the second step in developing management direction for the Churchill Canyon Allotment, including management of wild horses. Once evaluations for all of the allotments in the Pine Nut HMA have been submitted for public review and input, a Multiple Use Decision (MUD) will be issued covering each allotment. The Wild Horse Management Decision portion of the MUD will then be incorporated into a herd management area plan for the Pine Nut HMA.

Since the horses move across several different allotments during the year, the appropriate management level (AML) for the Herd Area will be determined by finding the correct

stocking level for each allotment (in AUMs rather than in horse numbers). The sum of these stocking levels for all allotments within the Herd Management Area will then be used to calculate the AML (in horse numbers) which balances the wild horse population with the habitat. The stocking level for wild horses in the Churchill Canyon Allotment portion of the Pine Nut HMA as calculated in Appendix IIA is 154 AUMs.

The wild horse objectives are being met.

C. Livestock

Provide 4000 to 4500 AUMs for livestock use on public land. Churchill Canyon AMP

Since this objective was developed the Churchill Canyon permittee, as have ranches throughout the West, requested a change in the permit from sheep to cattle. So this objective is no longer relevant. Under the terms of the conversion to cattle the allotment is expected to provide 1074 AUMs of forage for a 5- year period during which the utilization patterns will be studied to see if this was a reasonable allocation. The utilization pattern mapping, summarized in Appendix IV, shows that the 1074 AUMs for cattle is a conservative and easily achieved use at moderate utilization levels. The objective is being met.

D. Wildlife Habitat

Maintain mule deer habitat so it does not decline. Reno RPS

Manage big game habitat to fair or good condition to support big game populations. Pine Nut HMP

Improve mule deer habitat to provide 256 AUMs and protect identified riparian areas. Churchill Canyon AMP

Open the JW Ranch area to woodcutting for a one year period to improve forage for wintering mule deer. If this does not accomplish the objective, chaining and reseedling will be allowed. Reno MFP

Churchill Canyon allotment shall be evaluated for suitability as pronghorn antelope habitat. Pine Nut HMP

The JW Ranch area was opened for woodcutting, but the trees are not large and the woodcutters did not make a major impact on the tree population. The area has not been chained. Woodcutting along Sunrise Pass road was used to create openings in a key summer area, and this is showing some increase in palatable browse.

The allotment was evaluated for pronghorn habitat by biologists from the Bureau and the Nevada Division of Wildlife. At the time of the evaluation sheep grazing was allocated at a level which did not consider wild horse use, and the horse population had become abundant. The study concluded that the area was poor pronghorn habitat, primarily because forage from forbs and grasses would not be adequate to reliably support pronghorn in most years in which the sheep grazing occurred.

At the time of preparation of the Reno EIS deer use in the Churchill Canyon allotment was estimated as 232 AUMs and a "reasonable number" of 256 AUMs was projected. Latest

census data, projected to the allotment level, indicates a present use by mule deer of 178 AUMs (see Section IIC). So the animal numbers show that the animals are making less use of the allotment, even with a greatly lessened competition for forage. Habitat on the winter ranges is rated in the fair level, primarily on the strength of the good hiding and thermal cover available. The rating meets the habitat objectives. However, the bitterbrush on the deer winter range generally exhibits low vigor and little reproduction, apparently due primarily to competition from an increase in the juniper and pinyon tree population.

We have met or exceeded habitat evaluation and short-term vegetative manipulation objectives for improving habitat, but we are still not meeting the long-term mule deer upland habitat objectives.

E. Riparian Habitat

Protect and improve riparian areas to a good or better condition class with special emphasis on mule deer key areas by May 1989 within the Pine Nut Planning Unit. Pine Nut HMP

Protect identified riparian areas. Churchill Canyon AMP

The primary mule deer/sagegrouse habitat riparian area was fenced (Twin Springs) and is now properly functioning.

Aspen groves in the vicinity of Twin Springs and also in upper Spring Creek are functioning properly and are in late-seral ecological condition. Willow Spring is functioning properly, although ecological condition is mid-seral.

We have met our riparian goals for the allotment and condition continues to improve slowly.

F. Threatened and Endangered Species

Management of horses, sheep, or cattle should result in no significant changes to the suitability of habitat for the bat or fox. Because of these animals' feeding habits (their prey is strongly associated with shrub/grass and meadow areas), some threat to these candidate species could result from the loss of these open areas due to the increasing density of pinyon - juniper trees, but this increase is occurring only to a limited extent as discussed previously.

The spotted bat, red fox, and the pygmy rabbit, with their dependence on riparian zones for production of a portion of their food supply, could be harmed if either horses or livestock were allowed to severely impact the riparian zones. The proposed livestock management will allow riparian zones and upland meadows to maintain or improve in condition and so should pose no threat to the candidate species. The horses are using Mud Spring year-around and this is keeping the riparian zone below the spring in an early-seral condition. The present and proposed light to moderate forage utilization levels, which improve nutrient cycling without harming the forage base, should improve forage conditions for both bats and rabbits through an increased insect population and improved grass palatability. Areas which could be red fox habitat are at an elevation which sees limited summertime horse use, but no use by cattle at the time they graze the allotment.

Present livestock and proposed wild horse management pose no threat to the candidate species.

VI. Technical Recommendations

A. Short Term Objectives

In the short term we need to balance animal numbers with forage production so that the animals obtain adequate nutrition and the forage plants are not subjected to the continually recurring grazing use which would deplete the plant's energy reserves.

1. Recommendation: The allowable use by wild horses in the Churchill Canyon Allotment portion of the Pine Nut Herd Management Area (HMA) should be 154 AUMs (Refer to Appendix II).

Rationale: In observing these horses over the past three years, the WH&B Specialist and the Range Conservationist considered the bands to be showing stress from inadequate forage supplies. Although the range sites appear stable, they have stabilized at the low end of their productive potential. The grass is almost entirely the low growing, low producing Sandburg bluegrass which is capable of surviving under heavy grazing pressure because of its ground-hugging growth form. Use-pattern mapping confirms the general observations; the land shows evidence (heavy utilization levels) of a constant search for forage and the utilization is occurring at a moderate level several miles outside the historic Pinenut Herd Management Area. The indicated level of horse use should allow the horses to stay within the Herd Management Area and find adequate forage on a sustainable basis.

2. Recommendation: Maintain the livestock active preference at 1074 AUMs for cattle, and continue to use standard Actual Use/Utilization study techniques over a 3-year period to refine this estimate and establish an allocation for cattle which is sustainable and allows plenty of forage for wild horses and mule deer.

Rationale: The utilization (Appendix IV) study shows that the 1074 AUM estimate is a conservative starting point. The permittee can count on this level of forage being available and the bureau can obtain further data to refine the estimate without worrying about overutilization of the resource.

3. Recommendation: in order to provide forage for over-wintering mule deer, allow no more than 25% use on bitterbrush by livestock in the deer winter range before October. Yearlong use by all herbivores should not exceed 45%.

Rationale: Cattle browse more than horses and so should be watched to see that plenty of forage is available for mule deer. And the plants need a good number of leaders remaining unbrowsed at the end of the season, as these new leaders will be the primary seed producers for next year.

4. Following a reduction in the wild horse population to a level which allows the horses to live within their Herd Management Area at moderate forage utilization levels, work with the Nevada Division of Wildlife to introduce pronghorn into the area.

Rationale: With a light/moderate level of cattle grazing instead of heavy sheep grazing, and with the wild horses not forced to constantly search the entire area for forage, the forbs and palatable grasses needed by pronghorn should achieve adequate abundance.

B. Long Term Objectives

Meeting long term objectives requires that the health of the rangeland be improved, which would result in more grass (for better watershed cover, as well as a better forage base for wildlife, wild horses and livestock) and a vigorous shrub component (for improved wildlife diet). Additionally the east slope of the Pine Nut Mountains is a "Class III" visual area, which means that vegetative alterations, although they may be visible, should appear natural by repeating the basic natural visual elements found in the landscape.

1. **Recommendation:** Develop a Pine Nut Mountain "desired landscape" description which uses the PNC information, along with more recently developed wildlife habitat, visual resource, and cultural information as guides for meeting Resource Management Plan goals.

Rationale: Appendix I shows the plant communities that would have occurred without human intervention (i.e., the potential natural communities or PNC). These "potential natural communities" would, on the Churchill Canyon Allotment, all be quite high in grasses and shrubs which would meet most watershed and forage goals. However, management to a full PNC over the entire Churchill Canyon Allotment may not meet all land use objectives of the MFP. As an example, since pinyon and juniper woodland has considerable economic, aesthetic, cultural and wildlife values, it is important to manage for a long term ecosystem which includes pinyon-juniper woodland. Based on the soils inventory, only 7% of the Churchill Canyon Allotment would support a PNC dominated by pinyon and/or juniper which is probably somewhat less than the amount which would be needed to meet woodland, wildlife, visual, and cultural RMP objectives as developed with both public and agency input during land use planning.

2. **Recommendation:** In planning sites to remain tree-covered, favor natural treed sites and north slopes as first choices.

Rationale: These are the sites which will be least likely to produce accelerated soil erosion when growing pinyon and juniper trees; and the generally higher, steeper sites were also identified in public meetings for the 1975 Pine Nut - Markleeville MFP as worth protecting to maintain scenic qualities.

3. **Recommendation:** Use woodcutting wherever possible in removing trees from areas where clearing is planned.

Rationale: The wood is a valuable commodity, and this value has been recognized by the public in meetings held in conjunction with the land use planning.

4. **Recommendation:** Fight wildfire only when and where needed to protect people and structures on and near the Churchill Canyon Allotment.

Rationale: Although relatively stable in ecologic condition, the Churchill Canyon allotment is not meeting the planning objectives for ecologic and habitat improvement called for in the Reno MFP, the Pinenut HMP, or the Allotment Management Plan. Observations of nearby areas which are meeting these improvement goals shows that the improved areas are usually correlated with recent fires. Many of the vegetative

sites in our region appear to require occasional fire to prevent stagnation.

5. Recommendation: On burns, either planned or unplanned, seed in accordance with the District "Normal Year Fire Rehabilitation Plan" if surviving grass plants average more than 10 feet apart. Use native plants where reasonably available. If natives are not reasonably available, smooth brome and intermediate wheatgrass show promise for higher precipitation sites while crested wheatgrass is suitable in lower precipitation areas.

Rationale: Range sites in nearby allotments have recovered rapidly when any reasonable seed source remains following the burn. But on areas which lack a seed source, recovery has proved to be extremely slow and the soil has remained bare and quite vulnerable to erosion for at least 3 years following burning. Native plants would simplify management considerations, but the listed grasses should hold the soil in place while natural plant succession occurs.

6. Recommendation: Continue classifying the Churchill Canyon as an "I" category allotment.

Rationale: Trend plots show that many areas of the allotment are stable in condition. Meeting land use plan objectives, however requires appreciable improvement in ecological condition for this allotment, and this is the primary reason for classifying allotments into the "Improve" category.

APPENDIX I CHURCHILL CANYON RANGE SITES

RANGE SITE	RANGE SITE NAME	POTENTIAL NATURAL COMMUNITY:				PUBLIC ACRES
		PERCENT GRASS	PERCENT FORBS	PERCENT SHRUBS	AVERAGE PRODUCTION	
2625	CLAYPAN 8-10"	50%	10%	40%	300	13,510
2623	CLAYPAN 10-14"	55%	10%	35%	400	3255
2639	CLAYPAN 12-18"	50%	15%	35%	300	8
2624	DROUGHTY LOAM 8-10"	40%	5%	55%	300	199
2773	GRANITIC SLOPE 12-14"	60%	10%	30%	900	2402
2718	GRAVELLY LOAM 4-8"	30%	5%	65%	250	3026
2616	LOAMY 8-10"	55%	5%	40%	600	1851
2610	LOAMY 10-12"	60%	10%	30%	800	907
2605	LOAMY 12-14"	55%	10%	35%	1100	5638
2653	LOAMY 14-18"	70%	15%	15%	1800	774
2703	LOAMY BOTTOM 8-12"	80%	5%	15%	2000	55
2609	MAHOGANY SAVANNA	35%	5%	60%	1300	600
2702	MOIST FLOODPLAIN 4-8"	80%	10%	10%	2500	0
2628	MOUNTAIN RIDGES	45%	10%	45%	150	342
	PINYON / JUNIPER					2925
	ROCK OUTCROPS					1337
2724	SODIC TERRACE 8-10"	25%	5%	70%	350	47
2717	SOUTH SLOPE 4-8"	55%	5%	40%	200	4578
2715	STONY LOAM 4-8"	45%	5%	50%	350	2236
2622	STONY SLOPE 8-10"	50%	5%	45%	450	58
2634	WASH 8-12"	60%	10%	30%	800	441
2603	WET MEADOW 10-14"	85%	15%	0%	3000	55

TOTAL ACRES:

44244

TABLE IIA

UTILIZATION BY ALLOTMENT FOR RAWE PEAK/CHURCHILL CANYON/MILL CANYON HORSE BANDS

Utilization Class	Churchill Canyon Acres in HMA by class	Churchill Canyon Acres outside HMA by class	Mill Canyon Acres in HMA by class	Mill Canyon Acres outside HMA by class	Rawe Peak Acres in HMA by class
Slight	0	0	0	0	73
Light	54	2681	69	262	102
Moderate	400	3377	0	786	296
Heavy	3384	76	7090	2736	873
Severe	0	0	181	41	0
TOTALS	3838	6134	7340	3825	1344

UTILIZATION SUMMARY FOR RAWE PEAK/CHURCHILL CANYON/MILL CANYON HORSE BANDS

Utilization Class	(x1) Acres in HMA by class	(x2) Acres outside HMA by class	(y) Class Midpoint	x1 * y Within HMA Acres X Utilization	x2 * y Outside HMA Acres X Utilization
Slight	73	0	10	730	0
Light	225	2943	30	6750	88290
Moderate	696	4163	50	34800	208150
Heavy	11347	2812	70	794290	196840
Severe	181	41	90	16290	3690
TOTALS	12522	9959		852860	496970
Desired Utilization	12522	0	27.5	344355	0

Present Horse Numbers	Present sum of Acres X Utilization (1)	Desired sum of Acres X Utilization (2)	Number of horses needed to achieve desired utilization (3)
164	1349830	344355	42 (504 AUMs)

- (1) Includes both inside and outside the HMA
- (2) The sum 27.5% desired utilization multiplied by the number of acres of HMA being grazed by these bands of horses.
- (3) Solving for "x" in the ratio equation:

$\frac{1,349,830}{164 \text{ horses}}$	$\frac{344,355}{x \text{ (number of horses to achieve desired utilization levels)}}$
--	--

AUMs PROVIDED FOR THE DESIRED NUMBER OF HORSES (42) BY ALLOTMENT:

Mill Canyon	Churchill Canyon	Rawe Peak
296	154	54

APPENDIX IIB

CALCULATION OF HORSE POPULATION LEVEL (AML) AT THE DESIRED FORAGE UTILIZATION LEVELS

	HORSE GROUP				
	Buckeye / Sand Canyon	Eldorado / Hackett Canyon	Clifton	Churchill Canyon/ Mill Canyon/ Rawe Peak	Sunrise
PRESENT POPULATION (Number of horses):	49	43	68	164	35
PRESENT FORAGE PRODUCTION (AUMs)	588	516	816	1968	420
PRESENT AVERAGE UTILIZATION:	27.8%	38.5%	49.8% *	68.1% *	72.5%
"PRESENT MULTIPLE" (from Table 2)	423260	345010	669600	1349830	187620
DESIRED UTILIZATION:	27.5%	27.5%	27.5%	27.5%	27.5%
ACRES GRAZED WITHIN HMA:	15252	8957	12770	12522	2588
CALCULATION OF "DESIRED MULTIPLE" (Acres grazed within HMA, multiplied by the 27.5% Desired Utilization)	419430	246318	351175	344355	71170
CALCULATION OF AUMS POTENTIALLY PRODUCED AT "DESIRED MULTIPLE" **	583	368	428	502	159
NUMBER OF HORSES SUPPORTED BY FORAGE AT DESIRED UTILIZATION	49	31	36	42	13
ALLOWABLE MANAGEMENT LEVEL (AML) AT THE DESIRED UTILIZATION LEVEL				2040 AUMs	
(Sum of forage in AUMs for each horse group at desired level, divided by 12 months):				170 horses	

* INSIDE THE HMA. THERE IS ADDITIONAL UTILIZATION OUTSIDE THE HMA FOR THESE HORSE GROUPS.

** SOLVING FOR "ALLOWABLE USE" IN THE EQUATION:
$$\frac{\text{PRESENT PRODUCTION}}{\text{"PRESENT MULTIPLE"}} = \frac{\text{"ALLOWABLE USE"}}{\text{"DESIRED MULTIPLE"}}$$

APPENDIX III (SOIL MAPPING UNITS BY OWNERSHIP AND COUNTY)

LYON COUNTY			
SMU	PUB ACRES	PRIV ACRES	TOTAL ACRES
204	896	0	896
276	0	33	33
311	93	0	93
312	200	0	200
313	2305	295	2600
321	40	24	64
371	104	24	128
372	1060	337	1397
411	1080	19	1099
412	6426	167	6593
441	2974	232	3206
531	743	0	743
532	614	0	614
551	283	0	283
553	76	0	76
571	90	0	90
572	199	30	229
581	302	0	302
651	814	0	814
652	126	0	126
653	1343	0	1343
701	199	0	199
702	441	184	625
751	112	0	112
802	1124	79	1203
803	1231	0	1231
812	376	35	411
831	6345	829	7174
841	559	32	591
851	25	36	61
861	508	28	536
1081	30	24	54
1142	62	36	98

LION TOTAL: 30780 2444 33224

DOUGLAS COUNTY			
SMU	PUB ACRES	PRIV ACRES	TOTAL ACRES
1021	35	43	78
581	4434	120	4554
583	378		378
974	2410	630	3040
783	97	3	100
1111	46	38	84
787	18	7	25
393	20	2	22
1081	230	34	264
832	74	35	109
834	1513	22	1535
211	526		526
788	396	311	707
231	157	362	519
681	51		51
442	58		58
445	619	215	834
154	325		325
151	97	73	170
122	10		10
334	1970	28	1998
DOUGLAS TOTAL:	13464	1923	15387
ALLOTMENT TOTAL:	44244	4367	48611

APPENDIX IV

UTILIZATION BY AREA WITHIN CHURCHILL CANYON ALLOTMENT DURING 1993 / 1994 GRAZING YEAR.

Utilization Class	Utilization Class Midpoint	High Pasture (1) Inside HMA Acres, by class	High Pasture (1) Outside HMA Acres, by class	Low Pasture (2) (All Outside HMA) Acres, by class
Slight	10	0	0	4011
Light	30	54	2681	4856
Moderate	50	400	3377	823
Heavy	70	3384	76	7556
Unused (3)	0	0	0	1720
TOTALS:		3838	6134	18966

(1) All grazing by wild horses.

(2) Grazing primarily by cattle (some incidental horse use).

(3) Unused, but readily usable. Many other areas are unused, but not likely to be used because of topography, vegetation, and/or animal habits.

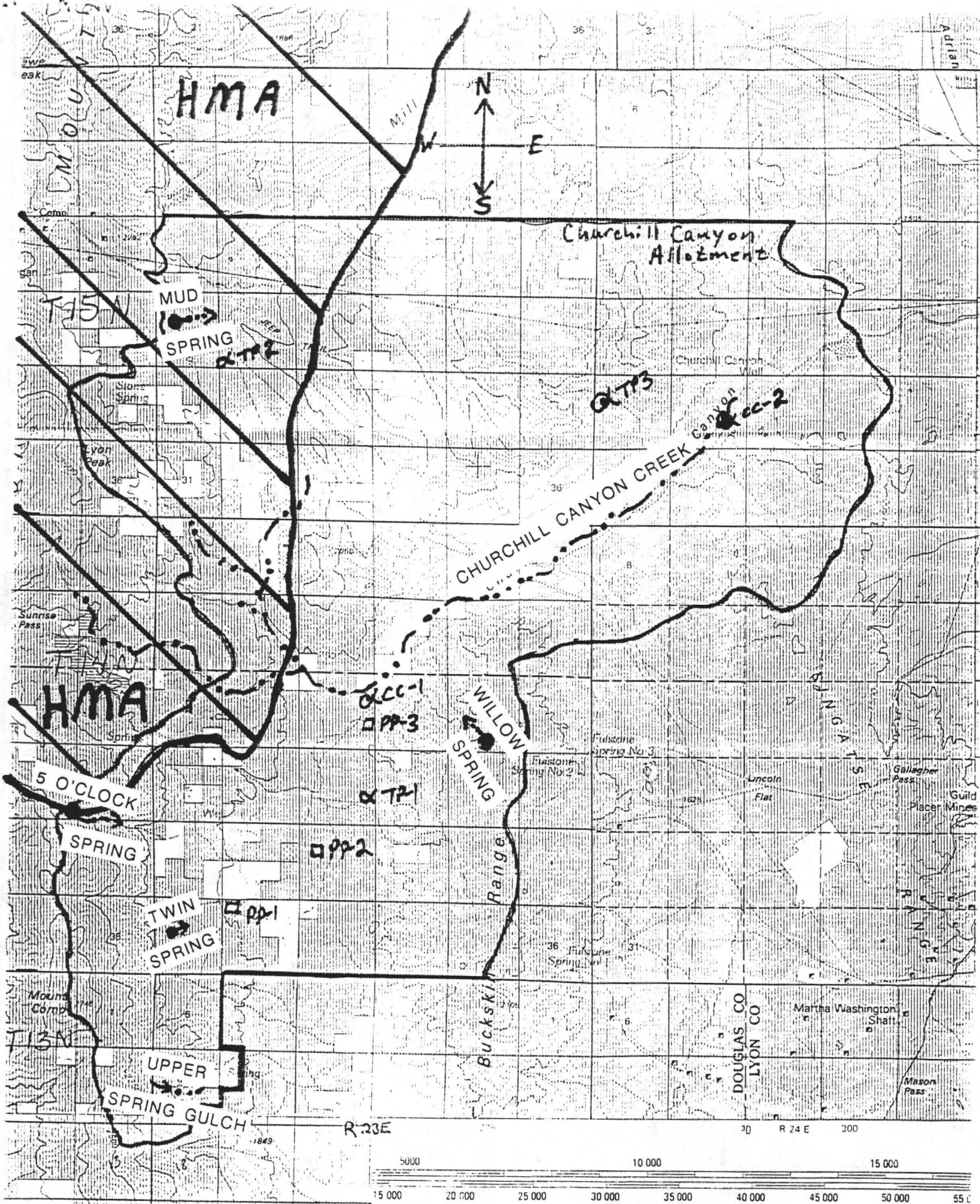
CHURCHILL CANYON UTILIZATION SUMMARY FOR 1993 / 1994

	High Pasture Inside HMA	High Pasture Outside HMA	Low Pasture (All Outside HMA)
'93 / '94 Average Utilization	67%	42%	40%
AUMs Used	373 (1)	376 (1)	1057 (2)
AUMs at 55% Utilization level	306 (3)	492 (3)	1453 (3)

(1) Projected from aerial census.

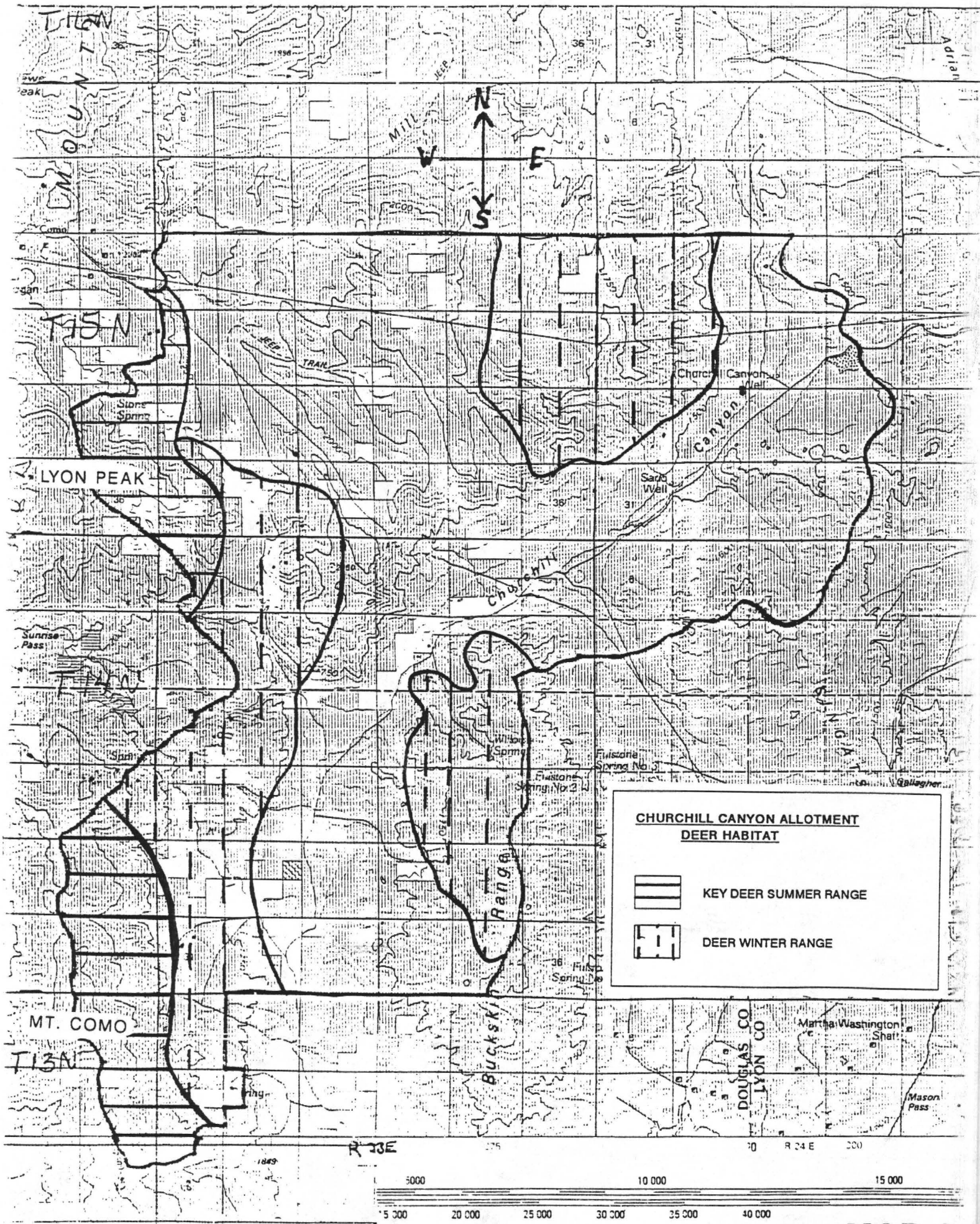
(2) From Actual Use data.

(3) Calculated as:
$$\text{AUMs at 55\% Level} = \frac{\text{AUMs Used} * 55\%}{\text{Average Utilization}}$$

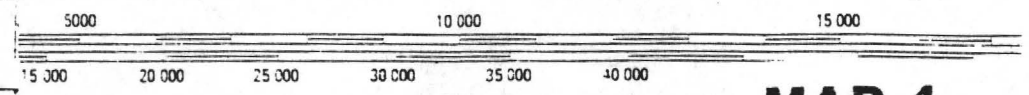
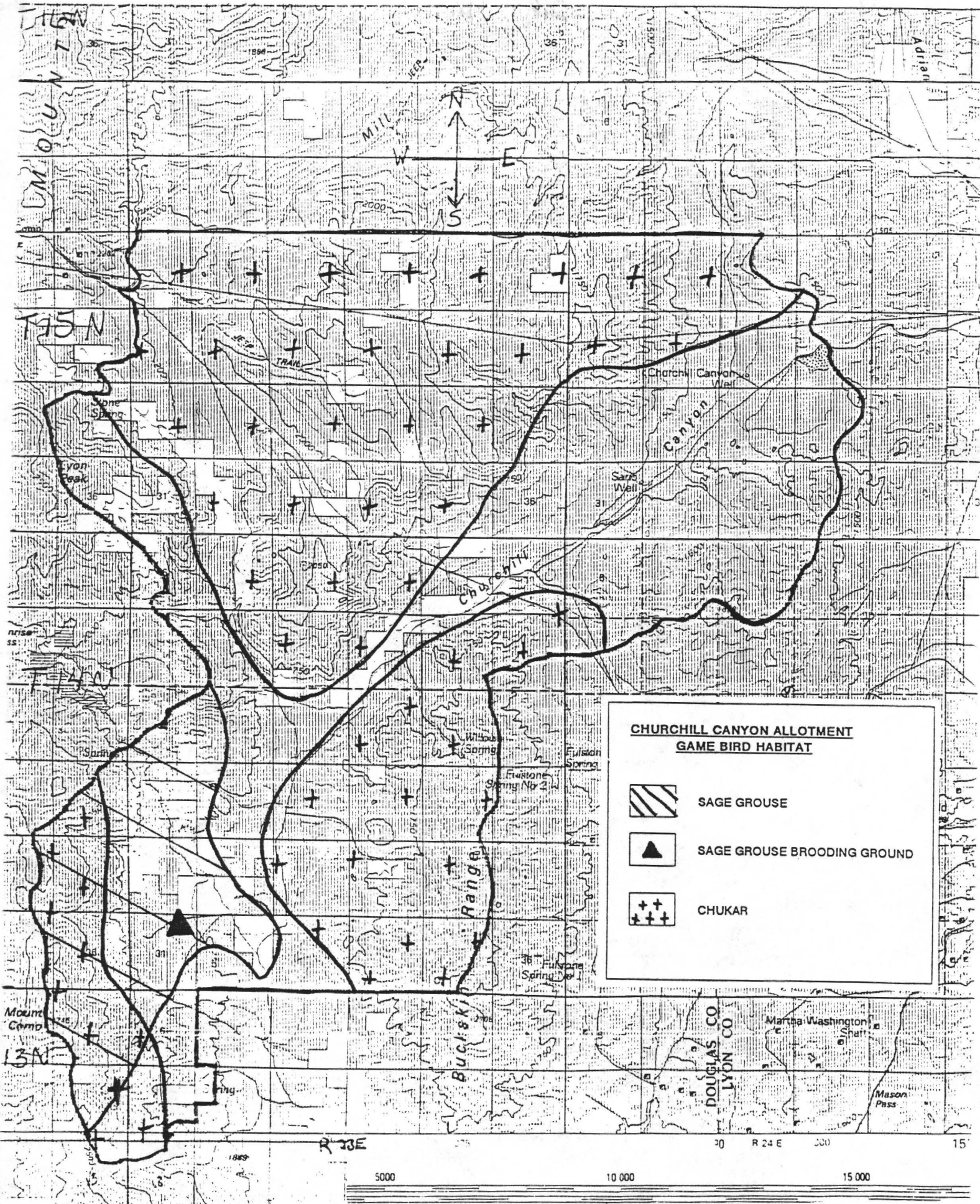


1:100,000 scale

MAP 2

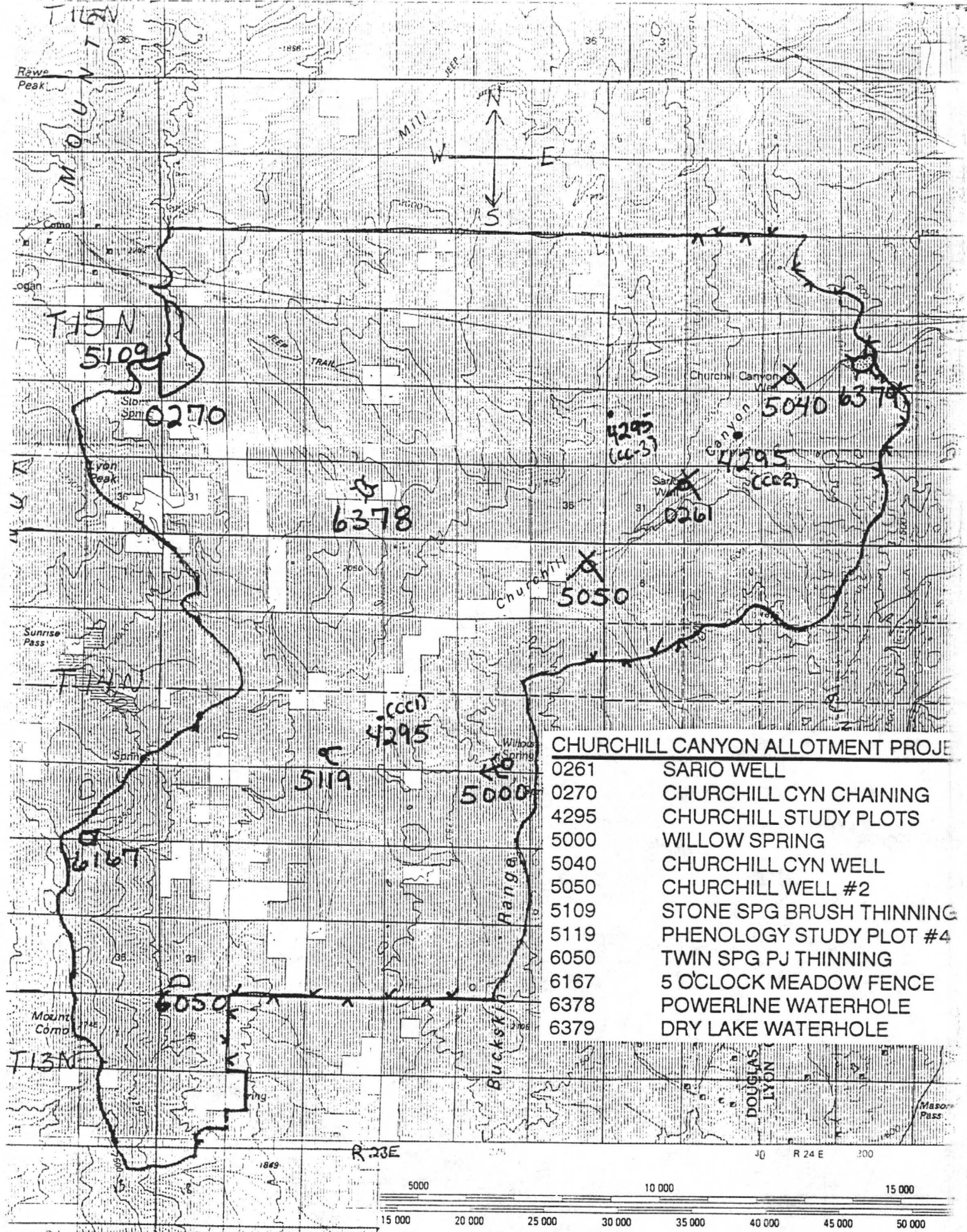


MAP 3



1:100,000 - scale

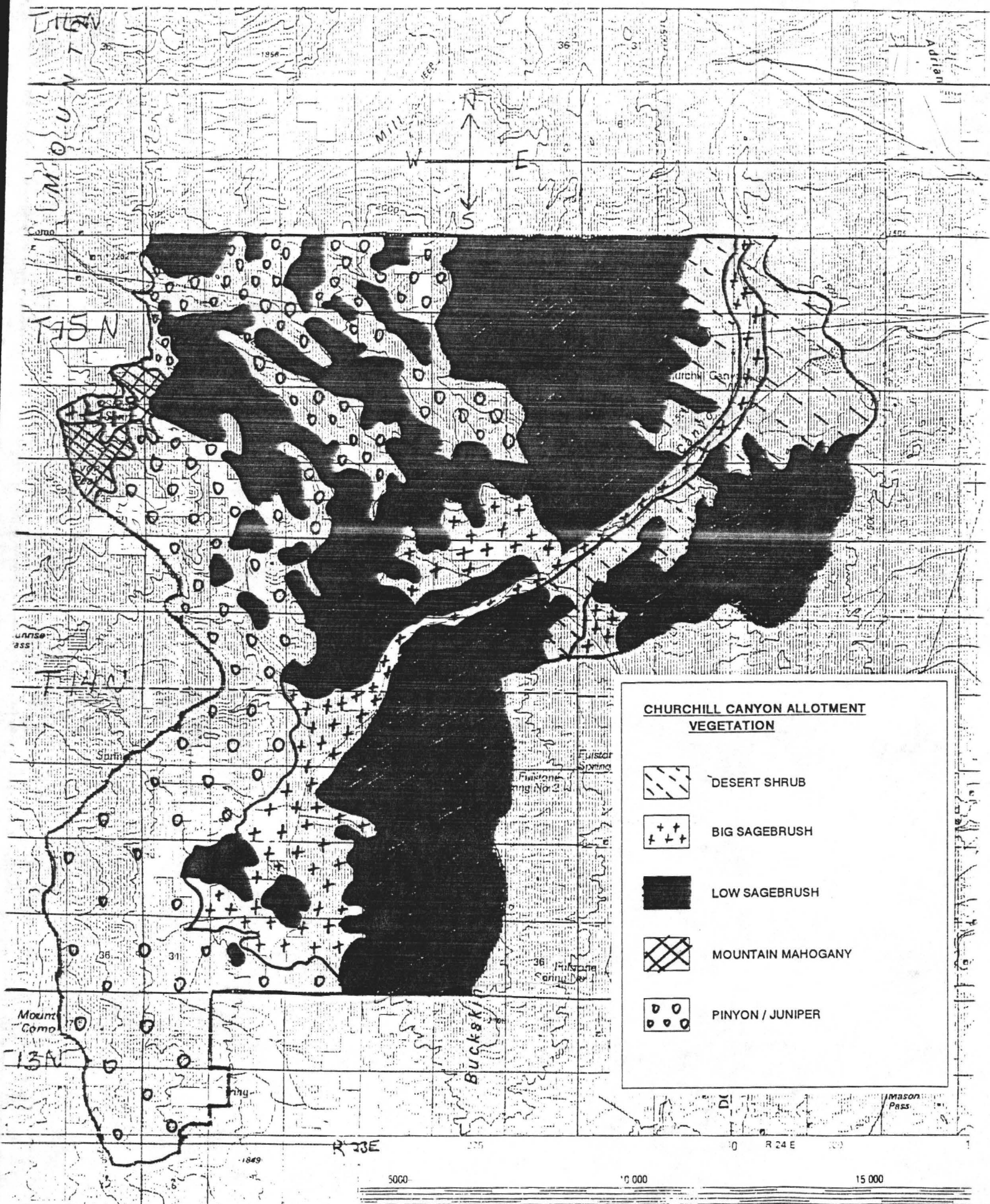
MAP 4








CHURCHILL CANYON ALLOTMENT PROJECT

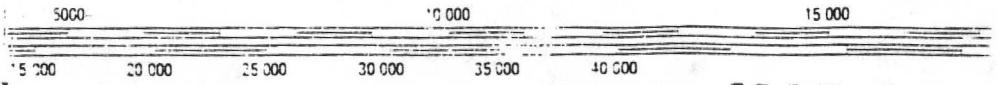
- 0261 SARIO WELL
- 0270 CHURCHILL CYN CHAINING
- 4295 CHURCHILL STUDY PLOTS
- 5000 WILLOW SPRING
- 5040 CHURCHILL CYN WELL
- 5050 CHURCHILL WELL #2
- 5109 STONE SPG BRUSH THINNING
- 5119 PHENOLOGY STUDY PLOT #4
- 6050 TWIN SPG PJ THINNING
- 6167 5 O'CLOCK MEADOW FENCE
- 6378 POWERLINE WATERHOLE
- 6379 DRY LAKE WATERHOLE

1:100,000 scale

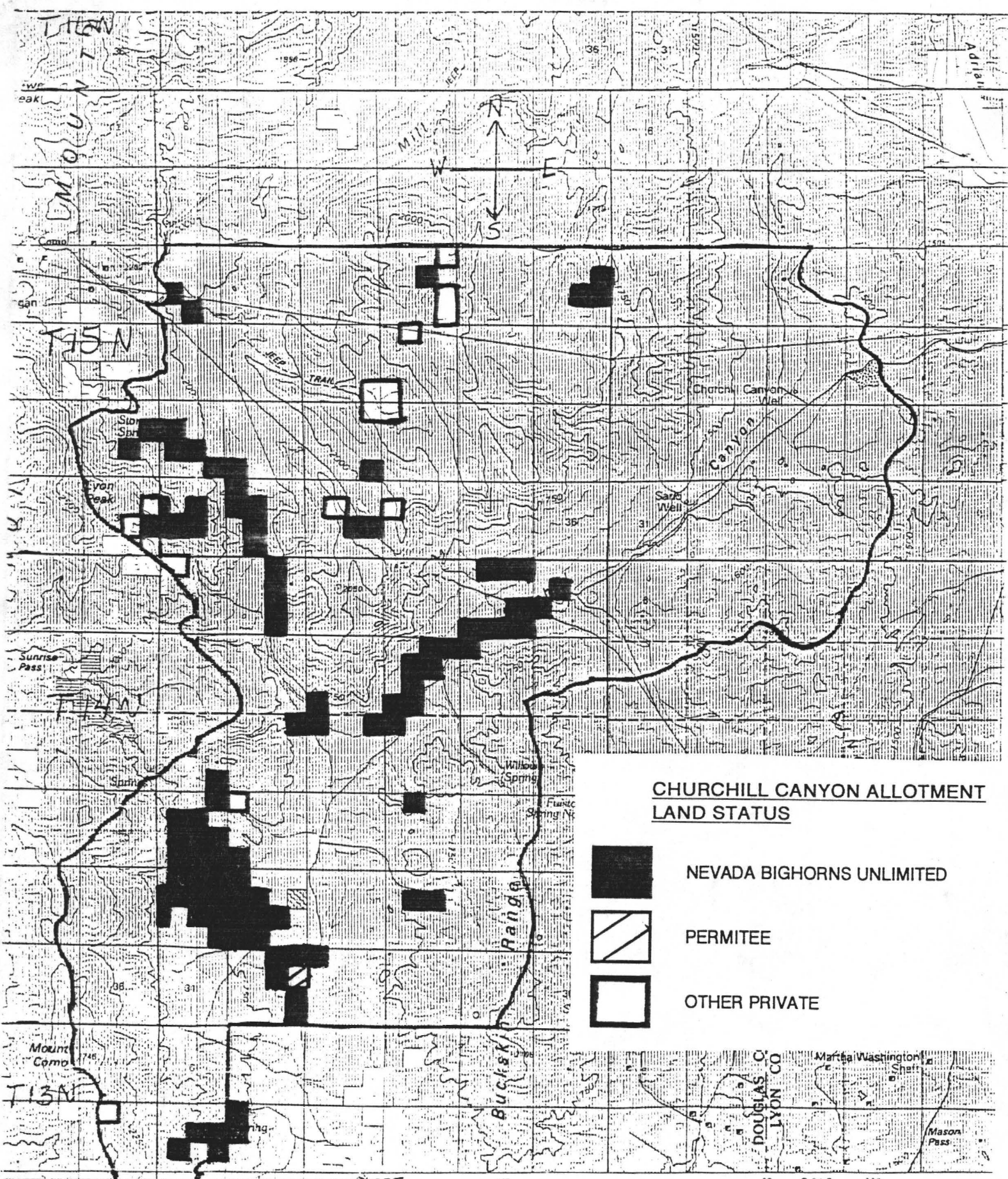


**CHURCHILL CANYON ALLOTMENT
VEGETATION**




-  DESERT SHRUB
-  BIG SAGEBRUSH
-  LOW SAGEBRUSH
-  MOUNTAIN MAHOGANY
-  PINYON / JUNIPER

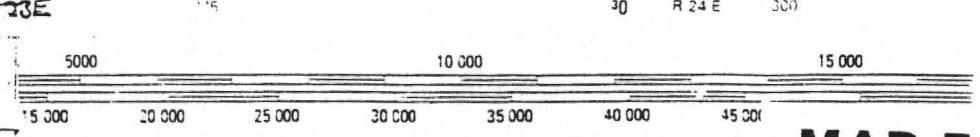


1:100,000 scale **MAP 6**



**CHURCHILL CANYON ALLOTMENT
LAND STATUS**

-  NEVADA BIGHORNS UNLIMITED
-  PERMITEE
-  OTHER PRIVATE



Utilization studies also showed an estimated 2700 AUMs of grass forage within the entire allotment, which includes the portion within the HMA. Excluding the potential stocking level for wild horses, there is an estimated 2200 AUMs available for cattle. Five years of studies will provide adequate information to determine a final active preference for cattle.

500 AUMs
wild = 42nd

The narrow band of public land in the summer use area (southeast portion of the allotment) is not practically grazed by itself by cattle (although herded sheep could use the area as a unit). But used in conjunction with the lower, primarily private, canyons, this area could comprise the high, steep portion of a three-pasture unit requiring minimal fencing to be effective.

Cattle will tend to leave the west side of the allotment anytime the valley below is green; but in winter-time the valley will be both brown and colder than the rangeland and cattle will remain on the allotment. The north end of the allotment which is within the HMA already receives growing season use by wild horses, so that additional growing season use would result in significant overgrazing which would diminish the grass vegetation.

CHURCHILL CANYON ALLOTMENT
LIVESTOCK GRAZING MANAGEMENT DECISION

Decisions relating to the grazing of livestock on public lands in the Churchill Canyon Allotment are as follows:

A. In accordance with §4130.6-1(a), the active preference for livestock will be maintained at 1074 AUMs. In accordance with §4410.3, continue to use standard Actual Use/Utilization study techniques over a three year period to refine this estimate and establish a preference for cattle which is sustainable and allows plenty of forage for wild horses and mule deer.

RATIONALE

The 1074 AUMs for livestock is a reasonable initial stocking level based upon the figures shown in the utilization study contained in Appendix IV of the evaluation. The Bureau will obtain further data to refine the estimate and establish an allocation which is sustainable.

CLIFTON ALLOTMENT
LIVESTOCK GRAZING MANAGEMENT DECISION

Decisions relating to the grazing of livestock on public lands in the Clifton Allotment are as follows:

A. In accordance with §4110.3-2(b) and §4130.6-1(a), the active preference for cattle will be adjusted from 772 AUMs to 613 AUMs. In accordance with §4110.3-3(a) &(b), this reduction in active preference will be phased in over a five year period, beginning with the effective date of the Final Multiple Use Decision (1995). The reduction will be implemented as follows:

1995 From 772 AUMs to 719 AUMs
1997 From 719 AUMs to 666 AUMs
1999 From 666 AUMs to 613 AUMs

CHURCHILL ALLOTMENT EVALUATION
ERRATA AND ATTACHMENTS

Insert the attached Sections VII and VIII after page 17. In the Table of Contents, insert the following after Section VI.

VII. CONSULTATIONS 18
VIII. MANAGEMENT ACTIONS SELECTED 21

VII. Consultations

On July 19, 1993, a letter was sent to persons and organizations that have shown interest in resource management in the Walker Resource Area. The purpose of the letter was to gather additional information and to determine who would be interested in participating in the evaluation process on nine allotments in the northern Pine Nut Mountain Range. Churchill Canyon was among these allotments.

Sections I (Introduction) through VI (Technical Recommendations) of this evaluation were sent out for public review on January 12, 1995. Fifteen copies were sent to the Nevada State Clearinghouse for distribution among state agencies. In addition, the following were sent copies of this evaluation.

Richard Huntsberger	Nevada Division of Wildlife
Nevada Wildlife Federation	The Wildlife Society
Natural Resources Defense Council	Sierra Club, Toiyabe Chapter
Carson City District Grazing	Nevada Cattlemen's Association
Advisory Board	Nevada Woolgrowers Association
Resource Concepts Inc.	Washoe Tribe
Rutgers University, S.I. Newhouse	Bureau of Indian Affairs,
Center of Law and Justice	Western Nevada Agency
Wild Horse Organized Assistance	U.S. Fish and Wildlife Service
The Honorable Barbara Vucanovich	The Honorable Harry M. Reid
The Honorable Richard Bryan	American Horse Protection Association
Paul Clifford	Steven Fulstone
Craig C. Downer	Rebecca Kunow
American Mustang and Burro	Humane Society of Southern Nevada
Association	L.I.F.E Foundation
Nevada Commission for the	Kathey McCovey
Preservation of Wild Horses	Nevada Humane Society
Sario Livestock Co. c/o Beatrice Presto	

Comments concerning Churchill Canyon were received from the Nevada Division of Water Resources, the Nevada Division of Wildlife (NDOW), The Commission for the Preservation of Wild Horses (Commission), Wild Horse Organized Assistance (WFOA), and Craig Downer. Comments which pertain to the health of the land or to evaluating this health are presented and discussed below.

Comment: *Weight averaging for determining carrying capacity assumes uniform production and discounts the portions of the allotments suffering heavy use, so is not in the best interests of the vegetative resource.*
(Commission) (NDOW) (WFOA)

Response: The "Weighted Average Utilization" technique is a standard Bureau method and is detailed on page 52 of TR 4400-7 (BLM, 1985). We have further refined the method by using only the grazed areas in the averaging process, which keeps unfavorable areas from artificially lowering the calculated utilization. This produces results which correlate quite well with professional observations of the adequacy of forage in a number of different areas.

Comment: *The allocation of forage is a simple 50:50 ratio. Data indicates that wild horses only contributed 35% of the overall use of the allotment. The assumptions are not relative to the monitoring data collected on the allotment. (NDOW)*

Response: The 50:50 forage allocation applies only to forage within the Herd Management Area. Map 2 shows that the Herd Management Area comprises less than 20% of the allotment. Appendix IV shows that the wild horses were consuming approximately 749 AUMs (40% of the total forage) while cattle were consuming 1057 AUMs. This summarizes the situation we find on the land: the wild horse population has outstripped the ability of the land within the Herd Management Area to supply its forage needs and so is forced to go considerably outside the Herd Management Area to find forage. The cattle are not having difficulty in finding adequate forage in the 80% of the allotment outside the Herd Management Area.

Comment: *Allocation of forage to wild horses and livestock are fair. We suggest that percentage of use be applied to the necessary reduction to achieve carrying capacity. Computations presented in this appendix clearly indicate that forage from wild horses are awarded to livestock. (Commission) (WHOA)*

Response: Use within the portion of the allotment in the Herd Management Area, which would normally be expected to be shared fairly between wild horses and livestock, is now being made entirely by wild horses, with additional use considerably outside the herd area. That is why the reductions are needed in horse numbers in that area to bring the wild horse population into balance with their portion of the forage.

Comment: *You note that wild horses utilize the HMA at a heavy level. If this is the case does it not argue for their being able to shift their occupied home range about a larger area over time so as to provide for the recuperation of the formerly occupied areas. (Craig Downer)*

Response: There is no physical barrier preventing these horses from shifting their use areas, and yet we are not seeing the bands of horses in this area move until apparently forced by lack of forage. Possibly the absence of an effective large predator allows these horses to establish such small and habitual ranges.

Comment: *I protest leaving only 154 AUM's, or around 13 wild horses, or 2 average sized bands, in the Churchill Canyon Allotment. This is too low a population level, even when added to the others to be at a minimally viable level. I suggest the expansion of the HMA to the south to include the Pine Nut wild horse herd's former range. It is unfair to maintain 6 -7 times as much livestock use as wild horse use! This puts the wild horses at a distinct disadvantage, even within its legal HMA, where they should be given fair consideration and proportion of resources.*
(Craig Downer)

Response: Map 2 shows the situation: only a small portion of the Herd Management Area is within the Churchill Canyon Allotment, and this portion of the HMA occupies only a portion of one pasture (the High Elevation North Pasture) of the allotment. Within the Herd Management Area the horses are given fully equal treatment in forage allocation. A major point of the Wild Horse and Burro Act of 1971 is that the Bureau is to manage horses within the HMA boundaries, and not allow expansion outside the boundaries.

Also note that since the Herd Management Area occupies less than 20% of the allotment, and even within the HMA the horses are to share the forage fairly with livestock, livestock would necessarily be expected to harvest several times as much forage within the entire allotment than would the wild horses.

Comment: *I strenuously object to this reduction of the wild horses in order to introduce pronghorn.* (Craig Downer)

Response: The proposed reduction in wild horses in this area was not intended to be done in order to make room for pronghorn, but rather because the horse population has grown beyond the ability of the area to produce forage. However, the point that pronghorn should not be allowed to increase to the detriment of the horse population does seem to be an important issue to be addressed in any pronghorn release plan.

VIII. Management Actions Selected

Due to the necessity of implementing the wild horse decisions on a herd management area basis, only one Multiple Use Decision will be issued for all nine allotments in the Pine Nut Herd Management Area.

Short term technical recommendations 1 and 2 (setting stocking levels for wild horses and cattle) and 3 (limiting use levels on bitterbrush) will be included in the Proposed Multiple Use Decision. Long term technical recommendation 6 for continuing to classify Churchill Canyon as an Improve category allotment is currently implemented. The other technical recommendations are good ideas but are not appropriately implemented through this decision: if these are to be implemented further planning is needed in the form of a pronghorn release plan or a Pine Nut ecosystem plan. At the time of this writing a team has been formed to amend the land use plan to address long term management of Pine Nut Mountain woodlands.



COMMISSION FOR THE
PRESERVATION OF WILD HORSES

255 W. Moana Lane

Suite 207A

Reno, Nevada 89509

February 10, 1995
(702) 688-2626

Mr. John Singlaub
District Manager
Carson City District
Bureau of Land Management
1535 Hot Springs Road
Carson City, Nevada 89706-0638

Subject: Churchill Canyon Allotment Evaluation

Dear Mr. Singlaub:

The Commission for the Preservation of Wild Horses appreciates your consultation concerning the Pine Nut Wild Horse Herd. The Churchill Canyon Allotment is alike many of the allotments of the Pine Nut Range with constant wild horse use and infrequent domestic sheep use. The recent decision to convert the allotment to livestock appears to have increase conflicts and competition with wild horses. It would appear that the stocking rate determinations are not in the best interest of the natural resources of this allotment and we request that the final allotment evaluation address our following concerns:

Page 11, Wild Horses

Are population estimates made using census data? Do census observe all horses? Does one adult/foal equal one cow/calf AUM?

Page 7, Use Pattern Mapping

We recommend that all available data be use to determine the appropriate management level for this allotment. Monitoring was intended to replace the one time inventory that established stocking rates in the 1970's. If use pattern mapping data were collected prior to authorization of cattle, we recommend it be presented and assessed in this document.

Mr. John Singlaub
February 10, 1995
Page 2

Appendix IIV

Weight averaging use pattern mapping data discounted the 30 to 40 percent of this allotment that was heavily used by livestock and wild horses. These computations indicate you intend an increase in livestock above numbers known to cause overgrazing of this allotment.

Allocation of forage to wild horses and livestock are fair. We suggest that percentage of use be applied to the necessary reduction to achieve carrying capacity. Computations presented in this appendix clearly indicate that forage from wild horses are awarded to livestock.

In summary, we are disappointed that better application of Bureau land use planning, procedures and policy would have produced better recommendations. We hope that our comments will assist in correcting the errors and supporting rationale for a multiple use decision for this allotment.

Sincerely,


Catherine Barcomb
Director