

Antelope Range Coordinated
Management Plan

including

Antelope Range Habitat Management Plan
WHA-N10, WHA-N13, WHA-N16

Antelope Range Wild Horse Herd Management Area Plan

Becky Springs Allotment Management Plan

Chin Creek Allotment Management Plan

Deep Creek Allotment Management Plan

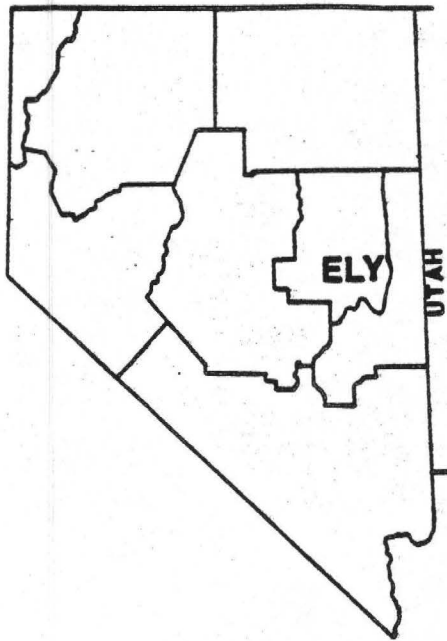
Goshute Mountain Allotment Management Plan

Sampson Creek Allotment Management Plan

Tippett Allotment Management Plan

Bureau of Land Management
Ely District
Schell Resource Area

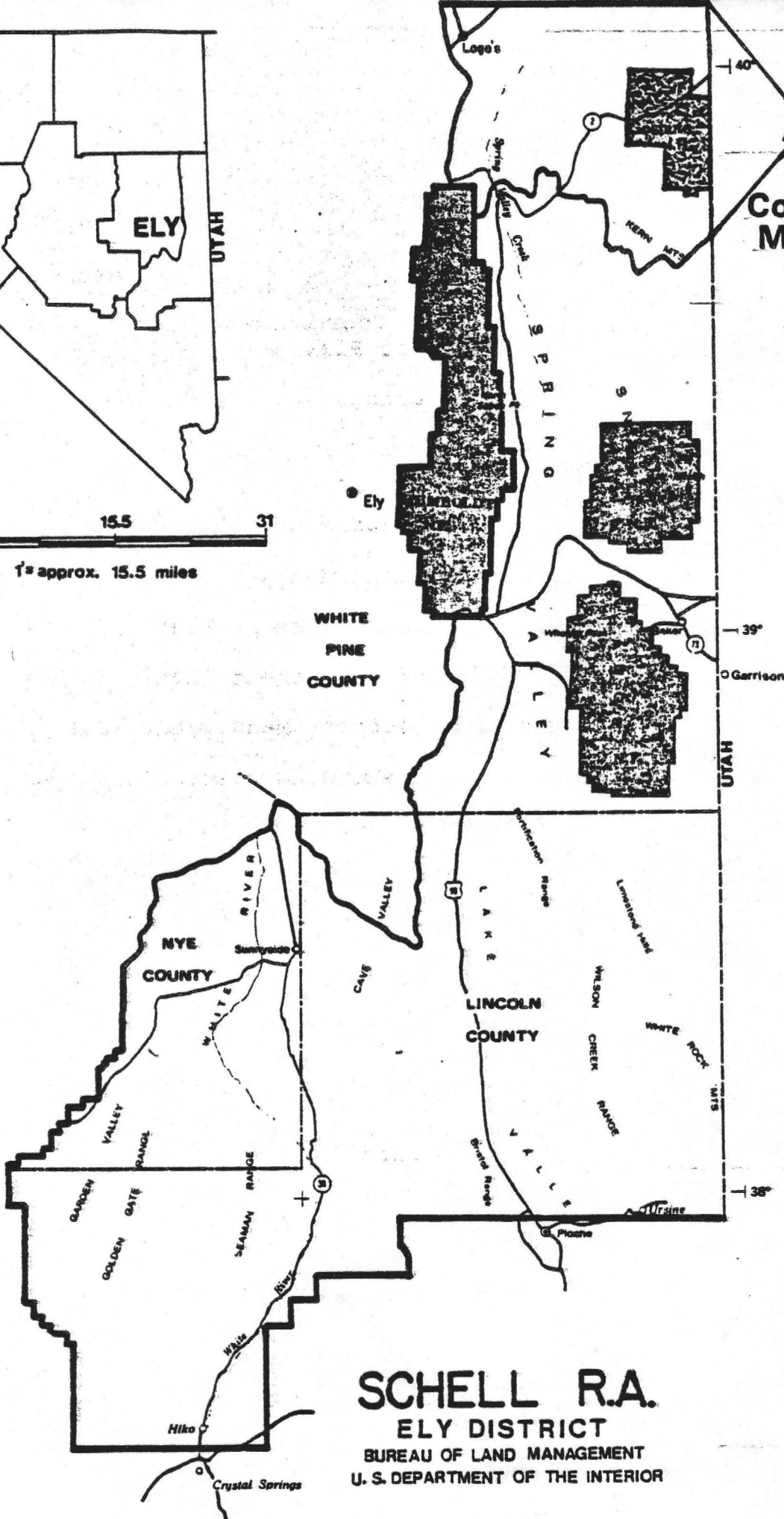
January 25, 1985



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1" = approx. 15.5 miles

**Antelope Range
Coordinated
Management
Plan
Area**



SHELL R.A.
ELY DISTRICT
BUREAU OF LAND MANAGEMENT
U. S. DEPARTMENT OF THE INTERIOR

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Environmental Assessment

EA-1

General Section

A. Reasons for Preparation

In 1982, the Schell Grazing EIS outlined five objectives for the resource area. The major Antelope Range Coordinated Management Plan (ARCMP) area is subject to those objectives which are as follows:

1. Manage vegetation resource and its uses to attain utilization rates not to exceed those recommended by the Nevada Rangeland Monitoring Task Force for sustained yield (45 percent for shrubs, 55 percent for grasses and forbs).
2. Attain and maintain habitat for reasonable numbers of wildlife, reestablish bighorn, pronghorn antelope, and elk on historic ranges, and protect crucial wildlife habitat.
3. Upgrade and maintain all riparian and wetland areas in good or better condition.
4. Maximize livestock based on sustained yield of the forage resource.
6. Maximize wild horse numbers based on sustained yield of the forage resource.

In the 1983 Schell Resource Area Record of Decision, the Antelope Horse Herd area was designated as the priority area for a management plan (BLM, 1983). It was chosen because of the potential multiple use conflicts. Also in this year, a conflict analysis was done for allotment categorization. Three allotments, Chin Creek, Tippett and Sampson Creek, were placed in the "I" or improve category. Chin Creek and Tippett are the two largest allotments. The other allotments form the Horse Herd area and was a natural addition for the plan area.

Mr. Reed Robison, a permittee in the plan area, requested planning and development be done in this area before 1980. This could not be done until now as the Grazing EIS had not been completed. Mr. Robison has taken non-use in some areas because it was felt there was not enough forage left when livestock were ready to come into the area.

In 1983, Nevada Department of Wildlife (NDOW) expressed concern with the poor water distribution within the Antelope Range Coordinated Management Plan Area. NDOW felt pronghorn antelope numbers were not expanding like these animals could if water was more plentiful and stable (Barngrover, 1984). NDOW felt mule deer numbers were low partially due to grazing conflicts. In 1978, NDOW expressed concern with riparian areas on Chin Creek, Sharp Creek and Middle Creek. NDOW felt these important sage grouse brooding areas were being severely damaged by foraging animals. Excerpts from letters and memos referring to these issues appear in General Section Appendices A, B, C & D.

Because of the high degree of problems in this area and of interaction between foraging animal conflicts and resolutions, a coordinated management plan was written so that common problems and solutions could be resolved in a manner that would best facilitate improvement of the forage resource.

(The reader will find general information on the plan area in the General Section along with overviews of objectives and management actions. Following the General Section are individual foraging animal activity plans which conform to specific formats. Signature pages are included with the individual activity plans. An Environmental Assessment for the entire coordinated management plan follows the individual activity plans. Priorities for implementation follow the individual plans.)

B. General Introduction

I. Ecosystem Description

a. Plan Boundaries

The core of the Antelope Range Coordinated Management Plan area is located within White Pine County, Nevada and within the Ely BLM District's Schell Resource Area. It is bounded on the west by the Schell-Egan Resource Area boundary, on the north by the White Pine-Elko County line, on the east by the Nevada-Utah border and on the south by the southern Tippetts Grazing Allotment line (Fig. B-1) and the USFS boundary.

Because of the unrestricted movement of the wild foraging animals in the plan area, these animals herd boundaries extend out of the plan area somewhat. Deer and wild horse herd areas extend south from Tippetts Allotment and the wild horse herd area extends into Elko County and the Elko BLM District. (Fig. B-2). Both extensions will be considered in the plan for these foraging animals to the extent that the plan will affect the animals. No projects or detailed planning will be made in the Elko District extension areas.

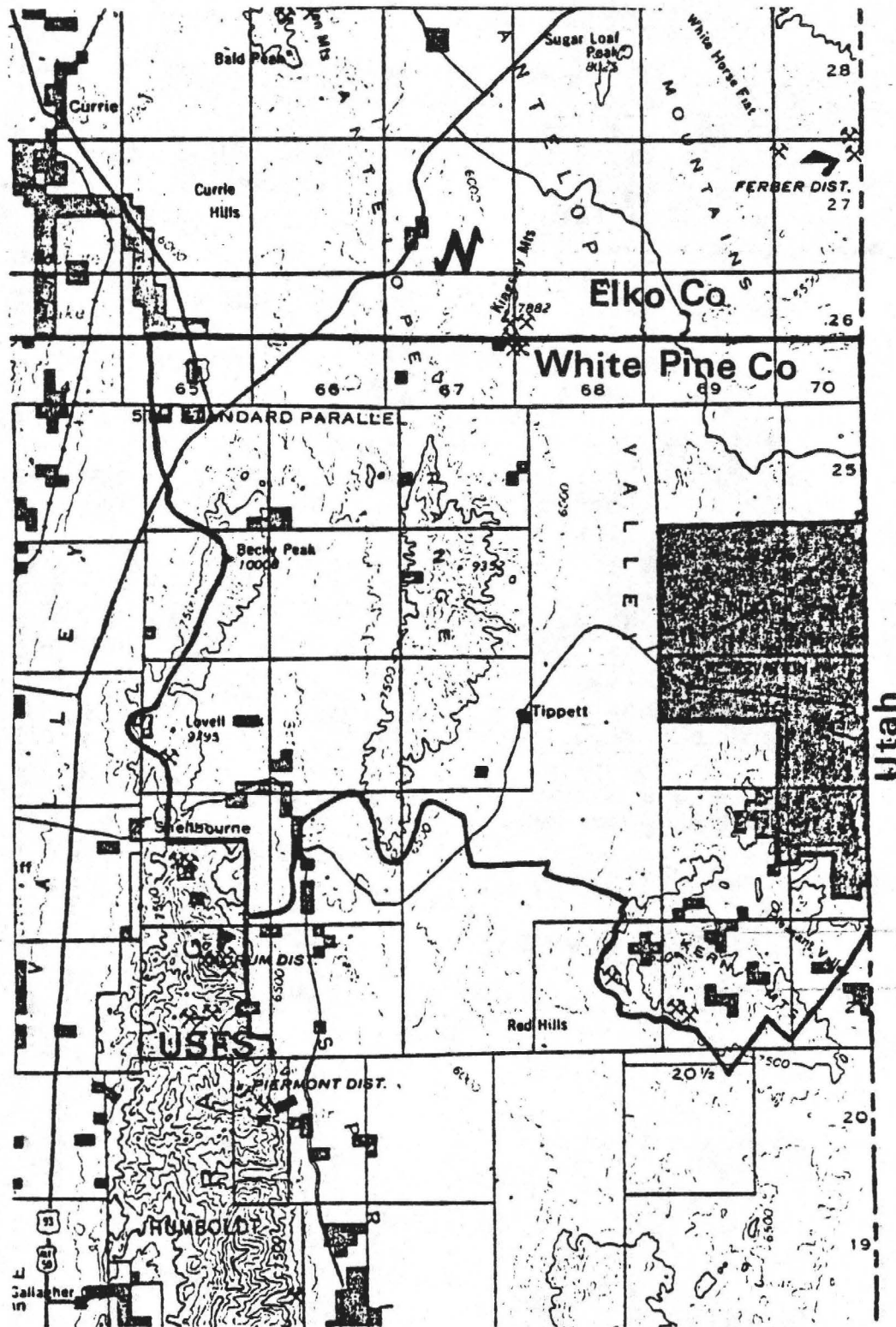


Figure B-1. Boundary of the Antelope Range Coordinated Management Plan Area, Nevada.

b. Land Status/Administration

The Antelope Range Coordinated Management Plan core area consists of 461,113 acres in the Ely BLM District. U.S. Forest Service land adjoins the plan area forming the southwest boundary. Goshute Indian Reservation is located in the east, central portion of the plan area. Private (patented) land is interspersed throughout the area (Fig. B-2). Land status acreages are shown for the management plan (Table 1).

From this point, reference to the plan area will mean the core area unless the extension areas are specifically mentioned.

c. Foraging Animal Boundary Area

Within the area administered by the BLM are boundaries set for individual foraging animals. The management plan area has six grazing allotments for livestock (Fig. B-3). Allotment acreages are as follows:

Becky Springs (0101)	22 22 40,621 acres
Goshute Mountain (0102)	5,693 acres
Deep Creek (0103)	23,932 acres
Chin Creek (0104)	148,017 acres
Sampson Creek (0105)	13,232 acres
Tippett (0106)	213,239 acres
	<u>444,734</u>

Wildlife areas within the plan area include the BLM's Wildlife Habitat Area (WHA) 10, parts of 13 and 16 (Fig. B-4). NDOW has game management areas designated within the area. These are as follows (Figs. B-5 & B-6):

Pronghorn Antelope	11A all 11B partial 10B partial
Mule Deer	11 partial 12 partial
Mountain Lion	11 partial, units 111, 112, 113, 114

Wild horses are managed within the Antelope Horse Herd Use Area (Fig. B-7).

d. Topography

Major valleys in the plan area are Spring, North Spring and Antelope Valleys. Major mountain ranges are the Northern Schell Creek, Antelope and part of the Kern ranges. The Red Hills, southern Boone Springs Hills, and Black Hills are also familiar geographic features. No major streams flow in the plan area. Five small creeks, North, Chin, Middle, Sampson and Sharp, are located in the Antelope and Schell Creek Ranges (Fig. B-8).

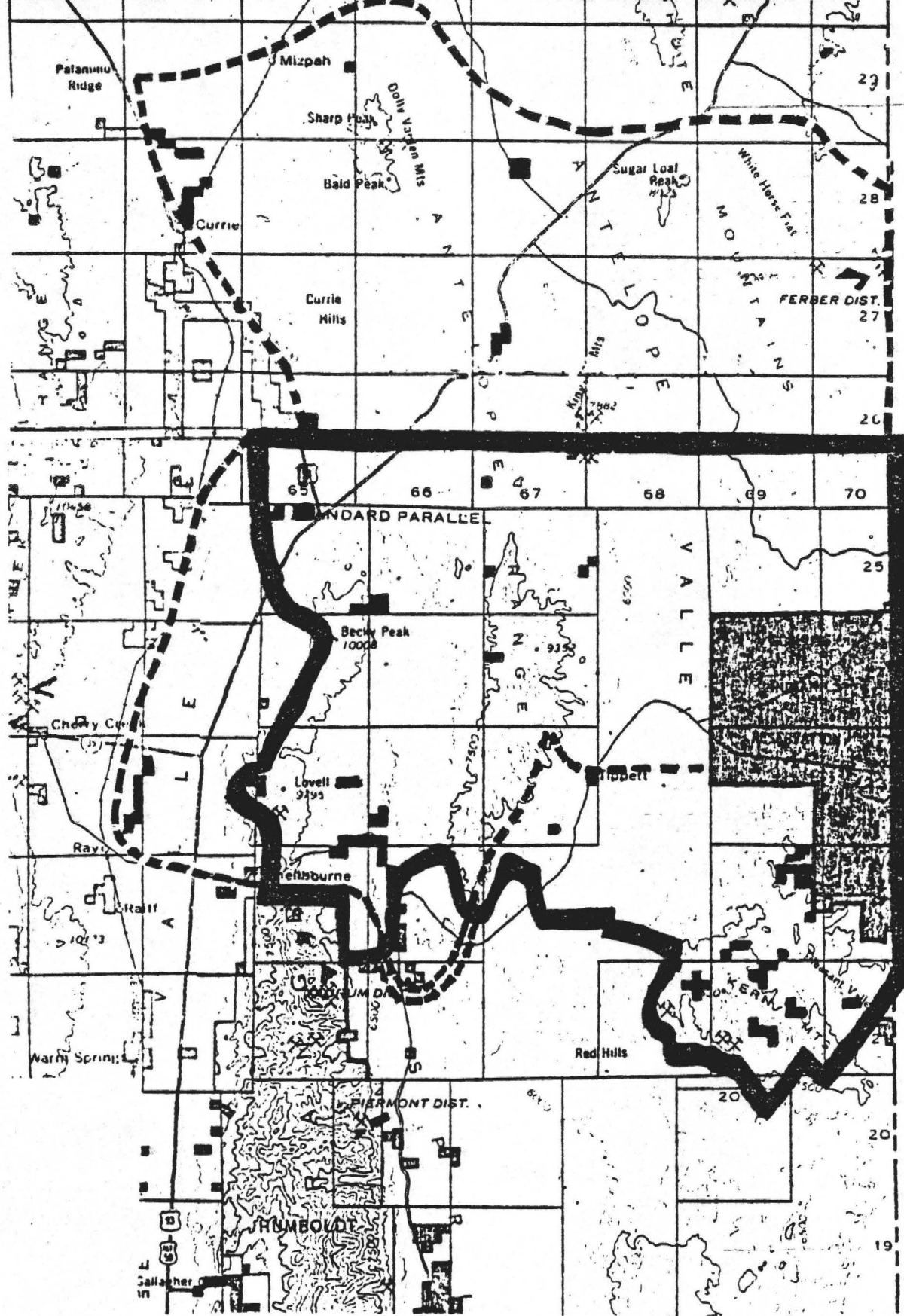


Figure B-2. Land Status within the Antelope Range Coordinated Management Plan Area, Nevada.



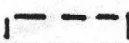

- | | | | |
|---|----------------------------|--|---------------------|
|  | Goshute Indian Reservation |  | Private Land |
|  | Antelope Horse Herd Area |  | Mule Deer Herd Area |

Table 1. Land Status for the Antelope Range Coordinated Management Plan, Nevada.

<u>Administration</u>	<u>Acres</u>	<u>Percentage of Total</u>
BLM (Ely District)	461,113	50%
BLM (Elko District)	363,523*	40%
Goshute Indian Tribe	70,021*	8%
Private (Patented)(White Pine Co.)	14,423*	1%+
Private (Patented)(Elko Co.)	5,440*	1%-
	<u>914,520</u>	<u>100%</u>

* None of these land areas are addressed for management in this plan.

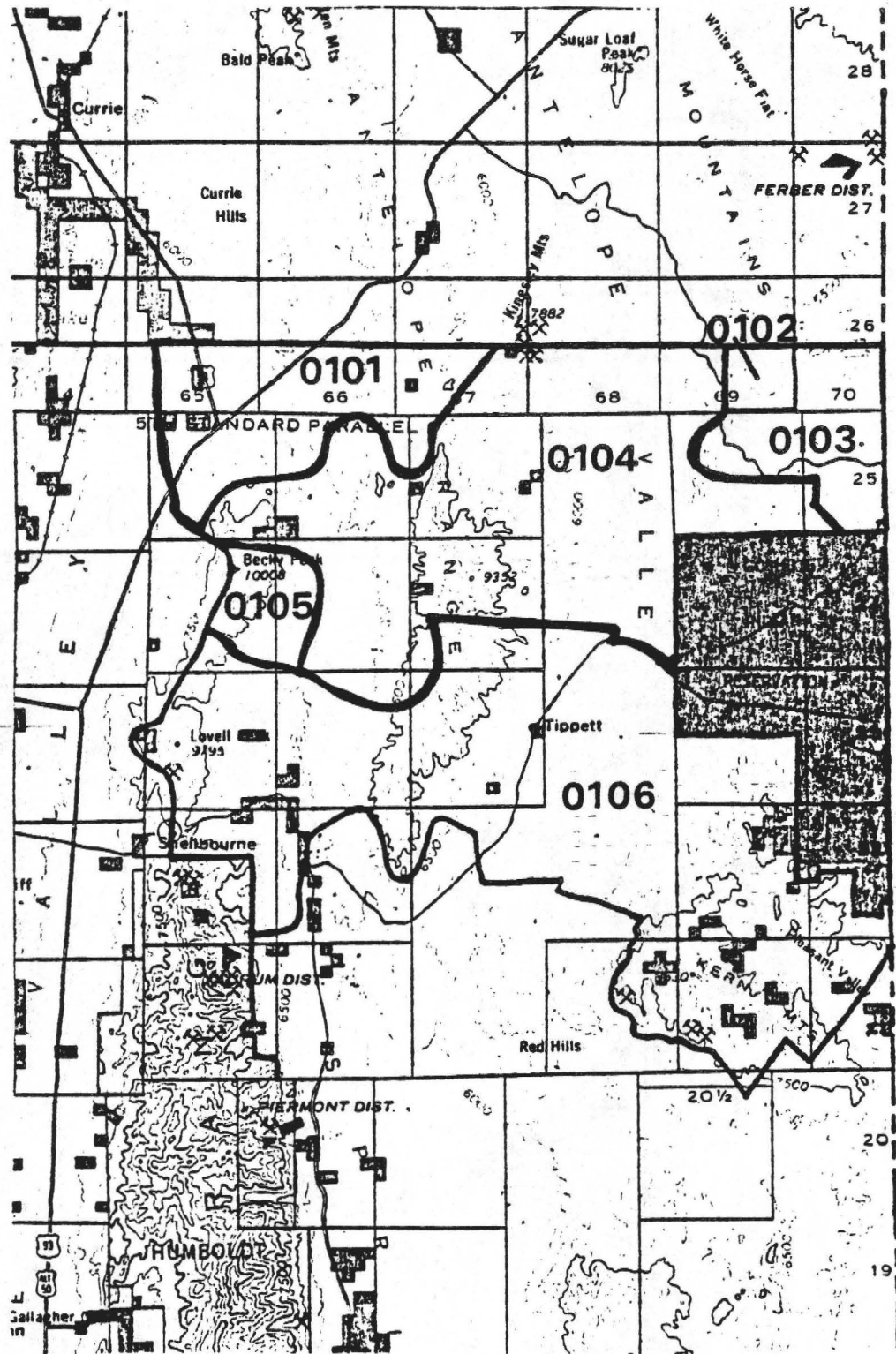


Figure B-3. Grazing Allotments within the Antelope Range Coordinated Management Plan Area, Nevada.

- | | | | |
|------|---------------|------|------------------|
| 0101 | Becky Springs | 0102 | Goshute Mountain |
| 0103 | Deep Creek | 0104 | Chin Creek |
| 0105 | Sampson Creek | 0106 | Tippet |

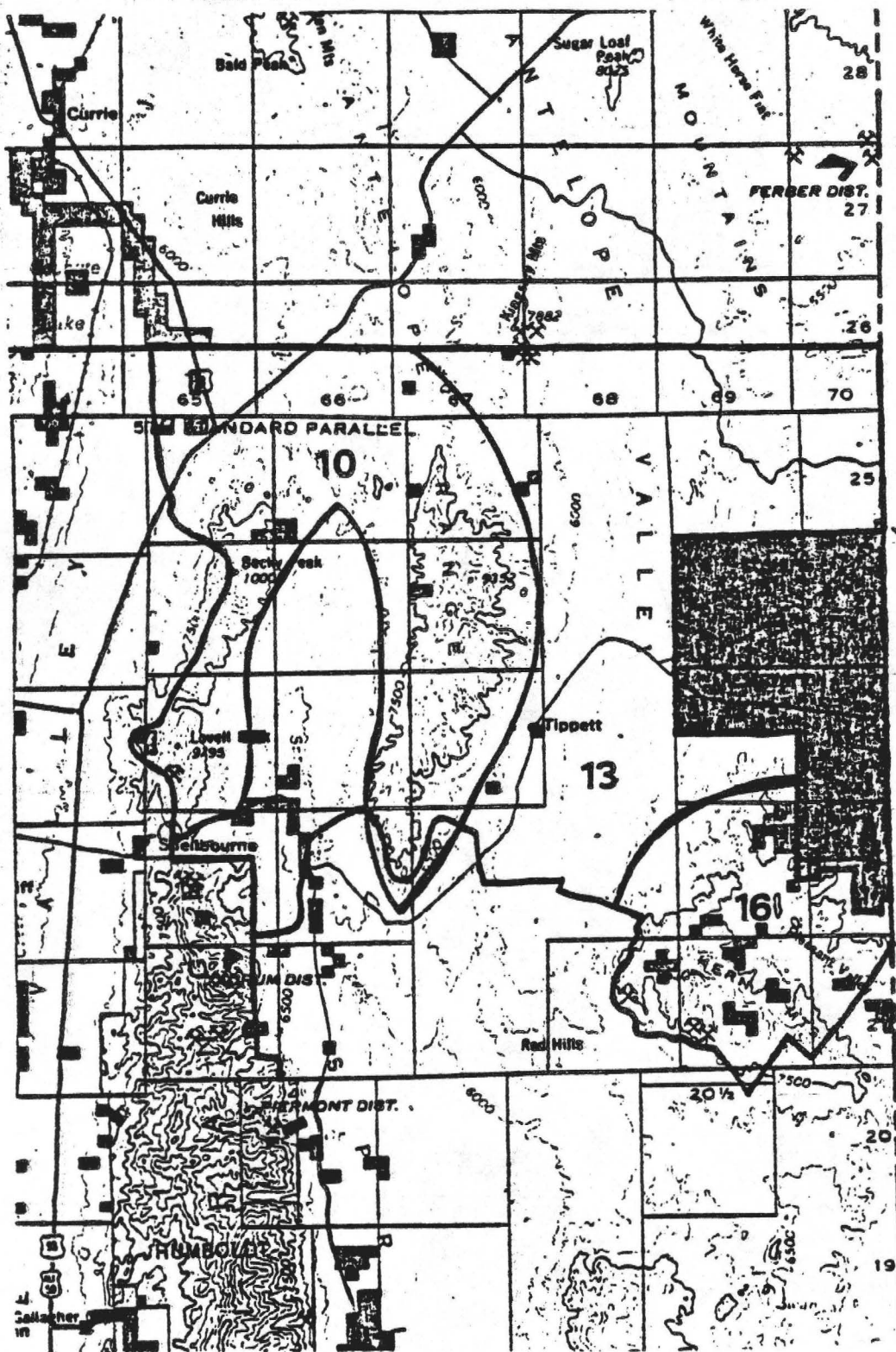


Figure B-4. Wildlife Habitat Areas within the Antelope Range Coordinated Management Plan Area, Nevada.

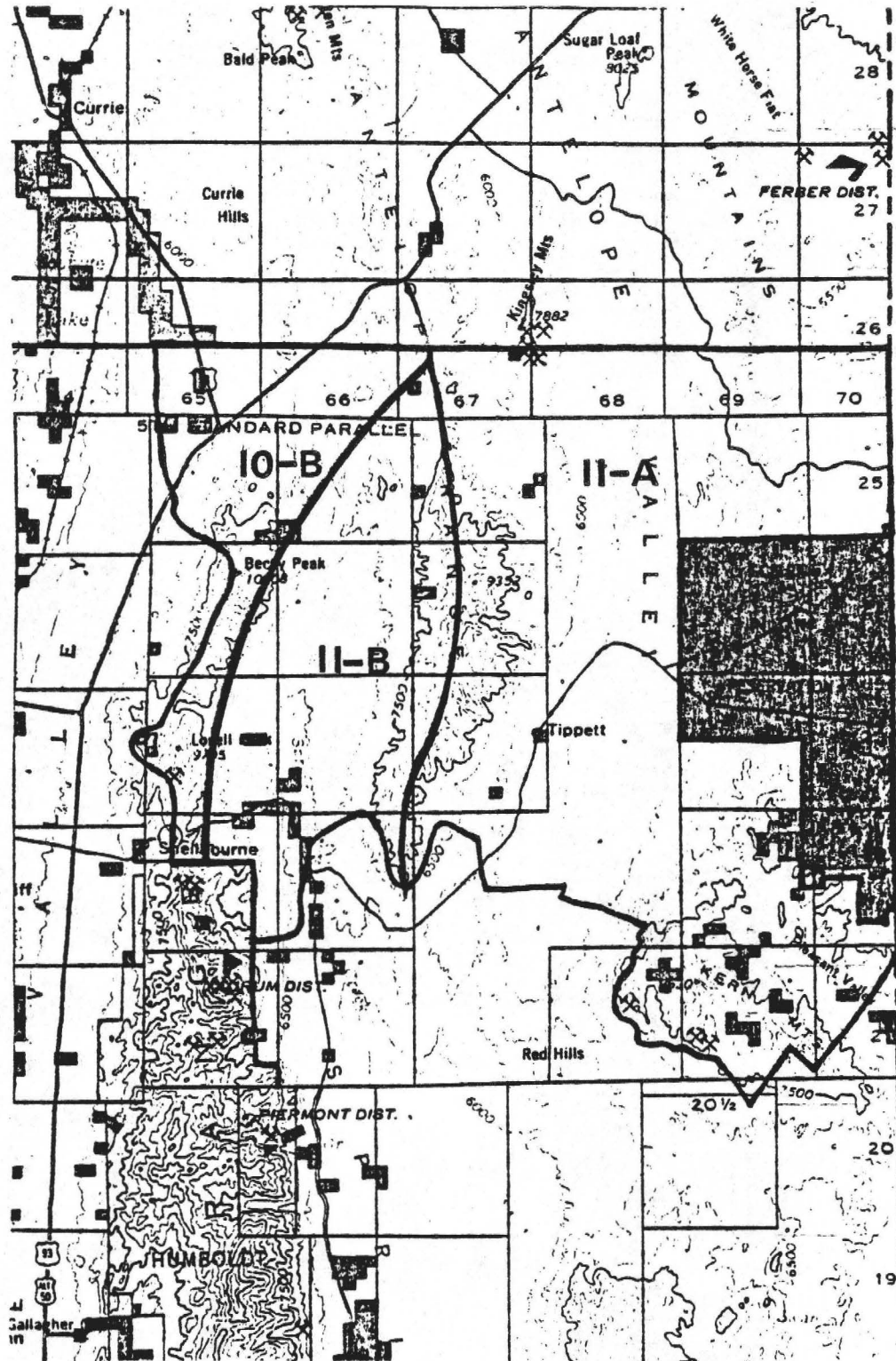


Figure B-5. NDOW Pronghorn Antelope Herd Areas within the Antelope Range Coordinated Management Plan Area, Nevada.

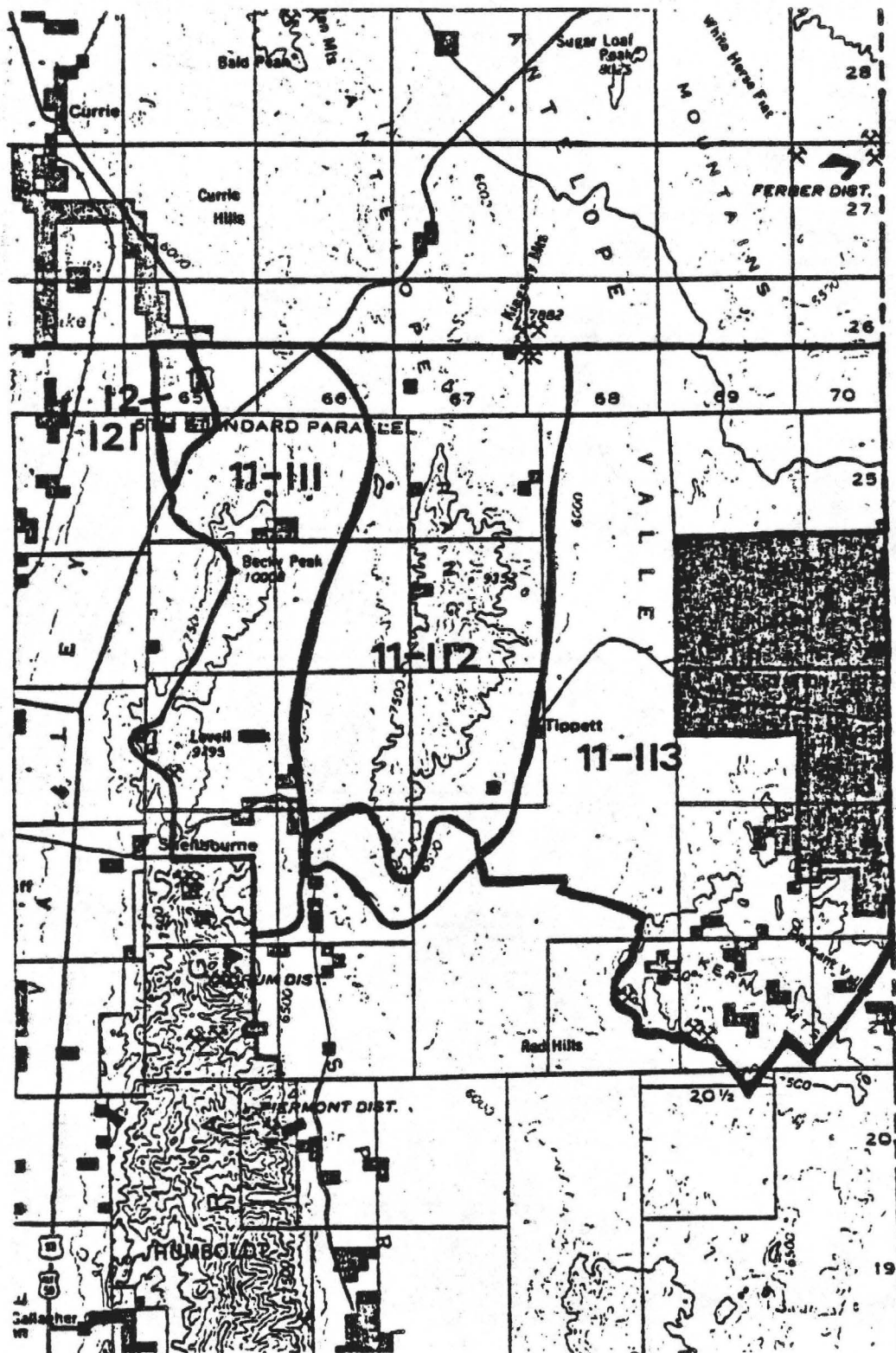


Figure B-6. NDOW Mule Deer Herd Areas within the Antelope Range Coordinated Management Plan Area, Nevada.

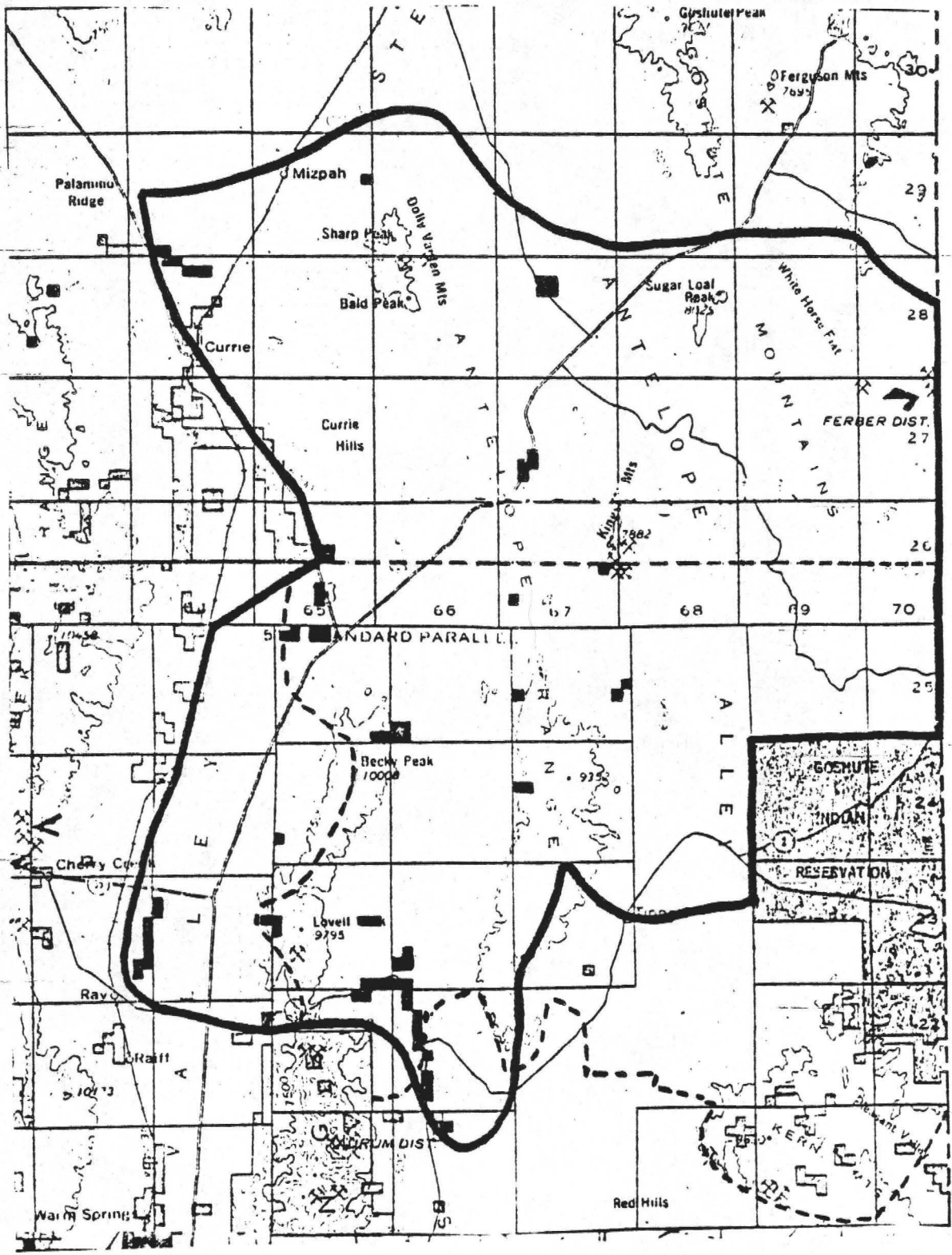
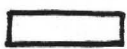
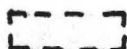


Figure B-7. Antelope Horse Herd Area within the Antelope Range Coordinated Management Plan Area and the Entire Antelope Horse Herd Area.



Antelope Horse Herd Area



Antelope Range Coordinated Management Plan Area

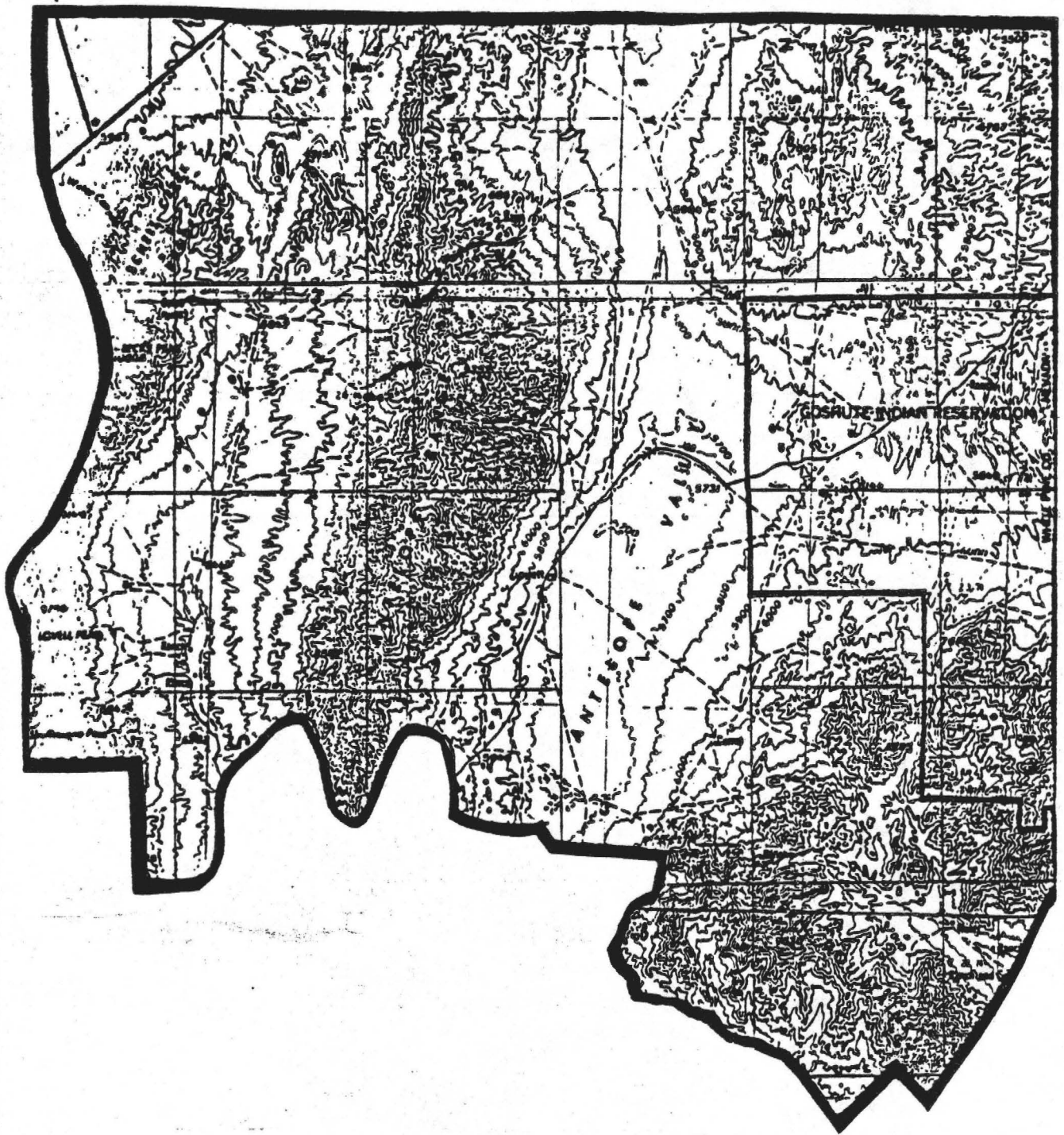


Figure B-8. Topography of the Antelope Range Coordinated Management Plan Area, Nevada.

Elevation ranges from 5,700 feet in the valleys to the 10,008 foot Becky Peak in the Schell Creek Range.

e. Climate

The climate of the Management Plan area is semi-arid. Temperatures range from -28° to 102° F. The growing season is between 90 and 120 days. Prevailing winds are from the south-southwest in the summer, from the north in the winter. Average humidity is from 40-50%. Precipitation averages 8 inches in the valley floors and increases with rises in elevation to 16+ inches in the higher mountains with an overall average of 8-9 inches. (See URA-2 for a detailed description of precipitation patterns in the area.) Some localized storms are quite intense and have caused flash flooding in Spring and Antelope Valleys. Desert shrubs which tap deep moisture reserves are dependent on the winter moisture whereas grasses and forbs are dependent on spring moisture available at shallow soil depths. Benefits from the precipitation are limited by a rapid evaporation rate. Annual free water evaporation rates range from 46-48 inches.

f. Soils

The soils of the Antelope Range Plan area reflect the extremes of elevation and topography. These vary from very shallow, extremely stony soils of the higher elevations, to very deep, gravelly soils, to nearly gravel free silty soils and playas of the lower valley floors. (See URA-3 for a complete description of the geology and soils of the area.)

g. Minerals

Mining activity began in portions of the plan area as early as 1859. Four mining districts have been established within the area with numerous isolated prospect pits scattered throughout the area. Little activity is presently occurring but could pick up as demand and technology change. (See URA-3 and 4 for a detailed description of mining districts, ore bodies and production potential.)

h. Water

The Antelope Range Plan area is well watered in the upper elevations of the Schell Creek Range, North Antelope Range and the Kern Mountains. In other parts of the plan area water is not well distributed or is lacking. Available water is provided via streams, springs, seeps, reservoirs and wells (Appendix E).

Where water currently exists, there appears to be little conflict in consumption needs between foraging animals. Problems center around water distribution, competition for space near isolated waters, seasonal availability of well water and vegetation associated with the water.

i. Flora

Ecosystems/Plant Communities

Major ecosystems in the plan area are the pinyon-juniper woodland and the cold desert ecosystem. At higher elevations small, isolated communities of coniferous forest occur. The cold desert ecosystem is composed of two major vegetative zones - the shadscale zone and the sagebrush zone. Acreages for vegetation types are shown (Table 2).

The pinyon-juniper zone, scattered throughout the area generally occurs at 6,000-8,000 feet elevation, between the shrub zone in the valleys and the conifer zone at higher elevations of the Schell Creek, Antelope Range and Kern Mountains. Stands of these trees vary in density from scattered to closed (solid) stands.

The shadscale zone is found mostly in the bottoms of the Antelope and North Spring Valleys. Plants in this zone must have a higher salinity tolerance than in other zones. Important plants in this zone are shadscale, winterfat, black sagebrush and black greasewood. This zone serves as important winter livestock forage and year-round pronghorn antelope range. Despite the low productivity, the protein content of species within this zone is high.

The sagebrush zone, which is scattered throughout the plan area, occurs between 5,500 feet and 7,000 feet elevation. Big sagebrush along with desirable perennial grasses and forbs occur in this zone. This zone is important to livestock as spring-fall range. Wild horses use this area for year-round forage. Mule deer use this zone year-round and it is especially important for winter forage. Sage grouse are dependent on this zone for nearly all aspects of the life cycle. Some stands of big sage can and have become very dense and closed.

The coniferous zone is generally located at 9,000 feet or higher. Large fir and pines characterize this zone; understory vegetation is sparse. Mule deer use these areas in summer for forage and shading. Eagles, hawks, and blue grouse need this zone for nesting, wintering and roosting.

Throughout each of these zones, small riparian areas occur with seeps, springs and creeks. Vegetation found in these areas need wetter conditions than surrounding plants. Rushes, sedges, forbs and deciduous trees that rarely occur elsewhere are found on these sites. All large ungulates, small wildlife, wild horses and livestock, use these areas for water, shade, succulent forage and to pick up trace minerals from the different vegetation (NA, 1980). Sage grouse chicks are especially dependent on these areas for insects and forbs until these are able to survive on a sagebrush diet. Some hawks, such as the Cooper's and Goshawk

Table 2. Major Vegetation Types, Acreage and Percentages of Types for the Antelope Range Coordinated Management Plan, Nevada (BLM, URA-3, 1979).

<u>Vegetation Type</u>	<u>Acreages</u>	<u>Percentage of Total</u>
Pinyon-juniper	190,535	41
Black sagebrush	93,945	20
Big sagebrush	30,342	7
Rabbitbrush	22,590	5
Winterfat	9,548	2
Shadscale	29,864	6
Black greasewood	8,949	2
Other Desert Shrubs	35,383	8
Other Mountain Shrubs	8,114	2
Nuttall saltbush	9,900	2
Mountain mahogany	4,944	1
Pinyon	11,640	3
Grasses	2,293	0.5
Conifer	1,086	0.2
Other half shrubs	608	0.1
Annual forbs	551	0.1
Riparian vegetation	589	0.1
Barren	232	0.05
	<u>461,113*</u>	<u>100%</u>

* Extension areas outside the 6 grazing allotments are not included but would be similar in percentages.

are dependent on these areas for nesting. Riparian areas are used by and are depended on by up to 97% of the non-game wildlife species that occur in the Plan area. (See URA-2 for a complete list of species associated with each vegetation zone.)

Threatened and Endangered Plants

There are no threatened or endangered plant species known from within the ARCMP area.

However, three species of sensitive plants have been located. These species are on the State of Nevada's threatened and endangered plant species "watch" list. Species under this heading have no special status but are being monitored.

The three species are Penstemon moriahensis in the Blue Mass Area, Cymopterus basalticus in Pleasant Valley, and Thelypodium sagittatum var. ovalifolium southeast of Becky Springs and south of Henriod Ranch.

Poisonous Plants

Poisonous or noxious plants other than halogeton and larkspur are quite limited in the plan area. Stockmen periodically have problems with livestock poisoning from the aforementioned plants.

j. Fauna

Domestic sheep use parts of the management plan area for summer range and winter range. Domestic cattle use parts of the area for summer and winter range. A breakdown of allotments by permittee, stock class, and AUM preference is shown (Table 3).

About 363 species of wildlife occur in the Antelope Range Coordinated Management Plan area. This includes 75 species of mammals, 247 species of birds, 11 amphibians, 28 reptiles and 1 species of fish (Steptoe Dace). (A complete listing of species can be found in Schell URA-2.)

Several species of wildlife occurring in the area are quite important. Mule deer, pronghorn antelope, mountain lions, coyotes, bobcats and kit foxes provide the main game and furbearer species. Blue grouse, sage grouse and chukar (gray) partridge and cottontail rabbits constitute the major upland game species.

Two species of wildlife within this plan area are on the Federal Threatened and Endangered Species Listing. Bald eagles, endangered, commonly winter in North Spring and Antelope Valleys.

Table 3. Livestock Operations in the Antelope Range Coordinated Management Plan area, Nevada.

<u>Allotment</u>	<u>Operator</u>	<u>Preference AUMs</u>	<u>Stock</u>
Becky Springs	Metta Richins	513	Sheep
	Warren Robison	2,399	Sheep
	Kay Lear	930	Cattle
	Total	<u>3,842</u>	
Goshute Mountain	Scott Moore	465	Sheep
Deep Creek	Rao Bateman	990	Cattle
	Mabel Bates	172	Cattle
	Dan Halstead	510	Cattle
	Reed Robison	410	Cattle
	Total	<u>2,082</u>	
Chin Creek Non-use	Reed Robison	13,115	Cattle/Sheep
	Total	<u>130</u> <u>13,245</u>	Suspended
Sampson Creek	Warren Robison	1,592	Sheep
Tippett	Bill Rosevear	5,950	Cattle
	Melvin Gardner	3,832	Sheep
	Intermountain Ranches	3,832	Sheep
	Total	<u>13,614</u>	

3842
 2082
 13245
 13614

 32,783

Peregrine falcons, endangered, have been known to migrate through this area. No nests are known to occur.

Three species in the area are on the Federal list of species which may be proposed for threatened and endangered status.

Spotted bats, category 2, may occur in the plan area which is well within its range of occurrence.

Steptoe Dace, category 2, which occur in Lookout Spring (T. 26 N., R. 67 E., sec. 30, SESE) are on the State of Nevada's and the federal sensitive list.

Ferruginous hawks which are now on a Federal special concern list, category 2, nest within the plan area.

Wild horses roam the Antelope Horse Herd area yearlong, using certain areas seasonally. The herd has the usual assorted colors of horses.

An in-depth treatment of each foraging animal and the associated foraging animal area is located in the individual management plan sections (see Sections G-I, II and III).

II. Relevant Constraints

This plan is being prepared in accordance with BLM Manual 6780 - Habitat Management Plans (12-23-81), BLM Manual 4112.15 - Allotment Management Plans (10-18-68), Nev. SO suppl. to BLM Manual 4730.6 - Wild Horse and Burro Management Plans (11-24-82) WO inst. memo 83-289, and BLM Manual 1619 Activity Plan Coordination Plan (4-6-84). Other guidance includes Schell Management Framework Plan (approved 6-1-83). (See Appendix F.)

C. Management Objectives

Management areas were chosen which could be used to address problems and measure effectiveness of solutions for each foraging animal group of the Antelope Range Plan Area. Many of these areas overlapped and could be combined so that livestock, wild horses and wildlife needs could be addressed in common (Fig. C-1). Each management area is (or will be) represented by one or more key use areas. The primary foraging animals were identified for each management area. For each management area the location, Soil Conservation Service (SCS) range site number, the district study number, and the present production and density of plant species have been identified.

Management objectives developed for the plan are divided into three categories: 1.) general objectives which cover the entire area in broad terms and define the end goals of the plan, 2.) specific objectives covering individual management areas that identify the level at which key forage species are to be managed, and 3.) area wide specific objectives that relate to the management of certain wildlife species wherever they occur in the planning area.

The specific resource objectives were developed using the SCS range site descriptions to obtain a realistic idea of potential production for each species while taking into consideration response potential of each management area based on present species composition and whether or not vegetative treatment is to be proposed (realizing that certain communities cannot respond favorably to grazing treatments alone). Also considered was the fact that the unusually high amounts of precipitation over the last 2 to 3 years have resulted in higher levels of production than could be expected in normal years. For instance, production of desirable species on some management areas exceeded potential according to range site descriptions. Although it would be desirable to maintain this high level of production, it is recognized that this may not be possible. Therefore, these species are to be maintained at the potential level, as a minimum, even though this level is less than present production. In instances where production of undesirable species, particularly shrubs, exceeded potential levels for the site, it had to be recognized that the only way to decrease this level would be vegetative treatment. Where such treatments were proposed, the objective would be to decrease the density and production of that species. For those areas where shrubs would not be reduced without losing desirable species, the objective is to maintain production of undesirable shrubs at or below present levels, which equates to preventing any increase. If desired species are producing at or near the potential for that site, the objective for these species will be to maintain present production. Following the General Section is a list of notes on specific management areas where objectives were modified as a result of the preceding situations (Appendix G).

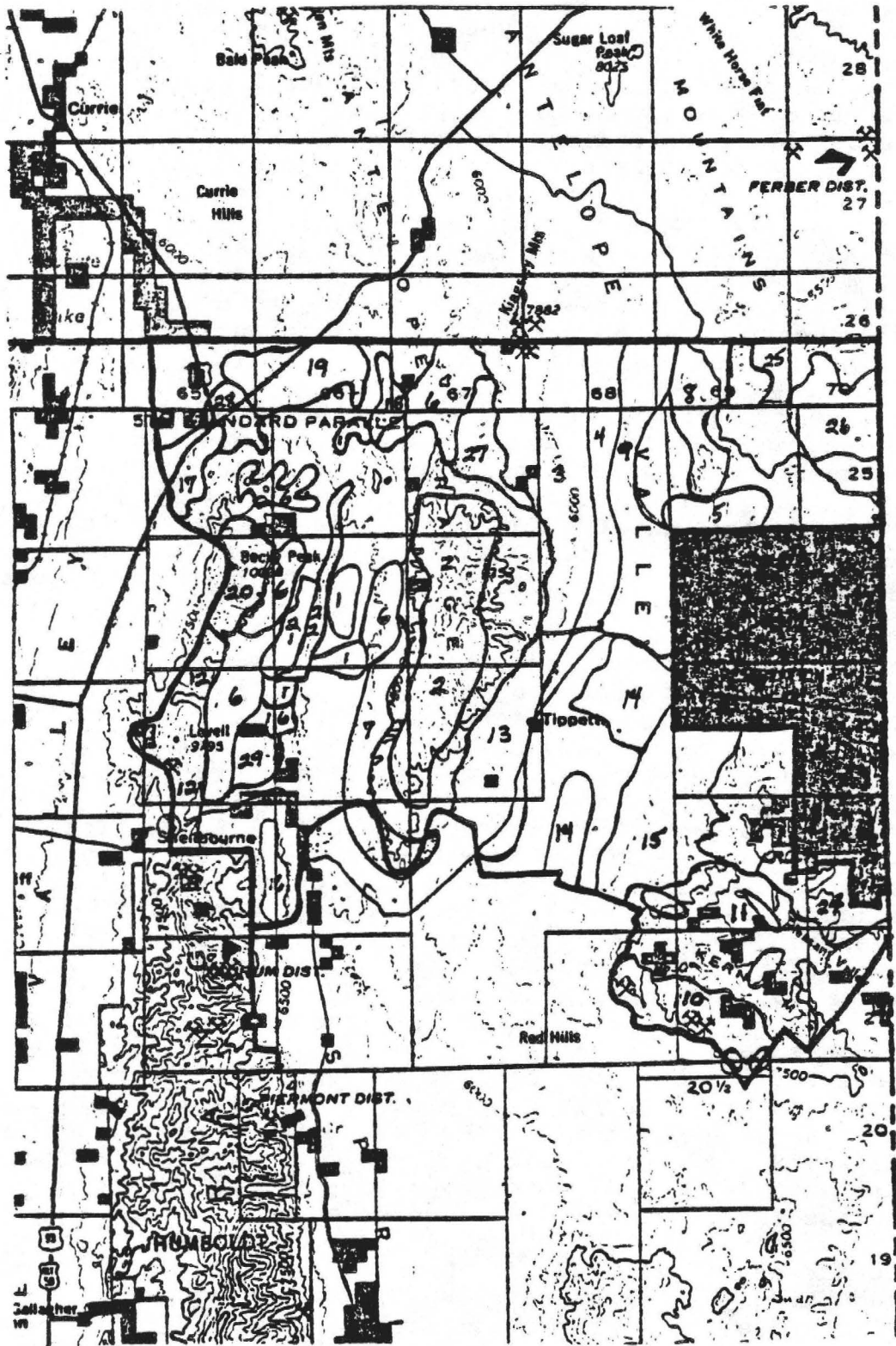


Figure C-1. Management Areas Corresponding to the Management Objectives and Management Actions for the Antelope Range Coordinated Management Plan Area, Nevada.

The specific resource objectives identify key forage species, the existing density and production, and the levels of density and production to be managed for after plan implementation. Monitoring studies will be used to measure the relative success of achieving these objectives. If the resources are responding favorably and moving toward desired levels on management areas, it is assumed that the overall area will be in upward trend in areas where conditions are improving (desirable species are increasing) or static trend in areas where good conditions are being maintained or downward trend has been halted. Under this assumption, even those species for which no data was available should be expected to respond in the same manner as the listed species. Monitoring will pick up any increases in species diversity as well as production. Also portions of the planning area were not included in management areas because these portions were not critical to the development and implementation of the plan. These areas will not be intensively monitored, but will be affected by the plan and are expected to respond in a similar manner to the management areas.

Numbers of foraging animals from which monitoring will be based are as follows:

- a. Present numbers of wildlife will be used.
- b. Interim numbers of livestock as determined in each Allotment Management Plan will be used.
- c. The 1982 wild horse inventory number of 452 animals will be used.

A summary of the plan objectives is as follows:

General Management Objectives

1. Manage for the most appropriate seral stages to provide desired quantity, quality, variety and density of forage in order to meet the requirements of the key foraging animals. The priority of uses will be established by the consensus of the livestock operators, horse and wildlife interest groups, and BLM personnel. Ecological condition trends toward or away from desired seral stages will be measured on the management areas. (See Section E, Summary of Monitoring and Evaluation.)
2. Provide sufficient forage and water resources to sustain preference levels of livestock, reasonable numbers of wildlife, and the management level of horses as determined in the ARCMP, or provide for a sustainable level of use as close to these levels as possible.
3. Reduce livestock losses to poisonous plants.

4. Provide yearlong habitat and forage for reasonable numbers of mule deer. Minimize the impact of livestock grazing on mule-deer use areas. (See Section G-III for mule deer numbers.)
5. Provide yearlong habitat and forage for reasonable numbers of antelope. Minimize the impacts of livestock grazing on documented key antelope use areas. (See Section G-III for antelope numbers.)
6. Protect raptor nesting habitat and provide and protect habitat for raptor prey species.
7. Provide nesting, brooding and wintering habitat for upland game species (sage grouse, blue grouse, chukar partridge and Hungarian partridge). Minimize the impacts of livestock grazing on sage grouse strutting/nesting grounds.
8. Work out an agreement with the owner/owners to maintain habitat for Steptoe Dace in Lookout Spring.
9. Manage riparian areas for late seral stage or appropriate stage for a specific use.
10. Maintain the wild free-roaming characteristics of the horses in the area.
11. If additional forage is available after livestock numbers reach preference levels, and reasonable wildlife numbers have been reached, all available forage will be divided proportionately among all foraging animals based on animal numbers and forage preference.

If, after all plans are fully implemented and monitoring data shows reductions of animal numbers are necessary, reductions will be made in the following manner:

- a. Where a foraging animal can be identified as the primary agent causing forage resource damage in a specific area, reductions will be made from the numbers of this particular foraging animal. This foraging animal will be determined from monitoring studies, utilization, actual use, sightings, counts, etc. (See Section E, Summary of Monitoring and Evaluation.)
- b. Where a single offending foraging animal cannot be determined in a problem area, reductions will be made proportionately according to forage preference. Whether this action will be a specific number in a specific area or an overall reduction in numbers will be determined by the circumstance involved.

(See individual activity plans, Section G, for details of how the general objectives apply to specific areas and/or foraging animals.)

Specific Management Objectives

1. Management Area - Seedings

Foraging Animal - Livestock

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 23 N., R. 66 E., sec. 6 Henriod Seeding	-		TAR 12	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	Present	Potential	Present	Potential
Crested Wheatgrass	76,000	85,000	179	200
Wyoming Big Sagebrush	3,000	maintain	110	maintain
Little Rabbitbrush	33	maintain	15	maintain

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 25 N., R. 66 E., sec. 12 Flat Spring Seeding	-		CCR 6	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	Present	Potential	Present	Potential
Crested Wheatgrass	18,000	32,000	85	150
Forbs (rockcress)*	581	2,900	2	10
Wyoming Big Sagebrush	6,000	3,000	188	100
Little Rabbitbrush	3,400	maintain	51	maintain

*Phlox and aster will be maintained at present densities.

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 24 N., R. 66 E., sec. 3, NE ⁴ North Creek Seeding	-	CCR 5

Species	Density (Plants/Acre)		Production (Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass*	38,000	41,000	184	200
Forbs (pricklygilia)**	27,000	34,000	8	10
Black Sagebrush	12,000	10,000	467	400
Horsebrush	534	maintain	6	maintain

**Phlox and penstemon will be maintained at present densities.

*The goal may be to increase acres of crested wheatgrass instead of plants/acre.

One area of big sagebrush is used by sage grouse for hunting pressure escape cover and possibly wintering. This area will be maintained at the present density of 400 plants/acre.

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 24 N., R. 66 E., sec. 34 Robison Seeding	-	CCR 7

Species	Density (Plants/Acre)		Production (Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass	17,000	637,500	4	150
Squirreltail	11,600	maintain	1	maintenance
Bluegrass	8,700	maintain	13	maintenance
Black Sagebrush	4,300	2,300	370	200
Winterfat	2,300	7,700	3	10

2. Management Area - Antelope Mountains - Chin Creek, Tippet Allotments

Foraging Animals - Upland Game Birds, Deer Summer, Cattle, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 67 E., sec. 9, SW ⁴	028B-37N		CCR 3	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	Present	Potential	Present	Potential
Bluebunch Wheatgrass	30,000	31,000	221	230
Bluegrass	101,000	maintain	75	maintain
Squirreltail	-	-	3	10
Bluegrass (Nevada)	-	-	38	maintain
Forbs	59,000	maintain	113	maintain
Black Sagebrush	45,000	maintain	250	maintain

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 25 N., R. 67 E., sec. 31, SWNE	028B026N		CCW 2	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	Present	Potential	Present	Potential
Bluegrass	-	-	9	20
Squirreltail	-	-	31	maintain
Thurber Needle&Thread	14,000	maintain	20	maintain
Bluegrass (Pine)	-	-	30	maintain
Western Wheatgrass	-	-	30	maintain
Letterman Needle&Thread	3,000	maintain	24	maintain
Forbs	63,000	maintain	280	maintain
Sedge	40,000	maintain	27	maintain
Chokecherry*	3,700	14,000	13	50
Snowberry	3,000	42,800	70	100
Mountain Big Sagebrush	2,800	maintain	191	maintain

*May not increase plants/acre just production.

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 67 E., sec. 33	028B030N		TAR 15	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Western Wheatgrass	204,000	maintain	145	
Letterman Needle&Thread	581	maintain	-*	-
Bluegrass	-	-	6	10
Forbs	12,000	25,000	37	75
Larkspur	-	-	6	10
Mountain Big Sagebrush	2,000	1,400	698	500
Snowberry	-	-	2	10

*This grass was not a listed production component of the range site as it occurs at very low density. It should be maintained as an indicator of diversity.

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 23 N., R. 67 E., sec. 17	028B022N		TAR 14	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Western Wheatgrass	23,000	60,000	38	100
Sedge	1,500,000	3,000,000	35	70
Muhly	6,000	9,000	27	40
Bluegrass	2,000	11,000	7	40
Forbs	176,000	377,000	70	150
Mountain Big Sagebrush	16,000	11,000	57	40

3. Management Area - East Antelope Bench-North - Chin Creek Allotment

Foraging Animals - Antelope Kidding Ground, Pronghorn Antelope Winter, Cattle, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 68 E., sec. 8, SWNE	D28A002N		CCR 8	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Squirreltail	45,000	maintain	379	maintain above 30
Indian ricegrass	1,000	5,000	19	100
Forbs (Globemallow)	2,900	29,000	1	10
Shadscale	1,500	4,500	10	30
Bud Sagebrush	16,000	26,000	18	30
Winterfat	23,000	maintain*	35	100
Little Rabbitbrush	29,000	maintain	55	maintain

*Plant density may be acceptable or allowed to increase some.
Production on existing plants can be greatly increased.

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 68 E., sec. 8, NWNW	D28A002N		CCW 1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian ricegrass	8,700	13,000	50	75
Squirreltail	7,500	maintain	69	maintain
Forbs	-	-	1	25
Shadscale	1,100	2,000	21	30
Black Sagebrush	267	maintain	11	maintain
Winterfat	580	4,800	3	25
Little Rabbitbrush	16,000	maintain	103	maintain
Bud Sagebrush	-	-	3	15

4. Management Area - Antelope Valley Bottom - Chin Creek Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Cattle, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 25 N., R. 68 E., sec. 27, SW ⁴	D28A001N		CCR 1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Nuttall's Saltbush	8,700	maintain	29	maintain
Winterfat*	9,800	+	164	245

*Plant density may be acceptable or allowed to increase some. Production on existing plants can be greatly increased. Under management grasses and forbs may become more abundant.

5. Management Area - Ayarbe - Chin Creek Allotment

Foraging Animals - Pronghorn Antelope Winter, Sheep, Cattle Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 25 N., R. 69 E., sec. 31, SWNE	D028A-124U		CCW 3	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian ricegrass	580	1,300	22	50
Squirreltail	8,100	maintain	43	maintain
Needle & Thread	8,700	maintain	205	maintain above 50
Bluegrass	5,800	maintain	6	maintain
Forbs (Globemallow)	2,300	+	T	15
Shadscale	1,400	4,300	32	100
Black Sagebrush	400	-	T	10
Little Rabbitbrush	21,000	maintain	147	maintain

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 25 N., R. 69 E., sec. 28, SE ⁴	D028A004N		CCR 4	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian ricegrass	10,000	maintain	100	maintain
Squirreltail	3,400	-	T	10
Needle & Thread	-	-	79	maintain above 60
Forbs (Globemallow)	2,000	-	T	12
Little Rabbitbrush	12,000	maintain	12	maintain
Winterfat	3,000	24,000	5	40
Shadscale	900	3,600	6	12
Black Sagebrush	67	-	296	maintain above 180
Pricklypear	1,100	maintain	124	maintain

6. Management Areas -

Foraging Animals -

Antelope Mountains

Pronghorn Antelope Winter, Mule Deer Summer & Winter, Pronghorn Antelope Yearlong, Cattle, Sheep, Wild Horses. Chin Creek Allotment

Cedar Pass

Cattle-Sheep, Mule Deer Summer/Winter. Tippett Allotment

Sharp Creek

Pronghorn Antelope Yearlong, Cattle-Sheep, Mule Deer Winter, Wild Horses. Chin Creek Allotment

East Schell Bench

Pronghorn Antelope Yearlong, Mule Deer Winter, Sheep, Wild Horses. Sampson Creek Allotment

These treatment areas will have key areas established at the time treatment is done. At this time, specific management objectives will be established by species. In general pinyon-juniper will be reduced. Preferred forage will be increased to the following approximate percentages:

Grasses (40-60%) (5-10 species).
 Forbs (10-30%) (20-40 species).
 Shrubs (5-30%) (5-10 species).

Exact species and composition will be determined at the time of treatment based on what can grow on the specific sites.

7. Management Area - Sharp Creek - Chin Creek Allotment, Tippet Allotment, Tippet Pass Allotment

Foraging Animals - Deer Winter, Wild Horses, Cattle-Sheep

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

8. Management Area - Black Hills - Chin Creek Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Wild Horses

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

9. Management Area - East Antelope Valley - Chin Creek Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Cattle, Wild Horses

<u>Location</u>	<u>S. C. S.</u>		<u>Studies Number</u>	
	<u>Range</u>	<u>Site</u>		
T. 26 N., R. 68 E., sec. 26, SW ⁴	D28A002N		CCR 2	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian ricegrass	11,000	maintain	103	maintain
Squirreltail	3,500	-	1	10
Forbs	-	-	T	10
Winterfat	15,000	26,000	68	120
Little Rabbitbrush	20,000	maintain	78	maintain
Bud Sagebrush	3,000	-	T	12
Nuttall's Saltbush	1,000	maintain	19	maintain

10. Management Area - Tungstonia Seeding - Tippet Allotment

Foraging Animals - Deer Winter, Cattle-Sheep

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 20 N., R. 69 E., sec. 33	028B060N	TAR 13

Species	Density (Plants/Acre)		Production(Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass	22,000	25,000	140	160
Brome	73,000	maintain	12	50
Western Wheatgrass	22,000	maintain	72	maintain
Slender Wheatgrass	-	maintain	11	maintain
Great Basin Wildrye	-	-	5	8
Bluebunch Wheatgrass	-	-	26	50
Forbs	-	-	12	maintain
Wyoming Big Sagebrush	133	maintain	30	maintain
Antelope Bitterbrush	-	maintain	14	40
Pinyon Pine	100	maintain	maintain	maintain
Juniper	167	maintain	maintain	maintain

11. Management Area - Multiple Use Chainings - Tippet Allotment

Foraging Animals - Deer Yearlong, Cattle-Sheep

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 22 N., R. 68 E., sec. 25, NE ⁴ Moffatt Chaining	028B007N	TAR 9

Species	Density (Plants/Acre)		Production(Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass	23,000	maintain	194	maintain
Wheatgrass sp.	1,000	7,600	5	38
Western Wheatgrass	3,000	maintain	23	maintain
Indian Ricegrass	1,000	1,500	19	30
Forbs	T	-	T	10
Wyoming Big Sage	167	maintain	133	maintain
Juniper	100	maintain	maintain	maintain
Pinyon Pine	66	maintain	maintain	maintain

Location _____ S. C. S. Range Site _____ Studies Number _____
 T. 22 N., R. 69 E., sec. 27, SE⁴ 028B007N TAR 10
 Blind Spring Chaining

Species	Density (Plants/Acre)		Production(Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass	110,000	maintain	368	maintain
Needle and Thread	10,000	25,000	4	10
Squirreltail	11,000	16,000	7	10
Western Wheatgrass	10,000	maintain	10	maintain
Bluegrass	97,000	100,000	4	10
Forbs	-	-	T	10
Big Sagebrush	100	maintain	maintain	maintain
Antelope Bitterbrush	167	200	7	25
Juniper	223	maintain	maintain	maintain

Location _____ S. C. S. Range Site _____ Studies Number _____
 T. 21 N., R. 69 E., sec. 15 028B007N TAR 11
 Rock Spring Chaining

Species	Density (Plants/Acre)		Production(Pounds/Acre)	
	Present	Potential	Present	Potential
Crested Wheatgrass	66,000	maintain	227	maintain
Bluegrass	32,000	maintain	41	maintain
Brome Grass	23,000	maintain	3	10
Needleandthread	11,000	16,000	20	30
Forbs	-	-	27	35
Wyoming Big Sagebrush	1,598	maintain	150	maintain

12. Management Area - Schell Range - Tippett Allotment

Foraging Animals - Upland Game Birds, Deer Summer, Cattle-Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 23 N., R. 65 E., sec. 8, SW ⁴ Calcutta Burn	028B062N		TAR 1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Crested Wheatgrass	24,000	maintain	196	maintain
Bluebunch Wheatgrass	13,000	maintain	37	maintain
Western Wheatgrass	53,000	maintain	5	maintain
Needle and Thread	2,000	maintain	16	maintain
Bluegrass	3,000	maintain	1	maintain
Great Basin Wildrye	-	-	117	maintain above 20
Aster	3,227	maintain	3	maintain
Groundsel	3,227	maintain	16	maintain
Phlox	95,000	maintain	4	maintain
Lambsquarter	1,600	maintain	2	maintain
Calycoseris	1,600	maintain	2	maintain
Mountain Big Sagebrush	3,500	maintain	235	maintain above 180
Snowberry	799	maintain	393	maintain above 60

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 65 E., sec. 27, SW ⁴ Calcutta Burn	D028B037N		TAR 2	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Bluebunch Wheatgrass	16,000	maintain	50	maintain
Bluegrass	31,000	maintain	47	maintain above 10
Squirreltail	13,000	maintain	8	maintain
Hawksbeard	1,600	maintain	30	maintain above 20
Phlox	48,000	maintain	2	maintain
Buckwheat	4,800	maintain	5	maintain
Aster	16,000	maintain	47	maintain above 20
Low Sagebrush	71,000	maintain	331	maintain above 150

13. Management Area - East Antelope Bench - Tippet Allotment

Foraging Animals - Pronghorn Antelope Winter, Sheep-Cattle

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 22 N., R. 67 E., sec. 11, SE ⁴ Calcutta Burn	D28X137U		TAR 6	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	10,000	21,000	47	100
Squirreltail	4,000	20,000	2	10
Shadscale	1,000	12,500	4	50
Little Rabbitbrush	4,000	maintain	95	maintain

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 22 N., R. 67 E.	D28X137U		TAW 2	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Squirreltail	7,000	40,000	14	80
Indian Ricegrass	6,000	17,000	16	45
Forbs	-	-	-	10
Shadscale	1,000	2,000	29	60
Little Rabbitbrush	38,000	maintain	111	maintain

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 68 E., sec. 30	D28X122U		TAR 5	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	11,000	maintain	178	maintain above 125
Shadscale	400	4,000	1	10
Little Rabbitbrush	6,000	maintain	61	maintain

14. Management Area - Antelope Valley - Tippet Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Cattle-sheep

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 23 N., R. 68 E., sec. 2, NW ⁴	D28X124U	TAR 3

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	18,000	20,000	91	100
Bluebunch Wheatgrass	130,000	maintain	134	maintain above 50
Forbs	5,000	17,000	3	10
Phlox	-	-	18	maintain above 15
Little Rabbitbrush	18,000	maintain	34	maintain
Shadscale	-	-	T	15

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 23 N., R. 68 E., sec. 1, NW ⁴	028A001N	TAR 4

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	7,000	15,000	23	50
Squirreltail	1,162	-	T	10
Winterfat	12,000	-	255	maintain above 245

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 22 N., R. 68 E., sec. 21, SW ⁴	028A001N	TAR 7

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Winterfat	300,000	maintain	415	maintain above 245
Grasses may increase under management.				

15. Management Area - East Antelope Valley South - Tippet Allotment
Foraging Animals - Pronghorn Antelope Yearlong, Cattle-Sheep

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 23 N., R. 68 E., sec. 34	028A002N	TAR 8

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	42,000	51,000	123	150
Squirreltail	-	-	T	10
Winterfat	89,000	maintain	323	maintain above 200
Bud Sagebrush	1,600	2,000	23	30

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 22 N., R. 69 E., sec. 13, NWNE	D028X252U	TAW 1

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production (Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	581	2,000	5	15
Squirreltail	17,000	85,000	2	10
Bluegrass	2,300	11,500	1	5
Forbs	2,300	-	T	10
Winterfat	3,400	34,000	1	10
Black Sagebrush	2,000	2,300	138	160
Mormon Tea	67	maintain	T	maintain
Little Rabbitbrush	11,000	maintain	18	maintain below 30

16. Management Area - Spring Gulch North/Stone House - Tippet Allotment

Foraging Animals - Deer Winter, Sage Grouse, Cattle-Sheep, Wild Horses

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

17. Management Area - Water Canyon - Becky Springs Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Sheep-Cattle, Wild Horses

<u>Location</u>	<u>S. C. S.</u> <u>Range Site</u>	<u>Studies Number</u>
T. 25 N., R. 65 E., sec. 22, SW ⁴	028B011N	BSR 1

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass*	1,700	8,500	2	10
Bluegrass	82,000	maintain	149	maintain above 75
Aster	580	1,160	3	6
Phlox	-	-	4	8
Black Sagebrush	2,400	3,000	134	160
<u>Bud Sagebrush</u>	67	-	T	15
Winterfat	334	maintain	82	maintain above 70
Little Rabbitbrush	6,000	maintain	76	maintain

*Because of the large amount of bluegrass, Indian ricegrass may not be able to increase substantially.

18. Management Area - Lookout Springs - Becky Springs Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S.</u> <u>Range Site</u>	<u>Studies Number</u>
T. 26 N., R. 66 E., sec. 25, SW ⁴	028B011N	BSR 2

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Squirreltail	3,000	maintain	29	maintain above 15
Bluegrass	4,000	13,000	3	10
Lambsquarter	-	-	3	5
Black Sagebrush	4,000	maintain	358	maintain above 210
Little Rabbitbrush	600	maintain	15	maintain below 35

<u>Location</u>	<u>S. C. S. Range Site</u>	<u>Studies Number</u>
T. 26 N., R. 67 E., sec. 31	028B011N	BSR 3

<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Squirreltail	5,000	8,300	6	10
Bluegrass	2,000	10,000	T	5
Phlox	1,200	2,400	4	8
Black Sagebrush	3,000	maintain	112	120
Little Rabbitbrush	5,800	maintain	230	maintain

19. Management Area - Old Highway Bench - Becky Springs Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Sheep-Cattle, Wild Horses

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

20. Management Area - Becky Peak - Sampson Creek Allotment

Foraging Animals - Deer Summer, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 65 E., sec. 2, NE ⁴	028B054N		SCR 1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Bluebunch Wheatgrass	1,000	2,000	15	30
Squirreltail	16,000	maintain	69	maintain above 25
Bluegrass	33,000	maintain	131	maintain above 100
Sedge*	130,680	maintain	18	maintain
Needle and Thread	10,000	20,000	6	12
Lupine	1,000	maintain	38	maintain above 10
Hawksbeard	-	-	5	maintain
Phlox	35,000	23,000+	15	maintain above 10
Locoweed	6,000	maintain	7	maintain
<u>Hymenoxis</u>	-	-	5	maintain
Buckwheat	-	-	2	maintain
Sandwort	-	-	6	maintain
Other Forbs	-	-	22	maintain above 10
Low Sagebrush	14,000	-	500	maintain above 200

*Sedge is not a major site component. It is to be monitored for diversity.

21. Management Area - Low Sage Foothills - Sampson Creek Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Sheep, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
T. 24 N., R. 66 E., sec. 30	028B011N		SCR 2	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Bluegrass	8,000	maintain	24	maintain above 14
Squirreltail	6,000	maintain	17	maintain above 14
Black Sagebrush	7,000	maintain	339	maintain above 210
Wyoming Big Sage	67	maintain	29	maintain
Little Rabbitbrush	400	maintain	11	maintain below 35

22. Management Area - Spring Valley Bottom - Sampson Creek Allotment
Foraging Animals - Pronghorn Antelope Yearlong, Sheep,
Wild Horses

<u>Location</u>	<u>S. C. S.</u>		<u>Studies Number</u>	
	<u>Range Site</u>			
T. 24 N., R. 66 E., sec. 32, NE	028B013N		SCR 3	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	42,000	210,000	15	75
Squirreltail	45,000	maintain	146	maintain
Western Wheatgrass	-	-	49	maintain
Forbs	-	-	-	-
Winterfat*	233,000	236,000	296	300
Wyoming Big Sage*	-	-	-	-

The transect is located in remnant winterfat, the key species. Winterfat is to be increased in acreage at the expense of the big sage. Winterfat overall production and density on the existing will increase also but is not the major objective.

24. Management Area - South Indian Reservation - Tippet Allotment
Foraging Animals - Deer Summer, Cattle

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

25. Management Area - Goshute Mountain Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Sheep, Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
	T. 26 N., R. 69 E., sec. 35, SE ⁴ 028X252U		GMR 1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	-	-	3	5
Squirreltail	-	-	12	15
Black Sagebrush	15,000	maintain	314	maintain above 240
Shadscale	1,000	3,000	6	20
Little Rabbitbrush	3,400	maintain	38	maintain

26. Management Area - Deep Creek Allotment

Foraging Animals - Pronghorn Antelope Yearlong, Cattle, Wild Horses

<u>Location</u>	<u>S. C. S. Range Site</u>		<u>Studies Number</u>	
	T. 26 N., R. 70 E., sec. 33, SW ⁴ 028X252U		DCR-1	
<u>Species</u>	<u>Density (Plants/Acre)</u>		<u>Production(Pounds/Acre)</u>	
	<u>Present</u>	<u>Potential</u>	<u>Present</u>	<u>Potential</u>
Indian Ricegrass	16,000	31,000	13	25
Squirreltail	5,000	maintain	56	maintain above 50
Bluegrass	11,000	maintain	48	maintain above 25
Needle and Thread	2,000	-	T	10
Galleta Grass	2,000	-	T	10
Phlox	-	-	6	10
Globemallow	-	-	6	10
Bud Sagebrush	-	-	2	5
Prostrate Molly	11,000	-	T	5
Shadscale	867	1,500	29	50
Little Rabbitbrush	23,000	maintain	282	maintain above 200

27. Management Area - East Chin Creek - Chin Creek Allotment

Foraging Animals - Pronghorn Antelope Winter/Yearlong,
Wild Horses, Cattle-Sheep

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

28. Management Area - Becky Springs Area - Becky Springs Allotment

Foraging Animals - Pronghorn Antelope - Winter/Yearlong,
Wild Horses, Cattle/Sheep

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

29. Management Area - Spring Gulch South - Tippett Allotment

Foraging Animals - Pronghorn Antelope - Yearlong, Wild Horses

No specific resource objectives were developed for this Management Area because no key areas have been established yet. Until now, there has been no need for key areas here. Implementation of planned actions will be necessary in this area to help meet objectives in other Management Areas. As implementation occurs and use patterns develop, key areas and specific resource objectives will be established.

Maintain 21% shrub cover not to exceed a maximum height of 24 inches for sage grouse strutting and nesting areas.

Allotment specific, wild horse specific and wildlife specific management objectives are listed in detail in each individual foraging animal plan (see AMP, WHMP, HMP).

Area Wide Specific Management Objectives

1. Riparian Areas

- a. Maintain the present physical and vegetation conditions of 34 reservoirs, springs and ponds. (See Appendix E.)
- b. Improve 33 springs and ponds by increasing water flow and access wildlife, wild horses and livestock. (See list in HMP, Section GII.)
- c. Improve 33 riparian areas on wet meadows, riparian, aspen, cottonwood ecological sites to late seral stage by increasing the number of plants. (See list in HMP, Section GII.)

2. Upland Game - chukar, blue grouse, Hungarian partridge, sage grouse.

- a. Maintain present stands of mahogany, limber pine, white fir for blue grouse.

b. Sage grouse strutting and nesting areas:

1. 21% shrub cover, not to exceed a maximum height of 24 inches.
2. Limit sheep use in critical nesting and strutting grounds during the spring. (See Fig. GII-3.)

c. Raptors

1. Maintain the condition of known nest sites and or roost trees.
2. Maintain pinyon-juniper stringers.
3. Maintain present vegetation mosaic.

d. Accipter

1. Improve nesting habitat by:
 - a. Use management guidelines for nesting habitat.
 - b. Assurance of 5-10% cottonwood reproduction survival and 5-10% of quaking aspen reproduction and survival.

3. Other Game and Non-game Animals

- a. Maintain the present mix of vegetation communities to maximize animal diversity.

D. Management Action Summary

Management actions that are to be initiated and funded by an individual foraging animal group are identified and described in detail in the separate management plan for each foraging animal (see Sections G-I, II, III). The following summary will tie individual management actions back to the coordinated plan so these actions can be viewed as a whole. Like the management objectives, the management actions are tied back to the entire ARCMP area and specific management areas within the plan area (Fig. C-1).

The following actions are planned to protect, improve and maintain forage for the various foraging animal groups within the Antelope Range Coordinated Management Plan area:

One general objective, 8, has management actions for maintenance of the existing situation at Lookout Spring. This is as follows:

G.O. 8 Lookout Spring

- a. Implement a habitat maintenance program.

Specific management actions are as follows:

1. Seedings

Flat Nose Spring Seeding

- a. Fence seeding using deer/antelope specifications.
- b. Extend boundary fence to the west.
- c. Re-seed where necessary.
- d. Provide water to the seeding.
- e. Provide water near the seeding.

North Creek Seeding

- a. Fence seeding using deer/antelope specifications.
- b. Remove sagebrush bypassing sage grouse use areas.
- c. Provide water to the seeding.

Robison Seeding

- a. Fence seeding using deer/antelope specifications.
- b. Remove sagebrush bypassing sage grouse use areas.
- c. Provide water to seeding.

Henriod Seeding

- a. Establish a grazing system.
- b. Maintain the seeding; remove brush.

2. Antelope Mountains

- a. Remove 150 head of wild horses. *
- b. Establish seasonal use areas for livestock.
- c. Construct antelope guzzler at the south end of the area; construct deer watering facilities.
- d. Improve or develop springs (North, Sand, South).
- e. Construct drift fences on major drainages.
- f. Construct a pasture on North Creek for livestock and wildlife.
- g. Evaluate forage use and condition for future bighorn sheep into the North Schell Creek Range, Antelope Range and Kern Mountains.
- h. Improve Middle Creek and Chin Creek riparian areas for sage grouse and mule deer fawning.
- i. Develop livestock handling facility (i.e. shipping corral).

* Horse removal may come from management areas 2 and 3 but will affect the area from north of Eureka Summit, Sampson Creek and the entire Antelope Range.

3. East Antelope Bench - North

- a. Establish a grazing system to ease pressure on the antelope kidding ground and to distribute livestock.
- b. Interseed forbs on the kidding ground.
- c. Develop Cottonwood Spring on the bench to get livestock spread on the bench as part of a grazing system.
- d. Develop Reed Spring.

4. Antelope Valley - North

- a. Establish a deferred grazing system.
- b. Insure yearlong antelope water when the system is implemented.
- d. Construct an east-west division fence for the system.

5. Ayarbe Spring

- a. Establish a livestock grazing system.
- b. Redevelop Ayarbe Spring.

6. East Schell Bench, Antelope Mountains, Sharp Creek, Cedar Pass

- a. Initiate commercial woodcutting on 6,000+ acres.
- b. Remove remaining trees and re-seed with a mixture.
- c. Protect converted areas until established.
- d. Develop water to be used in the cleared area.
- e. Establish cattle trails where needed.

7. West Antelope Bench

- a. Establish a grazing system to allow successful seeding of browse species.
- b. Limit use on browse species to 45% by all foraging animals combined.
- c. Fence springheads at Dipping Tank, T. 22 N., R. 66 E., sec. 10, Spring to prevent degradation and increase water flow.
- d. Correct head cutting on Sharp Creek.
- e. Erect small game and bird guzzlers at Tippett Pass.

8. Black Hills

- a. Develop Domingo Spring.
- b. Establish a season of use.

9. East Antelope Valley

- a. Construct an antelope guzzler.
- b. Develop water in the south and north of the area.
- c. Use this area as part of a grazing system.

10. Kern Mountains - North

Lunch Valley, Tungstonia Seedings

- a. Establish control of livestock on the seedings (see Entire Area - b).
- b. Establish seasons of use on seeding conducive to increasing grass/forbs and shrubs.
- c. Interseed forbs in selected areas.

Entire Area

- a. Establish grazing system to control season of use.
- b. Construct a fence to control use on seedings.

11. Kern Mountains - South

Rock Spring, Blind Spring, Moffatt Seedings

- a. Establish control of seedings (see Entire Area - a).
- b. Establish seasons of use on seedings conducive to increasing grass/forbs and shrubs.
- c. Interseed forbs in selected areas.
- d. Reduce closed stands of big sagebrush.

Entire Area

- a. Establish grazing system to control season of use.
- b. Defer grazing on dense stands of bitterbrush and snowberry.
- c. Fence boundary between Bill Rosevear, Willard Henriod use areas.
- d. Fence east to west to control the seedings and allow incorporation into the grazing system.

12. Schell Creek Range

Calcutta Burn Area

- a. Maintain present grazing patterns and season of use.
- b. Limit use on browse species to 45% by all foraging animals combined.
- c. Redevelop springs (see individual plans).
- d. Fence springheads to prevent degradation and to improve water flow.

Native Area

- a. Use prescribed burns in selected sage areas to stimulate grass/forb production.
- b. Use confined fire areas as outlined in the Antelope Range Fire Management Plan.
- c. Develop and redevelop spring sources (see individual plans).
- d. Develop supplemental waters (guzzlers) within 10 years for dry years.
- e. Defer livestock turn on dates to July 1.

13. East Antelope Bench - South

- a. Establish a grazing system part of which would rest area south of Antelope Spring every other year from sheep use. This is a key antelope winter area.
- b. Sheep camps will be kept within 1/4 mile west of the main Tippet Road January-March to avoid the aforementioned antelope wintering area.
- c. Develop water between Tunnel Canyon and Tippet Ranch.
- d. Limit use on shrubs to 45% by all foraging animals combined on the key antelope winter area.
- e. Interseed forbs in the key antelope winter area.

14. Antelope Valley - South

- a. Construct an antelope guzzler.
- b. Deepen a catchment reservoir in the valley bottom.
- c. Establish a grazing system.
- d. Construct fence across valley to facilitate grazing system.
- e. Develop water in the north area.

15. Antelope Valley - Southeast

- a. Establish a grazing system.
- b. Redevelop Cedar Spring.
- c. Construct fences for the grazing system.

16. Spring Gulch North/Stone House

- a. Defer sheep use and trailing across sage grouse strutting grounds and nest sites April 15-May 15.
- b. Convert closed big sagebrush areas and protect these.
- c. Develop water for converted areas.

17. Water Canyon

- a. Establish grazing system to defer turn on until forbs and grasses have reached 80% growth.
- b. Redevelop Moonshine Spring pipeline system.
- c. Fence the highway and southern boundary of the allotment.

18. Lookout Spring Area

- a. Avoid livestock use and trailing across sage grouse strutting grounds and nest sites April 15-May 15.
- b. Improve distribution during the growing season.
- c. Develop Lookout Spring pipeline.

19. Old Highway Bench

- a. Construct an antelope guzzler.
- b. Avoid sheep use and trailing across sage grouse strutting grounds and nest areas April 15-July 1.
- c. Convert selected areas of sagebrush.
- d. Convert areas of halogeton.

20. Becky Peak

- a. Develop springs (see individual plans). Fence springheads to prevent degradation and increase water flow.
- b. Develop supplemental water for wildlife for dry years.
- c. Treat selected big sage areas to improve forage and browse species.

21. Low Sage Foothills

- a. Rotate use during lambing.
- b. Limit use on shrubs to 45% by all foraging animals combined.
- c. Avoid sheep use and trailing across sage grouse strutting grounds and nest areas April 15-June 1.
- d. Provide water to the area.

22. Spring Valley - White Sage Bottom

- a. Reduce closed big sagebrush stands. Re-establish forage species and treat all white sage stands where big sagebrush is invading.
- b. Interseed forbs in selected areas.
- c. Protect treated areas through management facilities and techniques.

23. South Goshute Reservation

- a. Limit use on shrubs, specifically bitterbrush, cliffrose and snowberry to 45% by all foraging animals combined.
- b. Convert big sage stands to a mixed grass/forb area.
- c. Establish a grazing system.
- d. Develop water.

24. Goshute Mountain Allotment

- a. Develop water.
- b. Construct an antelope guzzler.
- c. Maintain present grazing practices.

25. Deep Creek Allotment

- a. Construct two antelope guzzlers - one to the north, one to the south in the area.
- b. Develop waters for stock and other foraging animals.
- c. Establish seasons of use.
- d. Construct a fence along the southwest boundary and another fence along the Elko-White Pine BLM District boundaries.

26. East Chin Creek

- a. Establish a deferred grazing system and allow 70% of the black sagebrush acreage to be grazed yearly.
- b. Limit use on shrubs to 45% by all foraging animals combined.
- c. Develop a pipeline from Stockade Spring and Kingsley Spring to the bench.
- d. Facilitate antelope watering at Stockade Spring by deepening reservoir, removing old wire around part of reservoir and removing pinyon-juniper south of the spring to make entrance corridors.
- e. Develop livestock handling facilities (i.e. shipping corral).

27. Becky Spring Area

- a. Develop the spring between Becky Spring and Water Canyon.
- b. Construct permanent shearing corral at pipeline vent.
- c. Redevelop Becky Springs and Becky Springs pipeline.
- d. Grazing deferred after March 15.

28. Spring Gulch - South

- a. Interseed forbs in selected areas.
- b. Develop supplemental antelope water.

Area wide specific Management Actions are as follows:

1. Riparian Areas

- a. Maintain the present land use patterns on 34 reservoirs, springs and ponds. (See HMP, Section GII.)
- b. Fence springheads and/or spot burn areas on 33 springs. (See HMP, Section GII.)

2. Blue Grouse

- a. Allow no cutting or destruction of mixed conifer or white fir areas to protect blue grouse feeding and wintering sites.

3. Raptors

- a. Protect known nest sites.
- b. Monitor pinyon-juniper stringers for ferruginous hawk nests.
- c. Continue present land use patterns that provides diverse feed supplies.

4. Accipiters

- a. Use guidelines for nest habitat management as set by Reynolds. (See Section GII.)
- b. Allowing forestry management as discussed in URA-3 will assure reproduction of deciduous trees.

5. Other Game and Non-Game Animals

- a. Continue present land use patterns that provides diverse habitat types.

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Summary of Projects and Implementation Timetable

The following list of projects was compiled from the AMP's, HMP's and HMAP of the ARCMP. These were placed in an order relative to the priority dictated by "M", "I", and "C" categories and importance each had in implementing the combined plan.

All projects were subjected to Sage Ram for cost/benefit ranking as a package on an allotment-wide basis.

Some projects were included that will be cooperator funded; these appear toward the end of the list, although these will be implemented as cooperators have funding and request authority to construct.

<u>Priority List</u>	<u>Implementation Timetable</u>
1. Kingsley Spring Pipeline (8100 Horse, NMA)	1985
2. Stockade Spring Pipeline	1985
3. Ayarbee Spring Pipeline	1985
4. Flat Spring	1985
5. Cress Spring	1985
6. Domingo Spring Development (Horse Fund)(NMA)	1985
7. Black Hills Well	1985
8. Cedar Spring Pipeline	1985
9. South Spring	1985
10. Sand Spring	1985
11. Calcutta Reservoirs	1985
12. Antelope Valley Reservoir (8100 Wildlife)	1985
13. Camp Spring	1985
14. Water Canyon Pipeline	1985
15. North Creek Pasture Fence (8100 Wildlife)	1985
16. Chin Creek/Deep Creek Division Fence and Cattle Guard	1985 1985
17. Elko/White Pine County Fence and Cattle Guard	1985
18. North Spring Development	1985

The following are not numbered yet to allow insertions.

Sharp Creek Headcut	1986
Antelope Well Pipeline	1986
Black Hills Well Pipeline	1986
Antelope Valley Deferment Fence	1986
Tungstonia Fence	1986
Lunch Valley Fence	1986
Cedar Spring	1986
Deep Creek Well/Pipeline	1986
Goshute Reservoir	1986
Catchment Reservoir System on Antelope Range (includes deer water)	1986
Dipping Tank Spring Redevelopment	1986

Spring Valley Big Sage Conversion	1986
Gold Springs Redevelopment	1986
Box Canyon Pipeline	1986
Antelope Spring Redevelopment	1986
Blind Spring Redevelopment	1986
Tunnel Canyon Spring Redevelopment	1986
Sharp Creek Pipeline	1986
Middle Creek Pipeline	1986
North Creek Pipeline	1986
Sampson Creek Pipeline	1986
4 Springs on Becky Peak	1986
Antelope Valley Fence and Cattle Guard	1986
Unnamed Spring between Becky Sp. and Water Canyon	
Cattail Spring and Pipeline (Horse Fund, NMA)	1986
Antelope Guzzlers (6)	
Sampson Creek Drift Fence and Cattle Guard	
Box Canyon Drift Fence and Cattle Guard	
Horse Canyon Drift Fence and Cattle Guard	
Sharp Creek Drift Fence and Cattle Guard	
Drainage between Middle and Sharp Cr. Drift Fence and Cattle Guard	
Middle Creek Fence and Cattle Guard	
Drift Fence on Rangeline Chin Cr. North end Sampson Creek outlet into Steptoe Valley and Cattle Guard	
Tippett Canyon Fence and Two Cattle Guards	
Moffat Seeding Fence and Cattle Guards	
Thomas Place Pipeline	
Rock Spring Redevelopment	
Ferry Canyon Pipeline	
Dolan Trap Spring Redevelopment	
Rock Spring Redevelopment (different from above)	
Willow Patch Spring Redevelopment	
Barrel Spring Redevelopment	
Sanford Spring Fence	
Antelope Kidding Ground Interseeding	
Old Highway Bench Water Development	
Antelope to Steptoe Valley Stock Driveway	1986
Northeast Antelope Range P-J Conversion	
Spring Gulch P-J Conversion	
Calcutta Pipeline	
Sampson P-J Conversion	
Northeast Schell Mountain P-J Conversion	
Cedar Pass P-J Conversion	
Southwest Antelope Range P-J Conversion	
Becky Springs P-J Conversion	
Becky Springs Cherry Creek Boundary Fence	
Supplemental Deer and Antelope Water (5) Springs needing Redevelopment	
Halogeton/Big Sage Conversion	
Antelope Valley Holding Corral	
North Creek Pasture Loading/Working Corral	
Becky Springs Shearing Corral	
Acquire maintenance of Lookout Spring	

E. Summary of Monitoring and Evaluation

Monitoring Studies

All studies will be in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines and the Nevada State Office Supplement to the Bureau of Land Management 4730 and 6630 Manual.

Actual key use areas have been and will be established through consultation with the affected permittee, wild horse interests and the Nevada Department of Wildlife.

To date 36 studies have been established in the Antelope Range Coordinated Management Plan area. New studies will be established as needs arise.

A. Animal Concentration Areas/Animal Numbers: The permittee and range conservationist will delineate use areas and actual use figures. Nevada Department of Wildlife will provide annual wildlife population numbers, population trends and general concentration areas found in aerial surveys. BLM wild horse specialist will conduct periodic counts of horses and assess population trends.

B. Soil Survey: The BLM will eventually conduct a 3rd order soil survey on the plan area. At present a soil survey is being conducted on the key areas to determine suitability of a site for a particular vegetation type.

C. Vegetative Survey: The BLM is conducting a survey on the key areas and will conduct a survey on the other areas to determine densities of species now present and to determine the potential of the selected species to change in density when the management actions are implemented. The survey will also identify the present seral stage of each area. Ecological condition of each site will be determined.

D. Utilization: These studies are and will be read before each foraging animal comes on to an area and within 10 days of the foraging animal going off an area. For livestock grazing, utilization will be read prior to authorizing any extension of use greater than two weeks. Utilization will be read by the BLM specialist and any other interested persons. Utilization by all foraging animals will be mapped for the entire area. The key forage plant method will be used.

E. Precipitation: Precipitation is and will be monitored by BLM personnel bi-monthly. Rain gauges are located at key areas. This data will be used to interpret utilization data by taking into account the effects of environmental factors.

F. Trend and Condition: BLM personnel, along with any interested persons are monitoring and will monitor vegetative species frequency, percent composition by species and species phenology to establish ecological range condition.

G. Other: BLM wildlife biologists, along with any interested persons are and will read cover density, browse condition and forage diversity to establish condition of key antelope and mule deer ranges.

Evaluations

Studies data will be used to measure success of management actions toward the objectives of this plan and identify the necessity for additional actions and/or changes in present management.

All Federal, and State agencies, interest groups, livestock permittees and interested persons involved in the implementation of this Coordinated Management Plan will continually assess the progress of the plan and can discuss the need for revision as a situation arises.

Individual plans give details of existing monitoring and planned studies and evaluations that affect the individual foraging animal.

F. Coordination with Other BLM Programs, Agencies and Organizations

Needs and practices which other activities must consider to insure the plan objectives are met include:

1. Forest Management - A Christmas tree management area has been established north of Schellbourne Pass in the Schell Creek and Kern Mountain Range (MFP-FM-1.3). Two management ideas are listed as follows:
 - a. Remove juniper from the management area and/or
 - b. Provide areas for commercial Christmas tree cutters.

Both procedures are consistent with the management action to clear 6,000± acres of trees on the north, East Schell Bench area. This type of commercial harvest is one means by which to remove the woodland product resource prior to scheduled vegetative conversions.

Also mentioned is a plan to manage reproduction and extend conifer and aspen stands. This includes some removal. A field check must be done for hawk nests before any tree removal. Otherwise this will meet the objective for accipiters to ensure reproduction of deciduous trees.

A "greenwood" firewood and cedar post cutting area will be designated in the Kern Mountains (MFP-FM-1.2, 1.4). Juniper will be removed with pinyon for firewood (MFP-FM-4.1).

Becky Peak, T. 24 N., R. 65 E., sec. 1 SW⁴, sec. 2 SE⁴, sec. 11 NW⁴N²SW⁴W²NE⁴, (640 acres) may eventually be designated a Bristlecone Pine research natural area (43 CFR 2071) if significance is demonstrated. (MFP-FM-1.3).

Conversion of selected areas of pinyon-juniper as a management action of this plan will require the assistance of the District forester to help identify and regulate the activity to insure adequate expertise is provided into the operation.

2. Lands

There are no decisions for lands management that will have a large impact on the plan area.

3. Livestock Management

The AMP's for this plan area are consistent with the HMP and HMAP and have objectives and management actions that benefit and consider wildlife and wild horses. (See Section GIa-e.)

4. Wildlife Management

The HMP for this plan area is consistent with the AMP's and HMAP and has objectives and management actions that consider both livestock and wild horses (see Section GII).

5. Recreation Management

Recreational opportunities in the Antelope Range plan area include hunting, trapping and wildlife/wild horse observation.

The Blue Mass Canyon area of the Kern Mountains is a designated scenic area. Management for this area will be to preserve the existing values for this site (MFP-R-3.0). ORV use will be limited to existing roads (MFP-R-3.2). No land conflicts were identified for this area. The intended management of this area will benefit wildlife and should not affect livestock or wild horses.

Recreation also recommended Becky Peak as an "Outstanding Natural Area" for botanical values. (See MFP-FM-4.8) If this area is designated, ORV use will be restricted (MFP-R-4.5).

In the Record of Decision Summary (BLM, 1983) recreation suggested the following:

1. Place simple, effective gate opening mechanisms on BLM gates. Cattle guards should be installed where feasible (R-1.1).
2. Acquire public road access to Blue Mass Scenic Area through an easement agreement with landowners (R-1.3). Costs for this action will be discussed when initiated.
3. Provide dumpsters during hunting season in the Antelope Range and Kern Range (R-6.1, R-7.1).

None of these decisions conflict with other management actions.

6. Wilderness

No wilderness or ACEC areas are located within the plan area.

7. Watershed Management

Reducing soil loss and sediment production is a goal of watershed management from the Record of Decision Summary (BLM, 1983). The grazing systems and springhead fencing discussed in this plan will enhance this goal. Water quality will be improved by the springhead fencing.

Also called for is the rehabilitation of areas destroyed by wildfire or mechanical disturbance with protection.

Vegetative manipulations for the improvement of forage will temporarily disturb watershed values but with close coordination and planning with the watershed/surface protection specialist these disturbances will be anticipated and, therefore, properly mitigated.

The seeding and fencing management actions described in the HMP and AMP's are consistent with rehabilitation of watershed.

8. Wild Horse Resource

The HMAP for this plan area is consistent with the AMP's and HMP. It has objectives and management actions that benefit both wildlife and livestock (see Section GIII).

9. Minerals/Energy

The plan area has a history of moderate mining exploration and activity. Simple prospecting pits are abundant and 4 mining districts are located within the area. Metallic and non-metallic minerals have been mined. Production is now low. The potential for new exploration is moderate in the Kingsley Districts, in the Kingsley Range, moderately high in the Aurum, in the Schell Creek Range, possible in Unnamed, in the Antelope Range and moderate at Eagle in the Kern Mountains. Some activity is currently ongoing in the Antelope Range.

The Record of Decision Summary (BLM, 1983) keeps all of the plan area open to exploration, leasing and development of mineral resources. Areas will be withdrawn only for threatened and endangered species.

Wildlife will be the most affected by mineral development. If all acts, laws and special local stipulations dealing with environmental quality are complied with, habitat degradation will be minimized.

The BLM surface protection specialist will be responsible for conducting close supervision of all mining and exploration activity to insure strict compliance with regulations.

10. Fire Management

Prescribed fires, confinement areas, and control areas are all parts of this plan. A separate fire management plan is being prepared which shows confinement areas, and control areas. (See the Antelope Range Fire Management Plan.) Management actions that describe prescribed fire use are: 6-b, 12-nat.-a, 20-d. (See Appendix H.)

11. Cultural Resources

Kern Mountain Mining Camp requires full protection from fire as this is a historic resource (MFP-CR-1.3). This does not conflict with plan objectives or actions.

Subactivity Needs

The principal support activities which will be required are those of engineering for construction projects, equipment, tools and manpower from the force account crew, realty for land acquisition, archaeology for cultural clearances, and hydrology for water rights acquisition.

A breakdown of dollars and work months by fiscal year and subactivity is included in the HMP and will be done at a later time for the AMP's and HMAP.

Other

Nevada Indian Tribes

Members of the Duckwater Shoshoni Tribe, Ely Colony Shoshoni, Goshute Tribe and Intertribal Office were contacted for input on Native American special use areas within the plan area. This action was done so any special area could be avoided by the plan's on the ground implementation. (See letter Appendix I.)

U.S. Air Force (USAF)

In a Draft EIS, dated August 19, 1983, an extension of air space in the Gandy Range is proposed by the USAF Hill AFB, Utah. They are requesting to expand supersonic operations over an area of N.E. White Pine County (also S.E. Elko County and eastern Utah) including part of the plan area. This EIS states there will be 1,050 supersonic flights per month over the entire area with any one sight receiving not over 3 "booms" per day 90 percent of the time. Impacts on wildlife, wild horses and livestock are unknown, but presumed not to be beneficial. Should this expansion become a reality, respective interest groups and the BLM should monitor effects of the booms on animals in the plan area and report problems to the USAF.

NDOW

In discussing management objectives for the Antelope Range Coordinated Management Plan it must be identified that unless otherwise specified, wildlife species management will be the responsibility of the Nevada Department of Wildlife, while habitat management will be that of the Bureau of Land Management. These areas of responsibility are not mutually exclusive as agreements have been and are made to coordinate joint efforts. Projects proposed in this plan will be reviewed by NDOW at periodic coordination meetings.

NDOW, National Mustang Association, BLM Permittees

Each step of this plan has been informally and formally reviewed by each foraging animal interest group. Objectives and management actions from these groups have been incorporated into the plan.

Public Affairs

It was decided that a minimal public affairs program is needed for this plan area since no recreation sites will be developed, or other special uses encouraged. It was decided that the ARCMP should be incorporated into the comprehensive visitor orientation program (Schell Decision 6) to be developed for the Schell Resource Area. No separate brochures, special signing, printing of the plan or slide shows will be prepared specifically for the ARCMP area. Instead, the area will be mentioned in district or resource area materials as one of a number of spots that visitors may want to visit. A news release will be prepared upon plan approval detailing the benefits, and BLM, NMA, live-stock operator, and NDOW's role in this effort. Copies or a summary of the plan will be distributed as specified in BLM Manual 6780.31 02.

Signing of the area will be limited to boundary signs at main access points similar to those illustrated in Manual 6780. Projects will be marked with BLM signs S-173 (Jan'83.) indicating if specific funds were used to implement these projects.

References

- BLM, 1979. Draft Schell Grazing Environmental Impact Statement. USDI-Ely District Office, Ely, Nevada.
- ___, 1982. Final Schell Grazing Environmental Impact Statement. USDI-Ely District Office, Ely, Nevada.
- ___, 1982. Schell Resource Area URA-2,3,4. USDI-Ely District Office, Ely, Nevada.
- ___, 1983. Schell Resource Area Decision Summary and Record of Decision. USDI- Ely District Office, Ely, Nevada.
- ___, 1983. Schell Resource Area MFP. USDI-Ely District Office, Ely, Nevada.
- Barngrover, L. 1984. Personal Communication - NDOW Region II Supervisor.
- N.A. 1980. Wild and Free-Roaming Horses and Burros: Current Knowledge and Resource Recommendations. Phase I - Final Report. Nat. Acad. of Sci. Press, Washington D.C. p.101.

UNITED STATES GOVERNMENT
Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

IN REPLY REFER TO:

Appendix A.

1605

To : URA Files
FROM : Schell Area Biologist
SUBJECT: Existing antelope numbers

Date: January 23, 1981

I talked to Mike Wickersham and San Stiver (NDOW) on 1/22/81 concerning existing antelope numbers in Management Area 11 between Highway 50 and the Elko County line. In their recent winter aerial survey, San and Larry Gilbertson counted 194 animals in Spring Valley, 166 in Snake Valley and 214 in Antelope Valley. San saw about 65 percent of the existing Spring Valley population, 85 percent of the existing Snake Valley population and 75 percent of the existing Antelope Valley population. The estimated existing populations are 298, 195 and 285, respectively. The reasonable numbers for these valleys are 340, 220 and 270 respectively. The estimated existing populations are 38 percent, 89 percent and 106 percent of reasonable numbers, respectively. Existing numbers are approaching reasonable numbers. The antelope herd in Antelope Valley is the only big game herd unit in the Schell Resource Area that has exceeded reasonable numbers!

Poor summer water distribution was the primary limiting factor with livestock and wild horse numbers as secondary limiting factors in 1975 and 76 when Mike determined reasonable numbers. Reduction of livestock and wild horse numbers from 1976 to 1980 may have improved recent plant production and, thus, antelope production. We may be approaching a problem of more antelope than the existing water sources can supply.

The 1979 range survey indicates that sufficient forage is available to support population levels greater than reasonable numbers. Additional water developments, such as guzzlers, could be developed and not stress the available forage for antelope. Other management opportunities include antelope transplants and increased harvest.

This report supercedes my telephone confirmation with Mike on 1/14/81. A copy of this memo will be mailed to Mike for his records.



SRobinson:nfl



JUL 3 - 1984

RICHARD H. BRYAN
GOVERNOR

WILLIAM A. MOLINI
DIRECTOR

1100 VALLEY ROAD

P.O. BOX 10678

RENO, NEVADA 89520-0022

TELEPHONE (702) 784-6214

July 3, 1984

Wayne Lowman, Manager
Schell Resource Area
Ely-BLM
Star Route 5, Box 1
Ely, Nevada 89301

Dear Wayne,

This is in response to your letter of June 14 concerning antelope kidding grounds in the Becky Springs area. Available information suggests a resident antelope herd of 30-40 animals. Use is centered around available water sources. While no kidding grounds are presently identified, kidding can be expected to take place within a two mile radius of Becky Springs, Flat Spring, and Cress Spring. I've indicated this on the map which you provided.

Sincerely,

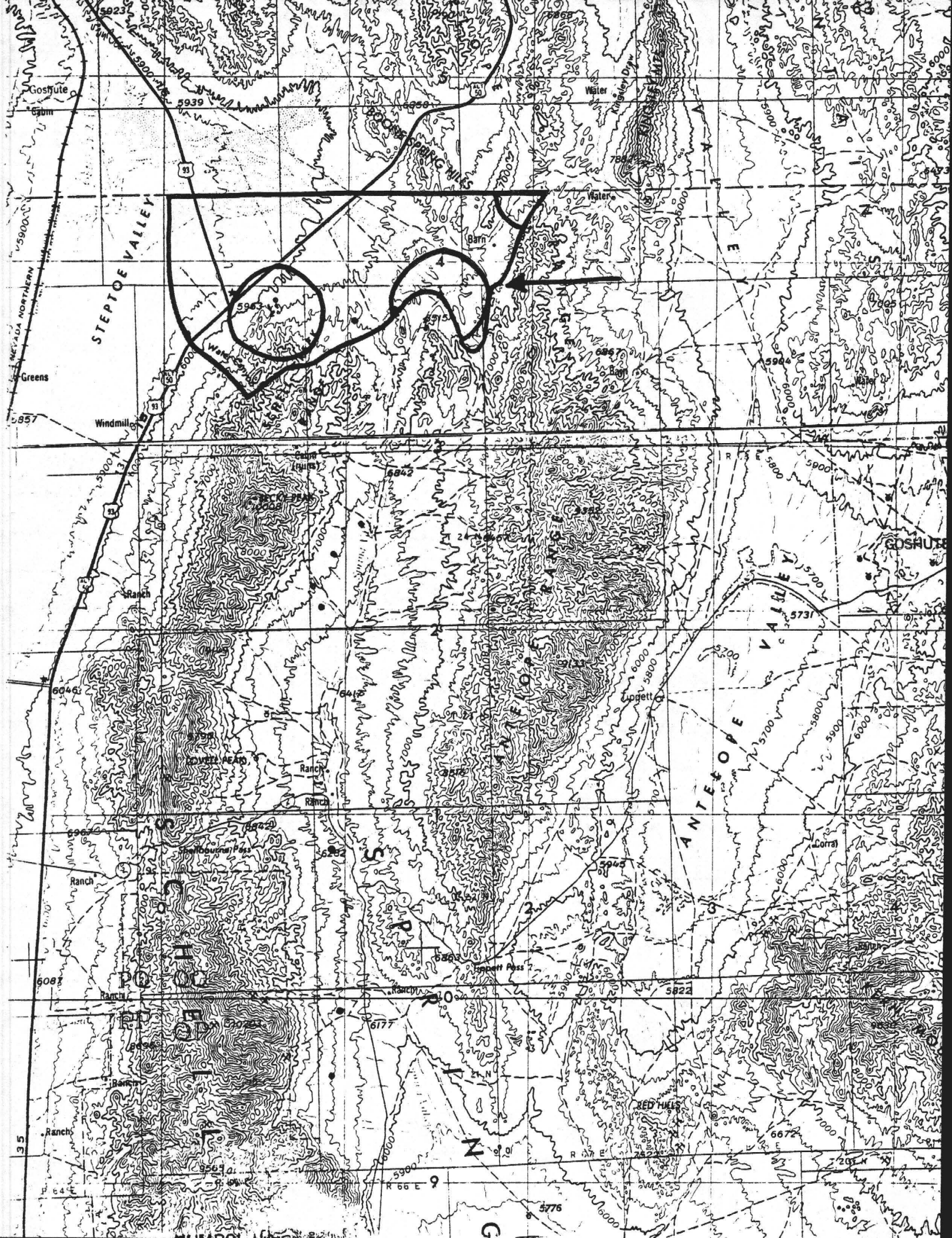
Steve Foree

Steve Foree
Wildlife Biologist
1375 Mtn. City Hwy.
Elko, Nevada 89801

738-5332

SF/jg

Enclosure



Form NSO 6600-1
September, 1967
(NF&G-BLM Coop. Form)

District: Ely District - Schell/Morrill

Prepared by: Mike Wickersham

Reviewed by: _____
BLM Dist. Wildlife Specialist Date

NF&G Regional Representative Date

Appendix B.

INVENTORY

WILDLIFE HABITAT PROJECT AND/OR HABITAT MANAGEMENT PLAN

Name of Project or Plan * Antelope Range Meadows Restoration

Location of Project or Plan Antelope Range, White Pine County - Chinn Creek, Sharp Creek, Middle Creek, - T 24 - 25 N, R 67 E., White Pine County

Species Benefited Sage grouse, blue grouse, mule deer, cottontail, domestic sheep.

U.S.G.S. - Ely A.M.S., 1:250,000.

Description of Job or Project Provide approximately five miles of fence for sage grouse brood rearing meadows located adjacent to perennial water in the Antelope Range.

Fence specifications: four strand barbed wire; bottom and top wires 12 and 36 inches above the ground, respectively. Fence all perennial waters and seed stream banks and areas adjacent to springs with a browse, forb, grass mixture. Provide livestock water lanes and driveways every one half mile.

Justification and Priority * Uncontrolled use by domestic livestock is causing erosion, change in vegetative type, and decrease in productivity for livestock and wildlife.

Cost and Manpower Estimates Cooperative evaluation - 4 man days. Design and flagging - 2 man days. Installation - \$1,300.00/mi., Total - \$6,500.00 Seed - \$600.00

Cooperative Funding (if any) Nevada Department of Fish and Game, Bureau of Land Management.

Approved:

District Manager, BLM Date

Regional Supervisor, NF&G Date



Appendix C.

ROBERT LIST
GOVERNOR

WILLIAM A. MOLINI
DIRECTOR

RECEIVED

1100 VALLEY ROAD

P.O. BOX 10678

RENO, NEVADA 89520

TELEPHONE (702) 784-6214

SEP 21 1983

13 September 1983

Wol
9/21

Bureau of Land Management
Ely, Nevada

United States Dept. of Interior
Bureau of Land Management
Star Route 5, Box 1
Ely, Nevada 89301

ATTENTION: Wayne M. Lowman, Manager
Schell Resource Area

Dear Wayne:

. . .

Following are specific comments by allotment:

Tippett (0106)

Under "resource conflicts" the final rationale does not identify conflicts between wildlife and livestock/horses. Throughout this allotment there are problems in riparian areas with heavy utilization, especially on dry years, by livestock and/or horses. With a season of use that is yearlong for livestock, the range resource is not receiving proper rest to maintain good range conditions. This results in conflicts with livestock and wildlife in key antelope and deer ranges.

The allotment should be placed in the I category because of the above described conflicts between wildlife and livestock/horses, the need for improved grazing management practices that provide rest from grazing, and the lack of proper horse population management practices.

. . .

* Becky Springs (0101)

Key antelope use areas occur within the allotment including kidding and winter use. Some deer use occurs in the allotment. Sage grouse strutting grounds also occur in the allotment. Revegetation projects and the AMP should consider wildlife needs and provide adequate forage for big game species. Strutting grounds should not be impacted by excessive grazing or trailing from March to early May. Sage brush should be considered important for forage for antelope, deer and sage grouse.

* Goshute Mountain (0102) and Deep Creek (0103)

It is agreed that the main concern in these allotments is excessive horse use. Water distribution is also a problem for antelope distribution and livestock distribution. Permanent water source could benefit antelope by increasing potential summer range.

* Chin Creek (0104)

There are significant impacts from horses in this allotment. Water distribution is a problem for antelope in portions of the allotment. Horses impact fawning and kidding areas for deer and antelope and brooding areas for sage grouse and blue grouse. It is difficult to assess impacts from other users because of excessive feral horse use. The allotment is not able to support reasonable numbers of mule deer and pronghorn and satisfy livestock demands with the excessive feral horse use that occurs in the allotment. Horse numbers should probably be reduced by at least one-half and then managed at that level if adequate forage is to be maintained for wildlife and livestock users.

Sincerely,

Duane Erickson

Duane Erickson
Regional Habitat Specialist
1375 Mtn. City Hwy.
Elko, Nevada 89801

702-738-5332

LG,DE/sm

cc: Habitat Section



ROBERT LIST
GOVERNOR

WILLIAM A. MOLINI
DIRECTOR

1100 VALLEY ROAD

P.O. BOX 10678

RENO, NEVADA 89520

TELEPHONE (702) 784-6214

November 9, 1983

Appendix D

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

Dear Wayne:

We appreciated the opportunity to review the Antelope Horse Herd Unit Plan. We feel the opportunity to respond and comment on a preliminary draft is particularly helpful, in that our comments can be evaluated early in the planning process. Both Larry Gilbertson and Marcus Rawlings reviewed the draft. Their comments and recommendations are attached.

We will also plan to review and comment on the integrated draft when it is completed. If you or Rita have any questions or comments don't hesitate to contact Larry in Ely or our Regional Office.

Sincerely,

Duane Erickson

Duane Erickson
Habitat Specialist
Nevada Dept. of Wildlife
1375 Mtn. City Hwy.
Elko, Nevada 89801
738-5332

DE/lr
Attachment

1 1983

ANTELOPE HORSE HERD UNIT PLAN (INTEGRATED AMP, HMP, HORSE MP) - WILDLIFE

SECTION - REVIEW OF ROUGH DRAFT BY Larry Gilbertson, Wildlife Biologist,
NDOW, Ely, Nevada

Riparian Areas

General

The importance of riparian to wildlife cannot be overstated especially in the relatively xeric environment of the Great Basin Desert habitat types. The statement by Platts, 1982 indicates utilization should not exceed 65% if riparian habitats are to be maintained in sound ecological condition. Utilization levels should be less than 65% if the goal is to improve riparian.

Conflicts

For the most part this section was well researched and adequately assessed. Many problems have been identified including excessive use in riparian by horses and livestock and pinyon-juniper encroachment that tends to inhibit pronghorn use.

Recommendations

It is agreed that every spring that has a catchment pond should have a fence around the springhead and catchment. The catchment should not only be piped into a trough below, but also away from attendant riparian habitat for use by livestock and horses. Because of legal, political and financial considerations, horse numbers are not properly controlled on public lands. Without proper horse herd management that includes reducing numbers so that range vegetation is not adversely affected, livestock grazing management will not be sufficient to improve or maintain riparian habitats. Fencing may be required to improve riparian in horse use areas.

Burning should probably not be considered except in fenced areas. Even if burned areas are rested from livestock, continued horse use will result in a "no rest" situation further deteriorating riparian habitats.

If riparian habitats are protected from overuse by livestock and horses, the water table should rise resulting in the replacement of the more xeric brush species by riparian vegetation.

Studies

The statement that "Riparian habitat alteration occurs at 65% or more utilization, alteration is insignificant at 25% or less utilization (Platts, 1982)", should provide the basis for establishing utilization levels on riparian vegetation by livestock and horses well below 65% especially when the goal is to improve deteriorated riparian sites.

Sage Grouse

General

There are no official records that document a massive die-off of sage grouse from a viral epidemic in White Pine County. Local residents and hunters have commented that sage grouse numbers used to be much higher in White Pine County but several factors could account for population declines including disease, increased hunting pressure, livestock grazing patterns and vegetation conversions, especially several of the large crested wheat seedings that have been implemented in the past before sage grouse strutting complexes were more thoroughly investigated and documented.

Conflicts

A fifth conflict should probably be identified with yearlong seasons of use for livestock common in this area, a potential exists for spatial and disturbance conflicts from March 1, through June 25 within a 2 mile radius of sage grouse strutting grounds. Livestock in concentrations could adversely affect both breeding and nesting activities of sage grouse.

Habitat Recommendations

1. Not only should seismic trails be routed around the two mile radius of strutting grounds, but exploration activity of this type should not be allowed within a two mile radius of strutting grounds from March 1 through June 25.
2. Sage grouse may benefit from vegetal conversions in some areas but the method of treatment, timing, seed mixture and post treatment livestock grazing management would all have to be carefully evaluated and coordinated. Burning may not necessarily prove beneficial to grouse especially with horse populations that are not properly managed and livestock grazing practices that do not provide sufficient rest from grazing.
5. (Addition) Grazing schemes should be designed through AMP's that preclude concentrating livestock or trailing (sheep bands) within a 2 mile radius of known strutting grounds from March 1 through June 25.

Studies

Utilization levels should be set not to exceed 65% on riparian habitats that are in good ecological condition and lower on those that need improvement. If horses are causing problems in riparian and cannot be effectively controlled by the Bureau, then livestock use should be adjusted to maintain good ecological conditions of riparian habitats.

Pronghorn

General

Reasonable numbers of pronghorn may need updating or refinement in this area. Where did population estimates come from that indicate yearlong pronghorn numbers are only 10 below reasonable numbers and winter pronghorn numbers are 6 above reasonable numbers as of 1979?

For key areas, besides key winter ranges, key summer use areas (June 1 through September 30) should be considered all available pronghorn habitat within a 3 mile radius of available water as delineated on Nevada Department of Wildlife pronghorn delineation maps (1983).

Conflicts

1. Water is also lacking north of the Goshute Indian Reservation, north of Ayarbee Spring and north of Middle Chinn Creek Reservoir.

3 & 4. Any vegetation manipulation projects in sagebrush communities would require careful evaluation to determine the relative benefits or adverse affects in relation to attendant pronghorn, mule deer and/or sage grouse populations. Vegetation manipulation projects must also be followed up with post-treatment livestock and horse grazing management that will allow the vegetative community to respond according to an accepted plan.

5, 6, & 7. These sections outline well many of the conflicts between pronghorn and livestock/horses.

* Horses not only select for forbs on kidding grounds but also in key summer ranges in the vicinity of water.

8. The low number of pronghorn that use the higher elevations of the Antelope Range are insignificant especially compared to horse use there. Current deer numbers are also quite low in the Antelope Range and horses are believed to have had the most significant impact on the range resource in the past few years.

9. Pinyon-juniper encroachment around water sources does tend to make those areas less desirable for pronghorn but not necessarily "unuseable".

Recommendations

1. Guzzlers are an excellent choice for increasing water distribution for pronghorn in this area. Certainly a guzzler can be designed that will work in White Pine County since bighorn sheep guzzlers are utilized in areas with considerably less precipitation. Guzzlers should be used to increase water distribution in all water deficient areas where natural water sources do not exist and other water developments using existing water sources are not feasible. All existing water developments should be managed to provide water for pronghorn from May 1 through September 30 even when livestock are not in the area.

3. Treatment - Size of area should be limited to 250 acres or less until the overall benefit to pronghorn can be demonstrated.

Areas should not be burned for the following reasons: a, the probability is high that rabbitbrush will invade the site and become dominant, b, livestock grazing post-treatment ususally precludes establishment of a desirable vegetative community, c, horse numbers are not managed and excessive grazing by horses will also preclude establishment of desirable vegetation.

*T his is a misunde
rstandi ng. The recomme nda
tio n is not for cheatgrass man
agement - RRS.*

Managing rangeland for cheatgrass for use by pronghorn is not responsible or as desirable as a healthy, diverse vegetal mix.

* 4. Existing seedings in the area should not be rehabilitated since most are just now becoming more desirable from a wildlife standpoint as they approach a mid-seral stage.

5. Key summer range should be afforded as much consideration as kidding grounds for use levels by non-wildlife users. The AMP's in the area should be modified to maintain key summer range in good ecological condition with a stable to upward trend.

? Horses and pronghorn in this area probably have a replacement ratio higher than 1:1 due to limited riparian and overlap of key use areas.

6. In addition to avoiding kidding grounds with domestic sheep, by mid-May, sheep use should be directed away from key summer range from mid-May (5-15) to late-June (5-30) since these areas are also key for antelope kidding.

7. Cattle should also be directed away from key summer range from 5-15 to 6-30 to maintain adequate feeding and watering areas for nursing pronghorn. This could include deferred grazing or rest-rotation on key pronghorn summer ranges.

8. Predator conflicts are habitat management problems since animals in poor condition due to poor feed are predisposed to predation. Poor range conditions can also force pronghorn to use marginal habitats that include taller shrub or tree communities that may increase the potential for predation.

9. Pinyon-juniper treatment has the potential to increase or improve pronghorn habitat, but treatments must be evaluated on a case by case basis and post-treatment grazing management practices designed to promote the desired vegetal response.

Burning is not recommended due to uncontrolled horse numbers coupled with grazing practices in current AMP's that do not provide rest. Any burn project should be kept to a small size and closely monitored until benefits for pronghorn can be demonstrated.

The areas outlined in "conflicts" should be reviewed by an interdisciplinary team to provide a method and design that will benefit all potential users.

11. Reasonable numbers are probably in need of refinement.

Mule Deer

General

The current short term trend was downward from 1982 to 1983 but is stable over the long-term (5 year).

Although no "crucial" or key areas have been specifically outlined on deer delineation maps by NDOW, key areas include all areas within 2 miles of available water in summer range from May 15 through June 30 for fawning, mountain brush and riparian vegetative zones for summer range and mahogany, bitterbrush and sagebrush areas for key fall and winter use, as well as, lower bench areas in the pinyon-juniper-sagebrush zone that provides important early spring green-up.

Conflicts

4. Seasons of use need to be examined and evaluated. The potential exists for conflicts between domestic sheep and deer (and antelope) in late summer, fall and winter since sheep use shrubs including bitterbrush and sagebrush which is important fall-winter forage for deer and antelope.

9. The possibility of deer/antelope competition is extremely small in the Antelope Range since both species are at extremely low numbers in that range currently. The few antelope that utilize deer summer range in the Antelope Range are insignificant, especially when compared to horse use there.

Habitat Recommendations

2 & 3. Sagebrush conversion must be carefully evaluated on a case by case basis to determine the relative affects on deer and/or antelope populations. Post-treatment grazing practices and uncontrolled horse use will affect treated areas the most. Because of the uncontrolled horse use and lack of grazing systems that provide rest, treatments will not likely benefit wildlife in the area.

4. In input provided to the Egan Resource Area, Ely District, NDOW recommended that livestock utilization of key deer winter forage species, such as sagebrush, bitterbrush and mahogany, should not exceed 25 percent of the current years growth during a grazing season. Horses should be included in this livestock utilization level since the Federal Government is charged with management of wild horses as well as proper range management.

Since green-up occurs late winter or early spring, stocking domestic sheep prior to green-up on deer winter range would mean stocking them during the winter period. This would result in serious conflicts for forage and space between domestic sheep and deer on deer winter range.

7. It would seem more reasonable to manage horse populations at levels that will not adversely affect range conditions, especially riparian areas.

8. Monitoring must be designed that measures horse use and determines if horse population levels are consistent with the vegetative resource in relation to other users under the multiple use concept.

10. Pinyon-juniper thinning projects should be evaluated and designed on a case by case basis by an interdisciplinary team to attempt to maintain multiple use values of the range resource.

Horses
Bitterbrush

Prescribed burns in deer summer range are not recommended due to heavy horse use throughout the AHHU.

Prepared by: Larry T. Gilbertson
Larry T. Gilbertson
Wildlife Biologist

October 26, 1983

Note: For the section on Relict (Steptoe) Dace, it is doubtful that they were introduced by homesteaders at Lookout Spring. Since this spring is within the Steptoe drainage, it is likely this is an endemic population.

Nongame Comments to Draft Antelope Horse Herd Unit Plan

Bald Eagles

1. Would question if the number of wintering bald eagles in the area are actually increasing.
2. Feed on carrion and jackrabbits. Would seriously question the importance of sage grouse in their diet.

Ferruginous Hawk

1. Not a listed threatened species, but is on the Appendix II list as a candidate species.
2. Would not consider populations low in Nevada. Current information indicates the Ely District does have the highest number of nesting ferruginous hawks located thus far.

Raptors - General

1. Would consider any woodcutting activity in riparian zones as a detrimental conflict.
2. Riparian zones should be monitored to determine if livestock use are degrading riparian quality. If so, protective measures should be taken.

Prepared by: Marcus Rawlings
Nongame Biologist

Date: 11/3/83

Appendix E. Available Water in the Antelope Range Coordinated Management Plan Area, Nevada.

<u>Name</u>	<u>Legal Location</u>			Quarter Sections
	Township	Range	Section	
Spring	25	67	32	SENE
Spring	25	65	26	NENE
Spring	25	67	32	NWNW
Lone Cedar Spring	25	65	25	SENE
Spring	24	65	32	SWNW
Spring	24	67	23	SESE
Spring	24	67	21	SWNE
Sown Spring Pond	24	67	28	NENW
Horse Spring	24	65	14	NWNE
Spring	23	65	17	SWSW
Spring	23	65	18	SESW
Spring	23	65	6	SWSE
Spring	23	65	17	NWSW
Reservoir	23	65	8	SENW
Reservoir	23	65	7	SESE
Spring	23	65	7	NENW
Spring	23	65	6	NWSE
Spring	23	65	6	SESE
Blind Spring	23	67	26	NESW
Reservoir	22	66	10	NESW
Willow Spring	25	65	24	SESW
Chin Creek Spring	25	67	27	SENE
Spring	23	65	13	SWSE
Spring	25	67	32	NWSE
Spring	25	67	32	NWNW
Reservoir	23	65	17	NWNW
Coyote Spring	23	69	35	NESE
Mid. Sanford Spring	23	69	36	NESW
Reservoir	22	68	11	NWNW
Reservoir	22	68	11	SESE
Reservoir	22	68	13	NESW
Reservoir	22	68	15	NWSW
Reservoir	22	68	16	SWSW
Reservoir	22	68	19	SENE
Horsetrap Spring	26	67	27	NWNW
Perkins Spring	26	67	22	SWSW
Cattail Spring	26	67	27	NWNW
Domingo Well Spring	25	69	7	NESW
Kingsley Spring	26	67	24	SWNW
Becky Spring	25	65	11	NENE, SENE
Stockade Spring	25	67	10	SWNW
Flat Spring	25	66	2	SWSE
Ayarbe Spring	29	69	30	NENW
Reservoir Spring	25	67	4	SWNE
Cress Spring	25	66	10	SESE
Camp Spring	24	65	11	NWNE
Willow Patch Spring	25	67	21	SWSWNE
Blind Spring Reservoir	23	67	26	SWSE

<u>Name</u>	<u>Legal Location</u>			<u>Quarter Sections</u>
	<u>Township</u>	<u>Range</u>	<u>Section</u>	
Warm Spring	23	67	14	NENW
Grouse Spring	24	65	2	SESW
Barrel Spring	25	66	31	NENW
Moonshine Spring	25	65	26	NENW
Spring	25	65	13	NWNE
Springs	25	66	10	NENW
				NWNE
				SWNE
Springs	22	66	23	SESE
Spring	22	66	6	SENW
Springs	23	67	20	NWNW
Spring	23	67	17	SWSW
Spring	23	65	18	SENE
Spring	23	65	18	SWNE
Spring	23	66	26	NENE
Spring	23	65	7	SWSE
Spring	24	65	2	SWNE
Spring	24	68	6	SESE
Springs	24	67	18	SWNE
Springs	24	65	2	SENW
Spring	24	65	2	NWNE
Spring	24	65	23	NENW
Spring	24	65	23	NWNW
Spring	25	67	32	NWSE
Spring	25	67	4	SWNE
Springs	25	68	31	SENW
Spring	25	65	23	NWNE
Spring	25	65	25	SWNE
Spring	25	66	15	SWSE
Spring	23	66	31	NENW
Spring	25	67	32	SESE
Spring	25	67	36	NWSE
Springs	25	67	4	SWSE
Spring	26	67	22	NENW
Spring	26	67	22	NWSW
Blind Spring	22	69	27	NESE
Spring	21	69	17	SENE
South Chin Creek Reservoir	24	68	3	NENW
Reservoir	24	67	5	NESW
Mid. Chin Creek Reservoir	25	68	15	SWSW
Reservoir	25	67	30	SESW
Reservoir	25	67	32	SWSESE
Reservoir	25	70	6	NESE
Reservoir	25	70	29	NENE
North Chin Creek Reservoir	26	68	22	SWSE
Reservoir	26	70	28	SWSE
Well	25	69	24	SWSE
Antelope Well	25	68	27	NENE
Well	24	66	35	NWSW
SE Chin Creek Well	24	68	13	SESW
Sellas Well	23	68	4	NWNW

Appendix F. Relevant constraints placed on the ARCMP.

The 1983 Schell Resource Area's Decision Summary and Record of Decision lists the following decisions which will affect the Antelope Range Coordinated Management Plan:

1. Protect crucial habitats of twelve significant wildlife species including mule deer, pronghorn antelope, sage and blue grouse, golden and bald eagles, prairie falcons, Cooper's hawk, goshawk, red-tailed and ferruginous hawks. - Wildlife 8.
2. Initial stocking level for wildlife will be the actual number of animals that could be expected to use the public lands at the time of MFP approval (1983). - Wildlife 11.
3. When adequate monitoring data becomes available, any adjustments to livestock grazing capacity will be made that are compatible with multiple use objectives. - Range 6.
4. The Resource Area will be kept open to mineral exploration, leasing and development of mineral resources except as provided by legislative action or policy. Areas will only be withdrawn from mineral entry/leasing where there is a need to protect other resources, such as the protection of threatened and endangered species. - Minerals.
5. The plan area will be managed under the following visual resource management categories:
 - a) Class I - Blue Mass - scenic area (Kern Mountains)
 - b) Class II - Schell Creek Range - outstanding visual values
 - c) Class III - North Becky Peak, East Antelopes Schellbourne Pass, Kern Mountains Schell Foothills - above average visual values.
 - d) Class IV - Becky Springs, Spring Valley, Antelope Valley - common visual values

The 1983 Schell Resource Area's Plan Implementation decisions are as follows:

1. The number of wild horses and livestock will be adjusted on a case-by-case basis on each allotment.

The 1983 MFP decisions are as follows:

1. Range

No reduction in AUM's will occur due to ROW's or management criteria that would limit or withdraw areas now designated for grazing use (1.7).

2. Wildlife

In browse areas, establish a grazing system to accommodate two years of rest for these species. (2.5)

The 1982 Western States Sage Grouse Conference Guidelines will be followed. (6.3)

Other MFP Recommendations are mentioned in the "Coordination with other Specialists" (Section F).

The following laws and acts pertain to and are applicable to the Antelope Range Integrated Management Plan:

1. Clean Air Act Amendments, P.L. 95-95, 91 Stat. 685, 42 USC 7401.
2. Federal Water Pollution Control Act Amendments, P.L. 92-500, 86 Stat. 816, 33 USC 1251, 1972 U.S. Code and Ad New 3668.
3. Salinity Control Act, P.L. 87-483, 76 Stat. 102, 43 USC 615.
4. Toxic Substances Act, P.L. 94-469, 90 Stat. 2003, 15 USC 2601, 1976. U.S. Code Cong. and Ad.
5. Safe Drinking Water Act, P.L. 93-523, 88 Stat. 1661, 42 USC 3004.
6. Resource Recovery Act, P.L. 91-512, 48 Stat. 1227, 42 USC 3251.
7. Fish and Wildlife Coordination Act. P.L. 85-624, 72 Stat. 563, 16 USC 661, 1958 U.S. Code Cong and Ad. News 3446, 1965 U.S. Code Cong. and Ad. News 1864.
8. Endangered Species Act, P.O. 93-205, 87 Stat. 889, 16 USC 1531, 1973 U.S. Code Cong. Ad. News 2989.
9. Bald and Golden Eagle Act, P.L. 92-535, 86 Stat. 106A, 16 USC 668, 1959, U.S. Code Cong. and Ad. News 1675, 1972 U.S. Code Cong. and Ad. News 4285.

10. National Environmental Policy Act, P.L. 91-190, 83 Stat. 852, 42 USC 4321. 1969.
11. Federal Land Policy and Management Act, P.L. 94-579, 90 Stat. 2743, 43 USC 7101. 1976.
12. Interim Management Policy and Guidelines.
13. Mining Regulations 3802.
14. Mining Regulations 3809.
15. 43 CFR 8352.6(b) Established designated area-policy.
16. Wild and Free Roaming Horse and Burro Act of 1971, P.L. 92-195, 85 Stat. 649, 16 U.S.C. 1331-1340.
17. 43 CFR 4100.0-1 1983 revision Grazing.
18. State of Nevada End. Sp. Act.
19. 43 CFR 2070 Designation of Areas and Sites.
20. 43 CFR Part 4700 Wild Free-Roaming Horse and Burro Protection, Management and Control.

Notes on Resource Objectives by Management Area

1. Management Area #1 - Existing Seedings

Key Area TAR 12 - Henriod Seeding - assuming no treatment other than grazing system, already fenced.

Key Area CCR 5 - North Creek Seeding - assuming fencing to control use, selective removal of big and black sagebrush (leaving antelope forage and areas of important big sagebrush habitat).

Key Area CCR 6 - Flatnose Seeding - Assuming fencing, brush removal, and reseeding.

Key Area CCR 7 - Robison Seeding - assuming fencing, selective shrub removal, and reseeding.

2. Management Area #2 - Antelope Range - The key areas are in the transition zone between major Land Resource Areas 28A and 28B. Although the key areas seem to fit into 28B sites and objectives are based on those site potentials, there are no corresponding 28A sites and these may have to be developed.

Key Area CCR 3 - claypan with low sagebrush - fits 028B037N, but production of grasses higher than potential, which could be a function of the unusual year or a function of MLRA, no similar site in 28A.

Key Area CCW 2 - upland browse - seems to fit 028B026N, until a ARTRV site is developed for D28A.

Key Area TAR 14 - wet meadow - fits in 028B022N better than the wet meadow in 28A.

Key area TAR 15 - loamy 12-16" p.z. - fits 028B030N but production of grasses higher than potential, could be a function of the unusual year or MLRA, no similar site in 28A.

3. Management Area #3 - East Antelope Bench, North.

Key Area CCR 8 - EULA dominated site. but not silt flat using D28A002N, but SCS may be developing a new site description for this bench. Want to increase production of EULA but not necessarily density. Production of SIHY above potential, perhaps because of the unusual year, objective to neither actively maintain or decrease, i.e. maintain at or above potential.

Key Area CCW 1 - Same site as above - forbs in the community, but missed on the production transect, monitor for any increase. Production of CHVI is above potential, but no way to reduce it selectively. Objective is to keep it from increasing.

4. Management Area #4 - Antelope Valley Bottom.

Key Area CCR 1 - winterfat site, D28A001N - production of ATNU above potential, but good antelope forage. Objective to maintain but not increase. No grasses or forbs present now. An increase in these would be desirable, but perhaps not feasible.

? ATNU

5. Management Area #5 - Ayarbe.

Key Area CCW 3 - shadscale site, D28-1244 (28A) - production of STCO higher than potential, possibly due to unusual ppt. year. Objective to maintain at or above potential. Globe-mallow (SPAM) in density transect although not in production transect. Objective to see an increase. ARNO present but not in transect, objective to see an increase within potential.

Key Area CCR 4 - black sagebrush site, D28A004N - a new site may be developed. Production of STCO and ARNO above potential, perhaps due to usually wet year. Monitoring for increases in grasses other than STCO and forbs, especially SPAM.

6. Management Area #9 - East Antelope Valley.

Key Area CCR 2 - winterfat site, D28A002N - CHVI and ORHY production above potential. Objectives to maintain ORHY above potential and keep CHVI from increasing.

?

7. Management Area #10 - Lunch Valley/Tungstonia - Area of treated pinyon/juniper and sagebrush sites.

Key Area TAR 13 - Tungstonia Seeding - Previously pinyon/juniper site which was chained and seeded, so native species are present in addition to seeded species. Soils are shallow to bedrock indicating a P/J-black sagebrush site. Although this may be in MLRA D28A, the best fit seemed to be 028B060N and this potential was used for objectives for native species (new site may be needed). Native species of forbs on production transect don't match density transect, so used total production and potential. There is a separate objective for seeded forb species. Want to increase production but not necessarily density of seeded grasses and PUTR. ARNO was on density and not production transect, so potential was used.

8. Management Area #11 - Rock Springs, Blind Springs, Moffatt Seeding - areas of treated vegetation. All are pinyon/juniper and ARTRW sites. Not sure if they are invaded range sites or PIMO/JUOS potential. No PIMO/JUOS/ARTRW site written for 028B or D28A, and invaded ARTRW site (28A) is not completely correct. So used D28B007N to determine potential for native species, realizing that sites will probably be developed. Assuming fencing, grazing system, and interseeding of forbs.

Key Area TAR 9 - Moffatt Chaining - ORHY in density but not production transect. Monitor for increase. Objective to maintain ARTRW, PIMO, JUOS.

Key Area TAR 10 - Blind Springs Chaining - ARTRW not in production transect but objective is to maintain present density. Production transect may need to be redone with a different sample size.

Key Area TAR 11 - Rock Springs Chaining - Separate objectives for seeded and native forb species.

9. Management Area #12 - Calcutta Basin.

Key Area TAR 1 - Calcutta Burn, 028B062N - Total production is over 1,000 lbs/acre which site potential is only 800 lbs/acre. Objectives are to maintain production of all species at least at potential levels.

Key Area TAR 2 - Claypan (ridge), 028B037N - Total production higher than potential, possibly due to unusual precip. this year. Maintain at potential.

10. Management Area #13 - East Antelope Bench.

Key Area TAW 2 - Shadscale, D28X137U - CHVI production above potential, but can't be removed selectively. Objective to keep it from increasing. objective for forbs based on interseeding since none are present now.

Key Area TAR 5 - D28X122U - Soils match this site, but plants don't. Production of CHVI and ORHY is above potential. Objectives to keep CHVI from increasing and maintain ORHY at or above potential.

Key Area TAR 6 - Shadscale, D28X137U - CHVI production above potential. Objective to keep from increasing.

11. Management Area #14 - Antelope Valley.

Key Area TAR 3 - D28X124U - Production of AGSM above potential, to be maintained at or above potential.

AGSM

Key Area TAR 4 - D28A001N - SIHY present but not on production transect. Monitor for increase.

Key Area TAR 7 - D28A001N - Production of EULA above potential, want to maintain above potential. No grasses present. Any increase in grass species would be desirable, but not probable due to lack of seed source. This study could be dropped because of the low response potential and the fact that the strata is already represented.

12. Management Area #15 - East Antelope Valley, South.

Key Area TAR 8 - D28A002N - SIHY present but not in transect. Monitor for increase.

Key Area TAW 1 - D28252U - Forbs present but not in transect. Monitor for any increase. ARTRW hit in only the last plot on the transect, so not considered an important component of the site. EPNE not on the production transect, but the objective is to maintain it in the community at its present density, or increase.

13. Management Area #17 - Water Canyon.

Key Area BSR 1 - 028B011N - Production of POSE exceeds potential, objective to maintain at or above potential. Because of the unusually high amount of POSE, an increase in ORHY may not be feasible even though it would be desirable. ARSP is present but not in the transect, objective to monitor for any increase.

14. Management Area #18 - Lookout Springs.

Key Area BSR 2 - 028B011N - Only a trace of ORHY present, monitor for any increase. This site is in an unrepresentative location and could be dropped. (Runs down a slope into a drainage.)

15. Management Area #20 - Becky Peak.

Key Area SCR 1 - 028B054N - Production of POSE is above potential, maintain at or above potential and increase other grass species. CAREX is not a component of the potential community, but objective is to maintain it as part of the site. Forbs are above potential but objective is to maintain as much as possible ARAR production above potential. Objective to maintain at potential, but no way to selectively reduce it.

16. Management Area #21 - Low Sagebrush Foothills.

Key Area SCR 2 - black sagebrush, 028B011N - without treatment of some sort, only maintenance of existing can be expected - low response potential.

17. Management Area #22 - Spring Valley Bottom.

↘ Key Area SCR 3 - The transect is located in a remnant area of winterfat. Objective to maintain present density and maintain or increase production on the transect, but also objective to increase the acreage of winterfat and reduce the acreage of big sagebrush.

18. Management Area #25 - Goshute Mountain Allotment.

Key Area GMR 1 - D28X252U - low potential for response.

19. Management Area #26 - Deep Creek Allotment.

Key Area DCR 1 - D28X122U - Production of POSE and SIHY above potential, objective to maintain at or above potential. Only a trace of STIPA, HIJA and KOCHIA present, not in production transect, monitor for any increase in these species. CHVI production is above potential, but no way to reduce it selectively. Objective to keep CHVI from increasing.

to the house (101 college ct 323 5046) next fire
John m Reno
Loran ✓
Fred ✓
Rita ✓
All have seen

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
UNIVERSITY OF NEVADA
920 VALLEY ROAD
RENO, NEVADA 89512

July 21, 1984

Appendix H

RECEIVED

JUL 23 1984



Bureau of Land Management
Ely, Nevada

Merrill De Spain
District Manager
Bureau of Land Management
Star Route 5, Box 1
Ely, Nevada 89301

Dear Merrill,

Thank you for your hospitality on July 17. You and your staff were very flexible to our change in plans. Your interest in the use of prescribed fire in pinyon-juniper woodlands was appreciated and I feel this research work unit can provide you with assistance. The prescribed fire plan on the Craw Creek area was well thought out. I was very pleased to see the economically and biologically sound use of juniper stands as natural fire breaks.

The visit you arranged to the Moriah Planning Unit was made very informative by your staff, Rita Suminski, Fred Fisher, and Walley Josephson. Please express my thanks to them for the tour. My tentative thoughts on what I observed and subjects discussed with your staff are given below. I am now convinced that you were very much correct in getting research involved early in the management planning process. The prescribed burns are an integral part, but only a part of the entire management scheme for the area.

Wildlife habitat and grazing lands on the east side of the Schell Creek Range (above and to the south of Kinsley Spring [T 26 N, R 67 E]) can be improved through the use of prescribed fire. This area could be used as a testing grounds to develop fire prescriptions for both sagebrush and pinyon-juniper communities. The remoteness of the site and the absence of human structures is an important plus in prescribed burning. Information gained here on fire prescriptions would be very useful on sites closer to metropolitan areas where the cost of prescription error would be greater.

It would be beneficial if a general fire plan for the entire area could be developed with flexibility in the timing of each burn. Wally Josephson's recent use of an acceptable excess burn acreage on the Craw Creek prescribed burn should be applied here as well.

The area is rich in potential water sources that have been and are currently becoming degraded by unwanted herbaceous and woody species. Rita Suminski's suggestion to burn these areas has merit. These sites could provide water to assure utilization of adjacent larger burns. Livestock weight loss walking to and from distant water supplies would also be kept at a minimum.

Burning will not be productive if sites are subjected to severe post fire use by livestock and wildlife. The success of the burn project depends on your current efforts to reduce the number of wild horses on the site. Fred Fishers' suggestion to conduct several burn projects simultaneously to spread animal use was right on target. Burning sagebrush draws and drainage bottoms on the low lands should reduce grazing pressure on the more sensitive high elevation side slopes. Sagebrush stands on the valley flood plain could be burned to release understory grasses, but I would not burn sagebrush currently stabilizing the drainage channel. The soils are silty and highly erosive. Wally's recommendation that drainage bottoms be cleared for animal access to higher elevations sounds good, but I would treat only segments of a given drainage at any one time to reduce potential erosion problems.

In our conversation we came up with some tentative guidelines on where and how prescribed burns should be conducted. The easiest to burn, safest to burn, and the potentially most productive burn sites are the numerous drainage bottoms, springs and seep areas. These areas should be burned to increase water availability and increase the forage base. The water source should be fenced to reduce trampling damage. The increased productivity of these wet areas warrants the additional effort of removing post fire rabbitbrush plants either by chemicals, reburning individual plants, or hand grubbing by prison crews. Treated wet sites should be adjacent to large scale pinyon-juniper burns. These large areas will reduce grazing pressure on the wet areas and provide a forage - water package to the livestock user.

Large scale pinyon-juniper burns should be limited to areas where access prohibits tree harvesting for wood products. Often understory has been lost under the trees thus sites will require seeding. Seed mixtures should include species desirable for wildlife. Wildlife use of upland sites may reduce grazing pressure in the drainage bottoms and reduce competition between livestock and wildlife.

Large acreages of low potential sagebrush (*Artemisia nova*, *tridentata* ssp. *wyomingensis*, or *arbuscula*)- bitterbrush sites are being impacted by tree competition. These sites would be difficult to broadcast burn if we wanted to, but I don't believe that should be our goal. These sites currently have an understory of desirable shrub species for wildlife. Burning conditions would have to be severe to carry the fire. The cost to seed the area with shrubs would be excessive and our potential for seeding success would be low. Therefore I would recommend tree harvest for christmas trees or fuel wood or individual tree burning by prison crews.

In summary you have a good site on which to conduct prescribed burns to achieve management objectives of improved wildlife habitat and increased forage for livestock. The past and continuing loss of forage and water resources is apparent thus corrective action is needed. Each community type will require a specific cultural treatment to improve its resources. No single treatment, broadcast burning, individual tree burning, tree harvest, or chemical removal should be applied in every case. There is a data base available to monitor changes in forage, water and wildlife resources following applied treatments. The BLM data

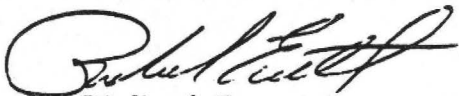
base could readily demonstrate forage and water response. Nevada Wildlife Department data could readily show wildlife response to treated areas.

The project would have a higher probability of success if only small acreages were treated until we know how the sites will respond. A second key to success lies in protecting sites after treatment. The control of wild horses and livestock will make or break the project. Increased forage production should be linked to improved water availability. The result will increase both wildlife and livestock utilization of forage and increase animal gains. The project needs great flexibility in the timing of each burn and a relaxation of exceptable limits on burn acreages beyond prescription.

This research work unit can play a role in the project if you desire. Our interest is in the development of burn prescriptions for sagebrush and pinyon-juniper communities, in the selection of burn sites based on site potential, in the monitoring of vegetation response to applied treatments, and in measuring the increased availability and flow of water following burns. We could also evaluate the economics of the project, either internally or through cooperative agreements.

Thank you again for your hospitality and that of your staff.

Sincerely,



Richard Everett
Project Leader INT 1753
Pinyon-Juniper Ecology

cc Fred Fisher
Rita Suminski
Wally Josephson
Larry Barngrover

Appendix I

6000
(NV-047)

JUN 27 1984

Mr. Wesley Allison, Chairman
Ely Colony Council
1025 Pine Street
Ely, Nevada 89301

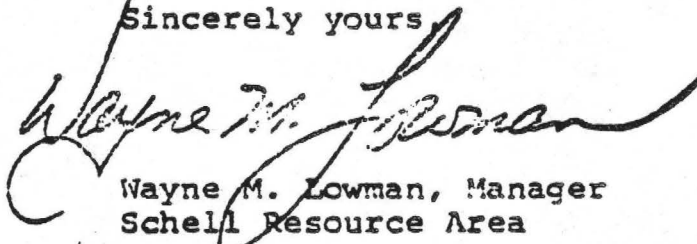
Dear Mr. Allison:

Ely BLM District is writing a coordinated management plan for the northeast portion of our District. This area includes the north Schell Creek Range, Antelope Range and Kern Mountains. The plan includes removing pinyon-juniper trees from selected areas to improve grazing for livestock and wildlife. The enclosed map outlines the general areas being considered. Not all of the area shown will be cut, just selected areas. Also, spring developments and pipelines are planned throughout the area.

I would appreciate receiving by August 1, any comments you might have concerning potential conflicts between Ely Colony Shoshoni uses of these designated areas and removal of these trees. If you have other concerns about the plan area, please notify us.

If you wish to discuss this further, or have any questions, please feel free to call me or Rita Suminski at (702) 289-4865.

Sincerely yours,



Wayne M. Lowman, Manager
Schell Resource Area

Enclosure

RRSuminski:jro

6000
(NV-047)

JUN 27 1984

Mr. Jerry Millett, Chairman
Duckwater Tribal Council
General Delivery
Duckwater, Nevada 89315

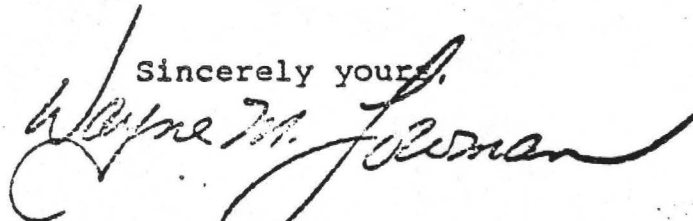
Dear Mr. Millett:

Ely BLM District is writing a coordinated management plan for the northeast portion of our District. This area includes the north Schell Creek Range, Antelope Range and Kern Mountains. The plan includes removing pinyon-juniper trees from selected areas to improve grazing for livestock and wildlife. The enclosed map outlines the general areas being considered. Not all of the area shown will be cut, just selected areas. Also, spring developments and pipelines are planned throughout the area.

I would appreciate receiving by August 1, any comments you might have concerning potential conflicts between Duckwater Shoshoni Tribe uses of these designated areas and removal of these trees. If you have other concerns about the plan area, please notify us.

If you wish to discuss this further, or have any questions, please feel free to call me or Rita Suminski at (702) 289-4865.

Sincerely yours,



Wayne M. Lowman, Manager
Schell Resource Area

Enclosure

RRSuminski:jro

6000
(NV-047)

JUN 27 1984

Mr. Harold Wyatt
Inter-Tribal Council
98 Colony Road
Reno, Nevada 89502

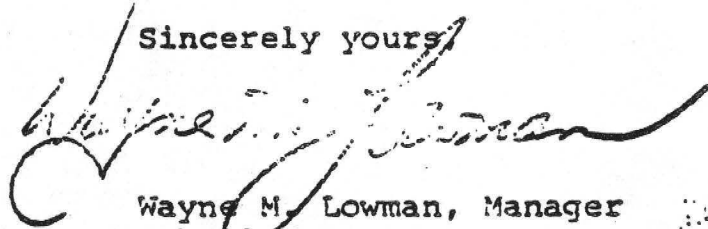
Dear Mr. Wyatt:

Ely BLM District is writing a coordinated management plan for the northeast portion of our District. This area includes the north Schell Creek Range, Antelope Range and Kern Mountains. The plan includes removing pinyon-juniper trees from selected areas to improve grazing for livestock and wildlife. The enclosed map outlines the general areas being considered. Not all of the area shown will be cut, just selected areas. Also, spring developments and pipelines are planned throughout the area.

I would appreciate receiving by August 1, any comments you might have concerning potential conflicts between Native American uses of these designated areas and removal of these trees. If you have other concerns about the plan area, please notify us.

If you wish to discuss this further, or have any questions, please feel free to call me or Rita Suminski at (702) 289-4865.

Sincerely yours



Wayne M. Lowman, Manager
Schell Resource Area

Enclosure

RRSuminski:jro

Glossary

ARCMP - Antelope Range Coordinated Management Plan.

Ecological Site Condition - an estimate of how close a range site or key area is to its ecological climax; the vegetative community undisturbed by man's influence.

Fire Confinement - an action that uses natural and/or pre-constructed barriers or environmental conditions to confine a fire to a predetermined area.

Fire Control - an immediate suppression action with enough forces to suppress a fire within the first burning period.

Interim Numbers - the number of livestock on the range from which monitoring data will be taken. The number has been agreed on by the permittee and the BLM.

Key Use Areas - areas chosen through the monitoring process to measure changes in range forage and ecological condition.

Management Actions - statements which explain specific methods for meeting or accomplishing the management objectives.

Management Objectives - statements which describe a desired situation or condition. Some objectives are very specifically described so these can be measured to see if the desired result is being obtained.

Management Objective Areas - areas outlined in the ARCMP where specific problems and solutions have been identified.

Reasonable Numbers - population numbers of a species which are estimated to currently exist in a specific geographic area or are projected at a certain population level based on a long-term average.

Riparian Vegetation - vegetation associated with wet areas or streambanks.

Seral Stage - a grouping of plants able to survive under a specific set of ecological conditions. As conditions change, the plant grouping changes.

G I

Allotment Management Plans

- a. Becky Springs
- b. Goshute Mountain
- c. Deep Creek
- d. Chin Creek
- e. Sampson Creek
- f. Tippett

January 25, 1985

Schell Resource Area
Ely District

Becky Springs Allotment Management Plan

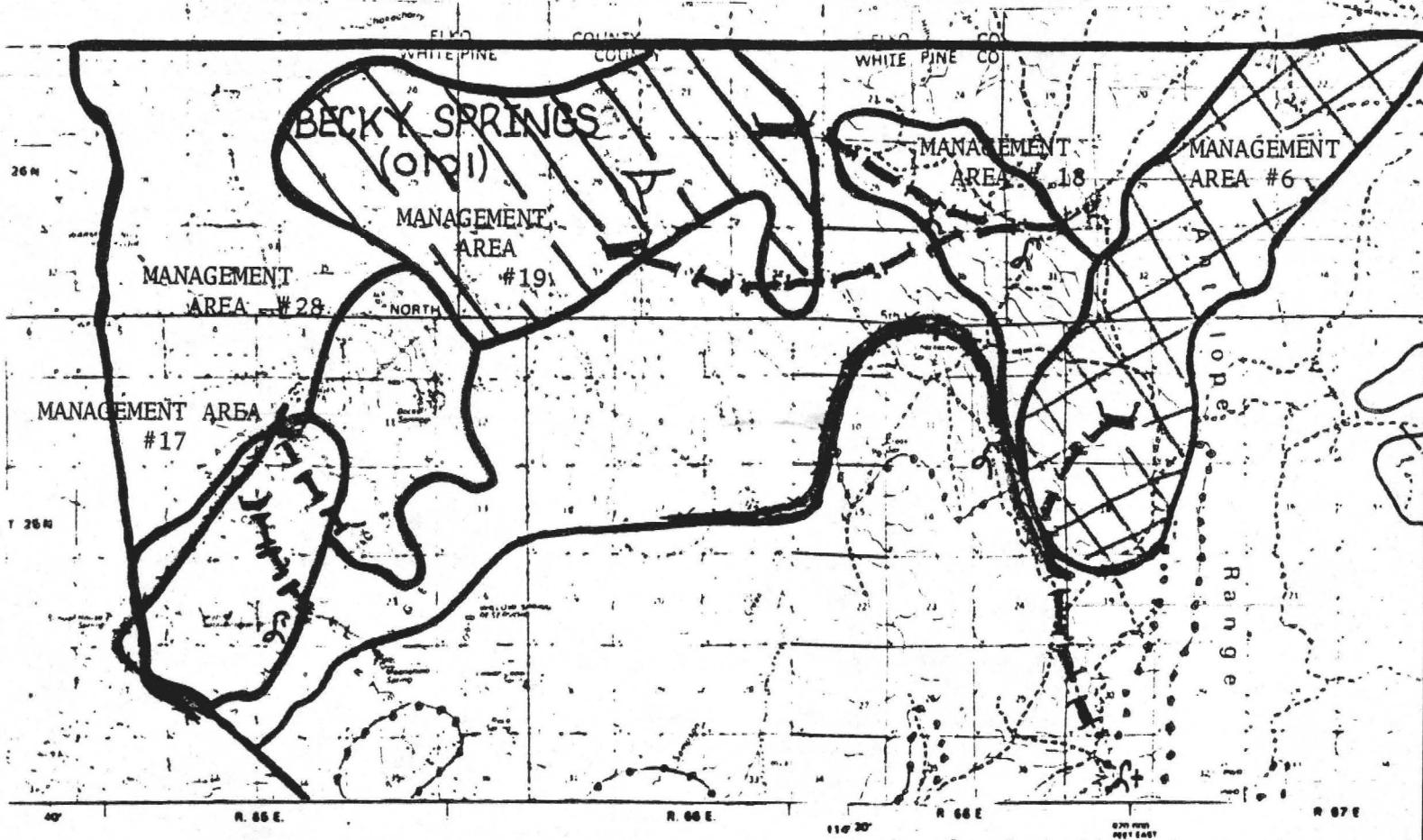
I. General Information

A. Location and Area: The Becky Springs Allotment encompasses 40,621 acres of land administered by the Bureau of Land Management. It is located at the north end of the Schell Creek Range approximately 50 miles north of Ely, Nevada. This allotment is in the far northwest corner of the Schell Resource Area and of the area covered by the Antelope Range Coordinated Management Plan, bordered to the north by the Elko County line and to the west by the Egan Resource Area. Refer to the map of the entire planning area in the general section of the ARCMP (Figure B-1) as well as the allotment map in this AMP (Figure G1a-1).

B. Physical Data: The primary vegetative types are black sagebrush and big sagebrush benches and pinyon/juniper foothills with various grass understories. The winterfat flat has been almost completely replaced by halogeton. There are some smaller but important areas of shadscale and bud sagebrush. Neither a condition classification survey nor an Order 3 soil survey has been completed for the allotment. Ecological site condition and plant density of key species is being determined for each key management area to assist in developing management objectives. Refer to the general section of the ARCMP for further description of the area.












C. Existing Improvements: The only improvements within the allotment are six springs which are developed to some degree. Only one of these, the Moonshine Spring/Water Canyon pipeline is assigned a project number at this time (4023). Maintenance responsibility for this project is assigned totally to one permittee, Kay Lear. The Becky Springs Pipeline supplies drinking water to Lages Station, a small store, house, and gas station at the highway junction. The owners of Lages Station have the water rights and complete the maintenance that is needed, but allow the permittees to use the overflow from the pipeline vent. The development at Lookout Springs will be maintained by the BLM, if water rights can be obtained, because it provides habitat for a State-listed sensitive species of fish, the Steptoe Dace. Developments at Cattail and Perkins Springs and the one unnamed spring are minimal and perhaps historic. It is not known who developed these springs. No maintenance was assigned because these were only recently discovered. Where necessary and feasible, these springs will be improved and maintenance assigned to the three permittees in the allotment in an equitable manner (refer to Section III of this AMP).

BECKY SPRINGS ALLOTMENT (0101)



(SCALE: 1/2 inch = 1 mile)

LEGEND

-  = MANAGEMENT AREA BOUNDARY
-  = PINYON/JUNIPER VEGETATIVE TREATMENT POTENTIAL AREA
-  = OTHER VEGETATIVE TREATMENT POTENTIAL AREA
-  = EXISTING WELL
-  = EXISTING SPRINGS
-  = EXISTING PIPELINE
-  = PROPOSED PIPELINE
-  = PROPOSED FENCELINE
-  = PROPOSED RESERVOIR
-  = MONITORING TRANSECT LOCATION
-  = SAGE GROUSE STRUTTING AND NESTING AREAS

D. Qualifications and Present Use: The allotment is presently in the Selective Management Category "M" (maintain). There are three operators using the allotment in common as follows:

<u>Operator</u>	<u>Kind of Livestock</u>	<u>Preference</u>	<u>Season-of-Use</u>
Kay Lear	Cattle	930 AUMs	Nov. 1 - Jan. 14
Warren Robison	Sheep	2,399 AUMs	Nov. 1 - May 30
Metta Richins	Sheep	513 AUMs	Jan. 1 - Apr. 15
		3,842	

Handwritten notes:
 279 AUMs (above Kay Lear)
 959 (between Warren Robison and Metta Richins)
 actual use 1251 AUMs (written vertically between Warren Robison and Metta Richins)

Presently, only Metta Richins is running at or near 100 percent of preference. Kay Lear is using roughly 30 percent and Warren Robison is at 40 percent and increasing herd size. Nonuse has been taken voluntarily. There are no established use areas or grazing systems. Use is more or less concentrated at the most accessible water sources.

There are some small tracts of unfenced, intermingled private land, but fees are computed at 100 percent Federal range.

E. Issues and Resource Conflicts:

1. Water distribution is inadequate and much of the allotment is more than five miles from water. This results in poor livestock distribution so that some areas are showing signs of overuse while other areas are virtually untouched.
2. One of the areas most heavily used is the area around Becky springs and south. Use occurs during the prime growing season.
3. Two of the three operators are running at less than 50 percent of their preference and would like to increase this use.
4. Some areas which could provide forage are now covered with closed stands of pinyon/juniper, sagebrush, and/or halogeton.
5. Livestock drift is occurring onto the Cherry Creek Allotment and onto Highway 93 north.
6. There are conflicts with sheep being trailed through or camped on or near sage grouse strutting grounds.
7. There are no conflicts between livestock and wild horses at current levels.

II. Management Objectives

A. General: Refer to General Management Objective summary in Section C of the ARCMP, particularly 1, 2, 3, 5, 7, and 11. Other general objectives which apply to this allotment are:

1. Limit livestock use on the allotment to that which is authorized.

B. Specific: Refer to specific resource objectives contained in the general section of the ARCMP for management areas: 6, 17, 18, 19, and 28.

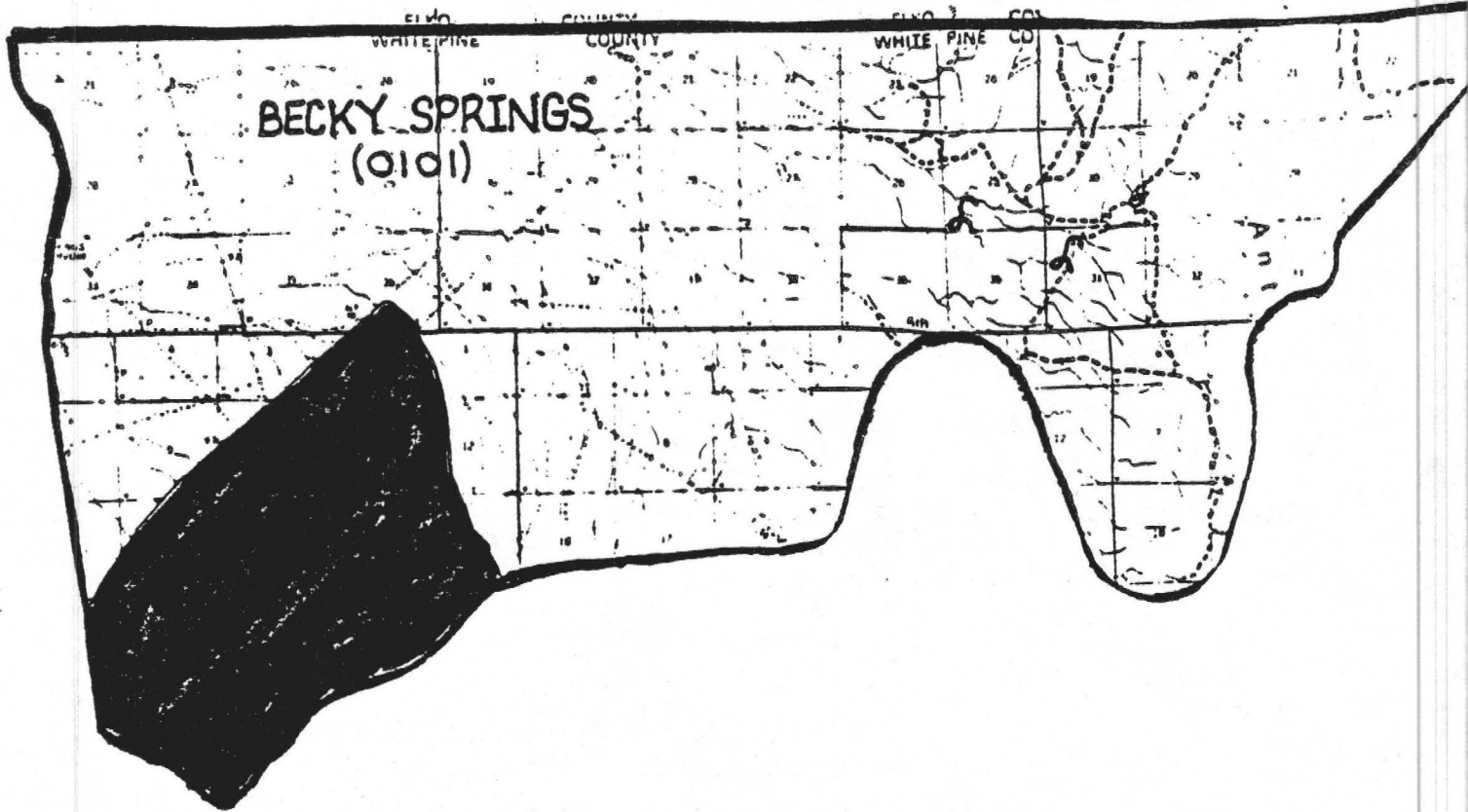
C. Area-wide Specific: Refer to the area-wide specific objectives contained in the general section of the ARCMP. All listed are appropriate.

III. Management Actions

A. Grazing Treatments: An elaborate grazing system is not necessary. With implementation of the planned actions, distribution should improve and specific resource objectives should be met. If it is determined through monitoring that these objectives are not being met, one or more grazing systems will be established. The following are grazing treatments to be implemented as part of the planned actions. These measures will be made part of the terms and conditions of the operators' licenses.

1. No use will be allowed from the area around Becky Springs south after March 15, as an interim measure to provide rest during the growing season. (Refer to Figure GIa-2.)
2. Sheep and sheep camps will be moved to a new location at a minimum of every two weeks after March 15. This will be dependent on development of water in waterless areas.
3. To protect sage grouse strutting grounds, trailing permits will be issued with stipulations to avoid certain marked areas, and trailing and camp moving activities will be supervised to insure avoidance of these areas from April 15 through May 30. (Refer to Figure GIa-3.)
4. The season of use will remain November through May for sheep and November through January for cattle.

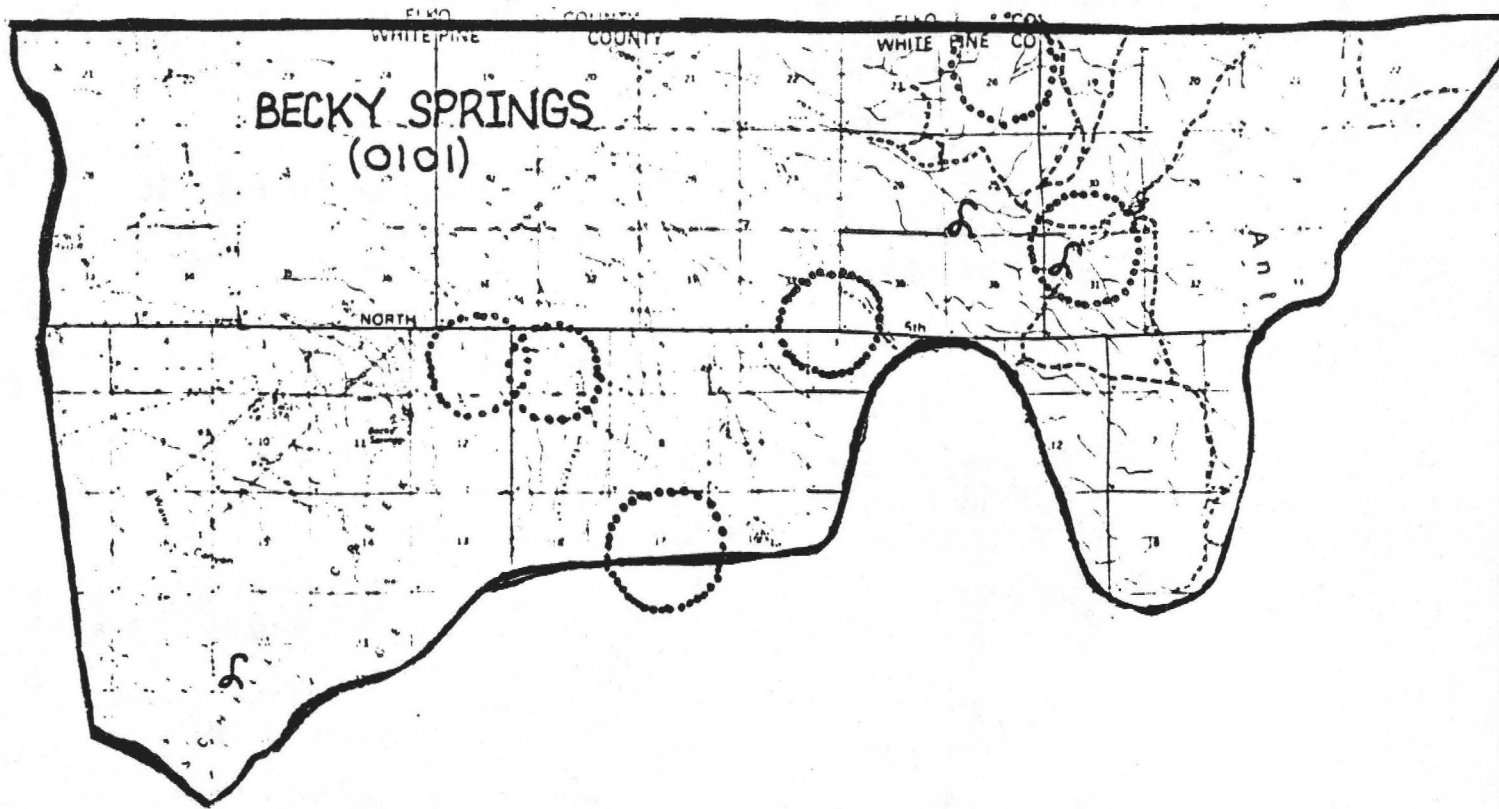
BECKY SPRINGS ALLOTMENT (0101)



■ = Area Around Becky Springs and South- No Use
from March 15 through November 1

FIGURE GIa-2: Area of Rest from March 15 through November 1

BECKY SPRINGS ALLOTMENT (0101)




 = Sage Grouse Strutting and Nesting Areas- No use from April 15 through May 30

FIGURE GIa-3: Sage Grouse Strutting and Nesting Areas

B. Range Improvements: Refer to specific management actions in the general section of the ARCMP for management areas 6, 17, 18, 19, and 28 and also refer to the map of these areas (Figure C-1).

1. Water Developments - The development of water in waterless areas is the highest priority in the allotment. In areas where there are several alternatives, the most cost-effective source from which water can be obtained through rights or agreements will be implemented. The possibilities are listed below by area:

Antelope Mountains (Management Area #6) - develop approximately 3 miles of pipeline from North Creek (in the Chin Creek Allotment) into the southeast corner of Becky Springs Allotment.

- Develop one or more springs in the north end of this range (Cattail Spring, Perkins Spring, and one unnamed spring).

Water Canyon (Management Area #17) - redevelop and extend the Moonshine Spring/Water Canyon pipeline to the north along the bench.

Old Highway Bench (Management Area #19) - develop water from one of the following sources: a well, a short pipeline from a well on the highway right-of-way or a 6 mile pipeline from Lookout Spring, a reservoir, or a livestock guzzler.

Becky Springs Area (Management Area #28) - develop a complex of unnamed springs between Water Canyon and Becky Springs and pipe water 3 miles to the bench.

- Fence the spring source for the Becky Springs Pipeline (actually Rose Spring), place a trough at the pipeline vent, and build some support for the vent pipe.

2. Vegetative Treatments: Less than 1,500 acres of dense pinyon and juniper trees on the Antelope Range and the Schell Creek Range will be selected for vegetative conversion. About 600 acres of halogeton and big sagebrush along the old highway in the northern part of the allotment is also to be considered for treatment.

3. Fences: Proposed fences are as follows: - boundary fence between the Becky Springs and Chin Creek Allotments, encompassing 7 miles.

1500
600
2100 acres

- A five mile long boundary fence between the Becky Springs and Cherry Creek Allotments and along the highway right-of-way.

- A permanent shearing corral at the Becky Springs Pipeline vent.

- Temporary fence to protect vegetative treatments.

IV. Billing Procedure

The three livestock operators will continue to be billed in advance of turnout dates as shown on their applications. Flexibility on turnout or removal dates will be subject to the approval of the Area Manager.

V. Studies and Evaluation

A. Studies: The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas within this allotment. These studies are to be accomplished in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were selected through consultation with permittees, Nevada Department of Wildlife, and the National Mustang Association.

1. Utilization - Over a period of years, utilization patterns have been monitored in cooperation with the aforementioned user groups to identify problem areas and needs for range improvements. As planned actions are implemented, utilization patterns over the allotment will continue to be mapped to measure success in attaining proper livestock distribution. Once a stable pattern of use is established, utilization will be read on key areas. The method for documenting utilization levels will be the Key Forage Plant Technique described in the NRMTFG and the Draft BLM Manual 4423. As long as conflicts between livestock and wildlife or wild horses is minimal, utilization will be keyed to the movements of livestock only.

2. Actual Use - Actual use information consists of the actual number of animals on a given area and the specific number of days during which use occurred. This information should be recorded (on Form # 4130-5) as a log of animal movements including turnout and gathering dates, herding activities, death loss, and the number of animals involved each time. The actual use records are to be submitted by each permittee within 15 days after the end of the grazing season. Direct counts of livestock numbers may be taken, as time and funding permit, to supplement actual use information.

3. Frequency, Production, and Density - Frequency and production information will be obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTEG. Density will be measured as the number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production were used to establish specific resource objectives. These are written in terms of the number of plants per acre and pounds per acre of key species on key areas and will be monitored in this manner. To date there are three study transects located in the allotment, two in Management Area #18 and one in Management Area #17 (Water Canyon). As planned actions are implemented and use patterns established, new studies will be located where needed. Studies will be read every three to five years.

4. Climate - Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service, are being read monthly or bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

B. Evaluation: Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If no change in trend is observed within 5 years after initiation of the plan, management will continue as is for 5 more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis of utilization, actual use, and climatic data. After successive changes in management, 3 to 5 years additional study will be allowed to determine if adverse situations have been corrected.

If at anytime utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

VI. Signatures

Prepared by:

Kathy Lindsey
Range Conservationist

Date

Accepted by:

Kay Lear
Livestock Operator

Date

Warren Robison
Livestock Operator

Date

Metta Richins
Livestock Operator

Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

G1b

Goshute Mountain Allotment (# 0102) Management Plan

I. General Information

A. Location: The Goshute Mountain Allotment contains 5,693 acres of Federal BLM land in White Pine County, Nevada. It is bordered by Elko County on the north, and is four miles west of the Utah State line, and approximately 8 miles from the town of Ibapah, Utah. Refer to ARCMP map and the Goshute Mountain AMP map G1b-1.

B. Physical Data: The allowed kind of livestock is sheep. Significant horse use and some antelope activity also occur in the allotment. The major forage species is black sagebrush and this key species is in fairly good condition. The soils are generally rocky and shallow.

The allotment is licensed out of the Elko District Office and is only used when the permittee is using the adjacent "Badlands Allotment" in the Elko District. It is a "C" (custodial) management category allotment.

C. Existing Improvements: "None".

D. Qualifications: The grazing preference of Scott Moore of Coalville, Utah is 465 AUMs. The season of use is from January 1 to April 7.

<u>Operator</u>	<u>Kind of Livestock</u>	<u>Preference</u>	<u>Season-of-Use</u>
Scott Moore	Sheep	465 AUMs	Jan. 1 - Apr. 7

E. Issues and Resource Conflicts:

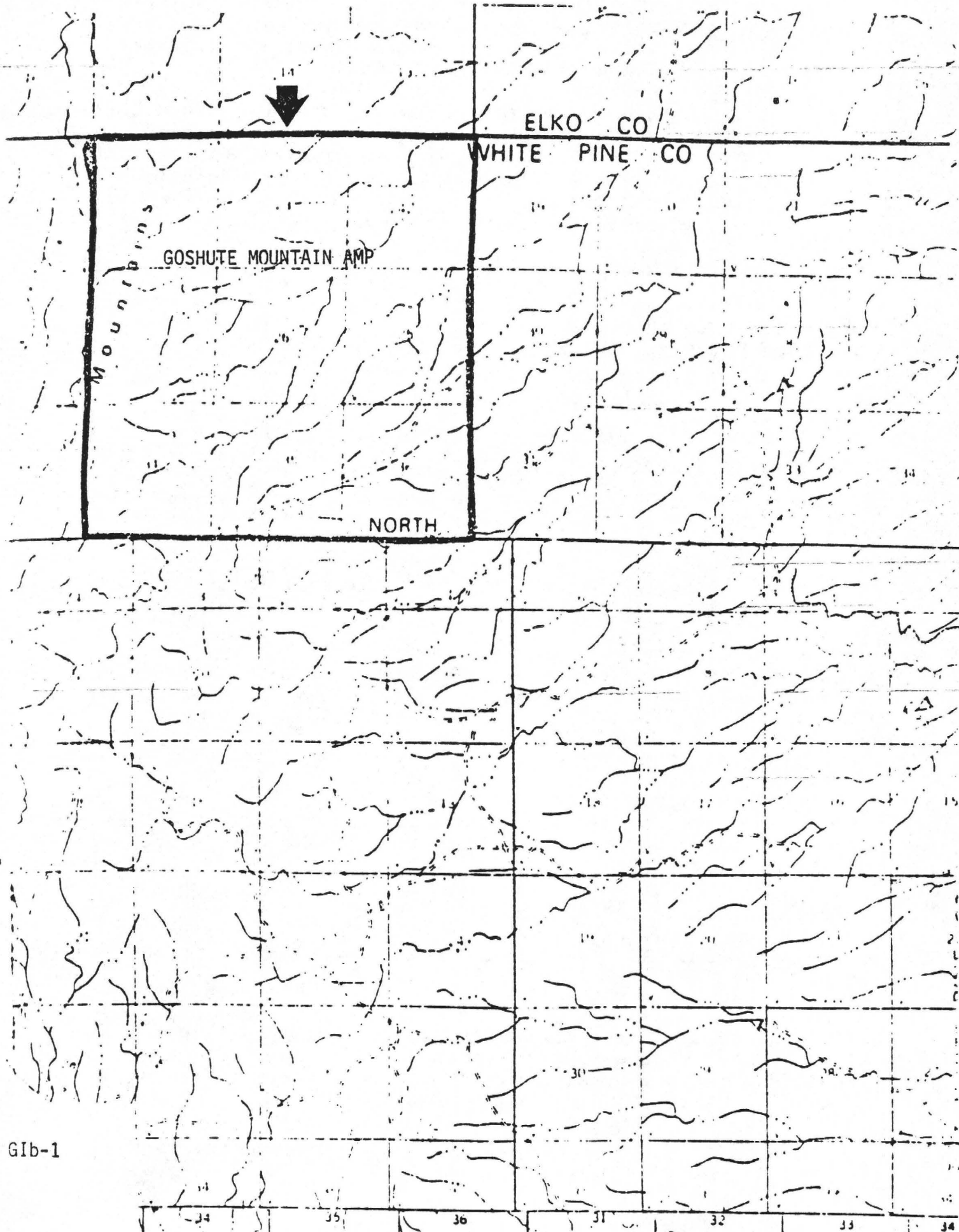
1. This allotment generally only receives use when snow is present. Roads are of the two track type with only a few of them present. All of the roads are in terrible condition. There are no live water sources in the allotment. Also, it is a few hours haul to where water can be obtained. With the roads such as they are water hauling is impractical.

Lack of water is a limiting factor for making use in the allotment and creates a management hardship for the operator.

GOSHUTE MOUNTAIN ALLOTMENT (0102)

R 69 E.

Appendix 2 of the ARCMP



G1b-1

- 2. Wintering sheep are well suited for this range, as it is mainly black sagebrush forage. Current utilization of the black sage is well under desired management levels.

Wild horses are frequently found in the allotment, but mainly just travel through it. They do make moderate to heavy use on the infrequently occurring grass plants. This horse use seems to have only minimal impacts on the sheep and major forage (black sagebrush).

II. Management Objectives

See the ARCMP following general objectives numbers as they pertain to this AMP: 1, 2, 3, 5, 10, and 11. Also refer to specific objectives for management objective area 25.

III. Management Actions

A. Improve livestock distribution through better herding practices throughout the allotment. If this doesn't improve the situation, then a grazing system may need to be planned later. However, monitoring will continue and should indicate problems if they occur at which time a system would be developed for the allotment if needed.

B. Maintain current utilization levels (see ARCMP management action 25c).

C. Improve habitat conditions for livestock, wildlife, and horses by developing a catchment reservoir to provide a needed water source. (See ARCMP 25a management action and AMP Figure G1b-2.)

IV. Billing Procedure

The livestock operator will continue to be billed in advance of turnout dates as shown on their applications. Flexibility on turnout or removal dates will be subject to the approval of the Area Manager.

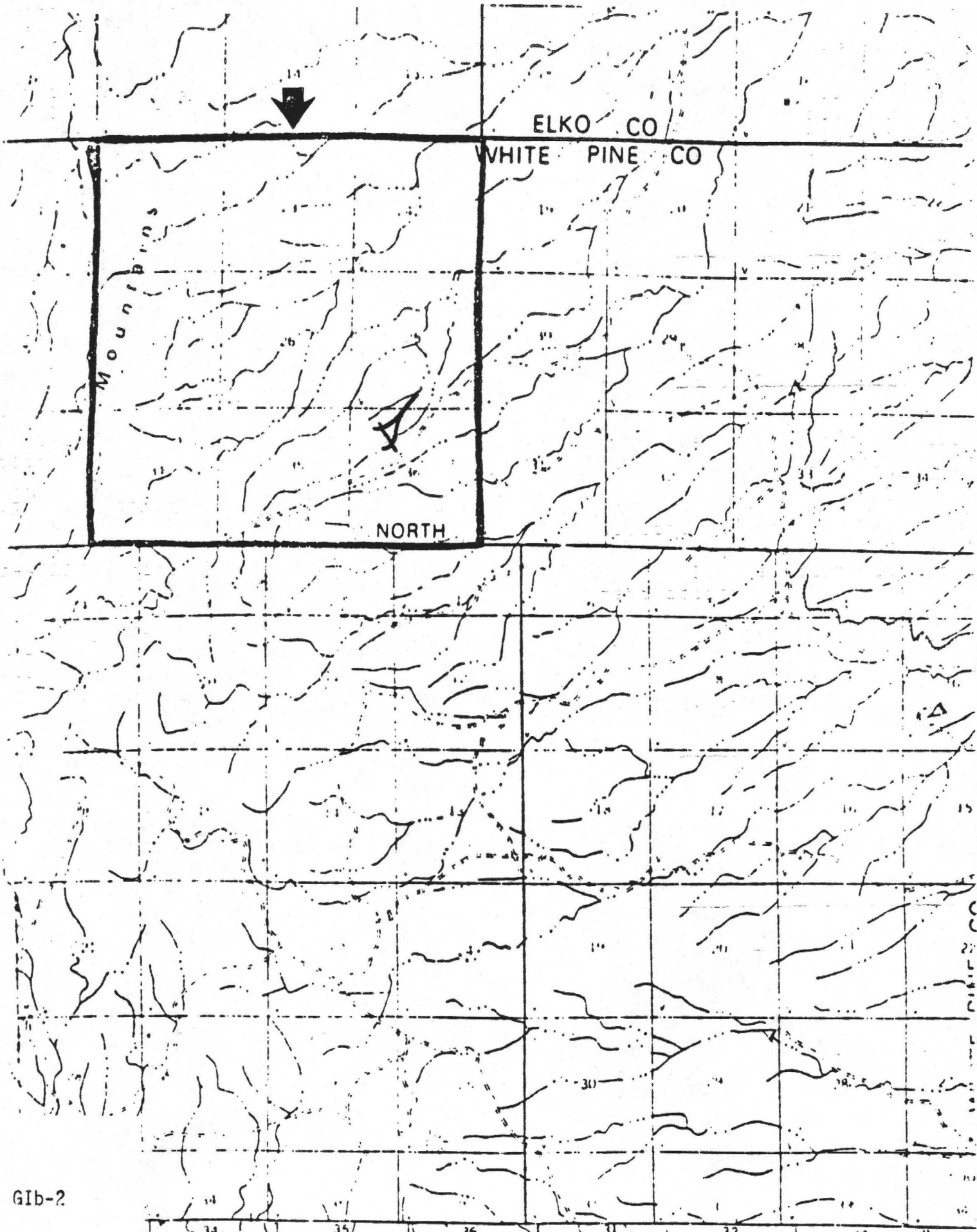
V. Studies and Evaluation

A. Studies: The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas within this allotment. These studies are to be accomplished in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were selected through consultation with permittees, Nevada Department of Wildlife, and the National Mustang Association.

GOSHUTE MOUNTAIN ALLOTMENT (0102)

R 69 E.

Management Action (Reservoir)



1. Utilization - Over a period of years, utilization patterns have been monitored in cooperation with the aforementioned user groups to identify problem areas and needs for range improvements. As planned actions are implemented, utilization patterns over the allotment will continue to be mapped to measure success in attaining proper livestock distribution. Once a stable pattern of use is established, utilization will be read on key areas. The method for documenting utilization levels will be the Key Forage Plant Technique described in the NRMTFG and the Draft BLM Manual 4423. As long as conflicts between livestock and wild-life or wild horses is minimal, utilization will be keyed to the movements of livestock only.

2. Actual Use - Actual use information consists of the actual number of animals on a given area and the specific number of days during which use occurred. This information should be recorded (on Form # 4130-5) as a log of animal movements including turnout and gathering dates, herding activities, death loss, and the number of animals involved each time. The actual use records are to be submitted by each permittee within 15 days after the end of the grazing season. Direct counts of livestock numbers may be taken, as time and funding permit, to supplement actual use information.

3. Frequency, Production, and Density - Frequency and production information will be obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTFG. Density will be measured as the number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production were used to establish specific resource objectives. These are written in terms of the number of plants per acre and pounds per acre of key species on key areas and will be monitored in this manner. As planned actions are implemented and use patterns established, new studies will be located where needed. Studies will be read every three to five years.

4. Climate - Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service, are being read monthly or bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

B. Evaluation: Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving

resource objectives, no changes in management will occur. If no change in trend is observed within 5 years after initiation of the plan, management will continue as is for 5 more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis of utilization, actual use, and climatic data. After successive changes in management, 3 to 5 years additional study will be allowed to determine if adverse situations have been corrected.

If at anytime utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

VI. Signatures

Prepared by:

Fred E. Fisher
Range Conservationist

Date

Accepted by:

Scott Moore
Livestock Operator

Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

GIC

Deep Creek Allotment (# 0103) Management PlanI. General Information

A. Location: The Deep Creek Allotment contains 23,932 acres of Federal BLM land all in White Pine County, Nevada. It is bordered by the Elko County line on the north and the Utah-Nevada State line to the east. The allotment is about 3 miles west of Ibapah, Utah. Refer to ARCMP map and the Deep Creek AMP map GIC-1.

B. Physical Data: The allowed kind of livestock on the allotment is cattle. Significant horse and antelope use also occur in the allotment.

Soils are varied throughout the allotment from shallow to deep and sandy. The allotment has a "badland" type appearance from wind and water erosion. This is a common effect in this region. Some of the important forage species there are Indian ricegrass, winterfat, squirreltail grass, western wheatgrass, Sandberg bluegrass, and needle and thread grass.

The allotment's selective management category is "C" (custodial). There is a Memorandum of Understanding between the Ely D.O. and the Salt Lake City D.O., wherein use is made on the West Ibapah Allotment in Utah at the same time use is occurring in the Deep Creek Allotment, among the same permittees. The Ely D.O. office, beginning in late FY 85, will be licensing the permittees in both allotments and states and will manage both allotments as a total package. All the permittees in the allotment are concerned that the growth of the horse herd is a potential threat to the range resource. They feel if the herd were maintained at its current size that it would be compatible with livestock and the forage resource.

C. Existing Improvements: Existing improvements are as follows (Fig. GIC-2):

<u>Job Number</u>	<u>Name</u>	<u>Condition</u>
0542	Deep Creek Reservoir #1	Fair
0559	Deep Creek Reservoir #2	Fair
0578	Deep Creek Reservoir #3	Poor

(All operators share maintenance responsibility for the three reservoirs.)

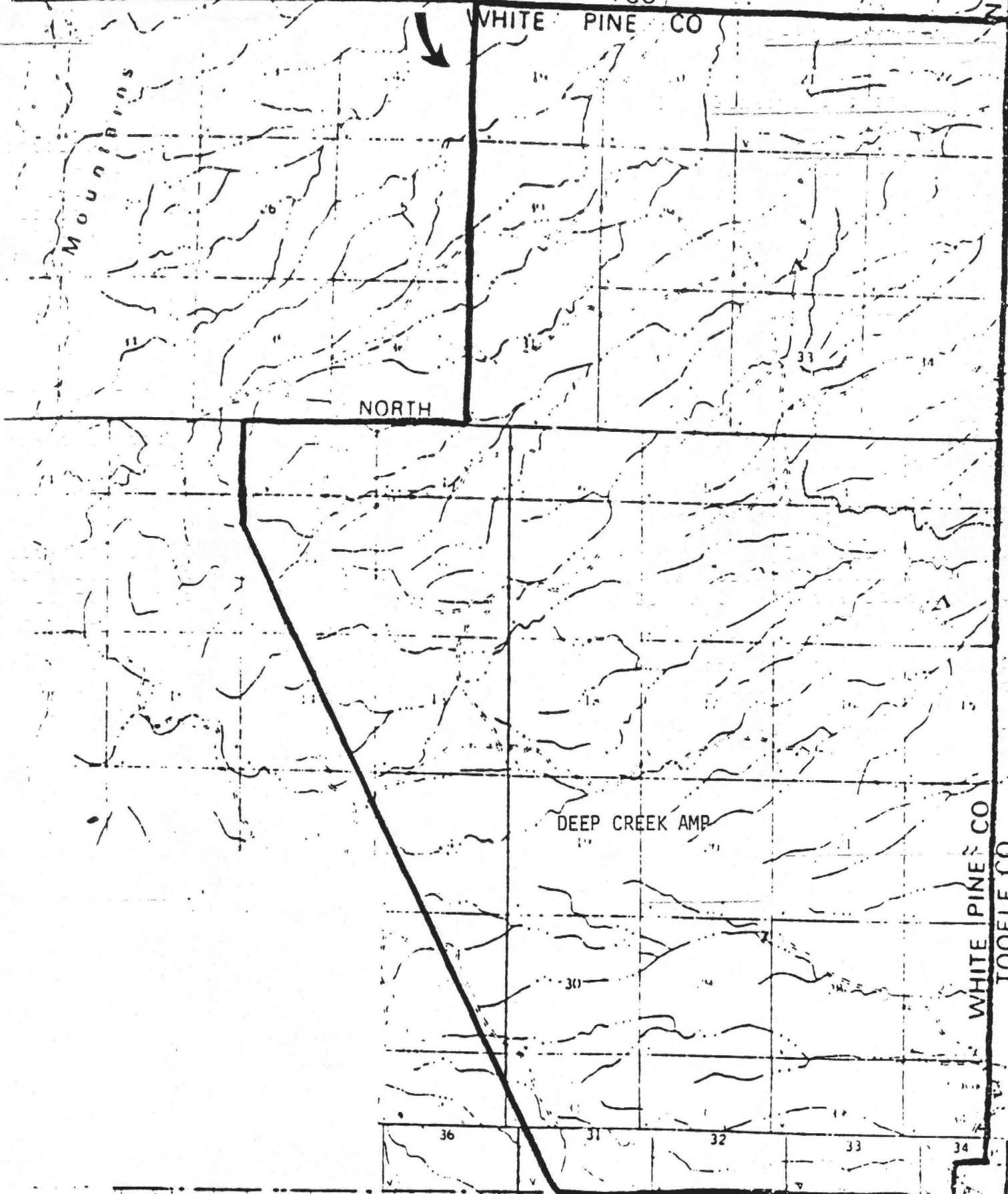
DEEP CREEK ALLOTMENT (0103)

Appendix 3 of the ARCMP

ELKO CO

WHITE PINE CO

NEVADA
UTAH



G1c-1



DEEP CREEK ALLOTMENT (0103)

ELKO CO

WHITE PINE CO

NEVADA

MOUNTAINS

NORTH

WHITE PINE CO
TOOELE CO

Existing Developments

Reservoir



Trend Study



36 31 32 33 34

D. Qualifications: The grazing preference for the allotment's four permittees combined is 2,083 cattle AUMs (NV). The season of use is year-round.

<u>Operator</u>	<u>Deep Creek Allotment Preference-Nevada</u>	<u>West Ibapah Allotment Preference-Utah</u>	<u>Total</u>
Mabel Bates	172 AUMs	345 AUMs	517 AUMs
Rao Bateman	990 AUMs	1,497 AUMs	2,487 AUMs
Gail Parker	511 AUMs	681 AUMs	1,192 AUMs
Reed Robison	410 AUMs	0	410 AUMs

E. Issues and Resource Conflicts:

1. There is a significant livestock distribution problem in the allotment. About 76 percent of the use occurs in Utah, yet only 34 percent of the total use allocation is in Utah.
2. There has been a season of use problem identified by the SLC district through their studies. Grazing use occurs during the critical growing season.
3. There is a regular trespass (drift) problem through the southwest boundary (unfenced) between the Deep Creek and Chin Creek Allotments, and subsequent mixing problems.

There is a similar problem to the north along the Elko-White Pine County line.

II. Management Objectives

See the ARCMP for the following General Management Objectives as they pertain to this amp: 1, 2, 3, 5, 6, 10, and 11. Refer also to the specific resource objectives for management objective area 26.

III. Management Actions

1. Correct the livestock distribution problem by implementing the Antelope Resource Coordinated Management Plan and Deep Creek Allotment AMP. Locate a well and six miles of pipelines to allow livestock to make more use on the western portions of the allotment, and reduce impacts in Utah by providing a dependable and adequate water supply, where previously unavailable. (See ARCMP Planned Action 26b.)

2. All permittees should leave the allotment at or about the same time each year. Currently there is year-round use allowed. A new season of use will be established for all users from October 1 till May 15. All users except Reed Robison have privileges in the Ibapah Allotment in Utah and can go on May 1, (licensing there is through the SLC district). (See ARCMP action 26c.)
3. A six mile fence line would be built along a new range line to be moved approximately 1 mile further west into what is now part of the Chin Creek Allotment. This will control distribution, drift, and trespass problems.

Also, four miles of fence will solve the same problem along the district/county line on the northeast boundary and facilitate better handling of livestock. (See ARCMP actions 26f.)

4. Fencing and water projects, once developed in the AMP, should be able to mitigate any serious horse/livestock/wildlife conflicts by improving distribution and thus reducing impacts for the forage resource among these users where they overlap.

(Refer to Figure GIC-3 for project locations.)

IV. Billing Procedure

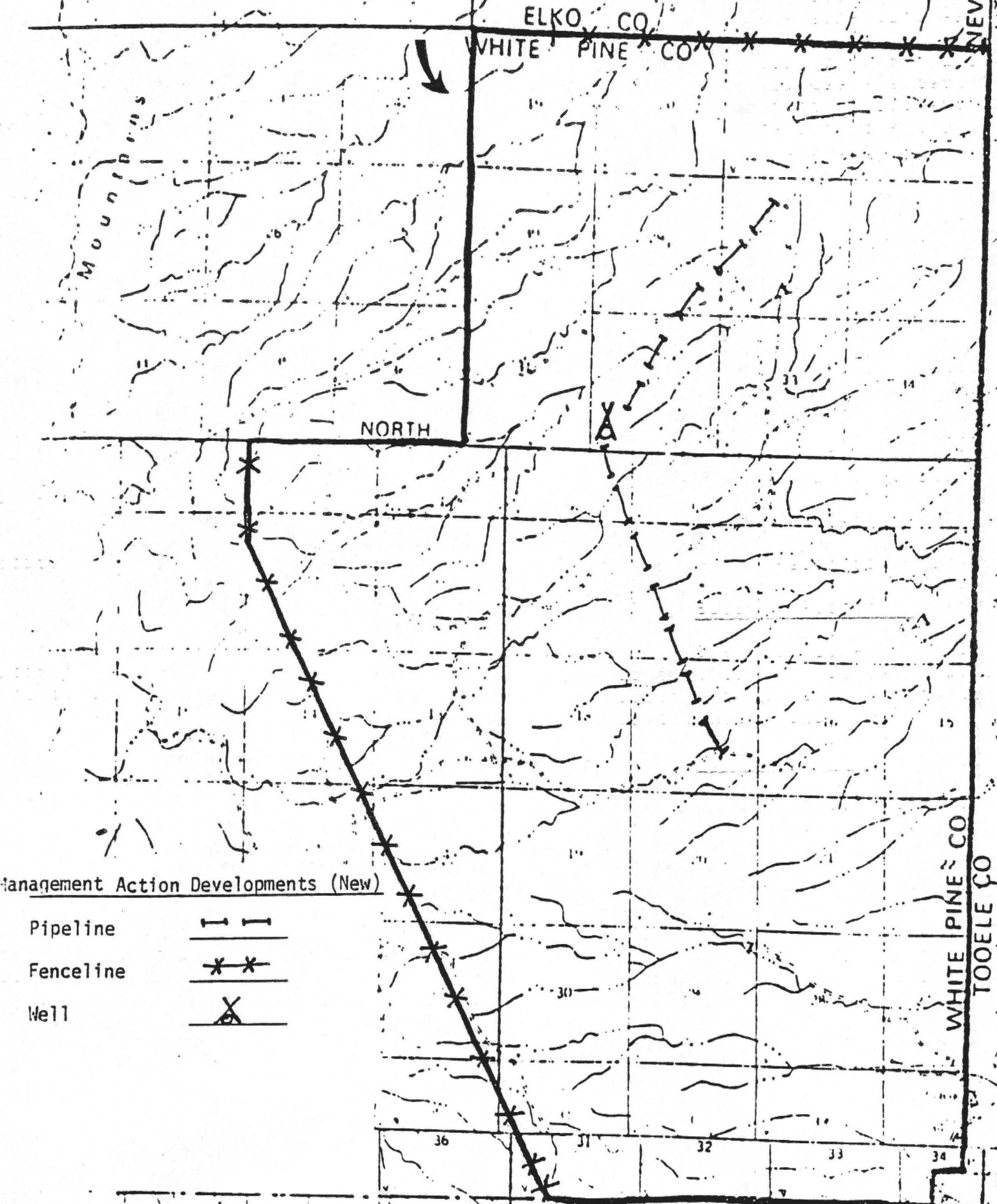
The four livestock operators will continue to be billed in advance of turnout dates as shown on their applications. Flexibility on turnout or removal dates will be subject to the approval of the Area Manager.

V. Grazing Practices

A. The allotment would continue to be in common use amongst the four permittees not to exceed their individual preferences. By establishing a season of use between October 1 and May 15 the physiological requirements of the key species should be met by allowing rest during the majority of the complete growth period.

Flexibility could be allowed to begin use up to two weeks early during the season of use, with the area manager's approval if the need arises. No livestock use would be allowed beyond April. There is no need for an intensive system to be considered at this time.

DEEP CREEK ALLOTMENT (0103)



Management Action Developments (New)

- Pipeline
- Fenceline
- Well

VI. Studies and Evaluation

A. Studies: The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas within this allotment. These studies are to be accomplished in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were selected through consultation with permittees, Nevada Department of Wildlife, and the National Mustang Association.

1. Utilization - Over a period of years, utilization patterns have been monitored in cooperation with the aforementioned user groups to identify problem areas and needs for range improvements. As planned actions are implemented, utilization patterns over the allotment will continue to be mapped to measure success in attaining proper livestock distribution. Once a stable pattern of use is established, utilization will be read on key areas. The method for documenting utilization levels will be the Key Forage Plant Technique described in the NRMTFG and the Draft BLM Manual 4423. As long as conflicts between livestock and wild-life or wild horses is minimal, utilization will be keyed to the movements of livestock only.

2. Actual Use - Actual use information consists of the actual number of animals on a given area and the specific number of days during which use occurred. This information should be recorded (on Form # 4130-5) as a log of animal movements including turnout and gathering dates, herding activities, death loss, and the number of animals involved each time. The actual use records are to be submitted by each permittee within 15 days after the end of the grazing season. Direct counts of livestock numbers may be taken, as time and funding permit, to supplement actual use information.

3. Frequency, Production, and Density - Frequency and production information will be obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTFG. Density will be measured as the number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production were used to establish specific resource objectives. These are written in terms of the number of plants per acre and pounds per acre of key species on key areas and will be monitored in this manner. As planned actions are implemented and use patterns established, new studies will be located where needed. Studies will be read every three to five years.

4. Climate - Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service, are being read monthly or bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

B. Evaluation: Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If no change in trend is observed within 5 years after initiation of the plan, management will continue as is for 5 more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis of utilization, actual use, and climatic data. After successive changes in management, 3 to 5 years additional study will be allowed to determine if adverse situations have been corrected.

If at anytime utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

VII. Signatures

Prepared by:

Fred E. Fisher
Range Conservationist

Date

Accepted by:

Rao Bateman
Livestock Operator

Date

Mabel Bates
Livestock Operator

Date

Gail Parker
Livestock Operator

Date

Reed B. Robison
Livestock Operator

Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

GId

Chin Creek Allotment (# 0104) Management PlanI. General Information

A. Location: The Chin Creek Allotment contains 148,017 acres of Federal BLM land in northeast White Pine County, Nevada. It encompasses parts of two major valleys (North Spring Valley, and Antelope Valley), and part of 3 major mountain ranges (North Schell Range, Antelope Range, and the Black Hills). Refer to ARCMP map and Figure GId-1, and GId-2.

B. Physical Data: The allowed kind of livestock on the allotment are cattle and sheep. There are significant resource conflicts in the allotment presently, and have been historically, among the various foraging animals. (Horses, cattle, sheep, antelope, deer, and sage grouse.)

Landforms vary from flat winterfat bottoms to high mountain ranges, with equally varied soil conditions. Key forage species are white sage, Indian ricegrass, Sandberg bluegrass, western wheatgrass, bluebunch wheatgrass, squirreltail grass, and black sage.

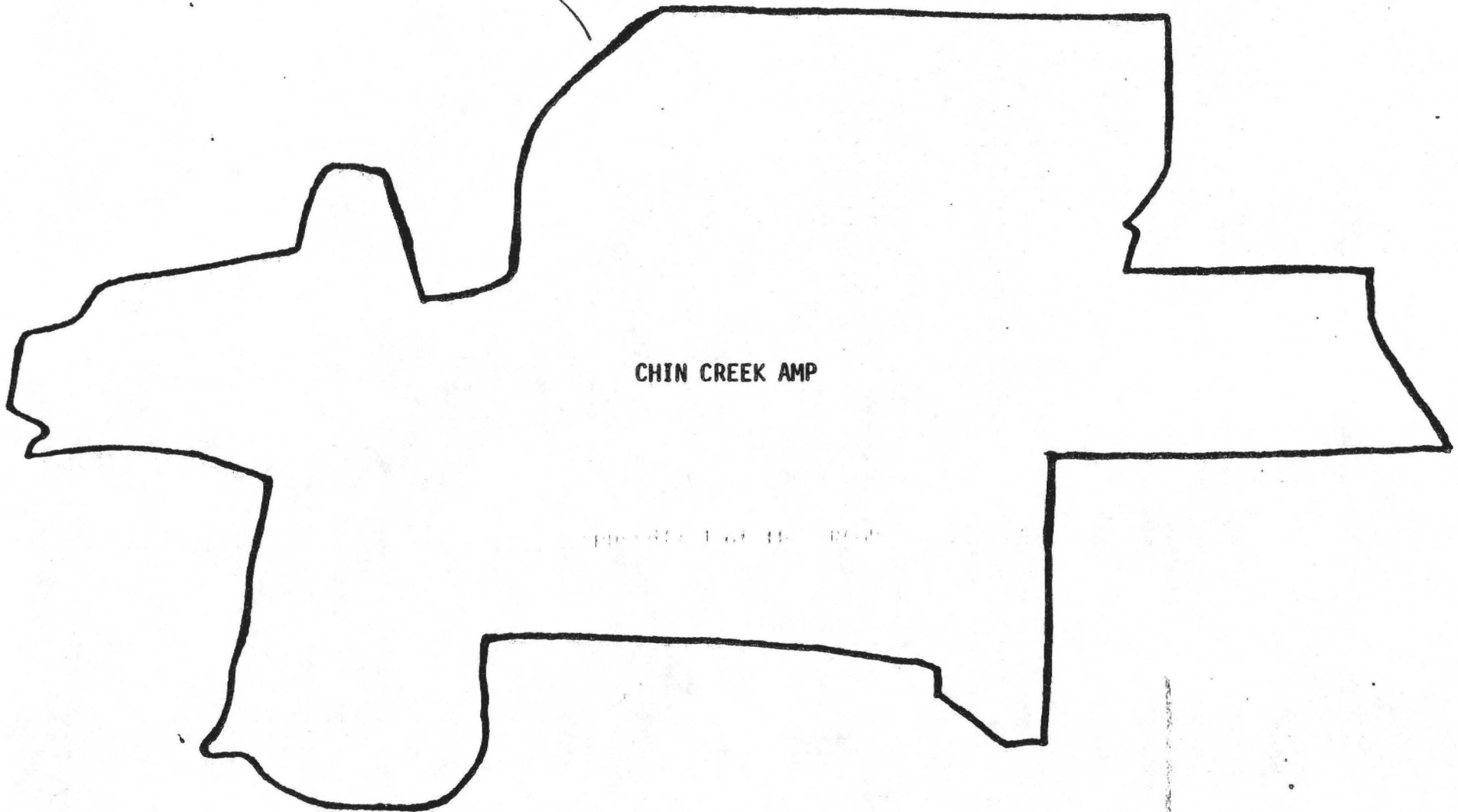
The allotment's selective management category is "I" (improve). Due to conflicts with horses, inadequate fencing, and water distribution problems the operator has been significantly hampered in making desired use in the allotment. Plant succession has also reduced desired forage production in the allotment to a large degree. However, production potentials through vegetation conversions are high for the allotment. Overall, the forage and watershed condition is mostly fair.

The allotment had a large number of horses removed in 1980 and range conditions have improved since then. However, the operator voluntarily held his numbers down before the roundup, to show the effects of the high horse numbers use, and since the roundup to allow the range to recover by only activating an average of 21 percent of his preference. This has been a hardship for him and he now needs to run a more economical operation. Also, the horse herd has again increased to the size that utilization by them prevents the livestock from making proper desired use in many areas of the allotment.

Wildlife values are also high in this allotment and a considerable amount of recreation use occurs there.

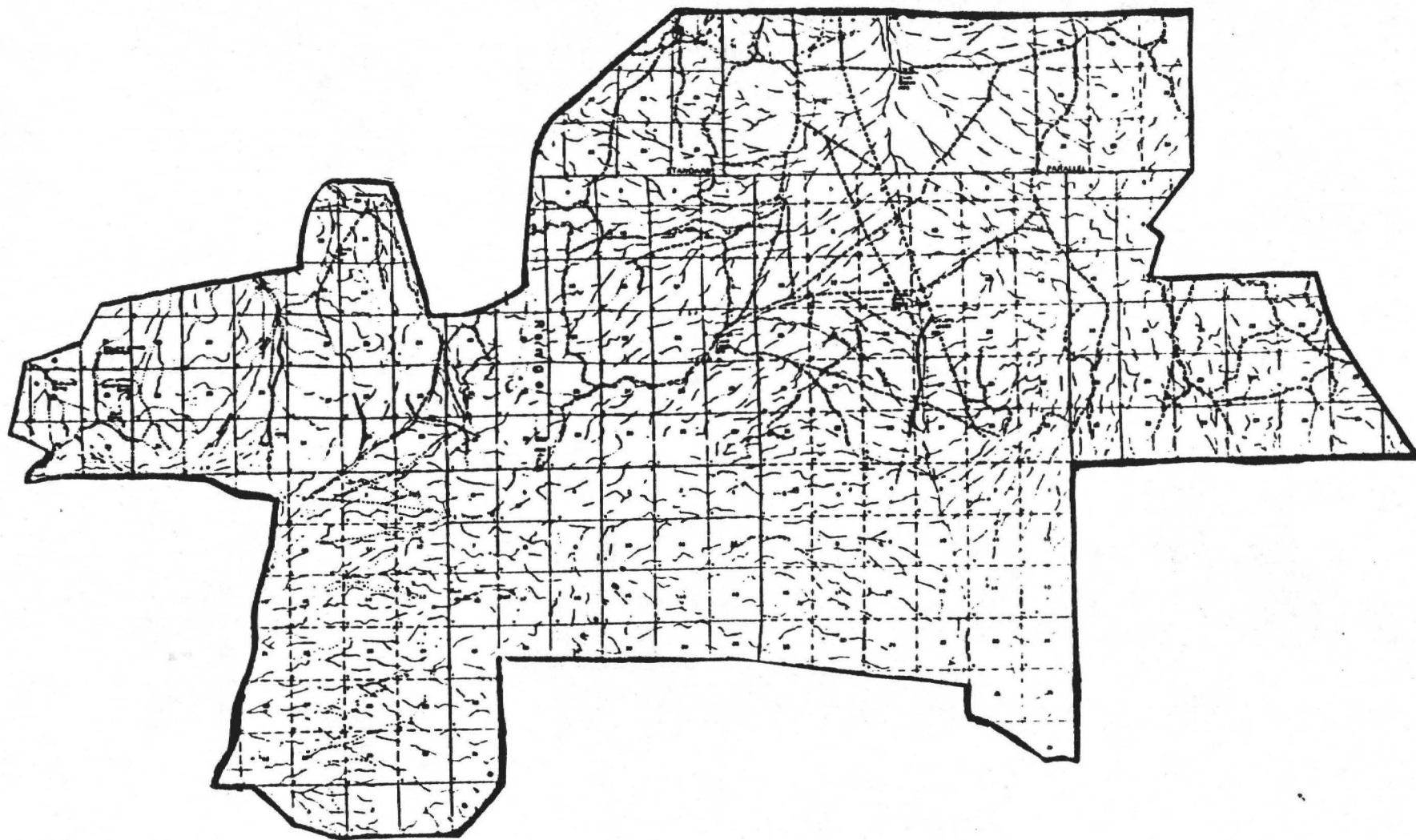
The operator has been running around 700 to 900 cattle from November through June recently in the Antelope Valley portion of the allotment.

13115
.21
 13115 229 COWS AVERAGE
 26230 1212754
2754.15



CHIN CREEK ALLOTMENT (0106)

GID-2



C. Existing Improvements:

<u>Job Number</u>	<u>Name</u>	<u>Condition</u>
0027	Flatnose Spring Seeding (905 ac.)	Poor
0755	North Creek Seeding (750 ac.)	Poor
0475	Robison Seeding (1,500 ac.)	Poor
0764	Antelope Valley Well and Ayarbe Drift Fence	Good
0898	North Spring	Poor
4309	Cottonwood Spring	Fair
0276	N. Chin Creek Reservoir	Good
0266	W. Chin Creek Reservoir	Poor
0273	Middle Chin Creek Reservoir	Good
0785	Elko/White Pine Fence (Antelope Valley)	Good
0270	S. Chin Creek Reservoir	Poor
0673	Robison/Sellas Fence	Fair
0311	Sharp Creek Reservoir	Poor
4105	Tunnel Canyon Spring	Poor
4255	Ayarbe Drift Fence	Good
3526	Ayarbe Spring Pipeline	Poor

(Reed Robison has maintenance responsibility for all but the seedings and only half of 0673.)

Numerous other water sources were developed many years ago and occur throughout the allotment. However, all are generally in poor condition with no maintenance responsibility assigned to them, nor are there any project files on them. (Refer to Figure GId-3 and GId-4.)

D. Qualifications:

The grazing preference for the allotment is 13,115 AUMs dual use livestock with year round season of use. The operator controls 100 percent of the privileges.

<u>Operator</u>	<u>Active Preference</u>
Reed Robison	13,115 AUMs

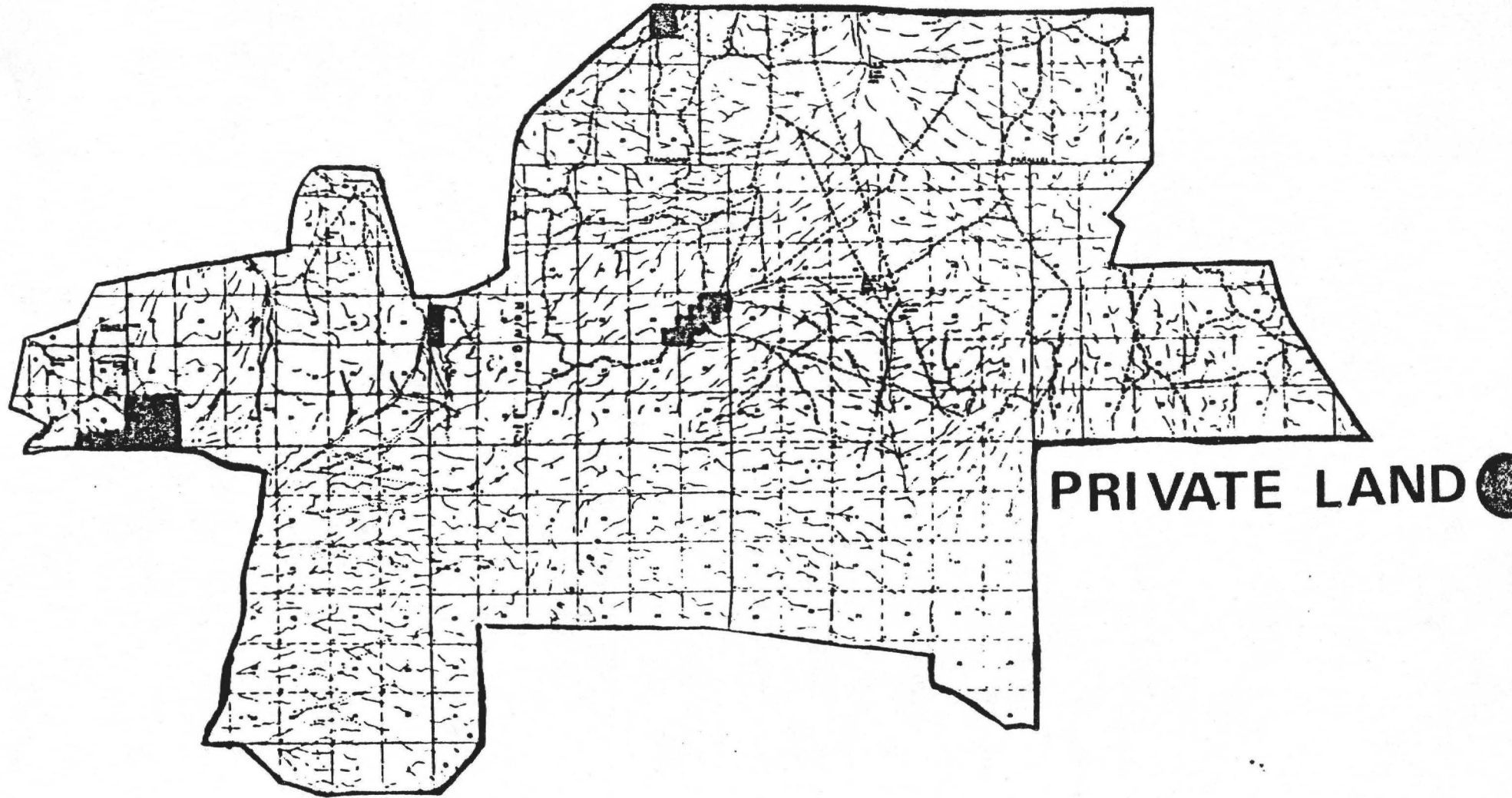
(Mr. Robison has other grazing preferences in the Ely District and the adjacent Elko District)

E. Issues and Resource Conflicts:

- * 1. Currently there is a lack of forage available for livestock to reach preference in the allotment.

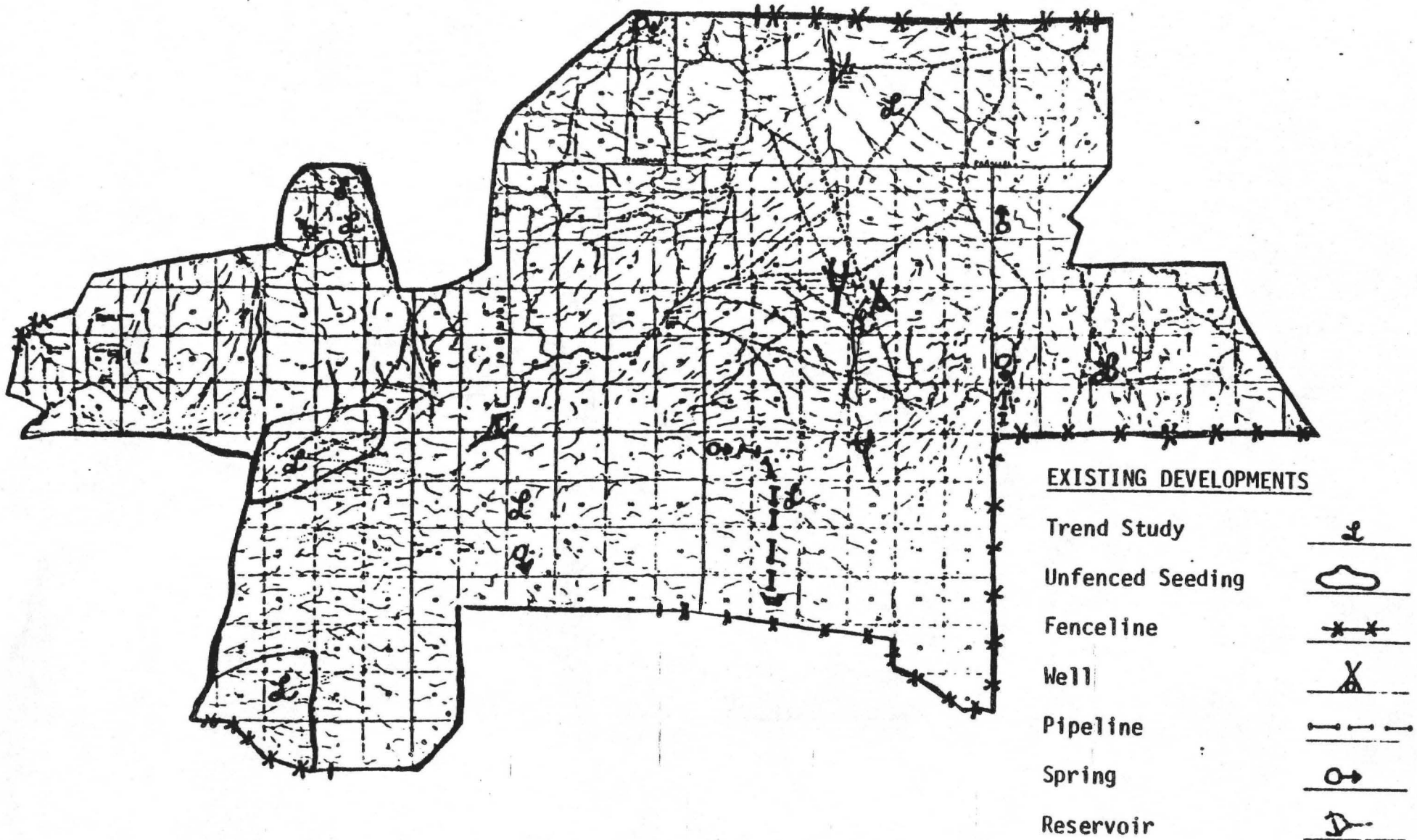
CHIN CREEK ALLOTMENT (0106)

GID-3



CHIN CREEK ALLOTMENT (0106)

7-PIG-4



0-0-0

- 614-7
2. Distribution is quite variable in the allotment, and causes adverse impacts to occur for both the resource and the livestock operation. Under utilization is also occurring in many parts of the allotment.
 3. The ecological site condition is not at the seral stage best suited for livestock in several potentially productive areas in the allotment. As a result many AUMs are unavailable.
 4. The condition of the 3 seedings in Spring Valley is poor. The AUMs that should be produced in these seedings are necessary to make proper use in that part of the allotment and are needed to help reach preference.
 5. There are livestock control problems that have resulted in, and will continue to result in, trespass and drift into and out of the allotment. An additional control problem exists when cattle venture onto the Antelope Mountain Range and utilize the abundant, yet fatally poisonous larkspur present there. The mingling with other operators cattle is also a concern. *so what is being done*
 6. Adequate water facilities are lacking in much of the allotment. This is an important concern to all user groups, but it is a particular problem when trying to properly manage the range for livestock.
 7. The physiological requirements of some key species are not being fully met. Plant rest during growth periods, in some areas of the allotment, during current seasons used, are not adequate.
 8. The operator desires to make his operation more economical and plans to activate significantly more of his preference in the immediate future. *
This action raises concerns for the resource's ability to sustain his preference without adverse impacts to it over time. Although the majority of the preference is being produced, other competitors use significant portions of it.
 9. When the operator leaves the Antelope Valley area in the early summer, a need exists to gather, brand, and mark the calves. This activity is very difficult, or impossible, to accomplish due to the lack of an adequate facility in the south.

10. The main water facilities in Antelope Valley are the Chin Creek catchment reservoirs. These are all located in the very center, or bottom of the valley, in the heart of key winterfat monocultures. This water source causes high amounts of use to occur on this key species when the livestock camp around them. Additionally these sources are not adequate nor dependable for water on a regular basis.
11. A travel route from Antelope Valley into Spring Valley is needed for cattle. This route needs to be located so as to prevent the cattle from imprinting on the Antelope summer sheep use area and larkspur zones.
12. There is a problem with shipping calves out of Spring Valley in the fall. There are no holding corrals, nor are there any loading facilities for shipment out with trucks.

II. Management Objectives

See the ARCMP for the following general management objectives as they pertain to this AMP: 1, 2, 3, 4, 5, 6, 7, 9, 10, and 11. Refer also to specific resource objectives for management objective areas: 1, 2, 3, 4, 5, 6, 8, 9, 22, and 27.

III. Management Actions

Eis does say that
 A. To provide needed AUMs for livestock five areas will be converted from closed pinyon-juniper and sagebrush climax types to more palatable species. Additional AUMs will also become available through implementation of this AMP.

The areas of manipulation are generally located as follows:

1. The drainage north from Eureka Summit to the Becky Springs Allotment. (400 acres sagebrush)
2. The northeast end of the Schell Mountain Range north of the Sampson Creek drainage. (800 acres P-J)
3. The southwest side of the Antelope Mountain Range bench in Spring Valley. (1,800 acres P-J and sagebrush)
4. The northeast side of the Antelope Mountain Range in Antelope Valley. (2,000 acres P-J)

400
 800
 1800
 2000

 5000 acres

5. The winterfat bottom in Spring Valley will be treated along with adjacent Sampson Creek Allotment treatment of the same type.

The conversion techniques to be used will be determined later through site specific analysis as to whether fire, commercial wood cuts, plowing, chainings, etc. or a combination of these are selected.

The AUMs needed to meet preference demand will be attainable by using these methods which changes these sites to a seral stage better suited for livestock use.



(See ARCMP actions 6, 22.)

B. The old devastated and unprotected 1,500 acre Robison, 750 acre North Creek and 905 acre Flatnose Spring Seedings will be treated to reduce undesirable vegetation and reseeded. The method and rates will be determined by the Division of Operations when submitted into the AWP. The three reseeded are expected to produce approximately 1,100 AUMs.

1500
750
905

3155
acres

(See ARCMP management action 1.)

C. Eight springs and a well would be developed in the allotment. Approximately 30 miles of pipeline will also run from these developments. These developments will generally have priority for implementation before other facilities in the allotment.

Additionally, water will continue to be sent to the middle Chin Creek reservoir during the livestock season of use in the Antelope Valley north pasture. However, once all the facilities listed in this AMP and the ARCMP are in place, water will no longer be sent to the other Chin Creek reservoirs intentionally. Runoff may still accumulate in the abandoned reservoirs intermittently. Such a situation could get to be a problem with control or distribution of livestock, or it could cause undesirable utilization levels in the key winterfat areas. Should this happen the reservoirs will then need to be rendered inaccessible by fencing them off to livestock. Wildlife could continue to have access, as such a fence would be built to wildlife specifications. All new water developments will be made available to all other foraging animals in the area. This action is necessary to protect the winterfat flat by drawing foraging animals off as needed.

D. A 6.5 mile fence will be installed across Antelope Valley (T. 25 N., R. 67, 68 E., sections 24, 19, 20, 21, 22, 23, and 24). The fence will allow a deferred grazing system to be implemented and give plants rest during key growth periods. The fence will create two pastures for cattle with a season of use from November through June. Gates will be left open when livestock use is not occurring in the area.

(See ARCMP actions 1, 2, 3, 5, 8, and 9.)

E. Fences totaling 32 miles will be built around the 3 re-seedings, on boundary lines with drift problems in and out, and in strategic locations to prevent access into other use areas and noxious plant areas. The fences will be built according to wildlife specifications. Internal gates will be left open where practical when livestock are removed from the area.

Additionally, about 10 miles of fence will be used to temporarily protect some vegetation conversion areas until they are established. Afterward they will be moved.

(See ARCMP actions 1, 2, and 5.)

F. A holding corral would be built in the south pasture of Antelope Valley (T. 24 N., R. 68 E., sec. 20) to facilitate necessary livestock handling when using that area.

(See ARCMP action 2.)

G. To get more use in the allotment cattle must (will) begin making use of AUMs in North Spring Valley. The extent of this use will increase as the facilities in this AMP and the ARCMP are completed. A preliminary season of use from June through October will be allowed on native ranges.

The three North Spring Valley seedings will be rehabilitated and four vegetation conversion areas will have seasons of use and carrying capacities evaluated and established after their completion.

(See ARCMP actions 1 and 22.)

H. Utilization levels will be monitored to maintain proper use levels on key management areas. This will be accomplished through monitoring by the BLM and through the operator's use of herding, stock removals, and controlling water facility use.

I. It is advantageous for the operator in Chin Creek, and the operator in Sampson Creek allotments not to have a division fence between them in Spring Valley. Both have agreed to this and propose to allow overlapping use by the other into their Spring Valley bottom and benchland use areas. The Sampson Creek operators kind of livestock is sheep and the Chin Creek kind are cattle and sheep. After the AMP is fully implemented the Chin Creek operator will run cattle only in this area.

By authorizing this use area mix, between kinds of livestock and between the two allotments, the resource will be better managed in this particular situation. The sheep operator will have more options for rotating areas of lambing thus reducing conflicts with sage grouse strutting areas, and adverse impacts to the forage resource. The cattle will be able to use the native forage in a natural manner, achieving better distribution, thus also benefiting the forage resource in the valley as a whole. Also, no fence will be required to control cattle from using the west side of the valley. Additionally, the absence of the fence will prevent any of the foreseeable adverse impacts to antelope and horse activities which would occur as a result of fence construction, which would be necessary without this agreement.

The action then, will be establishment of a use area boundary shared by the two allotment operators in North Spring Valley. Both users would be allowed some freedom of use in roughly half the area of the proposed vegetation conversions on either side of the valley when developed for use. The same would be the case for the new additional water developments. There would be two short drift fences built on the Schell bench to prevent cattle use up onto the Schell Range.

J. A cattle trail will be established over the Antelope Mountain Range running from lower Stockade Spring in Antelope Valley to Flat Spring in Steptoe Valley. The drainages would be cleared of dense P-J to allow manageable cattle access through the area. This would be the only allowable route over the Antelope Range for the Chin Creek Allotment Operator, although he will also continue to use Tippett Pass. The route will go through T. 25 N., Rs. 66 and 67 E., secs. 1, 6, 8 and 9. The old road will also be upgraded and maintained. This is necessary to prevent imprinting on the more obvious route up Chin Creek by cattle. Larkspur is a problem there and there are no fences to prevent the cattle from returning to the mountain. An interim trail will be allowed up the Marble Mine road to Lookout Springs, and then to Flat Springs.

(See ARCMP action 6.)

K. A loading and shipping corral will be established in Spring Valley near the North Creek pasture fence. This facility is essential for the operator to manage livestock in Spring Valley in a feasible manner.

L. Construct a pasture on North Creek (T. 25 N., R. 67 E., secs. 29, 31, and 32) to manage the meadow primarily for sage grouse brooding. This pasture should also allow deer and antelope access to the area but exclude wild horses. The allotment permittee will be allowed into the pasture if desired with an agreed on number of animals for an agreed on length of time. The pasture will be fenced so water flows outside the pasture for horses.

The proposed North Creek pasture would be about 560 acres in size. Three gates would be placed to allow stock movement through the pasture. Wild Horses would be totally excluded from the area but water would be left for these animals at the top and bottom of the pasture. Domestic sheep would use the pasture 1-2 days in June and possibly early fall every year or every other year. Cows may be allowed for up to 2 days at a stocking rate which will not damage the meadow. Sheep would be bedded in the hills above the meadow. Fencing will be 4 strands of barbed wire with a smooth bottom wire for antelope passage and sheep spacing above that. Grazing of stock should be flexible enough to allow more time or animals if needed to achieve ideal sage grouse vegetation heights.

Maintenance needed due to stock use will be done by the permittee. Other maintenance will be done under riparian maintenance by the BLM.

(See ARCMP management action 2e.)

(See ARCMP actions 2 and 27.)

What actions does this asterick pertain to? X ** (All actions undertaken pursuant to this plan are contingent upon available funding.)

(Refer to Figures G1d-5 for management action project location.)

IV. Billing Procedure

The livestock operator will continue to be billed in advance of turnout dates as shown on their applications. Flexibility on turnout or removal dates will be subject to the approval of the Area Manager.

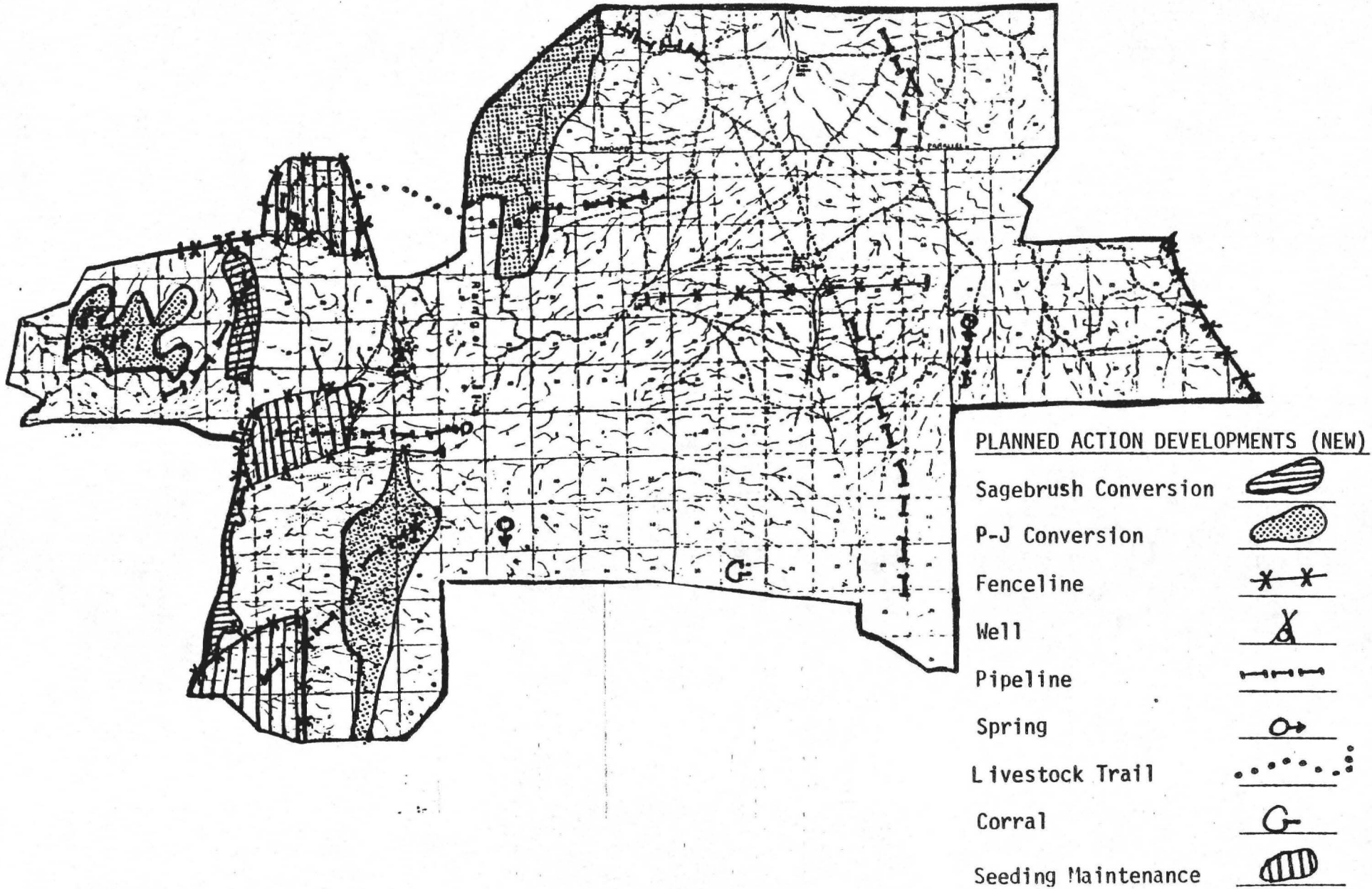
V. Grazing Practices

The following measures will be adhered to by the operator and made a part of the terms and conditions of his permit for the Chin Creek Allotment. Items C and D are agreed to be the way sheep will use those areas before and after facilities mentioned under planned actions are in place.

All AUMs used are on 100 percent public lands with no recognized private lands. These grazing schedules were developed with the cooperation and concurrence of the livestock operator Reed Robison. These system agreements will be evaluated in five years and renegotiated as needed. No

CHIN CREEK ALLOTMENT (0106)

GID-5



A. Antelope Valley Treatment - (Interim)

The kind of livestock will be cattle. The season of use will be November through June. The stocking rate will not exceed 1,200 cows per month. At least three of the months during the season of use will be made on the operators adjacent Antelope Allotment in the Elko BLM District. These three months rest will be between December and the end of March (when there is snow on the ground to provide water for the cattle use in the Elko Allotment). The operator will haul water during this interim system in the cattle use areas of Antelope Valley to produce adequate distribution and desired utilization levels when and where the BLM designates. No livestock use will be made in Antelope Valley from July through October.

Antelope Valley Interim Treatment - Cattle Use Area

<u>Nov.</u>	<u>Dec.</u>	<u>Jan.</u>	<u>Feb.</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>
1,200	(1200 AUMs)		1,200	1,200	1,200

* (Three months of rest and one month of use will occur between December and March.)

B. North Spring Valley Treatment - (Interim)

The kind of livestock allowed will be sheep until planned actions are completed. The season of use for this use area will be July through October. The stocking rate will not exceed 1,850 sheep per month. No livestock use will be made in the use area from November through June by the Chin Creek Operator. All sheep use will be within the Chin Creek Allotment boundaries.

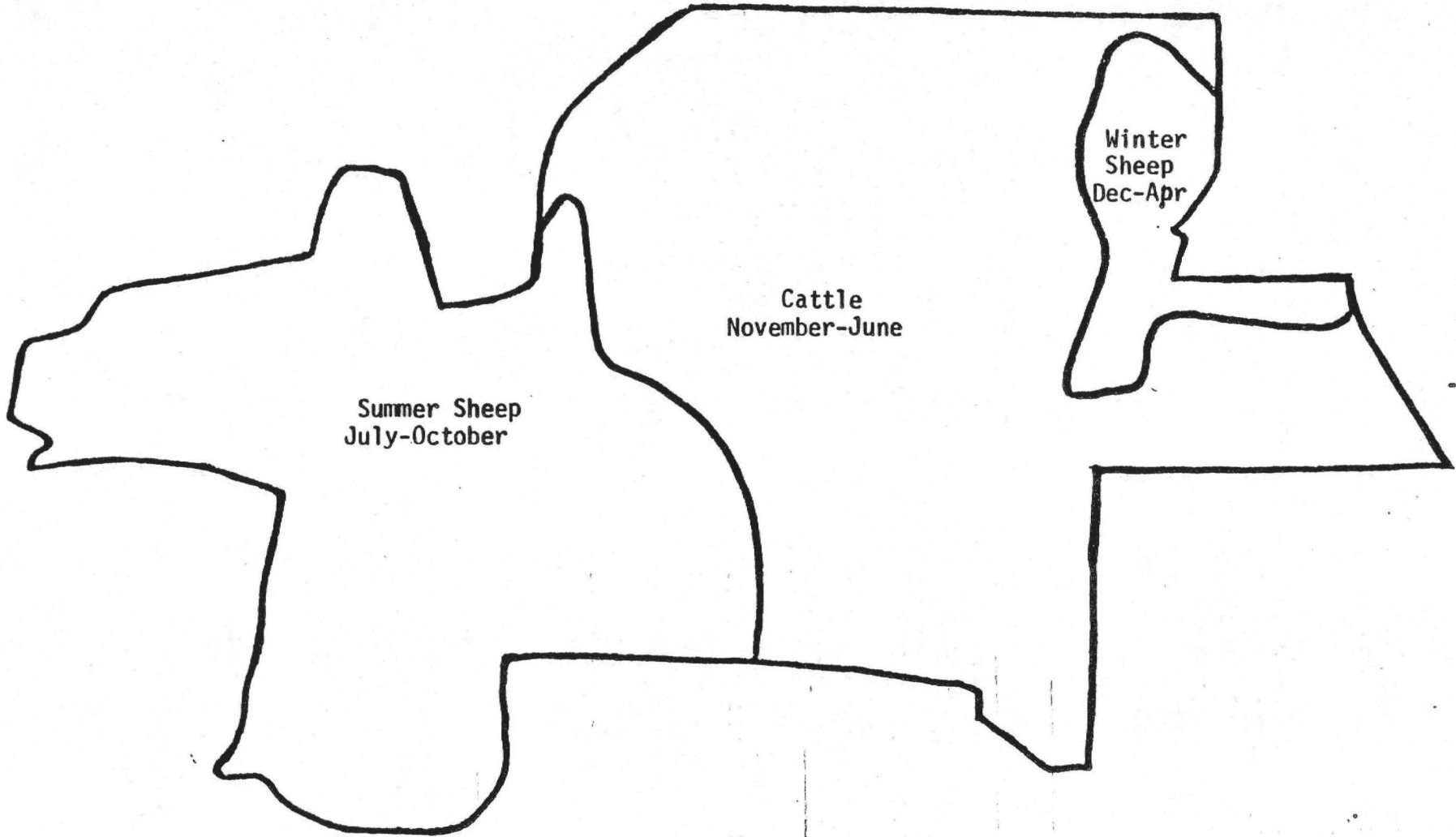
North Spring Valley Interim Treatment

	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
Sheep	1,850	1,850	1,850	1,850

C. "Antelope Mountains" Treatment - Sheep

There would be no formal grazing system for this use area. If monitoring shows the need in the future, then a deferred system would be considered at that time. However, a season of use would be established from May 15 to October 15. This area is good sheep summer range country. Monitoring may indicate more AUMs available for sheep in this area. No more than 2,000 sheep would be allowed use in this area in any one month during the season of use. (Refer to Figure GId-6.)

Chin Creek Allotment Interim Use Areas



Third Year - Same as First.

Fourth Year - Same as Second.

North Spring Valley Treatment - (AMP Fully Implemented)

F. The kind of livestock use allowed in the Chin Creek Allotment will be cattle. The season of use will be July through October. There are three seeding rehabilitation conversions individually fenced. Additionally there are two vegetation conversions in pinyon-juniper and one in sagebrush. The maximum stocking rate for any one month will never exceed 738 cattle. 8856
AAMS

As agreed in planned actions (I), overlapping use will be allowed between the Chin Creek Allotment and Sampson Creek Allotments in Spring Valley. The Sampson Creek operator will run sheep and be able to make use in May and June on native range in the Chin Creek Allotment and the P-J conversion area on the west side of the Antelope Range. The Chin Creek operator will be allowed use on the Sampson Creek Allotment bench and P-J conversion area on the east side of the Schell Range in the allotment, while making use on the native range in the Chin Creek Allotment Spring Valley use area. This arrangement will be evaluated in five years after AMP is approved and could then be renegotiated if the situation warrants it. This action prevents the need for establishing a fence between the two allotments. Such a fence in that particular area would create many resource conflicts, however, both operators are aware of this, and have volunteered to work together with the land and wildlife management agencies in this matter to prevent any adverse impacts.

Spring Valley Cattle Use Treatment (AMP Implemented Fully)

<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
738	738	738	738

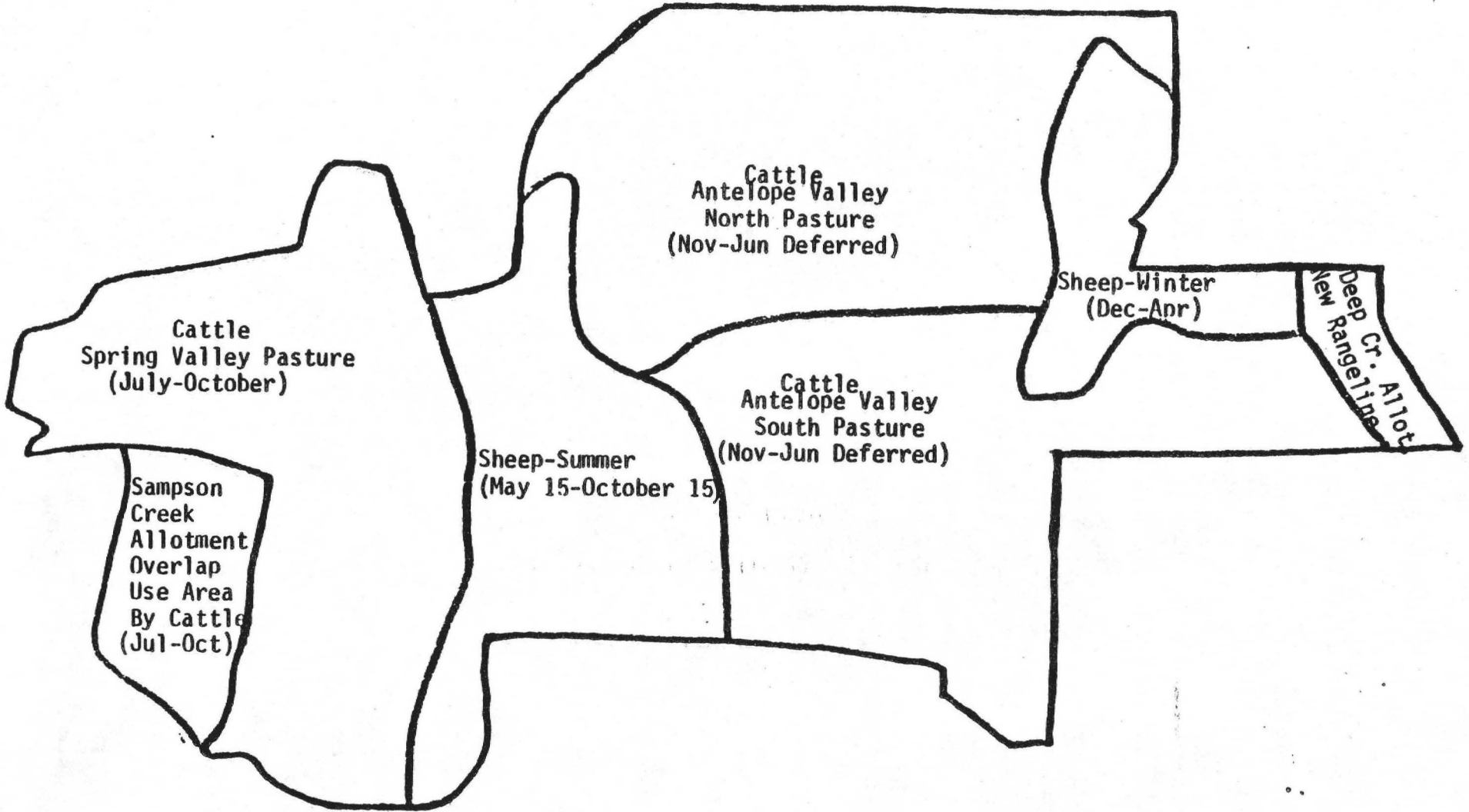
Use area schedules within treatment area:

	<u>1-10</u> <u>July</u>	<u>11-30</u> <u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
Flat Springs Seeding	738				
Native Range/ Conversion Areas		738	738	738	163
Robison Seeding					375
North Creek Seeding					200

(Refer to Figure GId-7, and GId-8.)

GRAZING TREATMENTS

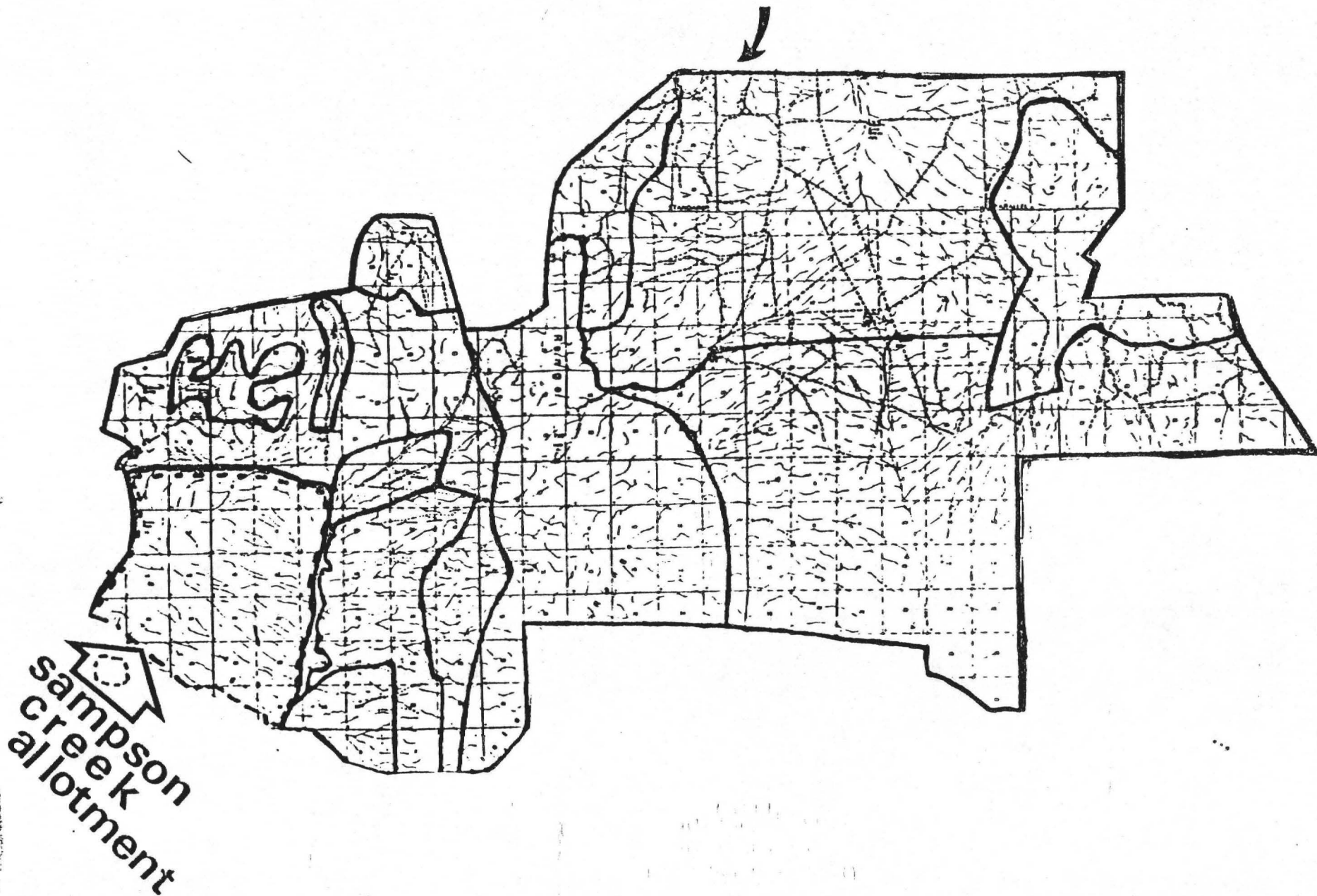
Chin Creek AMP Fully Implemented



CHIN CREEK ALLOTMENT (0106)

GID-8

Outline of all Use, Treatment, and General Conversion Areas, with AMP fully implemented.



GID-19

VI. Studies and Evaluation

A. Studies: The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas within this allotment. These studies are to be accomplished in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were selected through consultation with permittees, Nevada Department of Wildlife, and the National Mustang Association.

1. Utilization - Over a period of years, utilization patterns have been monitored in cooperation with the aforementioned user groups to identify problem areas and needs for range improvements. As planned actions are implemented, utilization patterns over the allotment will continue to be mapped to measure success in attaining proper livestock distribution. Once a stable pattern of use is established, utilization will be read on key areas. The method for documenting utilization levels will be the Key Forage Plant Technique described in the NRMTFG and the Draft BLM Manual 4423. As long as conflicts between livestock and wildlife or wild horses is minimal, utilization will be keyed to the movements of livestock only.

2. Actual Use - Actual use information consists of the actual number of animals on a given area and the specific number of days during which use occurred. This information should be recorded (on Form # 4130-5) as a log of animal movements including turnout and gathering dates, herding activities, death loss, and the number of animals involved each time. The actual use records are to be submitted by each permittee within 15 days after the end of the grazing season. Direct counts of livestock numbers may be taken, as time and funding permit, to supplement actual use information.

3. Frequency, Production, and Density - Frequency and production information will be obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTFG. Density will be measured as the number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production were used to establish specific resource objectives. These are written in terms of the number of plants per acre and pounds per acre of key species on key areas and will be monitored in this manner. As planned actions are implemented and use patterns established, new studies will be located where needed. Studies will be read every three to five years.

4. Climate - Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service, are being read monthly or bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

B. Evaluation: Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If no change in trend is observed within 5 years after initiation of the plan, management will continue as is for 5 more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis of utilization, actual use, and climatic data. After successive changes in management, 3 to 5 years additional study will be allowed to determine if adverse situations have been corrected.

If at anytime utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

VII. Signatures

Prepared by:

Fred E. Fisher
Range Conservationist

Date

Accepted by:

Reed B. Robison
Livestock Operator

Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

G1e

Sampson Creek Allotment Management PlanI. General Information

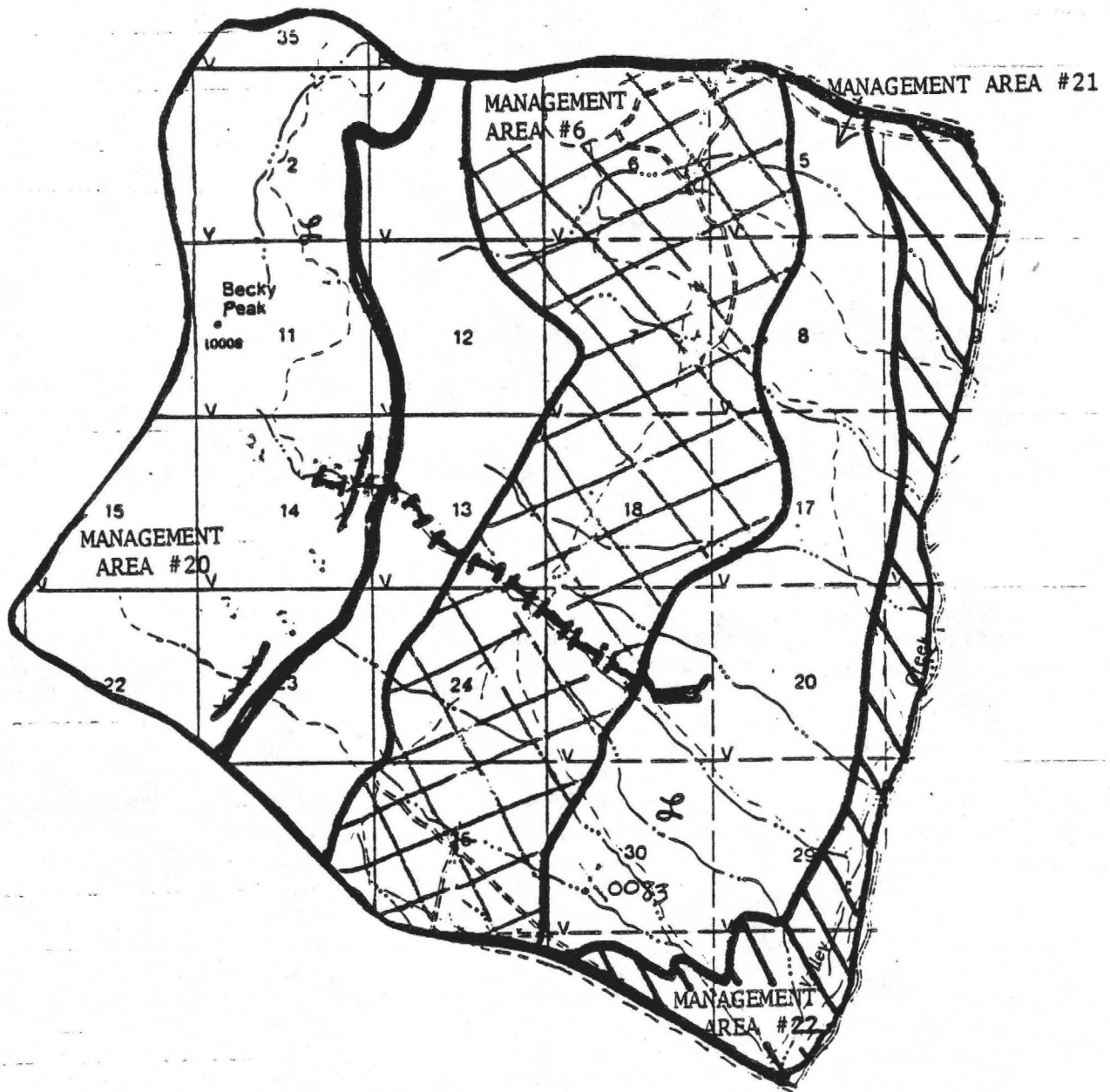
A. Location and Area: The Sampson Creek Allotment encompasses 13,232 acres of land administered by the Bureau of Land Management. It is located to the east and south of Becky Peak in the north end of the Schell Creek Range. The top of the range forms the west boundary of the allotment. The north and east boundaries are formed by Sampson Creek and the road through the bottom of north Spring Valley, respectively, which separate this allotment from the Chin Creek Allotment. Only the southern boundary between this allotment and the Tippet Allotment is fenced. Refer to the map of the entire planning area in the general section of the Antelope Range Coordinated Management Plan (Figure B-1) as well as the allotment map in this AMP (Figure G1e-1).

B. Physical Data: The primary vegetative types are the winterfat bottom, black sagebrush benches, subalpine or high mountain shrub/grassland and quite an extensive zone of closed pinyon/juniper on the foothills. The winterfat bottom is being closed in by the advance of big sagebrush seedlings and, in some places, the establishment of halogeton. Neither an Order 3 soil survey nor a condition classification survey has been completed for the allotment. Ecological site condition and plant density of key species is being determined for each key management area to assist in developing management objectives. Refer to the general section of the ARCMP for further description of the area.

C. Existing Improvements: The only improvements in the allotment which are assigned a project number are the Becky Mountain Well (0093), for which the total maintenance responsibility is assigned to Warren Robison, and the Henriod-Robison Extension Fence (0475) which is maintained by permittees in the Tippet and Chin Creek Allotments. There are six springs on the upper slopes of the Schell Creek Range that are developed to some degree, but are not Bureau projects. The well is in such a state of deterioration it may not be repairable. The six springs (Camp, Gravel, Grouse, Horse, Mustang, and Skull Springs) provide a little water but are in need of redevelopment. Where water rights can be obtained and a need is identified, some of these springs will be developed and maintenance responsibilities assigned to the operator in the allotment (refer to Section III of this AMP).










FIGURE G1e-1: Allotment Map

SAMPSON CREEK ALLOTMENT (0105)



(SCALE: 1 mile = 1 inch)

LEGEND

- | | | | |
|---|--|---|--------------------------------|
|  | = MANAGEMENT AREA BOUNDARY |  | = PROPOSED PIPELINE |
|  | = EXISTING WELL |  | = PROPOSED FENCELINE |
|  | = EXISTING SPRINGS |  | = MONITORING TRANSECT LOCATION |
|  | = SAGE GROUSE STRUTTING AND NESTING AREAS | | |
|  | = PINYON/JUNIPER VEGETATIVE TREATMENT POTENTIAL AREA | | |
|  | = OTHER VEGETATIVE TREATMENT POTENTIAL AREA | | |

D. Qualifications and Present Use: The use on the allotment is as follows:

<u>Operator</u>	<u>Kind of Livestock</u>	<u>Preference</u>	<u>Season-of-Use</u>
Warren Robison	Sheep	1,592 AUMs	Mar. 1 - June 30

The operator is presently running near 40 percent of his preference and plans to increase this use. For the last two years the sheep have been brought onto the black sagebrush benches around the first of May for lambing and then moved to the high country as snow permits. Little or no use is made by livestock on the winterfat bottom or the pinyon/juniper foothills. Because of the thickness of the trees, the only access to the summer range is up the Sampson Creek drainage. This creates a situation of overuse of the area which is accessible from this route and relatively little use of other areas in the higher country. This allotment is in Selective Management Category "I" (improve).

E. Issues and Resource Conflicts:

1. Water distribution and quantity is inadequate, resulting in poor livestock distribution and areas of over- or under-utilization. The most abundant water is at Camp Spring and in Sampson Creek which creates an overuse problem in the head of this canyon.
2. The only access to the summer range is along Sampson Creek which adds to the overuse problem around Camp Spring. The lack of access also prevents the use of water hauling and limits the ability of the operator to make efficient use of the range. Additionally, much of the land in this drainage is private belonging to the permittee in the Chin Creek Allotment. Although this is not a problem now, the owner could choose to fence this private land and effectively cutoff the access.
3. The present season of use (March-June) is too early. The best period of use for the higher elevations is late summer and for the benches and bottom is fall and winter. In this allotment, however, winter use is not desirable because of the amount of horse use occurring at this time and snow accumulation problems. The permittee needs summer range, since he has sufficient fall and winter range elsewhere, and wants to lamb in the Sampson Creek Allotment.

Mar-June

4. Because the black sagebrush benches are part of yearlong antelope range, there are conflicts with livestock use in this area. Present summer use by livestock is creating competition for grasses and forbs. However, fall or early winter use would create competition for browse species which is considered to be the more important forage in this particular area.
5. There is a potential conflict between sheep use on the black sagebrush benches and sage grouse strutting grounds.
- * 6. Wild horse use is concentrated so heavily in the winterfat bottom that proper use levels are being exceeded, even though there is no use by cattle and virtually no use by sheep in the bottom. Heavy utilization is being recorded prior to the sheep being brought into the allotment. Individual winterfat plants are losing vigor and halogeton and big sagebrush seedlings are rapidly encroaching into the areas originally occupied by winterfat.
7. The eastern boundary of the allotment is unfenced and runs along the road through the outer edge of the winterfat bottom. The drifting of sheep onto the Chin Creek Allotment can be controlled through herding and water distribution. The permittee in the Chin Creek Allotment has not used the area with cattle because of the high concentration of horse use, but would like to do so in the future. *This would create drift problems because cattle are more difficult to control. A boundary fence is undesirable because it would impede the movement of horses across the valley, and would increase the impact of livestock concentration in the bottom because of the tendency to congregate along fences.

II. Management Objectives

A. General: Refer to General Management Objectives in the ARCMP, particularly 1, 2, 3, 5, 7, and 11. Other general objectives for this allotment are as follows:

1. Reduce the impact of grazing animals on the winterfat bottom.
2. Limit livestock use on the allotment to that which is authorized, without creating additional conflicts.

B. Specific: Refer to Specific Resource Objectives contained in the ARCMP for management areas 6, 20, 21, and 22.

C. Area-wide Specific: Refer to the area-wide specific objectives in the general section of the ARCMP. All listed are appropriate.

III. Management Actions

A. Grazing Treatments: The treatment proposed for this allotment is the establishment of use areas and seasons of use with some rotation between use areas. The following are proposed as interim measures based on existing conditions. Changes that would occur as a result of implementation of range improvements will be discussed with each specific project in the next section.

1. The higher elevations above the pinyon/juniper belt will be used from July 1 to August 1 by sheep only.
2. The native range from the pinyon/juniper on the Schell Creek Range (Sampson Creek Allotment) to the pinyon/juniper on the Antelope Range (Chin Creek Allotment) will be used in common with Warren Robison's sheep and Reed Robison's cattle. This will permit efficient and authorized use of this portion of north Spring Valley without creating conflicts associated with a boundary fence. (Refer to Figure G1e-2.)
 - a.) The sheep use in the area will be from May 1 through June 30, This use coincides with lambing and will be made on the black sagebrush benches. In order to alleviate some pressure on these benches, lambing will occur in one of three different use areas each year so that no area is used two years in a row. (Refer to Figure G1e-3 and Table G1e-1.) The three areas are as follows:
 - the area around the location where Sampson Creek enters the bench, so that Sampson Creek can be used for water,
 - the area around the location where Middle Creek enters the bench, so that Middle Creek can be used for water, and
 - the area around the location where Sharp Creek enters the bench, so that Sharp Creek can be used for water.

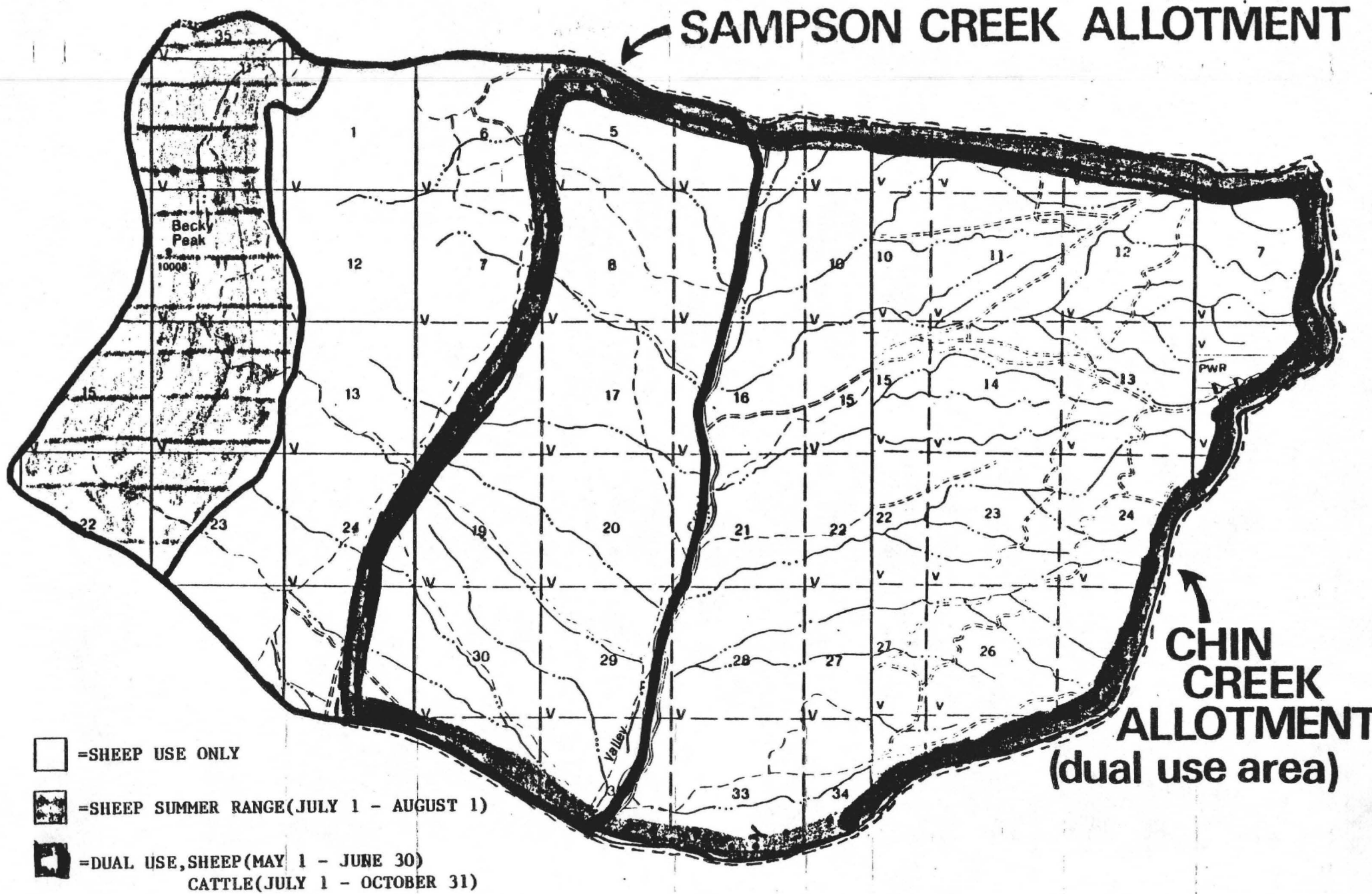


FIGURE G1e-2: Areas of Allowable Livestock Use.

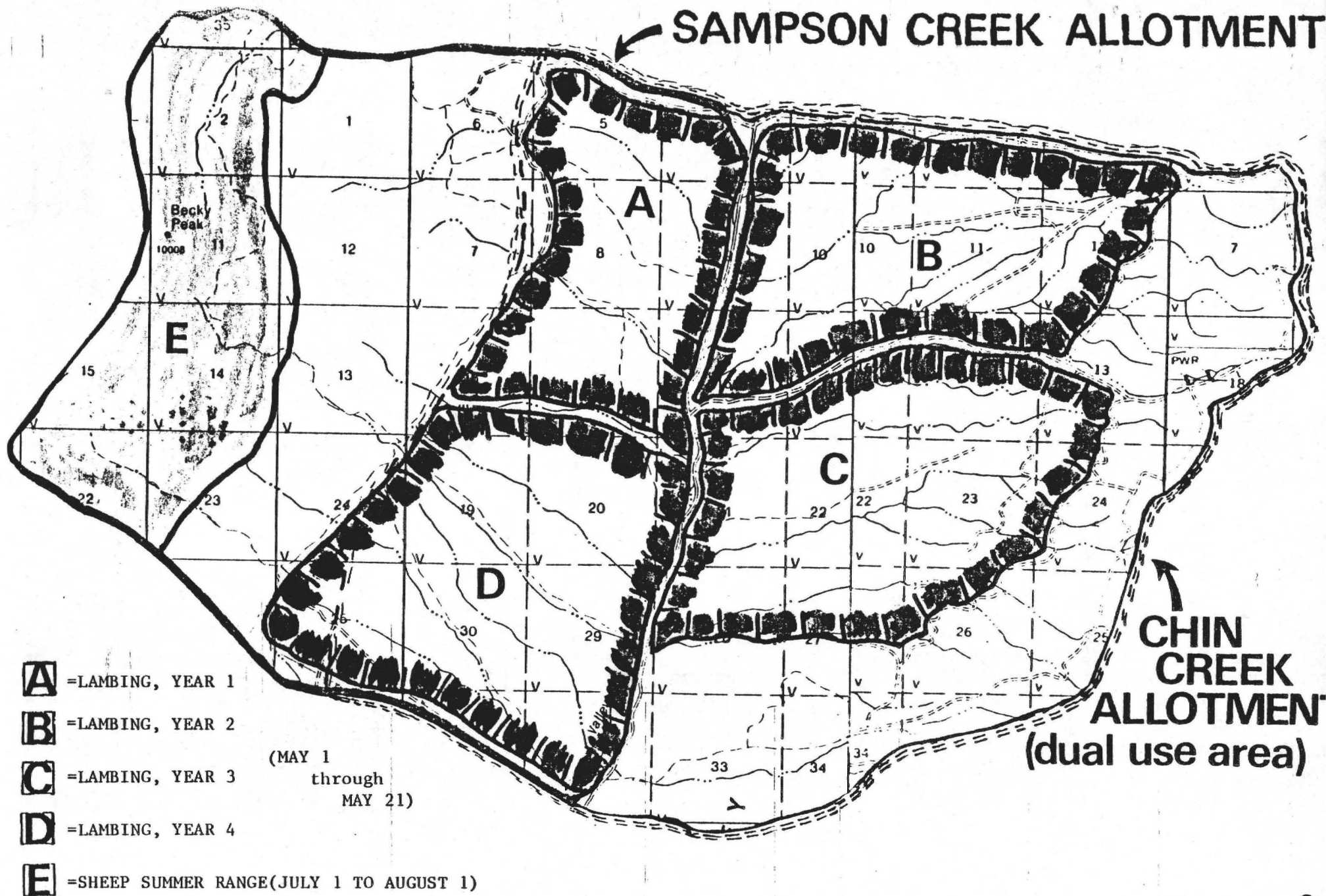


Figure G1e-3: Sheep Use Areas and Periods of Use.

Once the lambing is over, the sheep will be moved to other areas on the black sagebrush benches to spread out the use until they are taken to the high country. This arrangement will keep the concentrated use off of sage grouse strutting grounds until after June 1 and provide some rest during part of the growing season for all areas. Because proper use levels are usually exceeded on the winterfat by horses prior to sheep entering the allotment and the sheep will be in the area during the summer (the wrong time of year to graze winterfat), no utilization of winterfat will be allowed by sheep. It is anticipated that initial stocking levels will remain at or near the present level of 1,000 sheep. If the permittee were to activate to preference, the stocking level would be around 2,500 sheep.

- b.) The operator in the Chin Creek Allotment does not want to run cattle in this common use area until proposed management facilities can be constructed. If use were to occur in the interim, numbers would be held to around 1,850 head of sheep. The season of use on the common use area will be July 1 through October 31. This will alleviate impacts to sheep during lambing and sage grouse during strutting and nesting. Because of the impact of horses on the winterfat, herding and water hauling will be employed to keep livestock use off of the bottom and evenly distributed on the benches.

Rita Gann

B. Range Improvements: Refer to specific planned actions for management areas 6, 20, 21, and 22 and the map of management areas (Figure C-1) in the general section of the ARCMP.

1. **Water Developments:** Where a need is determined and water rights can be obtained, water will be developed using the most cost-effective source available. Possibilities for each area where a need has been established are listed below.

Becky Peak (Management Area #20) - This area actually includes all of the higher elevation country in the allotment. The six springs mentioned near the beginning of this document need development to provide water necessary to make proper use of this area. Depending on resulting flows, one or more of these springs may be piped down onto the foothills or benches below.

East Schell Foothills (Management Area #6 and Black Sagebrush Bench (Management Area #21) - Water could be supplied to these areas by roughly 2 miles of pipeline from mountain springs, a well, or reservoirs. Water is needed to distribute use on the benches and draw use away from the bottom. New water will be located so as to avoid sage grouse strutting grounds. Once water is developed here, this area will be the fourth area used for lambing creating a four year rotation. (See Figure G1e-3.)

2000
600
2600

2. Vegetative Treatments: Less than 2,000 acres of dense pinyon and juniper trees on the Schell Creek Range will be selected for vegetative conversion (Management Area #6). About 600 acres of the winterfat bottom (Management Area #22) is proposed for treatment to remove encroaching big sagebrush. The ARCMP has provisions for removing a sufficient number of horses to maintain the herd at the interim management number of 452 throughout the plan area. Because the largest portion of horses removed will be from the Antelope Range and Spring Valley, much of the pressure on these area to be treated will be relieved.

3. Fences: The only proposed fences are short drift fences totaling less than 1 mile across canyon mouths on the Schell Creek Range to prevent cattle from going up them into the sheep use area and temporary fences to protect vegetative treatments. These fences should not restrict wild horse movement because the drift fences are open on both ends and the vegetative treatment fences, although completely closed, will not run the entire length of the range or valley so horses will be able to go around. Additionally, gates in the drift fences can be left open when livestock are not in the area.

IV. Billing Procedure

The three livestock operators will continue to be billed in advance of turnout dates as shown on their applications. Flexibility on turnout or removal dates will be subject to the approval of the Area Manager.

V. Studies and Evaluation

A. Studies: The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas within this allotment. These studies are to be accomplished in accordance with procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were selected through consultation with permittees, Nevada Department of Wildlife, and the National Mustang Association.

1. Utilization - Over a period of years, utilization patterns have been monitored in cooperation with user groups to identify problem areas and needs for range improvements. As planned actions are implemented, utilization patterns over the allotment will continue to be mapped to measure success in attaining proper livestock distribution and to establish a stable use pattern. Once a stable pattern of use is established, utilization will be read on key areas. The method for documenting utilization levels will be the Key Forage Plant Technique described in the NRMTFG and the BLM Draft Manual Supplement 4423. Because of conflicts between types of grazing animals, utilization will be read on the winterfat bottom and black sagebrush benches each year prior to sheep being turned out in May and then again prior to cattle being turned out in July in those years when cattle use will be made. Although different species have different proper use levels, as a rule of thumb average utilization should not exceed 50 percent on forage species, particularly winterfat. One exception is that use on black sagebrush should not exceed 45 percent because of its importance to antelope.

2. Actual Use - Actual use information consists of the actual number of animals on a given area and the specific number of days during which use occurred. This information should be recorded (on Form # 4130-5) as a log of animal movements including turnout and gathering dates, herding activities, death loss, and the number of animals involved each time. The actual use records are to be submitted by each permittee within 15 days after the end of the grazing use in the allotment. The permittee in the neighboring allotment should also submit actual use information for the use made in the common use area. Direct counts of livestock numbers will be taken by Bureau personnel, as time and funding permit, to supplement actual use information.

3. Frequency, Production, and Density - Frequency and production information is obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTFG. Density is measured in the average number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production are used to establish specific resource objectives. These are written in terms of the number of plants per acre of key species on key areas and will be monitored as such. To date there are study transects located on the sheep summer use area on Becky Peak (Management Area #20) and in the winterfat bottom (Management Area #22). As planned actions are implemented and use patterns established, new studies will be located where needed. Studies will be read every three to five years.

4. Climate - Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service, are being read monthly or bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

B. Evaluation: Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If no change in trend is observed within 5 years after initiation of the plan, management will continue as is for 5 more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis of utilization, actual use, and climatic data. After successive changes in management, 3 to 5 years additional study will be allowed to determine if adverse situations have been corrected.

If at anytime utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

VI. Signatures

Prepared by: _____

Kathy Lindsey
Range Conservationist

_____ Date

Accepted by: _____

Warren Robison
Livestock Operator

_____ Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

Gif

TIPPETT ALLOTMENT MANAGEMENT PLAN

Allotment InformationI. GeneralA. Location and Area

The Tippett Allotment is approximately 40 miles northeast of Ely, Nevada (Figure Gif-1). The northern boundary of the allotment is about 12 miles south of the White Pine/Elko County boundary. On the east it is adjacent to the Goshute Indian Reservation and the Nevada/Utah State line, and on the west it is bounded by the top of the Schell Creek Range and the U.S. Forest Service boundary. In the Kern Mountain area the allotment boundary extends a little over a mile beyond the 4th Standard Parallel North, and in Spring Valley it is 6 miles to the north of the Standard Parallel line. The allotment contains 213,239 acres of public land.

B. Physical Data

The major vegetation type in the Tippett Allotment is pinyon-juniper (P-J). Almost half of the allotment contains this type. The density of this type varies from totally closed stands higher on the benches which have little or no understory to widely spaced occurrence with a savanna aspect and an understory of herbaceous or shrubby plants.

Black sagebrush and other desert shrubs are the next two largest types with 13 percent and 14 percent respectively.

The climate is generally cold with dry summers with 8 to 18 inches of mean annual precipitation, depending on elevation.

The soils within the Tippett Allotment reflect the extremes of climate, elevation, topography, and geology. The three main geomorphic landforms are (1) high mountains and foothills, (2) upper terraces and alluvial fans, and (3) lake terraces and floodplains from lacustrine sediments.

Mountain and foothill soils are well drained, very shallow to very deep, and strongly sloping to very steep. They formed in residuum derived from a variety of rock sources, but older, volcanic rocks and limestone formations are the dominant derivative.

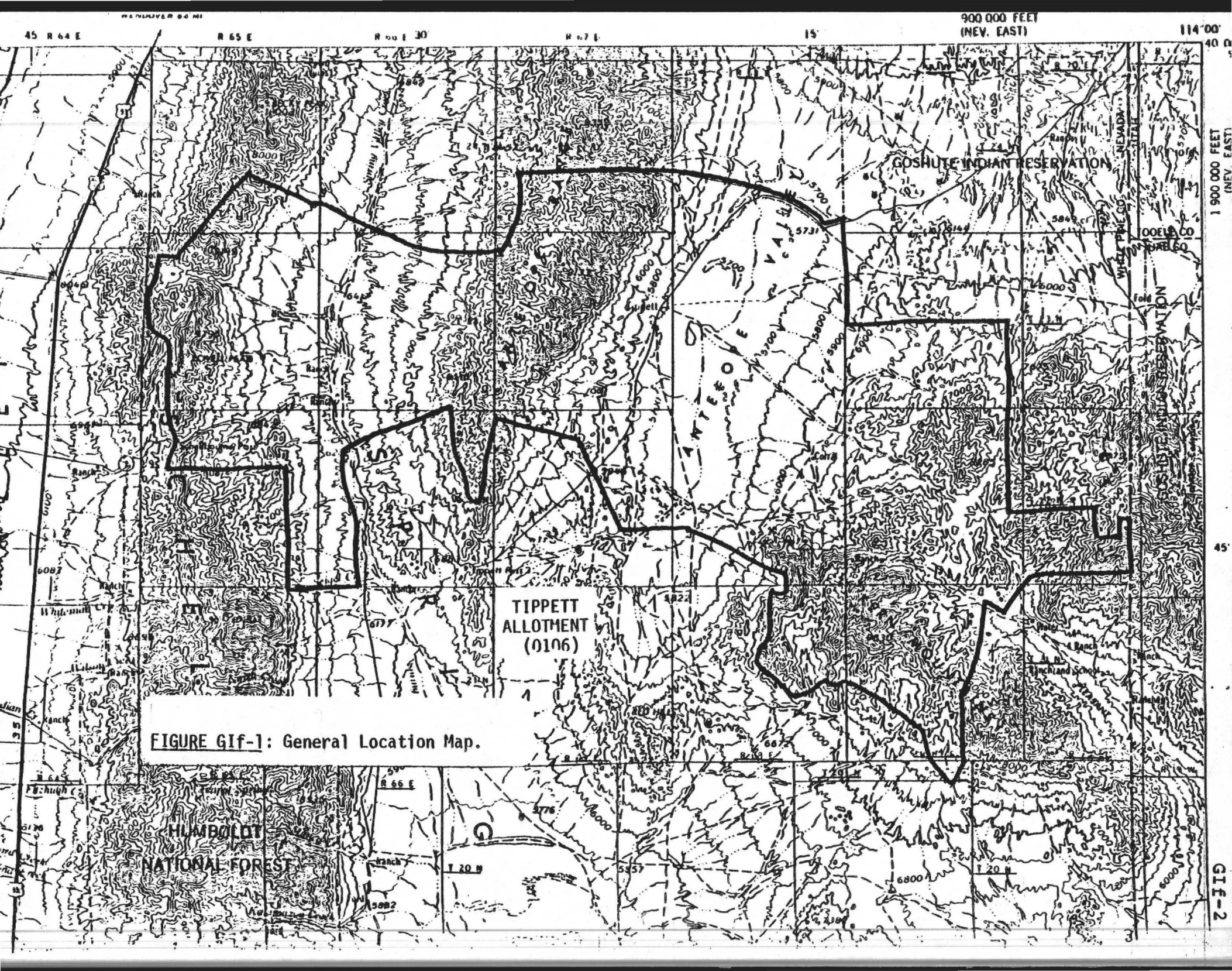


FIGURE G1f-1: General Location Map.

Soils on upper terraces and alluvial fans are well to excessively drained, shallow to very deep, and nearly level to steep on terrace tops, side slopes, and alluvial fans. They formed in mixed alluvium. The shallow to deep soils contain cemented hardpans of varying thicknesses. The surface textures of these soils are usually modified with varying amounts of cobbles or gravels.

Soils on lake terraces, floodplains, and lacustrine sediments are well to poorly drained, very deep, nearly level to gently sloping, and are usually salt affected.

The Tippet Allotment has been placed in the "I" or improve category by using the Selective Management process.

C. Existing Improvements

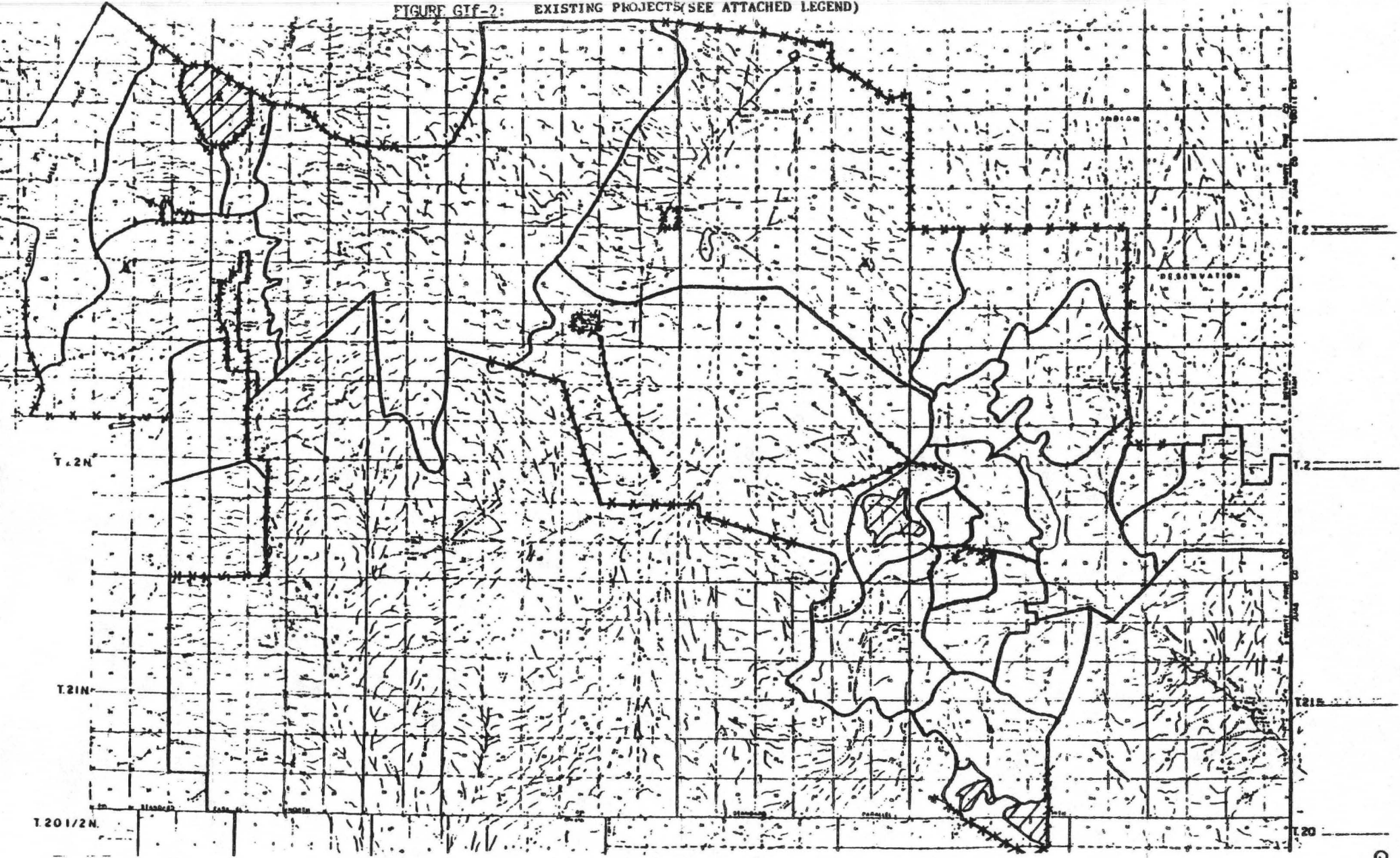
Improvements now in Tippet Allotment are as follows (Figure Gif-2):

<u>Job No.</u>	<u>Name</u>	<u>Date Comp.</u>	<u>Maint. Respon.</u>	<u>Units</u>
0067	Spg. Gulch Well	1942	1/	1
0087	Tippet Corral	1940	1/	1
0095	Cedar Spg. Ditch & Res.	1948	1/	2
0180	Henriod/Robison Drift Fence	1953	1/&2/	4.5
0286	Sidehill Pass Drift Fence	1949/52	1/	15
0472	Henriod Allot. Seeding	1952	1/	1484
0475	Henriod/Robison Cont. Fence	1952	1/&2/	7.0
0480	Henriod Allot. Reseeding Fence	1952	1/	4.5
0547	Sellas Well	1965	1/	1
0548	Henriod Well	1965	1/	1
0673	Robison/Sellas Fence	1956	1/&2/	7.5
0763	Henriod Seeding Well	1966	1/	1
1031	Antelope Valley Corral	1966	1/	.2
3508	Kern Mtn. Seeding	1969	1/	1030
4019	N. Kern Mtn. Seeding W.	1969	1/	780
4040	N. Kern Mtn. Seeding E.	1969	1/	420
4065	Sand Knoll Res.	1964	1/	1
4072	Smith Spg. Res.	1963	1/	1
4105	Tunnel Cyn. Spg.	1962	1/	1
4113	Red Hills Res.	1939	1/	1
4121	Blind Spg.	1962	1/	1
4122	South Spg.	1963	1/	1
4123	Sand Spg.	1963	1/	1
4124	Rock Spgs. Res.	1963	1/	1
4176	Tippet Pass Fence	1976	1/&2/	21
4252	Tippet Pass Cattle Guard	1976		1

1/ Intermountain Ranches, LTD., Melvin Gardner, and Bill Rosevear.

2/ Reed Robison

FIGURE G1F-2: EXISTING PROJECTS (SEE ATTACHED LEGEND)



LEGEND TO BE USED WITH FIGURES Gif-2 AND Gif-2a.

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STANDARD MAP SYMBOLS FOR LAND RECORDS AND STATUS USE

<u>BOUNDARIES AND MONUMENTS</u>				<u>WATER</u>	
Withdrawals		Airplane landing field		River and island	
Patents		Airway light beacon		Stream	
Leases		Settlement (towns and cities)		Stream flow with flow in certain season	
Limits of surveyed land, (hatching on unsurveyed side)		Buildings in general		Dry wash	
Triangulation station		Ranch house		Sand wash	
U S Mineral or location monument		House (abandoned)		Lake and island	
<u>WORKS AND STRUCTURES</u>		B.L.M. Office		Marsh or swamp	
Railroad of any kind		B.L.M. Warehouse		Intermittent or dry Lake bed	
station		Granary or storage dump		Salt Lake	
Railroad fenced		School		Intermittent dry lake	
1 side		Church		Spring	
2 sides		Store		Spring (improved)	
Telephone line		Gas station		Seep	
Telegraph line		Cemetery		Water well	
Power trans. line		Historic ruins		with storage and trough	
Fence (barbed wire or other)		Prehistoric ruins		housed well	
Highways		Cliff dwelling		Windmill	
hard surfaced		Indian House, Hogan		Storage tank	
graveled		Mine or Quarry		trough	
improved dirt		Mine prospect		Water pumping plant	
County road		Oil or Gas		Pond or pot hole etc	
Road for wagons only		active		Reservoir	
Fenced highways		inactive		Stock pond or earthen tank	
Fenced County road		Sheep herder monument		Designed to be permanent water	
Trail		Dipping Vat		Water storage underground bulkhead	
Established livestock route		Corral		Pipe line or conduit	
Cattle guard		Fire lookout		Flume	
Bridge		primary		Canal or Ditch	
Ferry		secondary		Dike	
Ford		Fire warden headquarters			
Dam		Fire tool cache			
		Radio station			
		Seedings			

FIGURE GIF-2a: PROPOSED PROJECTS (SEE ATTACHED LEGEND)

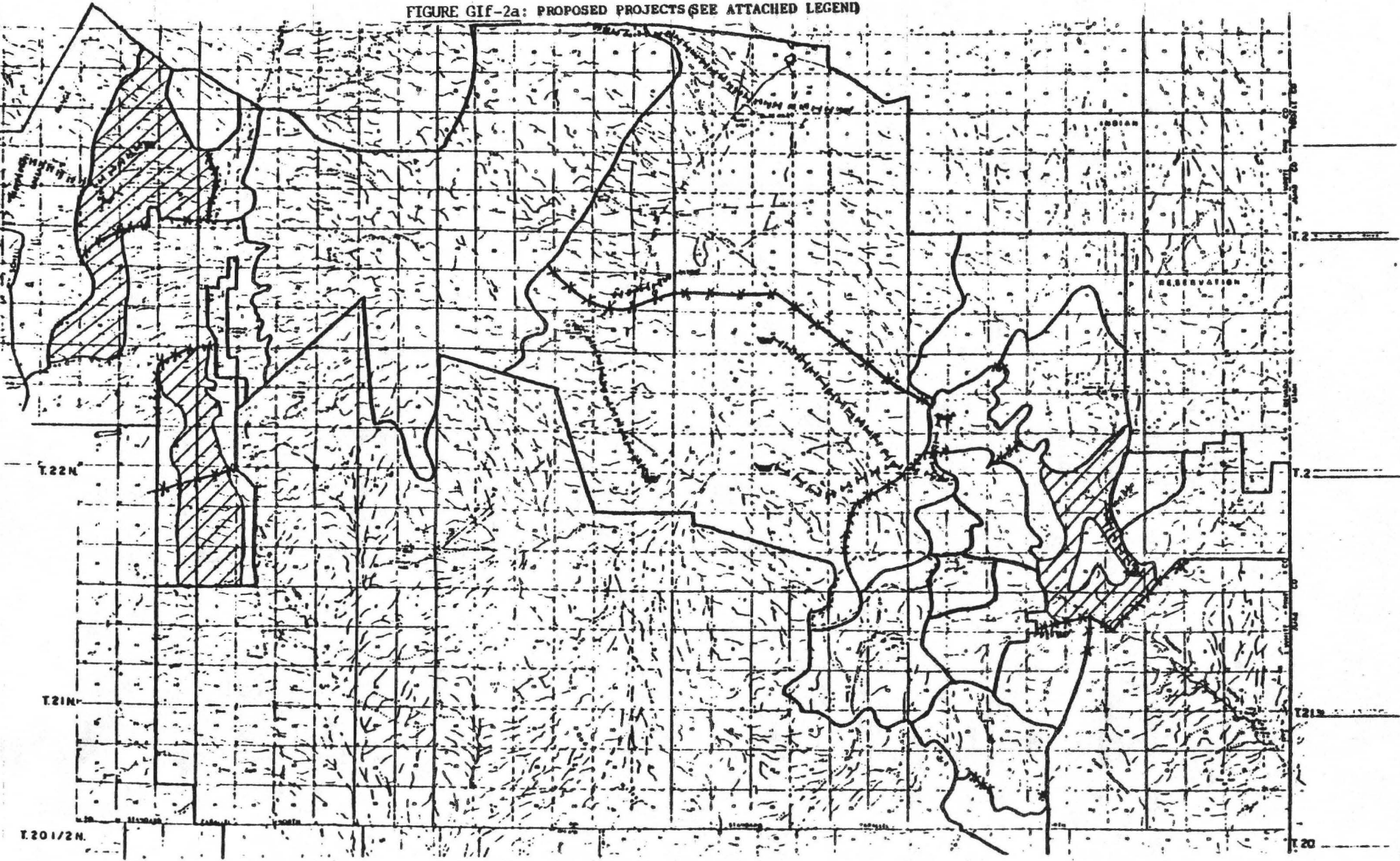


TABLE Gif-1: List of Proposed Projects.

PROPOSED PROJECTS

Tippett 18,000

<u>NAME</u>	<u>UNITS</u>	<u>COST</u>
THOMAS PLACE PIPELINE	2.5 MILES	\$10,000
CEDAR SPRINGS PIPELINE NORTH	2 MILES	8,000
CEDAR SPRINGS PIPELINE (ANT. VAL.)	18 MILES	72,000
ANTELOPE SPRINGS PIPELINE	6 MILES	24,000
BLIND SPRINGS PIPELINE	2 MILES	8,000
TUNNEL CANYON PIPELINE	6.5 MILES	26,000
CALCALLA PIPELINE	4.8 MILES	19,000
FERRYS CANYON PIPELINE	.8 MILES	3,000
SPRING GULCH SEEDING FENCE	4.5 MILES	18,000 ✓
STONEHOUSE SEEDING FENCE	5.5 MILES	22,000
ANTELOPE VALLEY FENCE	10 MILES	40,000
TIPPETT CANYON FENCE	2 MILES	8,000
MOFFAT SEEDING FENCE	4 MILES	16,000
LUNCH VALLEY FENCE	.6 MILES	2,400
TUNGSTONIA FENCE	.1 MILES	400
PLEASANT VALLEY BOUNDARY FENCE	4.5 MILES	18,000
FERRYS CANYON FENCE	1.5 MILES	6,000
SANFORD SPRING FENCE	.25 MILES	1,000
SPRING GULCH P-J SEEDING	5750 ACRES	21,900
SPRING GULCH NORTH SEEDING	2800 ACRES	10,650
STONEHOUSE SEEDING	5900 ACRES	22,500
CEDAR PASS SEEDING	3690 ACRES	14,000
CEDAR SPRING REDEVELOPMENT	1 EACH	2,000
ROCK SPRING REDEVELOPMENT	1 EACH	2,000
SOUTH SPRING REDEVELOPMENT	1 EACH	2,000
SAND SPRING REDEVELOPMENT	1 EACH	2,000
TIPPETT CANYON CATTLE GUARD #1	1 EACH	3,200
TIPPETT CANYON CATTLE GUARD #2	1 EACH	3,200
ANTELOPE VALLEY FENCE CATTLE GUARD	1 EACH	3,200
HENROID RANCH CATTLE GUARD	1 EACH	3,200

*4.5
5.5
10
2
4.6
.1
4.5
1.5
32.7
fence*

*5750
2800
5900
3690
18140
acres*

D. Qualifications

The active preference for the Tippet Allotment is 13,615 AUMs. Intermountain Ranches, LTD. and Melvin Gardner both have an undivided half interest in the 7,665 sheep AUMs. Bill Rosevear is the only cattle operator, and he controls all 5,950 AUMs for cattle. The season of use is yearlong.

The initial stocking rate will be generally at preference. This will be about 5,000 sheep and 500 to 550 cows.

E. Allotment Issues and/or Resource Conflicts

The conflicts and issues identified for this allotment are:

1. Insufficient forage to meet the demand of all users - cattle, sheep, antelope, deer, and wild horses.
2. Conflict with season of use by livestock and sage grouse nesting in the Henriod Seeding, and south just adjacent to the seeding and in the Siegel Cr. area from 5/1 to 5/15.
3. Current grazing practices and management facilities are inadequate to ensure proper distribution and utilization.
4. Productivity of seedings is reduced due to invasion of sagebrush and P-J.
5. Forage production is below potential because the seral stage best suited for livestock, wildlife, and wild horses has not been achieved on many range sites.

II. Management Objectives

See the "General Management Objectives" section and the "Specific Management Objectives" numbers 1, 2, 6, 7, 10-16, and 24.

III. Management Actions

A. Grazing Treatments

This is a very complex system designed to best meet the requirements of the key species and all users of the resource. It incorporates deferred, deferred rotation, and rest rotation systems, and these systems have 2, 3, and 5 year cycles. The use of both cattle and sheep is shifted among 26 use areas (Figure GIF-3), some with dual use and some with single use. Cattle use is 100 percent public land with sheep use at 97 percent on public land.

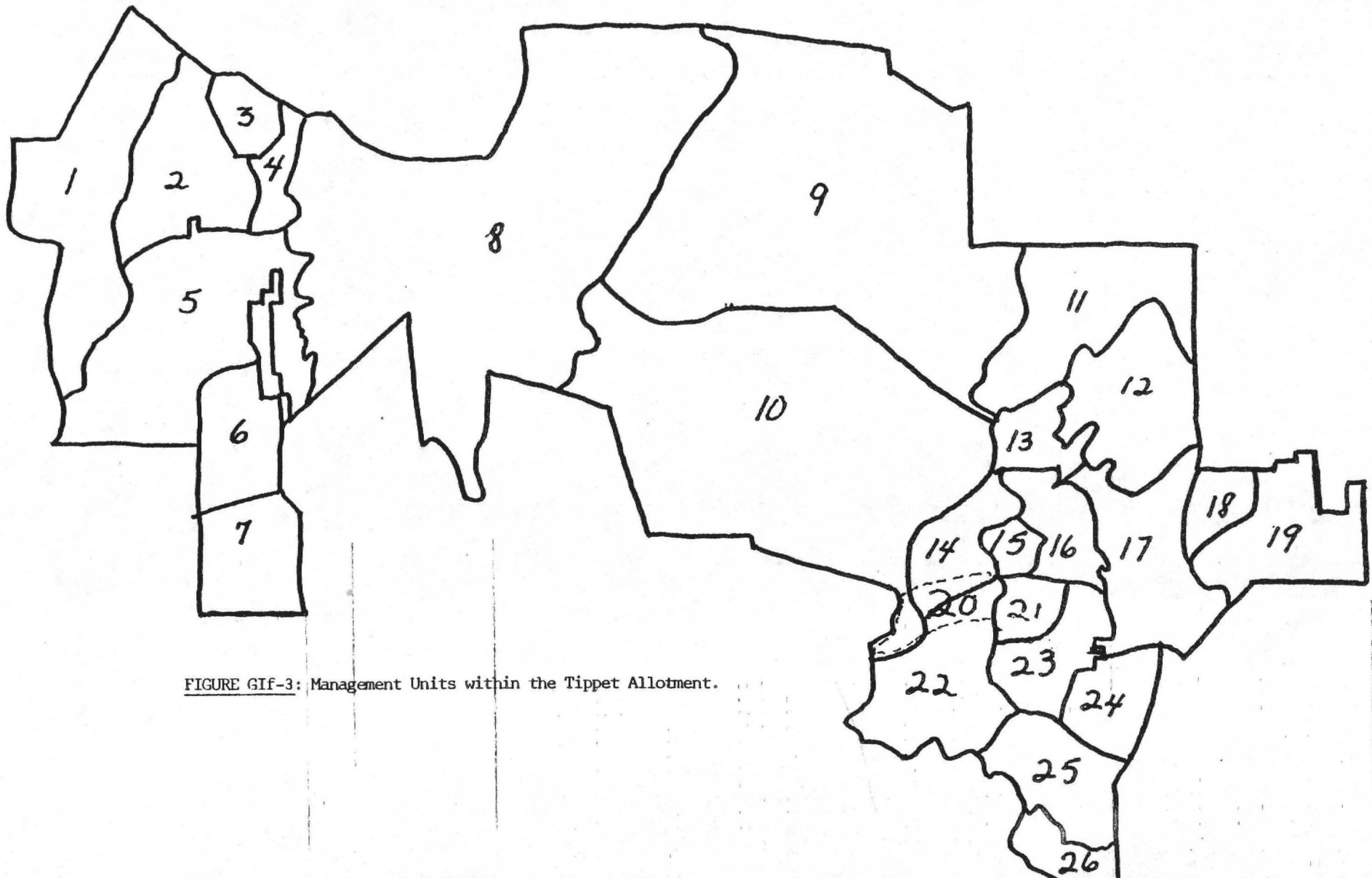


FIGURE Gif-3: Management Units within the Tippet Allotment.

The overall cycle for this system is 5 years. For the seasons of use for the specific use areas and the maximum livestock numbers that can be run, refer to the attached schematics (Figures Gif-4-14 and Tables Gif-2-6). An interim schedule for cattle use is included, but the sheep will run according to the new AMP schedule. Several types of projects are proposed to implement the grazing system (Table Gif-1 and Figure Gif-2a).

B. Flexibility

Generally, the permittees may move to a use area as much as 15 days earlier or 15 days later than the specified start date. This will provide sufficient flexibility to time the movement of livestock to best meet the requirements of the resource. This flexibility will not be allowed to preclude use in an area where the season of use is relatively short. All use areas must be used in the designated sequences. All animals must generally be moved as a group, and the time flexibility may not be used to stretch use over 2, 3, or 4 use areas at a time.

This management plan is the grazing authorization for the public lands in the Tippet Allotment. Any use exceeding that stated above is unauthorized and trespass action will be initiated.

C. Billing Procedures

Accurate actual use records on the numbers of livestock and the periods of use by use area will be kept by the permittees on forms provided by the BLM. Actual use records are to be submitted within 15 days after 2/28.

All applications for grazing use will be made in a timely manner allowing sufficient time for billings to be processed and paid prior to grazing use being made.

IV. Studies and Evaluation

A. Studies

The studies outlined below are designed to monitor the attainment of specific management objectives developed for key areas in the allotment. These studies are to be implemented in accordance with the procedures established by the Nevada Rangeland Monitoring Task Force Guidelines (NRMTFG). Key areas and key species were established by consultation with the permittees, and the Nevada Department of Wildlife. The reading of studies will be coordinated with all affected interests.

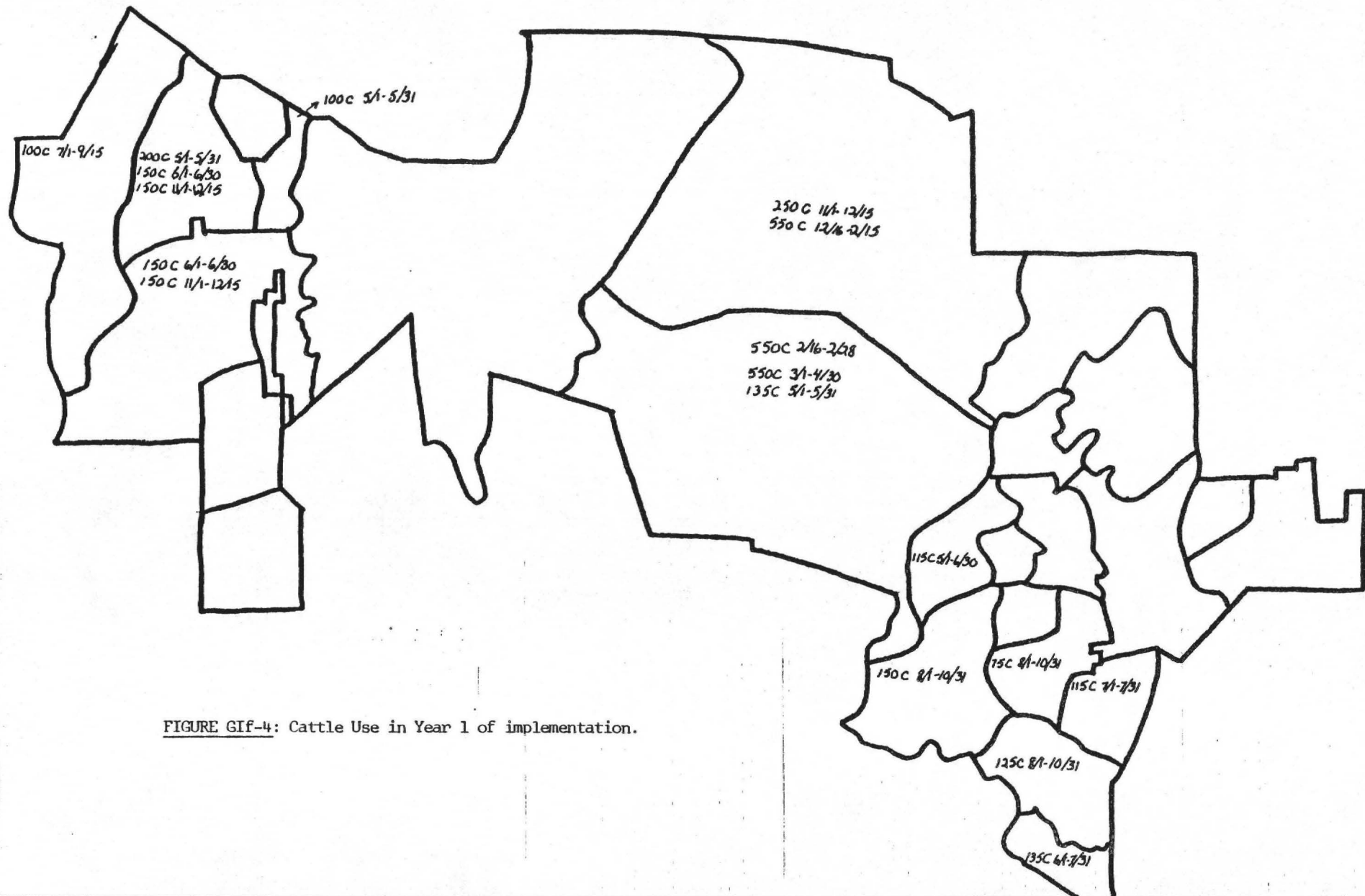


FIGURE GIF-4: Cattle Use in Year 1 of implementation.

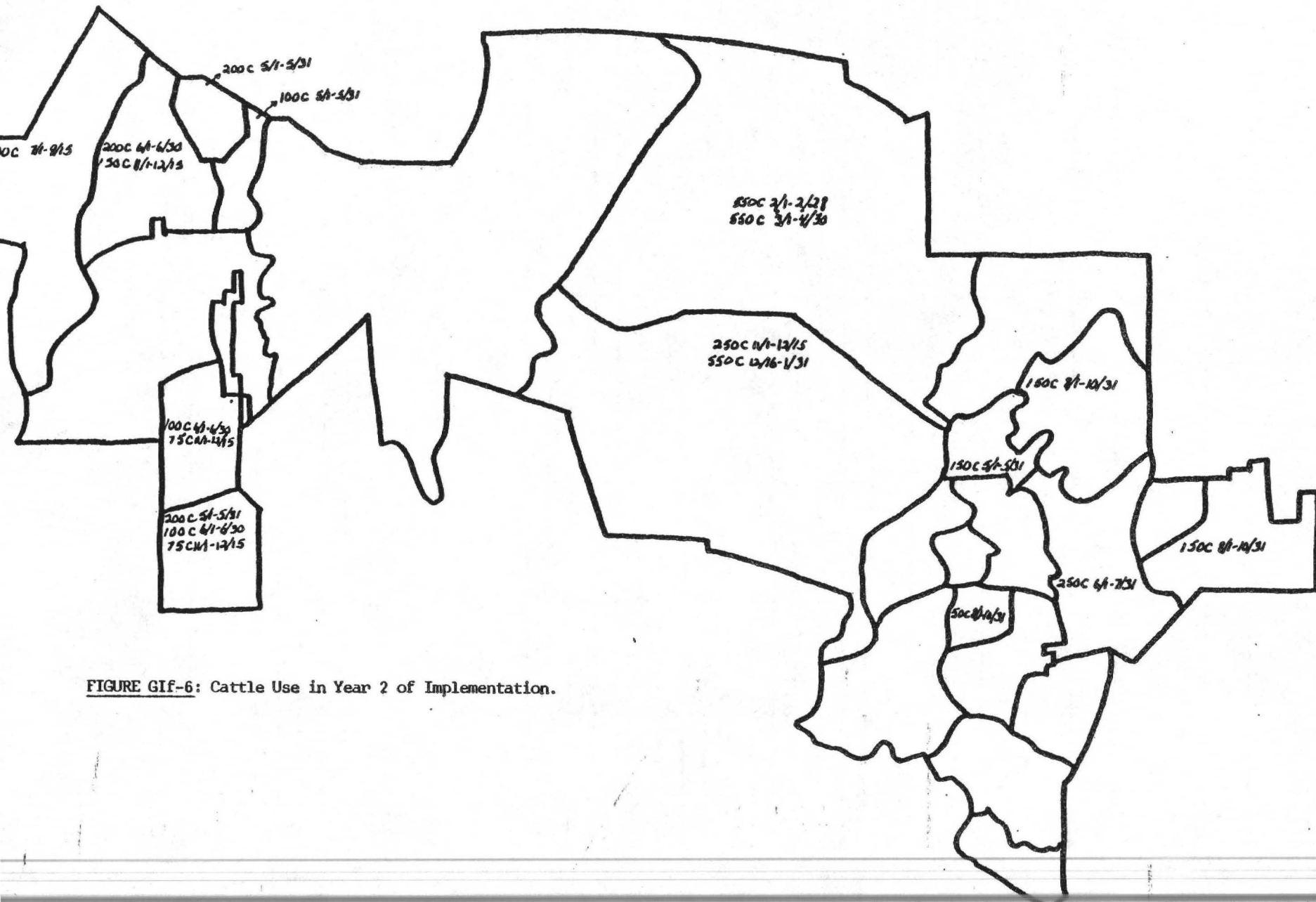


FIGURE GIF-6: Cattle Use in Year 2 of Implementation.

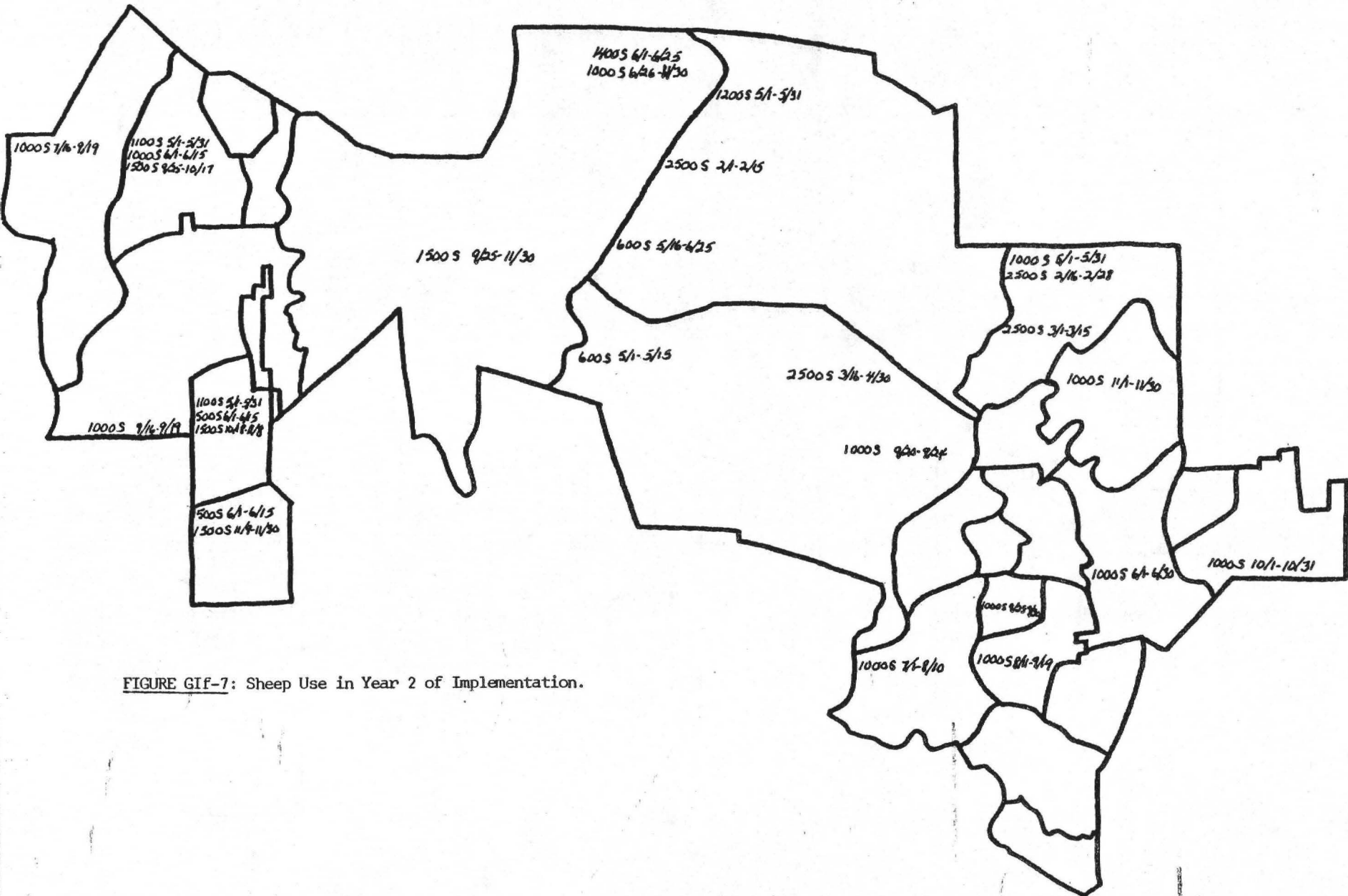


FIGURE GIF-7: Sheep Use in Year 2 of Implementation.

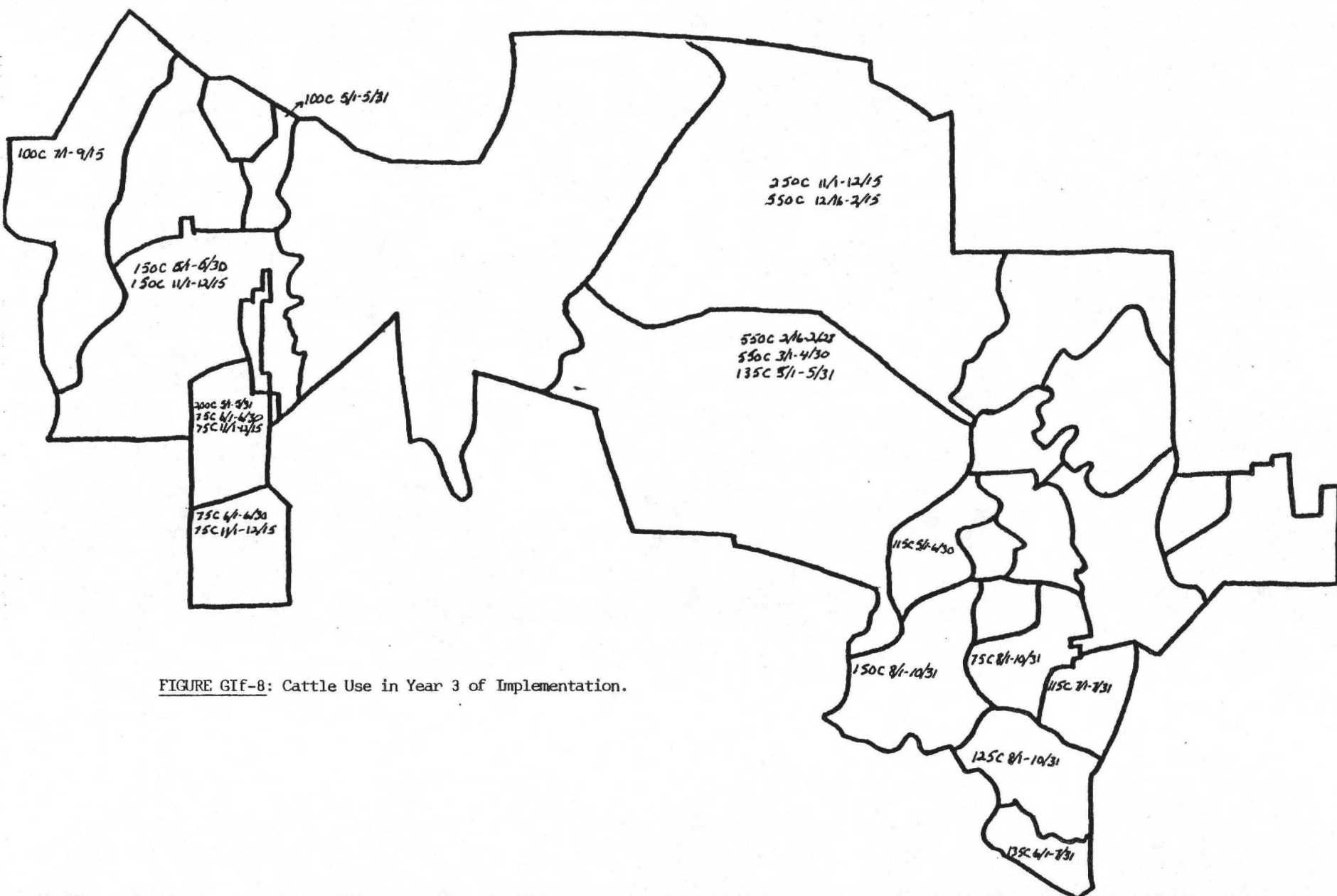


FIGURE GIF-8: Cattle Use in Year 3 of Implementation.

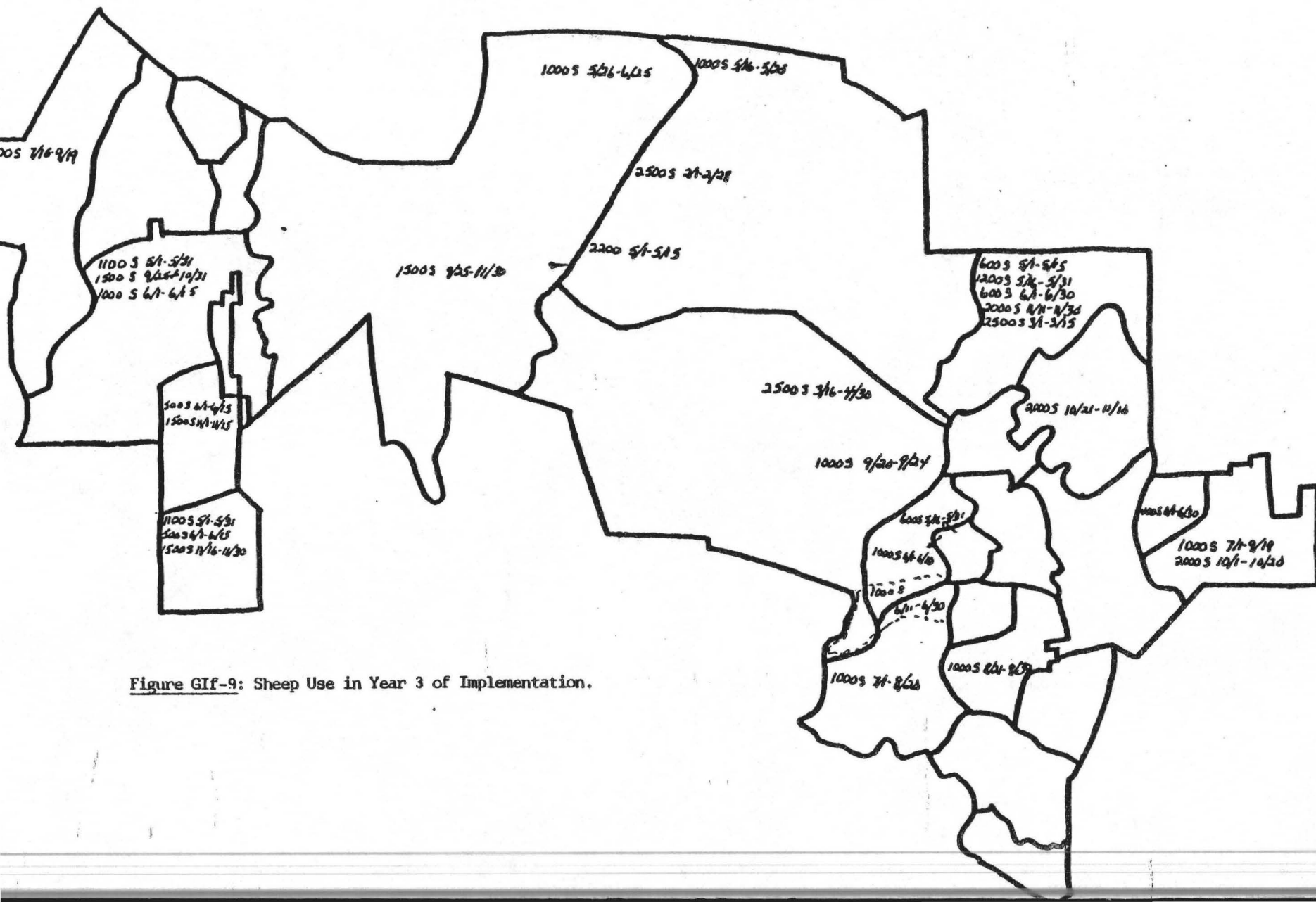


Figure GIF-9: Sheep Use in Year 3 of Implementation.

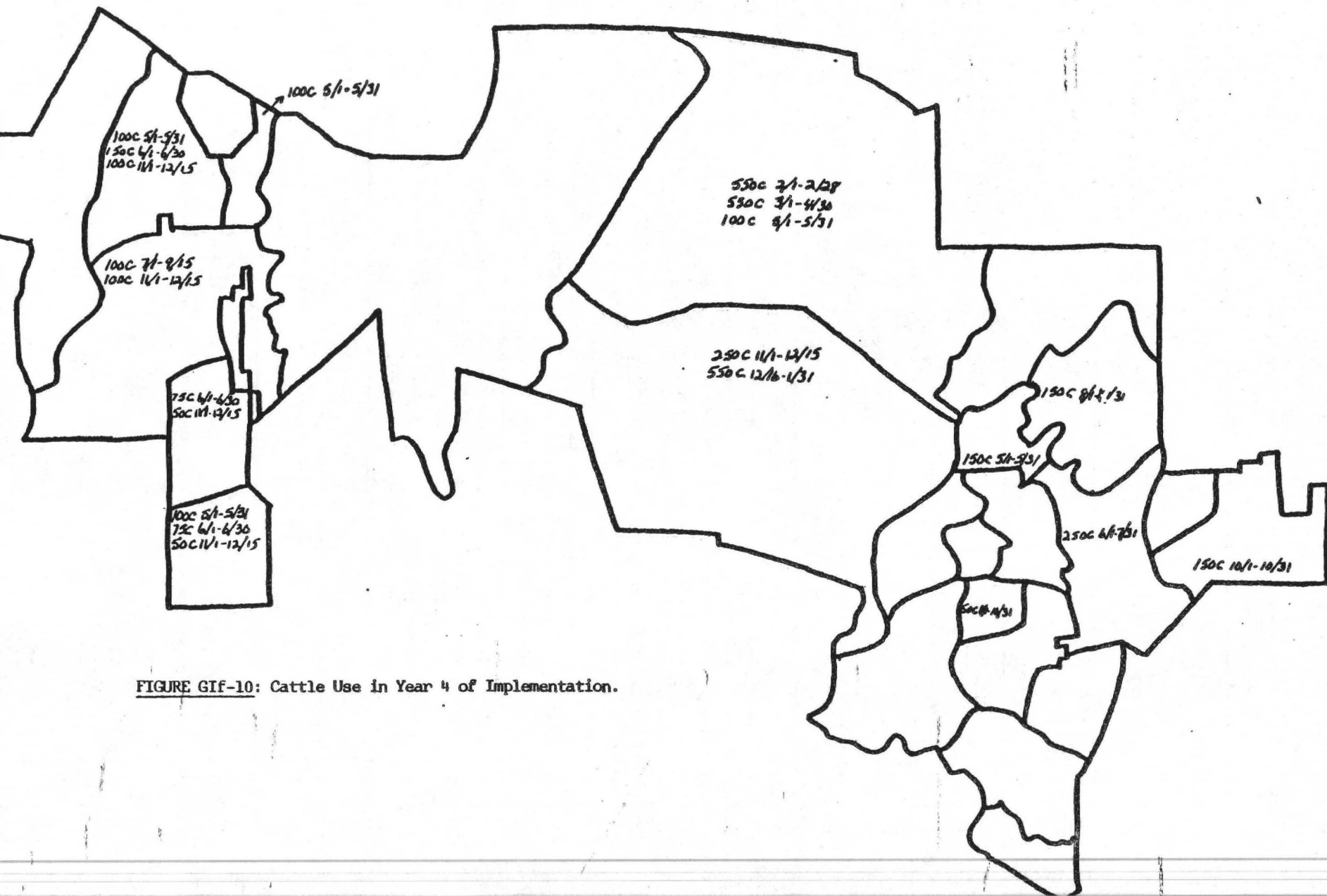


FIGURE Gif-10: Cattle Use in Year 4 of Implementation.

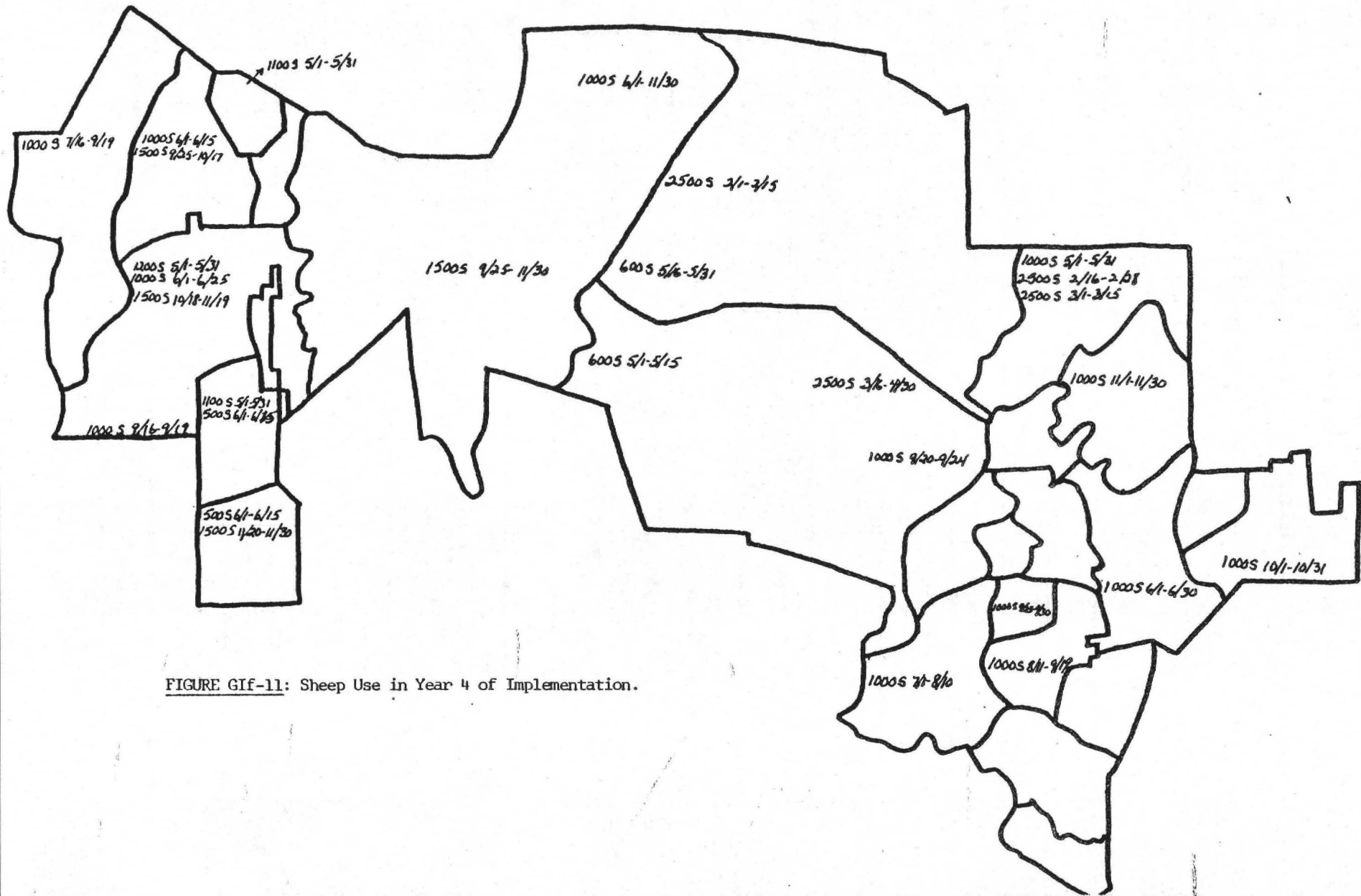


FIGURE GIF-11: Sheep Use in Year 4 of Implementation.

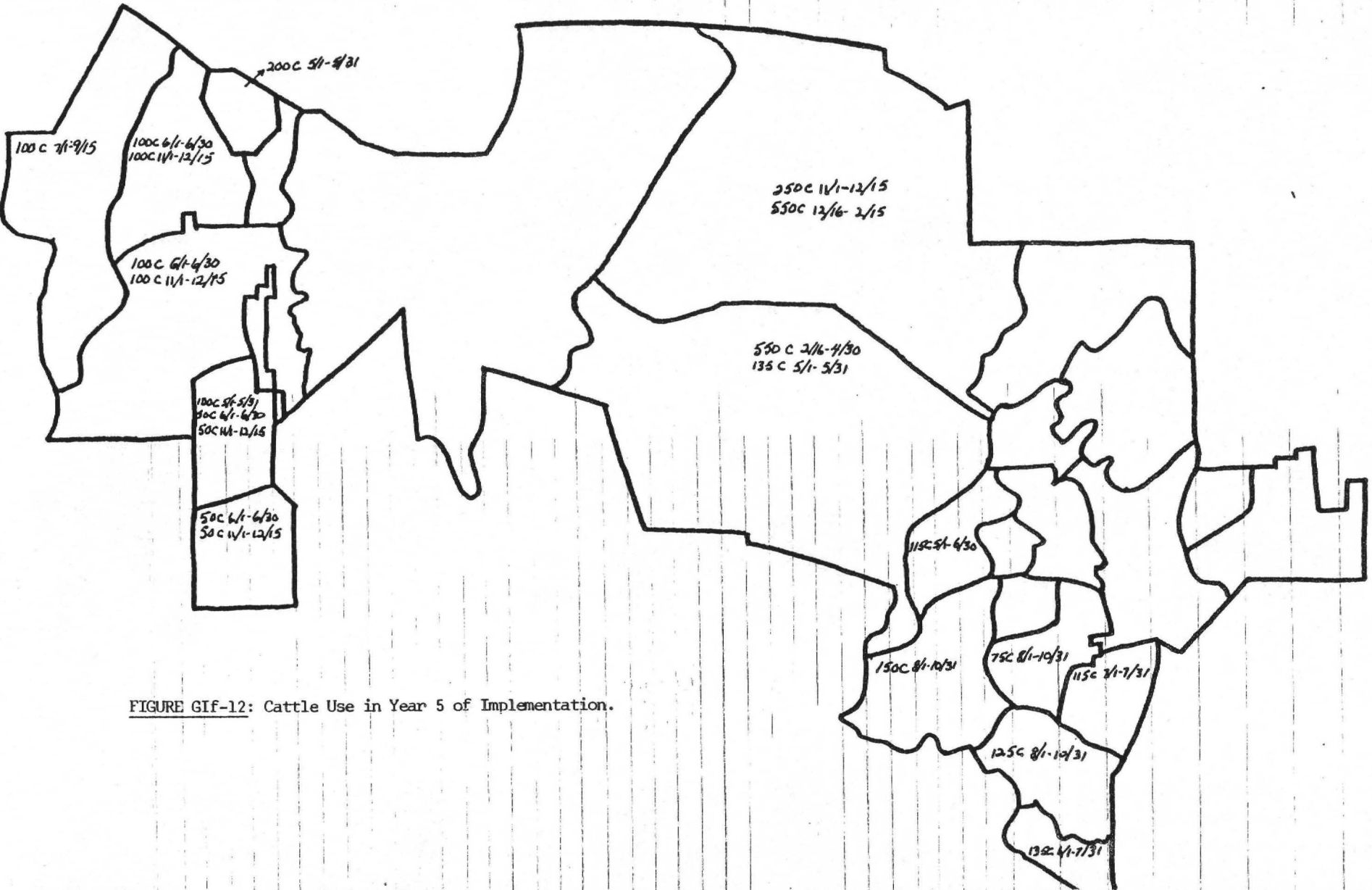


FIGURE GIF-12: Cattle Use in Year 5 of Implementation.

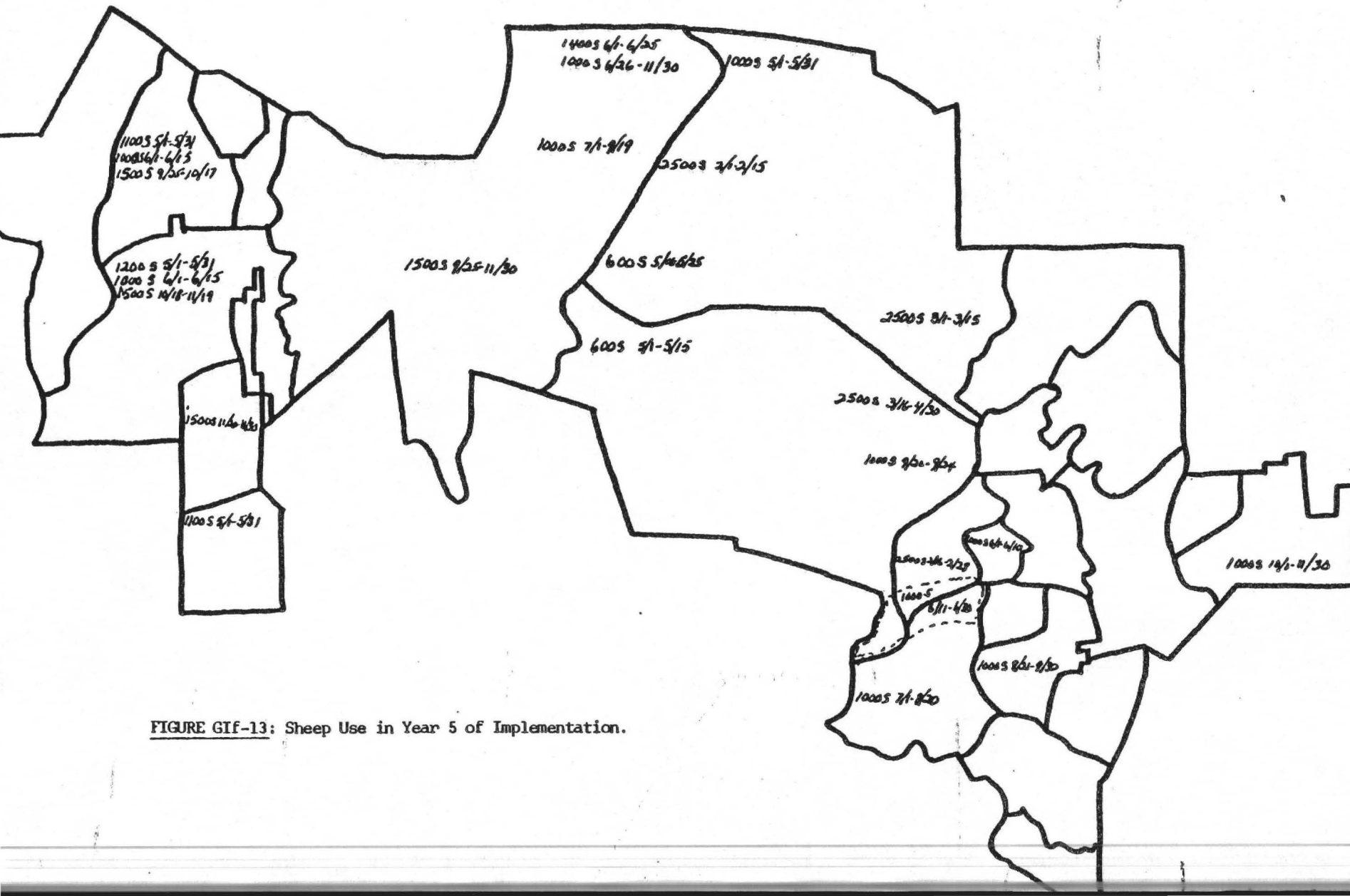


FIGURE GIF-13: Sheep Use in Year 5 of Implementation.

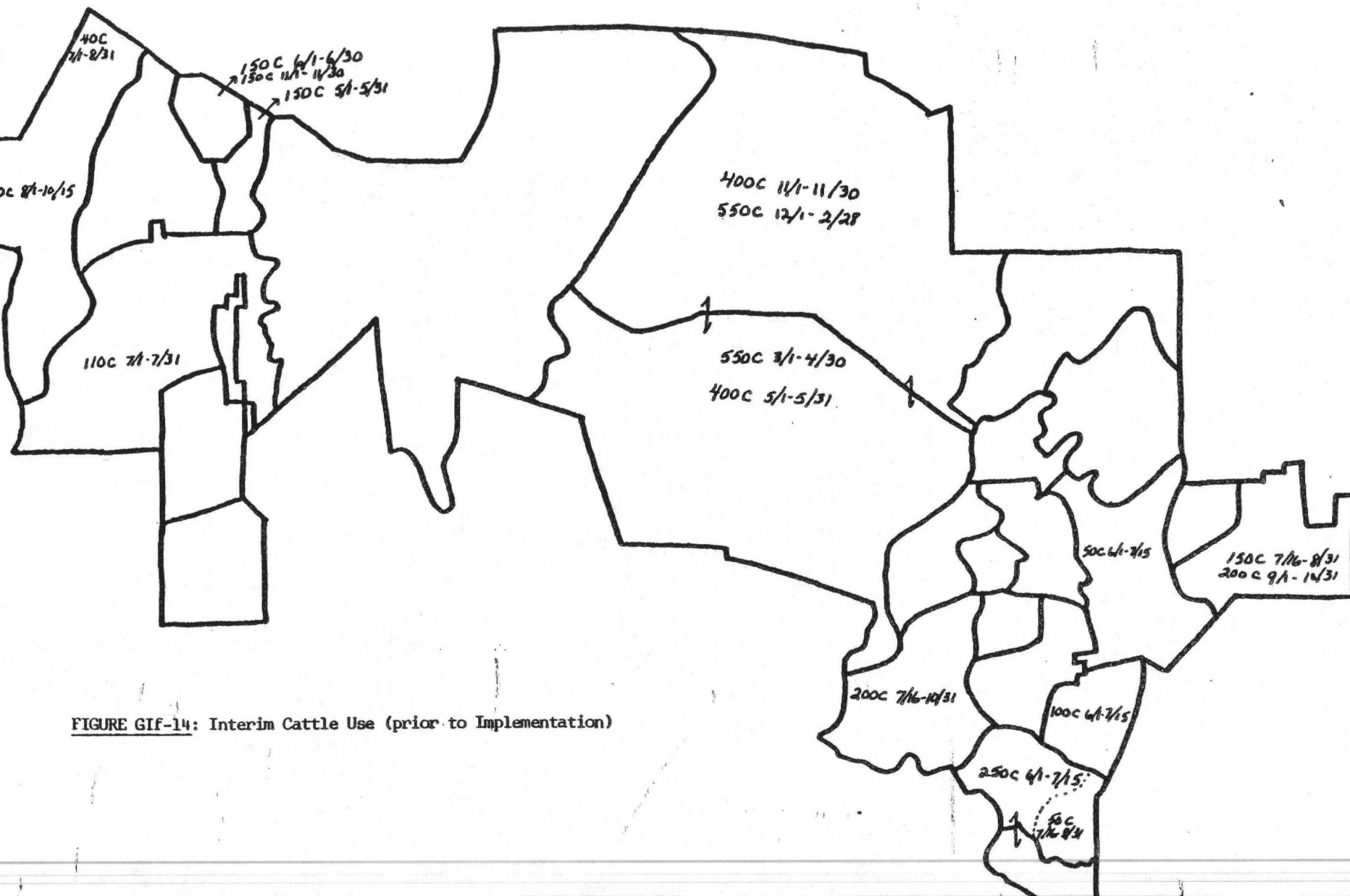


FIGURE GIF-14: Interim Cattle Use (prior to Implementation)

1. Utilization

An expanded version of the Key Forage Plant Method will be used to monitor the level of use being made by all foraging animals. This method will be expanded to read use on all species where use is observed.

To determine, to the greatest extent possible, the use made by livestock, wildlife, and wild horses utilization studies will be conducted prior to and after use where there is competitive use and overlapping seasons of use. Utilization studies will be read within 10 working days prior to and after each season of use where overlapping use occurs or after use where no overlap occurs.

As patterns of use become established, these patterns of use will be mapped by utilization class.

Allowable levels of use are to be consistent with those identified in the land use planning. One exception is on seedings where allowable use will be 60 percent.

2. Actual Use

Actual use is the actual number of animals that have used a specific area for a specific period of time. This information may be obtained by either the indirect or the direct method or both.

The indirect method is where the permittee submits information on Form 4130-5 specifying the number of animals he allowed livestock to use a use area for a certain number of days. The direct method is where livestock are counted on the ground and/or aurally. Direct counts will be made to verify the numbers and time periods submitted by the permittees.

3. Trend, Production, and Density

Trend will be determined by using the Quadrat Frequency Method, and production data will be obtained by using the SCS double sampling weight estimate method. Both methods will be conducted according to the NRMTFG. Density is measured by the average number of plants per acre based on the actual number of plants within a sample plot.

Information from these studies will be used to determine ecological condition and trend.

4. Climate

Rain gauges have been placed to provide adequate representation for the key areas, and these are on a bimonthly basis. Temperature information will be obtained from the NWS and NOAA.

B. Evaluation

Frequency, production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If no change in trend is observed within five years after initiation of the plan, management will continue as is for five more years. After this time, if trend is still static or downward, changes will be made in seasons of use, stocking levels, or other management actions needed as indicated by actual use, utilization mapping, and climatic data. If trend is moving away from achieving resource objectives within five years after initiation of the plan, changes in management will be made as indicated necessary through analysis

f utilization, actual use, and climatic data. After successive changes in management, three to five years additional study will be allowed to determine if adverse situations have been covered.

If at any time utilization levels exceed acceptable limits for a given area, reductions in stocking levels and/or periods of use may be required to prevent resource deterioration.

V.. Signatures

Prepared by:

Loran A. Robison
Supervisory Range Conservationist

Date

Accepted by:

Bill Rosevear
Livestock Operator

Date

Accepted by:

Intermountain Ranches, LTD. and
Melvin Gardner, et al. by
George Swallow, Livestock Operator

Date

Approved by:

Wayne M. Lowman
Schell Area Manager

Date

Merrill L. DeSpain
District Manager

Date

G. II

B. Antelope Range Habitat Management Plan

WHA-N-10
WHA-N-13
WHA-N-16

January 25, 1985

Bureau of Land Management
Ely District Office
Ely, Nevada

C. Abstract

This HMP was prepared to address mule deer, pronghorn antelope and sage grouse primarily. Mule deer forage is lacking and needs to be increased. Pronghorn antelope need stable water sources to maintain present numbers and sage grouse need protection of vegetation in special life cycle areas.

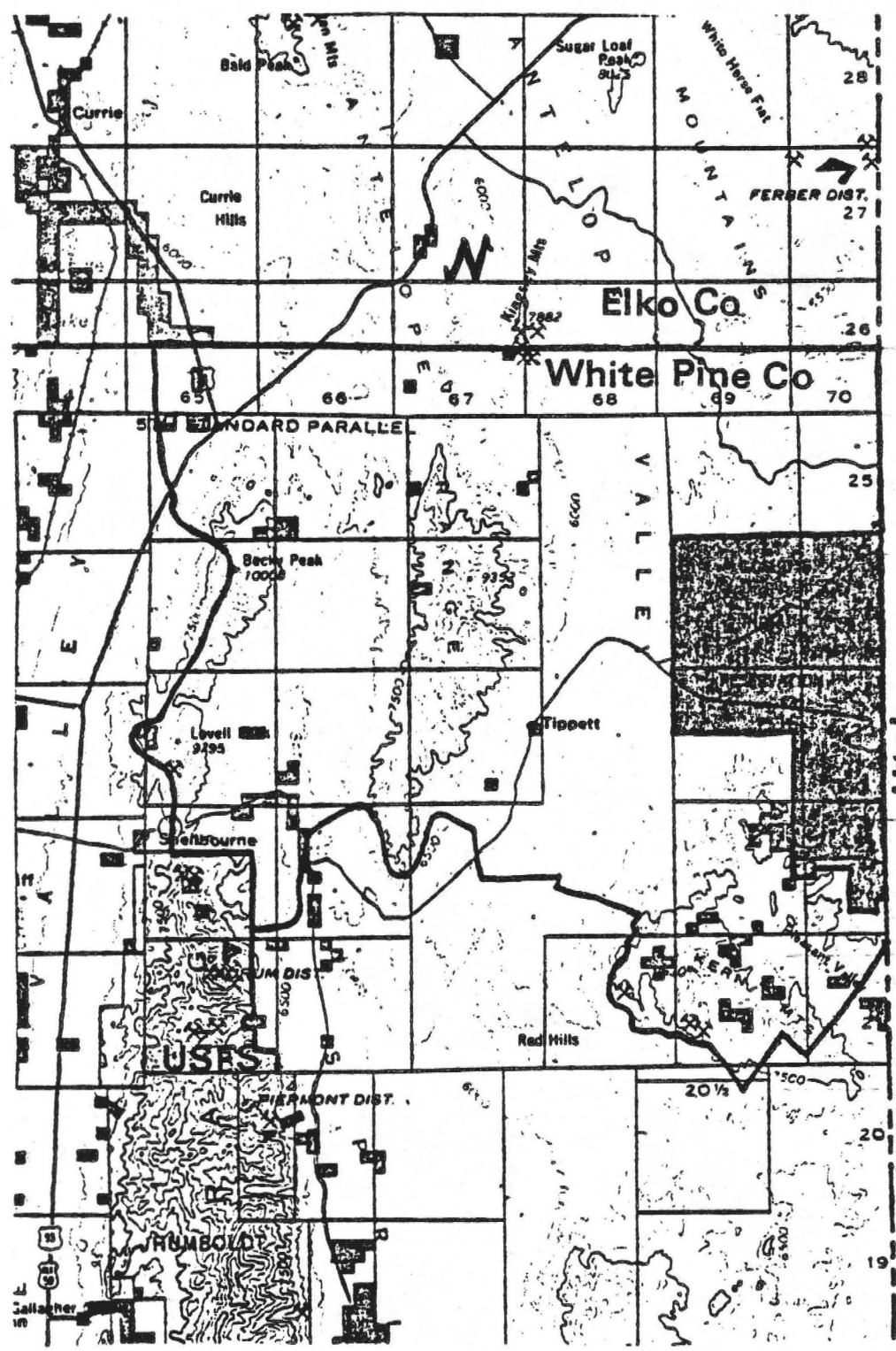
Objectives will be met by improving existing forage, making other forage available, developing water and protecting selected vegetation in special areas. Many of the objectives will be accomplished by implementing grazing systems on six allotments (Sections GIa-f). Some will be done through wild horse management (Section GIII) and some will be accomplished by implementing wildlife-specific management actions.

This HMP is written for a ten year time period of implementation. Some population responses may not be fulfilled before fifteen to twenty years. The cost of implementation is \$250,000[±] in 1983 dollars.

The Nevada Department of Wildlife has been closely involved in the generation of this plan. The grazing permittees for the ARCMP plan area and a representative of the National Mustang Association have also been involved. Ely District BLM personnel have worked closely with the HMP author to design AMPs and a wild horse HMAP that will be critical in the success of the HMP.

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E. Antelope Range Habitat Management Plan Area, Nevada.

Form 6780-1
(July 1981)
(formerly 6620-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

F. CHECKLIST FOR PREPARATION AND REVIEW
OF HABITAT MANAGEMENT PLANS

State Nevada
District Flv District
Resource Area Schell Resource Area
HMP Name and Number Antelope Range N4-WHA-10-13-1
HMP Prepared by Rita Suminski

REVIEW CHECKLIST	SURNAME	DATE
1. Master Memorandum of Understanding, Sikes Act Agreement and/or Supplemental with State Agency.		11-5-75
2. Preliminary meeting(s) with State Agency (or other appropriate cooperators) to jointly discuss HMP objectives.		2-2-84 7-9/10-84 8-14/15-84
3. Endangered Species Act Compliance completed by	M Bonder	12-31-84
4. Review by District/Resource Area Specialists		
Range	KL SAR	1/3/85 12/10/84
Wild Horse and Burro	BB	1/3/85
Hydrologist	KEM	7/5/85
Forestry	SAR	1/7/85
Fisheries/Botanist/Wildlife Biologist	KL	1/3/85
Lands	CLC	1/4/85
Minerals	SAR	1/4/85
Recreation	WT	1/3/85
Wilderness/ACEC	WT	1/3/85
Cultural	Smaf	1/7/85
Visual	WT	1/3/85
Environmental Coordinator (reviews EAs)	SAR	1/3/85
Support (Chief of Operations/Fire Management)	HMB	12-18-84
Others Soils	CHB	1/3/85
5. Reviewed by Area Manager	Wme	10/19/84
6. Reviewed by Chief of Resource Management	M.B	12-31-84
7. Draft HMP and EA reviewed by State Agency authorized officer (or other cooperators).		
8. Final review (if appropriate) by State Director		
9. Reviewed and approved by District Manager		
10. Approved by State Agency authorized officer		

Remarks

G. Introduction

G.1. Reasons for Preparation

See General Section A - Reasons for Preparation.

G.2. Ecosystem Description

A description of the ecosystem is given in the General Section B1a-j. A detailed description of fauna and riparian areas that occur in the plan area follows:

Fauna - General

Mule Deer

Mule deer (Fig. GII-1) in the plan area have the highest populations in the Schell Creek Range, DS-1, DY-1. The Antelope Range, DY-4, DW-10 and DS-3 and the Kern Mountains DS-4, DY-5, DS-5-DW-12 have some deer but not large concentrations. Overall, in NDOW Management Area 11, mule deer numbers are increasing, but the bulk of this herd is south of the plan area. No key areas have been identified by NDOW for mule deer.

Mule deer use coniferous zone vegetative communities during the summer months, the sagebrush vegetative zone in the winter and the pinyon-juniper ecosystem yearlong. (URA-2 gives a complete list of plant species associated with each zone and community). Forbs, grasses and succulent shrubs are major summer foods. Browse species (bitterbrush, cliffrose, big sage) and cured forbs comprise the winter diet.

Pronghorn Antelope

Pronghorn antelope (Fig. GII-2) in the plan area are at a record number of animals in NDOW Management Area 11 to date. NDOW feels it may be at carrying capacity in some areas (Barngrover, 1984). Numbers in NDOW Management Area 10B are stable in the short-term and increasing in the long-term (NDOW, 1984). Three winter areas have been identified as key (crucial) for the antelope by NDOW. Two kidding areas have also been identified.

Antelope use the shadscale vegetative zone nearly year-long. These animals will use the lower pinyon-juniper belt to escape summer heat and winter cold. Preferred summer forage is forbs, grasses, and succulent shrubs. Winter forage consists of shadscale, black sage and dried forbs and grasses.

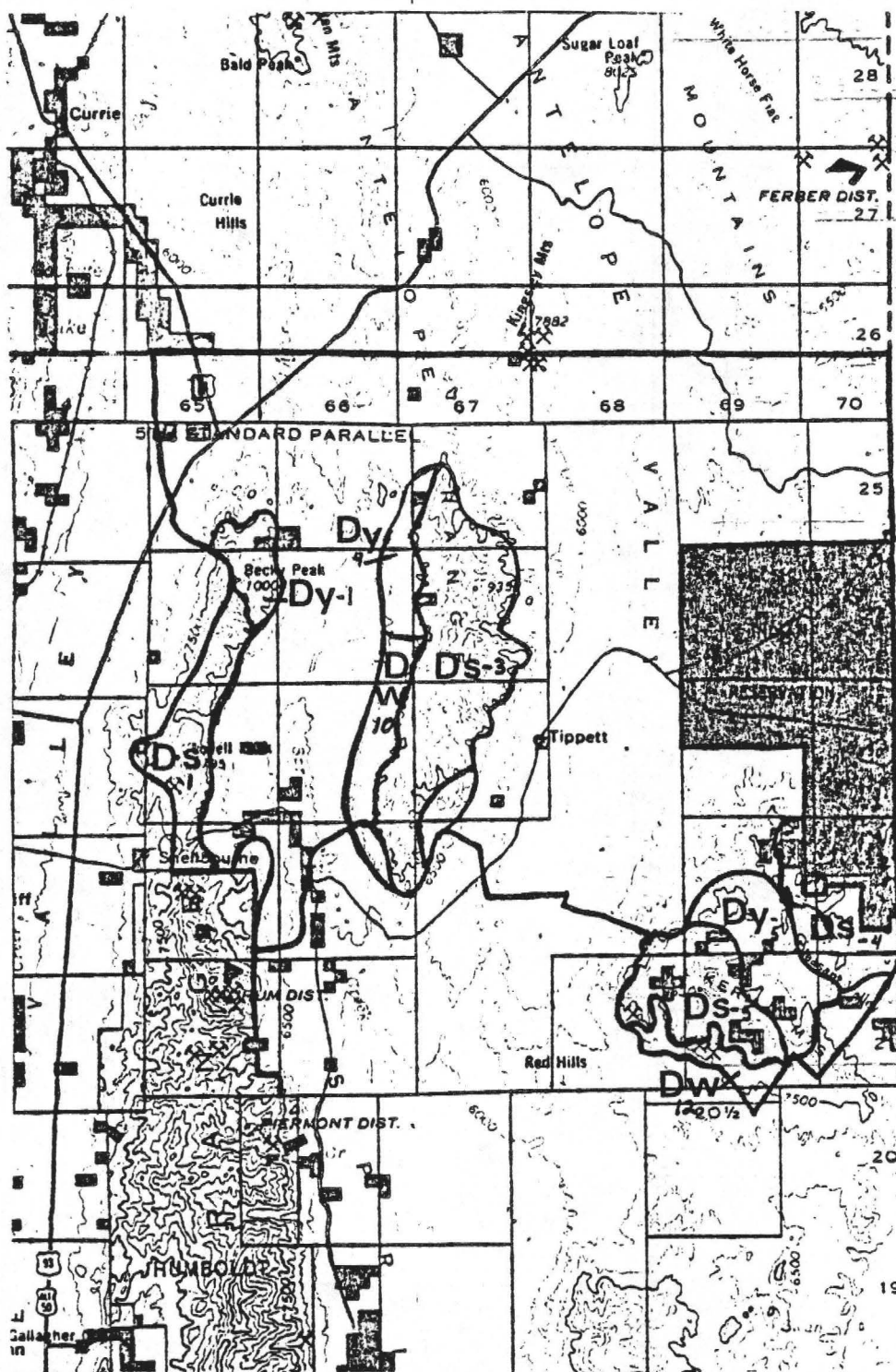


Figure GII-1. Major Mule Deer Use Areas in the Antelope Range Habitat Management Plan Area, Nevada.

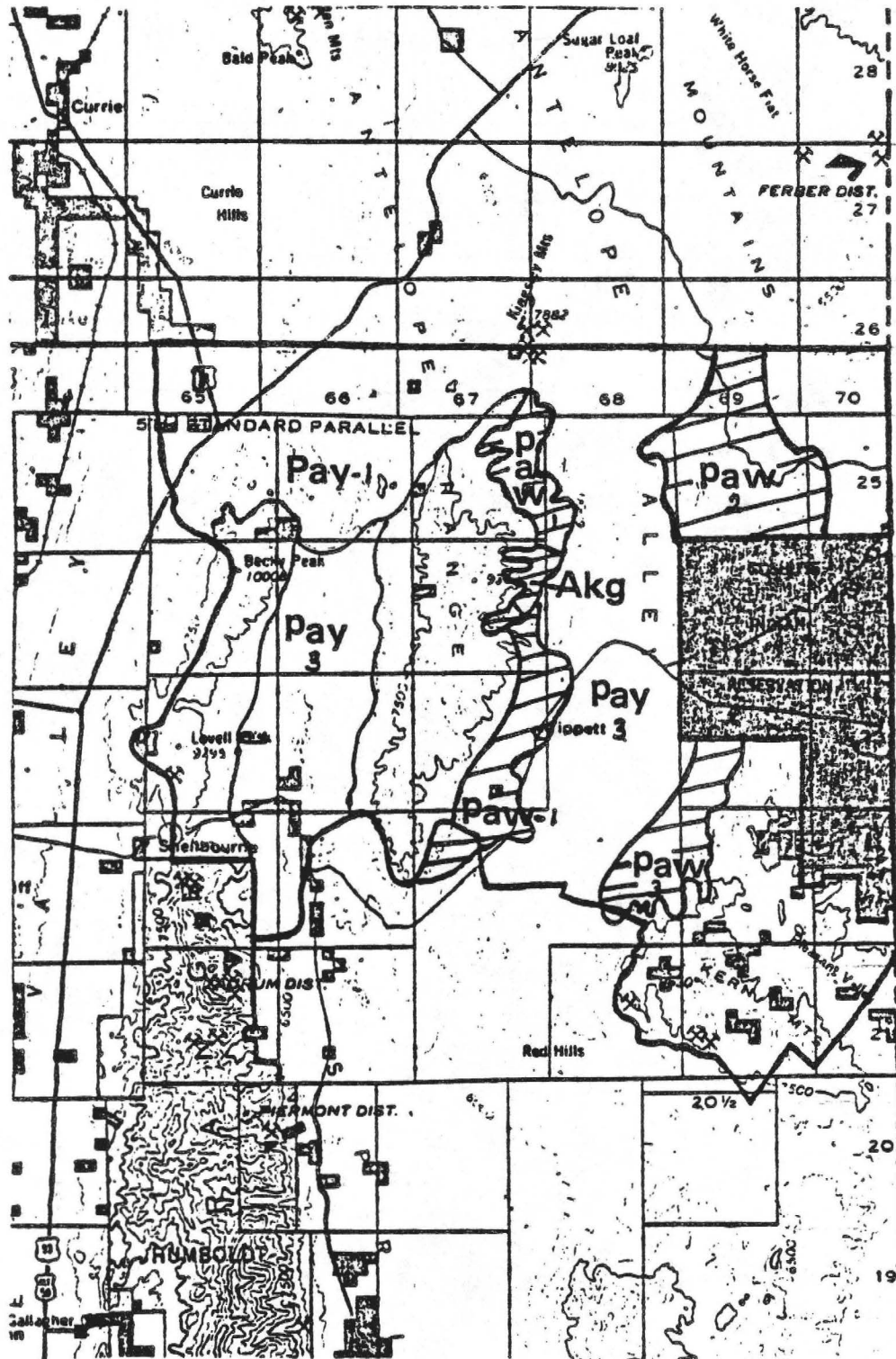


Figure GII-2. Major Pronghorn Antelope Use Areas in the Antelope Range Habitat Management Plan Area, Nevada.

Bighorn Sheep

Bighorn sheep do not now occur in the Antelope Plan area. Lyman Roselund (Schellbourne Station) grew up in North Spring Valley. He states in the 1930's a group of 10-15 bighorn sheep were seen at his school near Henriod Ranch. This is the latest sighting of the historical population. A ram from the re-introduced Rocky Mountain bighorn group (Moriah) was sighted around Becky Peak and Schellbourne Pass in 1981.

Mountain Lions

Mountain lion numbers are a reflection of the mule deer numbers. A few inhabit the Antelope Range yearlong. Lions are found yearlong and especially in summer from Schellbourne Pass to Becky Peak (Buhler, 1982). Lions are generally found in the rocky, high reaches of the mountains. Preferred food is mule deer, but nearly anything from rodents to wild horses can be used by the lions.

Sage Grouse

Sage grouse concentrations in the Antelope Range Management Plan area are significant. Twelve strutting grounds, 10 brooding grounds and 4 winter areas have been identified to date (Fig. GII-3). Historically, populations have declined. "In the 1930's when 50,000-60,000 sheep wintered in the area, sage grouse were very numerous." (Roselund, 1983)(Polish, 1984).

Populations declined after these years. In the short-term populations are stable to slightly increasing (NDOW, 1984).

Diet for these grouse consists of protein-rich insects especially for young chicks, forbs and sage leaves.

All identified present use areas for sage grouse are crucial habitat (BLM, 1979). Historic use areas, strutting grounds and meadows are of special importance.

Other Upland Game Birds

Blue grouse populations have remained fairly stable at moderate to high levels (NDOW, 1984). Fir buds and needles comprise 50% of the blue grouse diet. Other pine, forbs, grasses and insects comprise the remainder of the diet. Mixed conifer and white fir areas are key blue grouse habitat (Fig. GII-4). These areas are also important winter areas.

Chukar partridge (Fig. GII-4) population levels have been reduced recently due to climatic conditions but can rise when conditions warrant good hatching success. Chukar live in rock outcroppings and scattered brush. These birds eat seeds and leaves of annual and perennial grasses and forbs.

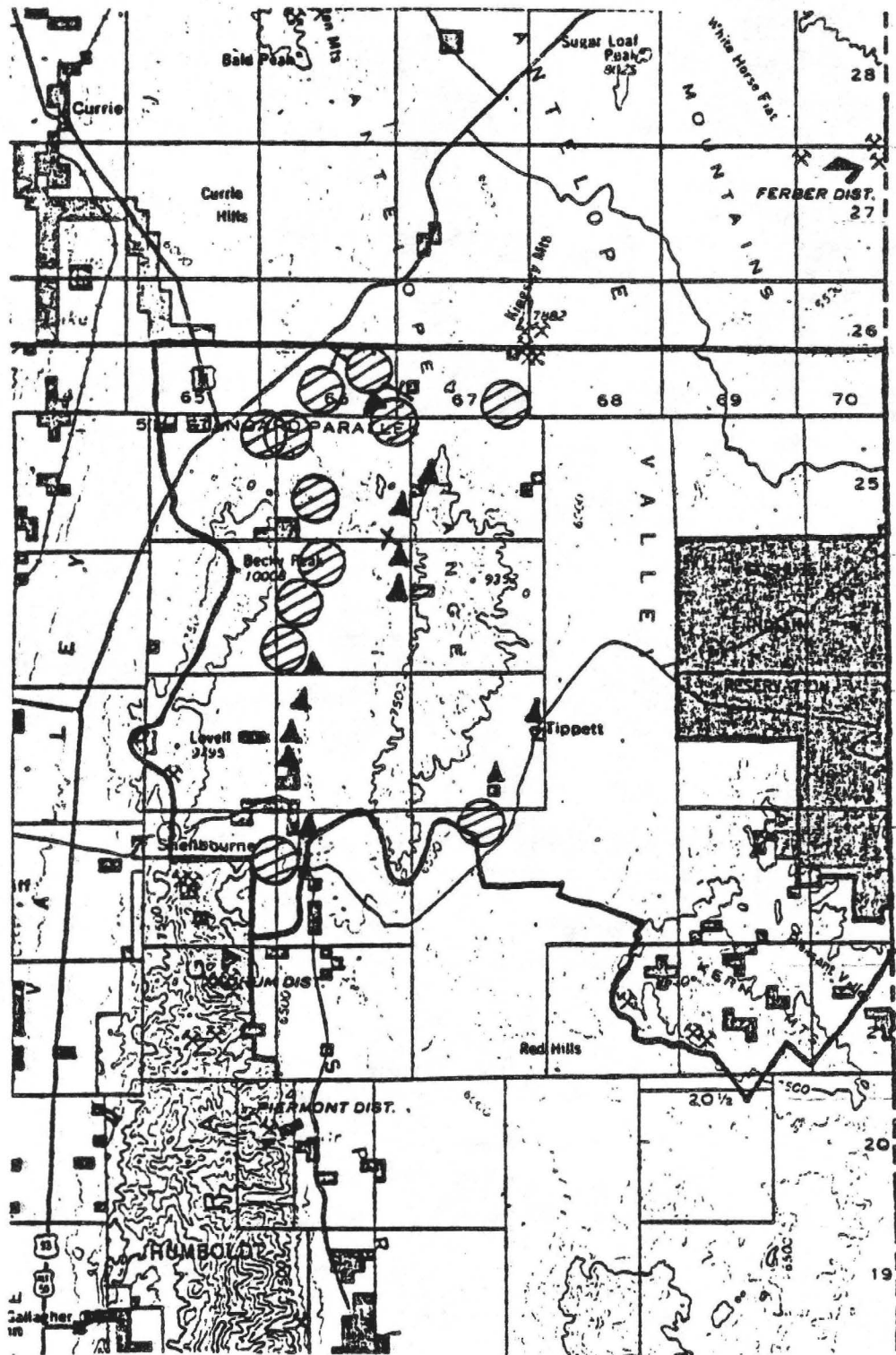


Figure GII-3. Sage Grouse Use Areas in the Antelope Range Habitat Management Plan Area, Nevada.

- ⊗ Strutting Grounds
- ▲ Brooding Areas
- × Wintering Areas

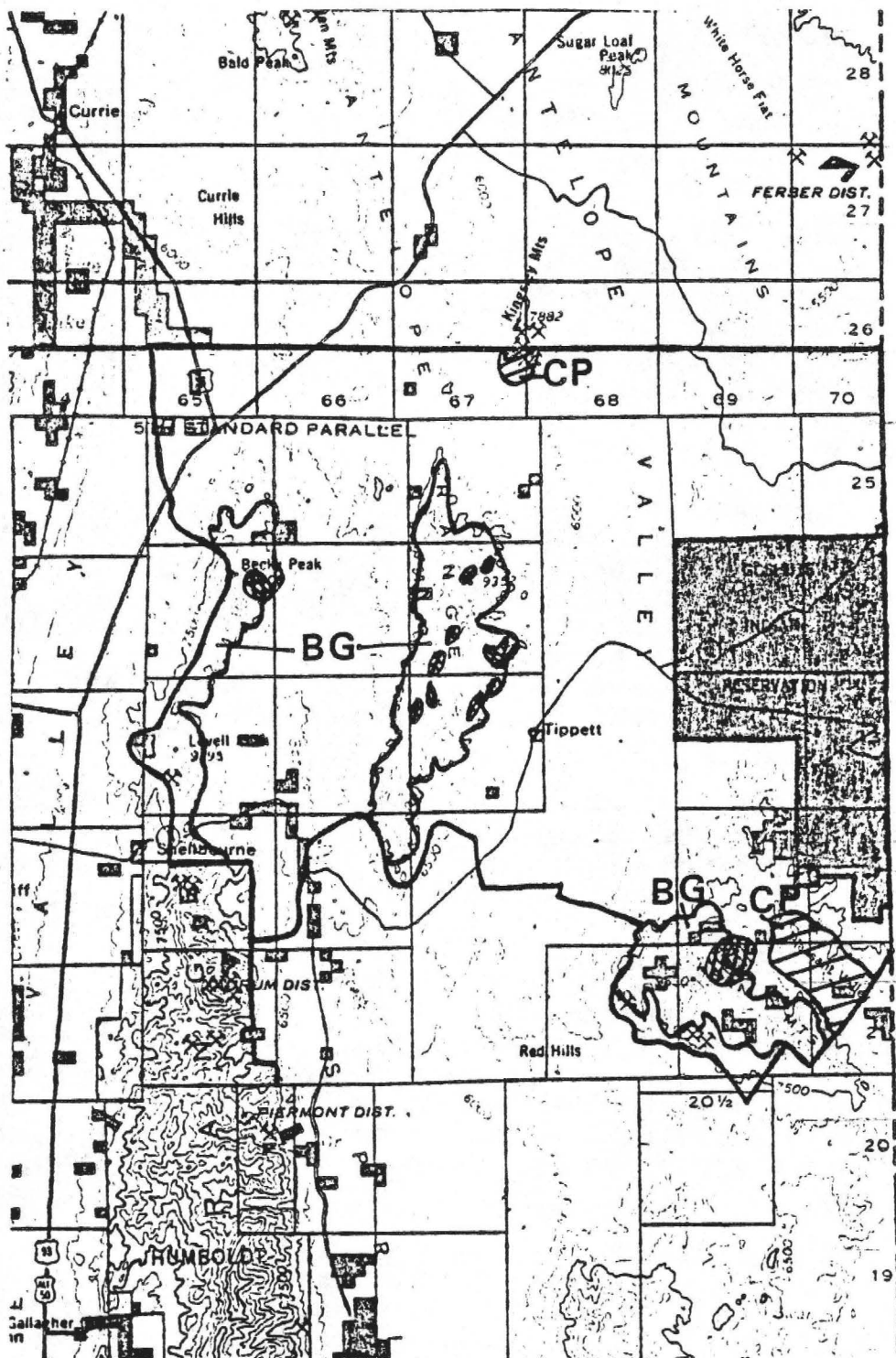


Figure GII-4. Major Use Areas for Blue Grouse and Chukar Partridge in the Antelope Range Habitat Management Plan Area, Nevada.



Chukar Partridge



Conifer Areas Key for Blue Grouse

Raptors

A wide variety of raptors, eagles, and hawks exist in the Antelope Range Management Plan area. Some of these birds winter there, some come to nest (Fig. GII-5) and summer, some live year-round in the area.

Bald eagles, federally endangered and protected, winter north of Eureka Summit and in Antelope Valley. These birds utilize carrion from roads and use rabbit and sage grouse concentrations. No known roost sites have been found in the Ely District. One roost site has been identified on the south end of the Goshute Mountain Range, Elko District. Golden eagles are common year-round in the plan area and several nest sites are known (Fig. GII-5).

Seven Ferruginous hawk nests are known in the HMP (ARCMP) area to date. In December 1982 this hawk was listed as a Federal "Special Concern" species which may be proposed for threatened or endangered status. At present, nest concentrations are on the east side of the Antelope Range which corresponds to ideal nesting habitat, a southeast exposure in juniper stringers with white sage within two miles (Perkins, 1983). Ferruginous hawk populations in Nevada are low but it appears Ely District has one of the higher concentrations of nesting birds.

Several nest sites for Cooper's hawks, red-tailed hawks and golden eagles are known in the area. Nesting habitat includes aspen, cottonwood, rock ledges and fir. Diet for these birds includes small animals and carrion.

Furbearers - General

Bobcats are common in the plan area, living mostly in the bench land. Bobcats are very fond of tertiary volcanic rock to den in. When these areas are adjacent to water, bobcat concentrations are high (Anderson, 1982). This makes parts of the Antelope Range very good bobcat areas. Preferred forage for these animals are rodents, birds, rabbits and occasionally, young game animals.

Coyotes are very common to the plan area. These animals can be found at all elevations of the plan area. Coyotes can be as dense as 1 per square mile in some areas (Taylor, 1982). Preferred forage for coyotes is rodents and rabbits generally. Domestic sheep in sheep herd areas will also be eaten. Young game animals are occasionally taken.

A fairly large population of kit fox are also located in Antelope Valley. Rodents comprise the major part of this foxes' diet.

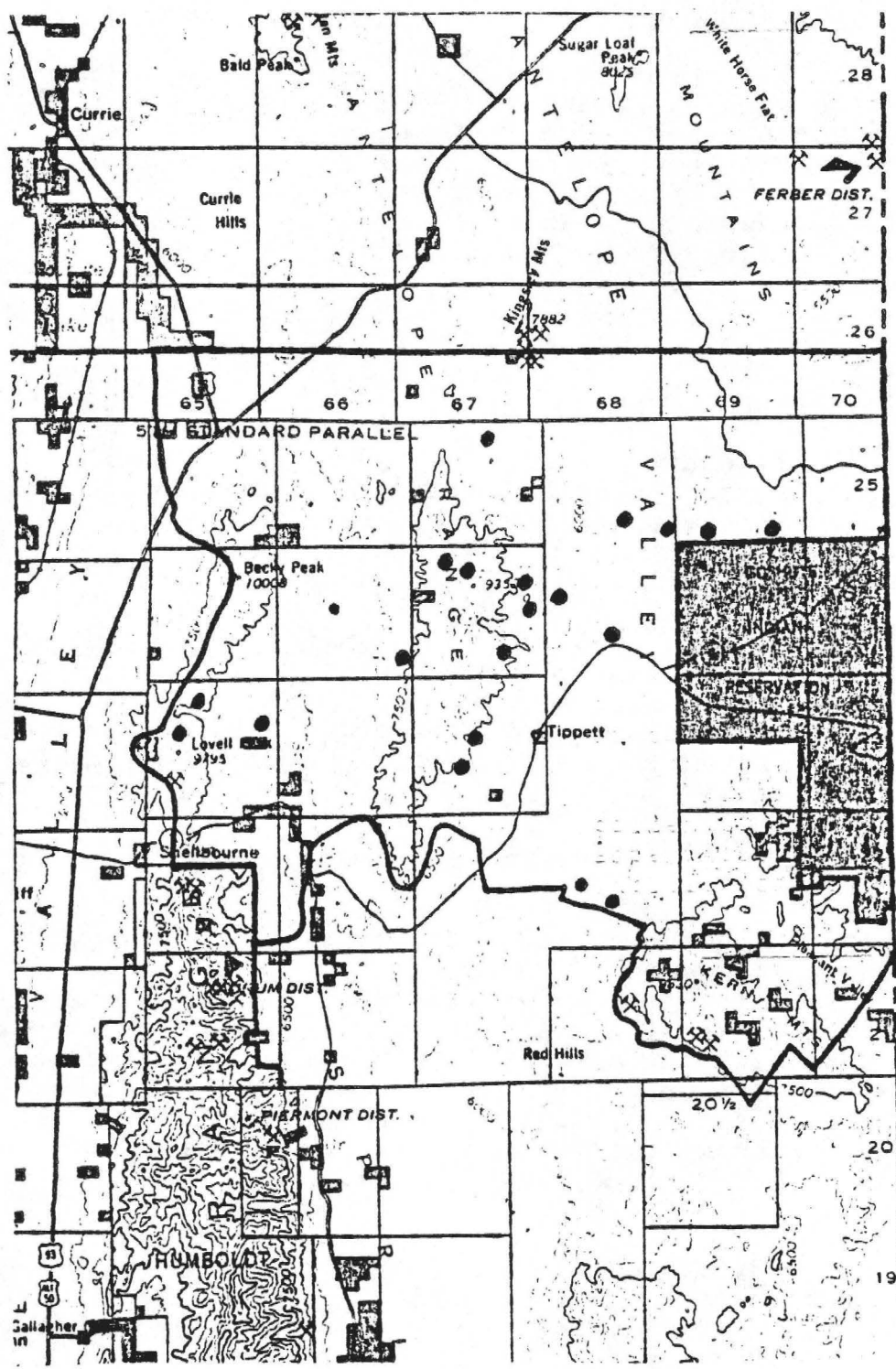


Figure GII-5. Nest Sites of Hawks, Eagles and Owls in the Antelope Range Habitat Management Plan Area, Nevada.

Steptoe Dace

In 1981 Steptoe Dace (Relictus solarius) were identified by UNLV from Lookout Spring, T. 26 N., R. 67 E., sec. 30, NESE in the Antelope Range Coordinated Management Plan area. The fish are native to Steptoe Creek, some 30 miles west and were probably brought to the spring when the place was homesteaded. The fish have been there 40-50 years, "as long as I can remember" [Wiley Carroll]. Trappers in the past used the little fish for scent. The fish are said to have natural population cycles; the population will build past the carrying capacity of the spring, then die off to a core population and rebuild. The fish can be caught on baited hook. Early settlers fried and ate these fish like smelt (Harbeck, 1984).

The fish are on Nevada's sensitive species list and on the Federal list of potential threatened and endangered species. Fish inhabit the one spring and the pond.

Other Wildlife

Cyclic populations of jackrabbits and mountain and desert cottontail rabbits inhabit all areas of the plan area.

Numerous other species of birds, mammals, reptiles and amphibians occur in the plan area. (A complete listing can be found in URA-2.)

Flora - Riparian Areas

Major vegetation zones were discussed in General Section BI of this plan with the exception of riparian habitat which is discussed below.

"The riparian habitat is the most productive and possibly the most sensitive of North American habitats and should be managed accordingly" (Johnson et al, 1977). There are fewer than 1,000 acres of riparian vegetation in the plan area (Fig. GII-6). Up to 79% of the wildlife species in the plan area depend on these areas for water, food, cover, nesting, breeding or other activity (Johnson, et al, 1977).

The list of riparian species of vegetation are the main species of concern on the Antelope Range plan area (Table GII-1). Not all of the species listed occur at every riparian area.

G.3. Relevant Constraints

See a summary of constraints in General Section BII.

G.4. Sikes Act Authority

In accordance with Supplement 6 (dated 11/5/75) the Master Memorandum of Understanding between Nevada Dept. of Wildlife and the BLM, Nevada State Office, this HMP meets the

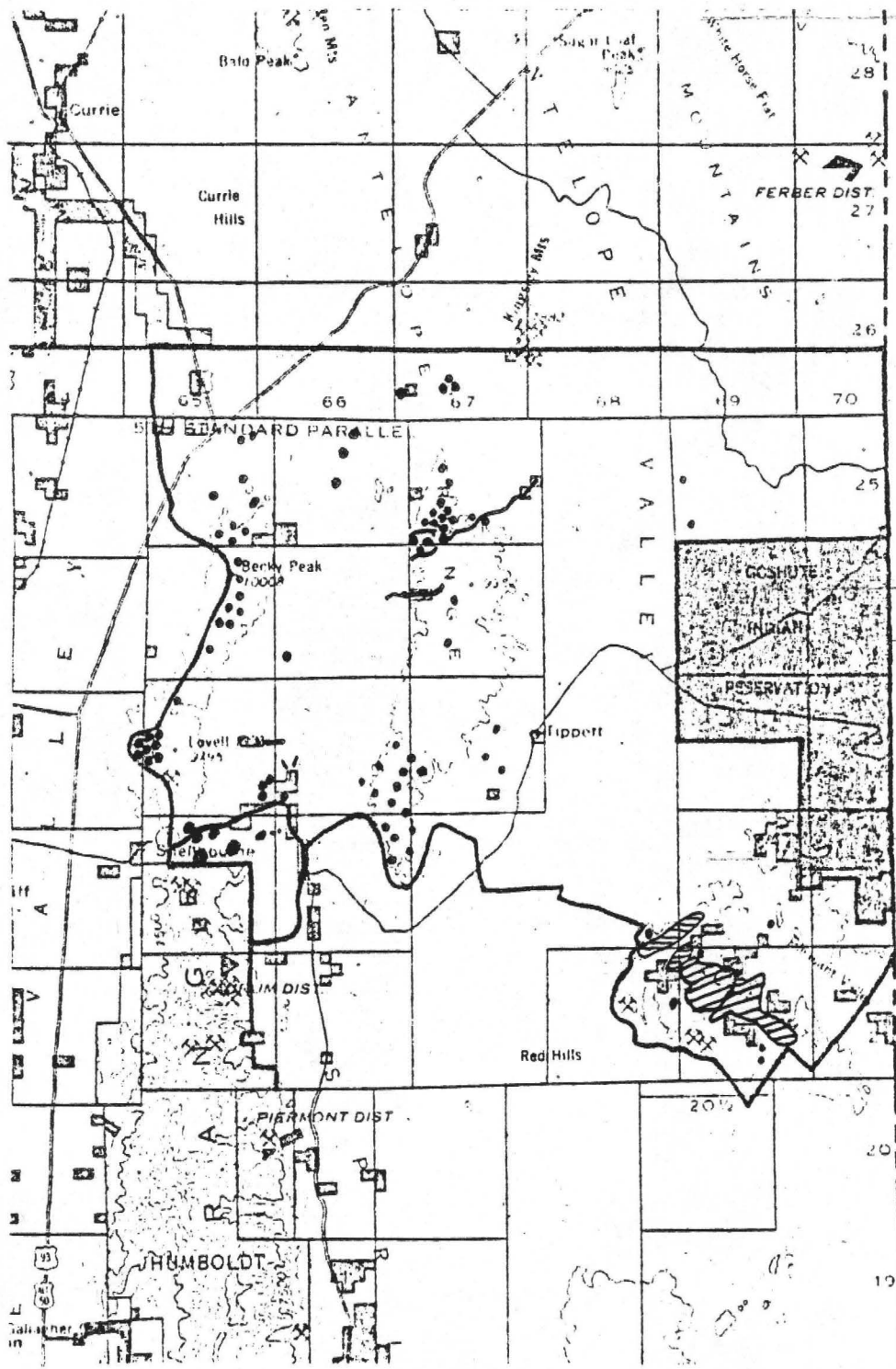


Figure GII-6. Riparian Areas within the Antelope Range Habitat Management Plan Area, Nevada.

- Small Wet Meadow Areas
- ▨ Existing Quaking Aspen Stands

Table GII-1. Riparian species important to management in the Antelope Range Coordinated Management Plan area, Nevada.

Rushes	<u>Juncus</u> sp.
Phlox	<u>Phlox</u> sp.
Yarrow	<u>Yarrow</u> sp.
Dandelion	<u>Taraxacum</u> sp.
Clover/Onion	<u>Trifolium/Allium</u> sp.
Columbine	<u>Aquilegia</u>
Watercress	<u>Rorippa</u> sp.
Rose	<u>Rosa</u> sp.
Willow	<u>Salix</u> sp.
Buttercup	<u>Ranunculaceae</u> family
Nettles	<u>Urtica</u> sp.
Violets	<u>Viola</u> sp.
Mints	<u>Mentha</u> sp.
Bluegrass	<u>Poa</u> sp.
Sedges	<u>Carex</u> sp.
Longleaf cottonwood	<u>Populus</u> sp.
Elderberry	<u>Sambucus coerulea</u>
Quaking aspen	<u>Populus tremuloides</u>
Green ash	<u>Fraxinus</u> sp.
River Birch	<u>Betula</u> sp.
Chokecherry	<u>Prunus</u> sp.
Balsam	<u>Balsamorhiza sagittata</u>
Monkeyflower	<u>Mimulus guttatus</u>

requirements for implementation under the Sikes Act. Once signed and approved all funds used to prepare, implement, and monitor the HMP are considered to be "Sikes Acts Funds".

H. Land Status

See a breakdown of land status administration in the General Section (BIb).

I. Management Objectives - General

The General Section contains a group of general objectives, specific objectives and area wide specific objectives. The general objectives are self-explanatory as to the benefiting wildlife user. Basically, the general wildlife objectives center on attaining reasonable numbers or as close to this as possible, and protecting special habitats of certain species of wildlife.

The specific objectives are broken out by management use area. Each use area states the foraging animal that will benefit from some or all of the objectives. Objectives are listed by specific plant species, the present density and production of each and the desired density and production. Wildlife specific objectives are aimed at maintaining or increasing forage quality, density and availability for wildlife in seasons critical for use.

The following is a list of species of plants from the General Section of Specific Objectives which are addressed specifically to benefit a primary wildlife foraging animal in a specific season:

Mountain big sagebrush	deer winter
Bluebunch wheatgrass	deer spring/summer
Sandberg bluegrass	deer spring
Forbs	upland game birds, deer yearlong, antelope yearlong
Snowberry	deer spring/summer/fall
Bud sagebrush	antelope yearlong
Shadscale	antelope yearlong, deer winter
Saltbush	antelope yearlong, deer winter
Bitterbrush	deer fall/winter
Chokecherry	upland game
Black sagebrush	antelope winter/yearlong
Riparian species	all wildlife

Many of the other species addressed in the objectives will be used by wildlife to some extent and will also be of benefit.

The area-wide specific objectives are aimed at protecting or improving habitats that occur throughout the plan area. These are used by a variety of wildlife.

A list of objectives that apply to each species appears with the discussion of those species.

Refer to General Section C for a detailed description of wildlife objectives and the livestock and wild horse objectives. (See HMP Section L, Form 6780-2, for a summary of objectives.)

J. Management Actions - General

This section lists specific actions which will achieve the management objectives listed in the General Section. A summary of all the management actions by all foraging animal groups is listed in General Section D. The following actions are broken out of that summary and are being identified as having a species of wildlife as the major benefactor and funder. It stands to reason, however, that grazing systems and/or waters developed by the BLM for the range foraging animals will benefit wildlife also.

Each management action is listed by the name and number of management area from the General Section.

Mule Deer

Issues

Major problems for mule deer are lack of forage, heavy use levels in chained winter areas, riparian area degradation (fawning areas) and lack of supplemental water for extremely dry years.

The 1979 URA-2 states summer forage is lacking in Chin Creek and Tippet Allotments for existing numbers (556 deer) and reasonable numbers (2,179 deer). Winter forage is lacking in Tippet Allotment for existing numbers (254 deer) and reasonable numbers (1,815 deer). Yearlong forage is lacking in Becky Springs, Chin Creek, Sampson Creek and Tippet Allotments for existing numbers (259 deer) and reasonable numbers (1,815 deer). A total breakdown of forage lacking by season, for existing and reasonable numbers is as follows:

<u>Season</u>	<u>Existing # AUM Demand</u>	<u>Reasonable # AUM Demand</u>
Summer	- 5.4	-2,587
Winter	- 76.6	- 999
Yearlong	<u>-361.9</u>	<u>-2,898</u>
Total	-442	-6,484

In general, winter range is very scarce and that in existence is being choked out by trees. Winter range must be created. Summer range appears to be about as extensive as can be. This range must be managed to maintain or improve what is there. Yearlong range exists but a potential 12,000 prime acres in the north Antelope Range could be created.

The Kern Mountain chainings were done in 1968-1969. The purpose was to create more forage for all foraging animals and was seeded for multiple use. None of the seedings were given fencing protection.

Old vegetation studies and recent monitoring studies show heavy use on browse stands as well as other species. This use comes before wintering deer come into the area. NDOW surveys do not show large numbers of deer which could make the use on the summer range.

Water is in short supply in the South Antelope Range. Areas along the ridge of the Schell Creek Range have water spaced at less than ideal intervals. Developing more water flow/or building guzzlers will make more useable forage available.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, 3, 4, and 11.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for management areas 2, 6, 7, 10, 11, 12, 16, 20, and 24.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 1.

Management Actions

The management actions to improve mule deer range will partially achieve the AUM increase. Other AUMs will be gained indirectly from grazing systems and wild horse management. The actions are as follows:

6. Northeast Antelope Mountain, West Antelope Mountains, Spring Gulch
 - a. Initiate commercial woodcutting on a minimum of 6,000 acres of pinyon-juniper trees (Fig. GII-7).
 - b. Remove remaining trees by whichever way is best for the situation and most cost beneficial. If areas of good browse occur within the treatment area, these should be left as seed source. Islands for wildlife should be left. Ideally the distance across an open area should not exceed 1/2 mile.
 - c. Seed converted areas where needed with a mixture (Table GII-2). Strip seeding should be considered for wildlife.

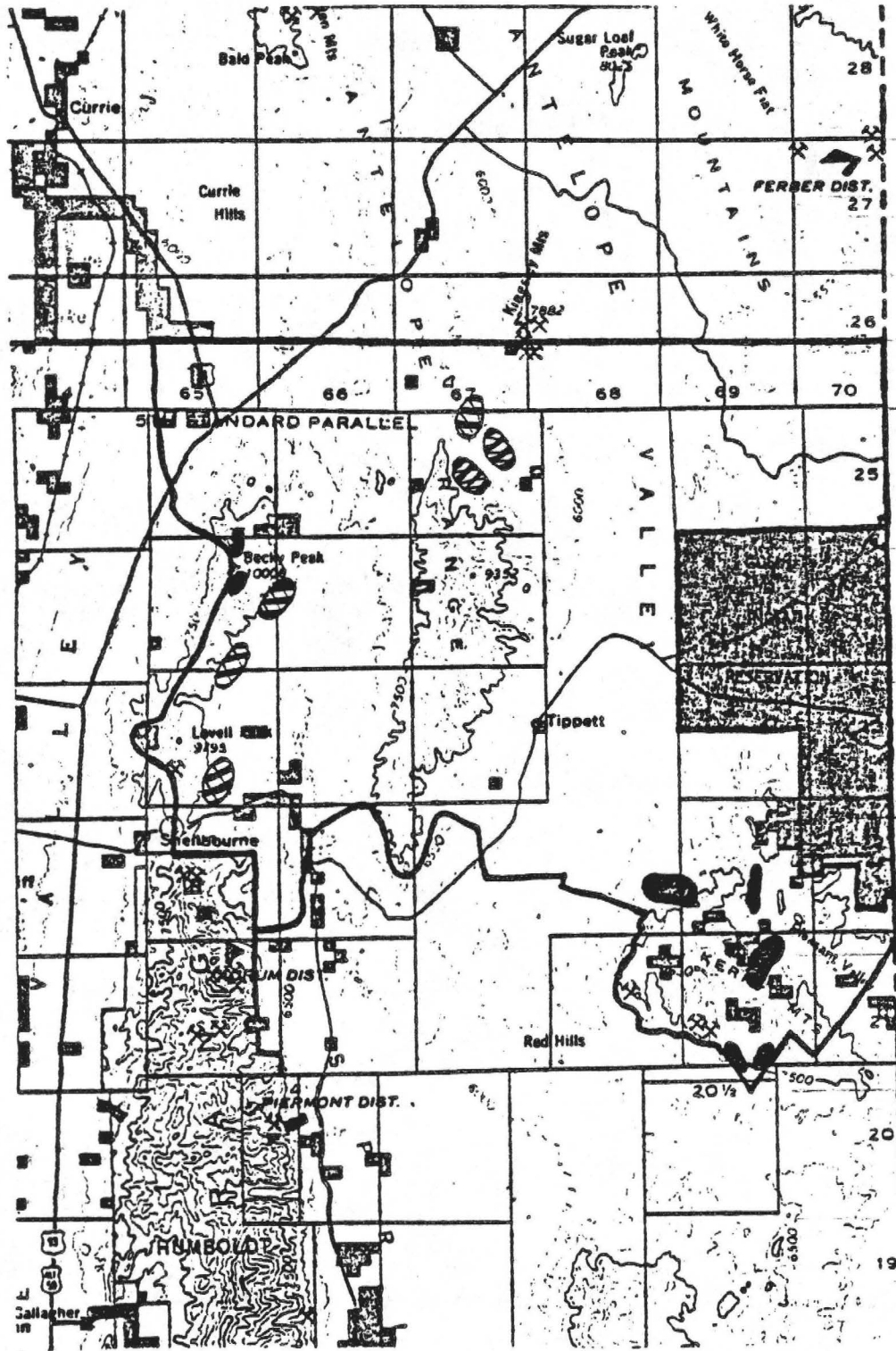


Figure GII-7. Vegetation Conversion Areas and Interseeding Areas for Mule Deer in the Antelope Range Habitat Management Plan Area, Nevada



-  Conversions
-  Interseedings

Table GII-2. Species to be considered for seeding onto potential winter range areas in the Antelope Range Coordinated Management Plan area, Nevada

Shrubs:

<u>Purshia tridentata</u>	Antelope bitterbrush
<u>Cowania mexicana</u>	Mexican cliffrose
<u>Kochia prostrata</u>	Molly (an introduced exotic)
<u>Artemesia tridentata tridentata</u>	Big sagebrush
<u>Artemesia t vassayana</u>	Mountain big sagebrush
<u>Artemesia arbuscula</u>	Low sagebrush
* <u>Atriplex</u> (local hybrid)	Saltbush
* <u>Ephedra viridis</u>	Green Mormon tea
<u>Chrysothamnus viscidiflorus</u>	White rabbitbrush

* These species alone may not be able to provide enough forage but may be good in combination with other species.

Grasses:

<u>Elymus cinereus</u>	Great Basin wildrye
<u>Bromus spp.</u>	Brome
<u>Poa sandbergii</u>	Bluebunch wheatgrass

Forbs:

<u>Eriogonum spp.</u>	Buckwheat
<u>Penstemon spp.</u>	Penstemon
<u>Sphaeralcea</u>	Globemallow
<u>Lupine</u>	Lupine

In 1977 a 750 acre vegetative conversion and seeding project (Horsethief Chaining) created 290 AUMs. The seed mixture was expressly for mule deer. By extrapolating this data, at least 2,000 AUM can be added for mule deer use in the plan area by converting the aforementioned 6,000+ acres.

These figures are only "best estimates" until the actual production potential of the areas are known. Also the size and project type will determine the actual AUM increase.

7. Sharp Creek

- c. Limit combined use on browse (bitterbrush and/or cliffrose) to 45%. Because sheep will be coming into this winter area in late fall, close monitoring of use must be done to ensure enough browse is available for late winter deer use without damaging the viability of the stands. The level of 45% is to ensure viable communities of plants, not how much deer need over the winter.

The following management actions (10 & 11) will improve forage in the seedings. The Tippet Grazing Allotment AMP outlines new seasons of use and use levels that will protect the seeding.

10. Kern Mountains - north

Lunch Valley, Tungstonia Seedings

- c. Interseed forbs in selected areas (Table GII-3) (Fig. GII-7). Strip seed these areas, seeding about 250 acres per 1,000.

11. Kern Mountains - south

Rock Springs, Blind Springs, Moffatt Seedings

- c. interseed forbs in selected areas (Fig. GII-7). Strip seed the areas, about 250 acres per 1,000.

12. Schell Creek Area

Calcutta Burn Area

- b. Limit combined use on browse species (bitterbrush, cliffrose, serviceberry, snowberry) to 45%.

Native Area

- a. Use the fire confinement policy in selected areas of sage and pinyon-juniper to stimulate grass/forb/browse production. See the Antelope Range Fire Management Plan for details of acreages and techniques.

20. Becky Springs

- d. Use the fire confinement policy in selected areas of sage to stimulate grass/forb production.

Table GII-3. Forb species to be seeded and/or increased on selected areas for mule deer summer range in Antelope Range Coordinated Management Plan area, Nevada.

Forbs:

<u>Lupinus</u> sp.	Mountain lupine
<u>Calochortus</u> sp.	Sego lily
<u>Erigeron</u> sp.	Aster
<u>Penstemon eatoni</u>	Penstemon firecracker
<u>Penstemon palmeri</u>	Palmer
<u>Crepis</u> sp.	Hawksbeard
<u>Trifolium</u> sp.	Clover
<u>Phlox</u> sp.	Phlox
<u>Erigonum</u> sp.	Buckwheats
<u>Taraxacum</u> sp.	Dandelion
<u>Linum lewisii</u>	Blue flax
<u>Castilleja</u> sp.	Indian paintbrush
<u>Tragopogon</u> sp.	Goat's beard
<u>Balsamorhiza guttata</u>	Balsam root
<u>Lomatium</u> sp.	Biscuitroot
<u>Metacago</u> sp.	Native alfalfa

24. South Goshute Reservation

- a. Limit combined foraging animals to 45% on shrub (bitterbrush, cliffrose, serviceberry, snowberry).

Throughout the plan area, AMP's will establish grazing systems, deferred use and seasons of use which will allow rest on forage, stable reproduction of plants and proper use. This will translate into more abundant forage available for mule deer in all seasons. Using estimates from Schell URA-4, another 2,300 AUMs can be added by indirect effects on the 89,600 acres of major mule deer range. These effects are in the form of grazing systems and wild horse management.

Also, several seedings are scheduled for protection and rehabilitation. These will be incorporated into the grazing scheme of the allotment. At full production, these seedings will reduce pressure on the native range thereby making more forage available for deer. (See individual AMP's for details of grazing schemes.)

Any fences constructed in mule deer areas will be built to deer specifications as described in BLM drawing NV02833(53).

The following actions will improve water availability:

2. Antelope Mountains

- c. Construct a water storage and drinking facility between South and Sand Spring and between Sand and Dipping Tank Spring so deer can make better use of this area. This will increase summer forage availability. The design would be similar to 12-e.
- d. Fence springheads at North Spring (T. 24 N., R. 67 E., sec. 16), Sand Spring (T. 23 N., R. 67 E., sec. 20, NWNW), South Spring (T. 24 N., R. 67 E., sec. 28) (Fig. GII-8). This could be done using a triangle configuration with 3 or 4 strand wire built to deer specifications at North Spring. Fence 0.5 acres and pipe water out at South and Sand Spring.
- h. Deer fawning areas may improve with the action described under sage grouse.

Every bit needed
to maintain spirit preference

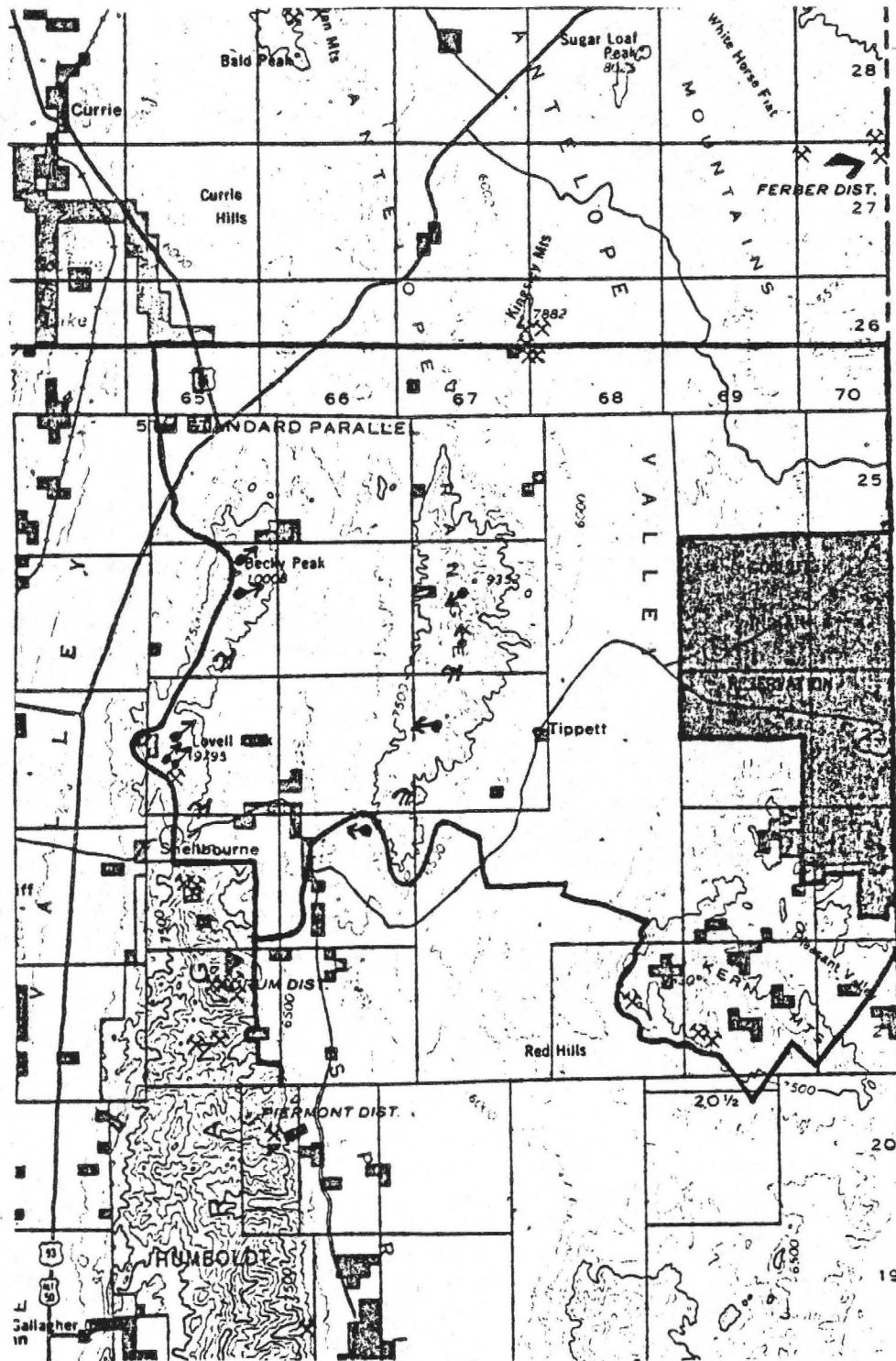


Figure GII-8. Proposed Areas to Develop Water for Mule Deer in the Antelope Range Habitat Management Plan Area, Nevada.

7

Guzzler



Spring Development

7. Sharp Creek

- d. Fence Dipping Tank Spring (T. 22 N., R. 66 E., sec. 23, SESE) (Fig. GII-8). The whole springhead, 2 ponds and old meadow should be fenced with water piped out at old troughs or at a new site. The permittee has no objection to fencing this much area as long as water is provided outside for livestock. This will also provide wild horse water.

12. Schell Creek Area

Calcutta Burn Area

- d. Fence springheads at (T. 23 N., R. 65 E., sec. 18, SENE and SWNE) and (T. 23 N., R. 65 E., sec. 7, SWSE) (Fig. GII-8). Use configuration of 2-d.

Native Area

- e. Develop a guzzler for supplemental water. The design will be a catchment apron on 5,000[±] gallons of storage connected to a drinker (Fig. GII-8) approximately T. 24 N., R. 65 E., sec. 33.

20. Becky Springs

- b. Fence springheads at the following to increase flow:

Camp Spring (T. 24 N., R. 65 E., sec. 11, NENE)
 Grouse Spring (T. 24 N., R. 65 E., sec. 2, SESW)
 (T. 24 N., R. 65 E., sec. 23 NENE
 and NWNW)

Use the design discussed in 2-d. (Fig. GII-8).

- c. Develop a guzzler for supplemental water. Use the design discussed in 12-e. (Fig. GII-8).

Several water sources have associated riparian vegetation that is critical for nursing does to use. In many cases, improving water flow as mentioned previously will help the vegetation. Fencing of selected small meadows as previously mentioned will help improve fawning areas. Some meadows have been trampled and less desired species are present. A riparian pasture to be built on North Creek in the Antelope Range will also provide does with a choice fawning area. This pasture is described in detail under sage grouse 2-e.

A seeding with multiple use species has been proposed for west of the Rock House in the plan area. Details of this plan are outlined in the Tippet Grazing Allotment AMP. Because of the nature of this project, its impact on wildlife is discussed.

29. Spring Gulch - South

The south area slated for conversion is adjacent to a deer winter use area but has not been identified as a key area. The configuration of the seeding should be so it avoids the pinyon-juniper stringers. Multiple-use species in the seeding, being so close to the trees may provide variety, and green-up to the wintering deer. Up to 1,900 AUMs may be gained for deer from this seeding. Deer will be out of the area before livestock come on.

Although this situation is not ideal for all wildlife, it must be remembered that pressure is taken off other native range elsewhere. In this case, spring competition between sheep and antelope in the Red Hills will be reduced or eliminated by creating this seeding. It was felt that spring forage for kidding does was worth more than forage adjacent to a deer winter area (not a key area).

Fences will conform to deer specifications. A sage grouse strutting ground/nesting area near the proposed seeding will be preserved. Insects in the seeding may provide food for new chicks. Possible mitigation of this project is the seeding of choice browse species in suitable areas between the juniper stringers and with the proper choice of seed, deer may gain more forage than is now present.

AMP's written for the areas suggest piping water from Middle and/or Sharp Creek to water the newly fenced seedings. If this occurs, water will be left at the source to water wildlife and maintain riparian areas. Also the pipelines will have off-shoots spaced along the bench which will fill small drinkers or reservoirs. This will increase and distribute water for mule deer.

Because lack of forage is the major problem for deer, planned actions were based on increasing this. With all AUM's combined a total of 4,300+ more AUM's can be provided when the plan is implemented.

(Even though the increase in AUM's does not cover that needed for reasonable numbers, it is a best estimate until the potential and therefore, the carrying capacity is known. If further forage is actually needed, more vegetation conversions can be planned.)

Pronghorn Antelope

Issues

NDOW feels antelope populations may be at or very near carrying capacity (Barngrover, 1984; Wickersham, 1984). The 1984 population estimate for the plan area is 450± animals (Wickersham, 1984). NDOW feels the carrying capacity for antelope at present is limited by water. There are two reasons why projects for a population at carrying capacity should be and are addressed in this plan.

Firstly, the increase in antelope numbers has been easily sustained by the past three wet summers. If drought conditions occur again, the existing population may not be able to be maintained without more stable, permanent water sources.

Secondly, the White Pine County Game Board and the New White Pine Sportsman's Club have both asked NDOW to work closely with the Bureau to develop water in existing and potential antelope areas. Even though antelope are at reasonable numbers, the public is asking that these numbers be expanded.

Part of the Chin Creek AMP proposes to provide water on the benches of Antelope Valley to distribute use. One condition to make this plan work is to disallow livestock access to the Chin Creek reservoirs which are filled from a privately owned water source. This would be very bad for the antelope that depend on this water. The permittee (also the water rights owner) has agreed to allow the reservoirs to fill for wildlife as long as stock is excluded. By fencing and seeding these areas, small oases can be created for antelope and other animals. These plans will not be effective until the entire grazing system has been implemented.

The 1979 Schell Grazing EIS states antelope yearlong forage in Pay-1 North Spring Valley and Pay-3, Spring Valley and Antelope Valley is sufficient for existing numbers. Winter forage in key area PAW-1, East Antelope Range is sufficient in Chin Creek Allotment for existing numbers. Existing numbers may also be reasonable numbers.

Monitoring studies show forb density and forage diversity on the key area kidding ground is not good and allows this area to be in poor condition for antelope. Use on some shrubs exceeds moderate levels.

Other problems antelope face are extensive closed big sage areas that are unuseable for forage or movement. Wild horses chasing green-up compete directly with antelope in kidding areas as both need forbs and new grass.

Existing monitoring studies show considerable use on the plants before antelope or stock come into the area. Cattle that graze on the bench within the kidding ground in spring possibly force does uphill to a less preferred kidding site.

A sheep camp is often located in PAW-1 in Tippett Allotment which drives antelope to less preferred sites. The sheep also use the same forage as wintering antelope.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, 3, 5, and 11.

2. Specific: Refer to specific resource objectives contained in the general section of this plan for management areas 3, 4, 5, 6, 8, 9, 13, 14, 15, 17, 18, 19, 21, 22, 25, 26, 27, 28 and 29.

3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 1.

Management Actions

The following management actions can allow stabilization of the existing antelope population and allow expansion into waterless, but otherwise suitable habitat:

2. Antelope Mountains
 - c. Construct an antelope guzzler at T. 22 N., R. 67 E. southeast of Tippett Pass (Fig. GII-9). Design like MD-12-e.
7. Sharp Creek
 - e. Fence springs at 3 springs (all at T. 22 N., R. 66 E., sec. 10) to increase water flow and rejuvenate the meadow.
9. East Antelope Valley
 - a. Construct an antelope guzzler at T. 24 N., R. 68 E., (Fig. GII-9). Design will be like MD-12-e.
14. Antelope Valley - south
 - b. Redevelop catchment reservoir at T. 23 N., R. 68 E., sec. 15 to hold water longer in the summer (Fig. GII-9).
19. Old Highway Bench
 - a. Construct one antelope guzzler at T. 26 N., R. 66 E., sec. 21. Use the design in MD-12-e (Fig. GII-9).

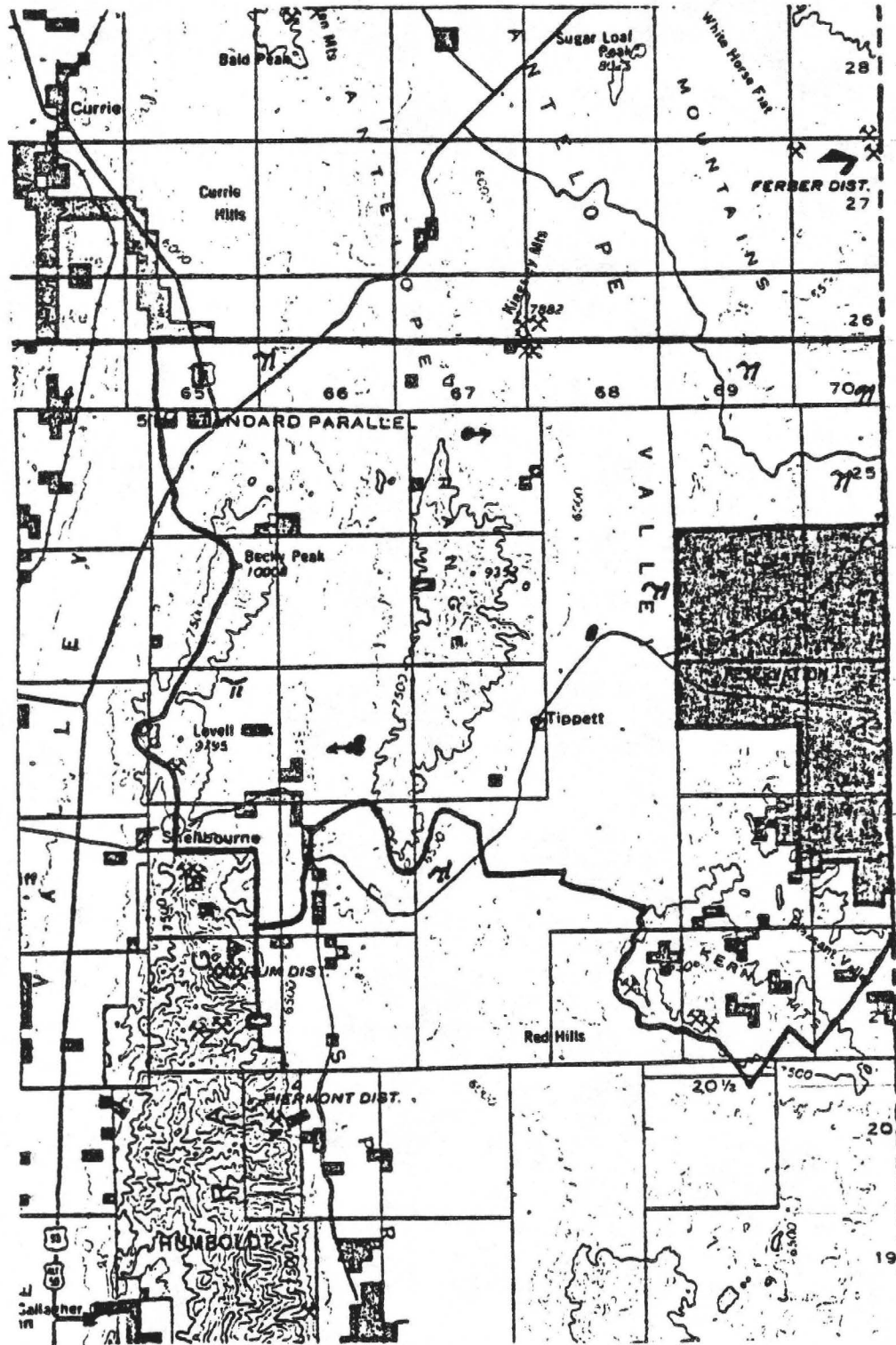






Figure GII-9. Proposed Areas to Develop Water in the Antelope Range Habitat Management Plan Area, Nevada.

- | | | | |
|---|--------------------|--|--------------------------|
|  | Guzzler |  | Supplemental Water |
|  | Spring Development |  | Reservoir Re-development |

25. Goshute Mountain Allotment
 - b. Construct an antelope guzzler at T. 26 N., R. 69 E., sec. 23. Use the MD-12-e design (Fig. GII-9).
26. Deep Creek Allotment
 - a. Construct two antelope guzzlers; one at T. 26 N., R. 70 E., sec. 29, one at T. 25 N., R. 69 E., sec. 3. Use the MD-12-e design (Fig. GII-9).
27. East Chin Creek
 - d. Facilitate antelope watering at Stockade Spring, T. 25 N., R. 67 E., sec. 10, SWNW, by deepening the reservoir, removing old wire in the reservoir and by removing pinyon-juniper south of the spring (Fig. GII-9).
29. Spring Gulch South
 - b. Develop supplemental antelope water using MD-12-e design (Fig. GII-9) at T. 23 N., R. 65 E., sec. 2.

The redevelopment of the springs and water developments outlined in the HMP and the AMP's will help to stabilize the existing antelope herds and help prevent a drought related crash. The guzzlers will allow expansion of antelope numbers as well as stabilization of the existing population. Depending on the other components of the new habitat (i.e., forage, cover, topography) 70± pronghorn could be added for each guzzler in a waterless area (Wickersham, 1984).

Pipeline off-shoots from Middle and Sharp Creek explained under mule deer water will also provide water for antelope. This is a yearlong antelope area.

The pipeline from Kingsley Spring through Marble Mine to the bench will put water on this dry bench for antelope.

If water is piped from Upper and/or Lower Stockade Spring to the benches, off-shoot drinkers and the troughs will provide water in a waterless area. These are yearlong antelope use areas.

The following actions will help increase general diversity, forb abundance and shrub availability:

3. East Antelope Bench - north
 - b. Interseed forbs on the kidding ground (Table GII-4) (Fig. GII-10). Strip seed species, about 250 acres per 1000.
13. East Antelope Bench - south
 - d. Limit use on antelope winter shrubs to 45% by all foraging animals in key wintering area. Shrub species include black sage, saltbush, rabbit-brush. This will allow for reproduction and maintenance of the plant stand.

Table GII-4. Forb species to be seeded and/or increased on selected areas for pronghorn antelope in the Antelope Range Coordinated Management Plan area, Nevada.

Forbs:

Phlox sp.
Chaenectis macratha
Chenopodium sp.
Erigeron
Iva axillaris
Linum lewisii
Polygonum sp.
Sphaeralcea sp.
Eriogonum sp.
Penstemon sp.
Trifolium sp.
Oenothera sp.
Medicago falcata

Phlox
Dusty maiden
Lambsquarter
Austin's daisy
Poverty weed
Blue flax
Smartweed
Globemallow
Buckwheat
Penstemon
Clover
Primrose
Alfalfa

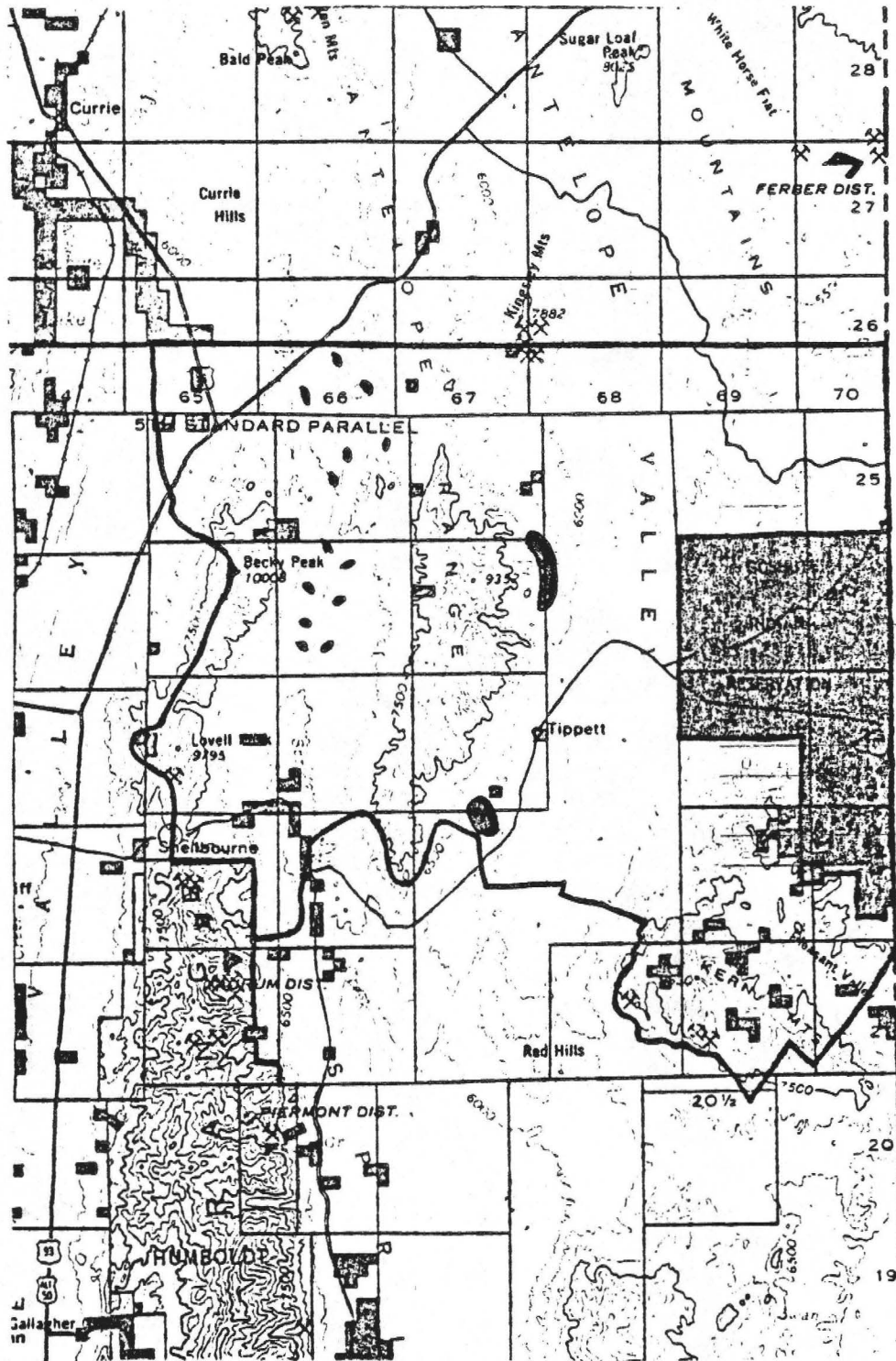


Figure GII-10. Proposed Areas to Interseed Forage for Antelope within the Antelope Range Habitat Management Plan Area, Nevada.

- e. Interseed forbs in the key wintering area to improve diversity and range condition yearlong (Fig. GII-10). Strip seed the area at about 200 acres per 1000.
- 21. Low Sage Foothills
 - b. Limit use on shrubs to 45% by all foraging animals combined on this antelope winter area. Shrubs include black sage, rabbitbrush and saltbush.
 - 22. Spring Valley - white sage bottom
 - b. Interseed forbs in selected areas (Fig. GII-10). Strip seed the area at about 250 acres per 1000.
 - 27. East Chin Creek
 - b. Limit use on shrubs to 45% by all foraging animals combined. These shrubs include black sage, saltbush and rabbitbrush.
 - 29. Spring Gulch South
 - a. Interseed forbs in selected areas at 250 acres per 1000.

All fences built in antelope areas will conform to antelope specifications as shown in BLM drawing NV02833(53).

As mentioned for mule deer, the AMP's establish grazing treatments which relieve pressure especially on spring and winter antelope forage. Better distribution of stock will allow more yearlong forage. (See individual AMP's for details of the grazing treatments.)

The AMP for Tippet Grazing Allotment addresses relieving pressure from the presence of sheep and sheep camp.

Bighorn Sheep

Issues

Input into the URA-2 and the URA state the North Schell Creek Range, Antelope Range and Kern Mountains were historic bighorn sheep range. These have potential for reintroducing mountain sheep but not all have been identified by NDOW on the priority reintroduction site list. The Antelope Range and Kern Mountains were listed as long-term potential release sites in the April 25, 1984, Annual Interagency Meeting of the BLM and NDOW.

At this point, no AUM's have been identified for bighorn sheep. When a reintroduction is scheduled, a release site description, amendment to the HMP and consultation with all affected parties will be done.

Sage Grouse

Issues

Conflicts for sage grouse include seismic exploration, some range management practices, and degraded brooding areas.

NDOW has identified livestock trailing across sage grouse strutting and nesting grounds during those seasons as a conflict (Gilbertson, 1983).

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, 3, and 7.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for management areas 1, 2, and 16.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 1 and 2.

Management Actions

At present there are few seismic exploration requests for this area. If these begin to come in, standard stipulations will be placed on the request. This includes avoiding the 2 mile strutting, nesting, brooding area until after the use season, and working between the hours of 0800 a.m. and 1600 p.m. and making only one pass through the area. This would apply from April 15 to May 30.

The following actions will benefit sage grouse:

2. Antelope Mountains
 - e. Construct a pasture on North Creek (T. 25 N., R. 67 E., secs. 29, 31, and 32) to manage the meadow primarily for sage grouse brooding. This pasture should also allow deer and antelope access to the area but exclude wild horses. The allotment permittee will be allowed into the pasture if desired with an agreed on number of animals for an agreed on length of time. The pasture will be fenced so water flows outside the pasture for wild horses (Fig. GII-11).

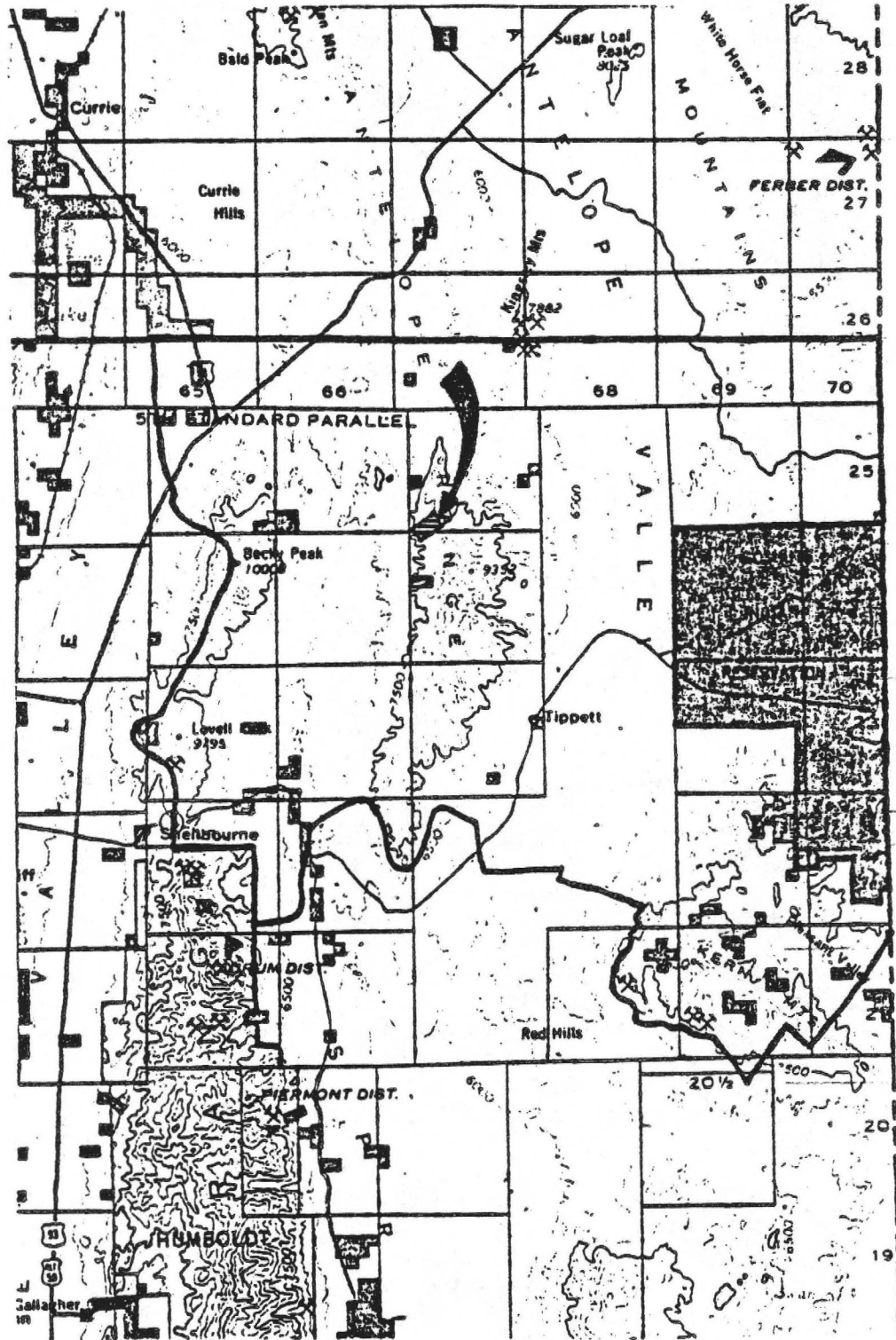


Figure GII-11 Proposed Area at North Creek for a Riparian Pasture Development in the Antelope Range Habitat Management Plan Area, Nevada.

The proposed North Creek pasture would be about 580 acres in size. Three gates would be placed to allow stock movement through the pasture. Wild horses would be totally excluded from the area but water would be left for these animals at the top and bottom of the pasture. Domestic sheep would use the pasture 1-2 days in June and possibly in early fall every year or every other year. Cows may be allowed for up to 2 days in the fall at a stocking rate which will not damage the meadow. Sheep would be bedded in the hills above the meadow.

Grazing of stock should be flexible enough to allow more time or animals if needed to achieve ideal sage grouse vegetation heights. Also, if conditions warrant or the stockman desires, no livestock may use the area in a given year.

The ideal sage grouse habitat as described by Klebenow that would be managed for is as follows:

- transition zones between vegetation types will be maximized.
- 21% shrub cover of 2 feet average height around the wet meadow will be maintained in a mosaic.
- effective cover heights for the meadow will range from 2.8 inches to 6.4 inches (effective cover is the highest visual increment on a measuring rod covered by 50% vegetation). Effective cover will not go below 2 inches.
- grazing will be at least light (30%±) on the meadow area and will not exceed moderate use (60%±) but will coincide with that use needed to achieve ideal effective cover. (Klebenow, 1981).

It was found that sage grouse avoided both bare ground and gullies to obtain water, and avoid dense grass stands. Controlled grazing is recommended to prevent grass from becoming too dense.

Fencing will be 4 strands of wire with a smooth bottom wire for antelope passage and sheep spacing above that. This fencing was agreed on by the permittee and the Schell Area biologist.

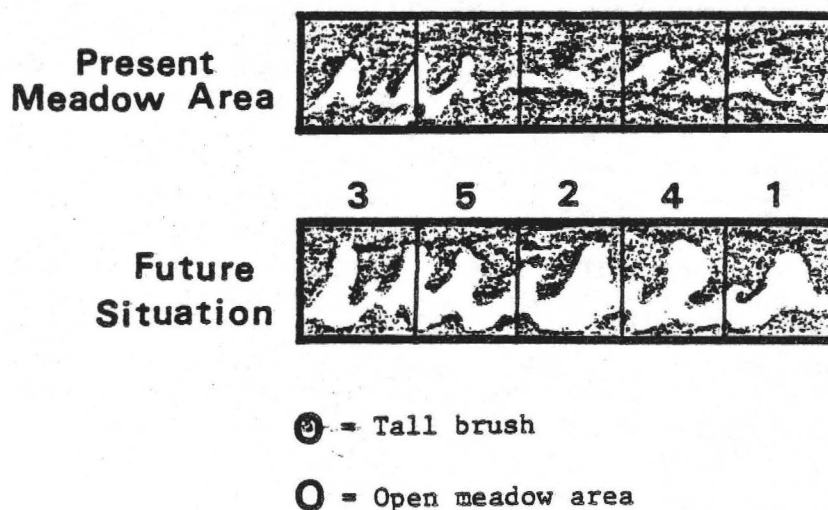
Stiles will be placed on either end of the meadow and at road ends to assist hunter passage through the area. This might prevent unwanted opening of the stock gates. Gates should be locked with only the permittee and the BLM having access to these.

Maintenance needed due to stock use will be done by the permittee. Other maintenance will be done under riparian maintenance by the BLM.

The Chin Creek AMP further outlines the grazing for the pasture.

- h. Middle Creek and Chin Creek are strategic brooding areas for sage grouse. Sagebrush is invading onto the meadow complexes and is decreasing the size of the meadows and the flow of water through the system. Some of the nettles and sage needs to be left adjacent to the meadow for cover so complete removal is unadvised. Small areas, 1-3 acres, should be done at one time to allow normal use in other areas of the meadow while regrowth is taking place. Sage removal should look similar to the following diagram:

There should be at least two years time elapse before adjacent pieces (1-3 acres) be treated as the diagram indicates with the numbering sequence. Brush removal should also allow a mosaic to exist with lots of edge between high brush and open meadow as shown in the illustration by the shading.



This project should not be started until after the 150 head of horses are removed from the area. Also, sheep trailing must avoid the newly treated area during regeneration.

To be totally successful, removal of the sage should include the private land owned by the permittee interspersed throughout the area. Prior to treatment, an agreement with the landowner must be initiated.

The sage removal, in most cases, should be done by hand, by the biologist with NDOW assisting in selecting plants and/or areas to be treated.

All springs that are listed for development will benefit sage grouse since springheads will be protected, meadows will be rejuvenated and pressure on the spring source will be lessened.

The AMPs for the plan area identify plans to rehabilitate existing seedings and convert some closed sage to more desired native range. In all cases sage grouse use areas will be considered when implementation of these projects occurs.

Blue Grouse, Chukar Partridge

Issues

The major threat for blue grouse is mining exploration and/or wildfire destroying conifer areas. The major problem for chukar is water distribution.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, 3, and 7.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for management areas 2, and 12.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 2.

Management Actions

The following actions will benefit blue grouse and chukar.

1. Allow no cutting or destruction of mixed conifer areas to protect blue grouse feeding and wintering sites (Fig. GII-4 in the Antelope, Kern and Schell Creek Ranges.
7. West Antelope Bench
 - e. Construct small game guzzlers in the rocky areas of Tippet Pass for chukar in the area. Sage grouse will use this also.
27. East Chin Creek
 - c. When the Kinsey Spring pipeline is constructed, a small game waterer should be filled off the line at Marble Mine in the rocky area to water chukar in the area.

Maintenance and development of water sources will benefit blue grouse and chukar. Maintenance of a mixed vegetation ecosystem will benefit chukar.

If blue grouse drumming logs are found, these will be considered key areas along with an area around the log that will be determined by each site. These will be protected as such.

Raptors - Eagles, Hawks, Owls

Issues

Conflicts for raptors center around disturbing nests in the nesting season, eliminating pinyon-juniper stringers for nesting Ferruginous hawks and reduction in white sage areas where Ferruginous hawks hunt Townsend's ground squirrels, a preferred nestling forage.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, 3, and 6.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for all management areas.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 2.

Management Actions

Actions to benefit these species are area-wide and are as follows:

- a) Known nest sites will be protected from physical destruction and, during the nesting season, a 1/2 mile buffer zone will be observed by all activities (Fig. GII-5).
 1. Uncut areas of approximately 10, 15, and 20 acres should be left around active nests for the sharp-shinned, Cooper's, and goshawk, respectively.

Active and prospective nest sites should not be precommercially or commercially thinned, because this will result in reduced stand densities and deeper tree crowns.

To maintain nesting densities of the three *Accipiter* species equal to that found in Oregon, currently suitable nest sites should be provided at the following approximate densities: 20 sites per township (36 square miles) for sharp-shinned hawks, 5 per township for Cooper's hawks, and 4 per township for goshawks. (Reynolds, 1983.)

- b) Before any vegetation conversion occurs in pinyon-juniper, stringers will be examined for Ferruginous hawk nesting activity (Fig. GII-5).
- d) The maintenance of continued land use patterns which encourages a wide variety of vegetation will ensure good habitat for all phases of raptor life cycles. (Fig. GII-5).

The AMP for Sampson Creek-Chin Creek describes rehabilitating a white sage area. This will greatly benefit Ferruginous hawks by providing Townsend's ground squirrels which live in white sage. This hawk should increase nesting along the east slope of the Schell Creek Range when the squirrels increase.

Steptoe (Relict) Dace

Issues

This species is of high concern, being on the State and Federal sensitive species lists. Presently the pond and spring this fish occupies are in an undetermined ownership status.

The only conflict these fish have is the silting of the pond and the separation of a number of fish from the main population by a weed choked channel.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 2, 3, and 8.
2. Specific: None of these objectives specifically apply.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 1.

Management Actions

The following actions are aimed at preserving the habitat of this fish:

- a. Acquiring rights to maintain this habitat can be accomplished through several ways. Purchase by the Nature Conservancy is a possibility as is a land exchange with the BLM. It may also be possible to reach an agreement with the owner to allow the BLM to maintain the pond and spring which would be to the owner's advantage.

If any of the aforementioned actions are completed, the following planned actions should be completed as soon as possible:

- b1. Maintain the present grazing regime. These fish evolved under grazing pressure. Horses and sheep keep rushes along the pond edge under control. Manure from these animals may be used directly by the fish for food. Certainly the manure stimulates growth of algae, plankton and weeds eaten by the fish.
2. Selectively clean branches and rushes by hand from the pond. Fifty percent must be left for winter cover, fry cover and nesting. The ash trees on the west of the pond must be left 100% intact to block horses and sheep from that side.
3. Cleaning silt from the reservoir to deepen it should be done every 5 to 10 years. This would be best done by hand.
4. Fence springheads to maintain or increase water flow. Do not fence entire area to protect Steptoe Dace. Until life history is researched, this may do more harm than good. Many endemic fishes are dependent on light incidence to trigger feeding and reproduction. Because these fish evolved under grazing, the fish evolved under a certain light incidence during a photoperiod. Fencing the pond to allow vegetation to grow up will alter the light length and may affect the life cycle. Fencing to prevent access to the spillway is necessary.

Other Game and Non-game Species

Issues

The major conflict for these species is being trapped in watering facilities, where these animals die and foul the water.

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, 2, and 3.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for all management areas.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 5.

Management Actions

The following actions will benefit these animals:

By 1994 all watering facilities in the area will have some means of escape for small mammals, birds and other wildlife. Each individual trough will have to be analyzed according to its form of construction to determine what type of escape mechanism will be incorporated into it. Escape ramps will consist of bird ladders, rock piles, and/or wire mesh. Future development of watering facilities, as wildlife projects and AMPs are implemented, will include some form of escape route for wildlife species.

Maintenance of habitat required to support and perpetuate the non-game mammal and bird species involves continuation of the present land uses, recreation, livestock grazing, mining, mineral exploration, and wildlife management. Enforcement of, and compliance to, all the acts and laws insuring the quality of the environment will provide for the needed habitat maintenance until further improvements are initiated.

Maintenance of all existing water sources, springs, ponds, wells, and streams will insure the current water requirements of the non-game species are provided for.

New water developments will benefit these animals. Troughs along pipelines should be constructed so a tiny flow (0.1 gal./hr.) goes over the trough to the ground.

Riparian Areas

Issues

Riparian areas range from being in fairly pristine condition to being in extremely poor, deteriorated condition. Rating was done by cursory inspection only. Specific areas were addressed for sage grouse, mule deer, pronghorn and Relict Dace. Other areas are addressed here.

Conflicts on riparian areas stem from trampling of meadow vegetation and trampling springheads which reduces water flow and allows rabbitbrush and sage to invade the meadow. Invasion of pinyon-juniper trees also ties water up.

The following springs (Fig. GII-12) have conflicts:

Upper Stockade Spring - (T. 25 N., R. 67 E., sec. 4)

The springhead and pond are in fair shape, but could use some springhead fencing. The outflow meadow is being choked out with big sage and pinyon-juniper. This outflow is important for all foraging animals as it is (or could be) open whereas the pond is enclosed by rock and willow. Horse trampling may have decreased water flow from the pond. Pinyon-juniper growth in and around the area prohibits pronghorn from readily using the area for water.

Spring (T. 26 N., R. 67 E., sec. 34)

Horses have trampled this area until water does not flow. Once healthy willows are dying. Rye is taking over the site as is big sage. Remnant sedge, rose and perennial forbs are being shaded out and out competed by the dry tolerant species. Pinyon-juniper growth in and around the area prohibits pronghorn from readily using the area for water.

Rock Spring (T. 23 N., R. 66 E., sec. 23)

Is in poor condition from horse trampling. The riparian area has not been allowed to come in.

Willow Patch Spring (T. 25 N., R. 67 E. sec. 21, SWSWNE)

The meadows are in good shape. The longleaf cottonwoods on the ponds need to be maintained. Some sage and pinyon-juniper needs to be removed from the area.

The following is a list of springs having reduced water flow problems:

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Quarter Sections</u>
Warm Spring	23	67	14	NENW
Barrel Spring	25	66	31	NENW
Spring	25	65	13	NWNE
Springs	25	66	10	NENW, NWNE, SWNE
Spring	23	67	17	SWSW
Spring	23	65	18	SENE, SWNE
Spring	23	66	26	NENE
Spring	23	65	7	SWSE
Spring	24	65	2	SWNE

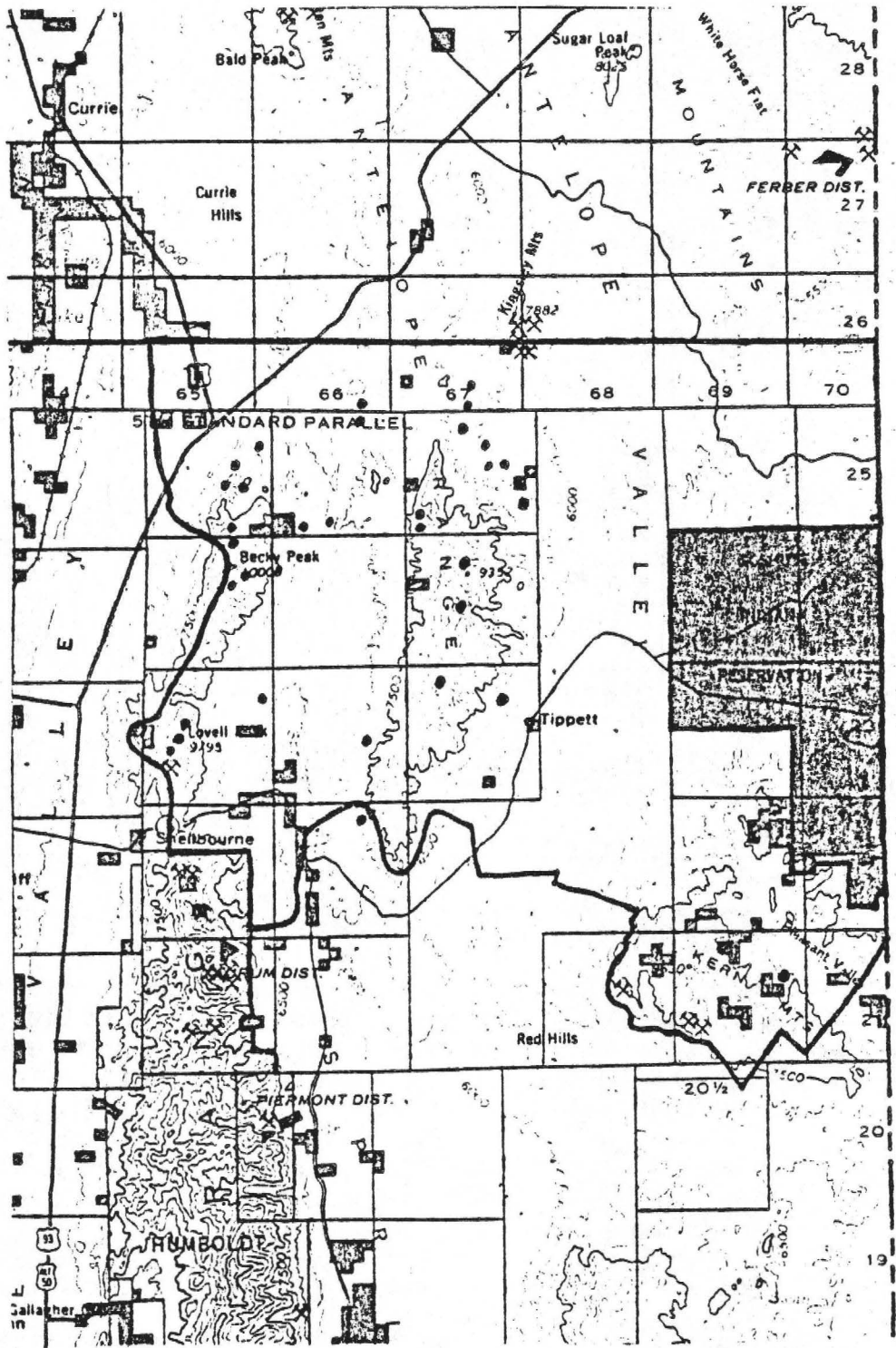


Figure GII-12 Proposed Areas for Treatment of Riparian Vegetation in the Antelope Range Habitat Management Plan Area, Nevada.

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Quarter Sections</u>
Spring	24	68	6	SESE
Springs	24	67	18	SWNE,
Spring	24	65	2	NWNE, SENW
Spring	25	67	32	NWSE
Spring	25	67	4	SWNE
Springs	25	68	31	SENW
Spring	25	65	23	NWNE
Spring	25	65	25	SWNE
Spring	25	66	15	SWSE
Spring	25	67	32	SESE
Spring	25	67	36	NWSE
Springs	25	67	4	SWSE

Management Objectives

1. General: Refer to the general management objective summary of this plan, particularly 1, and 9.
2. Specific: Refer to specific resource objectives contained in the general section of this plan for all management areas.
3. Area-wide Specific Objectives: Refer to area-wide specific objectives in the general section, particularly 1.

Management Actions

The following actions will improve the springs and riparian areas which will benefit all wildlife:

Upper Stockade Spring - clean and/or lower pond spillway to allow more water flow into the old meadow. Remove by hand any brush patches not drowned by water and reseed with desired species. This meadow could be fenced into a large stock pasture with water provided outside for horses.

Spring (T. 26 N., R. 67 E., sec. 34) - clear brush from meadow and springhead. Fence the springhead to raise the water level to restore the meadow.

Rock Spring - fence the springhead.

Willow Patch Spring - handcutting of trees and hand removal of sage from the pond stringers would be best. The latter is so interspersed with desired vegetation burning would be unadvised. Burning sage from the upper meadow may be feasible.

For the general list of springs, removing brush from the springheads and meadows and fencing the springheads can improve the areas.

(See HMP Section L, Form 6780-2, for a summary of management actions.)

K. Evaluations and Monitoring

General types of studies that are or will be done as needed are described in the general summary section E.

Several studies have been established on key areas (outlined by NDOW) within the plan area. These include 1 wild horse/winter antelope study, 2 winter antelope studies, 1 antelope kidding ground study and 1 deer/antelope spring-summer study (Fig. GII-13). Several studies put in for livestock also will be used to monitor deer summer range, deer winter range and antelope yearlong range.

The studies outlined below are designed to monitor the progress of specific management objectives developed for the management areas in this plan. These studies are to be done in accordance with the 6630 Big Game Studies Manual and the Nevada Rangeland Monitoring Task Force Guidelines. Key areas and species were selected through consultation with NDOW, interdisciplinary agreement and current literature on preferred wildlife forage.

(See HMP Section L, Form 6780-2, for a summary of monitoring.)

Utilization is being read on NDOW key areas and will be read on the new management areas as parts of the plan are implemented that will change livestock, wild horse or wildlife use patterns. The key forage plant method will be used along with 6630 Manual.

Actual use for wildlife will be provided by NDOW yearly aerial survey counts.

Frequency and production information will be obtained using the Quadrat Frequency Transect and the SCS double sampling weight estimate transect methods described in the NRMTEG. Density will be measured in the number of plants per acre based on the actual number of plants within fixed sample plots. Information from these studies will be used to determine ecological condition and trend. In addition, baseline and potential density and production are used to establish specific resource objectives. These are written in terms of the number of plants per acre and pounds per acre of key species on key areas and will be monitored in this manner.

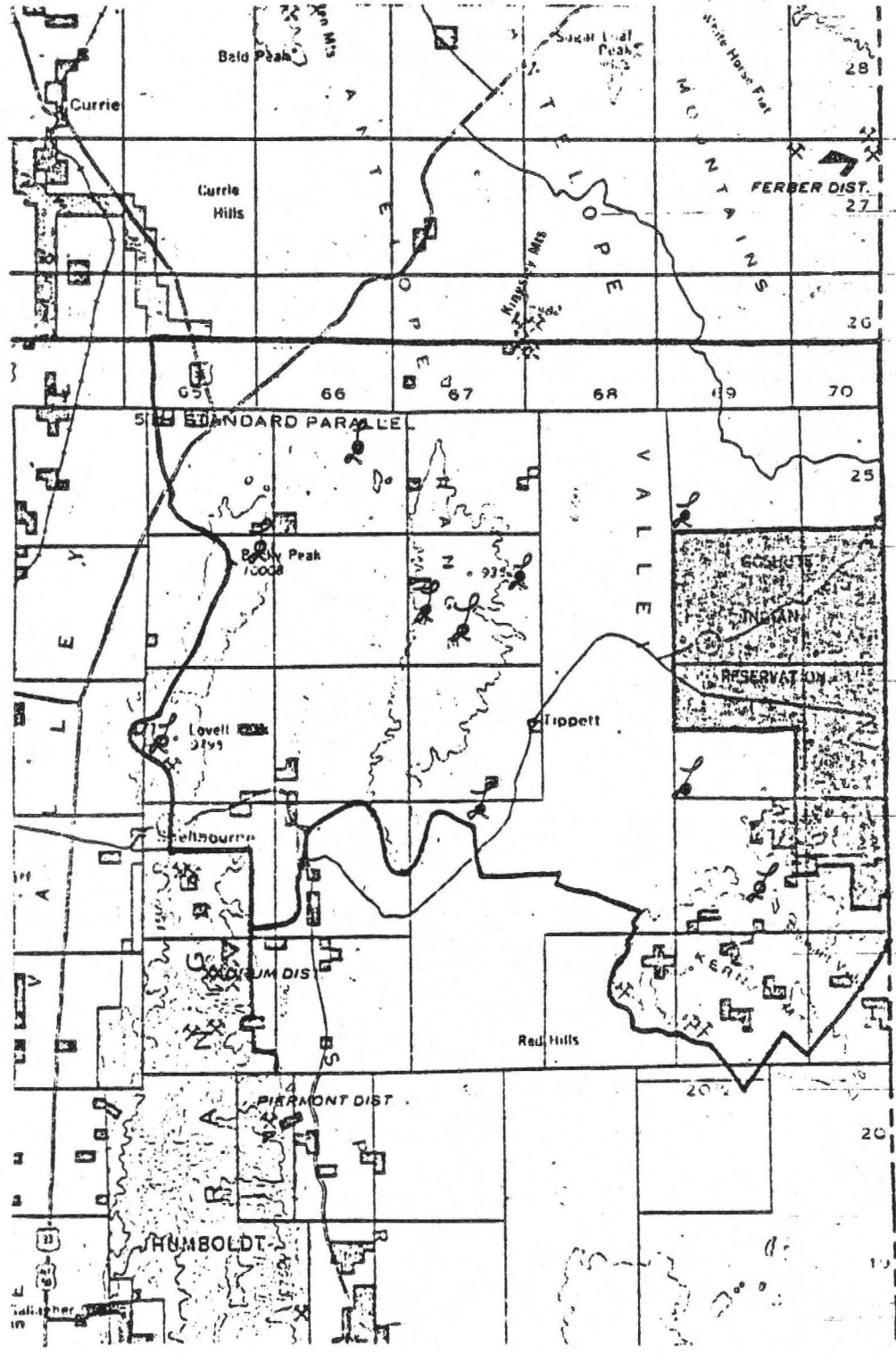


Figure GII-13 Wildlife Monitoring Studies now in Existence in the Antelope Range Habitat Management Plan Area, Nevada.

906906

Studies Primarily for Wildlife
 Joint Forage User Studies

Wildlife studies will also include specialized studies for big game such as vegetation height and browse condition and age.

Rain gauges, located in a grid pattern with weather stations from the United States Geological Survey and the National Weather Service (NWS), are being read bi-monthly as accessibility permits to record precipitation over the plan area. Temperature information is obtained for the region from the NWS.

Evaluations of these studies will include a specialized summary for rating mule deer habitat and antelope habitat.

Frequency production, and density studies will be used to determine trend toward or away from the desired seral stage for management rather than in terms of ecological climax. Utilization, actual use, and climate information will be used to determine the apparent causes for trend direction. As long as trend is in a positive direction toward achieving resource objectives, no changes in management will occur. If trend is static or downward or moving away from the management objectives, changes will be made in management of livestock, wild horses and wildlife. These changes will come in the form of stocking levels, seasons of use and other management actions after actual use, utilization and climatic data have been analyzed. After successive management changes, 3-5 years of additional study will be allowed to determine if the situation has been corrected.

The following schedule outlines what seasons monitoring and evaluation studies will be done in, what years, work months involved. Costs are shown per one study.

Pronghorn Antelope - winter - key

1. Utilization/Biologist/F-Sp yearly/.1WM/\$400
2. Frequency/Biologist/W every 3-5/.1WM/\$300
 - a. Trend
 - b. Composition
 - c. Phenology
 - d. Cover
 - e. Condition
3. Density/Study Spec./1984- /.1WM/\$400
4. Concentrations/NDOW/W-Su/ /
5. Soil Survey/Soil Sci./1984- /.1WM/\$400

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L. HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
Maintain Steptoe Dace Habitat.		Acquire land or rights to maintain fish habitat.		Periodic census of the population will be done.	
Provide forage and habitat for mule deer.		Convert 6,000+ acres of pinyon-juniper and reseed. Interseed 1,250 acres of forbs. Prescribe burn _____ acres of summer range. Fence springheads on 9 springs. Build 4 guzzlers for supplemental water		6630 Big Game Studies will be done. " " Do cursory inspection of meadows. Evaluate area for increase in use.	
Provide forage and habitat for pronghorn. Protect known kidding grounds.		Interseed 250 acres of forbs. Construct 6 antelope guzzlers. Construct 1 supplemental water. Fence 3 springheads Redevelop 1 catchment reservoir. Remove hazards and obstacles at 1 spring.		6630 Big Game Studies will be done or will be re-read. Evaluate area for increase in use. " Evaluate area for use. "	Initially est. 06-17-82.

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

L. HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
Maintain riparian areas in late seral stage or other specific condition.		Fence springheads and spot burn meadow areas on 23 springs.		Use riparian monitoring studies on representative areas.	
Maintain wildlife species diversity.		Place escape mechanisms at 25 watering facilities.		Periodic inspection of facility will tell if mechanisms are working.	
Protect key sage grouse use areas.		Construct 1 pasture at North Creek to manage the riparian area for grouse. Rehabilitate meadows at Middle Creek, Chin Creek and Sharp Creek.		Meadow will be evaluated to see if ideal conditions are being maintained. Use levels will be closely monitored. Trend in grouse pop. will act as indicator of success.	Initially est. 07-22-82.

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

Pronghorn Antelope - kidding grounds - key

1. Utilization/Biologist/Sp-Su /.1WM/\$400
2. Frequency/Biologist/Sp every 3-5yrs/.1WM/\$200
 - a. Trend
 - b. Composition
 - c. Cover
 - d. Condition
 - e. Phenology
3. Density/Study Spec./1984- /.1WM/\$400
4. Concentrations/NDOW/W-Su/ /
5. Soil Survey/Soil Sci./1984- /.1WM/\$400

Pronghorn Antelope - yearlong

1. Utilization/Biologist/To Be Determined (TBD)
2. Density/Study Spec./TBD / /

Mule Deer - winter

1. Utilization/Biologist/F-Sp yearly/.1WM/\$400
2. Browse Cond./Biologist/F yearly/.1WM/\$400
3. Concentrations/NDOW/yearly/ /
4. Density/Study Spec./TBD / /

Mule Deer - summer

1. Utilization
2. Concentrations/NDOW/yearly/ /
3. Density/Study Spec./TBD / /

Mule Deer - yearlong

1. Utilization
2. Density/Study Spec./TBD / /

Upland Game Birds -

1. Strutting ground survey/NDOW-Biologist/Sp/.1WM/\$400
2. Brood surveys/NDOW-Biologist/Sp-Su/ /

Riparian

1. Utilization/Biologist/Sp-F /.1WM/\$100
2. Density/Study Spec./TBD / /

M. Coordination With Other Agencies

In general section F of this document, the AMP's and HMAP list activities to be conducted within the Plan area outside of wildlife. Those covered in the general section have concerns outlined to ensure wildlife values are considered. The AMP's and WHMP were written with wildlife concerns designed into the plan.

Coordination with agencies and persons involved with forming the HMP or being affected by the HMP were involved at the beginning of the Plan. Letters were sent to NDOW to determine concerns for the plan area and ideas for improvement. NDOW was then involved in informal and formal comment on every major section of the plan. NDOW also reviewed the document in total and gave comment.

Permittees and the horse group were told of any wildlife concerns by BLM personnel and given an opportunity to comment on these concerns and in some cases to work closely on project design.

N. Wildlife Economics

1. Methods

The following is a priority list of wildlife projects with a cost estimate based on recent construction costs:

<u>Project or Planned Action</u>	<u>Cost Estimate</u>
1. Deer waters (between So. & Sand Sp.) (2)	\$11,000@ = 22,000
2. Repair headcut on Sharp Creek	1,000
3. North Creek pasture	16,600
4. Camp, Grouse and T. 23 N., R. 65 E., sec. 18; T. 23 N., R. 65 E., sec. 7, development	2,025@ = 8,100
5. Sand, South and North Spring redevelopment	1,037@ = 3,111
6. Gold Springs & Dipping Tank Spring redevelopment	2,025@ = 4,050
7. Sage control on Middle and Chin * Creek 500 acres (based on burn cost)	1,904
8. Convert 6,000 acres of pinyon-juniper	31,980
9. Upper Stockade Spring	2,025
10. Supplemental deer water (3)	11,000@ = 33,000
11. Lower Stockade Spring redevelopment and riparian rehabilitation	2,025
12. Antelope guzzlers (6)	11,000@ = 66,000
13. Redevelop catchment at T. 23 N., R. 68 E., sec. 15	1,000

*7. May have to wait until small prescribed burns are cost effective by NSO.

Because many of the AMP and wild horse HMAP planned actions must be partially or completely implemented before wildlife projects are successful the following list shows the above priority with other planned actions listed where these might be concurrent with wildlife projects:

Wildlife Priority List	Other Wildlife Projects	AMP	WHMP
1.	1. Escape ramps placed		1. Wild horse capture
2.			
3.			
4.			
5.			
6.		1. Season of use in Antelopes done AMP in	
7.			
8.	2. Interseeding where necessary	2. Conversion area part to north impl.	
	3. Other springs redeveloped		
	4. Small game guzzlers built		
9.	5. Agreement on Lookout Spring		
10.			
11.		3. AMP's fully implemented	
12.			
13.			

Placement of small mammal escape ramps will be done in conjunction with other field activities. The cost per ramp is \$50.

Development of other springs listed in the riparian section should be done whenever these can be especially if these are located near springs listed in the priority list. These will cost \$2,025+ each.

Interseeding projects will be tied closely to range improvements and grazing systems. These should be interspersed within the priority list whenever a range project is being done or is completed and ready for this type of seeding. This type of project cost will vary per acre depending on types of seed and method of application.

2. Sources of Information

Consumptive wildlife use shows mule deer and antelope population estimates, harvest, hunter success and days per hunter and days per deer since 1980 for NDOW Management Area 11 (Tables GII-5 and GII-6).

Table GII-5. Consumptive Use of Mule Deer in the Antelope Range Coordinated Management Plan area, Nevada.

Data Base	Year				
	1980	1981	1982	1983	1984
Population Est. Total	5,682	8,159	7,930	6,652	9,759
Harvest Bucks Total	578	794	656	635	
N. Schell Cr.	10-20	10-20	10-20	10-20	
Antelope Range	10	17	8	5	
Kern Mountains	16	11	11	17	
% Success	42.3%	50.1%	44.5%	36.7%	
Hunter Days	4.8	4.4	5.1	4.6	

Hunter success for each year was slightly higher than the average for the entire State.

Table GII-6. Consumptive Use of Pronghorn Antelope in the Antelope Range Coordinated Management Plan area, Nevada.

Data Base	Year				
	1980	1981	1982	1983	1984
Population Est. Total	431+	574+	263+*	491+	672+
Harvest Total	23	40	53	33	
Antelope Valley	4	-	-	8	
Spring Valley	11	-	-	13	
% Success	92%	98%	95%	84%	
Hunter Days	2.1	1.7	2.0	1.5	

* Survey conducted on ground only. Usually done by fixed-wing aircraft and ground surveys.

Populations of antelope are thought to be at reasonable numbers.

For all of Region II of which the plan area is a part, the average number of sage grouse taken was 2.3 birds/hunter, the average number of blue grouse taken was 1.5 birds/hunter in 1983. Days for sage grouse was 1.2, for blue grouse 0.5 in 1983. Hunting pressure and harvest for sage grouse have increased in White Pine County since 1980. Breeding populations for the 1984 season are low-moderate for White Pine County sage grouse and moderate high for blue grouse (NDOW, 1984).

Rabbit harvest increased in White Pine County in 1983 and populations are considered moderate for 1984.

Trapper numbers increased in 1983 in White Pine County. Trapped species and success vary (see NDOW Season Recommendations).

Mountain lions, dove and waterfowl are harvested in minimal numbers within the plan area.

O. Public Affairs

The method for distributing this HMP along with other portions of the Antelope Coordinated Management Plan is outlined in the General Section of the Plan.

P. Costs and Funding

The total cost of implementation is \pm \$250,000 over the next 10 years (Table GII-7). Sykes Act funding is not a realistic possibility. Most funding will be done through BLM's 8100 and 4351 monies. Some funding may be joint between NMA, BLM and NDOW.

P. Costs and Funding

Table GII-7. A breakdown of projects by responsibility, cost and implementation time for the Antelope Range Habitat Management Plan, Nevada.

Responsibility	Work by	Project	Management Action	FY													
				85	86	87	88	89	90	91	92	93	94				
				\$	MN	\$	MN	\$	MN	\$	MN	\$	MN	\$	MN	\$	MN
District Forester Area Biologist Area Biologist/ Dist. Biol.	Commercial Cutters Contract Fire Crew	1. Pinon-juniper conversion A. reseedling	ND-1-PA-6-a ND-1-PA-6-c		10.0	1.0		10.0	1.0	10.0	1.0		10.0	1.0		10.0	1.0
Area Biologist	Force Account Contract	2. Interseeding	ND-10-c ND-11-c PA-3-6 PA-13-a PA-22-b		5.0	0.1		5.0	0.1	5.0	0.1		5.0	0.1		5.0	0.1
Area Biologist	Force Account Contract	3. Fence Springheads	ND-3-d ND-7-d ND-12-d ND-20-b PA-7-a Rip-		2.0		1.0		1.0		1.0		1.0				
Area Biologist	Contract	4. Supplemental Guzzlers	ND-12-a ND-20-c PA-16-a										30.0				
Area Biologist/ Range Con.	Contract	5. Riparian Pasture	ND-3 PA- RC-2a	10.0													
Area Biologist	Contract	6. Guzzler Construction	PA-2-c PA-9-a PA-19-a PA-23-b PA-26-a		0.5				60.0								
Area Biologist	Force Account	7. Redevelop Catchment	PA-14-b			1.0											
Area Biologist	Biol./Fire Crew Force Account	8. Clean Spring	PA-27-d					0.1	0.5	2.0	1.0						
Area Biologist	Area/Dist. Biologist	9. Maintain Lookout Spring	SD-GO-10-c,b,d				0.1	1.0	0.1								
Realty Spec.		10. Land Acquisition	SD-GO-10-a					1.0	1.0								
Area Biol.	Area Biol./ Range Con.	11. Escape Ramps	Other			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Area Biol.	Biol./Range Con./ MFA	12. Vegetation Studies	ND, PA, Rip.	0.75	0.5	0.75	0.5	0.75	0.5	0.75	0.5	0.75	0.5	0.75	0.5	0.75	0.5

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Q. WILDLIFE HABITAT MANAGEMENT PLAN STATISTICS

HABITAT MANAGEMENT PLAN		PRIORITY SPECIES	TYPE				APPROVED (Date)	PUBLIC LAND HABITAT PLAN COVERAGE		CUMULATIVE CONTRIBUTED FUNDS TO DATE	CUMULATIVE ESTIMATED COSTS TO DATE (\$000's)					ESTIMATED TOTAL COSTS FUNDED TO FULLY IMPLEMENT PLAN (\$000's)	ESTIMATED COMPLETION TO DATE (%)
NAME	NUMBER		S	L	O	X		NO. STREAM MILES	ACRES		PREPARATION	IMPLEMENTATION	MAINTENANCE	EVALUATION/MONITORING	TOTAL COST		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Antelope Range	N4-WHA-10-13-16	Mule Deer Pronghorn Antelope Sage Grouse	X	X		X		451,113		\$ 0	\$	\$ 203,000+	\$ 300/yr	\$ 4,200/yr	\$	\$ 250,000+	0%
GRAND TOTAL										\$	\$	\$	\$	\$	\$	\$	\$

TOTAL OF ALL APPROVED PLANS (Fiscal Year)

ITEMS	1981	Subtotal 78-81	1982	1983	1984	1985	Subtotal 82-85	1986	1987	1988	1989	Subtotal 86-89	TOTAL Through 1989
Plans Prepared													
Stikes Act Plans													
Public Land Stream Miles													
Public Land Acres (000's)													
BLM Cost (\$000's)													
Contributed Funds (\$000's)													
TOTAL CCST - Stikes Act Plans (\$000's)													

Check for non-revised

Q. Concurrence and Approval

This HMP as written, is recommended and approved as follows:

Prepared by:

Rita R. Suminski
Schell Area Biologist
Ely District BLM

Date

Recommended by:

Wayne M. Lowman
Schell Resource Area Manager
Ely District BLM

Date

Approved by:

Merrill L. DeSpain
District Manager
Ely District BLM

Date

Approved by:

Larry Barngrover
Regional Supervisor, Nevada
Department of Wildlife

Date

S. HMP-References

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G III
Antelope Range Wild Horse
Herd Management Area Plan

Schell Resource Area

Ely District

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Antelope Range Herd Management Area Plan

I. Introduction and Background Information

A. Location and Setting

The Antelope Range Herd Management Area Plan (HMAP) is a part of the Ely District, Schell Resource Area's Antelope Range Coordinated Management Plan. It is designed to manage the wild horse population inhabiting the Antelope Range Herd Management Area (HMA) in accordance with Washington Office Instruction Memorandum 83-289 and Nevada State Office Manual Supplement 4730.6. The wild horse population will be managed as a component of the public lands in a manner that maintains or improves the rangeland ecosystem. The HMAP adheres to the multiple-use policy specified in the Wild Free-Roaming Horse and Burro Act of 1971 (P.L. 92-195) and the Federal Land Policy and Management Act of 1976 (P.L. 94-579), while maintaining the free-roaming behavior of the wild horses within the HMA. For further information refer to section A, Reasons for Preparation and BII, Relevant Constraints in the Antelope Range Coordinated Management Plan (ARCMP).

The HMA is located approximately 50 miles northeast of Ely, Nevada (see map, Figure GIII-1 Antelope Range Herd Management Area). The Antelope Range wild horse herd runs within two BLM districts - Ely and Elko. The herd area is bounded on the east by the Nevada-Utah State line and is bisected in an east-west direction by the White Pine-Elko County line, which is also the Ely-Elko District boundary. The HMA encompasses 368,962 acres within the Ely District, Schell Resource Area and 368,963 acres within the Elko District, Wells Resource Area for a total acreage figure of 737,925. Refer to section BI in the general section of the ARCMP for further location information, land status and administration, and a general description of the ecosystem.

The planning documents for the Schell Resource Area and the Wells Resource Area are on different schedules. The Schell documents are completed, but the Wells RMP/EIS is not yet final. Because of this, the Antelope Range HMAP will address only those resource issues and management objectives as they pertain to wild horses within the Ely District. It will not address management within the Elko District, even though the HMA falls within the boundaries of both Districts. This HMAP will need to be updated, or a separate HMAP will be needed, to address management of the horses in the Elko District after the Wells RMP/EIS is finalized. In the meantime, this plan is still viable. It establishes the appropriate management level for the entire herd and identifies issues and objectives for herd management in the Ely District. All management of the Antelope Range wild horse herd within either District will be coordinated with the other District prior to implementing any management actions affecting the wild horses in the Antelope Range HMA.

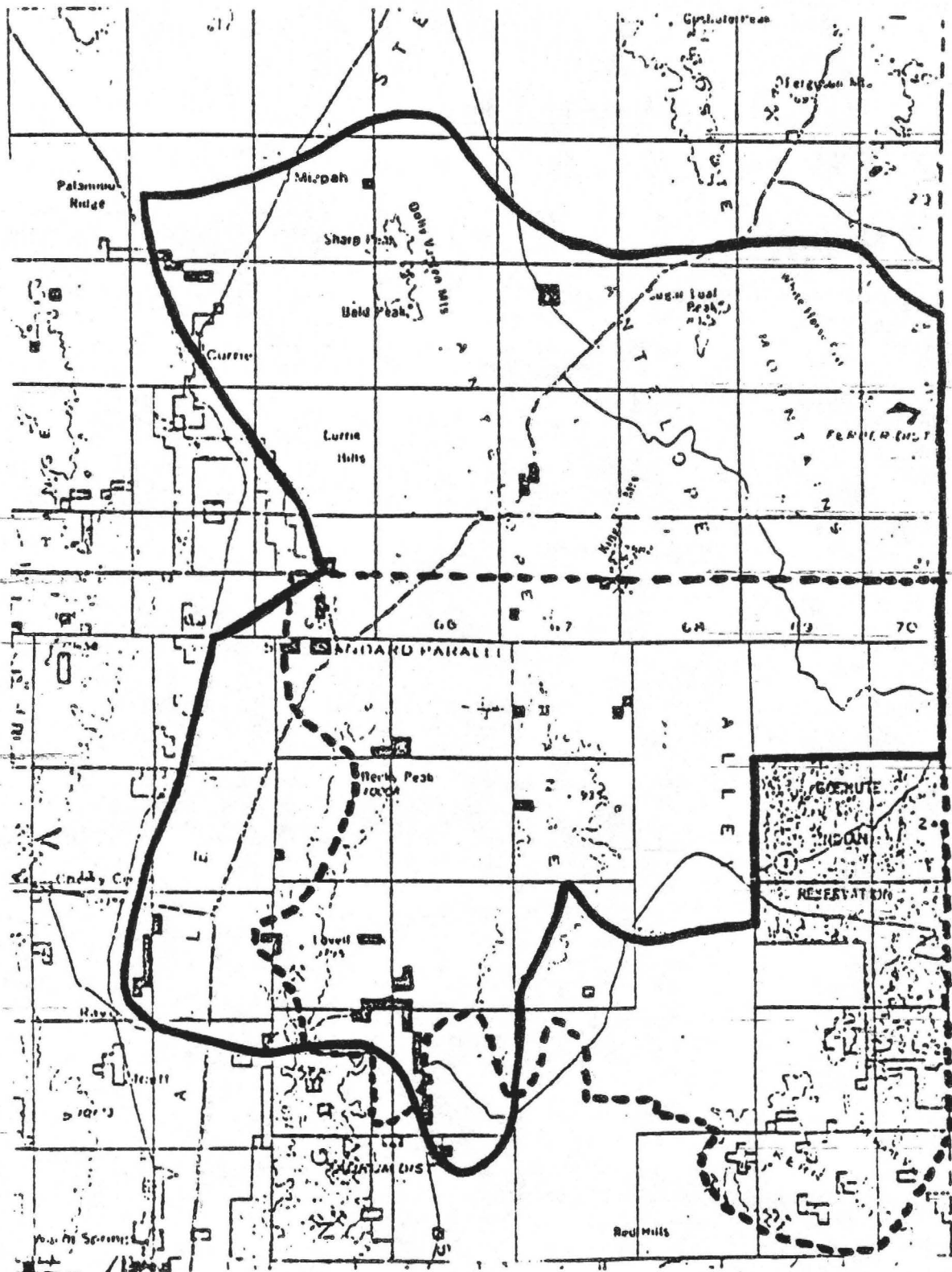


Figure G III-1. Antelope Range Herd Management Area.



Antelope Horse Herd Area

Antelope Range Coordinated Management Plan Area

B. Resource Information

1. Wild Horse Use History

Although it is not known exactly when horses first inhabited the Antelope Range HMA or what their early numbers were, it is evident that they have occupied the area for quite some time. The area has historically provided important wildlife habitat and many wildlife species occupy the area today. This area has also been used for domestic livestock grazing since the late 1800's. In the early years both cattle and sheep utilized the area and are still licensed to graze there today. (Refer to section BI of the ARCMP for a more detailed description of wildlife and livestock use of the area. Also refer to the attached AMP's, Sections GIa-f, and HMP, Section GII.)

History of wild horses in the area before 1971 is sketchy and not very well documented. Approximately 100 horses resided in the Becky Peak area. Others were known to exist in the Chin Creek area, Antelope Valley, Dolly Varden and Ferber Flat. It is known that some animals were trapped near Becky Spring in Horse Canyon prior to 1971.

Horses have always been a part of the range scene, at least since contemporary livestock use began. In several cases, old homesteaders, ranchers, and miners would turn horses out on the range during the winter when weather prevented them from using horses for their occupational needs. In the spring, they would roundup, sort out, and keep those that were fit for work. Remaining horses would be turned out or sent to processing plants. Due to the natural tendency of these animals to go wild, many escaped and were never retrieved. There were always some horses left on the range.

There is some evidence that the Army Remount Service was active in at least part of the area. When they were in operation during the early 1900's through 1940, remount stallions of various breeds were released on the range to upgrade the existing herd. These stallions were mainly thoroughbreds or Morgans, but a few draft blood lines were introduced to develop a hardier strain for pulling supply wagons and heavy artillery. Native stallions were often shot to allow breeding dominance by the remount stallions.

The Schell Creek horses primarily graze in Spring Valley during the winter and early spring; some also graze in Steptoe Valley on the west side of the Schell Creek Range and in Antelope Valley on the east side of the Antelope Range. Horses in this herd area will stay in the pinyon-juniper zone on the lower benches during the day and graze in the valley bottoms in the evening. During open winter when there is little snow on

the Schell Creek Range and the Antelope Range, the horses will stay high on the open slopes and will not move down into the valleys. It is possible to see a few horses in this herd area at all different elevations during any time of the year, but the majority of the bands will follow a migrational pattern based on climatic and seasonal conditions. There is also movement of horses from the north end of Becky Peak and the north end of the Antelope Range into the Elko District. This movement is based on seasonal and climatic conditions when snow levels on these mountains force horses down into the lower elevations in the Elko District.

The Goshute horses generally graze in the low, rolling mountains on a yearlong basis, and horses on the west and southwest sides of the Goshute Mountains move into Antelope Valley and graze there. During the summer months, horses in the Ferber Flat area in the Elko District move down into the Ely District closer to water. During the winter, when snow is available, they will move back into the Ferber Flat area. Horses occupying the Goshute Mountains move freely back and forth between the Ely and Elko Districts, and into Utah.

Even though general migration patterns are known, further studies need to be initiated to accurately determine migrations and seasonal movement patterns.

In 1971 Congress declared that "wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; that they contribute to the diversity of life forms within the Nation and enrich the lives of the American people, and that these horses and burros are fast disappearing from the American scene." Congress then embarked on a policy that "wild free-roaming horses and burros shall be protected from capture, branding, harassment or death; and to accomplish this they are to be considered in the area where presently found as an integral part of the natural system of the public lands" (16 U.S.C. 1331-1340).

With the passage of the Wild Free-Roaming Horse and Burro Act of 1971 (P.L. 92-195) the horses in the Antelope Range HMA have had protection from harassment and unauthorized capture. Also, a need was established for census data on the wild horses. No census had been conducted on the HMA prior to 1971. The first aerial census was completed on the area in 1975. Subsequent censuses were conducted but were during a period when claiming operations were also being conducted. The results of these censuses are as follows:

1975	Ely	411	Elko	500	Total	911
1978*	Ely	373	Elko	449	Total	822
1979	Ely	574 (includes 122 horses counted on the Elko District, but no census was conducted in Elko)				

1980**	(Post gather census)			
	Ely 252	Elko 191	Total	443
1981	Ely 288	Elko 164	Total	452
1983	Ely 303	Elko 249	Total	552

* In 1978 an emergency postcensus removal of 41 wild horses was conducted at Ayarbe Spring because of severe drought conditions.

** In January of 1980 a total of 711 horses were gathered off the Antelope Area by the Ely and Elko Districts in an attempt to prevent range deterioration.

Research conducted by Siniff et. al. (1981) suggests that in conducting an aerial census only a percentage of the total number of animals are ever counted. This percentage could range from 45 percent to 73 percent or higher depending on the type of vegetative cover and terrain. Therefore, there is a need to determine the accuracy of future census figures.

The overall condition of the horses in the HMA is good. Occasionally a poor condition horse is found, its condition a result of lameness, old age, injury, parasites, disease, nutritional deficiencies, and/or a lack of adequate forage. Mares sometimes exhibit poor health after birthing and while nursing a foal. In extreme cases, a horse may become so debilitated that it is unable to reach areas offering the necessary forage, water, and cover required for survival. But the majority of horses in the HMA are serviceably sound, relatively healthy, and reasonably conformed for the type of environment they live in.

Wild horses in the Antelope HMA possess a variety of colors and conformations. The herd has the usual sorrels, bays, browns, and black horses. Blue and strawberry roans have also been seen in the area. An occasional palomino, chestnut, dun, buckskin, grullo or grey can be spotted along with an occasional pinto.

A large percentage of the bay and brown horses have lighter tones around the eyes, on the muzzle, and in the gaskin region. Common facial markings are stars, strips, snips, blazes and bald faces. Leg markings include socks, stockings, pasterns and half pasterns.

The average adult horse weighs between 500 and 800 pounds, and stands approximately 14.0 to 15.3 hands at the withers (1 hand = 4 inches).

Based on the 1980 capture data the Antelope Range HMA population exhibited a sex ratio of 58 females to 42 males, with variations in any given age class. Should the rate of increase in wild horse populations become of concern in the future, options will be evaluated to control the rate of increase in the population, to reduce the need for constant population adjustments, and to reduce the long-term cost of management.

Age distribution is an important population characteristic which influences both natality and mortality (Odum, 1971). Odum states further that the ratio of the various age groups in a population determines the current reproductive status of the population and the future of the population can be determined from the age structure. Populations can be divided into three separate ecological periods: prereproductive, reproductive, and postreproductive (Smith, 1974). Reproduction is restricted to particular age groups and mortality is more conspicuous to others. Smith suggests constructing an age pyramid for presentation of the age structure and subsequent analysis of the age ratios. This technique was utilized for depiction of the Antelope Range HMA population sample from the 1980 gather data (see Figure GIII-2).

Mortality rates in a wild population are extremely difficult to determine. Many ways are available to obtain estimates of mortality, but these are only approximations. One such way to do this is by taking a population sample and developing a time specific life table. This data is limited in some ways, but does provide a starting place to determine mortality and, conversely, survival. A life table was not developed using the 1980 capture data. The sample was not sufficient to build a reliable table and building such a table with statistically unreliable data would serve no purpose.

Rate of increase in wild horse populations is a highly controversial and as yet unresolved issue. Since wild horses were afforded protection in 1971, their populations have been purported (aerial census) to increase at an annual rate of 20 to 25 percent (Blaisdell, 1977; Cook, 1975; Heady and Bartolome, 1977). Contemporary research (Conley, 1979; Wolfe, 1980) implies these projections are far too liberal. D. B. Siniff, et. al., further refutes the large increase in horse populations based on aerial inventories. Population simulations developed by Conley (1979) and Wolfe (1980) purports a 5 percent increase as a more realistic finite rate of increase and a 10 percent increase to be approaching the biological potential of the animals. Wolfe (1980) suggests the discrepancies between observed and predicted rates of increase are partially due to problems involved in the aerial trend counts that are employed.

There is currently not enough information available on the Antelope Range HMA to evaluate an annual rate of increase. Capture and inventory data available appears to support the low rate (5%) predicted by Conley (1979) and Wolfe (1980).

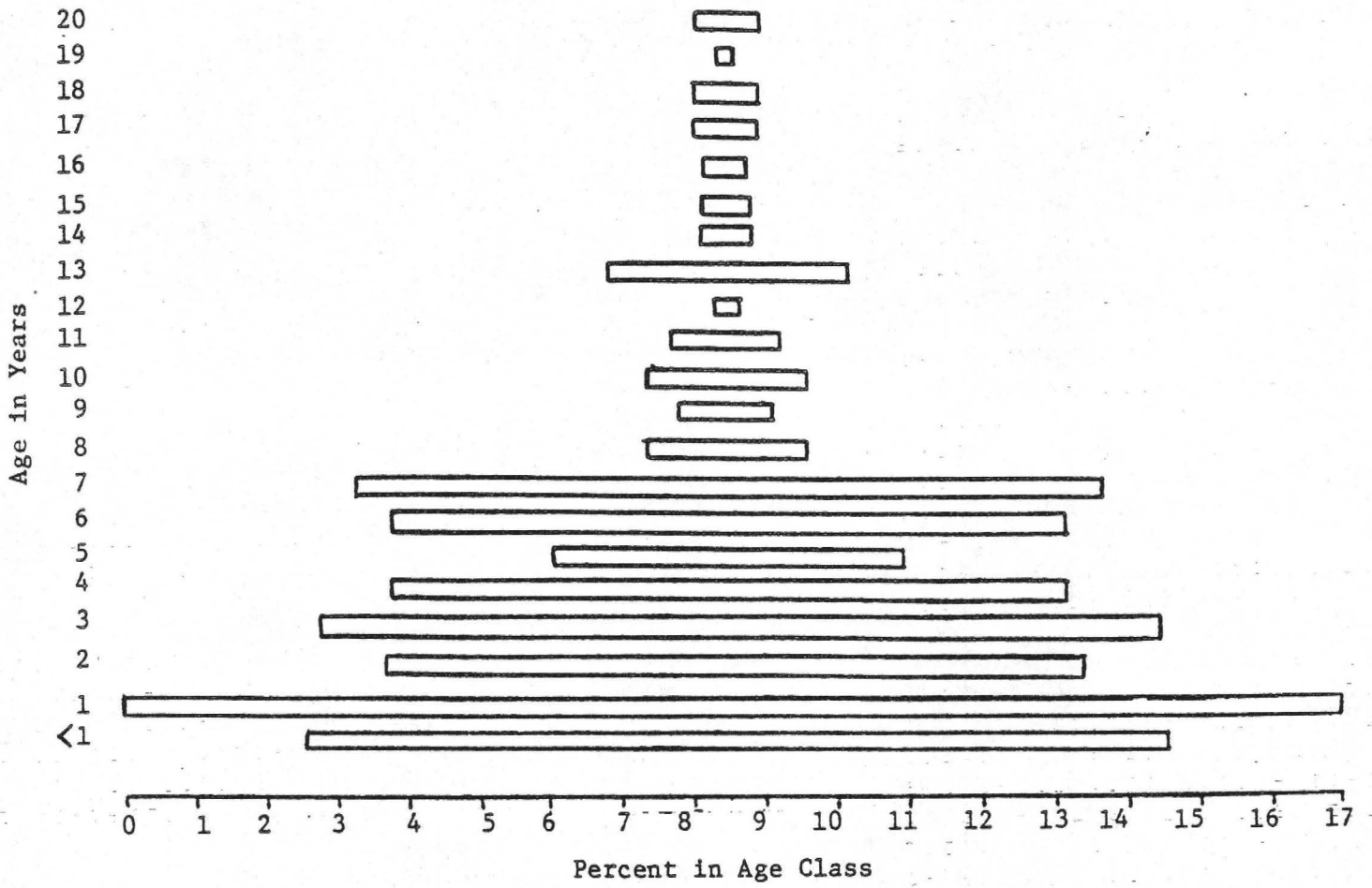


Figure G III-2. Antelope Range wild horse herd age class structure.

At the present time the Antelope Range population appears to be increasing slowly. In the future it may be desirable to develop specific techniques to curtail the population increase and directly manage the rate of increase in wild horse populations.

The wild horse habitat requirements can be divided into four categories - forage, water, cover, and living space - all of which are equally important. Wild horse forage conditions are very similar to that of livestock forage conditions due to a considerable dietary overlap (see Elko D.O. Fecal Analysis reports). Some studies have been established in the Antelope Range HMA to monitor range condition. Ultimately these studies (actual use, utilization and trend) will be used to determine proper grazing levels of wild horses, livestock, and wildlife on the range.

Water is available throughout most of the HMA, but poor water distribution is a problem which results in uneven use of available forage. The availability of water needs to be increased, and yearlong water should be made available at all water sources for horse use, wherever possible.

Cover for horses can be provided by either vegetation or terrain. The rugged hills in the HMA (Antelope Range, Schell Creek Range, and others) and the pinyon-juniper vegetation provide excellent cover for escape and protection from adverse weather conditions. Cover is lacking in the valley bottoms but this does not presently appear to be a problem.

The HMA covers sufficient acreage to provide adequate living space for the Antelope Range herd.

2. Reference to the Land Use Plan

No forage allocation was made in the Schell Resource Area URA/MFP or Record of Decision. As stated earlier, the Wells Resource Area RMP/EIS is not yet final, and management of the Antelope horses within its boundaries will be addressed in an amendment to this HMAP or a separate document. Management of the Antelope herd by this HMAP is in compliance with the Schell Resource Area URA/MFP and EIS, and the Proposed Egan RMP and Final EIS.

A meeting to set management objectives was held in February 1984. The participants included personnel from both the Ely and Elko BLM Districts, National Mustang Association (representing wild horse interests), Nevada Department of Wildlife, and livestock permittees. At this meeting it was decided that wild horse initial management numbers be set at 452, the census numbers available in 1982 for the Antelope HMA (1981 inventory). A range of 250 to 600 horses was established as the appropriate management level (AML). Wildlife populations will use existing and reasonable numbers, and initial livestock

stocking levels will be based on interim stocking rate agreements. Refer to the HMP (Section GII) and AMPs (Sections GIa-f) attached to this plan for more specific information.

Actual key use areas have been and will be established through consultation with the affected permittees, wild horse interests, and the Nevada Department of Wildlife. The results of monitoring studies on these key areas will be used for subsequent adjustments in the numbers of grazing animals, either up or down. All future adjustments will be as outlined in ARCMP general management objective 11 (refer to Section C, Management Objectives).

The relevant constraints to wild horse distribution and management can be found in the ARCMP Section BII, Relevant Constraints.

3. Other Resources

Livestock grazing is an important resource use within the herd area. The Ely District portion of the herd area encompasses parts of seven allotments in the Schell Resource Area - Becky Springs, Chin Creek, Deep Creek, Goshute Mountain, Sampson Creek, Tippett and Tippett Pass. The extent of livestock use and grazing management on the first six allotments is shown in the Allotment Management Plans prepared as a part of the Antelope Range Coordinated Management Plan (Sections GIa-f). Tippett Pass is not included in the ARCMP, and it has very little use by the Antelope herd horses. In addition, the HMA also falls within the boundaries of five allotments in the Egan Resource Area - Cherry Creek, Becky Creek, North Steptoe, Lovell Peak, and Shellbourne - none of which are in the ARCMP area. Horse use is minimal on these allotments.

The major external influence on this herd unit is livestock grazing. Competition for existing forage in the past was extreme, but in recent years voluntary reductions in numbers by livestock permittees and wild horse gathers have reduced this competition between horses and domestic livestock. The areas of greatest competition have been in the valley bottoms and around waters, particularly in Spring Valley where the greatest number of horses concentrate in the winter months. This can be readily seen by the heavy utilization on the winterfat (Ceratoides lanata) flats and riparian areas.

There are a few fences in this area that hinder the north-south movement of horses. These fences force the horses to run along the fence line for four to five miles before they can get around them. The horses ability to survive has not been seriously affected by them. Since these fences run from mountain range to mountain range across the valley bottoms, they do not interfere with the normal seasonal migrations which are generally in an east-west direction from the mountains to the valleys. Fences along the Goshute Indian Reservation boundary have forced the horses to concentrate on public lands.

Fencing for livestock control and management will be minimized in the herd area. Use of herding and salting will be emphasized. Fences where absolutely necessary will be designed with wild horses in mind. Fencing for the most part will be open-end allotment boundary and pasture drift fences across the valley bottoms, and gap fences across narrow canyons. In either case, horses will have access around the ends. Gates will be opened when livestock are not authorized in the area, except on those fences designed to protect vegetation treatments and riparian areas. New fences will be flagged to increase visibility to wild horses.

Wildlife use, management and distribution is discussed in the Antelope Habitat Management Plan (Section GII) and in the General Section BI of the Antelope Range Coordinated Management Plan. There are no fisheries within the herd area. Refer to the HMP and General Section BI for a complete listing of wildlife species inhabiting the area.

Existing projects in the HMA include fences, wells, reservoirs and pipelines. Individual projects are listed by grazing allotment in the attached AMPs. Water availability within the HMA could be improved to better distribute grazing pressure from not only wild horses, but livestock and wildlife as well. At the present time, poor water distribution in the HMA is resulting in uneven use of the available forage. Improvement of water distribution will spread out grazing pressure, thus reducing heavy utilization in some areas and increasing utilization in presently unused areas. Water in the valley bottoms and benchlands is presently provided by reservoirs, wells, rain and snow for the most part. Water in the mountains is provided mainly by spring sources. For a complete list of water resources (springs, seeps, wells and reservoirs), refer to Appendix E in the Coordinated Management Plan.

Little active mining is taking place in the herd area at the present time, although activity within four mining districts was active in the past. There has been recent interest in exploration and test drilling which could increase as demand and technology change. There are numerous isolated prospect pits scattered throughout the area. Present activities do not pose a problem to horses.

Recreation in the area is limited, with hunting and trapping being the major recreational activities. Very little sightseeing or recreational horse viewing has been noted. This is probably due to the remoteness of the area. Some post and woodcutting takes place, particularly in the Antelope Range. An area on the north end of the Antelope Range has been set up as a commercial woodcut area. However, recreation and woodcutting presently cause no major disturbance to wild horses.

For further information on these and other resource uses, refer to the Schell Resource Area URA/MFP.

II. Objectives

The General Section of the Antelope Range Coordinated Management Plan contains general, area wide specific, and specific objectives. The specific objectives are broken down by management areas. Each management area shows the users involved, specific management objectives and the timeframe needed to achieve each objective. The objectives are aimed at increasing available forage for wild horses and other users in the specific management areas. Refer to the General Section, the HMP and the individual AMPs for the wildlife and livestock objectives. Wild horse objectives are outlined by habitat and animal below.

A. Habitat Objectives

All management objectives and actions initiated in this plan have been coordinated with the objectives and actions of the other plans in the Antelope Range area. The habitat objectives for the Antelope Range HMA include:

1. Generally maintain utilization levels on key forage species in the herd area at approximately 50 percent on grasses, shrubs and forbs; but maintain a 45 percent utilization level on key deer browse species (i.e. bitterbrush and cliff-rose). Any exceptions are outlined by key use area in either the HMP or AMPs. Reduce utilization to these levels on the winterfat flats and around water sources that are presently over-utilized.
2. Provide water yearlong for wild horses throughout the Antelope Range HMA where possible. Develop water in areas where there is no existing or proposed water available to horses.
3. Provide the quantity and quality of forage that is sufficient to support 452 wild horses.
4. Establish studies to acquire additional data on the wild horse habitat. Data needs include information on habitat conditions (trend and utilization) and actual use.

Also refer to the General Management Objectives and Specific Management Objectives (numbers 2 through 9, 12, 16 through 22, and 25 through 29) in the General Section of the ARCMP for further wild horse habitat objectives (Section C, Management Objectives).

B. Animal Objectives

The Antelope Range HMA wild horse animal objectives include:

1. Maintain the wild free-roaming characteristics of the horses in the Antelope Range HMA.
2. Establish the number of wild horses to be used as an interim population from which to begin monitoring studies at 452 animals (164 Elko, 288 Ely) which is the census numbers available in 1982 for the Antelope Range HMA (1981 inventory). Wild horse numbers will be managed at 452 animals, and total numbers will not be allowed to increase above 600 horses or be reduced below 250 animals.
3. Establish studies to acquire additional data on wild horses in the HMA. Data needs include information on wild horse sex ratios, age structure, mortality, rate of increase, and validity of total population counts.

III. Management Methods

A. Habitat Maintenance and Improvements

The planned actions needed to achieve the habitat objectives established in this plan are as follows:

1. To maintain the proper utilization of forage species by grazing animals in the Antelope Range HMA the following steps will be taken:
 - a. The wild horse population will be adjusted to the lower appropriate management level of 250 animals within the Antelope Range HMA (see planned actions for Animal Objective #2). This initial adjustment in the wild horse population will have a direct impact on the utilization levels within the HMA. This adjustment in utilization will also benefit wildlife and livestock by reducing the forage utilization in critical areas.

Existing and past utilization levels will be used as one of the major factors in determining the number of animals to be maintained in each of the six allotments. Monitoring studies established on each of the six allotments will be used to determine further adjustments (increases or decreases) in the established appropriate management level of horses and the allotment on which any adjustment should be made. The following formula will be used to adjust the number of animals utilizing the area:

Present Utilization Desired Utilization
 Actual Number of Animals x Desired Numbers

Future wild horse gathers will be coordinated with the Elko District Office, affected livestock permittees, interested wild horse groups and the Nevada Department of Wildlife.

- b. Seedings and other vegetation manipulation practices will be analyzed as a method to provide additional forage and help to redistribute the grazing pressure. Feasibility studies will be conducted prior to implementing any seedings to determine if the desired results can be obtained.
 - c. Water distribution and availability will be improved (see planned action for Habitat Objective #2). Many areas receive very little use due to the lack of water. Improved water distribution will relieve many areas of the heavy use they presently receive as a result of better distribution of grazing animals.
 - d. The planned actions in the ARCMP for the specific key area objectives (refer to General Section D) will also help distribute animals for proper grazing pressure and utilization.
2. Yearlong water for wild horses will be provided. Water distribution will be improved through spring developments, pipelines, and catchment reservoirs. Wells will be considered as a last resort. Specific water proposals, that will also benefit horses, are outlined for wildlife in the attached HMP and for livestock in the AMPs. The planned actions section D of the ARCMP outlines waters proposed for development by management area also.

Wild horse priorities for potential joint funded water developments are shown below. These waters will be of major benefit to horses and are listed in priority order for development:

- a. Domingo Well Spring and Pipeline (redevelopment)*
- b. Kingsley Spring Pipeline*
- c. Cattail Spring and Pipeline*

* The National Mustang Association has expressed an interest in entering into Cooperative Agreements to assist BLM in development of these waters for wild horse use.

All waters to be developed will be available to horses. In the event the above projects and those proposed in the AMPs and HMP do not provide adequate water for wild horses, an inventory will be conducted to determine requirements for additional water to be developed in addition to those proposed.

3. The quantity and quality of forage needed to support the appropriate management level of 452 wild horses will be provided by the following actions:
 - a. The planned actions in the ARCMP for the specific key area objectives (refer to General Section D) will result in a greater quantity and quality of desirable forage species.
 - b. Reduction of existing horse numbers to the appropriate management level will relieve grazing pressure on the existing forage resource, and thus improve forage conditions (see planned action for Animal Objective #2).
 - c. Improved water distribution (see planned action for Habitat Objective #2) will relieve grazing pressure on heavily utilized areas. This will improve plant vigor and better seedling establishment of desirable forage plants.
 - d. Maintaining proper utilization levels on key forage species (see planned action for Habitat Objective #1) will improve plant vigor and increase density of desirable forage species through proper grazing management. This will improve both the quantity and quality of the forage resource.
4. Wild horse habitat studies will be established to determine the impact of grazing animals on the HMA where there are presently none. Existing studies will continue to be read.

These include utilization, trend, precipitation and actual use where possible. Refer to the AMPs for livestock monitoring studies and the HMP for wildlife studies. All vegetative studies will be coordinated with the range conservationist in charge of each grazing allotment and all other interested parties. Refer to the Evaluation and Revision Section for details on studies.

B. Animal Characteristics and Population Levels

The planned actions to achieve the animal objectives established in the HMAP are as follows:

1. It is imperative to maintain the wild free-roaming characteristics of the horses in the Antelope Range HMA. This will be accomplished by the following.

All projects proposed for the Antelope Range HMA will be analyzed in depth through an environmental analysis (EA) to determine if the project will impact the wild free-roaming characteristics of wild horses. Wild horse distribution, seasonal movements, daily movements, and home ranges will also be preserved in the EA in accordance with NSO manual supplement 4730, Release NV 4-6.

Resource uses involving an increase in human activity in the HMA (i.e. mining) and fences should especially be looked at closely. These types of activities will most likely impact the free-roaming characteristics of the horses. Each activity or project will be handled on an individual basis; however, in analyzing the impacts, the overall and cumulative impact must also be realized.

The integration of this objective with other programs will best be facilitated through the team approach when developing and implementing projects. At the present time the fences proposed in the Antelope Range HMA, when constructed, will be designed to preserve the normal distribution and movement patterns for the majority of animals which inhabit the vicinity of these fences.

2. In order to establish the number of wild horses (452) as the appropriate management level from which to begin monitoring studies on each of the six allotments within the HMA the following actions are necessary. The ARCMP planned action for specific management objective #2 states that it is necessary to remove 150 head of wild horses from the Antelope Mountains and/or the north end of the East Antelope Bench to reduce grazing pressure on the winterfat flats. This is the number estimated at the present time based on the latest (1983) census information.

But the first step in the adjustment of wild horse numbers will be a census, prior to the proposed action, to determine how many actual horses will need to be removed from the HMA to reach the low AML of 250 animals. This census will be conducted by the BLM within 2 weeks prior to the adjustment. The number of horses to be removed will be determined by the following formula:

$$\begin{array}{rcl} \text{Inventory} & 250 \text{ Wild Horses} & \text{Number of Horses} \\ \text{Number} & \text{(Low AML)} & \text{to be Removed} \\ \text{(Total Count)} & & \end{array} =$$

The number of remaining horses will not be allowed to drop below 250. Gathering down to the low AML will allow for fewer gathers over a longer time period to maintain the herd within the limits of 250 to 600 horses. The actual number to be removed will be determined in a later capture plan and EA.

Removals of excess wild horses will be done by use of a helicopter driving horses to a wing trap, and use of mounted riders at the wings as necessary. A capture plan will be developed prior to any needed gathering operations.

Once the interim population of horses has been achieved, periodic removal of excess horses will still be required. The population range is to be 250 to 600 horses. Basically, the population will be allowed to increase to 600 animals and then reduced back to 250 and allowed to increase again. This will result in a gather no sooner than every nine or ten years, assuming less than a 10 percent annual population increase.

Maintaining the horse numbers within the set range will be accomplished by determining the annual rate of increase through monitoring studies, and subsequent adjustment of that number of horses. The gather areas and the number of horses to be removed from each area will be based, whenever possible, on the actual use level of animals in each area, degree of utilization in each area, conflicts within each area, and the total wild horse population in each area. Horses will not be completely removed from any area of the HMA.

To assure proper management of the total Antelope Range horse herd, the level of horse use on the adjacent Elko District will also be considered, as will use on the non-ARCMP area of the HMA in the Ely District.

The initial adjustment to 250 animals is expected to be followed by an increase in the recruitment rate. This increase is expected to result from improved forage conditions, reduced wild horse densities, reduced interspecific competition, and an increase in survival.

3. Studies to collect information relative to sex ratios, age structures, young/adult ratios, distribution, and movement patterns will be established on the Antelope Range horse population.

All studies will be correlated with capture data, aerial census data and range site description data.

Recruitment, seasonal movement and distribution studies will be conducted four times a year. They will be conducted by field inventory and observations. Young/adult ratios will be collected in July and January. These studies will also be conducted by field inventory and observation.

Horses may be captured, marked and released for further study of movement patterns and survival rates. These marking operations will be coordinated with normal gathering operations and details of handling required will be discussed in the gathering plan.

Relocation of horses from this herd area to other herd areas is not contemplated at this time. It is also not expected that horses will be relocated into this herd area from other herd areas. An addendum to this plan will be prepared if in future years relocation becomes an option.

For more details on studies see the Evaluation and Revision Section.

IV. Evaluation and Revision

This plan and associated studies will be evaluated periodically to determine if objectives are being met.

As the Wild horse program is a relatively new program, much of the data necessary to intensively manage the horses is unavailable. Thus the need for studies is essential. Studies as described in the attached AMPs, the HMP, and in this plan, will be established to collect the necessary data. Until the data becomes available the best available information must be utilized in developing interim management actions. The following studies have been or will be conducted to evaluate the effectiveness of the management methods identified in this plan in meeting the objectives:

A. Habitat Studies

1. Trend - Trend is defined as a change in vegetation and soil characteristics as a direct result of environmental factors. The frequency sampling procedure described by Tueller et. al., (1972) will be the methodology utilized to determine trend. The data collected will be stored in the allotment files located in the Ely Bureau of Land Management Office. Trend plots will be located in each allotment within the herd area and will be read by the Range Conservationist in charge of the allotments within the herd area. The wild horse specialist will assist where needed and as time permits.

2. Utilization - Utilization is defined as the amount of current year's growth removed from the plant. Utilization studies help to evaluate management systems by determining patterns and quantity of use. The Expanded Key Forage Plant Method is the technique adopted for this management plan. Section 4412.22 of the Bureau of Land Management Manual and the Nevada Range Monitoring Procedures Handbook (1981) delineates this particular method in detail. Utilization data will be collected contiguous with movement of livestock from the management area, thus acquiring livestock and wild horse use patterns. Utilization studies will be conducted by the Range Conservationist in charge of the allotments within the herd

area. The wild horse specialist will assist in conducting these studies. The utilization studies will be timed where possible to determine levels of use between grazing animals particularly between horses and cattle. Data will be correlated with trend and actual use information.

3. Precipitation - Precipitation data will be gathered for the HMA every other month. There are rain gauges located on each allotment within the area which will continue to be read. Data will be correlated with the other habitat studies to help evaluate the plan effectiveness.

4. Actual Use - Actual use studies will be made for livestock use (see AMPs), wildlife (see HMP) and wild horses to the extent possible. This data will be used to help evaluate the plan effectiveness. Wild horse actual use will be estimated from visual observations periodically by BLM field personnel, annual flights by NDOW used to measure the impact of management actions on big game populations, and BLM aerial inventories.

5. Soil/Vegetation Study - A soil/vegetation study is presently being conducted within the HMA. The completion of this study will greatly enhance our knowledge of the range potential. The data is being used to correlate soils and range sites. This data is used to determine management area specific objectives in the ARCMP (present and potential plant densities for the management areas).

B. Wild Horse Population Studies

1. Home Range and Seasonal Movements - A comprehensive study will be conducted to understand home ranges and seasonal movements of wild horses. This will be accomplished by collaring horses, observing animals in the field and by recording animal locations during aerial censuses. Collaring horses may be accomplished either during removal roundups or special captures. Horses collared and released will be monitored to determine movements and mortality.

2. Productivity and Survival - General productivity indices can be estimated from the relative age composition (percent foals) of the HMA population as per NSO Manual 4730 (Wolfe, 1980). Aerial censuses will also secure the desired data, as well as field observations. Therefore, aerial censuses designated to obtain wild horse home range and seasonal movement patterns can also supply relative age composition.

First year survival rates can be approximated through shrinkage of foal incidence between post-parturition composition surveys (January) and parturition surveys (July) (Wolfe, 1980). This would be done in conjunction with seasonal movement and home range inventories. A census of herd numbers will be conducted every other year.

3. Population Estimates - Population estimates must be conducted at least once every five years in accordance with NSO Manual 4730. However it is anticipated that population estimates will be kept current on a yearly basis. These estimates will be derived from data collected in the manner as outlined in NSO Manual 4730. These estimates will be analyzed in conjunction with other wild horse studies to obtain a more reliable estimate.

4. Total Count Accuracy Rate - The mark resight estimation method (Lincoln-Petterson index) will be utilized to enhance the population estimates in addition to estimating an inventory accuracy rate. This method involves an initial marking flight with a second flight conducted to count all animals and record the number of those with marks. The following formulas can then be used to determine a correction factor for future population estimates:

$$A = \frac{m}{n} \qquad N = \frac{Mn}{m}$$

A = accuracy rate
 N = estimated number of horses
 M = number of available collars
 n = number of animals resighted
 (both marked and unmarked)
 m = number of marked animals resighted

5. Age Structure - Relative age structure of the Antelope Range HMA population will be periodically evaluated. The capture sample obtained during the 1980 gathering operation supplied valuable data which has been analyzed and used to develop this plan. This information will be further supplemented as described in NSO Manual 4730.

6. Sex Ratio Determination - The sex ratio of the Antelope Range HMA will be estimated from an analysis of capture data obtained whenever excess animals are removed from the range.

V. Coordination

Utilization and trend and other range studies will be conducted by the Range Conservationist in charge of the allotments within the herd area with the assistance of the wild horse specialist. Wild horse censuses and associated wild horse studies will be conducted by the wild horse specialist with occasional help of resource area range personnel as required. Information on horse numbers and locations will occasionally be provided by NDOW. All studies affecting wild horses, wildlife and livestock will be coordinated as required by the Antelope Range Coordinated Management Plan.

All actions pertaining to the Antelope Range wild horse herd will be coordinated between the Ely and Elko Districts prior to initiating the action. A memorandum of understanding will be drawn up between the two districts and will be included as an appendix to this plan if it is determined one is needed.

VI. Modification and Review

A joint review of this plan will be conducted periodically by the the Ely District Wild Horse Specialist and the Scheil Resource Area Manager. This plan may be modified if data from public input, resource studies, or experience gained in plan operation indicate that changes are desirable.

Fences built for livestock control will also be evaluated to determine if they are causing problems to horses. In some cases fences may have to be modified or removed. All studies will be evaluated to see if objectives are being met. If not this plan may have to be revised. If range trend is up and utilization levels by all animals is below moderate levels horse numbers may be revised upward in proportion with other grazing animals. If trend is down and utilization levels are excessive, horse numbers may have to be lowered along with other grazing animals.

It is understood that all actions undertaken pursuant to this plan are contingent upon available funding.

VII. Approval

Prepared By:

Robert E. Brown, Wild Horse Specialist
Ely District

Date

Concurred By:

Wayne M. Lowman, Area Manager
Schell Resource Area

Date

Recommended By:

Merrill L. DeSpain, District Manager
Ely District

Date

Approved By:

Edward F. Spang, Nevada State Director

Date

VIII. AppendicesA. Environmental Analysis

A mid-level environmental analysis is being prepared as a part of the Antelope Range Coordinated Management Plan and will be included as a part of the plan. Site specific environmental analyses will be prepared prior to initiating any actions to be accomplished as a result of this plan.

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Antelope Coordinated Management Plan
EA-NV-040-4-40

DRAFT

September 24, 1984
Ely District BLM

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INTRODUCTION

This EA is a "mid-level" environmental analysis. It analyzes the Antelope Range Coordinated Management Plan (ARCMP), and the level of specificity of analysis is in between the Schell Grazing EIS and the site-specific project environmental analysis yet to be done. The environmental impacts of each specific project (fences, guzzlers, water developments, etc.) will be evaluated through appropriate site-specific environmental analyses prior to construction or development. In the ARCMP, management objectives and management actions are tied to management areas. The management areas are simply a means to integrate the various objectives and actions of the different activity plans and are not used for analysis purposes in this EA. All reference to the "plan area" in this EA refers to the core area as defined in the ARCMP.

Because the use of forage by livestock, wildlife, and wild horses is so interrelated, the ARCMP integrated, and tried to balance, the needs and utilization problems among these foraging animals to resolve conflicts. This environmental analysis reflects this "aggregate" approach with one High Intensity Environmental Assessment being done to analyze the impacts of the proposed action. The diverse actions proposed in the various activity plans are all parts of the larger project and are thus appropriate for analysis in one environmental document. Use of aggregation more clearly shows the interrelationships of the various proposed actions, and the cumulative impacts are more easily identified and evaluated.

To clearly demonstrate impacts of each grazing system, these are discussed by allotment. Impacts from proposed grazing systems are also mentioned under discussions of other resources.

An environmental analysis must be completed for all activity plans (BLM Manual 1619-Activity Plan Coordination .23). For the Habitat Management Plan, "The habitat management objectives and planned actions identified in the HMP are the items to be addressed in an environmental analysis" (BLM Manual 6780-Habitat Management Plans R-2). The Wild Horse Herd Management Area Plan "must be subject to environmental analysis prior to approval and implementation" (WO Inst. Memo 83-289, January 1983). Items to be addressed in the EA were specified in a telephone conversation by Milt Frei on August 23, 1984. The proposed actions to be addressed in the Allotment Management Plans are the grazing systems (Brad Hines, September 6, 1984).

CHAPTER 1

Background

See section A "Reasons for Preparation" of the ARCMP for an overview of the recent history of concerns about forage resource utilization problems in the plan area. All agencies and most individuals with interest in the forage resource in the plan area have recognized that some type of coordinated management is necessary to resolve foraging animal conflicts. Needs of all of the foraging animals (livestock, wild horses, wildlife) were considered to result in a coordinated plan. Specific areas of concern which were addressed to meet agreed upon objectives and resolve utilization problems included such items as water distribution and dependability, seasons of use, livestock management facilities, use areas and habitat manipulation. The proper "mix" of objectives and management actions was developed through an interdisciplinary process. It is this mix of the coordinated AMP's, the WHHMAP, and the HMP which is analyzed in this EA.

Relationship to Planning

The Schell Grazing Environmental Impact Statement was completed in 1982. It identified five major objectives for the Schell Resource Area. See "Reasons for Preparation" in the ARCMP.

The Schell RA Management Framework Plan and associated Decision Summary and R.O.D. were completed in 1983. The decisions pertinent to the ARCMP are listed in appendix F of the General Section and under "Coordination with other Specialists." The ARCMP does not conflict with any of these planning decisions, and proposes to accomplish some of them. The proposed actions as specified in the ARCMP do not conflict with any county or State land use or zoning decisions or recommendations.

Purpose and Need for the Proposed Action

See the "Reasons for Preparation" section of the ARCMP.

Description of Proposed Action and AlternativesProposed Action

The proposed action consists of implementing six allotment management plans, one habitat management plan and one wild horse herd management area plan. These are thoroughly described in the Activity Plans. These plans cover the same core area and have been integrated through the General Management Objectives as listed on page 19 of ARCMP. Maps and descriptions are contained in the various plans. Management objectives are applied to key

use areas and the entire study area as displayed on pages 21 through 42 of the ARCMP. Specific management actions by key use area on pages 44 through 50 of the ARCMP specify the means to accomplish the objectives. These management actions will be done according to development priority and funding availability.

Site specific environmental analyses will be done prior to construction or development of any projects/improvements. Certain standard operating procedures are applicable to the proposal. These are listed below and are considered part of the proposed action for the analysis of impacts from the ARCMP.

Standard Operating Procedures

1. Environmental assessment will be conducted before project development so that, depending on impact, modification or abandonment of the proposed project may be considered.
2. Threatened or endangered plant or animal species clearance is required before implementation of any project. Consultation with the Fish and Wildlife Service per Section 7 of the Endangered Species Act is necessary if a threatened or endangered species or their habitat may be impacted. If there is deemed to be an adverse impact, either special design relocation or abandonment of the project will follow.
3. Cultural resource protection requires compliance with Section 106 of the National Historic Preservation Act of 1966, Section 2(b) of Executive Order 11593, and Section 101(b)(4) of the National Environmental Policy Act (NEPA) of 1969. Prior to project approval, potentially impacted sites will be identified as required, intensive field (Class III) inventories will be conducted to identify sites. If cultural or paleontological sites are found, every effort will be made to avoid impacts. Data recovery plans will be developed and BLM will consult with the State Historic Preservation Officer and the Advisory Council on Historic Preservation, in accordance with the Programmatic Memorandum of Agreement by and between the BLM and the Council dated January 14, 1980. This agreement sets forth a procedure for developing appropriate mitigative measures to lessen the impact of adverse effects.

4. Visual resource management requires all actions to be in compliance with BLM Visual Resource Management Design Procedures in BLM Manual 8400. On any project which has a visual contrast rating that exceeds the recommended maximum for the visual class zone in which it is proposed, the visual contrasts will be considered significant and mitigating measures must be examined. The ultimate decision as to whether mitigating measures must be implemented or not rests with the District Manager and will be made on a project-by-project basis.
5. Deferral of livestock use will be in effect for a minimum of two growing seasons following vegetation conversion projects so vegetation may be reestablished. This may require a temporary nonuse agreement with the rancher involved to suspend part of the use in the allotment until the vegetation can be properly managed for grazing.
6. Only the minimal clearing of vegetation will be allowed on project sites requiring excavation.
7. Vegetation conversion that would negatively alter the potential natural plant composition will not be allowed in riparian areas.
8. Alteration of sagebrush areas will be in accordance with procedures specified in the Memorandum of Understanding between the Nevada Department of Wildlife and Bureau of Land Management relating to the Western States Sage Grouse Guidelines.
9. Active raptor nests adjacent to areas proposed for vegetation conversion will be protected. On-the-ground work will be confined to the period preceding nesting activity or after the young have fledged (left the nest). Areas containing suitable nesting habitat will be inventoried for active raptor nests prior to initiation of any project.
10. Soils inventories will be completed prior to planning vegetation conversions to determine land treatment feasibility.
11. Burn plans will be developed before any prescribed burning occurs.
12. Project area cleanup will be accomplished by removing all refuse to a sanitary landfill.

13. Fence construction will comply with Nevada State Office fence engineering specifications (Drawing No. NV02833 (53)). Lay-down fences will be constructed in wildlife and wild horse areas if necessary and feasible. Fences in wild horse areas will contrast enough with surroundings so as to be visible to horses and will have gates installed at least once every mile and at all corners. Fences in wild horse herd use areas will be located to minimize interference with the normal distribution and movement of wild horses. Selected portions of new fences constructed in these areas will be flagged or otherwise marked for one year after construction to make them more visible to horses.
14. Some spring developments may be fenced to prevent overgrazing and trampling of adjacent vegetation and to provide escape areas for wildlife. Water at all spring developments will be maintained at the source. If fenced, water will be provided for wild horse use outside of the fence.
15. Physiological requirements for the management of different vegetation types will be determined by BLM based on the best available scientific information. Methods of management to meet these requirements will be determined through consultation with and recommendations from the ARCMP group.
16. Water for wildlife and wild horses is to be made available in allotments and rested pastures, whenever feasible.
17. All current and future livestock water improvement sites will have wildlife escape devices (bird ramps) in the watering troughs.
18. When required, excess wild horses will be removed from public lands and put in custody of individuals, organizations, or other government agencies. Field destruction of wild horses or burros, including cases of sick or lame animals, will be done only as necessary and with appropriate authorization.
19. Water availability will be ascertained by well site investigation before water well development. The investigation will involve a detailed hydrogeological study of the site to determine groundwater availability.

20. Applications for commercial or competitive special recreation permits will be analyzed through the environmental assessment process to determine what impacts may occur. These potential impacts will then be weighed against resource values to determine whether or not the special recreation permits will be authorized.
21. Time of day and/or time of year restrictions will be utilized in those areas where construction activities associated with transmission and utility facilities are in the immediate vicinity or would cross sage grouse strutting nesting and wintering grounds; critical mule deer and pronghorn antelope winter range; or antelope kidding areas. The restrictions are listed below.

Restrictions -

- a. Sage grouse strutting grounds: From March 1 to May 15 -- 2 hours before dawn until 10 a.m.
 - b. Sage grouse nesting grounds: Late May to mid-June.
 - c. Sage grouse wintering grounds: November 1 to March 31.
 - d. Critical mule deer and antelope winter range: November 1 to March 31.
 - e. Critical pronghorn antelope kidding areas: May 1 to June 30.
22. New surface disturbing projects within the one-half mile buffer zone on either side of the Pony Express Route are limited to existing disturbed areas. Exceptions allowed will be for the exploration of oil, gas, and geothermal with rehabilitation required upon completion. Specific stipulations for minimizing adverse visual and physical effects including rehabilitation will be required. These stipulations will be developed through the environmental review process for each action.
 23. Prior to the approval of a project which may harm or destroy any known Native American religious or cultural sites, the affected Native American tribes or organizations will be contacted for further consultation.

24. Precede any vegetation conversion in pinyon-juniper areas with commercial firewood and post sales. Any material not sold would be available for free use by individuals up until the conversion.
25. All lands not specifically designated closed or limited to off-road vehicles will be designated open to such use. This action is mandated by Executive Orders 11644 and 11989 and will be carried out in conformance with regulations published in 43 CFR 8340, and with BLM Manual Sections 8340, 8341 and 8342.
26. All woodland product harvest permits and contracts will include a stipulation to prohibit the cutting of rare or unique trees and vegetation. Cutting of limber pine, white fir and bristlecone pine will be prohibited.
27. Maintenance of livestock management structures (fences, water developments) will be accomplished by operator(s) through cooperative agreements with the BLM.
28. Areas which are disturbed by development of facilities will be seeded to prevent erosion and replace ground cover. The species seeded will be indigenous to the area.
29. Simple gate opening mechanisms will be installed as needed at main access points as specified in recreation decision 1. (Schell Grazing EIS Record of Decision.)
30. The BLM will protest all water right filings on reserved waters and established BLM projects as appropriate.
31. Projects will meet Corps of Engineer Section 404 specifications where applicable and permits will be obtained if needed.
32. Established wild horse capture techniques will be used as specified in wild horse program guidance.

Alternatives

Many combinations of various alternatives were considered throughout the entire process of coordinating the ARCMP with various entities including the general public, the District Advisory Council and Grazing Advisory Board, the affected permittees, National Mustang Association, NDOW, other agencies and among Ely District and NSO resource specialists and managers. The resultant proposed action was developed through an evolutionary process of constant reevaluation of solutions to resource utilization problems, and interface among the resource

specialists on the ARCMP Team. Therefore, no specific other alternative proposals were developed. It was concluded by the ARCMP Team that the proposed action represented the best "mix" of objectives and management actions (with respect to relevant constraints) to coordinate forage utilization needs among wild horses, wildlife and livestock.

Additional proposals (other than the no action alternative) are not necessary to evaluate the impacts which could result from implementation of the proposed activity plans. Consideration of 100 percent implementation of the proposed action and nonimplementation of the plans (no action) will allow consideration of the full range of impacts. It is recognized, however, that synergistic impacts from various combinations of portions of the plans could occur without full implementation of the ARCMP.

Different alternatives will be considered on a project and site specific basis in subsequent environmental analysis.

No Action

The BLM would not approve or implement the ARCMP. Management of the area would continue unchanged, and without guidance of the proposed activity plans. Also see the Standard Operating Procedures which would still apply under the No Action Alternative.

CHAPTER 2

Description of the Affected Environment

See the ARCMP Section I. "Ecosystem Description" for descriptions of plan boundaries, land status, topography, climate, soils, minerals, water, plant communities, T & E plants, fauna and T & E animals. Also see the Antelope Range HMP Section G.2 - "Ecosystem Description" for a detailed description of fauna and riparian areas, and see the individual species discussions for a current problem overview; the Antelope Range Wild Horse Herd Management Area Plan Section A, "Location and Setting" for more detailed description as relates to wild horses; and the six AMP writeups sections on "General Information," "Physical Data" and "Existing Improvements" for detailed information of the affected rangeland environment. Resources not discussed within these sections are as follows.

Recreation

The majority of recreation within the ARCMP is dispersed, backcountry and occurs in undeveloped sites. There are no recreation developments nor any major recreation attractions or recreation use areas within the ARCMP. Activities include hunting, trapping, fishing, sightseeing, ORV use, rock hounding and pine nut gathering. According to the 1977 Nevada State Comprehensive Outdoor Recreation Plan, the majority of recreationists in the reporting region which includes White Pine, Lincoln and Nye Counties are Nevada residents with only an estimated 2 percent from out of state.

Cultural Resources

The areas covered by the ARCMP are among the least inventoried on the Ely District. Based on the environmental variables present, limited field surveys and miscellaneous site records, and comparable environmental settings in areas of higher inventory coverage, this region exhibits a very high potential for archaeological site occurrence. A continuous occupation record covering 12,000 years is probable ending with the Numic-speaking Shoshoni-Goshute groups. Site types reported include petroglyphs and pictographs (Tunnel Canyon), open campsites, rockshelters, hunting blinds and lithic scatters. The areas most sensitive are those associated with permanent water sources such as springs, former lake terraces and features, pinyon-juniper zones, sand dunes and ecotonal edges between vegetative communities.

Beginning in the 1860's, sites resulting from transportation, mining and settlement activities mark the first significant historic use of the area. The Pony Express-Overland Trail and Stations cross the southern edge of the ARCMP area. Several mining districts including Kinsley and Kern Mountain are also found.

Visual Resources

The visual resource of the study area is typical of the Great Basin. Higher visual values are located in a series of long, narrow mountain ranges that run parallel in a north-south direction. Forest cover, streams, and rock outcrops provide contrasting colors and textures that enhance the scenery. The valley areas contain comparatively low scenic value due to the absence of topographic relief and visually significant vegetative variety.

Nearly all of the study area is rural in character and appears to be in a natural condition. Exceptions exist in the form of cultural modifications such as dirt roads, fences, and seedings. None of these seriously detract from the general impression of naturalness that the area imparts.

Most of the study area has been designated as a visual resource Class IV, which allows for high levels of change to the landscape. (Even so, every attempt should be made to minimize the impact of activities.) Several portions have also been given a visual resource Class III, which aims to partially retain the existing character of the landscape, but allows for moderate levels of change to the landscape. Such change should not dominate the landscape. These Class III areas include the Kern and Antelope Mountains, Schellbourne Pass, and an area north of Becky Peak.

There are no Class II areas in the study area.

The Blue Mass Scenic Area, located in the Kern Mountains, is the only Class I area in the study area. The visual resource class here imposes significant constraints on any activity that might alter the landscape. The goal is to provide a setting that appears unaltered by man, and any change to the landscape should be of an extremely low level.

Wilderness

The entire study area has been released from consideration for wilderness designation. However, one wilderness study area - NV-010-033, Goshute Peak - lies just to the north of the wild horse management area in Elko County. Another - UT-020-060/050-020, Deep Creek Mountains - lies adjacent to the Goshute Indian Reservation on its east side, in Utah.

Social and Economic

The area of the ARCMP is sparsely settled. It is rural in character and the primary source of income is from ranching operations. There has been recent interest in mineral exploration activities within this area as well as throughout the Ely District. There are no towns or industries within the ARCMP area. The ranchers have strong historical and family ties to the area. Most use by outsiders in the area is for recreational purposes.

CHAPTER 3

Analysis of Environmental Impacts of Proposed Action

There would be no impacts from the proposed action to wilderness values, areas of critical environmental concern, wild and scenic rivers, flood plains and wetlands, prime or unique farm lands, paleontological resources, mineral resources, or threatened or endangered plant species. The short-term is defined as 10 years (the full implementation period of the ARCMP).

Assumptions for Impact Analysis

- 1). There will be adequate funding to fully implement the proposed action, including the monitoring program.
- 2). The rangeland monitoring program will adequately record forage use by foraging animal and allow for establishment of proper stocking levels.
- 3). Livestock operators and horse and wildlife interest groups will be able to reach a concensus on the priority of uses for specific areas.
- 4). The "reasonable numbers" of wildlife as established by NDOW is the appropriate goal for wildlife in the ARCMP area.
- 5). The optimal number of wild horses for this wild horse herd management area is 452.
- 6). Current record high antelope populations in the plan area are a result of the recent wet climatic conditions.

Anticipated Impacts

The standard operating procedures would mitigate many of the potential adverse impacts which could result from projects listed under the proposed actions. During the survey and design phase, when exact locations of each project or action are determined, site specific environmental analysis will be done covering exact impacts, mitigation and stipulations required.

Water Resources

Water resources would be enhanced over the long- and short-terms in several ways. Water is proposed to be redistributed, and dependable sources of water are to be developed. Guzzlers are proposed to be installed and springheads are proposed to be protected. These actions would result in a greater quantity and quality of water resources in the ARCMP. Springheads would thus

not be trampled by livestock and wild horses. More intensive management of the utilization of the forage through monitoring and use adjustments could likely result in a lessening of erosion and improvements in water quality.

Soils

In parts of the ARCMP the effective ground cover would be improved over both the long- and short-terms. This would be accomplished through fencing, seeding, reseeding, and proper distribution of grazing. Effective ground cover would decrease soil erosion. Vegetation conversions and establishment of a limited fire suppression policy could result in conditions where erosion would be accelerated, particularly in the steeper terrains.

Where livestock and wild horses are excluded from certain spring-heads and riparian areas, soil erosion would decrease. New "sacrifice areas" would likely develop adjacent to fences and at available water sources, where soil erosion would be accelerated. Installation of projects would disturb soils and cause some increase in displacement and erosion.

Air Quality

Minor temporary increase in air pollution from dust and exhaust fumes associated with construction or project development activities would occur. Local air quality would be impacted from a limited fire suppression policy or from prescribed fire. Impacts would be temporary and would dissipate quickly. Any increase in effective ground cover from vegetation protection and proper distribution of grazing would lessen air pollution from wind borne soil.

Forestry

Impacts to forestry would be minimal. A small percent of the manageable forested acreage is proposed to be converted. Conversion is proposed to be done with allowance for private and commercial use of the woodland products.

Vegetation

The implementation of grazing systems and management facilities would allow most plants to complete growth cycles and increase carbohydrate reserves, thereby increasing vigor, reproduction and favorable species composition in the community. Improved range condition and/or carrying capacity are expected to be achieved from the grazing systems. Better distribution of livestock and wild horses from use of water and fencing is expected to result in more uniform utilization of the forage and thus reduce areas of overutilization. Excluding livestock and wild horses from

riparian areas and springheads could result in a marked improvement of condition in the protected areas and could even allow enlargement of the riparian areas.

Utilization of the proposed fire confinement areas would set back areas of vegetation communities to an earlier successional stage. This would result in production of more forbs and annuals, plus resprouting of fire-resistant species and, in the longer term, establishment of shrub communities.

The proposed action would result in improved forage condition and apparent trend throughout much of the ARCMP area, especially in the areas which have been identified as being in a downward trend.

Wildlife

Wildlife would be benefited in both the long- and short-terms through a variety of the proposals. Implementation of the ARCMP would provide protection for crucial wildlife habitats, would allocate a share of the forage to wildlife and expand and enhance suitable habitats.

It is anticipated that through implementation of the activity plans in the ARCMP area there would be an overall net improvement in quantity and quality of forage. This would result in a beneficial impact to most species of wildlife. The direct effects of the different grazing systems on wildlife are unknown, but to the extent that they would control livestock and wild horse use to result in better distribution, and appropriate levels of use on vegetation impacts would be beneficial. The rested pastures would provide food and cover for wildlife. Big game fawning, kidding, and wintering areas would be enhanced.

Vegetation manipulation would result in a more diverse mosaic of vegetation thus providing a variety of habitats for wildlife species. Fire confinement areas in P.J. or sagebrush areas would provide more early and mid-successional stages of vegetation. This would enhance forage for grazing and browsing animals. Maintenance and protection of seedings would help relieve pressure of domestic livestock on native ranges and result in less competition between livestock and wildlife. The seedings, whether new, rehabilitated, or just fenced would continue to be managed to provide for multiple benefits - including wildlife.

The distribution of water through pipelines and guzzlers would allow wildlife populations to expand and utilize more of the suitable habitat in the ARCMP area. This is especially important for summer range utilization by deer, antelope and chukars. It is projected that one guzzler in a suitable habitat but waterless area will add 70± antelope to the population (Mike Wickersham). Development of more dependable sources of water through guzzlers, piping, and spring rehabilitation, as described in the HMP will

insure yearlong provision for wildlife. This would help maintain some of the higher wildlife numbers which have developed over a 3 year wet cycle. Some wildlife drownings may occur at developments. This would be partially mitigated by providing escape ramps for wildlife.

Fencing would indirectly benefit wildlife through better distribution of livestock and reduction of overgrazed areas. However, the fences, even though they would be built to deer and antelope specifications, may result in some deer and antelope mortalities. Fencing would also benefit wildlife through exclusion of livestock and wild horses in key habitats such as springheads and riparian areas.

The impact to wildlife from any of the projects would greatly depend upon their placement. Placement of the facilities and improvements has been keyed to particular wildlife utilization problems and thus may have significant benefit. Actual construction or developments of the various projects would result in some temporary displacement and/or harassment of resident wildlife.

Key habitats include winter range for antelope, and conversion of P-J would expand this range. Moving sheep off key winter areas and limiting combined use to 45 percent of the bitterbrush and cliffrose on selected winter range would insure viable communities of plants for wintering deer and antelope. Interseeding forbs on chainings used by wintering ungulates would provide more nutrition for the stressed animals resulting in greater winter survival, and maintenance of the condition of pregnant does and fetuses. Burning in P.J. areas would enhance year-round range for deer and if the burns are limited to 100 acres would provide for maximum use by deer.

Fencing, protection and enhancement of springheads and riparian areas would benefit mule deer since these areas serve as fawning areas and provide much needed nutrition for lactating does. The enhanced riparian areas and meadows would also serve as kidding areas for antelope. Known kidding areas would also be protected from overuse by livestock or direct conflict such as location of sheep camps in the spring. Selective seeding of forbs on antelope kidding areas would enhance desirability of the areas for antelope.

Riparian and wetland area protection and expansion would greatly benefit sage grouse since they use riparian areas for brooding. Using livestock to manage vegetation in selected areas for proper heights and densities for sage grouse would also be of benefit. Some disturbance to sage grouse is expected from sagebrush conversions but the SOP of limiting disturbance on active strutting grounds would negate some of the potential impacts.

Continued protection of key wildlife habitats such as conifer areas, mountain mahogany areas and raptor nesting areas through SOPs will benefit wildlife. To the extent that grazing systems maintain areas of white sage, raptors would be benefited.

Threatened and Endangered Animals

The Steptoe Dace in Lookout Spring would benefit from appropriate maintenance of the spring as described in the HMP. The ferruginous hawk would benefit from maintenance of areas of white sage.

Wild Horses

The proposed reduction down to 250 wild horses within the ARCMP area represents 55 percent of the current inventoried population of 552 (1983). This is a substantial percentage but it will put the horse herd within the management range for the area of 250 to 600 horses; with 452 being the optimal number. Removal of the wild horses would have immediate benefit to those remaining with less competition for available feed and water. Periodic roundups to maintain the population within these figures would result in some harassment of the horses and is expected to result in an anticipated 1-2 percent mortality. An environmental analysis would evaluate specific impacts of any proposed roundups.

The herd management plan would provide a framework for control and positive management of the Antelope Range Wild Horse Herd. Proper management would provide for a healthy, viable herd.

Wild horses would benefit from new and more dependable sources of water, and from earlier successional stages of vegetation, whether caused by fire or land treatments. Exclusion of wild horses from some of the seedings would eliminate a current source of food. However, the seeding would redistribute livestock grazing pressure and thus lessen competition between wild horses and domestic livestock on native range. Competition could increase between wild-life and wild horses on native ranges near seedings where horses are excluded.

All waters which are developed will be available to wild horses. Those springheads and wetlands which are protected from wild horses will still provide water outside of the exclosures for wild horses and other purposes. Water developments, in general, will enhance wild horse distribution within the ARCMP area, and ensure continuance of a viable herd after the current wet year cycle has passed. Water developments will also result in more even utilization of the available habitat and forage by wild horses. Competition for existing forage at water sources between livestock and wild horses is expected to remain high because of the intensity of use in these areas. Competition in valley bottoms during severe winters is also expected to continue but to a lesser degree, with fewer total animals.

The wild and free roaming characteristics of the wild horse herd would be minimally affected. Fences would be the primary barrier. But the normal east-west movements and altitudinal movements of the horses would not be significantly affected. Fences would be built as SOP to provide for normal daily and seasonal movements by wild horses.

Maintaining the horse herd within the proposed appropriate management levels in conjunction with appropriate management and adjustments in use by other forage users, is expected to result in an improvement in quantity and quality of forage. This would help maintain the overall health and vigor of the wild horse herd. Total available habitat for the wild horse herd would be increased, therefore distribution of the herd would likely expand.

Wild horse populations in the vicinity of project sites would undergo some temporary harassment and/or displacement.

Through the management plan there will be valuable knowledge gained from studies and monitoring to better understand population dynamics of this herd. The wild horse population recruitment rate should increase in response to improved habitat conditions and lessened competition.

Recreation

Upon full implementation of the ARCMP there may be more deer and antelope tags issued for the management units in the area. This would result in more hunter days for deer and for antelope. Any more tags for deer and antelope would be of benefit to recreation since the demand for these tags far exceeds the supply. Sage grouse populations should be enhanced through the ARCMP. Because game bird seasons are set on a county wide basis, it is unlikely that an increase in sage grouse just in this area would impact daily bag or possession limits. However, it would enhance the quality of hunting in this area. If hunting were increased within the area then incidental camping and ORV use would also increase. Additional fencing may inhibit cross-country ORV use.

Fewer wild horses in the area would make it more difficult for individuals to view wild horses, but there is little wild horse viewing currently within the ARCMP area, thus this impact would be slight.

Cultural Resources

Based on best available information including the predictive models, cultural resources would be impacted by the ARCMP. Several of the proposals involve modification of springs - prime areas for cultural materials. Impacts would be evaluated and mitigation proposed on a site specific basis. No unavoidable adverse impacts from project development are anticipated because of the protecting provided by the Standard Operating Procedures.

As a benefit to cultural resources, additional sites would likely be discovered through the SOP of inventory on a site specific project basis.

Many cultural materials are situated on the ground surface or just below ground level. Because of this, they are susceptible to trampling impacts from livestock and wild horses. Better distribution of domestic livestock and control of wild horse use at water sources may decrease trampling in some areas but it may create it in other areas. If decreased erosion results from more effective ground cover then cultural resources in some areas will be held in situ. Fencing of springs will help protect cultural resources since these are high potential areas.

Visual Resources

No projects are proposed within the highest visual zoned area (Mgmt. Class I) within the ARCMP - the Blue Mass Scenic Area. Projects are concentrated in the valley and benchland areas where the zoning is mostly Class IV which allows for contrasts within the landscape. Impacts and mitigation for individual projects will be done on a case-by-case basis. However, contrasts would be introduced into the landscape.

Social and Economics

Livestock operators would be brought closer to their preference level of use, and thus economically benefited. A reduction in drift and trespass through fencing and more coordinated management will encourage amicable relationships among permittees and between permittees and the BLM. Positive management and maintenance of wild horse numbers at a viable herd level could bring vicarious pleasure to wild horse advocates. If it is perceived by advocates of wild horses, wildlife and livestock that all forage users are benefiting equally or proportionately from the forage within the area, this would help public relations with the BLM plus ensure a more viable coordinated management plan. Life-styles of residents would not be impacted. There may be a slight increase in standard of living. Installation of the projects and developments will provide minimal economic stimulation to the area. Materials will be bought for the projects and paid labor will install them. If more hunter days result from the proposal, then there would be a slight economic benefit to the Ely vicinity.

Grazing Systems

Overview

Impacts from implementation of the grazing systems are discussed below by allotment. Impacts vary by allotment but the cumulative effect would be beneficial to the forage, wildlife, wild horses and livestock operations.

The forage resource would benefit from prescribed movements and stocking of livestock which would relieve grazing pressure on plants during the growing season, more evenly distribute the grazing pressure and minimize "sacrifice" areas.

Wildlife would benefit from protection and enhancement of key habitat areas, water developments, improved forage condition, and vegetation conversions.

Wild horses would benefit from development of the water sources and improved forage condition. Improvement of the distribution of all forage users should lessen competition for forage and available water.

More intensive husbandry of their livestock would cost the permittees some time and effort but benefits would accrue from an overall more efficient utilization of the forage. This would allow the permittees to stock closer to preference. Livestock operations would benefit from improved forage condition, from new water sources which would allow utilization of underutilized areas, and from vegetation conversions.

Becky Springs Allotment

Vegetation: Requiring operators to move livestock frequently after the start of the growing season would benefit vegetation in the allotment as a whole. Although some areas which were not used before would be grazed, pressure would be reduced on those areas now receiving heavy utilization (i.e., water sources). Because most livestock would be removed before the end of April, plants would be rested through the major portion of the growing season which would be beneficial for all species and grasses and forbs in particular.

Wildlife: Sage grouse would benefit from efforts to keep livestock off of strutting and nesting areas. Since use of the area by mule deer is minimal, impacts to this species should be negligible. Impacts to the few antelope using this area would be mixed. Winter use by livestock concentrates on shrub species which are important forage for antelope, but improving livestock distribution and removing them during the growing season would allow increases in grasses and forbs also used by antelope. One factor which minimizes impacts is that antelope use mainly occurs in the northwest corner of the allotment where livestock use has been and would continue to be minimal. Indirect benefits to other species of wildlife would occur as a result of enhancement of the vegetation.

Wild Horses: Because of the minimal amount of horse use in this allotment, there should be inconsequential impacts to wild horses.

Livestock and Operators: There would be adverse impacts to operators from requiring them to move livestock every two weeks after the growing season begins. However, this would allow livestock to use more area rather than remain in one spot until most forage is gone. Two of the permittees run sheep and have a herder with them anyway, so additional work would be required mainly from the cattle operator.

Goshute Mountain Allotment

Vegetation: Requiring the operator to herd his sheep closely, so as to make evenly distributed use throughout the allotment, and to maintain desirable utilization levels would benefit the vegetation as a whole. Even though some portions not currently used would now receive use, the overall area would receive less use and thus fewer impacts.

Wildlife: There is no documented use by sage grouse and minimal use by mule deer in this allotment, so impacts to these species should be negligible. Impacts to antelope should be minimal. Since the sheep would be better distributed, no one area should have any over utilization, thus leaving enough forage throughout the allotment for the antelope to use. The development of a catchment reservoir or other source of providing water in the allotment would benefit all wildlife users as none is presently available. Such waters would extend the antelope range of use and lessen stress from traveling longer distances to water.

Wild Horses: Due to the minimal overlap in diet between horses and sheep in the allotment, there should be no adverse impacts. However, the horses would benefit from the water development.

Livestock and Operator: The operator would have to work harder to move the sheep to accomplish more even distribution. However, the operator would have fewer hardships in caring for their watering needs with the water development planned for the allotment.

Deep Creek Allotment

Vegetation: By providing more water sources and thus improving distribution the vegetation throughout the allotment would receive more desirable use. The change in season of use would allow the plants a nearly complete rest during the growing season. This would benefit all grasses and forbs.

Wildlife: Since use by sage grouse is not documented and mule deer use is minimal, few impacts to these species are anticipated. Winter use by cattle should have no impacts on the

antelope. Improved distribution of the cattle and the change in seasons of use would improve and increase the amount of grasses and forbs used by the antelope. There should be indirect benefits to other species of wildlife as well.

Wild Horses: There is competition among the horses and the other range users now. This overlap of diets can be prevented from becoming a more serious problem by improving distribution of all foraging animals. The development of waters would also benefit the horses as it would other foraging animals. All the planned actions would benefit the horses.

Livestock and Operators: Impacts to these would be beneficial. The actions proposed for the allotment are compatible with all the operators. The entire allotment would be benefited, thus improving the situation for the operators and their livestock. Some of these benefits would be better distribution, improved forage resource, and better livestock control.

Chin Creek Allotment

Vegetation: By implementing the AMP we would be able to better control the amount of use the forage resource receives, as well as when, and where that use occurs. These actions would all have positive impacts on the vegetation. Some of the positive influences would come about from improved livestock distribution, establishing seasons of use and deferred grazing systems which are designed to provide some rest for forage plants during the growing season.

Wildlife: Through improved and controlled livestock distribution, more forage would be available throughout the allotment for wildlife. Also, the forage would be maintained in a more desirable form for their use. Positive benefits should be realized from the efforts to avoid wildlife key areas such as sage grouse strutting grounds and antelope kidding areas. Establishing seasons of use would also reduce conflicts between wildlife and livestock.

Wild Horses: The impacts to the horse herd as a whole would be positive. Improved forage condition from better distribution and grazing systems would allow more forage for horses. By establishing seasons of use, conflicts between horses and livestock should be minimized.

Livestock and Operator: The actions in the AMP would have very positive impacts for the operator and his livestock, when considered in total. He can run a more economical operation while at the same time improve the range condition for his use, and the other foraging animals as well. This would all be done through changes in seasons of use, change in kinds of livestock, improved distribution, and deferred grazing systems.

Sampson Creek Allotment

Vegetation: By restricting use to sheep in portions of the area, more efficient use of vegetation can be made on the steeper slopes and less impact on drainages will occur than if cattle were using the area.

Rotating the area on the black sagebrush benches used for lambing each year would be beneficial to the forage by not allowing a heavy concentration of use to be made in any one area more than one year in a row. With water development elsewhere on the benches as planned, each area would receive use only once in 5 years.

Sheep use would mainly impact grasses and forbs. The cattle use would not occur until after lambing is through and would mainly impact grasses. In areas of concentrated use, such as "sacrifice" areas around water developments, trampling of individual sagebrush plants would occur, but grazing pressure on shrubs would be low. Some use of black sagebrush and winterfat would occur by cattle in October. One advantage of having both sheep and cattle in an area is that each has slightly different forage preference which reduces dietary overlap and competition for the same species and has less impact overall on the vegetation.

Impacts created by delaying use on the high mountain areas until July 1 and only allowing use for one month would be beneficial to the vegetation. This season of use would allow vegetation time for growth before sheep are turned out and regrowth after they are removed. The practice of grazing treated areas of pinyon/juniper in the summer or early fall once the new vegetation is established would impact forage species but this impact would be reduced by providing rest during portions of the growing season.

Wildlife: Each area used for lambing would be located to avoid impact to sage grouse strutting grounds. There are potential conflicts with sage grouse brooding on these high elevation meadows, but planned water developments would spread use out and sources and meadows would be fenced which should alleviate some of the problem. Conflicts between livestock and mule deer, antelope, and wild horses is expected to be nonexistent because these species seldom, if ever use the area.

Impacts to antelope would be mixed because they make yearlong use of the area. Since antelope rely heavily on black sagebrush for forage, this arrangement which limits livestock use of shrubs is beneficial. However, this use by livestock would impact forbs creating a negative impact on antelope in the spring. Impacts should be lessened by: 1.) achieving proper distribution through herding, water and salt placement because this area of

use is large enough to provide sufficient forage if properly used, 2.) converting presently unproductive areas of pinyon and juniper to more productive areas which will relieve pressure on the benches, and 3.) interseeding forbs in selected areas.

If range improvements such as conversion of P-J attracts mule deer into the areas, fall grazing by cattle would create direct competition for available forage. Livestock are expected to be removed early enough in the fall to minimize this competition.

Wild Horses: Conflicts between livestock and wild horses would be minimized because horse use is concentrated on the bottom during the winter months and livestock will be kept off of the bottom and removed by the end of October.

Livestock and Operators: Impacts to livestock and operators should be beneficial. The use proposed for the allotment is compatible with the remainder of each operation. Vegetation on the black sagebrush benches provides cover for ewes and lambs but does not restrict visibility. This helps reduce losses to exposure and predation. Creating a common use area provides more area for each permittee to use and provides for authorized use without the cost of building and maintaining a fence or the work days necessary for moving animals to avoid trespass if no fence was built. Because seasons of use would not overlap there should be no conflict between kinds of livestock. On the higher elevations, sheep are easier to manage and would adapt better than cattle.

Other: By incorporating portions of both allotments in one use area: 1.) more total acreage is available to spread out use so that no area supports livestock through the entire growing season, 2.) the cost of building a division fence is avoided, and 3.) adverse impacts of a fence on horse movement will be avoided.

Tippett Allotment

Vegetation: By establishing a grazing system in the allotment all vegetation would benefit. Areas and seasons of use have been established which would provide a full year of rest for some areas every other year, others every third year, and still others every fifth year. The only area not receiving rest would never be used prior to the latter part of September when the majority of the vegetation will be dormant.

The grazing system would entail using some areas to a greater extent than they have been used in the past, but the use would be monitored to ensure that it does not exceed allowable use in any area.

The improvement of livestock distribution would allow areas that have historically been overused to be used at levels which would ensure proper regeneration.

Antelope Valley receives the heaviest use, and the grazing system would allow a 20 percent to 35 percent reduction in cattle AUMs through the full cycle.

Wildlife: Sage grouse will benefit by the rotation of use along the west bench of Spring Valley. Also, the key antelope kidding ground south of Antelope Spring would not be used during kidding season and would receive total rest 2 out of 5 years.

With the grazing system implemented the grazing pressure on other native ranges would be somewhat lessened because of the controlled use on the seedings.

Wild Horses: The wild horses would benefit too from better livestock distribution and improved forage condition overall.

Livestock and Operators: There would be a beneficial impact on the livestock because forage would always be readily available and the distance to water reduced. This would help to make greater gains which will be of a beneficial impact to the livestock operator.

The grazing system would require the operator to move their livestock more often which would impact them by taking more of their time.

Residual Impacts

- 1) Some small wildlife species may drown in water developments in spite of the escape ramps.
- 2) Wildlife and/or wild horses may get tangled in new fences in spite of their being built to deer and/or antelope specifications, and flagging them for greater visibility by horses and wildlife.
- 3) Wild horses may be injured or killed during the roundups as a result of fighting, trampling, and trying to escape.
- 4) Livestock "sacrifice areas" may develop along new projects such as fences and water facilities.
- 5) Visual contrasts will be introduced into the landscape.

Recommended Mitigating Measures

- 1) Enough of a reduction in the horse population should be made during each roundup to bring the population to the lower end of the 250 to 600 management range. This would

insure a minimum number of roundups and would thus minimize harassment of the wild horses and minimize inadvertent injury and death caused by capture and holding.

- 2) The edges of any vegetation conversion should be "feathered" so that they visually blend into the landscape and to increase the "edge effect" for wildlife. The visual resource specialist should be involved in the planning and design phase.
- 3) Efforts should be made to avoid any significant cultural resource sites. There is some leeway in exactly where projects/improvements are placed. The archaeologist should be involved in the planning and design phase.
- 4) Gates should be left open when cattle are not being confined or controlled, except on areas which are being protected. This will allow for freedom of movement of wild horses and other large ungulates.
- 5) Within vegetation conversion projects, islands of cover should be left as escape cover for wildlife.
- 6) No shutoff valves should be installed on water overflow pipes which provide water for wildlife.

Irreversible and/or Irretrievable Commitment of Resources

None, except for the expenditure of energy during project development.

Analysis of Environmental Impacts of the No Action Alternative

Under the no action alternative, the Antelope Range Coordinated Management Plan would not be implemented.

There would be no impacts from the no action alternative to paleontological resources, wilderness values, areas of critical environmental concern, wild and scenic rivers, flood plains and wetlands, prime or unique farm lands, mineral resources, or threatened or endangered plant species. The short-term is defined as 10 years (the full implementation period of the ARCMP).

Assumptions for Impact Analysis

- 1) Livestock, wildlife and wild horse use and use patterns will remain the same as at the present time for both the short and long-term.

Anticipated Impacts

Water Resources

No significant changes (either positive or negative) would be expected. However, the positive benefits described under the proposed action would not be realized throughout the Plan Area and within the short-term. It is likely that some of the same modifications would be used to resolve important problems within the Plan Area. However, these would only be done in response to specific land use problems and would occur over the long-term. Difference in impact between this alternative and the proposed action may be quite marked during dry years especially in regard to water distribution and dependability.

Soils

Effective ground cover would likely improve or stabilize in the portion of the Plan Area which is in an upward trend, and continue to degrade in those portions which are in a downward trend. Effective ground cover is directly related to protection of the soil from erosion. The benefits to the larger area as described under the proposed action alternative would not occur in the short-term. ARCMP projects would not be built, thus those soil disturbing activities would not occur.

Air Quality

Less effective total ground cover would occur under this alternative. Total wind borne particulates would be greater under this alternative. ARCMP project related temporary negative impacts to air quality would not occur.

Forestry

Impacts to forestry would be minimal. Proposed vegetation conversions would not occur.

Vegetation

The portion of the Plan Area in an upward trend is expected to continue to improve, or at least stabilize. The portion of the Plan Area in a downward trend is not expected to improve. Positive benefits to vegetation as described in the proposed action would be realized except on a quite limited basis. Early and mid level stages of vegetational succession would not be encouraged in this alternative.

Wildlife

Wildlife populations are expected to remain near recent historic numbers for both the short- and long-terms. Normal fluctuations in wildlife populations are expected in response to climatic

conditions. However antelope populations have increased in response to the recent wet cycle. These populations are expected to decline in the short-term if conditions become drier.

Benefits to the wildlife as described in the proposed action would not occur, other than through the standard operating procedures. Benefits not realized would include enhancement of crucial wildlife habitats such as fawning and kidding areas, riparian areas and deer and antelope winter range; and expansion of wildlife populations through enhanced water distribution and dependability and vegetation manipulation.

Use of standard operating procedures would continue to protect certain key wildlife habitats to some degree. These consist of conifer areas, mahogany areas, and raptor nesting areas. Other SOP will continue to limit harassment on wildlife when they are using certain key habitats including strutting grounds, kidding areas, and winter range.

Wildlife would not be harassed by project development, drown in water facilities or get tangled in fences to the extent that would occur under the proposed action.

Threatened and Endangered Animals

Benefits to the Steptoe Dace and the Ferruginous hawk as described under the proposed action alternative would not be realized.

Wild Horses

The present numbers of wild horses would be maintained under this alternative. The benefits to wild horses from water distribution and dependability and from improvements in quantity and quality of forage as described in the proposed action would not occur. Periodic roundups would still occur with the impacts as described under the proposed action. Herd viability and health would not change measurably under this alternative. Wild horses would continue to overuse certain portions of their range and be unable to exploit other portions. Additional fences as proposed in the ARCMP would not be built in the short-term, thus would not inhibit horse movement.

Recreation

Benefits as described in the proposed action alternative would not be realized. Quality and quantity of hunting opportunities would not be improved. Fewer fences would be built, thereby not inhibiting cross-country ORV use. Wild horse viewing may be easier with a higher number of animals concentrated at the existing water sources.

Cultural Resources

Impacts to cultural resources would not occur from project developments, since these would not be developed. Protecting for cultural resources as described under the proposed action would not occur. Additional sites would not be discovered over the short-term from the S.O.P. of inventory on a site specific basis.

Visual Resources

Visual contrasts from ARCMP related projects would not be introduced into the landscape.

Social and Economics

Benefits as described under the proposed action would not occur. Various interest groups will continue to vie for larger shares of the available forage in the area. Economic benefits would not result from an increase in livestock numbers nor from increases in numbers of game animals.

Grazing Systems

Overview

Impacts from the no action alternative are discussed below by allotment. Impacts vary by allotment but the cumulative effect would be adverse to forage, wildlife, wild horses and livestock operations. Current trends such as ineffective or improper use of forage, degradation of key wildlife habitats, competition for water and forage, and decline of desirable forage species would continue. Also, the benefits from implementing the proposed action, as described earlier, would not be realized.

Becky Springs Allotment

Vegetation: Adverse impacts to those areas now heavily utilized would occur because this heavy use would continue. Desirable forage species could be replaced by undesirable invaders, such as halogeton or Russian thistle. Vegetation elsewhere would not be impacted.

Wildlife: Adverse impacts to sage grouse would occur from livestock use and trampling on strutting grounds and nesting areas. An additional adverse impact to wildlife to be expected is that grazing animals would have to travel further from existing water to obtain forage and avoid livestock.

Wild Horses: No impacts other than continued competition for forage.

Livestock and Operators: No additional work on the part of each operator would be needed. Adverse impacts would be long-term as vegetation in areas now heavily used is replaced by undesirable species. Livestock would have to travel further to obtain forage and some loss of animals to halogeton may occur.

Goshute Mountain Allotment

Vegetation: There could be adverse impacts if currently used areas continue to be heavily used. This could cause desirable species to be replaced by undesirables such as halogeton or Russian thistle. Vegetation elsewhere may not be impacted.

Wildlife: There could be adverse impacts on antelope if portions of the allotment get overused due to improper distribution of sheep.

Wild Horses: No impacts other than continued competition for forage.

Livestock and Operators: No additional effort than as at present would be required of the operator. However, in the long-term, impacts to the vegetation may be adverse in areas of heavy use. This may cause more stress on the sheep searching for forage and also may cause an increase in losses due to poisonous plants to occur.

Deep Creek Allotment

Vegetation: Adverse impacts to those portions of the allotment now heavily utilized would continue. Areas of severe disturbance would eventually be replaced by undesirable vegetation. Proper use would be exceeded in many areas for key species.

Wildlife: Adverse impacts to wildlife would be expected when species such as antelope have to travel further from existing waters for forage.

Wild Horses: They would have further to go to search for water and there would be continued competition for forage.

Livestock and Operators: They would have to work harder and spend more to control stock. The livestock would continue to overuse some areas. There would be more stress due to continued lack of sufficient water and management facilities. Desirable species would decline and noxious plants would spread (i.e., halogeton and Russian thistle). Eventually livestock use may have to be reduced or prohibited to protect the resource.

Chin Creek Allotment

Vegetation: Without the planned actions control would continue to be lacking in attaining proper use of the key forage vegetation in much of the allotment. This result would lead to decreases in desirable and increases in undesirable vegetation such as Russian thistle, cheatgrass, mustards, and halogeton. The overall effect would be negative impacts to the vegetation for many reasons, but mainly from lack of control. The operator plans to increase his use in the allotment and that would add to negative impacts on vegetation there, without implementation of the proposed planned actions.

Wildlife: Without the planned facilities and actions being implemented as stated in the AMP, impacts would stay the same in some areas or get worse in others. The habitat would continue to degrade from the standpoint of being suitable for wildlife. Wildlife reasonable numbers may not be achieved or sustained. There would be more stress on all the major wildlife populations from declining forage and habitat conditions.

Wild Horses: There is considerable conflict for available forage amongst the horses and the other foraging animals in the allotment under the present situation. Thus without the AMP being fully implemented this situation will only worsen.

Livestock and Operator: Impacts would be adverse to both the livestock and the operator if the AMP is not fully implemented. The operator can not run the livestock economically and properly without them. The operator would lose money, the range would worsen limiting his livestock's use. Overall a significant hardship would be the result of no action.

Sampson Creek Allotment

Vegetation: Without implementation of the proposed grazing treatments, lambing would likely occur in the same location year after year creating an area of disturbance in which palatable species would be removed and/or replaced by undesirable species. Since no facilities would be constructed, the Chin Creek permittee would run sheep instead of cattle. This would cause more pressure to be placed on those species preferred by sheep. If no treatment is established for the mountains, vegetation would be adversely impacted particularly in the areas where overuse is now occurring around existing waters and in the only drainage providing access. Without any management to protect the winterfat bottoms, proper utilization levels would be exceeded drastically and winterfat would continue to be replaced by halogeton and big sagebrush.

Wildlife: Sage grouse strutting grounds could be negatively impacted since location of lambing areas would not be regulated. This is a particular problem if the common use area is not approved since all lambing would occur in the Sampson Creek Allotment on the west bench of North Spring Valley which is where the main concentration of strutting grounds is located. Antelope would be more negatively impacted by running sheep exclusively instead of dual use because antelope forage preference is more similar to forage preference for sheep than for cattle resulting in more dietary overlap. If vegetation around mountain springs continues to receive heavy utilization, brooding sage grouse would be negatively impacted.

Wild Horses: Wild horses would be negatively impacted if livestock use on the winterfat was not controlled because of their heavy reliance of this species in the winter. Horses would not be gathered which would first be a positive impact on them, but numbers could increase until wild horses, livestock, wildlife, and vegetation would all be negatively impacted.

Livestock and Operators: If a common use area is not designated, more work would be required by the permittees to keep livestock on the proper side of the allotment boundary, probably through herding and water hauling. If both operators ran in common, there would be direct competition for forage and the sheep entering the area last would be at a disadvantage.

Tippett Allotment

Vegetation: Without implementing the grazing system the overuse and lack of control that is occurring now would continue. Over the long-term there would be a decrease of desirable forage species. A gradual encroachment of P-J would continue to displace species that can be used by all current foraging animals. An increase in the density of P-J also partially displaces all foraging animals.

Wildlife: Sage grouse nesting along the Spring Gulch Bench could be impacted by livestock every year during about half of the nesting period if the system is not implemented. There would continue to be competition between sheep and antelope during kidding in the area south of Antelope Spring.

Wild Horses: Competition for forage between horses and livestock would continue.

Livestock and Operators: The livestock would not be moved as often under the no action alternative, but forage and water would not be as readily available. Less operator time would be required under this alternative.

Chapter 4

Intensity of Public Interest

The issue of wild horses and their management has been one of high public interest for many years. Prior to the passage of the first protective regulations in the 1950's, local area residents captured horses on a regular basis, generally to be sold for slaughter. As laws were passed and more publicity was attached to the issue, public concern became greater, both for and against protection of these animals. In recent years, groups have become very vocal for the total protection of wild horses with reduction in grazing pressure to be absorbed by livestock interests in the areas where horses were found. Present public interest continues but has included groups and individuals interested in wildlife and game resources.

Interest in the issue of forage allocation among advocates for wildlife, wild horses and livestock exists on the national level through organized wild horse interest groups, humane societies and organized wildlife and livestock interests. On the local level, there is a high degree of interest from affected permittees and from sportsman's clubs concerned with allocating a portion of the forage resource to wildlife.

Record of Public Participation

On February 2, 1984, a meeting was held for permittees and interest groups (NDOW and NMA) involved in the Antelope area. Management objectives were established and agreed upon. In attendance were:

- Richard Sewing - National Mustang Association
- Metta Richins - permittee
- Reed Robison - permittee
- Jay Henriod - County Commissioner
- Warren Robison - permittee
- Larry Gilbertson - NDOW
- Mike Wickersham - NDOW
- Rao Bateman - permittee
- BLM Personnel

On July 9-10, a tour was held of the Antelope area for members of the District Advisory Council and Grazing Advisory Board and interested others. In attendance were:

Larry Gilbertson - NDOW
John Polish - Council Member
Van Gardner - Board Member
Richard Sewing - National Mustang Association
Jay Henriod - County Commissioner
George Swallow - permittee
Bill Rosevear - permittee
Reed Robison - permittee
Bill Davidson - Board Member
BLM Personnel

On August 14-15, a tour of the Antelope area was held for NDOW and NSO personnel. In attendance were:

Larry Barngrover - NDOW
Swede Erickson - NDOW
Mike Wickersham - NDOW
Larry Gilbertson - NDOW
BLM Personnel (Ely District and NSO)

Document Review

External

Internal

Jake Rajala - Environmental Coordinator
Wayne Howle - Wilderness/Recreation/Visual Resources
Shela McFarlin - Cultural Resources/Native American Interests
Kathy Lindsey - Rangeland Resources and T&E Plants
Mark Barber - T&E Animals
Rita Suminski - Wildlife
Harry Rhea - Forestry
Chris Ann Bybee - Soil/Water/Air
Bob Brown - Wild Horses
Bill Robison - Paleontological
Fred Fisher - Rangeland Resources
Loran Robison - Rangeland Resources
Hal Bybee - Operations

Nevada State Office Resource Specialists