3-2-93

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
4110
(NV-024.14)

MAR 0 2 1993

Received March 4, 1993
15 DAYS
MARCH 17

CERTIFIED MAIL NO. P374309873
RETURN RECEIPT REQUESTED

Ms. Cathy Barcomb
Commission for the Preservation
of Wild Horses and Burros
Stewart Facility
Capitol Complex
Carson City, NV 89710

Dan Russel # owned

Dear Ms. Barcomb:

Please find enclosed the Paiute Meadows Final Allotment Evaluation Summary and the Proposed Multiple Use Decision.

If you have any questions, please feel free the contact Bob Hopper at (702) 623-1500.

Trespass use

Sincerely yours,

Scott Billing

Area Manager
Paradise-Denio Resource Area

Enclosures

Final Paiute Meadows Allotment Evaluation - Dated 2-25-93
Proposed Multiple Use Decision

phone conv.
3/16 11:30
2/6 Tom Seelye on BRock WEST
1486 Acres
Soldier Meadows not available until Sept 30th Gather Oct.
351 EAST
745 WEST
1096 on Black Rock

2-25-93

PAIUTE MEADOWS FINAL ALLOTMENT EVALUATION

I. INTRODUCTION

A. Paiute Meadows Allotment (00057)

B. Permittee - Daniel H. Russell

C. Evaluation Period - 10/14/83 to present

D. Selective Management Category I

II. INITIAL STOCKING LEVEL

A. Livestock Use

1. Grazing Preference (AUMs)

a.	Total Preference	- 9,932
b.	Suspended Preference	- 2,105
c.	Active Preference	- 7,827
d.	Not Scheduled (Nonuse)	- 3,477
e.	Scheduled Use	- 4,350

The authorized grazing use for the Paiute Meadows Allotment during 1990 was adjusted to 4,350 AUMs in accordance with the transfer of grazing preference to Dan Russell dated 01/05/90.

2. Season of Use - 05/01-11/05

During 1990 the season of use was also adjusted in accordance with the transfer of grazing preference to Dan Russell dated 01/05/90.

3. Kind and Class of Livestock - Cattle, Cow/Calf

4. Percent Federal - 97%

5. Grazing System

The active preference during the evaluation period was 7,827 AUMs from 1983 until 1990. In accordance with the transfer of grazing preference to Dan

Russell on January 5, 1990, the active preference was adjusted to 4,350 AUMs, with 3,477 AUMs in non-use.

There has not been a stable livestock operation in place since 1981. Traditionally, livestock have been turned out in the spring and gathered in the fall. Occasionally, winter use was authorized.

From 1988 to 1992, grazing use was authorized north of Paiute Creek with herding practices designed to control livestock drift into the area south of Paiute Creek.

During the evaluation period, 1983-1992, licensed livestock use has varied as follows:

1983	No use
1984	6,283 AUMs
1985	5,106 AUMs*
1986	No use
1987	No use
1988	1,519 AUMs
1989	2,759 AUMs
1990	4,350 AUMs
1991	4,350 AUMs
1992	4,125 AUMs

*Includes 210 AUMs Exchange-of-Use

B. Wild Horse and Burro Use

The Black Rock Range East Herd Management Area (HMA) encompasses a portion of the allotment. The identified level of use established by the Paradise-Denio Land Use Plan is 59 wild horses and 0 burros.

C. Wildlife Use

1. Reasonable Numbers by big game species

Mule Deer	Pronghorn Antelope	Bighorn Sheep
1,838 AUMs	307 AUMs	180 AUMs

2. Wildlife Use Areas within the allotment:

Black Rock DY-13	2,134 acres
Black Rock DW-10	41,678 acres
Black Rock DS-6	45,856 acres

Black Rock PS-15	45,965 acres
Black Rock PY-14	35,274 acres
Leonard Creek PW-17 (Concentration)	2,043 acres
Paiute Creek PW-16 (Concentration)	31,466 acres
Black Rock BY-15	69,939 acres

These measurements correspond to the wildlife use areas as of the URA update of 1986-1988. Since then, in consultation with Nevada Department of Wildlife (NDOW) the boundaries have been redrawn to reconcile discrepancies at the Sonoma-Gerlach/Paradise-Denio Resource Area Boundary along the crest of the Black Rock Range.

3. Sage Grouse

Two sage grouse strutting grounds have been identified in the Paiute Meadows allotment, one at the south end and one at the east end. One additional strutting ground is identified adjacent to the allotment in the Bartlett Creek drainage. However, several brooding areas have been identified in other areas of the allotment which would indicate that additional strutting grounds are present. Two winter use areas for sage grouse have also been identified; one each near the Paiute Creek and Bartlett Creek drainages.

4. Bighorn Sheep

Eleven California bighorn sheep were released onto the west side of the Black Rock Range in February 1992. Two bighorn sheep were observed approximately one mile north of White Rock Spring in March 1992.

III. ALLOTMENT PROFILE

A. Description

The Paiute Meadows Allotment is located in the western portion of Humboldt County. The allotment is approximately 40 air miles south, southwest of Denio, Nevada and encompasses the east side of the Black Rock Range. The allotment ranges in elevation from 4,000′ to 8,631′. The lower elevations are dominated by shadscale and greasewood vegetation types. As elevation increases vegetation changes to sagebrush; mountain browse; aspen and mountain mahogany vegetation types.

B. Acreage

1. Allotment Acres

a.	Public acres	177,096 acres
b.	Private acres	5,170 acres
c.	Allotment Total	182,266 acres

C. Objectives

1. Land Use Plan Objectives

a. Objective RM-1

To provide forage on a sustained yield basis through natural regeneration. Reverse downward deterioration of public grazing lands by improving 1,000,000 acres in poor condition to fair condition, and 400,000 acres in fair condition to good condition within 30 years.

b. Objective RM-2

Increase existing allocatable livestock forage by artificial methods from the present 103,721 AUMs to approximately 193,472 AUMs (89,751 AUM increase) within 30 years.

c. Objective WLA-1

Improve and maintain the condition of all the aquatic habitat of each stream, lake, or reservoir having the potential to support a sport fishery at a level conducive to the establishment and maintenance of a healthy fish community.

d. Objective WL-1

Improvement and maintenance of a sufficient quantity, quality, and diversity of habitat for all species of wildlife in the planning area.

e. Objective W-1

Preservation and improvement of quality water necessary to support current and future uses.

f. Objective W-2

Provision of adequate water to support public land uses.

g. Objective W-3

Reduction of soil loss and associated flood and sediment damage from public lands caused by accelerated erosion (man-induced) from wind and water.

h. Objective WH/B-1

Maintain wild horses and burros on public lands, where there was wild horse or burro use as of December 15, 1971, and maintain a natural ecological balance on the public lands.

2. Rangeland Program Summary Objectives

a. Livestock Management Objectives

1) Increase available forage for livestock to sustain an active preference of 7,827 AUMs.

2) Improve range condition from poor to fair on 161,158 acres and fair to good on 15,938 acres.

3) Develop a livestock grazing plan that will alleviate the following problems:

a) Inadequate livestock distribution.
b) Excessive stocking rate.
c) Improper season of use.
d) Livestock Drift

b. Wildlife Management Objectives

1) Manage rangeland habitat and forage condition to support reasonable numbers of wildlife demand as follows:

Deer	1,838 AUMs
Antelope	307 AUMs
Bighorn Sheep	180 AUMs

2) Improve condition of deteriorating upland meadows.

3) Protect sage grouse breeding complexes.

4) Improve and maintain the condition of aquatic habitat and riparian zones having the potential to support a sport fishery on Battle, Bartlett, and Paiute Creeks.

c. Wild Horse Management Objective

1) Graze 59 (708 AUMs) wild horses in the Black Rock Range - East Herd Use Area.

3. Allotment Objectives

The allotment specific objectives tie the Land Use Plan and RPS Objectives together into quantified objectives for this allotment.

a. Short Term

1) Utilization of key streambank riparian plant species shall not exceed 30% on Paiute, Battle and Bartlett Creeks. [1]

2) Utilization of key plant species in wetland riparian habitats shall not exceed 50%. [1]

3) Utilization of key plant species in upland habitats shall not exceed 50%. [1]

4) Utilization of crested wheatgrass shall not exceed 50%. [1]

b. Long Term

1) Manage, maintain, or improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 1,838 AUMs for mule deer, 307 AUMs for pronghorn, and 180 AUMs for bighorn sheep.
(WL-1, W-3, RPS b)

a) Improve to or maintain 2,134 acres in Black Rock DY-13, 41,678 acres in Black Rock DW-10, and 45,856 acres in Black Rock
DS-6 in good or excellent mule deer habitat condition.

b) Improve or maintain 45,965 acres in Black Rock PS-15 in good pronghorn habitat condition. Improve to or maintain 35,274 acres in Black Rock PY-14, 2,623 acres in Leonard Creek PW-17, and 31,466 acres in Paiute Creek PW-16 in fair or good pronghorn habitat condition.

c) Improve to or maintain 69,939 acres in Black Rock BY-15 in good to excellent bighorn sheep habitat condition.

2) Manage, maintain, or improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 7,827 AUMs. (RM-1 a, RPS a)

3) Improve range condition from poor to fair on 161,158 acres and from fair to good on 15,938 acres. [2] (RM-1, RM-2, RPS a.2)

4) Maintain and improve the free-roaming behavior of wild horses by protecting and enhancing their home ranges. (WH/B-1)

a) Manage, maintain, or improve public rangeland conditions to provide an initial level of 708 AUMs of forage on a sustained yield basis for 59 wild horses and maintain a thriving natural ecological balance. (WH/B-1, RPS c)

b) Maintain and improve wild horse habitat by assuring free access to water. (WH/B-1, RPS C.)

5) Improve to or maintain 86 acres of ceanothus habitat types in good condition. [2] (WL-1, RPS b.1)

6) Improve to or maintain 345 acres of mahogany habitat types in good condition. [2] (WL-1, RPS b.1)

7) Improve to or maintain 188 acres of aspen habitat types in good condition. [2] (WL-1, RPS b.1)

8) Improve to or maintain 529 acres of riparian and meadow habitat types in good condition. [2] (WL-1, W-3, RPS b 4.)

9) Improve to or maintain 15 acres of serviceberry, 82 acres of bitterbrush, 55 acres of ephedra, and 112 acres of winterfat vegetation types in good condition. [2]

10) Improve to, or maintain, stream habitat conditions from 67% (1990) on Paiute Creek, 45% (1992) on Battle Creek, and 50% (1989) on Bartlett Creek to an overall optimum of 60% or above. (WLA-1, RPS b.4)

Stream Habitat Condition Classification
(% of Habitat Optimum)
70-100% = Excellent
60-69% = Good
50-59% = Fair
0-49% = Poor

a) Streambank cover 60% or above.
b) Streambank stability 60% or above.
c) Maximum summer water temperatures below 70° F.
d) Sedimentation below 10%.

11) Protect sage grouse strutting grounds and brooding areas. Maintain a minimum of 30% cover of sagebrush for nesting and winter use. (WL-1, RPS b.3)

12) Improve to, or maintain, the water quality of Paiute, Battle and Bartlett Creeks to the State criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wading (water contact recreation), and wildlife propagation. (WL-1)

13) Improve to or maintain the 1000 acre Paiute seeding in good condition. (5-10 acres per AUM) (RM-2)

[1] The utilization levels will be used to evaluate and adjust management practices over a period of time.

[2] Ecological status will be used to redefine/quantify these objectives where applicable.

D. Key Species Monitored

1. Upland Habitat

Symbol	Scientific Name	Common Name
STTH2	Stipa thurberiana	Thurber's needlegrass
FEID	Festuca idahoensis	Idaho Fescue
STCO3	Stipa columbiana	Columbia needlegrass
POSE	Poa secunda	Sandberg's bluegrass
ORHY	Oryzopsis hymenoides	Indian ricegrass
ELCI2	Elymus cinereus	basin wildrye
AGSP	Agropyron spicatum	bluebunch wheatgrass

Symbol	Scientific Name	Common Name
ATCO	Atriplex confertifolia	shadscale
BASA3	Balsamorhiza sagittata	arrowleaf balsamroot
CRAC2	Crepis acuminata	tapertip hawksbeard
AMAL2	Amelanchier alnifolia	serviceberry
ARSP	Artemisia spinescens	bud sagebrush
PUTR2	Purshia tridentata	antelope bitterbrush
SYOR	Symphoricarpos oreophilus	snowberry
EULA5	Eurotia lanata	winterfat
LUPIN	Lupinus	lupine
SIHY	Sitanion hystrix	bottlebrush squirreltail
EPHED	Ephedra	ephedra

2. Riparian Habitat

Symbol	Scientific Name	Common Name
AGIN2	Agropyron intermedium	intermediate wheatgrass
CAREX	Carex spp.	sedge
POA++	Poa spp.	bluegrass
JUNCUS	Juncus spp.	rush
POTR5	Populus tremuloides	quaking aspen
ROWO	Rosa woodsii	woods rose
SALIX	Salix spp.	willow

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this monitoring evaluation is to assess if current management practices are meeting the allotment specific and LUP objectives and to identify management changes needed to meet objectives.

B. Summary of Studies Data

1. Actual Use

a. Livestock

Year	AUMs Used
1983	0
1984	6,283
1985	4,896
1986	0
1987	0
1988	1,487
1989	2,323
1990	2,521
1991	4,017
1992	Data not available until 2/28/93.

b. Wildlife (Existing Numbers)

The P-D EIS (1982) indicated the forage use was 1,869 AUMs for mule deer and 204 AUMs for pronghorn on this allotment for the period 1971-1975. The 1986 forage use was determined to be 2,552 AUMs for mule deer and 615 AUMs by pronghorn. Survey methods to determine forage use differed between the two time periods, so data is not comparable. In general population trends for big game animals has increased on the Black Rock Range in the last 10 years.

Eleven California bighorn sheep were released on the west side of the Black Rock Range in February 1992. Since that time several sheep have been observed on the east side of the Black Rock Range. The current forage use by bighorn sheep cannot be quantified at this time.

c. Wild Horses

1) Aerial Count

Records indicate that the Black Rock Range East HMA has had census or distribution flights conducted 23 times since 1969. These flights were either conducted by fixed wing (distribution) or helicopter (census).

A census is an attempt to count as accurately as possible all horses within the area. Distribution flights, as the name implies, are an attempt to determine the distribution of horses at the time of the flight, while counting the animals as accurately as possible. (A census also records distribution at the same time.) Census flights are flown with a helicopter. Using this aircraft type allows for a more accurate count, due to its slower speed and greater maneuverability. Distribution flights are flown with a fixed wing, due to cost constraints.

Data collected for the period 1969-1992 for both the Black Rock Range East and West HMAs is also presented and summarized in Appendix 3. Total numbers for the East HMA are as follows:

Distribution Flights

Year	Date	# Horses	Aircraft
1969	March 12	18	Unspecified
1970	Nov. 10	73	Unspecified
1974	Oct. 7	123	Super Cub
1975	July 1	115	Unspecified
1979	Feb. 6	261	Unspecified
1979	Sept. 17	471	Unspecified
1989	March 2	141	Cessna 206
1991	Jan. 30	322	Cessna 210
1991	July 26	435	Maule M5
1992	March 10	255	Maule M5
1992	May 23	525	Maule M5
1992	July 22	255	Maule M5
1992	Sept. 23	364	Maule M6

Census Flights

Year	Date	# Horses	Aircraft
1975	Feb. 10	92	Bell B-2
1977	Apr. 4-5	282	Bell B-1
1980	July 24-25	46	Bell B-1
1986	June 12	1075	Bell B-1
1987	Oct. 6,8	666	Bell B-1
1989	July 17-18	651	Bell Soloy
1990	Feb. 12-14	508	Bell Soloy
1991	Dec. 26-28	733	Hughes 500-D
1992*	Feb. 26	168	Hughes 500-D
1992	Oct. 22-23	351	Hiller SA/ Bell 47GB1

*Partial Census during horse gather.

The 1987, 1989, 1990, 1991 and 1992 distribution/census indicated wild horses were found north and south of Paiute Creek as follows:

Census Date	Paiute South	Paiute North	Total
1987 (October 6, 7)	448	218	666
1989 (July 17, 18)	458	193	651
1990 (February 12-14)	264	244	508
1991 (December 28)	455	278	733[1]
1992 (February 26)*	136	32	168[2]
1992 (October 22,23)	187	164	351

*Partial census conducted during horse gather

2) Wild Horse Removal Data

Four wild horse gathers have been completed on the Black Rock East and West HMA's since the winter of 1979-1980. The number of wild horses removed during each gather is as follows:

Year	Black Rock East	Black Rock West	Total
1979/1980	81	944	1,025
1986	27	166	193
1988	445	259	704
1992*	489	0	489

[1] 186 horses were counted east of the boundary

[2] 32 horses were outside of the HMA boundary

*137 wild horses were released back into the HMA following the gather in accordance with Bureau policy on unadoptable animals. Approximately 60 wild horses identified within the HMA were never gathered, leaving the total in the HMA following completion of the gather at approximately 200.

3) Actual Use

Forage (AUMs) consumed by wild horses in the Black Rock East (HMA) for the years 1987-1990 indicates more forage was consumed south of Paiute Creek.

Black Rock East (HMA)--Forage Consumption

	South Paiute			North Paiute		
Year	# of Wild Horses	Period	AUMs	# of Wild Horses	Period	AUMs
1987[3]	448 H	03/01-12/31	4,507	218 H	03/01-12/31	2,193
	203 H	01/01-02/28	394	18 H	01/01-02/28	35
1988[4]	231 H	03/01-02/28	2,772	21 H	03/01-02/28	252
1989[5]	231 H	03/01-07/18	1,056	21 H	03/01-07/18	96
	408 H	07/19-02/14	2,830	243 H	07/19-02/14	1,345
	264 H	02/15-02/28	122	244 H	02/15-02/28	112
1990	264 H	03/01-02/28	3,168	244 H	03/01-02/28	2,928
1991	455 H	03/01-02/28	5,460	278 H	03/01-02/23	3,336
1992[6]	146 H	03/01-10/22	1,133	98 H	03/01-10/22	1,176
	187 H	01/23-02/28	793	164 H	10/23-02/28	696

[3] Horse numbers change due to gather in 12/87

[4] Population was increased by 14% as no census was conducted in 1988.

[5] Horse numbers change due to censuses in July 1989 and February 1990.

[6] Horse numbers adjusted to reflect census in October 1992.

2. Climatological Data

Climatological Data (NOAA 1983-1991):

Two NOAA stations are presented due to their locations in relation to the allotment. The Leonard Creek Station is approximately 15 air miles NW of Paiute Meadows Ranch, and the Gerlach Station is approximately 36 air miles SW of Paiute Meadows Ranch. 1986 was the first year data was collected at Gerlach.

Leonard Creek Ranch Station
Precipitation (inches)

Year	Growing Season	Annual Total
1983	6.94 M	17.24 M
1984	3.00 M	8.50 M
1985	2.48	6.82 M
1986	4.85 M	9.60 M
1987	5.42	9.30
1988	2.94	8.11
1989	3.98	7.48
1990	4.67	7.19
1991	4.70	8.68

Nine year annual average = 9.21 M

Gerlach Station
Precipitation in Inches

Year	Growing Season	Annual Total
1986	3.71	7.20
1987	6.74	8.82
1988	2.72	6.68 M
1989	3.80	6.69
1990	6.28	8.38 M
1991	4.63	8.47

Six year annual average = 7.70 M

Growing season March - August
M = Partial or incomplete data

It takes approximately five months to receive the precipitation data from NOAA following the data collection, therefore 1992 data is not available at this time.

A Remote Automated Weather Systems (RAWS) meteorological station (Dry Canyon) was installed in June of 1986 approximately nine miles north of Soldier Meadows Ranch on the west side of the Black Rock Range at an elevation of 4,900'. This station is approximately ten air miles from the Paiute Meadows Allotment.

Dry Canyon RAWS Data
Precipitation (Inches)

Year	Annual Total
1986	1.2 M
1987	8.7
1988	5.8
1989	5.6
1990	3.9

5 year annual average = 5.04 M

Growing season March - August
M = partial or incomplete data

3. Utilization Data

a. Use Pattern Mapping (UPM)

Use Pattern Mapping (UPM) has been conducted for four (4) years over the period 1987 through 1990. A partial UPM was completed in April of 1991. In 1991 and 1992 utilization data at the four key areas and additional utilization study sites was collected and is summarized in the next section.

Use pattern mapping data indicates that the areas with heavy and severe use, occurred both north and south of Paiute Creek.

The UPMs are on file at the Winnemucca Office. For the years 1988 through 1991, cattle were authorized north of Paiute Creek only with some drift south of Paiute Creek. In 1992 monitoring data was collected through mid-July, with use extending into November 1992. Monitoring data is generally collected following removal of the livestock from the allotment, prior to the winter use period by wild horses and wildlife.

In these summaries, percent of area is the percent of the area that was actually mapped, not the percent of the whole allotment.

1) North of Paiute Creek

a) 1987
UPM completed in Fall 1987 to map Spring/Summer use.
Wild horse use only.

Heavy grazing use covered approximately 2% of the north area and was also associated with the lower end of Paiute Creek.

b) 1988
UPM completed in Fall 1988 to map Spring/Summer use. Wild horse use only.

Heavy grazing use covered approximately 1% of the north area and was indicated near Burnt Springs and Butte Creek.

A small area of moderate use was recorded along Bartlett Creek. Battle Creek was not mapped in 1988.

c) 1988/1989
UPM completed Spring 1989 to map year-round use by wild horses and winter use by cattle.

Heavy grazing use covered approximately 1% of the north area and was indicated near the upper end of Paiute Creek. Battle Creek and Bartlett Creeks were not mapped.

d) 1989
UPM completed Fall 1989 to map Spring/Summer use.
Wild horse use only.

Severe grazing use covered less than 1% of the north area. No heavy use was recorded. Slight to light utilization of streambank riparian vegetation occurred along Paiute and Battle Creeks. Bartlett Creek was not mapped in 1989.

e) 1989/1990
UPM completed Spring 1990 to map year-round use by wild horses and winter use by cattle.

Heavy grazing use covered approximately 19% of the north area.

Slight to light utilization of streambank riparian vegetation occurred along Paiute Creek. Light use was recorded along Bartlett Creek and light to moderate use along Battle Creek.

f) 1990
UPM completed in Fall 1990 to map Spring/Summer use.
Wild horse and cattle use.

Heavy grazing use covered approximately 49% of the north area. Heavy use of streambank riparian vegetation occurred along the north and south forks of Battle Creek..

Severe grazing use covered less than 1% of the north area. Severe grazing use of streambank riparian vegetation occurred along Paiute Creek, Battle Creek and Bartlett Creek.

2) South of Paiute Creek

Utilization was by wild horses only, with some livestock drift into the southern use area.

a) 1987
UPM completed in Fall 1987 to map Spring/Summer use.
Wild horse use only.

Heavy grazing use covered approximately 10% of the south area and was indicated primarily near water sources including Opal and Sheep Spring.

Severe grazing use covered approximately 11% of the south area and was indicated primarily near Indian and Pigeon Springs.

b) 1988
UPM completed in Fall 1988 to map Spring/Summer use.
Wild horse use only.

Heavy grazing use covered approximately 2% of the south area.

Severe use covered approximately 1% of the south area primarily near the seeding.

c) 1989
UPM completed in Spring 1989 to map year-round use.
Wild horse use only.

Heavy use covered approximately 12% of the south area.

Severe use covered approximately 16% of the south area and was indicated near Indian Cave and Pigeon Springs.

d) 1989
UPM completed Fall 1989 to map Spring/Summer use.
Wild horse use only.

Heavy grazing use occurred on approximately 2% of the south area and was primarily near Horse, Cherry and Pigeon Springs.

Severe use was not recorded.

e) 1989/1990
UPM completed Spring 1990 to map year-round use.
Wild horse use only.

Heavy grazing use covered approximately 39% of the south area. The heavy use was located in three different areas. The first area was around the Paiute seeding, the second was west of Elephant Mountain, and the last area was south of Pidgeon Springs.

Severe grazing use covered approximately 18% of the south area, between Cain Springs and Pidgeon Springs.

f) 1990
UPM completed Fall 1990 to map Spring/Summer use.
Wild horse use only.

Heavy grazing use covered approximately 42% of the south area.

Severe grazing use was also recorded at Trough Spring, Cancer Spring, Indian Spring, and White Rock Spring.

3) Paiute Seeding--South Paiute

The following information is a description of the grazing use patterns by year and use periods for the Paiute Seeding, which was generally mapped concurrently with the South Paiute area.

a) 1987
Heavy grazing use covered approximately 100% of the seeded area.

b) 1988
Heavy grazing use covered approximately 62% of the seeded area.

Severe grazing use covered approximately 38% of the seeded area.

c) 1989
Severe grazing use covered approximately 100% of the seeded area.

d) 1990
Severe grazing use covered approximately 16% of the south area primarily on the Paiute Seeding.

b. Utilization Data

Four key areas were established during the spring of 1990.

Key Area	Location
Big Mountain (057-01)	T.39N., R.26E., Sec. 6, SE¼, South of Paiute Creek
Battle Ck. #1 (057-02)	T.41N., R.26E., Sec. 25, NW¼, North of Paiute Creek
Battle Ck. #2 (057-03)	T.41N., R.26E., Sec. 13, SE¼, North of Paiute Creek
Emigrant (057-04)	T.38N., R.27E., Sec. 30, NE¼, South of Paiute Creek

A total of 30 utilization cages were established, including those at the four key areas. Utilization data as per the Key Forage Plant Method has been collected at the study sites and/or the key areas since 1990. The following table summarizes the utilization data at the study sites. The summary is broken down into the general locations of the cages as well.

Utilization levels measured in the spring are based on the previous grazing year's entire growth (PYG) and utilization. It does not reflect utilization on the current year's growth of vegetation. Spring monitoring was completed prior to or just after livestock turnout on May 01. Summer or fall utilization is based on the amount of forage utilized to date of the current year's growth (CYG). Monitoring in the fall is conducted following removal of the livestock from the allotment.

PYG = Previous Years Growth
CYG = Current Years Growth
nc = Cage not checked

South of Paiute Creek--Low elevation:

Utilization Level

	1990		1991		1992	
Cage No.	PYG Summer	CYG Fall	PYG Spring	CYG Fall	PYG Spring	CYG Summer
1	nc	nc	nc	slight	slight	nc
2	nc	nc	nc	heavy	heavy	no use
3 (057-04)	light	heavy	heavy	moderate	heavy	slight
4	nc	nc	nc	moderate	light	slight
5	nc	nc	nc	slight	light	no use
6	nc	nc	nc	light	slight	moderate
7	nc	nc	nc	no use	no use	nc
8	nc	nc	nc	light	light	nc
9	nc	nc	nc	nc	nc	nc

South of Paiute Creek--High Elevation:

Utilization Level

	1990		1991		1992	
Cage No.	PYG Summer	CYG Fall	PYG Spring	CYG Fall	PYG Spring	CYG Summer
10	nc	nc	nc	light	moderate	light
11	nc	nc	nc	slight	light	no use
12	nc	nc	nc	light	light	light
13	nc	nc	nc	light	moderate	no use
14 (057-01)	slight	moderate	moderate	nc	moderate	light
15	nc	nc	nc	nc	moderate	moderate

North of Paiute Creek - High Elevation:

Utilization Level

Cage No.	1990 PYG Summer	1990 CYG Fall	1991 PYG Spring	1991 CYG Fall	1992 PYG Spring	1992 CYG Summer
16	nc	nc	nc	heavy	heavy	slight
17	nc	nc	nc	moderate	heavy	slight
18	nc	nc	nc	nc	nc	moderate
19	nc	nc	nc	severe	severe	heavy
20	nc	nc	nc	nc	heavy	moderate
21	nc	nc	nc	light	heavy	slight
22	nc	nc	nc	moderate	heavy	light
23	nc	nc	nc	slight	light	slight
24 (057-02)	light	light	moderate	light	heavy	moderate
25	nc	nc	nc	nc	nc	nc
26 (057-03)	slight	moderate	moderate	heavy	nc	slight
27	nc	nc	nc	nc	nc	light
28	nc	nc	nc	nc	moderate	heavy
29	nc	nc	nc	nc	moderate	heavy
30	nc	nc	nc	nc	nc	no use

nc = not checked due to access restrictions or time/manpower restraints

Riparian Key Forage Monitoring

Seven utilization cages were placed along Battle, Bartlett, and Paiute Creeks. There are three cages on both Battle and Bartlett Creeks, and one cage on Paiute Creek.

Key forage plant monitoring was conducted in the riparian zone of Paiute, the north fork of Battle, and Bartlett Creeks in 1991 and 1992.

Paiute Creek - Utilization levels on key plant species averaged > 80% in 1991 and 62% in 1992.

North Fork of Battle Creek - Utilization levels averaged 56% in 11/91; 48% in 7/92; and 55% in 10/92.

Bartlett Creek - Average utilization level in 7/92 was 61% and 57% in 09/92.

Utilization levels =

no use	
slight	(1-20%)
light	(21-40%)
moderate	(41-60%)
heavy	(61-80%)
severe	(81-100%)

All four of the key areas are located in upland sites. These key areas were selected in coordination with affected interests in a field tour conducted in the spring of 1990. No key areas were selected in riparian habitats at that time. The existing key areas indicate that use levels change dramatically from year to year and season to season in the uplands.

c. The Quadrat Frequency Trend study method was initiated at the four key areas during the spring of 1990. Additional data is needed to quantify a change or trend at each key area.

Trend data was collected in 1979 at the Paiute Seeding Exclosure. No further data has been collected at this location. More data is needed to quantify a change or trend.

The Paradise-Denio EIS identifies observed trend as downward. (Refer to PD EIS Appendix G. Table 6-1 and Chapter II, 209 PD EIS)

5. Range Survey Data

a. A phase one watershed inventory was conducted in portions of the Paradise-Denio Resource Area from 1971-1974. Livestock forage condition was determined based upon data extrapolation and computations from this inventory. This data extrapolation resulted in the following condition classifications for the Paiute Meadows Allotment:

Good	Fair	Poor
0	15,938	161,158

Appendix G, Pg-28 of the P-D EIS provides more discussion on livestock forage condition.

b. In 1978 a range survey was conducted using the Ocular Reconnaissance Method to provide baseline data for analysis purposes in the Paradise-Denio EIS. The survey, along with suitability criteria indicated that 1,403 AUMs were available in 1978 for livestock and wild

horse use in the Paiute Meadows allotment.

6. Ecological Status Inventory

The order 3 soil survey field work has been completed on this allotment. The Ecological Status Inventory was completed in the summer of 1992. The data has not been compiled.

Ecological status was collected at four key areas during the spring 1990. The ecological status is as follows:

Key Area	Ecological Status
Big Mountain (057-01)	Mid Seral (39%)
Battle Ck. #1 (057-02)	Mid Seral (42%)
Battle Ck. #2 (057-03)	Mid Seral (33%)
Emigrant (057-04)	Mid Seral (49%)

7. Wildlife Habitat Inventory

a. Priority Species: Mule deer, sage grouse, pronghorn, bighorn sheep and Lahontan cutthroat trout.

b. Battle and Bartlett Creeks are designated as potential recovery habitat for the threatened Lahontan cutthroat trout.

c. Other species: chukar, Hungarian partridge and California quail.

d. Special habitat features

1) A special habitat features inventory was conducted in 1977 and 1978. This inventory identified the location and acres of special habitats, listed observed plant and wildlife species, and documented ocular observations of the condition and utilization of these habitats. This information was analyzed in the Paradise-Denio EIS.

2) Special Habitat acreage calculations are approximate figures that will be field checked as time permits.

Riparian habitat	529 acres
Aspen	108 acres
Curlleaf mountain mahogany	345 acres
Ceanothus	86 acres
Serviceberry	15 acres
Bitterbrush	82 acres
Winterfat	112 acres
Ephedra	55 acres

e. Habitat Evaluation

A habitat evaluation has not been conducted on this allotment.

8. Riparian/Fisheries Habitat

a. Stream Survey

Summaries of the stream survey findings follow:

1) Bartlett Creek

The pool-riffle ratio index was 78% of optimum in 1976, with riffles being dominant. Quality pools were seldom observed. In 1989, the NDOW stream survey indicated the pool-riffle ratio index had declined to 69% with only 6% of the observed pools rated as "quality" pools.

The stream bottom had an improved proportion of desirable materials: 64% in 1976 versus 76% in 1988. There was also a slight reduction in sedimentation: 22% sand and silt in 1976 versus 18% in 1988. However, there was also a shift in the proportions of the coarser rock substrate materials, resulting in a reduction of spawning gravel from 48% to 26%. Desirable stream bottom materials were 64% in 1976, 76% in 1988, and 74% in 1989.

Bank cover and stability were 50% and 61% of optimum, respectively in 1976. This improved to 76% and 86% in 1988. In 1989, NDOW stream surveys showed a decline in both bank cover (54%) and bank stability (51%) ratings.

The most pronounced effect from livestock was bank trampling and sloughing.

In 1976, 56% of the surveyed reaches of Bartlett Creek were shaded. Densiometer readings in 1989 showed a mean canopy density of 28%.

In 1976, the water was relatively clear at the upper stations, but became increasingly turbid downstream (30 Jackson Turbidity Units (JTUs) at S-1). Turbidity was not measured in 1988.

The habitat was 54% of optimum in 1976, with the main limiting factors being the lack of quality pools and poor bank cover. In 1988, the percent habitat optimum dropped to 50%. 1988 data does show that improvements were made in bank cover and stability (up 26% and 25% respectively). However, these improvements were most likely offset by the poor pool quality rating as a result of drought conditions. In 1989, the % habitat optimum remained the same at 50%.

1989 NDOW stream surveys also found Rainbow trout throughout several reaches of Bartlett Creek (NDOW 1989).

Although a BLM stream survey was not conducted in 1992, visual observations and monitoring of key streambank riparian plant species were conducted in 1991 and 1992 by the resource area fishery biologist. Results of this data indicated moderate to heavy livestock use on key riparian plants and woody species (mean use on 7/16/92 was 61%). Several locations along Bartlett Creek are showing heavy trailing which is contributing significant amounts of sediment to the stream. Streambanks are not recovering as they should be due to continuous livestock use in the stream/riparian zone. Heavy to severe use on young aspen trees has also been observed. These young aspen are critical in providing streambank stability and cover.

2) Battle Creek

The BLM stream survey of Battle Creek in 1976 found that pools constituted 39% of the stream. Of this 39%, few (<5%) were quality pools. The lack of quality pools lowered the pool quality index to 41% of optimum. In 1988, BLM found only 24% of the stream in pools, with a pool quality index of 35%. In 1992, the NDOW stream survey showed a pool quality index of 22%.

The stream bottom materials of Battle Creek in 1976 included 59% desirable materials and 28% sediments. Spawning gravel made up 37% of the bottom materials. In 1988 the bottom materials were 89% desirable materials and 15% sediments. Spawning gravel had decreased

to 25% of the bottom materials. Gravel and rubble (preferred substrate material) constituted 62% of the stream bottom in 1989.

Bank cover and stability of Battle Creek were 52% and 64% of optimum, respectively, in 1976. Ungulate damage ranged from 10% to 50%. In 1988, bank cover was 50% and bank stability was 71%. Bank damage was rated at 91%. The long periods of livestock use on this portion of the allotment have contributed to the increased bank damage that was observed between 1976 and 1988. In 1989, bank cover rated good at 61%. Bank stability was good at 67%. Preliminary data collected by NDOW in 1992 showed a slight improvement for bank cover to 69%, and a decline in bank stability to 55%.

Only 34% of the stream was shaded in 1976. The peak water temperature recorded during the two day survey in July was 64°F. Neither the percentage shaded, nor water temperature were determined in 1988. During the summer of 1990, a recording thermograph placed in Battle Creek indicated a peak temperature of 67.8°F.

Battle Creek stream habitat rated 59% of optimum in 1976. In 1988, this dropped slightly to 58%. Lack of pools and poor quality were the chief limiting factors. In 1989, the percent of habitat optimum improved to 63% on public lands, then declined sharply in 1992 to 45%.
Data collected in the 1992 NDOW stream survey conducted on the North Fork of Battle Creek is not available at this time. However, visual observations and key forage plant monitoring conducted in 1991 and 1992 by the Paradise-Denio Fishery Biologist indicated that stream and riparian condition are declining. Six consecutive years of drought combined with hot season use by livestock are impeding progress towards recovery of the north fork of Battle Creek. Although adequate water flows are present year round, streambanks are being degraded faster than they can be recovered. Very few quality pools exist due to excessive sediment loads.

3) Paiute Creek

The pool-riffle ratio index for Paiute creek was 92% in 1976. However, the small number of quality pools reduced the pool quality rating to 26% of optimum. In 1990, the NDOW stream survey showed a significant decline in pool quality to 3.4%. This rating is the percent of pools for a stream or stream reach with class one, two, of three quality pools.

The stream bottom of Paiute Creek in 1976 was 41% desirable materials and 30% sediments. Spawning gravel made up 36% of the stream bottom. In 1988, desirable materials comprised 98% of the bottom materials. Sedimentation was 9%. Spawning gravel were reduced to 31%. In 1990, desirable materials dropped to 41%.

The majority of the banks were deeply eroded, reflected as ungulate damage ratings of 50% to 90% throughout the four stations surveyed in 1976. Bank cover and stability were 39% and 58%, respectively. In 1988, bank damage was rated at 100%; severe bank erosion and accelerated erosion and sloughing occurred over virtually all of the surveyed portions of the stream channel. Bank cover and stability were 53% and 63%. In 1990, the NDOW stream survey indicated that overall damage from livestock use was light (6%). Bank cover and stability improved to 81% and 79% respectively.

Only 37% of the stream was shaded in 1976. The creek averaged 0.16 feet deep, with a flow of 1.03 cfs. These factors resulted in a maximum water temperature of 80°F, exceeding water quality standards. The percentage shading and water temperature were not determined in 1988, however the depth averaged 0.20 feet and, as stated above, bank cover still did not meet the objective. In 1990, the mean canopy density was 47%. The average water temperature was 74°F, with a maximum recorded temperature of 84°F, which exceeds state water quality standards.

In 1976, the habitat condition index for Paiute Creek was 50%. Warm water temperatures, a scarcity of quality pools, and poor benthic composition were

the primary limiting factors. The habitat condition declined to 43% of optimum in 1988 without livestock use in 1986 and 1987. The lack of pools and the degree of damage to the streambanks, which counteracts channel development toward providing better pool structure, were still the most critical factors in the poor habitat conditions. In 1990, the habitat condition index for Paiute Creek improved to 67% (NDOW 1990). According to the NDOW survey in 1990, "It appears that the principal limiting factors for Paiute Creek are poor pool structure (quality pools) and stream bottom substrate." Preferred substrate material rated fair overall.

Visual observations by the Area Fishery Biologist and studies conducted utilizing key forage plant monitoring technique indicate that stream conditions in the mid to upper reaches of Paiute Creek are declining. Severe use along the creek has prevented streambank recovery and establishment of woody species.

Current impacts to the streams can be attributed primarily to the livestock and wild horse use. The current riparian conflicts on Battle and Bartlett Creeks tend to be the result of the livestock management on those portions of the allotment. In addition, there has been a significant increase in wild horse use of the Battle Creek and Bartlett Creek drainages in recent years. More wild horses were observed in the North Fork of Battle Creek in 1992 during collection of monitoring data than in 1991, even following a wild horse gather in 1992. Seasonal use of these drainages by wild horses which migrate between Black Rock Range West and East HMAs also contributes to excessive use during the hotter parts of the year.

Paiute Meadows Allotment Stream Survey Data

Date of Survey	Survey Agency	Percent of Optimum	Percent Sedimentation (% Opt.)	Bank Cover (% Opt.)	Bank Stability (% Opt.)	Water Temp. (°F)
(Objective Levels)		>60	<10	>60	>60	<70
Bartlett Creek (all stations)						
08/2/76	BLM	54	22	50	61	63
07/11/88	BLM	50	18	76	86	--
09/20/89	NDOW	50	33	54	49	67
Battle Creek (all stations)						
08/4/76	BLM	59	28	52	64	64
07/18/88	BLM	58	15	50	71	--
10/17/89	NDOW	66	28	61	69	60
09/14/92	NDOW	45	--	69	54	--
Paiute Creek (all stations)						
08/3/76	BLM	51	30	58	58	80
07/13/88	BLM	43	9	63	63	--
07/31/90	NDOW	67	--	81	79	74

1993

9. Wild Horse and Burro Habitat

Population Data

Utilization data for the Black Rock Range East HMA as indicated by census data shows that forage utilization and populations are consistently greater south of Paiute Creek compared to north of Paiute Creek. For the period 1987 through 1992 forage consumed by horses south of Paiute Creek was 22,235 AUMs or 3,706 AUMs avg/year and north of Paiute Creek 12,169 or 2,028 AUMs avg/year for a total average of 5,734 AUMs.

UPM data collected from 1987 to 1990 indicated that the highest levels of utilization occurred south of Paiute Creek. Use patterns indicate the southeast portion of the HMA from Lone Spring and White Rock Spring south is the recognized winter use area. Horses are distributed throughout the allotment the remainder of the year.

Utilization data collected at utilization study sites and key areas throughout the allotment indicate seasonal use patterns by wild horses vary depending upon the climatic conditions. In the winter of 1991 to 1992, conditions were dry and mild. Wild horses were gathered from the lower elevations in February 1992, which reduced somewhat the amount of use during the remainder of the winter. However, concentrations of animals were still greatest in the lower elevations of the southern half of the allotment and HMA. The condition of the wild horses as they were removed varied from quite poor south of Paiute to fair north of Paiute. The utilization levels and patterns exhibited in 1991-1992 closely resembled those patterns and levels documented in the UPMs of 1987-1990. Some areas did receive much lighter use due to more open conditions over the winter. This allowed the wild horses to disperse to the higher elevations throughout the winter and spring months, than was apparent in past years.

Census data for 1987 through 1992 indicates an irregular population as well as distribution pattern in the Black Rock East HMA. Distribution in December 1991 placed 34% of the population north of Paiute Creek, and 66% south of Paiute Creek, demonstrating the key winter area of use is south of Paiute Creek. Distribution of wild horses following the 1992 gather has been erratic due to nearly immediate migration of animals from the West HMA into the East HMA following the conclusion of the gather. The October 1992 distribution flight indicates that at the present time there are 351 adult wild horses within the Black Rock Range East HMA. Of this population, 164 animals or 43% are

north of Paiute Creek, and 187 or 57% are south of Paiute Creek.

Data indicates that in 1980 the wild horse population on the HMA as observed by census was 46 animals. This census was conducted immediately following a wild horse removal from the East HMA. The 1986 census indicated a population increase to 1,075 animals. The number indicates a high probability of wild horses moving within the Black Rock Range between the West and East HMAs as this total far exceeds what would be expected from an isolated population. It is also possible that horses are migrating into the HMA from other HMAs. In 1986 and 1987 livestock were not turned out on the allotment providing an opportunity for horses to utilize unused areas.

Census data shows the population expands further out into the Black Rock West and East HMAs as the total population increases. Wild horses have moved east of the Black Rock East HMA and south out of both HMAs. The wild horses in both HMAs have expanded their range north beyond Rough Canyon and Summit Lake Mountain, and as far north as the Mahogany Creek Exclosure and Dry Lake.

10. Water Quality

Available data - Lab analysis of water quality was done in 1976 and 1979 on Bartlett Creek and Paiute Creek. Stream survey water quality analysis with a Hach Kit was done in 1976 and 1989 on Battle, Bartlett, and Paiute Creeks.

Battle Creek - Temperatures are consistently too high for cold water aquatic life and fecal coliform and turbidity may also be problems, but more data is needed. TDS was low (1976).

This data predates the evaluation period and the current management applied to this allotment. Therefore, it is not indicative of the present status of the water quality within the three streams.

Current Data:

Bartlett Creek

Water quality data collected by NDOW in 1989:

Water Temperature

The average water temperature was 56.0°F with a maximum recorded temperature of 67.0°F and a minimum recording of 47.0°F. The mean air temperature was 67.5°F.

Water Chemistry

Water chemistry data was collected from the following stations and is as follows:

Station Tributary	pH	Alkalinity (mg/l)	Conductivity (UMHOS)	Sulphate (mg/l)
497	7.7	68.4	125	< 50.0
639	6.8	68.4	125	< 50.0
670	6.9	68.4	113	< 50.0
715	7.4	68.4	110	< 50.0
784	7.4	68.4	100	< 50.0
806	7.3	51.3	98	< 50.0
838	6.8	51.3	90	< 50.0
900	7.2	51.3	85	< 50.0
928	6.5	51.3	85	< 50.0
978	7.1	68.4	95	<50.0

Battle Creek

The following water quality data was collected by NDOW during stream surveys conducted on Battle Creek in 1989:

Water Temperature

The average water temperature was 52.8°F with a maximum recorded temperature of 60.0°F and a minimum of 48.0°F. The mean air temperature was 67.0°F.

Water Chemistry

Water chemistry data was collected from Stations 816, 904, 940, and 975 of the main stem stream (ms). Data was also collected from Stations 001, 193, 390, 570, 766, and 902 on the north fork tributary and Stations 001, 418, and 680 of the south fork tributary.

Station Tributary	pH	Alkalinity (mg/l)	Conductivity (UMHOS)	Sulphate (mg/l)
816/ms	8.0	102.6	165	< 50.0
904/ms	7.8	102.6	175	< 50.0
940/ms	7.8	85.5	160	< 50.0
975/ms	7.5	102.6	160	< 50.0
001/NF	7.5	85.5	140	< 50.0
193/NF	7.5	85.5	130	< 50.0
390/NF	7.3	68.4	125	< 50.0
570/NF	7.0	85.5	120	< 50.0
766/NF	6.8	68.4	95	< 50.0
902/NF	7.5	68.4	85	< 50.0
001/SF	7.0	85.5	200	< 50.0
418/SF	8.0	85.5	175	< 50.0
680/SF	7.5	119.7	170	< 50.0

Turbidity

The water was found to be clear and clean throughout the drainage.

Paiute Creek

Water quality data collected by NDOW in 1990 is as follows:

Water Temperature

The average water temperature was 56.0°F with a maximum recorded temperature of 67.0°F and a minimum recording of 47.0°F. The mean air temperature was 67.5°F.

Water Chemistry

Water chemistry data was collected from the following stations and is as follows:

Station Tributary	pH	Alkalinity (mg/l)	Conductivity (UMHOS)	Sulphate (mg/l)
732	7.5	102.6	200	< 50.0
775	8.0	85.5	200	< 50.0
869	8.0	102.6	250	< 50.0
912	8.0	102.6	225	< 50.0
967	8.0	102.6	226	< 50.0

11. Other Information

Normal maintenance on most range improvements has not been conducted, leaving them in poor condition. The majority of the developed water sources are in need of reconstruction. There are no boundary fences on the allotment with the exception of the northern boundary between Paiute Meadows and the Pine Forest allotment along Bartlett Creek.

The Paiute Seeding fence is in need of total reconstruction or complete abandonment with removal of materials. Several drift fences constructed over the years are of limited effectiveness due to maintenance and traffic.

The Rough Canyon Wildlife Exclosure located between Rough Canyon and the North Fork of Battle Creek has suffered from several factors. Evaluation of the effectiveness of this exclosure should be completed. A developed reservoir exists at the southwest end of the exclosure, just outside the fence which provides water to wild horses, wildlife and livestock. A great deal of pressure from grazing animals is exerted upon the fence as the result of the location of the reservoir. Modifications should be made in the design of this exclosure in order to accomplish to purpose and objectives. Elimination of the reservoir should be considered, to allow the moisture that is currently trapped outside the exclosure to filter through the meadows complex and enhance it's recovery. Currently this reservoir only holds water into late June. In addition, cattleguards should be placed at both ends of the exclosure on the main road to eliminate the need to open gates for vehicular traffic. Fence maintenance has been completed annually by the BLM. However, the gates are continually left open, allowing livestock and wild horses access to the meadow.

V. CONCLUSIONS

A. Short Term Objectives

Refer to Section III C.3 for Short and Long Term Objectives.

1. Use pattern mapping and utilization studies completed during 1990-1992 indicate this objective is not being met on Paiute Creek, Battle and Bartlett Creeks.

2. Use pattern mapping and utilization studies completed during 1990-1992 indicate this objective is not being met.

3. Use pattern mapping collected from 1987-1990, and utilization studies conducted from 1990-1992 indicate this objective is not being met. During 1987-1989, the highest levels of utilization have been south of Paiute Creek, which has been made by wild horses; however, use greater than 50% has occurred north of Paiute Creek in varying areas since 1989 due to wild horses and livestock.

4. Use pattern mapping indicates this objective is not being met for all years 1987, 1988, 1989 and 1990. Utilization studies in 1991 and 1992 confirm that this objective was not met in those years.

B. Long Term Objectives

1. ESI information has been collected but not quantified in order to evaluate attainment of this objective. The 1986 demand for mule deer was 2,552 AUMs, 615 AUMs for antelope and 0 AUMs for bighorn. Existing populations are estimated to be above reasonable numbers for mule deer and pronghorn antelope.

2. Baseline data has been collected during the initial year of establishment during 1990; however, additional data is needed to evaluate the progress towards achievement of this objective. Analysis of the short-term upland habitat objectives, primarily south of Paiute Creek, is an indication that progress towards achievement of this objective is not being made in this area of the allotment.

3. ESI data has been collected but not quantified in order to evaluate achievement of this objective. This objective will be redefined/quantified with ecological status condition as information becomes available.

4. a. Baseline data has been collected during the initial year of establishment during 1990, however additional data is needed to evaluate

the progress towards achievement of this objective, analysis of the short-term upland habitat objectives primarily south of Paiute Creek indicates utilization in the uplands is not being met. Use Pattern Mapping data indicates that the country south of Paiute Creek has received the highest levels of utilization.

b. This objective is being met.

5. ESI information has been collected but not quantified to evaluate the achievement of good condition in ceanothus vegetation types.

6. ESI information has been collected but not quantified to evaluate the achievement of good condition in mahogany vegetation types.

7. ESI information has been collected but not quantified to evaluate the achievement of good condition in aspen vegetation types.

8. ESI information has been collected but not quantified to evaluate the achievement of this objective. Analysis of short term objectives is an indication that progress is not occurring on 52 acres of riparian and meadow habitat but may be occurring on the other 477 acres of riparian and meadow habitats.

9. ESI information has been collected but not quantified to evaluate the achievement of good condition in serviceberry, bitterbrush, ephedra and winterfat vegetation types. Monitoring of age and form class structure in 1990 was satisfactory.

10. Comparison of stream survey data from 1976 with that from 1988, 1989, 1990, and 1992 shows the following:

Bartlett Creek

Data collected on stream conditions for Bartlett Creek reflect that habitat conditions have remained nearly unchanged through 1989. Although no stream surveys have been conducted on Bartlett Creek since 1989, visual observations and key forage plant monitoring by the Area Fishery Biologist indicate that stream habitat conditions have remained about the same or have declined.

Moderate to heavy livestock use along Bartlett Creek in 1991 and 1992 has increased mechanical damage to streambanks and has significantly increased the amount of fine sediment added to the stream.

Quality pools essential for fish survival in both summer and winter months were virtually absent. A majority of the existing pools have been filled with fine sediment and thus offer little, if any, protective cover for fish. This has been caused by not only livestock impacts but the lack of "flushing flows" as a result of six years of drought.

Battle Creek

Stream survey data indicates that stream conditions for Battle Creek improved from a fair rating of 59% in 1976 to a good rating of 66%in 1989. This improvement was most likely a result of the voluntary non-use and subsequent rest of the riparian areas along the stream. The 1992 stream survey data by NDOW indicated that stream conditions have since declined to a poor rating of 45%.

Moderate to heavy livestock use in the riparian areas as indicated by key forage plant monitoring data collected in 1991 and 1992 combined with wild horse use and the sixth consecutive year of drought are the major factors contributing to the decline in the stream habitat conditions.

Paiute Creek

Data reflects that habitat conditions improved on Paiute Creek from 51% in 1976 to 67% in 1990. However, although a stream survey was not conducted after 1990, visual observations and key forage plant monitoring by the Paradise-Denio Fishery Biologist in 1991 and 1992 indicate that riparian/stream conditions in the middle to upper reaches of Paiute Creek have declined to less than 60%.

Utilization from both livestock and wild horses has reached heavy to severe levels according to 1992 monitoring data. Woody species along the mid to upper reaches have been severely impacted decreasing the amount of cover and raising the water temperatures.

Pools are nearly absent from the upper reaches with a majority of the creek comprised of long, shallow, and wide riffles. Mechanical damage to streambanks was documented in several locations.

Monitoring data collected near the midpoint of the 1992 grazing season indicated that utilization levels in riparian/stream locations had already been exceeded. Late season use by livestock in

this allotment has resulted in the following problems:

a) increased stream temperature, due to loss of overhanging vegetation, that is less suitable for trout;

b) increased sedimentation from bank and upland erosion;

c) increased channel width due to hoof-induced bank sloughing and consequent erosion that reduces cover, decreases winter stream temperatures, and increases susceptibility to formation of anchor ice;

d) stream channel trenching or braiding that degrades instream habitats and increases the streams susceptibility to catastrophic floods;

e) and plant community alteration and/or vegetation loss that reduce bank cohesiveness, cover attributes, and terrestrial food inputs.

These findings indicate that better cattle and wild horse management in many, if not all, riparian zones in the Paiute Meadows Allotment is necessary if the full stream (fishery) productive potential is to be realized.

11. Baseline information and habitat condition has not been collected to evaluate the progress towards achievement of this objective. No vegetation treatments to reduce sagebrush have occurred during the evaluation period.

12. Baseline data has not been collected to evaluate the progress towards achievement of this objective.

13. Baseline and trend information has not been collected to evaluate the achievement of this objective. However, analysis of short term objectives indicates that progress is not being made towards achievement of this objective due to heavy and severe utilization by wild horses.

VI. TECHNICAL RECOMMENDATIONS

Background:

On November 22, 1991 a Final Full Force and Effect Multiple-Use Decision (MUD) for the Paiute Meadows Allotment was issued along with the Black Rock Range East Herd Management Area Gather Plan and a Livestock Use Agreement with Dan Russell, permittee. An Environmental Assessment was prepared for the

gather analyzing the alternatives to gathering and the impacts to the vegetative resources in the Paiute Meadows Allotment. The grazing decision was subsequently appealed by the Nevada Department of Wildlife, the Sierra Club and the Natural Resources Defense Council to an Administrative Law Judge (ALJ). The grazing decision and the wild horse gather plan were appealed by the Nevada Commission for the Preservation of Wild Horses, Wild Horse Organized Assistance, the American Horse Protection Association and the Humane Society of the United States of America to the Interior Board of Land Appeals. Additional consultation with these groups and the permittee took place from December 10, 1991 through January 1992 discussing the appeals and the potential for an agreement to withdraw said appeals. This consultation resulted in an agreement to proceed with the gather provided that the November 22, 1991 decision be vacated following the removal and that the interim number of horses to be left on the range would be 200 head. This agreement was signed on February 6, 1992 by the State Director.

Provisions of the agreement have been met as they relate to the wild horse issue. The wild horse gather commenced on February 12, 1992 and concluded February 22, 1992. Two hundred wild horses were released back to or remained in the HMA. On March 10, 1992 a distribution flight of the HMA was conducted. The number of wild horses observed within the Black Rock Range East HMA was 255, an increase of at least 55 animals in less than three weeks following the conclusion of the gather. The increase is most likely due to migration from the Black Rock Range West HMA which did not have any wild horses removed. Another distribution flight was conducted on May 23, 1992 which indicated 442 adult wild horses were within the East HMA, an increase of 187 animals. A third distribution flight was conducted on July 22, 1992 which indicated that 267 adult wild horses are within the HMA and adjacent areas. The October 1992 census indicated 351 horses on the Black Rock Range East HMA.

Upon appeal of the November 22, 1991 Full Force and Effect Multiple Use Decision, the decision and the appeals were transmitted to IBLA and the Office of Hearings and Appeals (OHA). Following the conclusion of the gather, the Bureau submitted a request to IBLA and OHA on March 6, 1992 to remand the decision and the appeals that were not withdrawn back to the Area Manager for reconsideration. Authority to supersede or vacate the decision could not be exercised until this action was completed. The resource area received an order from the ALJ remanding the decision and setting aside the appeals of the livestock portion of the MUD on March 27, 1992. The resource area received an order from IBLA remanding the decision and dismissing the appeals in part and setting aside the appeals in part on April 28, 1992. According to 43 CFR 4160.3(c), "Except where grazing use the preceding year was authorized on a temporary basis under §4110.3-1(a) of this title, an applicant who was granted use in the preceding year may continue at that level of authorized active use pending final action on the appeal." The appeals of the wild horse gather were withdrawn, however the livestock portion and the

remainder of the wild horse decision appeals remained in effect until the decision and the appeals were remanded back to the Area Manager for reconsideration as referenced above.

Another provision contained within the agreement pertained to consultation and process requirements prior to the issuance of a new decision. On February 19, 1992 a consultation meeting was held in Reno, Nevada for interested parties in the allotment evaluation process within the Paradise-Denio Resource Area. This meeting was attended by NDOW, WHOA, the Commission for the Preservation of Wild Horses, the Sierra Club, permittees and their representatives. Discussed at this meeting were several topics of concern to all parties including setting carrying capacities for livestock and wild horses, allotment specific multiple-use objectives and utilization levels. On March 10, 1992 a second consultation meeting was held in Winnemucca, Nevada specifically for the affected interests of the Paiute Meadows Allotment. This meeting was attended by the Nevada Department of Wildlife and the BLM. Several of the interest groups refused to attend on the basis that their appeals were still pending, a new decision had not been issued to vacate the previous Final Full Force and Effect Multiple-Use Decision, and upon advice of legal counsel. At this particular meeting, attendees (NDOW) were advised of the status of the decision and the effect on the 1992 grazing license.

On May 11, 1992 a proposed decision to vacate the November 22, 1991 Final Full Force and Effect MUD was issued to interested parties. This proposed decision became final on May 27, 1992 in absence of any protests. This decision was appealed by the permittee on June 11, 1992 and is pending.

In addition, the agreement stated that the Bureau would issue a new, proposed multiple-use decision for the Paiute Meadows allotment following consultation requirements. A new decision could not be issued until IBLA remanded the case back to the district for reconsideration. This precluded the Bureau's ability to issue a decision to the permittee affecting only his license. The agreement specified a proposed "multiple-use decision" would be issued. All of these factors resulted in the authorization of active preference to the permittee in the 1992 grazing season, in spite of numbers of wild horses in excess of the AML and the carrying capacity. For 1992, this will result in an approximate use by wild horses and livestock of 7,923 AUMs, and will exceed the carrying capacity by over 3,257 AUMs, or 70%.

The agreement also stipulated that a new decision action cannot take place without further consultation and coordination with the Sonoma-Gerlach Resource Area's planning efforts for the Soldier Meadows Allotment and the Black Rock Range West HMA. The Paradise-Denio Resource Area is working closely with the Sonoma-Gerlach Resource Area to identify the interrelationships between the two HMAs in the Black Rock Range and the two allotments. Recommendations have been developed in the form of several alternatives to manage the Paiute Meadows allotment and the Black Rock Range East HMA and

are presented in the revised Technical Recommendations section below. The body of the Draft Evaluation has not been revised with the exception of the appendices where reference to 1991-1992 data is made. This second draft allotment evaluation is the next step in the consultation process following the withdrawal of the appeals and the subsequent remanding of the decision to the district for reconsideration. No changes have been made through Section VI. The allotment evaluation has been revised from Section VI - Technical Recommendations. As this is considered a second draft allotment evaluation, the contents through Section IX - Summary of Comments and Responses will be revised following the comment period for this draft, and presented in the Final Evaluation. The Selected Management Action may be determined from these recommendations and any other alternative designed to meet management objectives that are presented to the Bureau in the consultation process. Additional drafts and/or public meetings may be held to discuss additional alternatives if it is warranted.

1. Recommended Alternatives

The following three alternatives have been developed following consultation with affected interests for the Paiute Meadows Allotment. These alternatives are presented for the carrying capacity, the wild horse AML, and the livestock grazing management of the allotment.

Horses were allocated 43% of the AUMs in the North Paiute use area and 57% of the AUMs in the South Paiute use area based on the distribution of horses during the October 22, 1992 census.

Reasonable numbers for wildlife were identified in the LUP and are not apportioned AUMs in the following alternatives.

Alternative 1.

a. Carrying Capacity

The combined carrying capacity for livestock and wild horses shall be 4666 AUMs as determined through analysis of the monitoring data collected from 1987 through 1990. Monitoring data collected in 1991 and 1992 indicate that utilization levels and distribution are similar to previous patterns. Wild horse numbers increased in 1991 and decreased in 1992, while livestock numbers in the North Paiute use area remained the same throughout the monitoring period.

Analysis was completed in accordance with BLM Technical Reference 4400-7, "Analysis, Interpretation and Evaluation", utilizing the Desired Stocking Level Formula and a weighted average of utilization using the heavy and severe use zones (see Appendix No. 2 for details). At the

present time, key areas have only been designated in upland sites.

b. Wild Horses

Combine the AML of the Black Rock Range East HMA with that of the Black Rock Range West HMA due to the documented migration of wild horses between the two HMAs. The combined AML would be based on the carrying capacities and thriving natural ecological balances within each allotment. The HMAs would be combined to assist in orderly administration of the Paiute Meadows and Soldier Meadows allotments. This would be accomplished by allowing both HMAs a percentage of the total AML based on historical distribution, and by making adjustments in other resource uses.

This action is necessary due to the historical migration and distribution patterns of the wild horses within both HMAs. Distribution flights and census conducted from 1969 to the present, indicate a tendency for the wild horses to regularly migrate between the two HMAs. The numbers of animals and the patterns of use are not consistent within the HMAs.

Livestock use has been one of the multiple-uses of this allotment since prior to the signing of the Taylor Grazing Act in 1935. The livestock grazing active preference was adjusted by 44 percent in 1990 from 7827 AUMs to 4350 AUMs in a transfer to prevent licensing above the carrying capacity of the allotment. The livestock grazing preference may be adjusted again to achieve the carrying capacity of the allotment during the interim and the long term management of the allotment.

There were several years in the mid 1980s when the livestock operator did not activate the grazing preference for use. This was voluntary, and did not eliminate the preference from availability for use at any time. During this period the Total Preference for the Paiute Meadows Allotment remained at 7827 AUMs, with 4350 AUMs of Active Preference and 3477 AUMs of Non-Use.

It is recommended that the combined AML for the Black Rock Range East/Black Rock Range West HMAs be 247 animals under this alternative. The recommended AML has been derived by using the monitoring data from the Paiute Meadows and Soldier Meadows allotments. Analysis of the monitoring data for Paiute Meadows indicates that the carrying capacity for livestock and wild horses is 4,666 AUMs. In the Paiute Meadows allotment, the Land Use Plan proportion of wild horses and livestock was 92% livestock and 8% wild horses. Allocation

of the carrying capacity following that proportion will result in 373 AUMs for wild horses in the Black Rock Range East HMA. In the Black Rock West HMA, based on a 20 percent use level in rested pastures, the forage available for wild horses is 2,592 AUMs (see Soldier Meadows Evaluation for rationale). In combining the East and West Black Rock Range HMAs, there would be 2,965 AUMs of forage available for an AML of 247 adult wild horses. We propose to call the combined HMA the Black Rock Mountain HMA.

Natural tendencies for the animals to distribute through both HMAs/allotments should result in approximately 124 animals utilizing the Black Rock Range East HMA year round. This estimate is based on historical distribution and census data that indicates that the proportional distribution of wild horses between the two HMAs is approximately 50% in the West HMA and 50% in the East HMA. This would result in a total of 1,488 AUMs used by wild horses in the Paiute Meadows Allotment (approximately 636 AUMs in the north and 852 AUMs south of Paiute Creek).

All current Bureau policies related to wild horse management will be followed in the achievement of the AML. All wild horses 6 years of age and older will be allowed to remain in the HMA. Gather of excess wild horses will be planned for FY94 (Fall 1993) and FY99 (Fall 1998) until the AML is reached, and then only on an as needed basis for maintenance when the wild horse population exceeds the AML of 124.

The results of the model indicate that the AML will not be reached until after a partial gather in 1999. During the interim period the wild horses alone would require the entire carrying capacity in 1993, and between 30-68% of the carrying capacity between 1994 and 1999.

c. Livestock

1. 3178 AUMs would be available to livestock for use within the Paiute Meadows Allotment. 1998 AUMs available north of Paiute Creek and 1180 AUMs held in non-use, until range conditions improve, south of Paiute Creek. Grazing management must be compatible with other uses within the allotment, including wild horses and wildlife. Current monitoring data indicates utilization by livestock in excess of management objectives in riparian habitats in the North Paiute Use Area on Bartlett, Battle and Paiute Creeks at the previous authorized level of 4350 AUMS during a season long use period from May through October. A

reduction in preference to 3178 AUMs and a change in the season of use would provide for the achievement of management objectives for the vegetative and aquatic resources. The grazing management of the Paiute Meadows Allotment would be changed as follows:

From:

Total	Preference Suspended	Active	Not Scheduled	Active Use
9932	2105	7827	3477	4350

To:

Total	Preference Suspended	Active	Not Scheduled	Active Use
9932	6754	3178	1180	1998

Current BLM regulations state that reductions shall be implemented by decision or agreement, with adjustments exceeding 10% of the Active Use
implemented over a five year period unless an agreement can be reached with the permittee to implement it sooner.

2. Implement a grazing system in the North Paiute Use Area only. Livestock grazing will not be scheduled for the South Paiute Use Area until such time as monitoring data indicates that livestock grazing may resume in a thriving natural ecological balance with the other multiple-uses.

   The grazing system for the Paiute Meadows Allotment would be as follows:

   North Paiute

   Low Elevation
   509 cattle 03/15 to 05/15 1006 AUMs
   High Elevation
   509 cattle 05/16 to 07/15 992 AUMs

   Use will begin in the lower elevations east of the Leonard Creek Road. Livestock use of the higher elevations will be deferred until after May 01 by salting and herding practices.

   All livestock will be removed from the allotment prior to July 15 of each year. Livestock use will not be authorized in the South Paiute Use Area until the AML for wild horses has been attained and the vegetative resource has recovered. Winter use by livestock will not be authorized due to direct conflicts with wildlife and wild horse use of the area during winter months.

Designated Areas of Use:

The areas of use are unfenced. Intensive herding practices will be required to ensure that livestock remain in the designated use areas. This may entail a full time range rider to be working livestock during the authorized use period.

Use Areas:

1) North Paiute Use Area:

This area would include all the lower foothills and alluvial fans along the eastern portion of the allotment north of Paiute Creek that fall below 1550 meters in elevation. The high elevation use area would include Paiute Creek above the drift fence and higher country above 1550 meters in elevation.

2) South Paiute Use Area:

This use area would not be authorized for livestock use. This area is the southern portion of the allotment specifically from Paiute Creek south including the higher country above 1550 meters in elevation and the low elevation country below 1550 meters, and would be designated for wild horse and wildlife use only.

Terms and Conditions:

Salt and/or mineral blocks shall not be placed within one quarter (¼) mile of springs, streams, meadows, riparian habitats or aspen stands.

The permittee is required to perform normal maintenance on the range improvements to which he has been assigned maintenance responsibility.

The permittee will be required to do the necessary riding to keep livestock in the proper use area during the proper time periods.

Range Improvements

Field survey of feasibility for development of alternate water sources within the allotment will also be conducted within that time frame. Project planning will incorporate development of previously undeveloped water sources to improve water availability for wildlife, wild horses and livestock.

Paiute Seeding

The Paiute Seeding Fence will not be reconstructed. The seeding area is in poor to fair condition following over 10 years of use without adequate fencing. Existing fence materials will be removed, and the area will be managed along with the adjacent uplands. Wild horse and wildlife populations rely upon the existing reservoir in the seeding for water during the summer months. This water is critical to wild horses and wildlife in drought years.

Other Fences

Several areas along the western boundary of the Paiute Meadows allotment above Battle Creek and Bartlett Creek have been identified as providing opportunities for drift to occur into neighboring allotments and their riparian habitats. Construction design and implementation of "gap" or "drift" fences will be initiated to restrict drift of livestock. These fences will not be continuous, and may require modification as livestock and wild horses adjust to their presence.

Rationale:

The Paiute Meadows Allotment has experienced inconsistent management of livestock for the past 13 years. The livestock operation has changed hands, non-use has been taken in amounts varying from 20% to 100% due to changes in the livestock operators, range improvements have not been maintained, and forage production and water availability are minimal in some areas due to drought.

The wild horse population has likewise experienced great variation in numbers and management. The initial numbers established by the Land Use Plan have not been achieved except for short periods immediately following a gather. Numbers of wild horses have increased in both the West HMA and the East HMA due reproduction, and migration from adjacent HMAs. Regular gathers to achieve the Land Use Plan number of 59 have not been performed. Gathers have occasionally been conducted on the East HMA and not the West HMA, creating a niche in the habitat, which is filled in by migrating horses, making retention of the population at or close to the initial number impossible.

It is the objective of the Bureau to manage for a thriving natural ecological balance and multiple-use relationship in the Paiute Meadows Allotment. The livestock operation has taken 44% non-use of the active preference since 1990 as a result of a transfer to the current permittee. The livestock active grazing preference will again receive a reduction as a result of this option, for a reduction in total preference of 76%. The wild horse AML would be combined with the West HMA

for a combined AML of 247 wild horses, to ensure that management objectives are achieved for the vegetation resource within both HMAs and allotments. This combination of adjustments is necessary to achieve the carrying capacity of the Paiute Meadows allotment of 4,666 AUMs.

This carrying capacity was derived from monitoring data collected on the allotment from 1987 through 1990. (See calculations, Appendix 1) Monitoring data has indicated that vegetative objectives are not being achieved in both the North Paiute and the South Paiute use areas of the allotment. Therefore, an adjustment is needed in the authorized use by livestock and the wild horse population size to achieve the thriving natural ecological balance of the allotment.

In addition, long term stream habitat objectives have not been met in the North Paiute Use area. Wild horse populations use the stream habitats year round, but not in the same manner that livestock utilize them. Prior to transfer of the grazing preference to the current permittee, and authorization of 56% of the grazing permit, improvement in stream habitats was noted. A reduction in the season of use for livestock is necessary to ensure continued growth of riparian vegetation and improvement towards long term streambank riparian habitat conditions in the absence of riparian habitat protection fences. The additional reduction in active preference combined with the change in the season of use will ensure that progress.

Alternative 2.

a. Carrying Capacity

The combined carrying capacity for livestock and wild horses shall be 4,666 AUMs as determined through analysis of the monitoring data collected from 1987 through 1990. Monitoring data collected in 1991 and 1992 indicate that utilization levels and distribution are similar to previous patterns. Wild horse numbers increased in 1991 and decreased in 1992, while livestock numbers in the North Paiute use area remained the same through the monitoring period.

Analysis was completed in accordance with BLM Technical Reference 4400-7, "Analysis, Interpretation and Evaluation", utilizing the Desired Stocking Level Formula and a weighted average of utilization using the heavy and severe use zones (see Appendix No. 2 for details).

b. Wild Horses

Maintain the current wild horse numbers established in the Land Use Plan of 59 adult wild horses within the Black Rock Range East HMA as the Appropriate Management Level (AML). This AML is based upon monitoring data collected from 1987-1990 that indicates the combined carrying capacity for the allotment is 4,666 AUMs. Adjustments to achieve the carrying capacity have been derived using the Land Use Plan proportion of wild horses and livestock within the Paiute Meadows Allotment of 92% livestock to 8% wild horses. If allocation of the carrying capacity follows that proportion it would result in an allocation of 373 AUMs for wild horses, and 4,293 AUMs for livestock. This equates to an AML of 31 animals, which is too low to maintain a viable population in the absence of migration. Therefore, the LUP horse numbers would be maintained as the AML, with an allocation of forage of 708 AUMS for wild horses and 3,958 AUMs for livestock.

All current Bureau policies related to wild horse management will be followed in the achievement of the AML. All wild horses 6 years of age and older will be allowed to remain in the HMA. Gather of excess wild horses will be planned for FY94 (Fall 1993) and FY99 (Fall 1998) until the AML is reached, and then only on an as needed basis for maintenance when the wild horse population exceeds the AML of 59.

The results of the model indicate that the AML will not be reached until after a partial gather in 1999. During the interim period the wild horses alone would require the entire carrying capacity in 1993, and between 30-68% of the carrying capacity between 1994 and 1999.

c. Livestock

1. Adjust livestock authorized active grazing preference to 3,958 AUMs.

From:

	Preference			
Total	Suspended	Active	Not Scheduled	Active Use
9932	2105	7827	3477	4350

To:

	Preference			
Total	Suspended	Active	Not Scheduled	Active Use
9932	5974	3958	0	3958

2. Implement a deferred rotation grazing system as follows:

North Paiute			
Low Elevation			
	961 Cattle	05/01 to 05/31	950 AUMs
High Elevation			
	961 Cattle	06/01 to 07/15	1379 AUMs
South Paiute			
High Elevation			
	473 Cattle	07/16 to 09/30	1161 AUMs
Low Elevation			
	473 Cattle	10/01 to 10/31	468 AUMs

All livestock will be removed from north of Paiute Creek prior to July 15 of each year.

The Paiute Seeding fence would be reconstructed to restrict wild horse use. Use of the Paiute Seeding by livestock will be deferred until after seedripe. Grazing use by livestock will be authorized in the seeding from July 16 through September 30 along with the use period in the high elevation area of the South Paiute use area. The utilization objective for the Paiute Seeding will be 50% of the standing crop.

All livestock would be removed from the allotment by November 01 of each year. Future adjustments to livestock preference would be based upon monitoring data analyzed in a re-evaluation process following three years of implementation of the grazing system. If objectives have not been met for two years in a row, re-evaluation will be initiated immediately, and adjustments may be made prior to the third year of implementation. Achievement of the AML may take as long as seven years to reach given population dynamics and current policies on the removal of wild horses from public rangelands.

Designated Areas of Use:

The areas of use are unfenced.

Use Areas

1) North Paiute Low Elevation Use Area:

This area would include all the lower foothills and alluvial fans along the eastern portion of the allotment north of Paiute Creek that are below 1550 meters in elevation.

2) North Paiute High Elevation Use Area:

This use area would be the northern portion of the allotment specifically from Paiute Creek north including the higher country above 1550 meters in elevation.

3) South Paiute High Elevation Use Area:

This use area would be the southern portion of the allotment specifically from Paiute Creek south including the higher country above 1550 meters in elevation.

4) South Paiute Low Elevation Use Area:

This use area includes the southern portion of the allotment south of Paiute Creek in the lower country below 1550 meters in elevation.

Terms and Conditions:

Salt and/or mineral blocks shall not be placed within one quarter (¼) mile of springs, streams, meadows, riparian habitats or aspen stands.

The permittee is required to perform normal maintenance on the range improvements to which he has been assigned maintenance responsibility.

The permittee will be required to do the necessary riding to keep livestock in the proper use area during the proper time periods.

This may require a range rider to be present with the livestock at all times.

d. Range Improvements

1. Reconstruct the Paiute Seeding Fence to standards designed to restrict wild horse use of the seeding, but permit wildlife access. Defer use in the seeding until after seedripe for two (2) years. Conduct vegetation production studies following fence construction and two years of rest to determine a stocking rate for the seeding. Maintenance responsibility for the seeding fence will remain with the permittee.

2. Construct an allotment boundary fence on the western boundary of the allotment/HMA to restrict wild horse migration into the HMA from the Black Rock Range West HMA. Fence should be continuous except where natural

barriers to wild horses are present. Fence should be designed to restrict wild horses but allow for wildlife migration. This fence is necessary to maintain the AML of 59.

3. Construct a riparian exclosure on Bartlett Creek. An existing northern boundary fence can be combined with a fence along the southern watershed of the Bartlett Creek drainage to create a riparian exclosure. Livestock use would not be authorized within the exclosure. Wild horse distribution is limited in this area as opposed to the Battle Creek drainages which have regular wild horse use, and therefore the exclosure would be less likely to impinge upon the wild and free roaming nature of the wild horses. Wild horse and livestock use of the Bartlett Creek drainage would be eliminated.

Rationale:

Achievement and maintenance of the AML is contingent upon the control of migration of other populations of wild horses into the HMA. Without horse-proof fences to prevent this migration, horses from neighboring HMAs will move into the area and immediately exceed the AML and then contribute to overutilization of the allotment. With the boundary of the allotment/HMA fenced, greater control of the movement of livestock could be exercised, eliminating drift into neighboring allotments. Use areas could be maintained with range riding on a regular basis. Control of horse movements within the HMA/allotment is not possible, therefore the year round wild horse population should be balanced to provide for a multiple-use relationship in the allotment.

This alternative confirms the AML as providing for the thriving natural ecological balance and multiple-use relationship.

Problems with this alternative would be restricted movement of wild horses due to fencing.

Alternative 3.

a. Carrying Capacity

The combined carrying capacity for livestock and wild horses shall be 4,666 AUMs as determined through analysis of the monitoring data collected from 1987 through 1990. Monitoring data collected in 1991 and 1992 indicate that utilization levels and distribution are similar to previous patterns. Wild horse numbers increased in 1991 and decreased in 1992, while livestock numbers in the North

Paiute use area remained the same through the monitoring period.

Analysis was completed in accordance with BLM Technical Reference 4400-7, "Analysis, Interpretation and Evaluation", utilizing the Desired Stocking Level Formula and a weighted average of utilization using the heavy and severe use zones (see Appendix No. 2 for details).

b. Wild Horses

The AML for the Black Rock Range East HMA shall be 59 animals. Monitoring data indicates that this AML will result in the achievement of management objectives if it can be maintained. An AML of 59 animals would provide 708 AUMs for wild horses. The remainder of the AUMS (3,958) would be allocated to livestock.

This AML is consistent with achieving a thriving natural ecological balance and maintaining the multiple-use relationship in the HMA. Monitoring data indicates that a reduction in the carrying capacity from the current 10000 AUMs of actual use to 4,666 AUMs is necessary to stop resource deterioration within the HMA and the allotment.

All current Bureau policies related to wild horse management will be followed in the achievement of the AML. All wild horses 6 years of age and older will be allowed to remain in the HMA. Gather of excess wild horses will be planned for FY94 (Fall 1993) and FY99 (Fall 1998) until the AML is reached, and then only on an as needed basis for maintenance when the wild horse population exceeds the AML of 59.

The results of the model indicate that the AML will not be reached until after a second partial gather in 1999. During the interim period the wild horses alone would require the entire carrying capacity in 1993, and from 30-68% of the carrying capacity from 1994 to 1999.

c. Livestock

1. Adjust livestock authorized active grazing preference to 3,958 AUMs.

From:

	Preference			
Total	Suspended	Active	Not Scheduled	Active Use
9932	2105	7827	3477	4350

Due to differences in carrying capacities in the North Paiute and South Paiute Use Areas the following schedule was derived.

To: **Year 1**

Total	Preference Suspended	Active	Not Scheduled	Active Use
9932	5974	3958	1628	2330

Year 2

Total	Preference Suspended	Active	Not Scheduled	Active Use
9932	5974	3958	2330	1628

2. Implement a rest rotation grazing system as follows:

Year 1

North Paiute
Low Elevation
594 Cattle 03/15 to 05/15 1174 AUMs
High Elevation
594 Cattle 05/16 to 07/15 1156 AUMs

South Paiute
High Elevation REST
Low Elevation REST

All livestock would be removed from north of Paiute Creek prior to July 15 in this year. Livestock use will not be authorized south of Paiute Creek during Year 1.

Year 2

South Paiute
Low Elevation
415 Cattle 03/15 to 05/15 821 AUMs
High Elevation
415 Cattle 05/16 to 07/15 807 AUMs

North Paiute
High Elevation REST
Low Elevation REST

Livestock would not be authorized any use north of Paiute Creek in Year 2. Livestock would not be authorized south of Paiute creek after July 15 in Year 2.

The Paiute Seeding fence would be reconstructed to restrict wild horse use. Use of the Paiute Seeding by livestock will be scheduled for concurrent use with the South Paiute use area, receiving complete rest every other year.
The utilization objective for the Paiute Seeding will be 50% of the standing crop.

Approximately one half of the allotment would be rested from livestock use each year, providing

forage and range for the wild horses on at least one half of the allotment every year. Future adjustments to livestock preference would be based upon monitoring data analyzed in a re-evaluation process following three years of implementation of the grazing system. If objectives have not been met for two years in a row, re-evaluation will be initiated immediately, and adjustments may be made prior to the third year of implementation. Achievement of the AML may take as long as seven years to reach given population dynamics and current policies on the removal of wild horses from public rangelands.

Designated Areas of Use:

The areas of use are unfenced.

Use Areas

1) North Paiute Low Elevation Use Area:

This area would include all the lower foothills and alluvial fans along the eastern portion of the allotment north of Paiute Creek that are below 1550 meters in elevation.

2) North Paiute High Elevation Use Area:

This use area would be the northern portion of the allotment specifically from Paiute Creek north including the higher country above 1550 meters in elevation.

3) South Paiute High Elevation Use Area:

This use area would be the southern portion of the allotment specifically from Paiute Creek south including the higher country above 1550 meters in elevation.

4) South Paiute Low Elevation Use Area:

This use area includes the southern portion of the allotment south of Paiute Creek in the lower country below 1550 meters in elevation.

Terms and Conditions:

Salt and/or mineral blocks shall not be placed within one quarter (¼) mile of springs, streams, meadows, riparian habitats or aspen stands.

The permittee is required to perform normal maintenance on the range improvements to which he has been assigned maintenance responsibility prior to the scheduled use each year.

The permittee will be required to do the necessary riding to keep livestock in the proper use area during the proper time periods. This may require a range rider to be present with the livestock at all times.

Non-Use

Non-Use shall be taken for the equivalent AUMs utilized by wild horses in excess of the AML of 59 to meet the carrying capacity of the allotment. Non-use will be held in the Not Scheduled category on an annual basis with the amount determined annually based on a census of wild horses within the allotment by March 31 of each year.

d. Range Improvements

1. Reconstruct the Paiute Seeding Fence to standards designed to restrict wild horse use of the seeding, but permit wildlife access. Conduct vegetation production studies following fence construction and two years of rest to determine a stocking rate for the seeding. Maintenance responsibility for the seeding fence will remain with the permittee.

2. Construct an allotment boundary fence on the western boundary of the allotment/HMA to restrict wild horse migration into the HMA from neighboring HMAs. Fence should be continuous except where natural barriers to wild horses are present. Fence should be designed to restrict wild horses but allow for wildlife migration.

3. Construct a riparian exclosure on Bartlett Creek. An existing northern boundary fence can be combined with a fence along the southern watershed of the Bartlett Creek drainage to create a riparian exclosure. Livestock use would not be authorized within the exclosure. Wild horse distribution is limited in this area as opposed to the Battle Creek drainages which have regular wild horse use, and would be less likely to impinge upon the wild and free roaming nature of the wild horses. Wild horse and livestock use of the Bartlett Creek drainage would be eliminated.

Rationale:

Achievement and maintenance of the AML is contingent upon the control of migration of other populations of wild horses into the HMA. Without horse-proof fences to prevent this migration, horses from neighboring HMAs will move into the area and immediately exceed the AML and then

contribute to overutilization of the allotment. With the boundary of the allotment/HMA fenced, greater control of the movement of livestock could be exercised, eliminating drift into neighboring allotments. Use areas could be maintained with range riding on a regular basis. Control of horse movements within the HMA/allotment is not possible, therefore the year round wild horse population should be balanced to provide for a multiple-use relationship in the allotment.

This alternative confirms the Land Use Plan wild horse numbers as providing for the thriving natural ecological balance and multiple-use relationship.

Complete rest of half the allotment from livestock use each year will insure progress towards meeting long term management objectives, as well as provide at least half the allotment to the wild horses for use year round while still achieving short term objectives for the whole allotment. With an adjustment to both wild horses and livestock, the streams in the north half of the allotment will not be utilized during the hot season in any year by livestock, and will be utilized minimally in the rested year by wild horses. This will ensure long term progress towards management objectives.

2. Objectives:

Revise the allotment specific short term objectives to the following:

The objective for utilization of key streambank riparian plant species (CAREX, JUNCUS, SALIX, POTR5, ROWO, POA spp.) on Paiute, Battle and Bartlett Creeks is 30%. Utilization data will be collected at the end of the grazing period.

The objective for utilization of key plant species (CAREX, JUNCUS and POA spp.) in wetland riparian habitats is 50%. Utilization data will be collected at the end of the grazing period.

The objective for utilization of key plant species (STTH, AGSP, FEID, ELCI, POA, ORHY, AMAL, PUTR, SYMPH, EPHEDRA, EULA) in upland habitats is 50%. Utilization data will be collected at the end of the grazing period.

Revise the allotment specific long term objective to the following:

Maintain and improve the free-roaming behavior of wild horses by protecting and enhancing their home ranges.

1) Manage, maintain, or improve public rangeland conditions to provide forage on a sustained yield basis for the selected AML for wild horses to maintain a thriving natural ecological balance.

2) Maintain and improve wild horse habitat by assuring free access to water.

VII. CONSULTATION

A. Consultation of this evaluation is listed chronologically as follows:

07/03/91 Initial draft evaluation sent to permittee and affected interests for review and comment.

07/15/91 Meeting with permittees consultant and attorney to discuss allotment evaluation.

07/26/91 Written comments on draft evaluation received from permittee.

08/13/91 Written comments on draft evaluation received from Nevada Department of Wildlife.

10/02/91 Written comments received from NRDC/Sierra Club.

11/01/91 Meeting with permittee to discuss management alternatives and potential agreement.

11/12/91 Meeting with permittee's consultant discussing carrying capacity and potential agreement.

11/14/91 Meeting with permittee's attorney and consultant to discuss carrying capacity and proposed agreement.

11/22/91 Livestock Use Agreement signed by permittee and BLM for the grazing management in the Paiute Meadows Allotment.

11/22/91 Full Force and Effect Multiple-Use Decision (MUD) was issued for the Paiute Meadows Allotment.

11/22/91 Notice of Intent to Gather and a Gather Plan for the Black Rock Range East HMA were issued to affected interests.

12/17/91 Appeal of the Full Force and Effect MUD received from the Nevada Commission for the Preservation of Wild Horses.

12/19/91 Appeal of the Full Force and Effect MUD received from Wild Horse Organized Assistance.

12/20/91 Appeal of the Full Force and Effect MUD received from the Nevada Department of Wildlife.

12/23/91 Appeal of the Full Force and Effect MUD received from the Natural Resources Defense Council and the Sierra Club (joint appeal).

12/24/91 Appeal of the Full Force and Effect MUD received the American Horse Protection Association, Inc. and The Humane Society of the United States.

01-02/92 Consultation meetings and telephone conversations held with appellant and affected interests that appealed the MUD to discuss appeal points and possible resolution.

01/20/92 Consultation confirmation letter sent from appellant to State Director.

02/06/92 Agreement reached between appellants of the wild horse portion of the Full Force and Effect MUD and the State Director to withdraw appeal to IBLA based on particular stipulated points. Note: NRDC/Sierra Club and NDOW did not withdraw their appeals to the ALJ as a result of this agreement.

02/92 The wild horse gather was conducted in the Black Rock Range East HMA.

02/24/92 Notice was sent to affected interests of a public meeting to be held on March 10, 1992 to discuss the Paiute Meadows Allotment re-evaluation.

03/06/92 The BLM requested to IBLA and the Office of Hearings and Appeals that the Final Full Force and Effect MUD be remanded back to the Resource Area for further consideration.

03/10/92 Consultation meeting was held for affected interests in Winnemucca.

03/27/92 Notice was received by the Paradise-Denio Resource Area that the Full Force and Effect MUD was remanded to the Resource Area by the Office of Hearings and Appeals, and the appeals filed by NRDC/Sierra Club and NDOW were set aside.

04/28/92 Notice was received by the Paradise-Denio Resource Area that the Full Force and Effect MUD was remanded to the Resource Area by IBLA and the appeals by the AHPA/HSUS, WHOA, and NCPWH were dismissed in part and set aside in part.

05/07/92 An appeal was received by the State Director, Nevada from NRDC/Sierra Club appealing the January 20, 1992 consultation confirmation letter.

05/11/92 Notice of Proposed Decision to Vacate the Full Force and Effect MUD of November 22, 1991 and to render the Livestock Use Agreement of the same date null and void was issued to all affected interests.

06/11/92 Appeal of the Notice of Proposed Decision was received from the permittee, Daniel H. Russell.

11/05/92 Second draft Paiute Meadows Allotment Evaluation sent out to permittee and affected interests for review and comment.

11/23/92 Written comments received from Johas and Associates concerning permittee's rights.

12/01/92 Written comments received from permittee concerning permittee's rights.

12/02/92 Written comments received from Nevada Department of Wildlife.

12/03/92 Written comments received from the Animal Protection Institute of America.

12/04/92 Written comments received from the Commission for the Preservation of Wild Horses.

12/04/92 Written comments received from Wild Horse Organized Assistance.

12/11/92 Written comments received from land owner, William Cummings.

12/14/92 Written comments received from the Sierra Club.

12/17/92 Meeting with affected interest to discuss comments on Paiute Meadows Allotment Evaluation.

01/13/93 Written comments received from Western Range Service.

01/25/93 Written comments from Johas and Associates, representing William Cummings.

B. Summary of Comments and Responses

First Draft

Comment: Key areas for the allotment do not appear to correspond with the long term wildlife objectives of the allotment.

Response: Only a partial establishment of key areas has been completed to date for the Paiute Meadows allotment. It is recognized that additional key areas must be established to completely represent the various multiple uses of the allotment.

Comment: Observations indicate severe and heavy use in the Sheep Creek and Deer Creek drainage are directly affecting the production of deer, antelope and sage grouse. Department [NDOW] mule deer data suggest that the poor conditions summer and winter ranges are causing excessive fawn mortalities during the winter months.

Response: Specific data pertaining to wildlife populations and fawn mortality has not been received by the Bureau to be analyzed or considered in this allotment evaluation. The Bureau's objective is to manage for good to excellent wildlife habitat throughout the allotment.

Comment: Data indicates the current and past wild horse use is a major factor in the condition of riparian habitat on this allotment. Serious overuse of riparian zones was occurring prior to 1988 when the District re-authorized livestock use. It is alarming that despite this knowledge, the District authorized 4,350 AUMs of livestock use on this allotment in 1990.

Response: Livestock use was not "re-authorized" in 1988. The active grazing preference for the Paiute Meadows allotment is 7,827 AUM's and was available for use in 1988 upon approval of grazing applications from qualified applicants. In 1990 an application for transfer of grazing preference and an application for the grazing permit was received. In responding to these applications and in consideration of the monitoring data available at that time it was determined that 4,350 AUMs of grazing

use was available for livestock in the North Paiute Use Area only.

Comment: Appendix 1 determines a stocking rate under the assumption of meeting 50% utilization on upland grass species. Analysis cannot support these stocking rates and seasons of use to meet 30% utilization on streambank riparian, 50% utilization of wetland meadows or 50% utilization of key mountain browse.

Response: Appendix 1 does not determine a stocking rate based on meeting 50% utilization on upland grass species alone. The methodology used represents a weighted average of the heavy and severe use zones as determined through use pattern mapping. These areas are the problem areas that do not allow for the achievement of multiple use objectives. The weighted average utilization figure was then applied to the desired stocking rate formula to achieve a 50% utilization objective. This applies to upland grass species, wetland riparian and/or browse. The utilization figure of 30% was not used as the majority of the data collected to date does not indicate a problem with achieving this objective. Only one year of data out of four indicates that this objective has not been achieved.

Comment: Since monitoring studies are not conducted to address the specific long term objectives for big game and sage grouse, data does not exist to allow for remedial actions to eliminate or reduce conflicts between livestock and wildlife.

Response: Multiple use objectives are developed to guide the management of the public lands and have been written in the form of short and long term objectives. Short term objectives are written to provide for the analysis of monitoring data such as forage utilization (including use pattern mapping) and actual grazing use made (livestock, wild horses and/or wildlife). The analysis of short term data provides an indication of whether or not progress is being made towards attainment long term objectives and is correlated and applicable to all resource uses including wildlife and livestock and allows for the determination of any necessary changes to those levels of use. It is not BLM policy to postpone the evaluation of multiple use objectives in lieu of collecting sufficient long term monitoring data to make conclusions as to current management of the public lands.

Comment: Develop an interim management decision to reduce cattle until horses are removed to appropriate management levels.

Response: A multiple use decision will be issued identifying any interim management needed until AMLs are achieved.

Comment: Delineate key areas for utilization and trend studies that address the specific long term objectives of this allotment for sage grouse, antelope and mule deer. Schedule the monitoring activities.

Response: The future establishment of key areas will be completed as workloads and funding permit. The scheduling of monitoring workloads is done on a yearly basis in line with available funding for that fiscal year. These studies will address wildlife objectives.

Comment: The permittee has not agreed to voluntary non-use after completion of the allotment evaluation.

Response: Voluntary Non-use is one option that may be utilized to assist in achieving allotment specific management objectives. If an adjustment in management is necessary to achieve objectives, the Bureau has other options available to implement the changes in management.

Comment: The document containing the land use plan objectives should be referenced/identified in the final allotment evaluation.

Response: The land use plan objectives are found in the Management Framework Plan. The MFP decisions are derived from these objectives.

Comment: The allotment [specific] objectives should be stricken from the AE as they do not conform to any regulatory process for development of allotment specific objectives that provides public input.

Response: The Bureau is required by FLPMA to establish goals and objectives to guide land use planning. The grazing regulations require that livestock grazing permits contain the terms and conditions necessary to achieve multiple use objectives for the public lands (4130.6).

The purpose of monitoring as defined in BLM manual 4400.21 & .22a is the periodic observation and systematic collection of resource data to determine the effects of management actions toward achieving resource management plan objectives, on allotments, and to enter into agreements or issue decisions for allotments requiring management changes. (4400-1A3)

The allotment specific objectives were derived from the LUP objectives which were general in nature. Quantification of the LUP objectives was necessary to evaluate the grazing management on the individual allotments. The allotment specific objectives are Bureau objectives for the management of the resources. The Bureau is mandated the responsibility for the management of the public lands under it's jurisdiction. It does not require a regulatory authority to develop resource management objectives by which to measure management.

The Bureau's Range Manual does state "...management objectives should be written so data from short term studies, such as actual use, utilization, and climate can be used to determine if objectives are being met." The short term objectives were developed to determine progress towards long term objectives and thereby towards LUP objectives.

Comment: The permittee and the public have not had opportunity to participate in the development of the allotment specific objectives.

Response: Consultation in the allotment evaluation process has been ongoing in the Paradise-Denio Resource Area since early 1988. This is the permittee and the public's opportunity to participate in the development of the objectives. Participation was provided to the general public and affected interests in the evaluation process through the following:

April 1988 public meetings were held in Denio, Orovada, Paradise Valley and Winnemucca to discuss the upcoming allotment evaluation process. A copy of the format for the evaluations was presented which included a provision for short and long term objectives.

August 1988 a draft Paiute Meadows allotment evaluation was provided to the permittee. The short and long term objectives used to evaluate the current grazing management were presented and analyzed in this document.

September 1989 a letter was sent to all permittees and affected interests from the general RPS mailing list to notify them of an upcoming public meeting to discuss the evaluation process.

September 1989 a public meeting was held and discussion of the evaluation process occurred.

January-April 1990 the grazing permit was transferred to the current permittee. Several meetings and correspondence regarding the allotment evaluation process occurred between the permittee and his representative and the BLM during this period.

Comment: Long term monitoring should be the primary criteria for evaluating range management success. Frequency objectives should be established.

Response: The Nevada Rangeland Monitoring Handbook and BLM Manual both give guidance for use of short term monitoring data in evaluating progress towards meeting long term objectives. Frequency objectives are generally established for specific key areas. The key area objectives for trend (long term monitoring) will be

established as the process continues.

Comment: Since there are no active fisheries within the allotment the stream condition and water quality objectives should be revised to reflect the current use in the allotment (ie; irrigation and livestock).

Response: Stream Survey data for Bartlett, Battle and Paiute Creeks indicate that currently there are rainbow trout in Bartlett Creek, and that as recent as 1967 there were fish found in Paiute Creek. All three streams are within the historic geographic distribution area of the Lahontan cutthroat trout and have been identified by NDOW, USFWS and the BLM as potential recovery streams for the threatened fish. The NDOW Draft Lahontan Cutthroat Trout Fishery Management Plan for the Quinn River Drainage Basin identifies all three streams as having high potential for rapid recovery. It further identifies the North Fork of Battle Creek as having the highest potential on the east side of the Black Rock Range.

Water quality standards must be met by Federal Law. The Clean Water Act of 1972 dictates that the state in which the water is located will establish the water quality standards. Compliance with these water quality standards has been the policy of the Winnemucca District as established in the 1982 Management Framework Plan/Land Use Plan. The standards are set for both point and non-point source pollution, not for beneficial use.

Comment: Actual use calculations should reflect the higher forage intake of wild horses.

Response: The Bureau does not employ conversion ratios for AUMs utilized on public lands. Current procedures employ a strict 1:1 ratio for cows:horses, cow:cow/calf, cow:steer. This applies to both wild and domestic horses.

Comment: An AMP should be completed for this allotment.

Response: An AMP will be developed as time and funding permit.

Comment: There are no proposals for direct protection of riparian areas.

Response: The selected management action is designed to assure achievement of the allotment specific objectives for the riparian areas. The carrying capacity of the allotment has been adjusted to a level that has been determined will assure achievement of both the short and long term objectives over time. Changes in the season-of-use and the grazing management of the allotment will also assist in achieving these objectives. Prior to the removal of the excess horses, livestock grazing may only be authorized in the North Paiute Use Area. This will reduce the current over obligation of the forage resource

in the interim.

Comment: New projects are entirely unwarranted.

Response: New projects include a drift fence on the west side of the Paiute Meadows allotment from the Pine Forest allotment boundary to north of Burnt Springs to prevent livestock drift. A riparian corridor fence is planned for the north fork of Battle Creek for the introduction of Lahontan cutthroat trout.

Comment: What criteria is used for selection of an alternative for the proposed decision.

Response: The selected management action is chosen after review of all the alternatives presented in the draft evaluation and any other alternatives submitted during the consultation phase. The rationale describes the changes that will be made in grazing management and what these changes are expected to achieve. Achievement of the allotment specific objectives is the primary goal of the Bureau, therefore the selected management is that which will achieve a thriving ecological balance for the vegetative resource on the public lands within the Paiute Meadows Allotment.

Comment: How did the Bureau determine the minimum number of horses (50) for a "viable" population.

Response: Research has been done on feral horse populations in regards to inbreeding and effective populations. Some of this research indicates that with a population of less than 50 individuals, the herd runs a risk of significantly losing it's genetic diversity after as few as five generations. In the case of feral horses, this can be as soon as five years. ('Effective population size estimates and inbreeding in feral horses: a preliminary assessment': Berg, W.J.. Equine Veterinary Science Vol.6, No. 5).

Comment: How did you determine 'thriving ecological balance'?

Response: W.O. Instruction Memorandum No. 90-491 defines 'thriving natural ecological balance' as: The condition of the public range that exists when management objectives in approved land use and activity plans have been achieved that will: (1) sustain healthy populations of wild horses and burros, wildlife, and livestock on public land and (2) protect the desired plant community from deterioration.

The Paradise-Denio Resource Area, through evaluation of the monitoring data collected through 1990 on the Paiute Meadows allotment, determined that the short and long term objectives were not being met. Adjusting the stocking rate to the carrying capacity as determined through the evaluation of the monitoring data was

necessary.

Second Draft

Comments Received from Nevada Department of Wildlife

Comment: The allotment evaluation is incomplete. Livestock actual use by pasture is not presented.

Response: This allotment is not fenced into pastures. Though there are use areas designated (e.g. "north of Paiute Creek", "east of the county road", etc.) and there are guidelines as to which part of the allotment turnout will occur on and where riders are to move cattle into and out of as the grazing season progresses, it should be recognized that livestock movements cannot be tracked as precisely on unfenced range as they can in fenced pastures.

Comment: The allotment evaluation is incomplete. Licensed livestock use in 1991 and 1992 is not shown. Grazing permits and mid-season authorizations were appealed by the Department based upon known practices (sic) that are harmful to fish and wildlife habitats. These data were collected by the District and must be included in this evaluation.

...The Soldier Meadows allotment evaluation has not been completed. The Soldier Meadows allotment evaluation must be available prior to making final comments on the Paiute Meadows allotment evaluation.

...In 1992, General Aquatic Wildlife Surveys were again conducted on streams within the allotment. These data were not included in the Draft Paiute Meadows allotment evaluation.

Response: The Department of Wildlife appealed our decision to make reductions in licensed use. This action resulted in licensing at the higher pre-decision level as per our regulations. The current draft is a revision of the 1990 evaluation. That evaluation found resource conflicts. Review of the 1991 and 1992 data shows the same conflicts. It was our judgement in 1991 that it was more important to address the conflicts by going ahead with the evaluation using the data which was available at that time rather than to wait for the 1991 data, which we expected to reflect a similar picture.

The Resource Area has coordinated closely with the Sonoma-Gerlach range staff. The results of the Soldier Meadows allotment evaluation were closely considered.

The Department of Wildlife further criticizes BLM for not including the 1992 GAWS stream survey data which we had not yet received from them at the time the evaluation went out for review.

Comment: The allotment evaluation has contrary (sic) data.

...the Department of Wildlife visited the District on November 17, 1992 to retrieve data and consult with the range conservationist. From this meeting, the Department was advised that there may be serious errors in the data presented. District stream survey data are contrary to data collected by the range conservationist.

...The range conservationist monitored the site (Site 14) in the Spring of 1992 and recorded "moderate" use (41 to 60 percent). ...However, on July 7, 1992 the same range conservationist recorded "slight" (21 to 40 percent) (sic) at Site 14 ...the utilization of key species decreased.

Response: The Department was advised on November 17 that site 14 had moderate use in the spring on the previous year's growth, reflecting winter grazing use. Site 14 had light use on July 7, reflecting spring and summer use on current year's growth.

Regarding the Department's observations of "significant" use, 36% utilization can easily be seen, particularly in the five foot circle around the cage enclosing ungrazed plants. The Key Forage Plant Method samples utilization along a paced transect in order to find the average utilization of several plants, rather than the maximum level observed on individuals at one spot. This accounts for grazing behavior where animals graze some plants while others remain untouched.

Comment: The allotment did not consider the Department's concerns.

The Department of Wildlife has repetitively pointed out the District's errors in estimating the livestock carrying capacity for the Paiute Meadows Allotment (See appeals). Methodology used in the draft allotment evaluation did not properly weight critical riparian habitats. Rangeland monitoring data collected since 1987 can show that the alternatives' stocking rates and seasons of use will cause damage to critical riparian habitats on this allotment...

Response: One of the prime considerations on which livestock reductions were based in the decision, which NDOW appealed, was the heavy and severe use on riparian habitats, particularly along the creeks. Currently, there are no key areas set up in the riparian areas so carrying capacity was calculated at the 50% utilization level using heavy and severe use found along the creeks and on the uplands. Potential key areas were set up in a meeting in January 1993 and will be finalized in 1993.

Comments Received from the Animal Protection Institute of America

Comment: We do not know when the 10 year permit expires and a new one is to be issued.

Response: The grazing permit was issued for the terms of the base property lease, from September 21, 1989 to September 24, 1994 however, once the evaluation process is finalized a new permit will be issued reflecting the decision.

Comment: On page 2, you refer to "adjudication" and the adjustment of usage in 1990 from 7827 AUMs to 4350 AUMs when the permit changed hands. Since that adjustment was expressed as "active/inactive AUMs" we assume it was a mid-term adjustment in accordance with FLPMA.

Response: When adjusting from total preference to 4350 AUMs the difference was put into non-use for conservation purposes.

Comment: Combining horse and cow usage in order to arrive at a total usage (eg. create a forage pie) which is then the basis for apportioning forage at a pre-determined ratio (after the ratio has been adjusted by horse reductions), doesn't correct damage or take into consideration the different grazing patterns of horses and cows.

Response: Monitoring data collected does consider the different grazing patterns of horses and cattle. The allocation of forage is proportioned to wild horses and cattle based upon the number of wild horses that will use the allotment within the Black Rock Range East and Black Rock Range West HMA's are combined and an AML of 250 horses established. The proportion will be 32% horses to 68% livestock.

Comment: The table (p. 12) shows that 1,025 horses were initially removed based on the 1978 range survey; but no corresponding reduction in livestock occurred. This one-side grazing adjustment left the "multiple use" ratio for this area at 92:8; cows to horses.

Response: The 1025 horses were removed from both the Black Rock East and West HMAs. Of this total, 81 were removed from the East.

Comment: Horse numbers don't add up on the tables. The table on page 58 also shows an increase of one horse in the north, between February 15 and February 28, 1990 who consumes 112 AUMs in those 13 days--a big eater.

Response: The horse numbers for the Black Rock East HMA were reviewed and corrected as appropriate. In the tables of horse numbers, nowhere is a figure of 445 horses for the entire allotment given. In 1988, 445 horses were removed from the Black Rock East HMA.

The 651 horses in 1989 represents the number observed 18 months after the gather of January 1988. Likewise the 408 horses in south Paiute. The 18 and 203 reflect the number of horses remaining in North and South Paiute, respectively, after the gather in January 1988. The increased number of horses in the table on p. 58 reflect changes in the aerial count made at those times. The 112 AUMs from February 15-28 were consumed by 244 horses, not one.

Comment: We do not have a copy of your use pattern maps which shows the conditions resulting from these grazing levels. Our copy of your 1991 census/distribution map shows 85 horses between Rough Canyon and Bartlett Creek and 107 horses between Rough Canyon and Paiute Creek. For us to know how many of each species are in the area where over-utilization is occurring we need to know how the cows are distributed in relation to the use pattern map.

Response: Use pattern maps were sent out prior to the 1991 evaluation, they are also available for viewing in the Winnemucca District Office.

Comment: You refer to a signed agreement between parties that "approved" the removal of horses--despite all statutory constraints and requirements of federal law governing removal of these protected wild horses. Since BLM represents the nation and wild, free-roaming horses are of national interest, we believe putting aside a federal law by private agreement violates the public trust.

Response: Regulation 4110.3-3(b) allows for changes in available forage to be implemented by decision or agreement. The Bureau did not set aside federal law.

Comment: Alternative 1, as stated, is not acceptable because it is not a coordinated, integrated, multiple use grazing decision that corrects over-utilization.

Response: Alternative 1 is an alternative that is designed to correct the over-utilization that has occurred on the allotment. It is multiple use oriented and is technically feasible.

Comment: Maintain the current AMLs set in the "Land Use Plan" violates the law. This makes Alternative 2 unacceptable.

Response: The Winnemucca District Land Use Plan did not set AMLs. It identified the number of horses present on the allotment as starting point for monitoring. The AML's to be established as a result of this evaluation will be based on the results of monitoring.

Comments Received from the Commission for the Preservation of Wild Horses and Wild Horse Organized Assistance

Comment: We protest the issuance of this entire draft AE, because it violates the agreement of February 7, 1992.

Response: The agreement required consultation with the Sonoma-Gerlach area concerning the management of the Black Rock Range East and Black Rock Range West HMAs. The areas worked very closely together to determine an AML for the combination of these HMAs.

Comment: There are obvious flaws in the monitoring data which shows heavy use after the growing period but shows slight use to justify livestock use (p. 20).

Response: The data in the first columns of the monitoring tables indicate the use on the previous years growth whereas the data in the second columns represents the utilization on the current years growth (pp. 18 & 19).

Comment: How can you determine an overall number of an AML for the two combined areas when the allotment evaluation which analyzes that monitoring data for the Black Rock West has not been issued or even considered in this document.

Response: The two resource areas worked very closely in determining an AML for the combined HMA. The Soldier Meadows allotment re-evaluation has been sent out for public comment.

Comments from William Cummings, prepared by Western Range Service

Comment: Adjustments in wild horse numbers must be based on the "thriving natural ecological balance" within the 1971 wild horse use area within the allotment. Such wild horse use area is located in the southern portion of the allotment, south of the line running east and west from Elephant Mountain and Little Big Mountain.

Response: The boundaries of the HMAs were set up in the Land Use Plan based on the areas where horses were found in 1971. The Paiute Meadows allotment is 100% within the Black Rock East HMA boundary.

Comment: Wild horse use is currently outside this area and is in excess of the "thriving natural ecological balance" of that area. Wild horse population levels are also greater than what the land use plan has determined to be the Appropriate Management Level (AML) of 59 head.

Response: The Land Use Plan did not set AML. The Land Use Plan identified the number of wild horses existing on

the allotment at the time the LUP was completed as a starting point for monitoring. The AML is being set by the evaluation process and will be based on monitoring.

Comment: These are not the land use plan objectives, but summaries of such land use plan objectives. The land use plan objectives as stated within the land use plan control, not the summaries of such objectives.

Response: The objectives stated in the evaluation are quantifications of the Land Use Plan objectives or objectives that came directly from the LUP.

Comment: The Rangeland Program Summary (RPS) , by definition, is not a land use plan. See 43 CFR 4100.0-5. The objectives stated within the RPS are not the objectives of the allotment.

Response: The RPS is one of the documents used in the LUP process to track the implementation of the Land Use Plan. The objectives stated in the RPS are the LUP objectives by allotment.

Comment: The land use plan (MFP) specifically provides that objectives for wild horses and burros, watershed, wildlife, and other resources will be established in the development or revision of an allotment management plan. See MFP RM 1.4. In addition the land use plan specifically provided that such objectives established in the development or revision of an allotment management plan will be reviewed or revised through the CRMP process or reviewed by the CRMP group following revision.

None of these prescriptions were followed.

Response: The MFP RM1.4 does not state that resource objectives for wild horses and burros, wildlife, and other resources be established in allotment management plans but rather that AMPs will include and give consideration to objectives for these resources. The CRMP process is a philosophy or an approach to resource management planning that strives to involve all the users of the Public Lands. We feel that the process we are using gives all interested parties an opportunity to become involved and meets the intent of the Land Use Plan for the Paradise-Denio Resource Area. Permittees and /or other interested parties have the freedom to organize a group or committee and submit recommendations for out consideration as we develop the selected management action.

Comment: The utilization objective of 50% for crested wheatgrass must be revised to 65%. Research data indicated that 65% is the proper use level for crested wheatgrass. However, the crested wheatgrass seeding in the Paiute Meadows Allotment has consistently received heavy to severe use from wild horses. Temporarily reducing utilization levels in the seeding should help

the vigor of the plants.

Response: There is no real consensus on the proper use level for crested wheatgrass.

Comment: The Nevada Rangeland Monitoring Handbook (1984) highly recommends the frequency sampling procedure to measure trend in long term monitoring. Although frequency studies have been established in Paiute Meadows allotment, this draft evaluation fails to include frequency objectives.

Response: The BLM has conducted Ecological Site Inventory (ESI) on the Paiute Meadows allotment. At present the data has not been interpreted, but should be done in a timely manner. When this is complete, BLM will be managing for Desired Plant Communities and objectives for desired plant communities will be established at this time.

Comment: Big game objectives must be specifically identified in the Paiute Meadows allotment. The Nevada Division of Wildlife may include habitat areas for several wildlife species. Often the desired habitat conditions for one wildlife species may be incompatible with other wildlife species. For example, good pronghorn antelope habitat may not be good mule deer habitat. If there is the potential for incompatibilities between the desired habitat conditions, the objectives for a given area must be completed.

Response: The state of Nevada manages the wildlife populations, when desired plant community objectives are established big game needs will be considered.

Comment: BLM must ensure that progress is being made to provide 7827 AUMs of livestock forage as stated in the Rangeland Program Summary and allotment evaluation. Any BLM program or process must include the as an objective to provide 7827 AUMs of livestock forage. Reasonable and timely progress toward that goal and objective must be completed.

Response: The evaluation will identify the carrying capacity of the allotment and then BLM will manage the resources to maintain and/or improve the condition and carrying capacity of the range.

Comment: Even under the best conditions and management, a change from poor to fair range condition will take many years. BLM should not expect to improve the entire Paiute Meadows allotment a full range condition class (eg. poor to fair condition) within a normal planning period, 20 or more years. There may be areas within the allotment that will never improve without some mechanical, chemical, or other treatment.

Response: BLM will be interpreting the collected ESI data to determine the present condition of the allotment and establish reasonable and attainable objectives.

Comment: Wild horses in the Paiute Meadows allotment must be maintained at a level of 59 or fewer horses in order to obtain a thriving natural ecological balance and meet land use plan requirements.

Response: The AML for the Black Rock HMA has been determined to be 247 wild horses. This number is based on monitoring the Black Rock Range East and Black Rock Range West HMAs and the fact that 50% of the use by wild horses will be made in the Paiute Meadows allotment. Livestock use will be balanced with this use to achieve the thriving natural ecological balance.

Comment: Objectives 5 to 9 must be deleted until they are positively located and identified in the allotment and until the criteria for determining good condition for the various habitat types are clearly identified.

Response: ESI data has been collected for this allotment. This inventory identifies the areas where these vegetation types occur and their condition.

Comment: The stream condition objectives (10) must be revised since there are no active fisheries in the Paiute Meadows allotment at this time. The stream condition objectives (10) are primarily designed for obtaining optimum fish habitat conditions.

Response: According to the 1989 NDOW stream survey report, Bartlett Creek supports an active trout fishery as well as a non-game fishery. All three streams within the allotment (Battle, Bartlett, and Paiute) have been designated by the Winnemucca BLM District as "Potential" Lahontan cutthroat trout habitat.

While Battle Creek does not currently support a fishery, stream habitat condition objectives were developed to also satisfy state water quality standards.

Comment: If BLM determines through the appropriate land use planning process that an active fishery should be developed in the Paiute Meadows allotment, we recommend that a riparian exclosure on public lands be developed on the upper reaches of Bartlett Creek to provide habitat for such a fishery.

Response: The Paradise-Denio Fishery Biologist supports development of a riparian exclosure along Bartlett Creek. The North Fork of Battle Creek is currently being considered as fishery habitat for Lahontan cutthroat trout. A major factor for this consideration is that this system (N. Fork Battle Creek) currently does not support a fishery.

Comment: Actual use calculations should reflect the higher forage intake of wild horses. Forage intake of wild horses is greater than for cattle. Therefore, the animal unit equivalent used for calculating AUMs of wild horse use is greater than the 1.0 value used for cow/calf pairs. Using a conservative animal unit equivalent value of 1.25 for wild horses, 59 horses will consume 885 AUMs in one year.
Response: BLM uses a 1:1 ratio for calculating AUMs, there is no conversion factor.

Comment: Average utilization of the locations examined by BLM during Spring 1992 was 48% using utilization category midpoints. The average utilization of locations examined by BLM during July 1992 was 26%.

Response: This has already been addressed in previous responses under comments from the Commission for the Preservation of Wild Horses and Wild Horse Organized Assistance.

Comment: The priority of wildlife species in the Paiute Meadows allotment must be determined by public input such as the development of an AMP. BLM must solicit public input for determining the priority of various wildlife species.

Response: The prioritization of wildlife species is the responsibility of the state of Nevada Department of Wildlife. They have a public participation process.

Comment: Since currently there is no fishery in Paiute Meadows allotment, fishery habitat characteristics such as quality pools, pool to riffle ratio and bottom materials must not be considered as important criteria for management.

Response: This comment has been addressed on the previous page.

Comment: Bank cover and stability have remained at approximately the same level or have improved since 1976 in all three streams in the Paiute Meadows allotment.

Response: Recent NDOW 1992 stream survey data indicates that percent of habitat optimum and bank stability have declined for Paiute and Battle Creek. Although bank cover and stability estimates have remained nearly the same for Bartlett Creek, these estimates are near poor none-the-less.

Comment: Other management practices are available for improving riparian conditions in other areas of the allotment. The BLM Fishery Biologist in his memorandum dated December 3, 1991 indicated that earlier livestock removal (prior to November) from the northern portion of the allotment and reduced wild horse population levels would improve riparian habitat condition significantly.

Response: The removal date for livestock from Paiute Meadows allotment is July 15. This removal date would allow for adequate recovery of stream/riparian systems.

Comment: The primary use of water originating in the Paiute Meadows allotment is irrigation. Waters not used for irrigation flow into the Black Rock desert and evaporate. Currently there is no fishery in the allotment. Water quality standards must reflect the primary use, ie. irrigation.

Response: Water quality standards for the Paiute Meadows allotment were designated according to the State criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wading (water contact recreation), and wildlife propagation. The primary use for water in the Paiute Meadows allotment is not only for irrigation.

Comment: BLM has apparently evaluated the objectives such that if the utilization was classified as heavy (61-80%) or severe (81-100%) any where in the allotment at any time, at least one of the short term objectives have not been met. This is not an appropriate technique for evaluating grazing management.

For example, the adjustment in stocking would be identical if only a small area (a few acres) was classified as heavy or if the entire allotment was classified as heavy use. This type of analysis will not reflect changes in management. Excluding slight, light, and moderate use data from the evaluation biases the analysis.

Response: The methodology used represents a weighted average of the heavy and severe zones as determined through use pattern mapping. These areas are the problem areas that do not allow for the achievement of multiple use objectives. The weighted average utilization figure was then applied to the desired stocking rate formula to achieve a 50% utilization objective (BLM Manual 4400-7).

Comment: Use pattern mapping is not appropriate for evaluating riparian forage utilization. Studies specific to the riparian zone must be conducted to estimate riparian forage utilization.

Response: Key forage plant monitoring conducted by the Area Fishery Biologist were conducted exclusively along streamside/riparian areas.

Comment: Short term monitoring data such as utilization must not be used to evaluate long term objectives such as habitat condition or trend. Long term objectives must be evaluated with long term monitoring techniques.

Response: Multiple use objectives are developed to guide the management of the public lands and have been written in the form of short and long term objectives. Short term objectives are written to provide for the analysis of monitoring data such as forage utilization (including use pattern mapping) and actual grazing use made (livestock, wild horses and/or wildlife). The analysis of short term data provides an indication of whether or not progress is being made towards attainment long term objectives and is correlated and applicable to all resource uses including wildlife and livestock and allows for the determination of any necessary changes to those levels of use. It is not BLM policy to postpone the evaluation of multiple use objectives in lieu of collecting sufficient long term monitoring data to make conclusions as to current management of the public lands.

Comment: Analyses upon which BLM Alternatives 1, 2, and 3 were based are flawed. BLM alternatives 1,2, and 3 must be revised or abandoned because of the errors in the Allotment Evaluation described below:

> BLM carrying capacity determination of 3942 AUMs for the allotment is in error.
>
> The technique used by BLM to determine the carrying capacity is not appropriate.

Response: Based on these comments BLM has re-evaluated the monitoring data for north Paiute and recalculated the carry capacity. The technique used was the same calculation, but livestock non-use in the north was taken into consideration.

Comment: The upper reaches of Bartlett Creek (the area within the planned exclosure) will contain the fisheries habitat and/or potential fisheries habitat for the Paiute Meadows allotment. Other streams in the Paiute Meadows allotment will not be considered as fisheries habitat.

Response: The proposed recovery stream for Lahontan cutthroat trout is the north fork of Battle Creek. There is no existing fishery on Battle Creek, which lowers the eradication costs and data has shown that Battle Creek has a higher recovery potential.

Comment: The population model for wild horses described in the Paiute Meadows Draft Allotment Evaluation is not valid....(It) underestimates the population growth rate of wild horses. Observed increases in wild horse populations in the East and West Black Rock Range HMAs are significantly greater than those predicted by the model....The model predictions of wild horse population changes are unrealistic....

Response: The model presupposes a totally different situation than previously existed, i.e. the 0-9 age classes have been removed. One would logically expect that, with the most reproductive age classes gone, the population growth rate would be slower.

The model was developed using data from the population existing at the time of the 1992 gather. As further information becomes available over time, the parameters used may change.

Comment: "There are mathematical errors in the population model example provided in Appendix 4 on pages 66 and 67 of the allotment evaluation. The sum of the columns for adult male and female numbers for each year do not match the total number of adults listed for each year under those columns.

Response: The wrong scenario was put into the AE. It shows the effects of two gathers of 0-3 year old animals. The correct information will be presented in the final AE.

Comments from the Sierra Club

Comment: Please supply the actual use data for livestock (Pg. 10) for 1991 and 1992.

Response: The actual use data for 1991 is shown in the final document, the 1992 data is not yet completed as the grazing year ends February 28, 1993.

Comment: Why is the 1992 NDOW stream survey data not available (Pg. 25)? All data should be incorporated in the AE.

Response: The Nevada Department of Wildlife conducted several stream surveys throughout the Winnemucca District during 1992. One of these surveys was on the Battle Creek system which concluded on October 6, 1992. Normally, these reports are made available the following spring by NDOW. However, on December 10, our office did receive a preliminary stream survey report for the Battle Creek system. This data has since been added to the draft allotment evaluation. No additional stream surveys were conducted in 1992 by NDOW or the BLM on Paiute or Bartlett Creek.

Additional stream survey data collected in 1990 has since been added to the evaluation report.

Comment: What is meant by the statement on p. 24 "In 1989, water quality was measured by NDOW, but was taken at one point in time and will not be interpreted for this report?"

Response: Stream temperatures taken at one point in time are not representative of minimum and maximum water temperatures that are occurring during a 24 hour period. Ideally, temperatures from a recording thermograph provide a series of temperatures taken over a period of time (two to three months). A thermograph was installed in Battle Creek system by NDOW in 1992, however, this data has yet to be shared with the BLM.

Comment: Are there any other stream survey or other riparian monitoring data available since 1976 and 1988 not incorporated in this AE? All data should be used in the AE.

Response: Some stream data was inadvertently omitted from the AE which has since been updated to include all stream survey data in addition to monitoring data collected for Bartlett, Battle, and Paiute Creeks by the Paradise-Denio Fishery Biologist.

Comment: ...Why is this AE proceeding without the Soldier Meadows allotment evaluation? Is there some time constraint under which we are operating? If not, the two AE's should be considered together.

Response: The two allotment evaluations are separate entities. The only issue that they have in common is that of the wild horses and this has been coordinated by both resource areas and addressed in both the allotment evaluations. We would like to have a finalized decision by spring 1993.

Comment: ...What is the growing season for the plants monitored? How can heavy (over 60% use) change into slight (less than 20% use) in a short time?

Response: New growth begins in most areas in mid-March to April through August. The data in the first columns indicates the use on the previous years growth whereas the data in the second column represent the utilization on the current years growth.

Comment: How did BLM compute ecological status (p. 22) for four key areas in 1990? Was ecological status recomputed in 1992?

Response: Ecological Site Inventory was determined utilizing the procedure identified in the National Range Handbook. ESI was not recomputed in 1992.

Comment: Why were no riparians (p. 22) selected as key areas?

Response: Riparian/stream areas along Bartlett, Battle, and Paiute Creeks had utilization cages established in 1991 in several locations. Beginning in 1992, these sites were monitored at least three times (Pre-livestock, Mid-Point, and Post-livestock) utilizing the Key Forage

Plant Methodology technique. Photo trend sites were also established throughout the monitored area. These locations will continue to be monitored on an annual basis.

Comment: Doesn't UPM data (pp. 15-17) show wild horse impacts were minimal north of Paiute Creek through 1989 and significant heavy and severe use did not occur until cattle were permitted into the area in 1990 and 1991? Why does BLM permit livestock use to cause environmental damage in the north Paiute area?

Response: This is correct. Utilization levels increased when livestock commenced using the area north of Paiute Creek in 1990. Monitoring data was not available to carrying capacity, therefore the active preference was authorized.

Comment: What grazing animals used the Paiute Seeding from 1987-1989? What was the utilization in 1990-1992 and which animals are responsible?

Response: Wild horses used the Paiute Seeding from 1987-1989. In 1990-1992 there was combined use from wild horses and livestock in the seeding, which showed heavy use.

Comment: Why hasn't normal maintenance been conducted on most range improvements? Isn't this a violation of permit conditions? What are the penalties for non-compliance with permit conditions? Why hasn't BLM enforced these permit conditions?

Response: Maintenance is a part of the conditions and terms of the grazing permit. The permit is subject to cancellation in part or in whole for failure to maintain projects.

Comment: Why didn't BLM use its authority to prevent resource damage and cancel all or part of the grazing permit in 1992 instead of authorizing (p. 34) livestock use which along with wild horse use exceeded the carrying capacity by over 6,000 AUMs?

Response: Regulation 4160.3(c) states "Decisions that are appealed shall be suspended pending the final action. An applicant who was granted grazing use in the preceding year may continue at that level of authorized use pending final action on the appeal." The appeal took away BLM's discretion.

Comment: If "intensive herding" does not occur and livestock use occurs outside designated use areas, what actions will the BLM take? Will the permit be canceled, in part or in whole? Will livestock be officially trespassed by BLM? Or will BLM take no action until the next evaluation period, 3 to 5 years from now?

Response: If livestock are found in unauthorized areas the formal procedure for trespass will be followed.

Comment: If maintenance and/or reconstruction of range improvements (p. 40) doesn't occur prior to 03/15/93, the turn-out date for livestock, what actions will the BLM take? Will the permit not be issued for 1993?

Response: Normal compliance inspection will be done on the range improvements in the allotment by BLM. We will then work with the permittee to get them reconstructed to Bureau standards. Non-performance of maintenance may delay, or cause, use to be suspended.

Comment: When (p. 40) will "all spring sources will be fenced?"

Response: There is no obligation to fence all spring sources. This will depend on the need, time, funding, manpower, and prioritization of projects.

Comment: How much livestock "drift" is occurring (p. 40) into neighboring allotments? Whose livestock are "drifting" into which allotments? Why wasn't it mentioned in the AE? Will "gap" or "drift" fences interfere with the free roaming wild horse movements?

Response: Approximately 87 head from Paiute Meadows drifted over into Summer Camp, Coleman, and Snow Creek areas of the Soldier Meadows allotment. Unauthorized use procedures were initiated and followed through. Most of the migration of horses between the two HMAs occurs south of Paiute Creek the small amount of migration occurring in the north would be affected during the period of livestock use from March 15 to July 15. Drift fencing will have offset gates that will be open when livestock are not using the allotment.

Comment: Riparian fencing to protect Bartlett Creek in north Paiute is the most positive action yet from the BLM to protect riparians from livestock devastation. Still questionable - will the riparian fence be built before livestock use is permitted in north Paiute? Also questionable - whether any grazing should be permitted in south Paiute until the area has recovered in a measurable way from the double problems of severe overgrazing and six years of drought, whether the allotment is suitable for a deferred rotation grazing system, and what the impacts of additional fencing will be on wild horse movements.

Response: At this time no determination has been made to fence Bartlett Creek. If it is determined to be necessary the fence will be constructed under the constraints of time, funding, manpower, and prioritization.

There will be no livestock grazing in the southern end of the Paiute Meadows allotment until monitoring studies show that there is available forage. Allocation of these AUMs will then go to livestock first.

Comment: How does calculating the carrying capacity on the 50% utilization objective comply with the 30% riparian utilization objective?

Response: The change in the season of use should prevent the riparian areas from receiving more than 30% utilization.

Comment: No actual use figures by livestock were provided in the draft AE for 1991 and 1992. What numbers were used in the formula? What does "Average/ Weighted Average Utilization" mean? Using this formula, will BLM be authorizing livestock use in excess of the 1708 AUMs and 2234 AUMs in North and South Paiute areas, respectively, while phasing in reductions of livestock numbers?

Response: Actual use for the 1991 grazing year has been provided in the document. The 1992 grazing year is not yet complete, therefore the actual use cannot be calculated. If a reduction occurs it will be phased in accordance with 43 CFR 4110.3-3. Average/Weighted Average Utilization is the average or weighted average utilization for a pasture (BLM Manual 4400-7).

Comments from Western Range Service

Comment: "Statements in the BLM letter... are not reflective of the Model predictions which are attached.... Unmanipulated populations triple in 12-13 years on the attached Model predictions rather than in 11-12 years stated in the January 7, BLM letter."
Response: The statement in the letter is in fact correct. Year 1 represents the start of the analysis, at which time the population is X number of animals. By Year 12, 11 years after Year 1, the population had not quite tripled. By Year 13, 12 years after Year 1, the population had slightly more than tripled. Therefore the population triples in 11-12 years according to the model.

Comment: "The description of the Model in the Draft Paiute Meadows Allotment Evaluation, dated November 5, 1992 (Allotment Evaluation), is not accurate. The Allotment Evaluation states on page 63 that 0 or 1 is subtracted from the total number of head in 4 to 9 age classes on a random basis."

Response: It has that effect. We wanted a mechanism whereby a small amount of mortality in those age classes would be caught by the model when it would not otherwise due to rounding up at high survival rates. The description of said mechanism given by Dr. Bailey is accurate. Most of the time there is no change, i.e. zero

is subtracted. A small portion of the time one is subtracted, to simulate mortality which occurs. As the amount of mortality in these age classes is very small, We felt this mechanism would accurately simulate what occurs. Perhaps the wording could be changed, without going into a lot of technical detail.

Comment: "The average annual increase in unmanipulated wild horse populations predicted by the BLM's Model is 10%....However, wild horse populations in the East and West Black Rock HMAs...increased at a rate of at least 16% from 1980 to 1991. Average annual increase was 23% from 1980 to 1986. The Model grossly underestimates observed wild horse population growth in the Black Rock Range."

Response: We attempted to duplicate the stated increases by manipulating model parameters. An increase of 23%, i.e. a 337% increase in six years (1980, 390 head to 1986, 1313 head) could be achieved only by increasing fecundity rates to 100% for all age classes 2 years and older (i.e. every mare has a colt). This is decidedly unrealistic. If the survival rates are increased by 2 percentage points across the board, which may be realistic, this results in a 12% average annual increase, i.e. tripling in 9-10 years instead of 11-12. If survival is increased by 2 percentage points AND fecundity increased to 75% for all mares 4 and older (which is probably not realistic), the annual increase is 15%, tripling in 7-8 years.

This suggests one of two things is happening: either the census results are not accurate, even with the helicopter, or there is immigration occurring into one or both of the HMAs from outside the Black Rock Range. One or both of these things may in fact be happening. More recent censuses have included lands outside the HMA as far south as Black Rock Point, whereas earlier censuses did not. In addition, the observer on the 1986 count said that horses were tightly packed around Pahute Peak (Big Mountain). Double counting may have occurred here. As for immigration, there is no fence between the Warm Springs Canyon HMA and Black Rock West HMA to prevent horse migration.

Comment: Varying conditions, such as amount of precipitation, forage growth, and livestock use, may account for observed variation in wild horse population growth rates.

Response: Dr. Bailey cites two large growth rate increases, 23% from 1980-86 and 22% from 1987-89. He suggests that the relatively wetter climate and lack of livestock use may account for the 1980-86 figure. However, from 1987 to 1989 the drought was on, and livestock used the area beginning in 1988, yet the population increased (according to the figures) by 22%.

Comment: Black Rock HMAs wild horse population changes from 1980 to 1991 as reflected by BLM censuses and gathers are given below." (table follows)

Response: Previous gathers removed the first X number of animals that came into the trap, which may or may not have been a representative sample of the population. In fact it probably wasn't, but rather was biased toward those animals that were easiest to catch. Therefore, we don't know what was left out there, and no-one knows how the remaining population would rebound. This may explain some of the variation in growth rates. In contrast, after the 1992 and future gathers the age structure will be known precisely.

There is a lot of uncertainty involved with what has happened on the Black Rock Range, and the census figures may not be an accurate representation of what is going on. Given all this, BLM is inclined to stay with the model as it is, although we are certainly prepared to make some modifications if necessary. The model was based on data from the most recent gather, it is the most current information we have and new data will be incorporated when it becomes available.

VIII. Selected Management Actions

A. Livestock

1. Grazing Preference Status (AUMs)

a.	Total preference	9,932
b.	Suspended preference	6,766
c.	Active preference	3,178
1)	Authorized Use	1,998
2)	Not Scheduled	1,180

2. Season of Use

Spring and Early Summer Use
03/15 to 07/15

3. Kind and Class of Livestock - Cattle, Cow/Calf

4. Percent Federal Range - 97%

5. Grazing System

The grazing system listed below is for the next evaluation period.

North Paiute Use Area

Low Elevation			
	509 cattle	03/15 to 05/15	1006 AUMs
High Elevation			
	509 cattle	05/16 to 07/15	992 AUMs

Use will begin in the lower elevations east of the Leonard Creek Road. This area would include all the lower foothills and alluvial fans along the eastern portion of the allotment north of Paiute Creek that fall below 1550 meters in elevation.

Livestock use of the higher elevations will be deferred until after May 01 by salting and herding practices. The high elevation use area would include Paiute Creek above the drift fence and higher country above 1550 meters in elevation.

All livestock will be removed from the allotment prior to July 15 of each year. Winter use by livestock will not be authorized due to direct conflicts with wildlife and wild horse use of the area during winter months.

South Paiute Use Area

Monitoring data indicates that the use area south of Paiute Creek is lacking in grass species due to excessive use by wild horses and livestock and the past six years of drought conditions. Livestock use will not be authorized in this area until specific criteria are met as determined by the District Soil Scientist and the range staff in the Paradise-Denio Resource Area.

Criteria

Utilizing the 1992 Ecological Site Inventory data collected in this allotment, three key range sites were selected from the soil mapping units that represented the majority of the use area. The range sites selected were ones that would respond to changes in management and represent various elevations. The following is a description of the range sites:

South Slope 12-16 P.Z. 023XY016NV ARVA2/AGSP
Soil Map Unit 177 write-up number DJ 60

Clay Slopes 8-12 P.Z. 023XY037NV ARTEM/AGSP
Soil Map Unit 965 write-up number DJ 62 correlated with DJ 80

Sandy 5-8 P.Z. 027XY009NV ORHY/STCO4
Soil Map Unit 378 write-up number DJ 27 correlated with DJ 10

Criteria for Resuming Livestock Grazing

023XY016NV	Increase AGSP from 15% present by weight to 35% by weight.
023XY037NV	Increase AGSP from 0% present by weight to 15% by weight.
	Increase STTH2 from 0% present by weight to 5% by weight.
027XY009NV	Increase ORHY from 6% present by weight to 15% by weight.
	Increase STCO4 from 0% present by weight to 5% by weight.

The control sites (clipped plots) will be compared in the future with the ocular sites to determine progress. The first monitoring is scheduled for 1995.

The active use will be phased in using the following schedule:

Year	Total Preference	Suspended Preference	Active Preference	Active Use	Non-use
1993	9932	6754	3178	2588	590
1995	9932	6754	3178	2293	885
1997	9932	6754	3178	1998	1180

5. Reconstruct the existing Soldier Meadows/Paiute Meadows drift fence from the Pine Forest Allotment south and extend the fence to Burnt Springs with offset gates at major horse trails.

6. Removal of the fence from the Paiute Seeding.

B. Wild Horses

Combine the Black Rock Range East and Black Rock Range West Herd Management Areas (HMAs) with a combined appropriate management level (AML) of 250 adult horses. The AML will be managed within the range of 187 to 313 adult wild horses. The combined HMA will be called the Black Rock Mountain HMA.

Schedule a gather for the fall of 1993 to reduce the population of horses to the Appropriate Management Level if funding is available for such a gather.

C. Wildlife

Adjustment to the wildlife population is not warranted. Wildlife populations will remain at the reasonable numbers as outlined in the Land Use Plan (LUP).

Recommend to the Nevada Department of Wildlife and the U.S. Fish and Wildlife Service that the North Fork of Battle Creek be designated as a stream for the recovery of Lahontan cutthroat trout.

Construct corridor fencing on the North Fork of Battle Creek within the Paiute Meadows Allotment, due to riparian/aquatic conditions which did not meet management objectives.

D. Monitoring

1. Continue to implement the rangeland monitoring program on the Paiute Meadows Allotment.

2. Continue Wildlife Habitat Inventory and Riparian/Fisheries Habitat Studies.

3. Continue with intensive wild horse habitat and monitoring studies. Collect data to determine population estimates, population trend, population characteristics, population dynamics, and population analysis.

E. Objectives

The allotment objectives under which the grazing use will be monitored and evaluated in FY 1997 should have the phrasing modified to accurately reflect how these objectives will be used in the future. These objectives are not to be "allowable use levels" dictating livestock removal on a seasonal basis. Utilization levels are intended as target levels, in accordance with Bureau manual guidance, to be used for monitoring and analysis of achievement of long term objectives. The short term objectives can be examined on an annual basis after the end of the grazing season when monitoring data is collected and analyzed. All data will be evaluated to determine if short term objectives are being met and to determine if changes in management will be required to meet objectives.

1. Short Term

a) The objective for utilization of key streambank riparian plant species (CAREX, JUNCUS, SALIX, POTR5, ROWO, POA spp.) on Paiute, Battle and Bartlett Creeks is 30%. Utilization data will be collected at the end of the grazing period.

b) The objective for utilization of key plant species (CAREX, JUNCUS and POA spp.) in wetland riparian habitats is 50%. Utilization data will be collected at the end of the grazing period.

c) The objective for utilization of key plant species (STTH, AGSP, FEID, ELCI, POA, ORHY, AMAL, PUTR, SYMPH, EPHEDRA, EULA) in upland habitats is 50%. Utilization data will be collected at the end of the grazing period.

2. Long Term

a) Manage, maintain, or improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 1,838 AUMs for mule deer, 307 AUMs for pronghorn, and 180 AUMs for bighorn sheep.

1) Improve to or maintain 2,134 acres in Black Rock DY-13, 41,678 acres in Black Rock DW-10, and 45,856 acres in Black Rock DS-6 in good or excellent mule deer habitat condition.

2) Improve to or maintain 45,965 acres in Black Rock PS-15 in good pronghorn habitat condition. Improve to or maintain 35,274 acres in Black Rock PY-14, 2,623 acres in Leonard Creek PW-17, and 31,466 acres in Paiute Creek PW-16 in fair or good pronghorn habitat condition.

3) Improve to or maintain 69,939 acres in Black Rock BY-15 in good to excellent bighorn sheep habitat condition.

b) Improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with a stocking level of 7,827 AUMs.

c) Improve range condition from poor to fair on 161,158 acres and from fair to good on 15,938 acres.

d) Maintain and improve the free-roaming behavior of wild horses by protecting and enhancing their home ranges.

1) Manage, maintain, or improve public rangeland conditions to provide an initial level of 1488 AUMs of forage on a sustained yield basis for wild horses.

2) Maintain and improve wild horse habitat by assuring free access to water.

Ecological status will be used to redefine/quantify the following five objectives where applicable.

e) Improve to or maintain 86 acres of ceanothus habitat types in good condition.

f) Improve to or maintain 345 acres of mahogany habitat types in good condition.

g) Improve to or maintain 188 acres of aspen habitat types in good condition.

h) Improve to or maintain 529 acres of riparian and meadow habitat types in good condition.

i) Improve to or maintain 15 acres of serviceberry, 82 acres of bitterbrush, 55 acres of ephedra, and 112 acres of winterfat vegetation types in good condition.

j) Improve to and maintain stream habitat conditions from the 1988 levels of 43% on Paiute Creek, 58% on Battle Creek, and 50% on Bartlett Creek to an overall optimum of 60% or above.

1) Streambank cover 60% or above.

2) Streambank stability 60% or above.

3) Maximum summer water temperatures below 70° F.

4) Sedimentation below 10%.

k) Protect sage grouse strutting grounds and brooding areas. Maintain the big sagebrush sites within two miles of active strutting grounds in mid to late seral stage with a minimum of 30% shrub composition by weight or 30% canopy cover.

l) Improve to and maintain the water quality of Paiute, Battle and Bartlett Creeks to the State criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wading (water contact recreation), and wildlife propagation.

IX. Rationale

The carrying capacity of 4,666 AUMs, for livestock and wild horses, on the Paiute Meadows Allotment was derived from monitoring data collected on the allotment from 1987 through 1990. The carrying capacity in the North Paiute Use Area is 2634 AUMs and 2032 AUMs in the South Paiute Use Area.

Monitoring data indicated that the vegetative objectives were not being achieved in both the North Paiute and South Paiute use areas of the allotment at the previous use level. Therefore, an adjustment is needed in the authorized use by livestock and the wild horse population size to achieve a thriving natural ecological balance within the allotment. In addition, long term stream habitat objectives have not been met in the North Paiute use area. Previous to the transfer of the grazing preference to the current permittee, and authorization of 56% of the grazing permit, improvement in stream habitats was noted. A reduction in the season of use for livestock is necessary to ensure continued growth of riparian vegetation and improvement towards long term streambank riparian habitat conditions in the absence of riparian habitat fences. The reduction in active use combined with the season of use will ensure that progress.

Monitoring data also indicates that the use area south of Paiute Creek is lacking in grass species due to excessive use by wild horses and livestock and the past six years of drought conditions. Due to the size of the current horse population, combined wild horse and livestock use would exceed the carrying capacity of the South Paiute Use Area. Therefore, livestock use will not be authorized in this area.

When monitoring indicates the vegetation has recovered south of Paiute Creek the permittee will be authorized to activate those AUMs placed in non-use before adjustments will be made to the wild horse AML.

Data collected from the wild horse census and distribution flights indicate a heavy migration pattern between the Black Rock Range East and Black Rock Range West Herd Management Areas. Most of this migration occurs on the southern portion of the HMAs from Slumgullion and Paiute Creek south.

Therefore, the Black Rock Range East and Black Rock Range West Herd Management Areas will be combined for management purposes and called the Black Rock Mountain Herd Management Area. The combined AML of this HMA will be 247 adult wild horses.

The natural tendency for the animals to distribute through both HMAs/allotments should result in approximately 124 animals utilizing the Black Rock Range East HMA year round. This estimate is based on historical distribution and census data that indicates that the proportional distribution of wild horses between the two HMAs is approximately 50% in the West HMA and 50% in the East HMA. This would result in a total of 1,488 AUMs used by wild horses in the Paiute Meadows Allotment (approximately 636 AUMs in the north and 852 AUMs south of Paiute Creek).

Analysis of the existing management of wildlife indicates that wildlife populations in the Paiute Meadows Allotment are not contributing to the failure in meeting the multiple-use objectives. Therefore, a change in the existing wildlife populations or the existing wildlife management within the Paiute Meadows Allotment is not warranted. Reasonable numbers for wildlife shall remain as 1838 AUMS for mule deer, 307 AUMs for pronghorn, and 180 AUMs for bighorn sheep.

Battle Creek has been designated by the Bureau of Land Management, Winnemucca District, as "Proposed Lahontan cutthroat trout habitat". In the U.S. Fish and Wildlife Service's Draft Recovery Plan for LCT (1993), Battle and Bartlett Creeks have been identified as "Potential" recovery sites, with Battle Creek identified as a "Priority" site for recovery.

The North Fork of Battle Creek is a more desirable stream to recover for Lahontan cutthroat trout based on the following:

The entire Battle Creek watershed lies within the Paiute Meadows Allotment and nearly all of the North Fork of Battle Creek (about 6 miles) lies within public lands.

There is no existing fishery in the Battle Creek drainage. There would be no fish eradication costs associated with the introduction of cutthroat trout into the North Fork of Battle Creek.

The existing stream habitat condition for the North Fork of Battle Creek is highly recoverable. The 1992 stream habitat conditions indicate that the North Fork of Battle Creek could be recovered more rapidly than Bartlett Creek.

With good to excellent stream habitat potential, lack of an existing fishery, nearly 100 percent public land ownership, and absence of mining activities, the North Fork of Battle Creek lends itself for the recovery of

Lahontan cutthroat trout.

The reconstruction and extension of the Soldier Meadows/Paiute Meadows drift fence would stop livestock drift from Paiute Meadows into Coleman, Snow, Summer Camp and Mahogany Creek areas of the Soldier Meadows Allotment. The extension of the drift fence would run through the North Black Rock Wilderness Study Area (WSA NV-020-622).

A solid fence, as opposed to "gap" fencing, would ensure that the livestock drift would be stopped. Wild horses would create trails around the "gap" fencing which the cattle would then follow.

Distribution data shows that when horse populations are within an acceptable level, the highest concentration of horses are on the southern end of the Paiute Meadows allotment where most of the migration occurs, therefore, conflicts with wild horse migration and fencing north of Burnt Springs would be minimized.

The Paiute Seeding area is in poor to fair condition following over 10 years of use without adequate fencing. Wild horses and wildlife populations rely upon the existing reservoir in the seeding for water during the summer months and it becomes a critical water source for them during drought years.

Therefore, removal of the Paiute Seeding boundary fence would benefit both wildlife and wild horses.

X. Future Monitoring and Grazing Adjustments

The Paradise-Denio Resource Area will continue to monitor all existing studies and establish additional studies as identified above. This monitoring data will continue to be collected in the future to provide the necessary information for subsequent evaluation. These evaluations are necessary to determine if the allotment specific objectives are being met under the existing and/or new grazing management strategies. In addition, these subsequent evaluations will determine if adjustments are required to meet the established allotment specific objectives.

XI. NEPA Review

The selected management action for grazing in the Paiute Meadows Allotment conforms with the environmental analysis of grazing impacts described in the Final Paradise-Denio Environmental Impact Statement dated September 18, 1981.

The EIS and NEPA Compliance Record are on file in the Winnemucca District Office, located at 705 E. Fourth Street, Winnemucca, Nevada 89445.

APPENDIX 1

Stocking Level Calculations Paiute Meadows Allotment.

1. Stocking Level Calculation Procedures

Monitoring data indicates that wild horses have contributed to over utilization in the allotment. Target utilization levels were exceeded south of Paiute Creek where the use was by wild horses. Use levels north of Paiute Creek resulted from livestock and wild horses. The total amount of actual use made by livestock and wild horses was determined north and south of Paiute Creek for each year.

The stocking level for the allotment was determined using the following Actual Use/Utilization formula.

$$\frac{\text{Actual Use}}{\text{Average/Weighted Average Utilization}} = \frac{\text{Desired Actual Use}}{\text{Desired Average Utilization}}$$

The stocking level was determined for the area north of Paiute Creek and south of Paiute Creek for each year data was available and then computing the average mean for those figures.

Stocking rates were calculated as follows:

South of Paiute Creek - The average calculated stocking rate is 2,032 AUMs. This was based on the four years of use pattern mapping data and the desired yearlong utilization level of 50%.

North of Paiute Creek - The average calculated stocking rate is 2,634 AUMs. This was based on the three years of use pattern mapping data and the desired yearlong utilization level of 50%.

Wild horse census data and cattle licensed use were used to calculate stocking levels. Wildlife AUMs were not calculated. Utilization was determined from use pattern mapping using the Average/Weighted Average Utilization formula for those areas where forage was utilized heavy and/or severe. These figures were then used to determine the amount of reduction from the present demand necessary to achieve management objectives. The procedures for doing the calculations are outlined as follows:

1) Planimeter Use Pattern Map by utilization category for each year.

2) Figure acreage by utilization category for north of Paiute Creek and for south of Paiute Creek.

3) Using Weighted Average Utilization Formula, determine percent utilization level on acreage for heavy and severe use areas only. (As identified in the Nevada Rangeland Monitoring Handbook, 1984)

4) The Average/Weighted Average Utilization figure was entered into the Actual Use/Utilization Formula and a stocking level was determined.

5) Actual Use AUMs include cattle and wild horses only.

In the determination of a stocking rate both wild horse and livestock actual use were correlated to the dates of data collection. In some years data was collected in the fall of the year and then again at the end of winter. In these cases the data collected following the winter season (spring) was used to determine a stocking rate as it represents the entire grazing year. In 1987 data was collected in the fall only, in which case actual use was correlated to the dates of data collection and a stocking rate determined from the available data.

Use pattern maps used for these calculations were those completed in fall 1987 through spring 1991. Utilization studies using the Key Forage Plant Method were used for data collection from the fall 1991 through summer 1992. These studies cannot be entered into the weighted average calculation as they represent the utilization at the study sites only. The current key areas do not encompass the streambank riparian habitats of Bartlett and Paiute Creeks, and the majority of Battle Creek and are therefore not indicative of the more sensitive areas within the allotment. Additional key areas focusing primarily on the riparian habitats will be selected in the future in consultation and coordination with affected interests. Using the current Key Areas for calculation of the Desired Stocking Rate would not consider the streambank riparian habitats. Therefore, the weighted average and desired stocking level calculations were used for the calculating the carrying capacity by considering all heavy and severe use areas in the calculation as the actual utilization.

2. Actual Use Calculations for Use Pattern Map Data

A. 1987

Wild Horses

South Paiute

448 H - 03/01/87-08/08/87 - 2371 AUMs

North Paiute

218 H - 03/01/87-08/08/87 - 1154 AUMs

UPM completed August 8, 1987 and measures use 03/01-08/08
No cattle use

Census conducted Oct. 6-8, 1987, numbers are based on census.

Wild Horse gather conducted December 1987-January 1988.

B. 1988

Wild Horses

South Paiute

231 H - 03/01/88-02/28/89 - 2772 AUMs

North Paiute

21 H - 03/01/88-02/28/89 - 252 AUMs

Livestock

200 C - 10/17/88-10/17/88 -	7	AUMs
400 C - 10/18/88-10/18/88 -	13	AUMs
500 C - 10/19/88-10/20/88 -	33	AUMs
595 C - 10/21/88-12/30/88 -	1389	AUMs
395 C - 12/31/88-01/01/89 -	26	AUMs
195 C - 01/02/89-01/03/89 -	13	AUMs
95 C - 01/04/89-01/05/89 -	6	AUMs
	1487	AUMs

Total Actual Use **4511 AUMs**

UPM completed 04/06/89 and measures use for 03/01/88-02/28/89.

C. 1989

Wild Horses

South Paiute

231 H - 03/01/89-07/17/89 -	1056	AUMs
458 H - 07/18/89-02/14/90 -	3129	AUMs
264 H - 02/15/90-02/28/90 -	122	AUMs
	4307	AUMs

North Paiute

21 H - 03/01/89-07/17/89 -	96	AUMs
193 H - 07/18/89-02/14/90 -	1345	AUMs
244 H - 02/15/90-02/28/90 -	112	AUMs
	1553	AUMs

Livestock

187 C - 10/26/89-10/29/89 -	24	AUMs
392 C - 10/30/89-11/02/89 -	50	AUMs
600 C - 11/03/89-01/05/90 -	1225	AUMs
569 C - 01/06/90-01/10/90 -	91	AUMs
669 C - 01/11/90-01/31/90 -	448	AUMs
701 C - 02/01/90-02/14/90 -	313	AUMs
694 C - 02/15/90-02/17/90 -	66	AUMs
441 C - 02/18/90-02/21/90 -	56	AUMs
291 C - 02/22/90-02/25/90 -	37	AUMs
131 C - 02/26/90-02/28/90 -	13	AUMs
	2323	AUMs

Total Actual Use **7898 AUMs**

UPM completed 04/04/90 and measures use for 03/01/89-02/28/90. On 07/18/89 a census was done and on 02/14/90 a census was again conducted.

D. 1990

Wild Horses

South Paiute	North Paiute
264 H - 03/01/90-02/28/91 - 3168 AUMs	244 H - 03/01/90-02/28/91 - 2928 AUMs

Livestock

187 C - 10/26/90-10/29/90 -	25	AUMs
392 C - 10/30/90-11/02/90 -	52	AUMs
600 C - 11/03/90-01/06/91 -	1282	AUMs
569 C - 01/07/91-01/10/91 -	75	AUMs
669 C - 01/11/91-01/31/91 -	462	AUMs
701 C - 02/01/91-02/13/91 -	300	AUMs
694 C - 02/14/91-02/18/91 -	114	AUMs
441 C - 02/19/91-02/22/91 -	58	AUMs
291 C - 02/13/91-02/27/91 -	144	AUMs
131 C - 01/27/91-02/28/91 -	9	AUMs
	2521	AUMs

Total Actual Use **8617 AUMS**

UPM completed 04/17/91 and measures use from 03/01/90-02/28/91. Wild horse numbers are based on the 02/14/90 census date.

3. Weighted Average Utilization Calculations

Paiute Meadows Allotment (South Paiute) Heavy and Severe Use Zone Acreage

Grazing Year	Total Acres Mapped	Use Zone	Total Acres Per Zone
1987	25,949	Heavy	6,465
		Severe	6,820
1988	23,047	Heavy	4,910
		Severe	9,340
1989	46,437	Heavy	23,965
		Severe	10,763
1990	59,178	Heavy	25,359
		Severe	6,850

Paiute Meadows Allotment (North Paiute) Heavy and Severe Use Zone Acreage

Grazing Year	Total Acres Mapped	Use Zone	Total Acres Per Zone
1987	10,227	Heavy	2,298
		Severe	0
1988	42,754	Heavy	6,227
		Severe	74
1989	53,974	Heavy	21,175
		Severe	0
1990	81,956	Heavy	46,934
		Severe	72

Note- The above tables display data for full grazing year (beginning 03/01 and ending 02/28) as indicated by use pattern mapping conducted in the spring. The exception to this 1987 when use pattern mapping was conducted in the fall only, and not in the following spring.

1987

North Paiute

$$\frac{2{,}298 \text{ Ac.} \times 70\%}{2{,}298 \text{ Ac}} = 70\%$$

South Paiute

$$\frac{(6{,}820 \text{ Ac.} \times 90\%) + (6{,}465 \text{ Ac.} \times 70\%)}{13{,}285 \text{ Ac}} = 80\%$$

1988

North Paiute

$$\frac{(6{,}227 \text{ Ac.} \times 70\%) + (74 \text{ Ac} \times 90\%)}{6{,}301 \text{ Ac}} = 70\%$$

South Paiute

$$\frac{(9{,}340 \text{ Ac.} \times 90\%) + (4{,}910 \text{ Ac.} \times 70\%)}{14{,}250 \text{ Ac}} = 83\%$$

1989

North Paiute

$$\frac{(21{,}175 \text{ Ac.} \times 70\%) + (0 \text{ Ac} \times 90\%)}{21{,}175 \text{ Ac}} = 70\%$$

South Paiute

$$\frac{(23{,}965 \text{ Ac.} \times 70\%)\ (10{,}763 \text{ Ac.} \times 90\%)}{34{,}728 \text{ Ac}} = 76\%$$

1990

North Paiute

$$\frac{(46{,}934 \text{ Ac.} \times 70\%) + (72 \text{ Ac} \times 90\%)}{47{,}006 \text{ Ac}} = 70\%$$

South Paiute

$$\frac{(25{,}359 \text{ Ac.} \times 70\%) + (6{,}850 \text{ Ac.} \times 90\%}{32{,}209 \text{ Ac}} = 74\%$$

4. Stocking Level Calculations

	South Paiute		North Paiute	
1987	$\frac{2{,}371 \text{ AUMs} \times 50\%}{80\%}$	= 1,482 AUMs	$\frac{1{,}154 \text{ AUMs} \times 50\%}{70\%}$	= 824 AUMs
1988	$\frac{2{,}772 \text{ AUMs} \times 50\%}{83\%}$	= 1,670 AUMs	$\frac{1{,}739 \text{ AUMs} \times 50\%}{70\%}$	= 1,242 AUMs
1989	$\frac{4{,}307 \text{ AUMs} \times 50\%}{76\%}$	= 2,834 AUMs	$\frac{3{,}876 \text{ AUMs} \times 50\%}{70\%}$	= 2,769 AUMs
1990	$\frac{3{,}168 \text{ AUMs} \times 50\%}{74\%}$	= 2,141 AUMs	$\frac{5{,}449 \text{ AUMs} \times 50\%}{70\%}$	= 3,892 AUMs
		8,127 AUMs		8,727 AUMs

8,127 ÷ 4 = 2,032 AUMs Avg. South Paiute
7,903 ÷ 3 = 2,634 AUMs Avg. North Paiute
4,666 AUMs Total

The calculations have been revised from those presented in the Appendix section of the Draft Allotment Evaluation of July 1991. Final review determined that the dates presented for the wild horse gather of December 1988-January 1989 were incorrect in that version. The referenced gather actually took place in December 1987-January 1988. This significantly affected the Actual Use figures used in the calculations which resulted in the lower figures.

APPENDIX 2

The following indicates the actual use by livestock and wild horses for grazing years 1987-1990. These actual use figures were used in the development of recommendations to adjust livestock and wild horse forage demand to available forage levels. The years 1987-1990 were used as these are the years of data collection and also the years of recent wild horse census.

Wild horse Actual Use - 1987-1990

	South Paiute			North Paiute		
Year	# of Wild Horses	Period	AUMs	# of Wild Horses	Period	AUMs
1987	448 H	03/01-12/31	4,507	218 H	03/01-12/31	2,193
	203 H	01/01-02/28	394	18 H	01/01-02/28	35
1988	231 H	03/01-02/28	2,772	21 H	03/01-02/28	252
1989	231 H	03/01-07/18	1,056	21 H	03/01-07/18	96
	458 H	07/19-02/14	3,129	243 H	07/19-02/14	1,345
	264 H	02/15-02/28	122	244 H	02/15-02/28	112
1990	264 H	03/01-02/28	3,168	244 H	03/01-02/28	2,928

South Paiute	North Paiute
1987 - 4,901 AUMs	1987 - 2,228 AUMs
1988 - 2,772 AUMs	1988 - 252 AUMs
1989 - 4,307 AUMs	1989 - 1,553 AUMs
1990 - 3,168 AUMs	1990 - 2,928 AUMs
15,148 AUMs	6,961 AUMs

The actual use (AUMs) were determined by utilizing the AUMs.BAS computer program calculation. This program calculates AUMs based on the grazing years.

15,148 AUMs Actual Use South Paiute
6,961 AUMs Actual Use North Paiute
22,109 AUMs Total

The total actual use figure of 22,109 AUMs was then divided by 4 years to determine an actual use average as follows;

22,109 AUMs ÷ 4 = 5,527 AUMs Avg. (4 years) wild horses.

A census was conducted during Oct. 6-8, 1987. This number was carried back to the beginning of the calendar year.

Paiute Meadows February 25, 1993

During Dec. 1987 and Jan. 1988 horses were gathered which reduced numbers beginning 12/87.

A census was completed on 07/18/89 which increased numbers.

Livestock Authorized Actual Use

1987	No Use
1988	1,487 AUMs
1989	2,323 AUMs
1990	2,521 AUMs
1991	4,017 AUMs
Total	10,348 AUMs

10,348 AUMs ÷ 5 yrs = 2,070 AUMs Avg. Livestock Use
The authorized use in 1992 was 4350 AUMs.

APPENDIX 3

Historical Distribution of Wild Horses in the Black Rock Range West and East HMAs

This table is based upon actual wild horse counts made by air from 1969 through 1992. This table does not include estimates, ground observations or numbers of animals removed in a gather process.

Year	Date	No. in West HMA	% of Total	No. in East HMA	% of Total	Total
1969*	03/12	3	14	18	86	21
1970	11/10	170	70	73	30	243
1974	10/07	258	68	123	32	381
1975	02/10	160	63	92	37	252
1975	07/01	200	63	115	37	315
1977	04/04	333	54	282	46	615
1979	09/17	463	49	471	51	934
1980**	winter	310	88	40	12	350
1980**	07/24	344	88	46	12	390
1986***	06/12	238	18	1075	82	1313
1987***	10/06	537	45	666	55	1203
1989***	07/17	485	43	651	57	1136
1991	07/26	521	48	558	52	1079
1991	12/28	435	37	733	63	1168
1992**	03/10	338	57	255	43	593
1992**	05/23	316	37	525	63	841
1992	07/22	383	56	299	44	682
1992	10/22	745	68	351	32	1096
		6239	X=49%	6373	X=51%	12,612

* flight conducted to determine presence of wild horses only

** post-gather flights--gather conducted in December/January 79/80 and February 1992

*** 1986 and 1987 total non-use was taken by permittees on both Paiute Meadows Allotment and Soldier Meadows Allotment; 1988 85% non-use in Paiute Meadows; 1989 70% non-use in Paiute Meadows; 1990-1991 44% non-use in Paiute Meadows.

Average distribution using all years of distribution flights equals 49% in the West HMA and 51% in the East HMA. However, average distribution of wild horses to the two HMAs by using all years except 1969 and 1980 is approximately 50% to each HMA. This figure is more accurate because the 1969 flight was solely to determine presence of wild horses and was not a complete census. The 1980 flights were immediately following a removal of wild horses to below 50 head on the East HMA only, leaving full numbers in the West HMA, which skews the distribution data. 1992 was included as approx. 200 animals were left in the East HMA following the gather,

establishing a significant presence of animals in relation to the West HMA and retaining a distribution pattern.

Expected distribution with a combined AML will be 50/50 with any number of animals is determined. Fluctuations in actual numbers can be expected from year to year, and season to season depending on environmental factors and livestock operation fluctuations.

Appendix 4

The Strategic Plan for the Management of Wild Horses on the Public Lands was signed June 6, 1992. In this plan, the BLM's wild horse program in the State of Nevada is given the direction for the management of wild horses. The policy states that unadoptable wild horses will remain on the public lands, and that other measures such as fertility control may be utilized for population management. At the present time it is the BLM's policy to return unadoptable wild horses to the public lands they were gathered from that are in excess of five years of age. At the time of the 1992 gather, this policy was wild horses in excess of nine years of age. Following the 1992 gather, 137 wild horses of the 632 total that were gathered were returned to the HMA. The 137 wild horses returned to the range along with the 63 adults that were not captured equal the 200 wild horses that we agreed to leave on the Black Rock East HMA until the re-evaluation of the allotment.

A model has been developed to estimate the population dynamics for the herd that currently resides in the Black Rock Range East HMA as a result of the 1992 gather. The population model uses age specific survival and fecundity rates derived from the results of the 1992 Black Rock East gather. To determine year-to-year survival, the number of animals in each age class is multiplied by the appropriate survival parameter, rounded to the nearest integer, and added to the next year's age class. The foals produced each year is calculated by multiplying the number of females in each age class by the appropriate fecundity parameter, summing the total, rounding to the nearest integer and dividing the foals equally between the male and female zero age class (i.e. a 50:50 sex ratio at birth is assumed). The model also incorporates a random mortality generator in the 4-9 age classes to simulate mortality which occurs, but is not caught by the model due to rounding. This involves randomly subtracting zero or one from the total number in each of these age classes.

POPULATION MODEL

The population model uses age specific survival and fecundity rates derived from the results of the 1992 Black Rock East gather. For details see Appendix 4. To determine year-to-year survival, the number of animals in each age class is multiplied by the appropriate survival parameter, rounded to the nearest integer, and added to the next year's age class. The foals produced each year is calculated by multiplying the number of females in each age class by the appropriate fecundity parameter, summing the total, rounding to the nearest integer and dividing the foals equally between the

male and female zero age class (i.e. a 50:50 sex ratio at birth is assumed). The model also incorporates a random mortality generator in the 4-9 age classes to simulate mortality which occurs, but is not caught by the model due to rounding. This involves randomly subtracting zero or one from the total number in each of these age classes.

Only one gather of the 0-5 age class is assumed. If a second gather of these same age classes is done, it will result in the virtual extinction of the population because the most fecund age classes have been removed. The following scenario illustrates this. Assume gathers of 0-5 year olds in fall 1993 and 1999.

The results of the model indicate that the AML will not be reached with one gather. A second gather that removes part of the 0-5 age class will be necessary in 1999. During the interim period the wild horses would require the entire carrying capacity in 1993, and from 66% to 75% of the carrying capacity between 1994 and 1999.

Year	# Adult Males	# Adult Females	# Adults
1992	161	184	345
1993	163	184	347
1994	86	92	178
1995	87	92	179
1996	84	87	171
1997	78	80	158
1998	73	74	147
1999	71	69	140
2000	23	17	40
2001	18	13	31
2002	14	10	24
2003	12	8	20
2004	10	7	17
2005	8	7	15
2006	7	6	13
2007	7	7	14
2008	8	7	15
2009	7	6	13
2010	8	6	14
2011	8	6	14
2012	7	6	13
2013	7	7	14
2014	8	8	16
2015	9	10	19
2016	8	10	18
2017	9	11	20
2018	11	12	23
2019	14	13	27
2020	16	16	32
2021	18	18	36

In this case the population is not totally wiped out. This is due to the abnormally large percentage of older animals in the initial population, which were returned to the range following the 1992 gather. These animals, despite their low fecundity, will produce enough foals to maintain the population, albeit at a very low level, for several years. Wild horse populations at these levels for such a long time are much more susceptible to catastrophic events such as accidents, disease, and droughts which can seriously decimate if not totally extinguish the population.

Age Specific Survival

Assumptions:

1. Essentially all horses within this population are dead after 20 years.

2. Mortality favors younger age classes i.e. 0-3. Mortality is higher in young males than it is in young females.

3. Mortality increases in older animals i.e. 8-20. Mortality is higher in older females than in older males.

4. Mortality increases dramatically in age classes 14-20.

	% SURVIVAL	
AGE CLASS	MALES	FEMALES
0-1	.84	.86
1-2	.86	.88
2-3	.87	.89
3-4	.92	.92
4-5	.95	.95
5-6	.96	.96
6-7	.96	.96
7-8	.96	.96
8-9	.96	.94
9-10	.95	.93
10-11	.94	.92
11-12	.91	.89
12-13	.90	.88
13-14	.89	.87
14-15	.87	.85
15-16	.84	.82
16-17	.78	.72
17-18	.70	.64
18-19	.55	.45
19-20	.55	.45
20+	0	0

It is recognized that some wild horses live past twenty; however both their numbers and contribution to the population are negligible.

Paiute Meadows

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Age Specific Fecundity

AGE CLASS	% FECUNDITY
0-1	0
2	.30
3	.50
4-9	.75
10-13	.35
14-20	.15

PAIUTE MEADOWS ALLOTMENT WILD HORSE POPULATION MODEL
INITIAL POPULATION 345 ADULTS, GATHER FALL 1993 0-5 YEAR OLDS

1992		1993		1994		1995		1996		1997		1998		1999		2000		2001	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
26	29	36	36	18	18	13	13	11	11	10	10	12	12	13	13	13	13	15	15
13	16	22	25	0	0	15	15	11	11	9	9	8	9	10	10	11	11	11	11
11	14	11	14	0	0	0	0	13	13	9	10	8	8	7	8	9	9	9	9
12	14	10	12	0	0	0	0	0	0	11	7	8	9	7	7	6	7	8	8
9	13	11	13	0	0	0	0	0	0	0	0	0	10	11	7	8	6	6	6
9	10	9	12	0	0	0	0	0	0	0	0	0	0	10	10	7	8	6	6
8	8	8	10	0	0	0	0	0	0	0	0	0	0	0	0	9	9	7	7
6	8	8	7	8	9	0	0	0	0	0	0	0	0	0	0	0	0	9	9
7	6	6	7	8	7	8	8	0	0	0	0	0	0	0	0	0	0	0	0
6	6	7	5	5	7	7	6	7	8	0	0	0	0	0	0	0	0	0	0
14	17	6	6	7	5	5	7	7	6	7	7	0	0	0	0	0	0	0	0
7	16	13	16	6	6	7	5	5	6	7	6	7	6	0	0	0	0	0	0
15	10	6	14	12	14	5	5	6	4	5	5	6	5	6	5	0	0	0	0
14	12	14	9	5	12	11	12	5	4	5	4	5	4	5	4	5	4	0	0
9	8	12	10	12	8	4	10	10	10	4	3	4	3	4	3	4	3	4	3
8	5	8	7	10	9	10	7	3	9	9	9	3	3	3	3	3	3	3	3
4	8	7	4	7	6	8	7	8	6	3	7	8	7	3	2	3	2	3	2
1	7	3	6	5	3	5	4	6	5	6	4	2	5	6	5	2	1	2	1
2	3	1	4	2	4	4	2	4	3	4	3	4	3	1	3	4	3	1	1
1	1	1	1	1	2	1	2	2	1	2	1	2	1	2	1	1	1	2	1
5	2	1	0	1	0	1	1	1	1	1	0	1	0	1	0	1	0	1	0
Adult	345		346		181		182		175		162		150		141		138		140
AUM's	4,140		4,152		2,172		2,184		2,100		1,944		1,800		1,692		1,680		1,752

Paiute Meadows

February 25, 1993

2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
17	17	18	18	19	19	20	20	23	23	25	25	26	26	29	29	32	32	35	35
13	13	14	15	15	15	16	16	17	17	19	20	21	22	22	22	24	25	27	28
9	10	11	11	12	13	13	13	14	14	15	15	16	16	18	18	19	19	21	22
8	9	8	9	10	10	10	12	11	12	12	12	13	13	14	16	16	17	17	17
7	7	7	8	7	8	9	9	9	11	10	11	11	11	12	12	13	15	15	16
5	5	6	7	7	7	6	8	9	8	9	10	10	10	10	10	11	11	12	14
5	5	4	4	6	6	6	6	5	7	9	7	9	9	10	9	9	9	10	11
7	7	5	4	3	4	6	6	5	6	4	6	8	6	9	9	10	8	8	8
9	9	6	6	4	4	2	3	5	6	4	6	4	5	8	6	8	9	10	7
0	0	9	8	6	5	3	4	2	2	5	5	3	6	4	4	7	5	7	8
0	0	0	0	9	7	6	5	3	4	2	2	5	5	3	6	4	4	7	5
0	0	0	0	0	0	8	6	6	5	3	4	2	2	5	5	3	6	4	4
0	0	0	0	0	0	0	0	7	5	5	4	3	4	2	2	5	4	3	5
0	0	0	0	0	0	0	0	0	0	6	4	5	4	3	4	2	2	5	4
0	0	0	0	0	0	0	0	0	0	0	0	5	3	4	3	3	3	2	2
3	3	0	0	0	0	0	0	0	0	0	0	0	0	4	3	3	3	3	3
3	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2	3	2
2	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0
Adult	**146**		**154**		**165**		**177**		**192**		**210**		**233**		**258**		**282**		**313**
AUM's	**1,752**		**1,848**		**1,980**		**2,124**		**2,304**		**2,520**		**2,796**		**3,096**		**3,384**		**3,756**

Paiute Meadows

February 25, 1993

Year	No. Ad. Male	No. Ad. Female	No. Adults	AUMs
1992	161	184	345	4,140
1993	164	182	346	4,152
1994	89	92	181	2,172
1995	91	91	182	2,184
1996	88	87	175	2,100
1997	82	80	162	1,944
1998	76	74	150	1,800
1999	72	69	141	1,692
2000	71	67	138	1,656
2001	72	68	140	1,680
2002	74	72	146	1,752
2003	78	76	154	1,848
2004	84	81	165	1,980
2005	88	89	177	2,124
2006	95	97	192	2,304
2007	104	106	210	2,520
2008	115	118	233	2,796
2009	128	130	258	3,096
2010	140	142	282	3,384
2011	156	157	313	3,756

PAIUTE ALLOTMENT
EVALUATION SUMMARY

Prepared by:
John H. Mabe
Range Conservationist
Lahontan Resource Area

PAIUTE ALLOTMENT
EVALUATION SUMMARY

I. NAME AND NUMBER OF ALLOTMENT, PERMITTEE, AND SELECTIVE MANAGEMENT CATEGORY

Paiute Allotment (No. 3043), Intermountain Land and Cattle Company, Management Category Intensive (I).

II. LIVESTOCK USE

A. Preference (current)

1. Total AUMs - 4798
2. Active AUMs - 4798
3. Suspended AUMs - 0
4. Voluntary non-use AUMs - 0

B. Season of Use:

Yearlong - 03/01 to 02/28 - 408 Cattle

C. Kind and Class of Livestock:

Cattle, cow/calf operation

D. Percent Public Land

98%

III. WILD HORSE USE[1/]

A. Wild horses exist within this allotment and are managed within the Dogskin Mountain Herd Management Area (HMA)

B. Census

1. March 1986 - 46 head
2. November 1987 - 37 head
3. May 1988 - 64 head

C. Identified management level in the HMA is 19 head.

D. A horse-removal project is planned for September 1988 with the objective of removing all horses from the allotment except for 19 head identified as a management level for the HMA.

IV. WILDLIFE HABITAT[2/]

The Paiute Allotment includes habitat for mule deer, antelope, chukar partridge, valley quail, mourning dove, sage grouse and many nongame species.

1/ See Illustration A
2/ See Illustration B

The Paiute Allotment has both a resident, and wintering migratory mule deer herd (a part of Lassen Washoe Interstate Deer Herd) utilizing the area. The northern mountainous portions of the allotment, specifically Dogskin and Virginia Mountains, are considered to be crucial deer winter range. The Paiute Allotment portion of Dogskin Mountain provides habitat for approximately 5% (52 animals - 1987 existing numbers) of the resident deer in Nevada Department of Wildlife management Area 021 (Dogskin Mtn. Area). This allotment also provides habitat for approximately 20% (245 animals - 1987 existing numbers) of the deer herd in Management Area 022 (Virginia Mtn.). The dividing line between the two areas is the Winnemucca Ranch Road. Depending on the severity of winter conditions, deer may move from the Sand Hills (Antelope Mountain Allotment) to Dogskin Mountain.

Habitat for valley quail populations in the allotment is limited due to the typically small amount of riparian vegetation present in comparison to the upland habitat types. Chukar partridge populations are moderate (16 to 29 birds /sq. mi.) in the vicinity of Virginia Mountain where water and rocky canyon escape cover is plentiful. A limited number of sage grouse use the Mahogany Flat portion of the allotment and the associated meadows.

V. OUTDOOR RECREATION USE[3/]

A. An Area of Critical Environmental Concern (ACEC) named Incandescent Rocks exists in the NE portion of the allotment. This scenic area consists of 1,072 acres of public domain. Vehicle traffic is restricted to the existing road in the bottom of Double Spring Canyon. A Management Plan for the Incandescent Rocks Scenic ACEC Nevada was approved in January 1988.

B. There is one major Outdoor Recreational Vehicle (ORV) use area in the allotment. It is comprised of the southern 3/4 of the allotment in Hungry Valley (approximately 39,000 acres) where organized competitive events occur two or three times a year with about 125 participants per event. This use is limited to existing roads and trails and/or approved routes. Use is not allowed in areas of unstable soils.

C. Two other use areas occur in the southern end of the allotment. One is the Reno Radio Control Club. Its site/facility is a Recreation and Public Purpose lease (R&PP) with an area of ten acres for radio controlled airplane meets and is used on a weekly or monthly basis. The other is the Silver Arrow Bowmen and Archery Range. Its site/facility is also a R&PP lease with an area of 7.5 acres plus an additional 40 acres used as part of their activity. Two organized events occur during the year with about 125 - 150 participants per event. The site is also used weekly or bi-weekly by approximately 25 individuals.

3/ See Illustration G

VI. REALTY USE[4/]

A. There are two public airports within the allotment. One is in the NE part of the allotment and is under a recreation and public purpose lease (N-3930) held by Air Sailing, Inc. A patent may be applied for in the near future (approximately 680 acres). The other airport is under an airport lease to the Nevada Flyers, Inc. and is in the SE corner of the allotment (180 acres).

B. At the southern end of the allotment (Shovel Springs) all of the public land in three sections are scheduled for disposal (Sec 1, T. 20 N., R. 19 E., Sec 5 and 6, T. 20 N., R. 20 E.)

C. The recently acquired sections 4, 9, 16, T. 21 N., R. 20 E. by the Reno-Sparks Indian Colony will have approximately 70 housing units constructed with utilities and a paved road to the property as the first phase in construction with additional housing units expected in the future..

VII. ALLOTMENT PROFILE[5/]

A. Paiute Allotment is located approximately 15 miles north of Reno along the Pyramid Lake Highway to the Winnemucca Ranch and West to Lemmon Valley. Two major mountain ranges are present within the allotment, the Virginia Mountains and the Dogskin Mountain.

A Rangeline Agreement dated August 14, 1985, was prepared to combine the Shovel Springs, Hungry Valley, and Paiute Canyon Allotments into one allotment called the Paiute Allotment, This agreement contains several errors (directional and numbering) as well as the addition of three sections that apparently were not part of the original Shovel Springs Allotment nor were they included in the Rangeline Agreement dated May 16, 1967. The total preference for the Paiute Allotment was not increased for these added three sections. Multiple use objectives have identified all the public lands contained in these three sections to be scheduled for disposal due to nearby community expansion and the land's residential potential. Therefore, a revised rangeline agreement will be drawn up to correct previous errors and eliminate sections 5 and 6, T. 20 N., R. 20 E. and section 1, T. 20 N., R. 19 E. from the allotment in preparation for future disposal. There will be no adjustments in total preference for the Paiute Allotment due to the removal of these public lands because BLM records show no AUMs were attached.

Topography in the allotment varies from low lying valleys to high rugged mountainous country. Elevation runs from a low of 4240' to a high of 8722'.

The average precipitation for the past 12 years, 1976 through 1987, was 7.6 inches. See Table 1, Utilization, Actual Use and Precipitation Data.

4/ See Illustration F
5/ See Illustration C

One major plant community exists within the allotment and it is the Northern Desert Shrub characterized by various species of sagebrush and cool season grass found at elevations of approximately 4500'. There are small vegetation or habitat types that reside within the major community and include riparian areas, tree clumps and meadows and are associated with waters such as springs, seeps and streams.

Although there are several alternate routes, the main access into the allotment is provided by the Pyramid Lake Highway and the Winnemucca Ranch Road.

B. Acreage

Federal - 70,860
State - 0
Private - 5,910 Permittee private controlled - 1975
Non-permittee private - 3935

C. Management Objectives (from the Rangeland Program Summary of May 30, 1984, Reno Planning Area).

1. Livestock
   a. Reverse downward trend.
   b. Limit utilization to 55% of the key species.
   c. Improve distribution of livestock.
   d. Improve condition of 3,000 acres by revegetation.
   e. Manage for 4,798 AUM's of livestock forage.

2. Wildlife
   a. Provide 1,601 AUM's of forage to support reasonable numbers of deer (numbers supplied by Nevada Department of Wildlife).
   b. Protect riparian areas.

3. Wild horse
   Maintain a level of 19 head in the Dogskin Mountain Herd Management Area.

D. Key Species and Season of Use by Cattle

	Species	Season of Use
1.	Oryzopsis hymenoides - Indian ricegrass	(sp su w)
2.	Purshia tridentata - Antelope bitterbrush	(su)
3.	Stipa comata - needle and threadgrass	(sp w)
4.	Stipa occidentalis - western needlegrass	(su)
5.	Stipa speciosa - desert needlegrass	(sp su w)
6.	Stipa thurbiana - Thurbers needlegrass	(su)

E. Threatened and Endangered Species

No plants or animals in the Paiute Allotment are currently classified as threatened or endangered. Two plants, Draba douglasii douglasii and Camissonia nevadensis, were deleted from the Federal

Classification 3C list in 1984 because they were considered to be more widespread than originally thought to be or had no identifiable threat.

F. Grazing System

This allotment currently does not have an established grazing system. It is grazed year-round with no internal pasture fencing. There are a few gap and drift fences in the allotment and the private land is mostly fenced. The permittee has established seasonal grazing areas but has little ability to control cattle movement between these areas. The high country where summer grazing occurs includes the Dogskin Mountain and the Virginia Mountains. Spring and winter grazing occurs in Hungry Valley and Warm Springs Valley within the allotment, plus leased grazing land outside of the allotment in Warm Springs Valley as additional areas for winter grazing. Fall grazing occurs on the permittee's private land and public land in the Winnemucca Valley, all within the allotment. Since sufficient internal fencing does not exist to provide adequate control of grazing livestock, extremes in utilization of forage has occurred over the entire allotment.

VIII. ALLOTMENT ISSUES

A. Livestock Distribution

Livestock distribution appears to be the greatest problem based on identified specific areas of heavy and severe use, as well as areas of under use. See Management Evaluation B.2.

B. Range Ecological Condition and Trend - (Reno EIS, 1982)

Ecological Condition Acres			Unsuitable[6/]	Allotment	
Good	Fair	Poor	Acres	Total Acres	Trend
3510	50616	16734	2707	73567	Down

C. Forage Competition and Browse Reproduction

1. Competition for forage between cattle, wild horses and deer exists in the Dogskin and Virginia Mountain areas where key grass species and bitterbrush utilization is heavy to severe and habitat condition is fair.

   Competition between cattle, some trespass wild horses and pronghorn antelope occurs in the Winnemucca Valley where heavy to severe use is also taking place.

2. The California Department of Fish and Game's Doyle Deer Herd Plan, dated 1984 and BLM's Lassen-Washoe Habitat Management Plan

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6/ Unsuitable Acres = Rock Outcrop and Badlands

(HMP) dated 1988, identified an apparent problem of long-term deterioration of deer winter range and that the key browse species, bitterbrush, were old and failing to reproduce new plants.

D. Riparian

Riparian areas in this allotment have historically received severe (80% to 100%) use from livestock, wild horses and wildlife. Erosion of soil and loss of riparian species is taking place on many meadows, springs and four small perennial streams found in the allotment.

Riparian areas identified for protection (28) in the Lahontan RMP are shown in Table 4, Proposed Riparian Protection. Many of the areas proposed for protection have previously been developed and now require source protection.

E. Unstable Soils

Erosion rates within many of the allotment areas appear to be within allowable limits, however, there are specific areas where accelerated erosion is a problem:

1. The north end of Warm Springs Mountain in the Hungry Valley ORV area - areas of gullying and high sediment yields due to ORV rutting;

2. South Dogskin Mountain, Warm Springs Mountain, and the Hungry Mountain and north Hungry Valley area - areas of high sheet, rill, gully, and wind erosion, and high sediment yield due to recent range fires (1985); and

3. Localized erosion around springs and seeps due to livestock trampling.

F. Rangeland Fires[7/]

There have been five range fires between 1984 and July of 1988. The following is a tabulation of these fires:

Year	Fire No.	Approximate Acres
1984	Unknown	105
1985	J-988	11,200
	J-566	7,400
1986	J-675	152
1988	J-779	2,500

G. Trespass horses, horses outside ofthe Herd Management Area, have been seen in the Virginia Mountains and the southern end of the allotment by the permittee and BLM personnel on different occasions.

7/ See Illustration D

IX. MANAGEMENT EVALUATION

A. Purpose of the evaluation is to summarize the base data and recommend corrective action to meet our land use objectives and for preparation in the development of an Allotment Management Plan (AMP) for the Paiute Allotment.

B. Summary of Studies Data

See Table 1 for actual use, % utilization and precipitation for the years of 1976 through 1987.

1. Actual Use

In twelve years of evaluation data, cattle AUM's varied from 1001 AUM's to 4934 AUM's.

2. Utilization

Utilization data has previously been collected between the months of October and April on an allotment-wide basis. These data were collected for seven individual years between 1976 and 1987. In 1976, utilization was 72% and in 1977, it was 62%. Since 1978, the allotment-wide percent utilization has been below the recommended maximum of 55% use level. From 1978 through 1984, five years of data averaged 46% use. Utilization mapping for the years of available data show consistently three areas of excessive use ranging from heavy to severe use (68% to 88%). They are located along the western slopes of the Dogskin Mountain, in Winnemucca Valley, and in the Mahogany Flat area in the Tule Peak region of the Virginia Mountains. The low lying valleys of Warm Springs and Hungry have averaged from moderate to heavy use (48% to 77%). See Table 1 for % of allotment acreage in the heavy to severe use range.

3. Frequency Transects[8/]

a. Frequency transects are read once each five years and are in key areas. The possibility exists that at least one additional transect for livestock may be established in the future.

(1) Livestock

Key Area 1
P-154, established 1982, T. 23 N., R. 20 E.,
Sec. 18 NESW
Summer - Livestock
Winter - Deer
Year-long - Deer

8/ See Illustration E

Key Area 2
L-121, established 1982, T. 21 N., R. 20 E.,
Sec. 31 SWSE
Spring - Livestock
Winter - Deer

(2) Wildlife

Key Area 3
LW-13, established 1976, T. 23 N., R. 19 E.,
Sec. 1 NWNW
Crucial Winter - Deer
Summer - Livestock

Key Area 4
DV-2, established 1976, T. 24 N., R. 20 E.,
Sec. 21 SWNW
Winter - Deer
Summer - Livestock

b. Key Species

(1) Livestock

(a) Key Area 1 (P-154)
Stipa thurbiana - Thurber needlegrass (Stth)
Stipa occidentalis - western needlegrass (Stco)
Stipa speciosia - desert needlegrass (Stsp)
Oryzopsis hymenoides - Indian ricegrass (Orhy)

(b) Key Area 2 (L-121)
Stipa comata - Needle-and-thread grass (Stco)
Stipa speciosa - desert needlegrass (Stsp)
Oryzopsis hymenoides - Indian ricegrass (Orhy)

(2) Wildlife

(a) Key Area 3 (LW-13)
Purshia tridentata-antelope bitterbrush (Putr)
Stipa thrubiana - Thurber needlegrass (Stth)

(b) Key Area 4 (DV-2)
Purshia tridentata-antelope bitterbrush (Putr)
Stipa thurbiana - Thurber needlegrass (Stth)

4. Analysis of Frequency Data[9/]

a. Frequency (X-monitor computer program using Duncans Multiple Range Test at the 0.10 Significant Level)

9/ See Table 7, Frequency Transect Species Names and Symbols

(1) Livestock Frequency Transects

(a) P-154, Key Area 1, located west side of the Dogskin Mountain. Only one year of data available ('82).

(b) L-121, Key Area 2, located on south end of Shovel Springs Allotment. Only one year of data collected ('82) and is missing.

One year of data is insufficient to evaluate the livestock key area frequency transects.

(2) Wildlife Frequency Transects

(a) LW-13, Key Area 3, located west side of Dogskin Mountain.

Two years of data were analyzed, 1982 and 1985:

16 species in the frequency transect
6 species found only one year (no analysis)
10 species were analyzed as follows:

5 species had significant difference and were positive, + (Pose, Sihy, Basa, Lepu, Artr)

4 species did not have a significant difference but were positive, + (Stipa, Putrm, Ephed, Ribes).

1 specie was not significantly different but was negative - (Chvi)
The frequency transect overall apparent trend for 1982 - 85 was UP.

Key species for livestock

Pose +, significant
Sihy +, significant
Stipa +, not significant
Putr M +, not significant

Apparent trend was UP.

(b) DV-02, Key Area 4, located west side of Virginia Mountains.

Two years of data were analyzed, 1982 and 1985:

12 species in the frequency transect
12 species were analyzed as follows;
2 species had a significant difference and were positive and negative
+ (Sihy)
- (Artr)

7 species were not significantly different,
3 were positive, + (Arno, Ribes, Tetra spp)
4 were negative, - (Putr M, Grsp, Juos, Chna)

3 species had no change (Agcr, Elci, Amal)

The frequency transect overall apparent trend for 1982 - 85 was STATIC.

Key species for livestock

Sihy, + significant
Putr M, - not significant
Agcr, 0 static
Elci, 0 static

Apparent trend was STATIC.

5. Photo Trend Plots[10/]

There are six photo trend plots located throughout the allotment. Two have been abandoned and four remain active and will be read on a five-year basis. Trend for the period of 1975 to 1979 appears to have been STATIC to DOWN. See Table 5, Photo Trend Plot Summary Data.

6. Precipitation Data

Precipitation data is collected yearly and is summarized for the years 1976 through 1987 in Table 1, Utilization, Actual Use and Precipitation Data.

7. Phenology Data

See Table 6, Phenology Data

X. CONCLUSIONS AND RECOMMENDATIONS

The present stocking level of cattle should begin at the current active preference of 4798 AUMs. The stocking level for wild horses should be maintained at the level indicated in the Draft Reno EIS dated 8/30/82 which is 19 head year round. This would result in a provision for 285 AUMs for wild horses.

In order to reduce utilization levels to 55% on key species in the heavy to severe use areas on the Dogskin Mountain, Virginia Mountains and in low lying Hungry and Warm Springs Valleys, a systematic approach to controlled grazing of livestock is required. This could be accomplished through the development of a pastured Allotment Management Plan (AMP) for the Paiute Allotment. Not only would a grazing system with set seasons of use by pasture tend to even out the high and low utilization

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10/ See Illustration E

levels but would directly support the allotment livestock management objectives VII.C.1.a, b, c, and e and reduce the competition for forage between livestock, wild horses and wildlife (deer and antelope).

To implement an AMP, numerous range improvements would have to be constructed. These would include fencing for pastures, spring developments, stockwater facilities and the construction of a livestock trail (see Table 3, Proposed Range Improvements).

The south end of the allotment has no physical barrier to restrain livestock movement off the allotment and in order to make effective use of forage by the permittee's livestock an allotment boundary fence (Shovel Springs boundary fence and cattle guard) has been proposed and submitted as a 1989 project. It is approximately three miles in length running along the south section line of sections 31 and 32, T. 21 N., R. 20 E., and section 36, T. 21 N., R. 19 E. The fence is proposed on the original south boundary of the previously called Shovel Springs Allotment which now is a pasture of the Paiute Allotment.

The lack of protection of the many spring sources and riparian areas in this allotment has allowed severe use to take place on these sites. This has led to the loss of riparian vegetation and to soil erosion. In order to prevent continued degredation of the spring sources, protective fencing would be required and where needed, pipe water to stockwater troughs outside of the protected sources. Some amount of protection around riparian areas should also be provided to prevent further overuse of vegetation and compaction of soil by large animals. This would also help in reducing the localized soil erosion around the springs, seeps, and riparian areas. See Table 4, Proposed Protective Improvements for Riparian Areas.

A review of the allotment's ecological condition data revealed a number of range site descriptions had been changed since the Reno EIS was published September 30, 1982. A comparison of the EIS and updated values is as follows:

PAIUTE ALLOTMENT ECOLOGICAL CONDITION

	EIS 1982			Update 1988			
	Acreage			Acreage			
Allotment Pastures	Good	Fair	Poor	Good	Fair	Poor	Remarks
Paiute Canyon	3100	21250	11438	6394	21103	6730	1557 (seed fire rehab.)
Hungry Valley	271	23184	1906	271	23184	1906	No change
Shovel Springs	139	6182	3390	819	6633	2263	
Allotment Total	3510	50616	16734	7484	50920	10899	1557

The combined total acreage of the Paiute Allotment is 70860.

XI. CONSULTATION

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Chuck Mills, Manager, Intermountain Land and Cattle Company
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TABLE 1

Utilization, Actual Use and Precipitation Data

Year[1]	Desired Utilization	Actual[2] Use (AUMS)	Average Utilization	Precip.[3] Data (in)	% of Allot. Acres of Heavy and Severe Use
1976	55%	4141 A 4934 L	72	5.1	
1977	55%	4705 L	66	6.8	
1978	55%	4932 L	51	7.9	46
1979	55%	4934 L	—	6.0	—
1980	55%	3470 L	50	9.2	38
1981	55%	3587 L	42	6.7	14
1982	55%	1001 L	—	11.1	—
1983	55%	4578 A	42	13.2	2
1984	55%	4382 L	47	4.3	51
1985	55%	3556 L	Not Calc'd Due to Burn	5.0	
1986	55%	3345 L	Not Usable	8.9	
1987	55%	4798 L	Not Coll'd	7.5	

1/ 1976-7 Permittee was MH. Land & Livestock Co., 1977 to present is Intermountain Land and Cattle Company.

2/ A = Actual Use Information, L = Licensed Use AUMs.

3/ Precipitation Data rounded to nearest 0.1 inches. Reno International Airport.

Table 2
EXISTING RANGE IMPROVEMENTS

Job Number	Job Name	Units	Location	Agreement Type	Agreement Resp.	Remarks
0113	Antelope Dogskin Fence	10 mi.	T. 22 N., R. 19 E. Sec. 2, 20	Coop	Op	Boundary Fence
0193	Mahongany Flat Fence	2.0 mi.	T. 25 N., R. 20 E. Sec. 34	Coop	Op	Boundary Fence
0352	North Hungry Spring Dev.	1	T. 22 N., R. 20 E. Sec. 27	Coop	Op	
0353	South Hungry Spring Dev.	1	T. 21 N., R. 20 E. Sec. 20	Coop	Op	
0354	Shovel Springs - Pipeline	2.0 mi.	T. 21 N., R. 20 E. Sec. 18, 19, 20	Coop	Op	
4005	Hungry Valley Well	1	T. 22 N., R. 20 E. Sec. 8	Coop	Op	
4077	Little Quaking Aspen Spring Dev.	1	T. 24 N., R. 20 E. Sec. 32	Coop	Op	
4078	Mustang Spring Pipeline	2 mi.	T. 23, 24 N., R. 19 E. Sec. 1, 2, 11, 12, 35, 36	Coop	Op	
4082	Paiute Spring #1	1	T. 24 N., R. 20 E. Sec. 26	Coop	Op	
4083	Paiute Spring #2	1	T. 24 N., R. 20 E. Sec. 14	Coop	Op	
4095	East Dogskin Drift Fence	.7 mi.	T. 23 N., R. 20 E. Sec. 4	Coop	Op	
4299	Hardscrabble Fence	9.1 mi.	T. 23, 24, 25 N., R. 20, 21 E.	Coop	Op	Boundary Fence
4328	Warm Springs	1	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
4329	Warm Springs Fence	.5 mi.	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
4330	Warm Springs Corral	1	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
5010	Settlemeyer-Dogskin Fence	1.7 mi.	T. 24 N., R. 20 E. Sec. 30, 31, 32	Coop	Op	
5018	Mullins Pass Fence	3 mi.	T. 21, 22 N., R. 20, 21 E.	Coop	Op	Boundary Fence
5184	Four Point Spring	1	T. 24 N., R. 19 E. Sec. 23	Coop	Op	
6015	Double Spring	1	T. 23 N., R. 21 E.			Wildlife
6064	Lower Loam Spring	1	T. 23 N., R. 19 E. Sec. 27 NWNW			
6066	Upper Loam Spring	1	T. 24 N., R. 19 E. Sec. 27 NENW			
6299	Paiute Canyon Creek Dams	1.5 ac.	T. 24 N., R. 20 E. Sec. 19 SESE		BLM	
6388	Settlemeyer Sp. Exc.	1.0 ac.	T. 24 N., R. 19 E. Sec. 35 SWNE		BLM	
6413	Mustang Exclosure	0.25 ac.	T. 24 N., R. 19 E. Sec. 35 SWNE		BLM	

Table 3
PROPOSED RANGE IMPROVEMENTS

Job Number	Job Name	Units	Location	Agreement Type	Resp.	Funding Remarks	Est. FY For Completion	Est. Cost
6065	Rabbitsfoot Spring	1	T. 23 N., R. 21 E. Sec. 12	Sec 4	Op	Permittee	FY 90	1200
6067	Sorefoot Spring	1	T. 24 N., R. 20 E. Sec. 9	Sec 4	Op	Permittee	FY 90	1200
6068	Simple Spring	1	T. 24 N., R. 20 E. Sec. 16	Sec 4	Op	Permittee	FY 90	1200
6069	Lower Canyon Drift Fence	0.1 mi.	T. 24 N., R. 20 E. Sec. 14	Coop	Op	8100	FY 91	500
6070	Upper Canyon Drift Fence	0.1 mi.	T. 24 N., R. 20 E. Sec. 23	Coop	Op	8100	FY 91	500
6319	Hungry Valley Fence and CG	4 mi.	T. 22 N., R. 20 E. Sec. 30, 31, 32, 33, 34	Coop	Op	8100	FY 90	16000
6522	Hungry Holding Field	1 mi.	T. 22 N., R. 20 E. Sec. 22	Coop	Op	8100	FY 91	3000
6276	Warm Springs Mtn. Fence	2.7 mi.	T. 22 N., R. 20 E. Sec. 3, 4, 7, 8, 9	Coop	Op	8100	FY 90	12250
6524	Hungry Stockwater Facility	10,000 gal.	T. 22 N., R. 20 E. Sec. 18	Coop	Op	8100	FY 92	6000
6386	Paiute Creek Fence	3.7 mi.	T. 23 N., R. 20 E. Sec. 3, 4, 11, 12	Coop	Op	8100	FY 91	13125
6248	Tule Mountain Fence	3.25 mi.	T. 24 N., R. 20 E. Sec. 17, 20, 21, 27, 28, 34	Coop	Op	8100 FY 89	FY 89	12250
6525	Tule Livestock Trail	2.5 mi.	T. 24 N., R. 20 E. Sec. 8, 9, 15, 16, 21	Coop	Op	8100	FY 92	1500
6523	Fall Field Fence	40 ac. (1.0 mi)	T. 24 N., R. 20 E. Sec. 30	Coop	Op	8100	FY 91	3000
6250	Shovel Springs Boundary Fence and CG	3 mi.	T. 21 N., R. 20 E. Sec. 31, 32 T. 21 N., R. 19 E. Sec. 36	Coop	Op	8100	FY 89	13125

Proposed Improvements with Locations to be Determined at a Later Date

Stockwater Storage Tanks	5	Coop	Op	8100
Water Troughs	20	Coop	Op	8100

Table 4
PROPOSED IMPROVEMENTS FOR RIPARIAN PROTECTION

Job Number	Priority	Job Name	T.	R.	Sec.	1/4	1/ Est. Cost	Type Agree.	Improvement	Funding	FY
6424	1	Paiute Watershed #3	24	20	34	NWSW	1325	BLM	Fence Source	4341	1990
6435	2	Paiute Watershed #5	24	20	21	SWNW	1200	BLM	Fence	4341	1990
	3	Paiute Watershed #2	24	20	29	NENW	1000	BLM	Fence & Check Dams	4341	1990
	4	Paiute Watershed #4	24	20	27	SWNE	800	BLM	Fence & Trough	4341	1990
5184	5	Four Point Spring	24	19	23	SWSW	500	BLM	Fence Source	8100	1991
4077	6	Little Quaking Aspen Spring	24	20	32	SWSW	500	BLM	Fence Source	8100	1991
6064	7	Lower Loam Spring	24	19	27	NWNW	150	BLM	Fence Source	8100	1991
6066	8	Upper Loam Spring	24	19	27	NENW	200	BLM	Fence Source	8100	1992
4082	9	Paiute #1	24	20	22	NESE	350	BLM	Fence Source	8100	1992
4083	10	Paiute #2	24	20	14	SWNW	350	BLM	Fence Source	8100	1992
6068	11	Simple Spring	24	20	16	NWSW	1000	Sec 4/BLM	Spring Dev., Fence Source	8100	1992
6065	12	Rabbitsfoot Spring	23	20	12	NWNE	1000	Sec 4/BLM	Spring Dev., Fence Source	8100	1992
6067	13	Sorefoot Spring	24	20	09	SWSE	1000	Sec 4/BLM	Spring Dev., Fence Source	8100	1992
	21	P200 0002 A36	24	20	03	SWNW	300	BLM	Fence Meadow	4351/8100	1990
	14	P183 0002 A12	24	20	21	SWNW	500	BLM	Fence Source	4351	1993
	15	P078 0001 A12	24	20	33	SESE	1000	BLM	Fence, Check Dam, Survey	4341	1993
	16	P202 0003 B63	24	20	36	NESW	500	Sec 4/BLM	Spring Dev., Fence Source	4351	1993
	17	P194 0007 A13	24	20	22	NESE	500	BLM	Fence Source	4351/8100	1993
	18	P194 0008 A58	24	20	22	SESE	500	BLM	Fence Source	4351/8100	1993
	19	P194 0004 A12	24	20	22	SESE	200	BLM	Fence Source	4351/8100	1994
	20	P194 0005 A12	24	20	22	SESE	300	BLM	Fence Source	4351/8100	1994
	22	P075 0001 A58	24	20	23	NESW	300	BLM	Fence, Land Status Survey	4351/8100	1994
	23	P094 0010 A58	24	20	22	SESE	200	BLM	Fence Source	4351/8100	1994
	24	P108 0001 A12	24	20	34	NENW	200	BLM	Fence Source	4351/8100	1995
	25	P108 0008 A12	24	20	34	NENW	200	BLM	Fence Source	4351/8100	1995

1/ Does not include water right survey or filing fees.

Table 5
PHOTO TREND PLOT
Summary Data
1975 to 1979

Plot #	Key Species	Data Year % Comp. 75	% Comp. 79	Apparent Trend Up	Static	Down	Overall
H-1	STSP	20.7	---			X	
	ORHY	8.4	3.6			X	DN
	SIHY	1.5	---			X	
	STTH	---	34.7	X			
H-2	SIHY	53.73	36.1			X	
	ELCE	46.27	63.9	X			STATIC
P-1	AGSP	44.68	30.10			X	
	PUTR	15.96	---			X	DN
P-2	STCO	63.64	61.8			X	DN
P-3	STSP	62.50	38.2			X	STATIC
	STTH	---	38.7	X			
S-1	POSE	13.79	6.8			X	
	SIHY	18.10	49.6	X			DN
	PUTR	48.28	28.9			X	

Trend plots will not have vegetation analysis conducted after 1979. Data for trend will be determined through the frequency studies and/or the Supplemental Techniques covering Apparent Trend as outlined in the Nevada Rangeland Monitoring Handbook dated September 1984. The trend plot photographs will continue to be taken on a scheduled basis and be retained as additional information.

Table 6
Phenology Data
Source: Nevada Rangeland Phenology, BLM, 1979

Site	Species	St Grow	Twig Grow	Boot	Pk Flower	Seed Ripe	Seed Dissemination	Dormant
03A-2	ORHY	3-1		5-1	6-1	6-15	6-21	7-7
Mullen Pass	SIHY	3-1		4-21	5-15	6-15	6-21	7-7
4240'	STTH	3-1		5-1	6-7	6-21	7-1	7-7
SE Aspect	STCO	3-1		5-1	6-7	6-21	7-1	7-7
1-4% Slope								
		leaf		lst blm				
Salt Dessert	CELA	3-1	3-7	6-1	6-7	7-1		
Shrub		leaf		lst blm				
Sandy	ATCA	3-1	4-1	5-21	6-21	7-1		
03A-7-1	ORHY	3-7		5-15	6-1	7-1	7-7	7-21
Sand Hills	SIHY	3-1		5-15	6-1	7-1	7-7	7-21
5740'	STTH	3-7		5-21	6-7	7-1	7-7	7-21
N. Aspect	AGCR	3-1		5-21				
0% Slope								
		leaf	3-15	lst blm				
Mtn. Brush	PUTR	3-1	to		5-21		7-7	
			6-15					
Sandy								
03A-7-2	POSA	3-1		4-15	5-15		6-15	6-21
Peavine Mtn.	STTH	3-15			6-7	7-7	7-21	8-21
6400'								
		leaf		lst blm				
NE Aspect	PUTR	3-7		5-21	6-7	7-15	7-21	
53% Slope								
Mtn. Brush								
Sandy Loam								

TABLE 7
FREQUENCY TRANSECT SPECIES
Names and Symbols

Grasses		
Agcr	Agropyron cristatum	crested wheatgrass
Elce	Elymus cinereus	basin wildrye
Pose	Poa secunda	Sandberg bluegrass
Sihy	Sitanion hystrix	bottlebrush squirreltail
Stipa	Stipa spp	needlegrass
Forbes		
Basa	Balsamorhiza sagittata	arrowleaf balsamroot
Lepu 2	Lepidium pubescens	pepperweed
Shrubs & Trees		
Arno	Artemesia nova	black sagebrush
Artr	Artemesia tridentata	big sagebrush
Chvi	Chrysothamnus spp	rabbitbrush
Ephedra	Ephedra spp	ephedra
Grsp	Grayia spinosa	spiny hopsage
Juos	Juniperous Osteosperma	Utah juniper
Putm	Purshia tridentata	antelope bitterbrush (Mature)
Ribes	Ribes spp	current, gooseberry
Tetra	Tetradymia spp	horsebrush

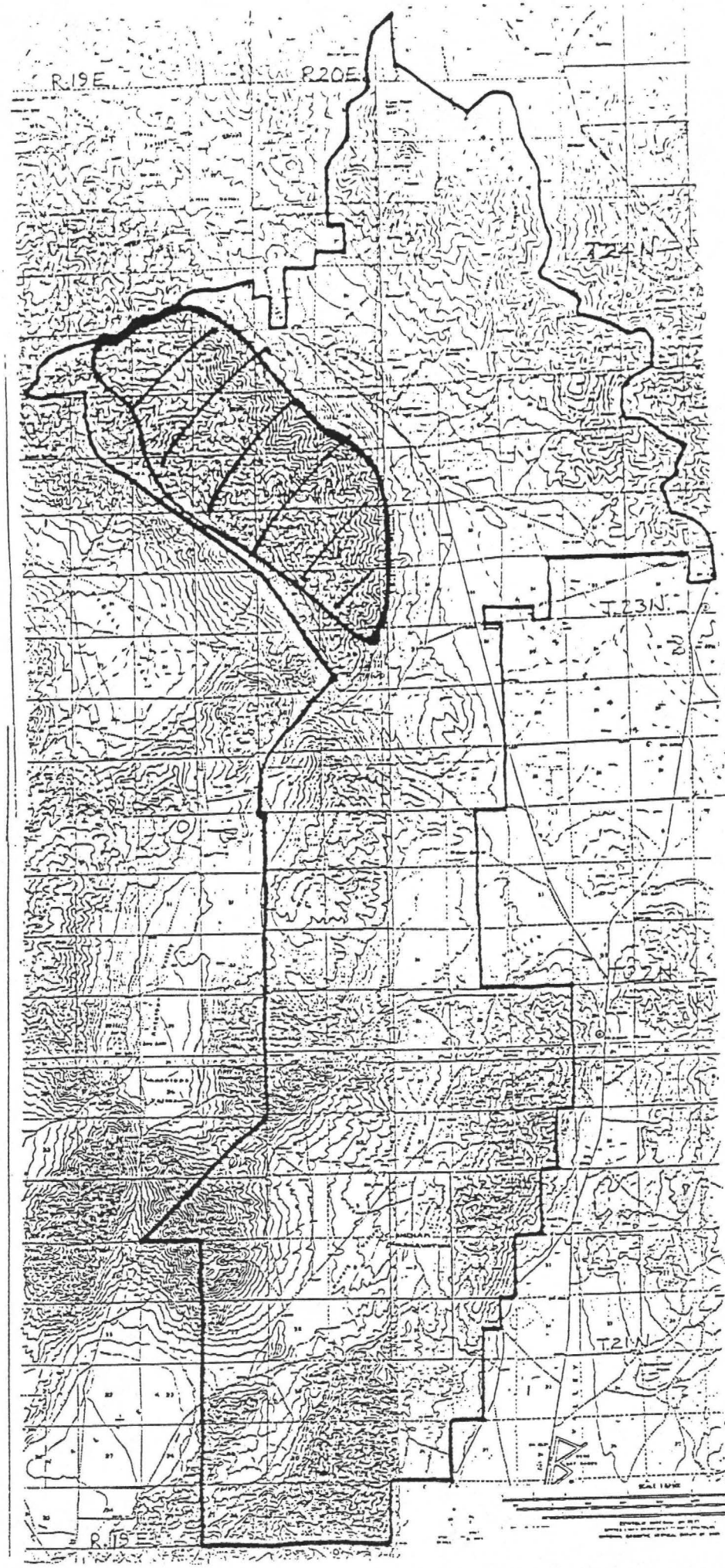
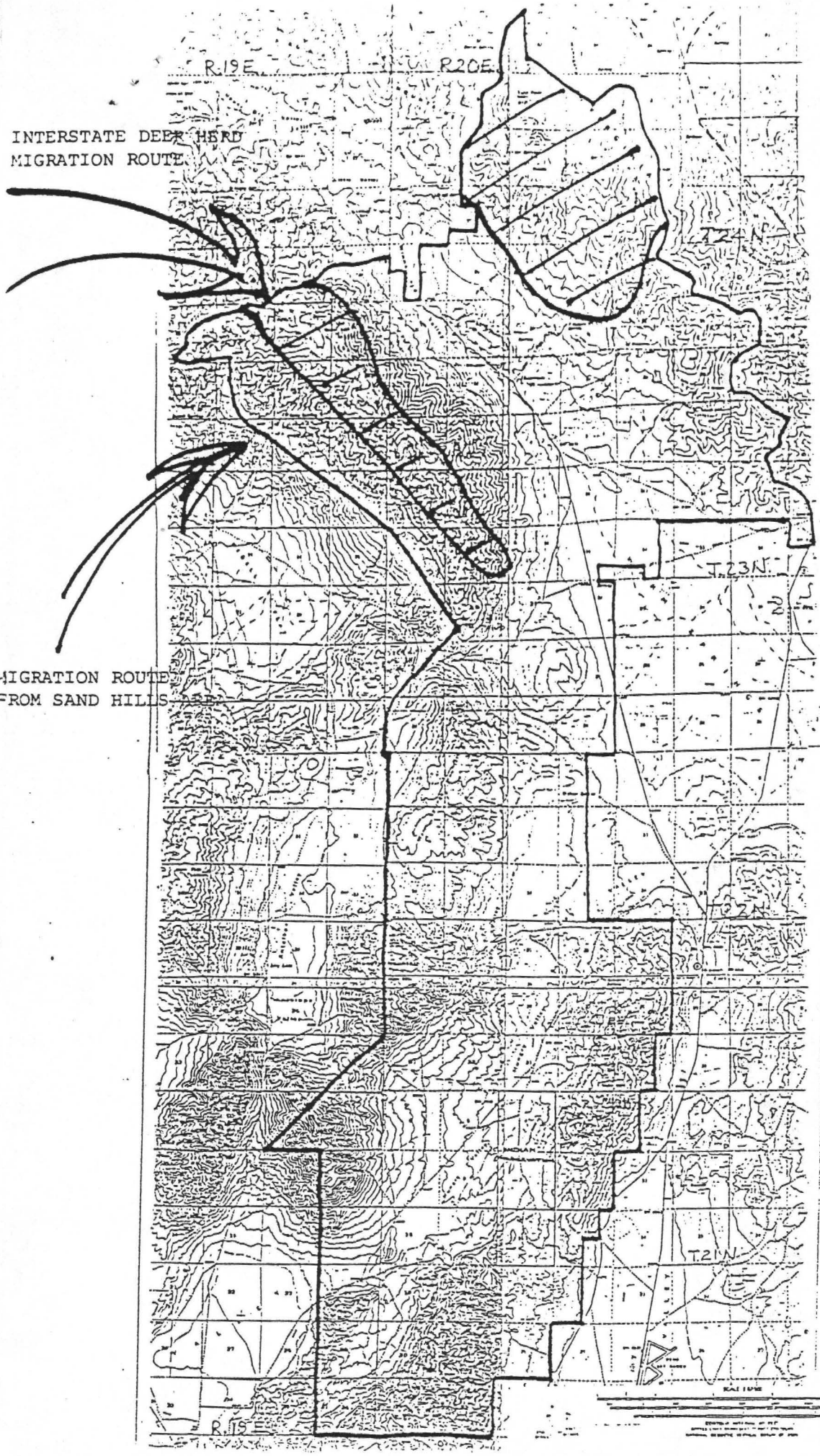


ILLUSTRATION A

DOGSKIN MOUNTAIN
HERD MANAGEMENT AREA

ILLUSTRATION B



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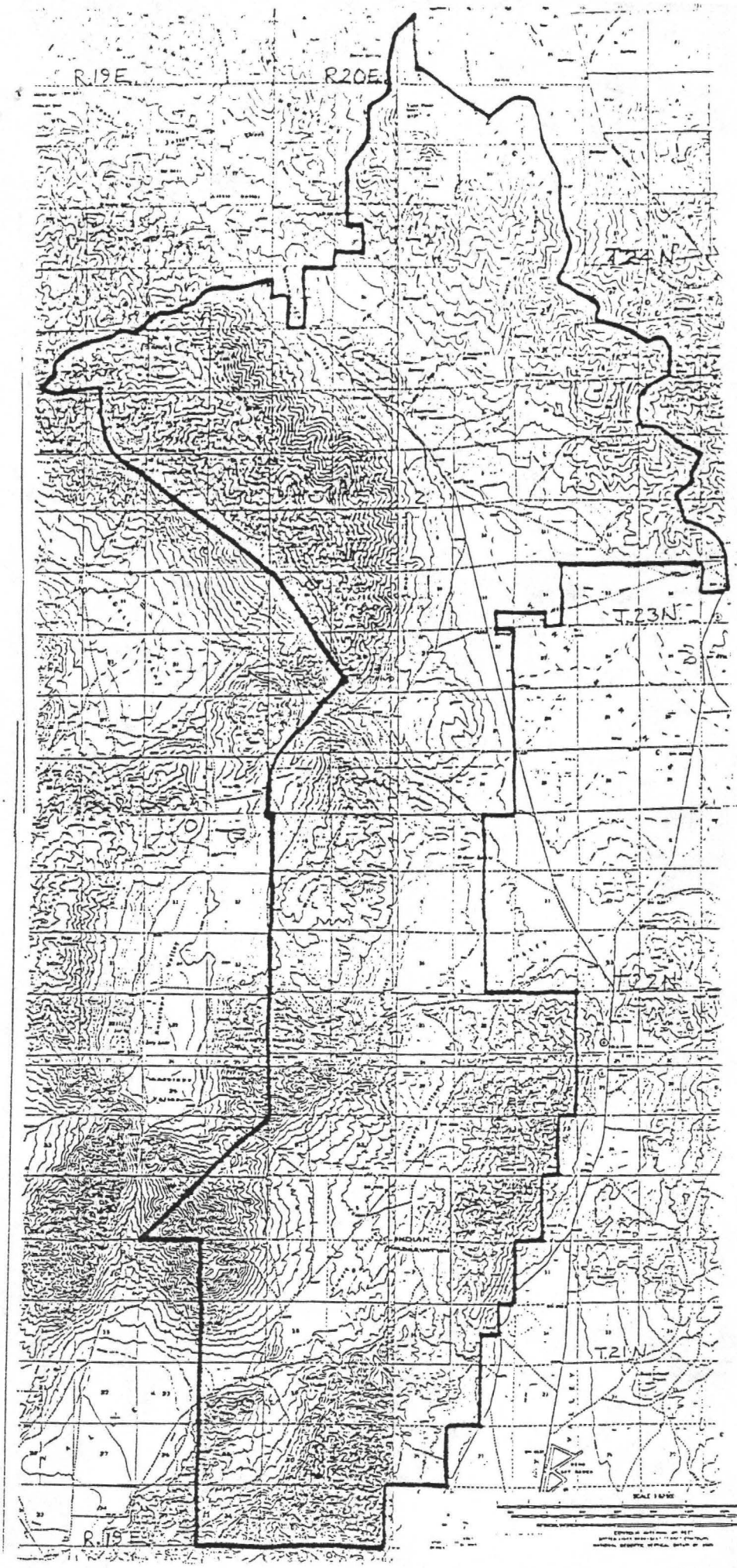
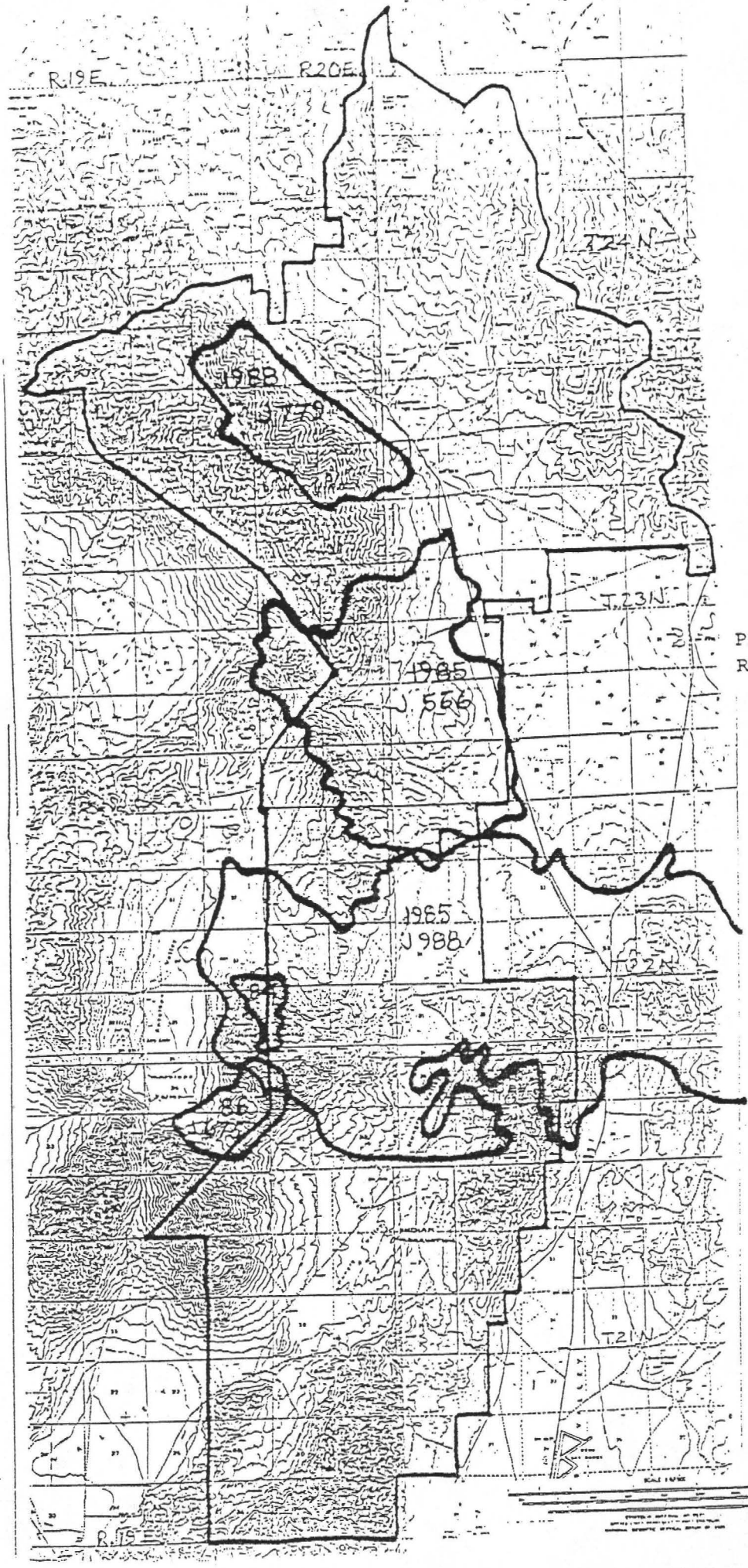


PAIUTE ALLOTMENT

ILLUSTRATION D



PAIUTE ALLOTMENT
RANGE FIRES
1984- unk
1985- J-988
1985- J-566
1986- J-675
1988- J-779

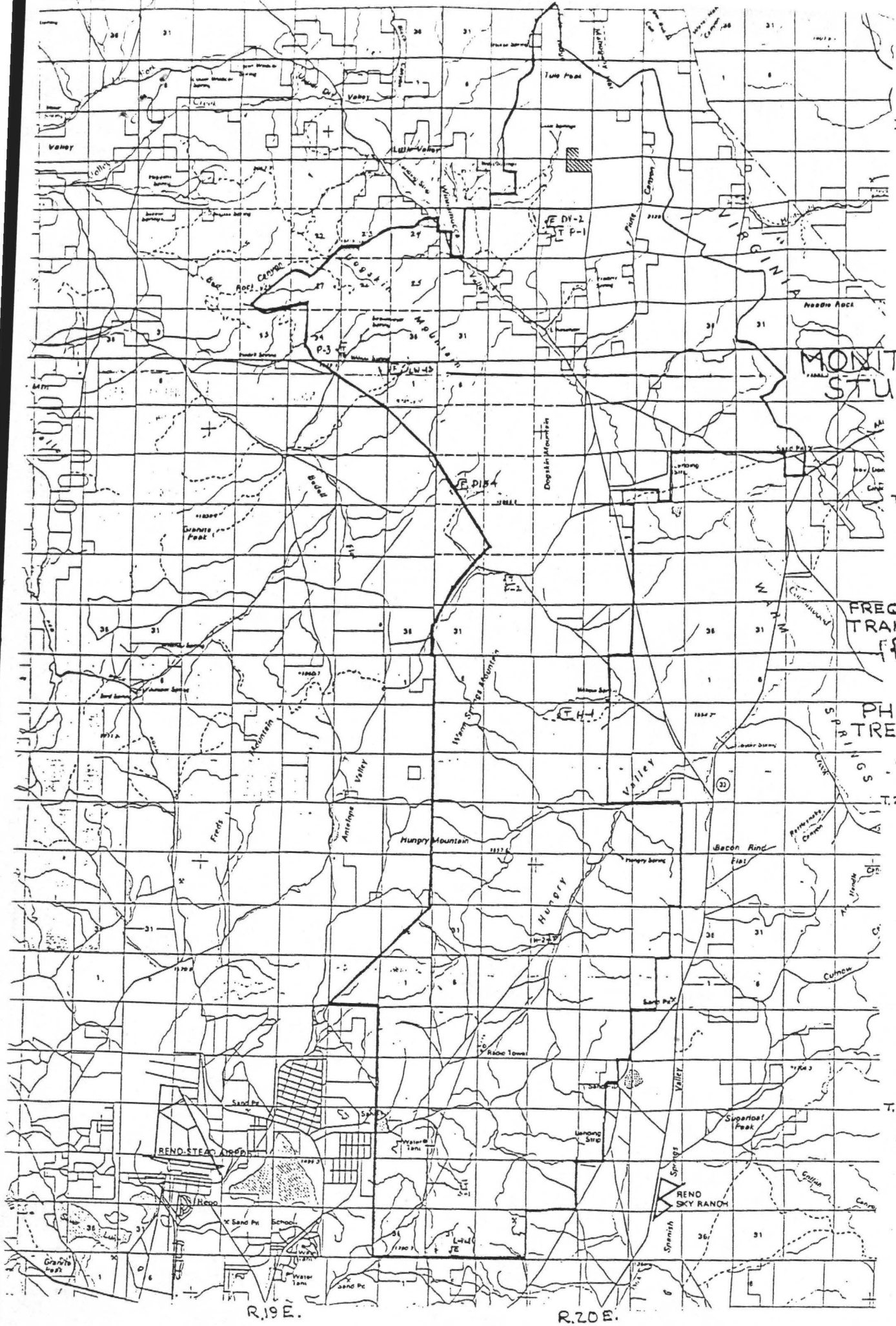
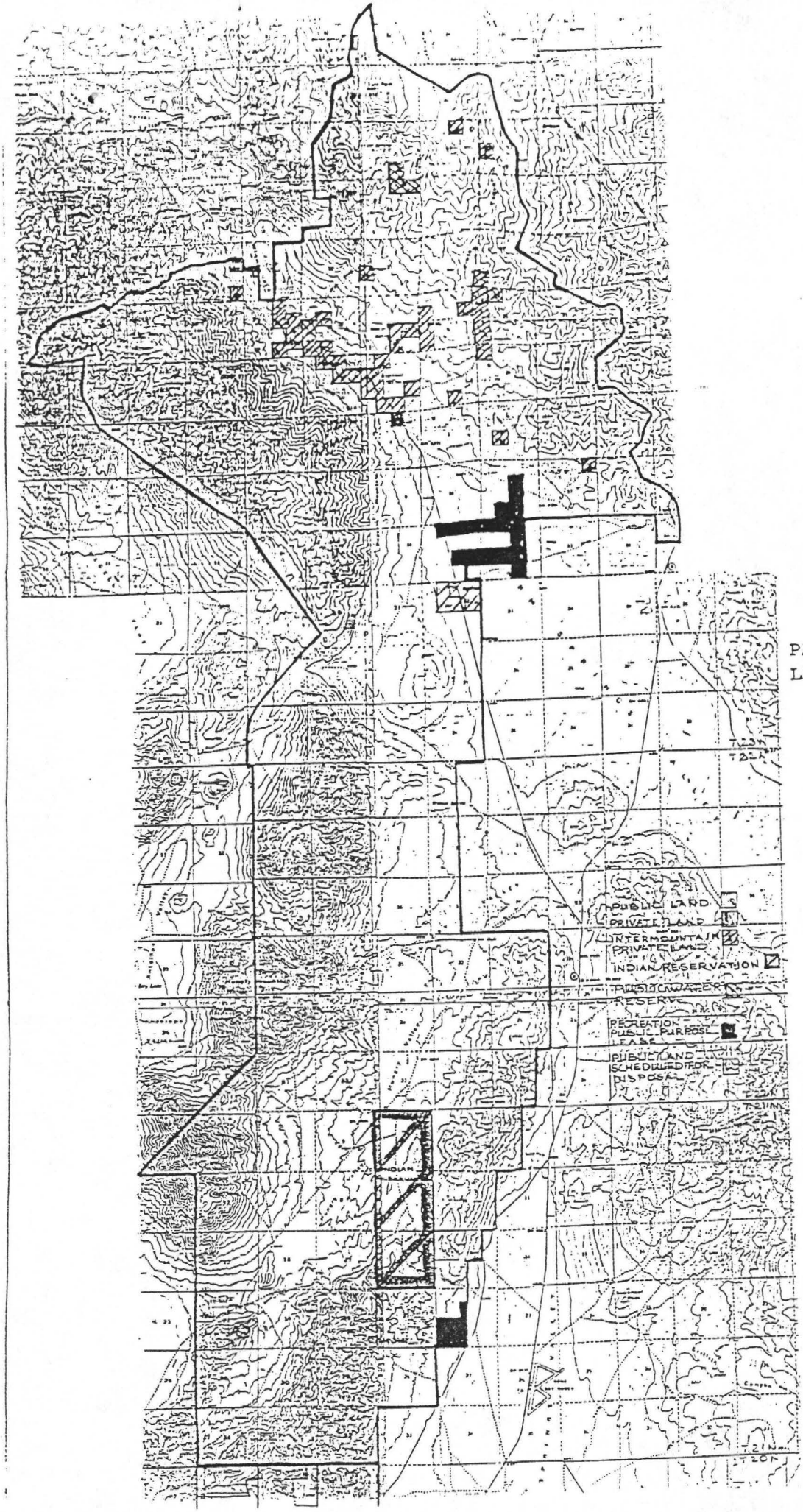


ILLUSTRATION E
T.24N.
MONITORING STUDIES
T.23N.
FREQUENCY TRANSECTS
DV-2
LW-13
P-154
L-121
PHOTO TREND PLOTS
P-1
P-2
P-3
H-1
H-2
S-1
T.22N.
T.21N.
R.19E.
R.20E.
Two Peak
Dry Valley
Bald Rock Canyon
Hungry Mountain
Bacon Rind Flat
Granite Peak
Dogskin Mountain
Antelope Valley
Fredn
Cutnow
Superior Peak
RENO-STEAD AIRPORT
RENO SKY RANCH
Reno
Sand Pit
Water Tank
Landing Strip
Needle Rock
Spanish Springs Valley
Spanish Springs Creek

ILLUSTRATION F



PAIUTE ALLOTMENT
LAND STATUS

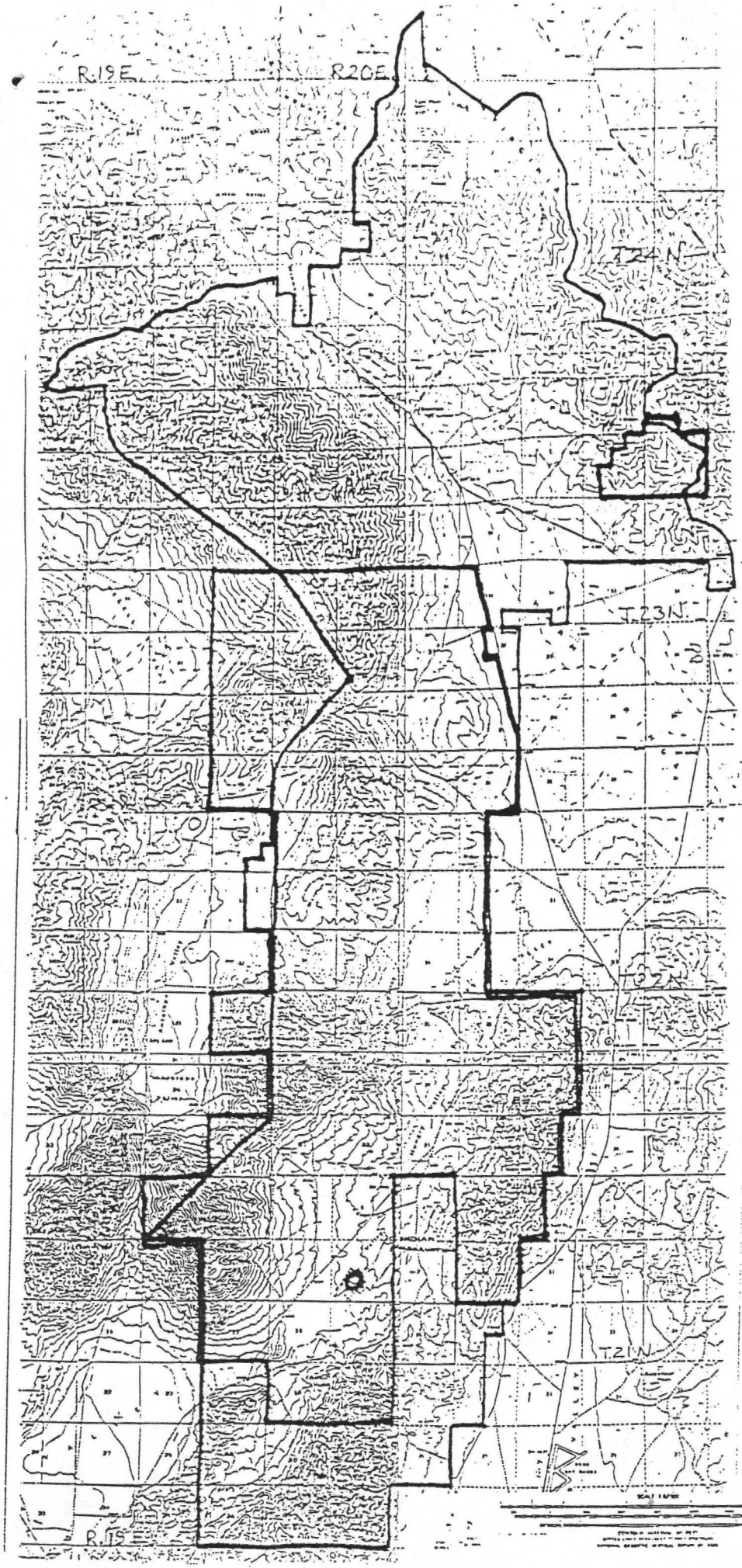


ILLUSTRATION G

RECREATION USE AREAS

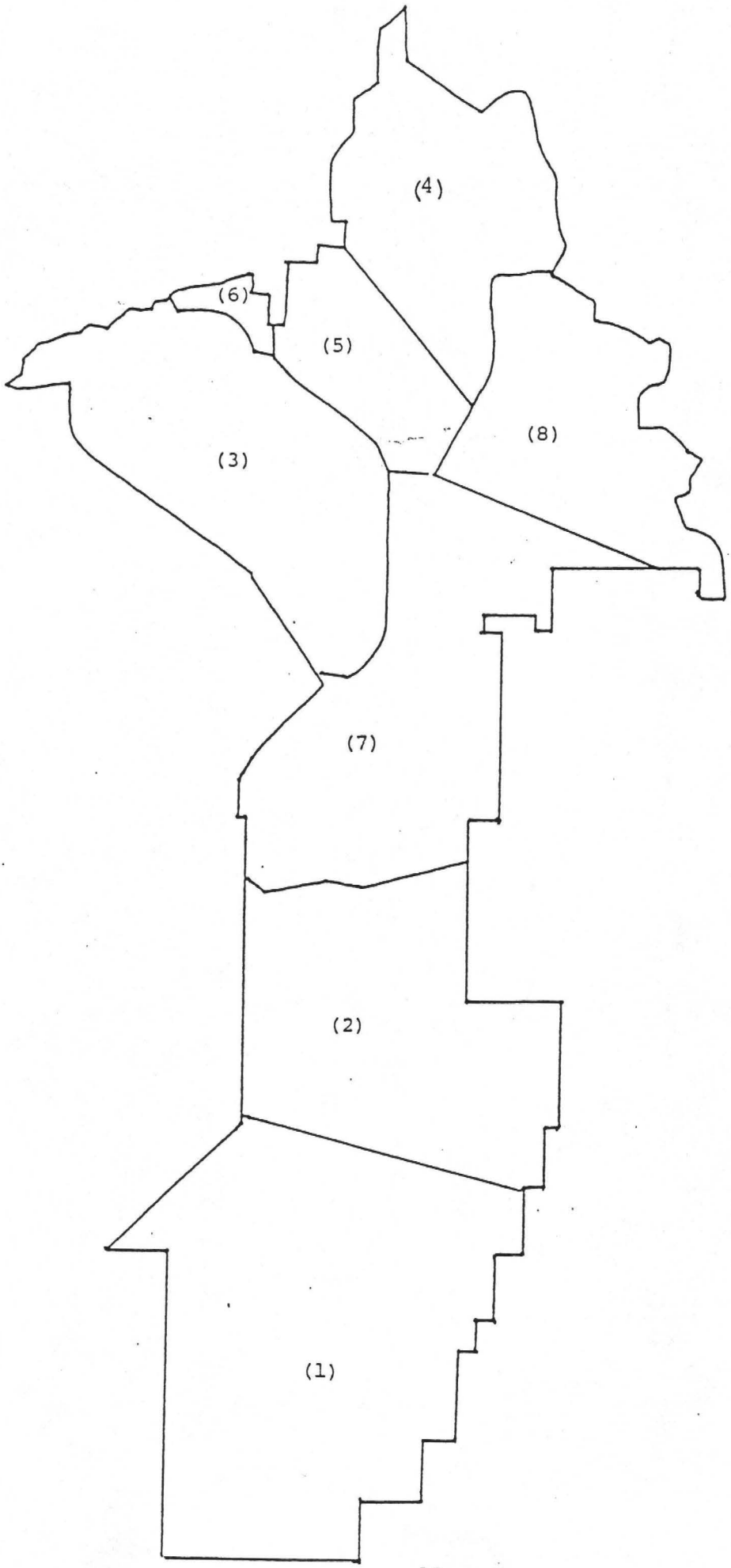
ACEC INCANDESCENT ROCKS

HUNGRY VALLEY ORV AREA

RENO RADIO CONTROL AREA

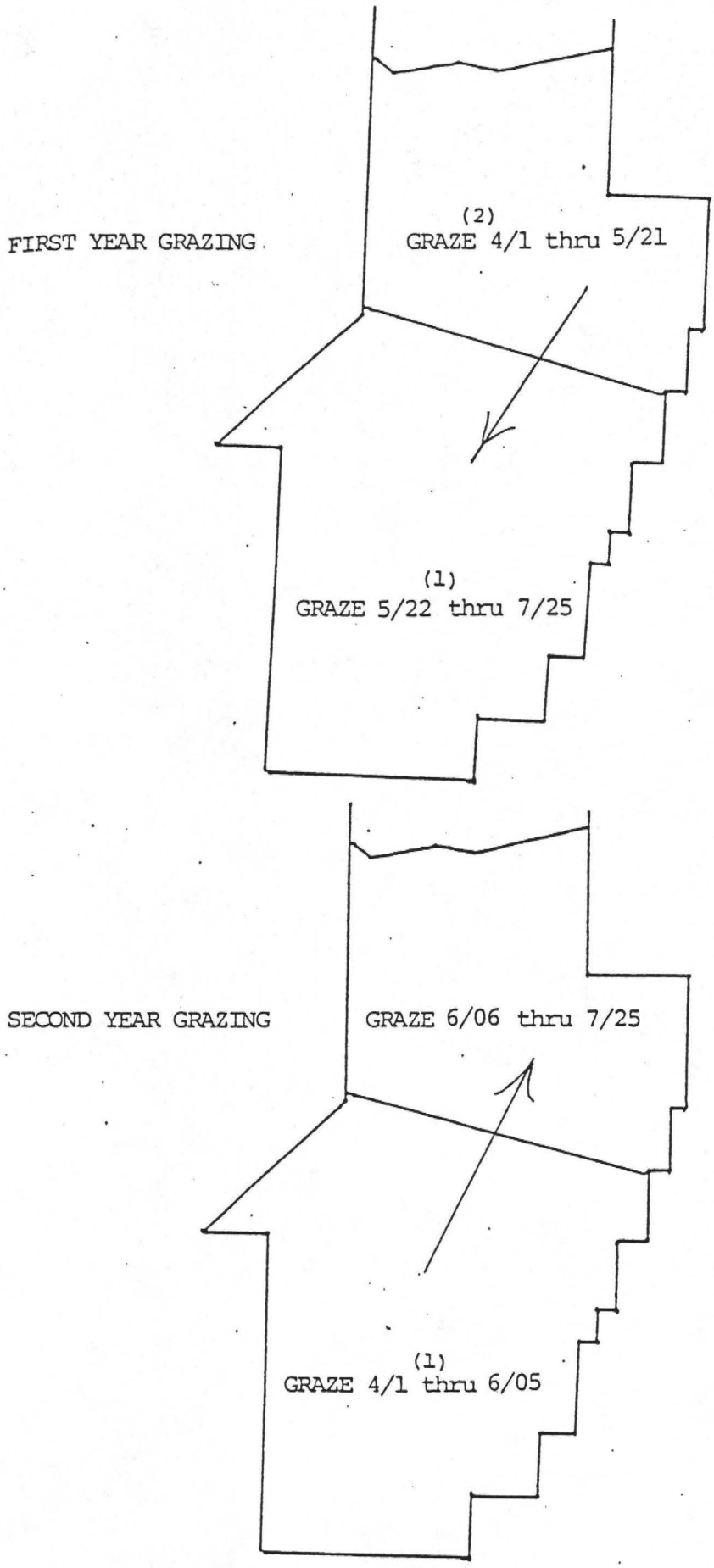
SILVER ARROW BOWMEN ARCHERY RANGE

LIMITED ORV USE AREA



PAIUTE ALLOTMENT
PASTURES

SPRING SOUTH (1)
SPRING NORTH (2)
SUMMER SOUTH (3)
SUMMER NORTH (4)
FALL (5)
FALL FIELD (6)
WINTER SOUTH (7)
WINTER NORTH (8)



NORMAL GRAZING SYSTEM
FOR DEFERRED ROTATION

PAIUTE ALLOTMENT
PASTURES

SPRING SOUTH (1)
SPRING NORTH (2)

c. Summer South and Summer North pastures would be grazed from 7/26 until 10/22 or until 55% average use of the key grass species occurs on the key areas or since these areas are critical deer winter range 45% average use on bitterbrush, on the key areas, which ever occurs first. Cattle would then be removed from the summer pastures.

d. Fall Pasture and Fall Field would be grazed from 10/23 until 11/24 or 55% average use of key species has occurred on the key areas. All cattle would be removed from fall grazing.

e. Winter South and Winter North pastures would be grazed from 11/25 to 3/31 or until 55% average use of the key species occurred on the key areas. All cattle would then be removed from winter grazing.

The above normal grazing system would occur on a progressive basis beginning in 6/89 as each seasonal grazing area becomes an effectively isolated pasture through implementation of range pasture fencing. Pasture fence construction is planned to be completed by 6/91 with implementation of all pastures by the 1992 grazing year (3/1/92). See Table 3, Proposed Range Improvements, for the estimated year of completion.

The Basic and Current Grazing Schedules for the Normal Grazing System and the Normal Grazing Treatments follow.

2. Interim Grazing Operations.

This will be the initial phase of grazing in the Paiute Allotment under this plan and will be a progressive help in meeting the Management Objectives.

a. Prior to the completion of any proposed pasture fencing, cattle will continue to be grazed in the established seasonal areas as in the past. These areas are:

Spring	(1)
Summer South	(2)
Summer North	(3)
Fall	(4)
Winter	(5)

See pages 19-20 for Interim Grazing Operations, 1988 Seasonal Grazing Areas, and the Basic and Current Grazing Schedule (Initial).

As each seasonal grazing area or part thereof becomes an established grazing pasture, utilization of the key grass forage species and/or bitterbrush within that pasture, will be limited to 55% and 45% average use, respectively, on the key areas. At that time all cattle will be removed from that pasture.

Seasonal area grazing will continue unmodified until 6/89 at which time two proposed pasture fences would be due

Normal Grazing System

Basic and Current Grazing Schedules 2/

Allot No.	Allot. Name	Past.	Livestock Numbers	Kind	Grazing Period Begin	End	% PL	Type Use	AUMs
03043	Paiute	W-N	116	C	3/1	3/31	98	Active	116
"	"	W-S	205	"	3/1	3/31	"	"	205
"	"	Sp-N	226	"	4/1	7/25	"	"	845
"	"	Sp-S	298	"	4/1	7/25	"	"	1113
"	"	Su-N	185	"	7/26	10/22	"	"	530
"	"	Su-S	250	"	7/26	10/22	"	"	718
"	"	Fall	225	"	10/23	11/24	"	"	239
"	"	Fall	36	"	10/23	11/24	"	"	38
"	"	Field							
"	"	W-N	116	"	11/25	2/28	"	"	359
"	"	W-S	205	"	11/25	2/28	"	"	634

Total 4797

This schedule will progressively be put into effect as each pasture becomes implemented.

2/ Current grazing schedule would be the same as the basic schedule plus the alternating changes in the Spring N & S Pastures which would be on a deferred rotation basis and are as follows:

Year 1

Spring N	510 C	4/1 to 5/21	98%	P.L.	Active	838 AUMs
Spring S	510 C	5/22 to 7/25	98%	P.L.	Active	1084 AUMs

Year 2

Spring S	510 C	4/1 to 6/05	98%	P.L.	Active	1084 AUMs
Spring N	510 C	6/06 to 7/25	98%	P.L.	Active	822 AUMs

for completion. They are the Shovel Springs Boundary Fence (JDR-6250) and the Tule Mountain Fence (JDR-6248).

The Shovel Springs Boundary Fence will close off the south end of the allotment (south end of the proposed Spring South pasture). This would allow increased numbers of cattle to be placed in this southern area, which has intentionally been grazed only very slightly in the past, without having them stray off of the allotment. This would at the same time reduce cattle numbers in the central portion of the Spring Seasonal Area where cattle have excessively concentrated in the past. The improved distribution of cattle within the Spring Seasonal Area will allow a more uniform pattern of utilization to occur on the key forage species. See page 21 for the 6/1989 fencing.

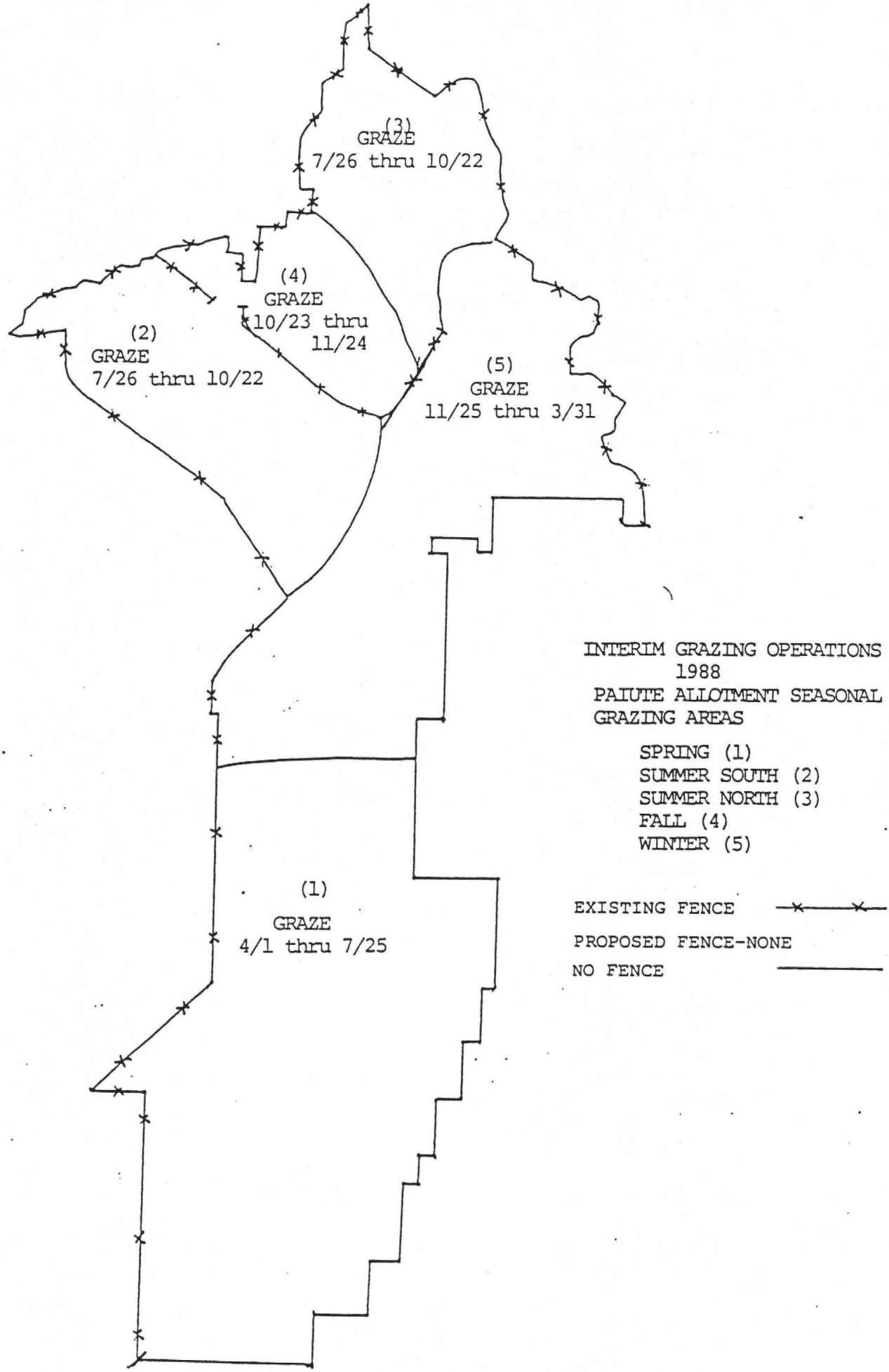
The Tule Mountain Fence would separate the Summer North seasonal area from the Fall Seasonal Area creating the proposed Summer North Pasture and the Fall Pasture. Effective control of grazing in the Fall Pasture would then be possible by eliminating the normal excessive use caused by cattle drifting down from the Summer North Area into the Fall Area prior to the desired grazing period. At the same time, the competition for forage between antelope and cattle would be reduced by providing a more even distribution of cattle grazing these specific seasonal areas.

There would be no changes in grazing management for the Summer South Pasture (7/26/89 - 10/22/89) or the Winter Area (11/25/89 - 3/31/90).

b. Grazing commencing on 3/1/90 for the 1990 grazing year would continue as in 1989 for the remainder of the grazing year, however, by 6/1990 two proposed fences would be completed. These fences are the Hungry Valley Fence (JDR-6319) and the Warm Springs Mountain Fence (JDR-6276). See page 22 for 6/1990 fencing.

The Hungry Fence would divide the Spring grazing area creating two pastures, Spring South and Spring North. The Warm Springs fence would separate the Winter Seasonal Area from the newly created Spring North Pasture.

These two fences would effectively create two pastures for spring grazing commencing with the 1991 grazing year. This would allow effective control of specific numbers of cattle to be grazed in each of the newly formed spring pastures on a deferred rotation basis. This would result in a more even distribution of cattle allowing for a needed increase in numbers in the Spring South Pasture and a reduced number in the Spring North Pasture. The key forage species in each pasture would


(3)
GRAZE
7/26 thru 10/22
(4)
GRAZE
10/23 thru
11/24
(2)
GRAZE
7/26 thru 10/22
(5)
GRAZE
11/25 thru 3/31
(1)
GRAZE
4/1 thru 7/25
INTERIM GRAZING OPERATIONS
1988
PAIUTE ALLOTMENT SEASONAL
GRAZING AREAS
SPRING (1)
SUMMER SOUTH (2)
SUMMER NORTH (3)
FALL (4)
WINTER (5)
EXISTING FENCE
PROPOSED FENCE-NONE
NO FENCE

receive rest during the critical growth period on a rotating basis. This action will help meet the Management Objectives III. A. 1. 2. 3. 4. and D. For a description of the grazing formula see IV. A. 1. a. and b (Page 12).

Winter grazing would be completely restricted to the Winter Seasonal Area with the elimination of cattle drift into the Spring North Pasture as has occurred in the past.

c. Grazing commencing with the 1991 grazing year (3/1/91) would have five allotment pastures isolated from the remainder of the allotment and are:

Spring South (1)
Spring North (2)
Summer South (3)
Summer North (4)
Fall (5)

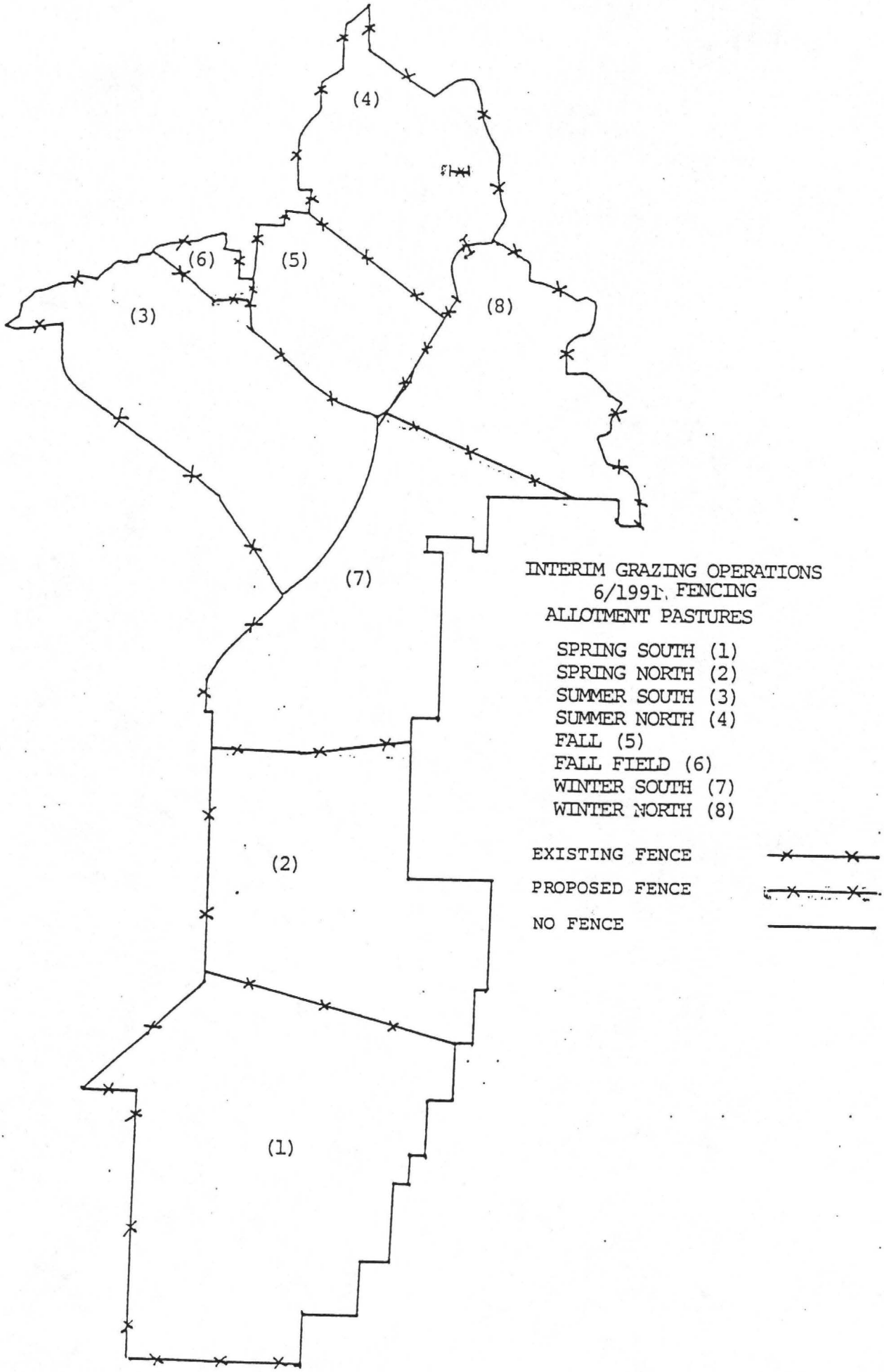
The construction of two remaining proposed pasture fences, the Paiute Creek Fence (JDR- 6386) and the Fall Field Fence (JDR-6523) and two short drift fences, Lower Canyon and Upper Canyon Drift Fences (JDR-6069 and 6070) by 6/1991 would complete the Winter South, Winter North, Fall and Fall Field pastures, thus completing all eight proposed pastures in the Paiute Allotment. See page 24 for 6/1991 fencing.

The Paiute Creek Fence will divide the Winter Seasonal Area into two distinct pastures - Winter North and South allowing an improvement in cattle distribution. This will result in a reduction of the concentrated cattle numbers in valley bottom reducing excessive utilization of the key forage species. The Upper and Lower Drift Fences will assist in the prevention of cattle drift between the Summer North and Winter North Pastures. The Fall Field Fence will provide an additional isolated pasture which will be used in conjunction with the Fall Pasture.

This would complete the remaining three pastures and are:

Fall Field (6)
Winter South (7)
Winter North (8)

If all of the proposed fence projects are completed as scheduled the Interim Grazing Operations will be complete and will cease with the Summer Season begin date of 7/26/91 and all further grazing will be accomplished under the Normal Grazing System as described in IV. A. 1. a. through e. (Page 12 and 15).


(4)
(6)
(5)
(3)
(8)
(7)
(2)
(1)
INTERIM GRAZING OPERATIONS
6/1991 FENCING
ALLOTMENT PASTURES
SPRING SOUTH (1)
SPRING NORTH (2)
SUMMER SOUTH (3)
SUMMER NORTH (4)
FALL (5)
FALL FIELD (6)
WINTER SOUTH (7)
WINTER NORTH (8)
EXISTING FENCE
PROPOSED FENCE
NO FENCE

3. Livestock Management Practices

The livestock operator will be responsible for moving the livestock in order to meet the Management Objectives III. A. 1-4 and B. 2. of this plan. The use of salt is encouraged to help obtain uniform utilization patterns within each pasture. The salt should be placed no closer than 1/2 mile to water and in those areas currently receiving little or no use.

4. Billing Procedures

A grazing application will be prepared by BLM annually for the permittee's approval and will then be followed by a billing notice in advance of the licensed grazing period. This grazing bill must be paid in full on or before the authorized begin date unless the Area Manager approves an actual use type of billing. If actual use billing is authorized, the actual use information must be submitted to the BLM District Office by March 15 and then a bill for payment will follow.

a. Interim Grazing Operations

Billing for grazing will be as in the past, i.e., grazing will be based upon 98% Public Land. This will continue until complete implementation of the pasture system. The interim period may last from three to five years, or longer, depending upon funding and completion of the proposed range improvements.

b. Normal Grazing System

After completion of all scheduled pasture fencing billing for grazing use may be changed and based upon one of the following methods:

(1) A reevaluation of the percent public land by pasture or,

(2) At 100% public land with an exchange of use for those unfenced permittee-controlled private lands within each pasture.

5. Flexibility

Grazing use is authorized in accordance with the Interim Grazing Operations and finally with the Normal Grazing System. Ten days flexibility will be allowed in cattle movement between pastures. Total AUMs of use will not exceed licensed active preference without prior written approval. Any use authorized in excess of the established active grazing preference would be considered as temporary nonrenewable and would not establish additional preference. Any and all requests for use modifications, other than flexibility, must be in writing and 14 days in advance of requested action. Denial or approval would be by the authority of the Area Manager.

B. Range Improvements

1. Existing Range Improvements, see Table 2.

2. Proposed Range Improvements

Construction and/or installation of the proposed range improvements are dependent upon the availability of funds and may or may not be accomplished in the stated fiscal year. The order of priority may also change due to any given circumstance or need in the future.

a. Range

See Table 3, Proposed Range Improvements. These improvements, to help meet the Management Objectives in Section III.A., are scheduled for construction and are prioritized by estimated fiscal year completion.

b. Riparian

See Table 4, Proposed Improvements for Riparian Protection. These improvements, to help meet the Management Objectives in Section III.B., are scheduled for construction by fiscal year completion and are listed in order of priority.

C. Monitoring Studies

1. General

Grazing management oriented monitoring studies, as listed below, are designed to measure progress toward the achievement of the allotment management objectives, some of which are located in key areas. These studies serve as indicators of resource condition within the allotment. Each key area contains key vegetation species which will be the source of documented information that will be used to determine the effectiveness of this management plan. Components of monitoring as outlined in the RPS include Actual Use, Utilization, Trend (Photo trend plots and frequency transects), and Climate. See the monitoring Studies Schedule (Page 29).

2. Studies[3/]

a. Actual Use

The permittee will keep an accurate record of actual use made in each pasture (number of animals, dates entered,

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3/ See Illustration E for location of monitoring studies.

e. Condition

Ecological range condition will be determined for each key area to establish a baseline from which progress towards the desired seral stages will be measured. Range condition will be measured by the weight estimate double sampling technique. Key area condition transects will be re-evaluated upon measurement of a statistically significant change in frequency data. These results will be evaluated to determine if the appropriate objectives have been realized. (Refer to Nevada Rangeland Monitoring Handbook, p. 13).

V. Analysis and Evaluation

There will be an annual evaluation of the monitoring studies (actual use, utilization and its mapping, and climate data) to determine and mitigate any possible problems which may have occurred during the course of the grazing year. There will be a complete evaluation made in 1990. The evaluation will document the progress in meeting the Allotment Management Objectives, contain an analysis of the effectiveness of the grazing system and recommend any changes, including adjustments in livestock use if necessary and would be implemented by April 1991. Another complete evaluation will be made in 1993. Any further adjustments, if required would be implemented in April 1994.

Adjustments in the authorized preference, if necessary, will be determined by evaluating the monitoring studies over a five-year period commencing with the acceptance date of this management plan. The Area Manager will determine when there is adequate data available to warrant any adjustments in the authorized grazing preference.

Computation of overall utilization will be calculated by pasture using the weighted average method, excluding areas livestock would be unable to use, if any, even after construction of range improvements. (Refer to Uniform Production Levels of BLM Handbook TR 4400-7, Pamphlet P-209).

Based on the Average Utilization figure, the Stocking Level will be computed using the following formula:

$$\frac{\text{ACTUAL USE (AUMs)}}{\text{AVERAGE OR WEIGHTED AVERAGE UTILIZATION (\%)}} = \frac{\text{POTENTIAL ACTUAL USE (AUMs)}}{\text{DESIRED AVERAGE UTILIZATION (\%)}}$$

ACTUAL USE - the number of animals that have used an area (pasture) for a specified period of time (days)

AVERAGE OR WEIGHTED AVERAGE UTILIZATION - the percent use that has occurred on the key plant species in each use class (no use, slight, light, moderate, heavy, and severe) by acres and averaged for the use area (pasture).

DESIRED AVERAGE UTILIZATION - the degree of use of the key plant species desired for the use area (pasture) assuming uniform utilization.

POTENTIAL ACTUAL USE - the level of use required to achieve the DESIRED AVERAGE UTILIZATION assuming area (pasture) use to be uniform. (Reference page 55, Potential Stocking Level, BLM Handbook 4400-7, Pamphlet P-209).

VI. Environmental Assessment

A. Planned Action

The Planned Action is to implement the Paiute Allotment Management Plan (AMP). The AMP contains 3 components. The first is the division of the allotment's seasonal grazing areas into 8 pastures (2 pastures per seasonal grazing area) two of which will be on a yearly deferred rotation basis (See IV. A. Grazing Practices). The second is the construction of the Proposed Range Improvements (See Table 3, Proposed Range Improvements in the AMP). These proposed improvements are 3 spring developments, 9 fences, 1 stockwater facility, and 1 livestock trail. Location of these improvements are indicated on Table 3. The third component is the construction of improvements for the protection of riparian areas which includes 21 springs, 3 wet meadows, and 1 dry meadow. See Table 4 Proposed Improvements for Riparian Protection.

The proposed fences would be constructed according to BLM Fence Standards and other associated standards for four wire and 3 wire livestock and wildlife fences.

The 3 spring developments would include a spring box, approximately 150 feet of PVC pipe, and water troughs. Bird ladders (or

equivalent devices) will be installed in water troughs medium of escape for small wildlife and birds.

The stockwater facility would include an 8,000 - 10,0(underground or partially buried storage water tank, a 500 feet of PVC (buried) pipe and water troughs.

The livestock trail would be constructed with a width 6 feet or less to exclude 4 wheel vehicle traffic and with a length of approximately 2.5 miles. This would be accomplished with a narrow bladed tractor.

The riparian areas would be protected by fencing in accordance with BLM standards. Each of the 21 springs would have an area of a half acre or less fenced. The 4 meadows would have an acre or less fenced.

B. Alternatives

No Action

This alternative would not allow BLM and the allotment permittee to begin this AMP, which is designed to aid in meeting BLM's Management Objectives for this allotment in the shortest time possible with authorized grazing use. Without the AMP, needed range improvements would not be constructed and opportunities for grazing use on the allotment would not be realized (needed rest and deferment of seasonal grazing areas heavily grazed would not be accomplished without severe cuts to the permittee).

C. Affected Environment

See General Information and Existing Information sections of the AMP.

A site specific cultural resource clearance will be conducted prior to project construction.

D. Environmental Consequences

1. Proposed Action

a. Grazing System

Implementation of the Grazing System will accomplish the following Management Objectives in the AMP:

III. A. 1., 2., 3., 4., B. 1., 3. and help in accomplishing B. 2., and D.

The grazing system would allow rest, on a yearly rotation basis, during the critical growth period of vegetation species most affected by grazing. This rest will: (1) give all plants an opportunity to restore vigor (2) allow

for seed production and (3) increase litter accumulation which will decrease erosion hazard. Over a few cycles of the grazing system, these management practices should increase the cover of the major species impacted by grazing. This increase in cover would: (1) provide more forage for all animals (2) improve habitat for antelope and mule deer (3) maintain or improve trend on key management areas.

As each pasture is grazed it is expected that levels of forage use would be more even through better distribution of cattle than it would be under the No Action Alternative. Areas presently grazed slight - light would move to light - moderate and those areas of heavy - severe would move to moderate - heavy. Areas close to water and other favored concentration areas would continue to be grazed in the heavy or severe categories. The shift of grazing use patterns would allow for harvesting more forage in an individual pasture than would be possible under seasonal areas grazing that now exists.

b. Range Improvements

1. Spring Developments and Stockwater Facility

These improvements will provide livestock water where none exists or is unavailable at the present. These waters would help in providing a more even distribution of cattle resulting in a reduction of use in the heavy and severe use areas in the Summer North, Winter North, and Spring North pastures.

Soil disturbance and vegetation destruction would occur at each development site. Less than half an acre of surface would be affected.

Severe grazing use and subsequent vegetation degradation and soil erosion would occur in an area of less than three acres around each new trough, excluding the fenced area. This impact would be minor in comparison to the improved pasturewide use.

2. Allotment Pasture Fencing

An insignificant amount of soil disturbance would occur during installation of steel and wood posts. A small degree of soil compaction and vegetation destruction would occur due to motor vehicle and foot traffic along the line of fence construction. This disturbance would be limited to ten feet along the fence lines. These adverse impacts are minor compared to the benefits of improved distribution of cattle and their containment within the allotment at

the south end. Without these fences, proper seasonal area grazing could not take place.

3. Livestock Trail

Approximately two and a half miles of trail would be constructed with the use of a small tractor and blade. The width of this trail would not exceed six feet and in a location unobservable from the main valley road. The vegetation would be destroyed along this trail and would not return as long as livestock use it.

This trail would allow the permittee to move his cattle more easily between the Summer North Pasture and the Fall Pasture and private land on the valley floor. This would allow for better distribution of cattle and a more even use of the forage.

c. Riparian Area Protection Improvements

The 25 proposed riparian improvements would help in achieving a late ecological status by excluding livestock, wildlife, and in certain locations, wild horses from overutilizing the riparian vegetation. The improved vegetation would reduce soil erosion and provide enhanced habitat for mule deer, antelope and upland game.

2. No Action

Existing domestic livestock grazing use patterns would remain unchanged. Areas close to water and other favored concentration areas (including riparian areas) would be grazed heavily while other areas will receive moderate, light or no grazing.

Continual heavy grazing during the active growth period would cause long term adverse impacts to the major vegetation species affected by grazing. The impacts would be: (1) a decrease in vigor which eventually, would lead to the death of individual plants (2) plants would not be allowed to produce seed (3) seedlings would not have an opportunity to become established because they would not have an opportunity to become established because they would not receive adequate rest from grazing and (4) new plants that could become established would often be undesirable species i.e. brush or annuals.

E. Mitigating Measures

1. Soil and vegetation disturbance would be limited to the minimum necessary for project completion.

2. If cultural resources are discovered, appropriate mitigating measures will be required.

Table 2
EXISTING RANGE IMPROVEMENTS

Job Number	Job Name	Units	Location	Agreement Type	Agreement Resp.	Remarks
0113	Antelope Dogskin Fence	10 mi.	T. 22 N., R. 19 E. Sec. 2, 20	Coop	Op	Boundary Fence
0193	Mahongany Flat Fence	2.0 mi.	T. 25 N., R. 20 E. Sec. 34	Coop	Op	Boundary Fence
0352	North Hungry Spring Dev.	1	T. 22 N., R. 20 E. Sec. 27	Coop	Op	
0353	South Hungry Spring Dev.	1	T. 21 N., R. 20 E. Sec. 20	Coop	Op	
0354	Shovel Springs - Pipeline	2.0 mi.	T. 21 N., R. 20 E. Sec. 18, 19, 20	Coop	Op	
4005	Hungry Valley Well	1	T. 22 N., R. 20 E. Sec. 8	Coop	Op	
4077	Little Quaking Aspen Spring Dev.	1	T. 24 N., R. 20 E. Sec. 32	Coop	Op	
4078	Mustang Spring Pipeline	2 mi.	T. 23, 24 N., R. 19 E. Sec. 1, 2, 11, 12, 35, 36	Coop	Op	
4082	Paiute Spring #1	1	T. 24 N., R. 20 E. Sec. 26	Coop	Op	
4083	Paiute Spring #2	1	T. 24 N., R. 20 E. Sec. 14	Coop	Op	
4095	East Dogskin Drift Fence	.7 mi.	T. 23 N., R. 20 E. Sec. 4	Coop	Op	
4299	Hardscrabble Fence	9.1 mi.	T. 23, 24, 25 N., R. 20, 21 E.	Coop	Op	Boundary Fence
4328	Warm Springs	1	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
4329	Warm Springs Fence	.5 mi.	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
4330	Warm Springs Corral	1	T. 23 N., R. 20 E. Sec. 22	Coop	Op	
5010	Settlemeyer-Dogskin Fence	1.7 mi.	T. 24 N., R. 20 E. Sec. 30, 31, 32	Coop	Op	
5018	Mullins Pass Fence	3 mi.	T. 21, 22 N., R. 20, 21 E.	Coop	Op	Boundary Fence
5184	Four Point Spring	1	T. 24 N., R. 19 E. Sec. 23	Coop	Op	
6015	Double Spring	1	T. 23 N., R. 21 E.			Wildlife/Chukar/ Source Protection
6064	Lower Loam Spring	1	T. 23 N., R. 19 E. Sec. 27 NWNW			
6066	Upper Loam Spring	1	T. 24 N., R. 19 E. Sec. 27 NENW			
6299	Paiute Canyon Creek Dams	1.5 ac.	T. 24 N., R. 20 E. Sec. 19 SESE		BLM	Riparian Protection
6388	Settlemeyer Sp. Exc.	1.0 ac.	T. 24 N., R. 19 E. Sec. 35 SWNE		BLM	Riparian Protection
6413	Mustang Exclosure	0.25 ac.	T. 24 N., R. 19 E. Sec. 35 SWNE		BLM	Riparian Protection

Table 3
PROPOSED RANGE IMPROVEMENTS

Job Number	Job Name	Units	Location	Agreement Type	Resp.	Funding Remarks	Est. FY For Completion
6065	Rabbitsfoot Spring	1	T. 23 N., R. 21 E. Sec. 12	Sec 4	Op	Permittee	FY 90
6067	Sorefoot Spring	1	T. 24 N., R. 20 E. Sec. 9	Sec 4	Op	Permittee	FY 90
6068	Simple Spring	1	T. 24 N., R. 20 E. Sec. 16	Sec 4	Op	Permittee	FY 90
6069	Lower Canyon Drift Fence	0.1 mi.	T. 24 N., R. 20 E. Sec. 14	Coop	Op	8100	FY 91
6070	Upper Canyon Drift Fence	0.1 mi.	T. 24 N., R. 20 E. Sec. 23	Coop	Op	8100	FY 91
6319	Hungry Valley Fence and CG	4 mi.	T. 22 N., R. 20 E. Sec. 30, 31, 32, 33, 34	Coop	Op	8100	FY 90
6522	Hungry Holding Field	1 mi.	T. 22 N., R. 20 E. Sec. 22	Coop	Op	8100	FY 91
6276	Warm Springs Mtn. Fence	2.7 mi.	T. 22 N., R. 20 E. Sec. 3, 4, 7, 8, 9	Coop	Op	8100	FY 90
6524	Hungry Stockwater Facility	10,000 gal.	T. 22 N., R. 20 E. Sec. 18	Coop	Op	8100	FY 92
6386	Paiute Creek Fence	3.7 mi.	T. 23 N., R. 20 E. Sec. 3, 4, 11, 12	Coop	Op	8100	FY 91
6248	Tule Mountain Fence	3.25 mi.	T. 24 N., R. 20 E. Sec. 17, 20, 21, 27, 28, 34	Coop	Op	8100 FY 89	FY 89
6525	Tule Livestock Trail	2.5 mi.	T. 24 N., R. 20 E. Sec. 8, 9, 15, 16, 21	Coop	Op	8100	FY 92
6523	Fall Field Fence	40 ac. (1.0 mi)	T. 24 N., R. 20 E. Sec. 30	Coop	Op	8100	FY 91
6250	Shovel Springs Boundary Fence and CG	3 mi.	T. 21 N., R. 20 E. Sec. 31, 32 T. 21 N., R. 19 E. Sec. 36	Coop	Op	8100	FY 89

21.35 mi proposed fences 9 pens