

6/1991

COLD CREEK ALLOTMENT EVALUATION SUMMARY

I. INTRODUCTION

The Cold Creek allotment (0603) is a category "M" allotment, involving 62,615 federal acres, situated at the north end of Newark Valley, west of the Ruby Mountains and east of the Diamond Range. The allotment boundary is completely fenced, and includes both crested wheatgrass seedings and native range, fenced into 18 separate pastures. The permittees are Mr. Dan Russell (cattle) and Mr. Pete Paris (sheep). There is an Allotment Management Plan (AMP) for the allotment, originally written in 1967 and revised in 1977 and 1988. The allotment is also included in the Buck, Bald, Maverick and Diamond Mountains Habitat Management Plan (1989).

II. INITIAL STOCKING LEVEL

A. Livestock Use

Total active preference for the allotment is 9371 AUM's (spring/summer/fall) with 9129 cattle AUM's and 242 sheep AUM's. The three year average stocking rate (1979-1981) used in the Egan Resource Area Resource Management Plan (RMP) is 5,406 AUM's. Russell Ranches is allowed to graze up to 1,129 cattle from April 16 to October 31, following a rest-rotation schedule set up in the AMP. In addition, Russell Ranches is allowed to graze up to 30 horses during the same time period in the Newark Unit only, but this use has not been made since Russell Ranches took over the permit. Paris Livestock is allowed to trail up to 6600 sheep through the allotment in the fall and spring, and to graze one band of up to 600 sheep in the Diamond #3 & #4 pastures for one month in the spring.

The Cold Creek allotment is divided into 5 major units (Map 1). The Griswold and Strawberry Seedings are fenced into four pasture rest-rotation systems which have been followed fairly well from year to year. The Diamond Unit is also fenced into 4 pastures, but the rest rotation system set up for this unit has not been closely followed, due to problems with fencing, water, and livestock operations. The Huntington Unit is made up of three large native pastures and a burn seeding pasture. The rotation system set up for this unit has also not been well followed, due to differences in production for the four pastures, and the fact that they are not adjacent, making pasture moves more difficult. The Newark unit includes one seeding and one native pasture, set up on a deferred-rotation schedule in the AMP, but a lack of adequate stock water in the native pasture has precluded its use for many years. Current acres, AUM's, and use periods by pasture unit are shown in Table 1.

Table 1. Pasture Units, Cold Creek AMP

<u>Unit</u>	<u>Acres</u>	<u>AUM's</u>	<u>Use periods</u>
Griswold	5538	3326	4/16 - 10/31
Strawberry	6643	3254	4/16 - 10/31
Diamonds	19685	1739	6/1 - 10/31
Huntington	27513	761	4/16 - 10/31
Newark	2755	291	4/16 - 6/15 and 10/1 - 11/30
Total	62134	9371	

B. Wild Horse Use

A portion of the allotment falls within the boundaries of the Buck and Bald Wild Horse Herd Management Area (HMA). The Rangeland Program Summary (RPS) objective for this allotment is to provide habitat and forage for approximately 35 horses, or 419 AUM's. This objective is no longer valid however, based on a recent Interior Board of Land Appeals decision. Wild horses will now be managed to maintain a thriving natural ecological balance, with AML's based on monitoring data. Wild horse numbers for the portion of the Buck and Bald HMA within the boundaries of Cold Creek allotment are shown in Table 2.

Table 2. Wild horse census data

<u>Date</u>	<u>Number of animals</u>
3/14/89	41
6/9/87	9
12/13/85	49
9/25/85	11

Based on field observations, this yearlong use by horses is largely confined to the Huntington pastures, primarily Huntington #2. The Strawberry, Griswold, and Newark Seeding units fall within the HMA boundary, but were fenced from wild horse use prior to 1971, and will not be managed for wild horses.

In addition to the Buck & Bald HMA, the Diamond Hills South HMA lies northwest of the allotment. Horses from this HMA have expanded their range, and have been censused outside the HMA boundaries in the Diamond pastures of Cold Creek allotment, as far south as Overland Pass. This was not included in previous land use planning. When censused on 8/11/89, a total of 27 animals were counted within the allotment boundary from this HMA. Wild horses also regularly use other portions of the Diamond Range in a designated horse-free area, but numbers are not available. Most of these horses come from the Diamond HMA in the Battle Mountain District, and move into the allotment from the west. Based on use mapping data, wild horses do make substantial use in all of the Diamond pastures. These pastures are not part of an HMA, and are not managed for wild horses.

C. Wildlife Use

The RPS objective for this allotment is to provide forage and habitat for 810 AUM's of deer use and 22 AUM's for antelope. The east side of the Diamond Mountains is important habitat for both resident and migratory deer, and Newark Valley is being considered by the Nevada Department of Wildlife (NDOW) for possible antelope augmentation. Key or critical wildlife management areas include 1 ferruginous hawk nest site and 2 sage grouse leks (T24N, R55E, sec.'s 13 & 26).

III. ALLOTMENT PROFILE

A. Description

The Cold Creek allotment (0603) is a category "M" allotment, involving 62,615 federal acres, situated at the north end of Newark valley, west of the Ruby Mountains and east of the Diamond Range. The allotment boundary is completely fenced, and includes both crested wheatgrass seedings and native range, fenced into 18 separate pastures. There is an Allotment Management Plan (AMP) for the allotment, originally written in 1967 and revised in 1977 and 1988, which set up rest-rotation systems, livestock management actions, and specific objectives for the various pastures.

B. Allotment Specific Objectives

1. Land Use Plan (RMP) Objectives

- (a) Rangeland Management - All vegetation will be managed for those successional stages which would best meet the objective of this proposed plan. (Egan Resource Area Record of Decision, p. 3)
- (b) Wild Horses - Wild horses will be managed at a total of 700 animals within the Buck and Bald HMA (Egan ROD, p. 6)
- Future adjustments in wild horse numbers will be based on data provided through the rangeland monitoring program. (Egan ROD, p. 8)
- (c) Wildlife - Habitat will be managed for "reasonable numbers" of wildlife species as determined by NDOW. (Egan ROD, p. 6)
- Forage will be provided for "reasonable numbers" of big game as determined by NDOW (Egan ROD, p. 8)
- (d) Watershed - Establish utilization limits to maintain watershed cover, plant vigor and soil fertility in consideration of plant phenology, physiology, terrain, water availability, wildlife needs, grazing system and aesthetic values. (Egan ROD, p. 44)

2. Rangeland Program Summary Objectives

- (a) Provide forage for up to 5406 AUM's of livestock use.
- (b) Maintain the seedings in good or better condition and improve cover/density of crested wheatgrass.
- (c) Maintain or improve ecological condition of native range with utilization levels not to exceed Nevada Rangeland Monitoring Handbook (NRMH) recommended allowable use levels. Allowable use levels for spring/summer/fall use on shrubs and perennial grass species is 50%.
- (d) Maintain or improve mule deer winter habitat to good or better condition by not exceeding utilization levels on native species as recommended in the NRMH. Manage rangeland habitat and forage condition to support 810 AUM's for mule deer.
- (e) Manage rangeland habitat and forage condition to support 22 AUM's for pronghorn antelope.
- (f) Protect sage grouse breeding complexes by maintaining the big sagebrush sites within 2 miles of active strutting grounds for mid to late seral stage with a minimum of 30% shrub composition by weight.
- (g) Protect ferruginous hawk nest sites by limiting utilization to 50% on winterfat flats within 2 miles of nest sites.
- (h) Manage rangeland habitat to support wild horses as part of the Buck and Bald HMA by not exceeding allowable use levels on native species as recommended in the NRMH. Initially provide forage for up to 419 AUM's of wild horse use (35 horses).
- (i) Maintain habitat condition of meadows and riparian areas in good or better condition for mule deer and upland game by not exceeding utilization levels on perennial grasses (55%) and shrubs (45%) along streams and mesic meadows.
- (j) Maintain and improve 9.25 miles of stream riparian habitat to good or better condition.

3. Buck, Bald, Maverick, and Diamond Mountains Habitat Management Plan (HMP). - specific objectives which apply to Cold Creek.

- (a) Limit utilization levels to 55% of current annual growth on perennial grasses and grasslike species along stream riparian areas and mesic meadows by Nov. 1 at the following key locations:

Corta Spring
Connors Creek

T24N, R55E, sec. 33
T24N, R55E, sec. 14

- (b) On Cold Creek, (listed in excellent condition) limit utilization on streamside vegetation to allowable use levels as listed in the Nevada Rangeland Monitoring Handbook (NRMH).

4. Cold Creek Allotment Management Plan (RPS)

Pasture specific AMP objectives for this allotment are being ammended and will not be considered for this evaluation. General AMP objectives are covered under the RPS.

5. Key Species Identification

Key forage plants for cattle, sheep, and horses for this allotment are as follows:

Seedings - Crested wheatgrass (Agropyron cristatum)

Native - Bitterbrush (Purshia tridentata) - PUTR (not key spp for wild horse use)

Indian ricegrass (Oyzopsis hymenoides) - ORHY

Bottlebrush squirreltail (Sitantion hystrix) - SIHY

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this evaluation is to assess whether or not current management practices are meeting the multiple use objectives for the allotment and to determine the appropriate stocking level for the various pastures.

B. Summary of Studies Data

Utilization patterns were mapped in 1988 and 1990, and use transects have been completed on various portions of the allotment since 1973. Actual use has been collected since the original AMP was issued, but reliable actual use data by pasture has only been available since 1983. Analysis years for stocking rate calculations are those which include reliable actual use numbers and utilization transects for a given pasture for the same year. There are four key areas identified for the Huntington pastures, with frequency trend studies established at each. Two of these trend transects have only been read once, and the other two were read in 1983 and again in 1989. Nine phototrend studies are located in the seeding pastures, and have been read at various times since 1968. An additional seven phototrends were established in native pastures, but will not be used in this evaluation, since 3X3 photoplots are not considered valid in shrub types, and many of these plots were ignored or not read consistently from year to year. Ecological status (condition) was completed for the four Huntington key areas in 1987 and 1989. Data will be analyzed and proper stocking level calculated on a pasture basis. Appropriate stocking levels will be based on monitoring information and calculated using the following formula:

$$\frac{\text{Actual Use (AUM's)}}{\text{Measured Utilization (\%)*}} = \frac{\text{Desired Use (AUM's)}}{\text{Desired Utilization (\%)**}}$$

*Value from use pattern mapping, adjusted using yield index

**Value from Nevada Rangeland Monitoring Handbook -

perennial grasses (native) 50%, crested wheatgrass under rest rotation = 65%

Precipitation Data

Data from the National Oceanic and Atmospheric Administration weather station located at Ely, Nevada is being used for this evaluation. Data from local rain gauges shows similar trends in monthly/annual rainfall patterns. Precipitation data will be used to calculate a yield index for each year (Sneva et al. 1983). The yield index will be used to adjust the utilization levels for above or below normal precipitation (compared to long-term average). In calculating the yield index, the first step is to calculate the crop yield (effective precip.). For the Intermountain Big Sagebrush Region, this includes precipitation falling from September through June. The crop yield is then divided by the normal crop yield (long term average) to determine the precipitation index for each year. The yield index is then calculated using the linear regression equation $Y = -23 + 1.23x$, where Y is the yield index and x is the precipitation index. Table 3 shows the yield indices for Ely for the analysis years.

Table 3. Yield Indices, Ely station

<u>Year</u>	<u>Crop Yield</u>	<u>Precip. Index</u>	<u>Yield Index</u>
1983	16.21	209%	234%
1984	7.55	97%	96%
1985	10.80	139%	148%
1986	9.76	126%	132%
1987	8.02	103%	104%
1988	8.17	105%	106%
1989	6.44	83%	79%
1990	7.12	92%	90%

Riparian Data

Much of the riparian and aspen acreage initially identified in the 1982 survey was misidentified or overestimated, using aerial infrared photographs. Subsequent field checks have greatly reduced the amount and extent of riparian vegetation for this allotment (see memo dated 12/17/90 in monitoring/evaluation files). In addition, most of the actual aspen acreage in the Diamond Mountains is inaccessible to livestock due to extremely steep topography, and will not be considered in this evaluation. There are, however, several important riparian complexes which need to be considered. The following locations will be considered as key riparian sites, and monitored/evaluated accordingly:

Abal Springs complex	T24N, R55E, sec. 16
Corta Springs complex	T24N, R55E, sec. 33
Cold Spring/Creek	T23N, R56E, sec. 26
Unnamed Spring	T24N, R55E, sec. 15

At present, intensive monitoring data for these sites is not available, but they have been included in allotment use mapping and field observations. A 1989 field check of riparian condition rated Cold Creek at 90%, or excellent condition. Cold Creek has also been included in a 1988 riparian exclosure project, which has successfully removed livestock from the majority of the riparian zone. Corta springs was fenced in 1990, in a series of springhead exclosures, designed to alleviate livestock overuse and trampling of these important spring areas. Abal Springs and the listed unnamed spring are currently unfenced and receiving heavy use by wild horses and cattle, and would benefit from similar fencing projects. This spring complex is located in the Huntington #4 pasture, and the rest rotation system should provide rest from cattle use one year out of four. No intensive monitoring data is available for Abal Springs. Connors Creek, identified for riparian monitoring in the Buck and Bald HMP, is unsuitable as a key riparian site, since the majority of the drainage is an ephemeral wash with no associated riparian vegetation.

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Use Pattern Mapping

Use patterns were mapped for the entire allotment in the fall of 1988 and 1990. Results by use class and percent of total acres mapped are shown in Table 4.

Table 4. Use pattern mapping summary - acres and (percent) by use class for Cold Creek allotment.

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>81%)
1988	28369(45.9)	11951(19.3)	8209(13.3)	11735(19.0)	1587(2.6)
1990	14533(23.2)	21687(34.6)	9383(15.0)	15516(24.7)	1625(2.6)

C. Analysis by Unit and Pasture.

1. Strawberry seedings

a. Strawberry NW

Utilization/stocking rate calculations:

<u>Year</u>	<u>Raw Utiliz.</u>	<u>Yield Index</u>	<u>Corrected Utilization</u>	<u>Actual Use AUMs</u>	<u>Proper Stocking Level AUMs</u>
1990	77%	0.90	69%	333	314
1989	83	0.79	66	446	439
1988	59	1.06	62	481	504
1987	49	1.04	51	540	688
1983	41	2.34	96	689	466

Proper stocking level (average) is 482 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 2 times since phototrends were established in 1968.

b. Strawberry SW

Utilization/stocking rate calculations:

<u>Year</u>	<u>Raw Utiliz.</u>	<u>Yield Index</u>	<u>Corrected Utilization</u>	<u>Actual Use AUMs</u>	<u>Proper Stocking Level AUMs</u>
1990	74%	0.90	67%	195	189
1986	68	1.32	90	354	256
1983	37	2.34	87	675	504

Proper stocking level (average) is 316 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 5 times since phototrends were established in 1968.

c. Strawberry NE

Utilization/stocking rate calculations:

<u>Year</u>	<u>Raw Utiliz.</u>	<u>Yield Index</u>	<u>Corrected Utilization</u>	<u>Actual Use AUMs</u>	<u>Proper Stocking Level AUMs</u>
1989	87	0.79	69	146	138
1988	85	1.06	90	303	219
1987	90	1.04	94	529	366

Proper stocking level (average) is 241 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 2 times since phototrends were established in 1968.

d. Strawberry SE

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	73%	0.90	66%	159	157
1989	84	0.79	66	166	164
1988	75	1.06	80	683	555
1986	31	1.32	41	355	563
1983	24	2.34	56	600	696

Proper stocking level (average) is 427 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 6 times since phototrends were established in 1968.

2. Griswold seedings

a. Griswold NW

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	66%	0.90	59%	118	130
1989	83	0.79	66	156	154
1988	67	1.06	71	486	445
1986	59	1.32	78	407	448

Proper stocking level (average) is 294 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 6 times since phototrends were established in 1968.

b. Griswold SW

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1989	55	0.79	44	175	258
1988	69	1.06	73	288	256
1987	68	1.04	71	453	415

Proper stocking level (average) is 310 AUM.

Phototrend evaluation for this pasture indicates a downward trend, based on a calculated trend index, read 6 times since phototrends were established in 1968.

c. Griswold NE

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	81%	0.90	73%	223	199
1989	88	0.79	70	402	373
1986	70	1.32	92	324	229
1983	74	2.34	173	800	300

Proper stocking level (average) is 275 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 6 times since phototrends were established in 1968.

d. Griswold SE

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	66%	0.90	59%	530	584
1988	52	1.06	55	274	324
1987	86	1.04	89	323	236
1986	84	1.32	111	364	213

Proper stocking level (average) is 339 AUM.

Phototrend evaluation for this pasture indicates an upward trend, based on a calculated trend index, read 6 times since phototrends were established in 1968.

3. Newark pastures

a. Newark #1 seeding

Since this seeding is not in a rest-rotation system, the proper use factor (allowable use) for APCR is 60%.

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	69%	0.90	62%	282	273
1989	60	0.79	48	280	350
1977	60	0.95	57	240	253

Proper stocking level (average) is 292 AUM.

Phototrend evaluation for this pasture indicates a static trend, based on a calculated trend index, read 5 times since phototrends were established in 1968.

b. Newark #2 native

The Newark #2 pasture has not been used to any extent for many years. The only stockwater sources are a few ephemeral ponds, so the only use has been a few straggler cattle drifting through open gates from Newark #1 to the north. Because of this non-use, stocking rate calculations based on comparison of measured utilization with actual use are not possible. A tentative stocking level, to be re-evaluated when use is made, can be based on range site and condition information.

This pasture is dominated by greasewood and rubber rabbitbrush vegetation with very little understory production. Based on a field survey done in January 1991, these types include two Sodic Flat range sites (28BY020NV & 28BY069NV) which make up approximately 63% of the total pasture acreage and produce very little usable forage. The remainder (37%, or approximately 500 acres) is made up of late seral Saline Bottom (28BY004NV) and Dry Saline Meadow (28BY002NV) range sites, which include a major grass component and do provide significant forage for livestock. The initial stocking rate will be based on these acres only. The assumptions and calculations are as follows:

Average year total production for Saline Bottom range site = 1500 lb/acre

40% grasses and grass-like plants (from site write-up done 1/30/91)

50% Proper Use Factor

1500 lb/ac X .40 X .50 = 300 lb/ac usable forage

300 lb/ac X 500 ac = 150,000 lb usable forage total

150,000 lb
1000 lb /AUM = 150 AUM for pasture

4. Huntington pastures

Stocking rate calculations for the Huntington native pastures are based on key area utilization for the analysis years, with SIHY as key species for Huntington #1, and ORHY for Huntington #2 & 3. Proper use factor (NRMH) for perennial grasses is 50%. Actual use AUMs for these pastures includes estimates of wild horse use, based on the 3/89 census and apportioned to each of the three native pastures based on field observations and professional judgement. These estimates of horses are calculated based on yearlong use, with 10 head (120 AUM) each in Huntington #1 & 3, and 21 head (252 AUM) in Huntington #2.

a. Huntington #1

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	21%	0.90	19%	120	316
1989	45	0.79	36	321	446
1988	31	1.06	33	365	553

Proper stocking level (average) is 438 AUM.

Frequency trend analysis shows a significantly higher occurrence of SIHY in 1989, as compared with the initial reading in 1983, with no other differences indicated.

Ecological condition for this key area, range site 28BY056NV, is 68% or late seral, with a very limited grass component (<2%) noted.

b. Huntington #2

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	72%	0.90	65%	549	422
1989	34	0.79	27	252	467
1988	84	1.06	89	437	245

Proper stocking level (average) is 378 AUM.

The permanent frequency transect for this key area has been read only once in 1987, so no conclusions can be drawn as to trend.

Ecological condition for this key area, range site 28BY010NV, is 39% or mid-seral, with a very limited grass component (<2%) noted.

c. Huntington #3

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	75%	0.90	68%	446	328
1989	56	0.79	44	380	432
1988	10	1.06	11	120	545

Proper stocking level (average) is 435 AUM.

The permanent frequency transect for this key area has been read only once in 1987, so no conclusions can be drawn as to trend.

Ecological condition for this key area, range site 28BY010NV, is 54% or late-seral, with a very limited grass component (<5%) noted.

d. Huntington #4 (burn seeding)

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1989	39	0.79	31	270	566
1988	43	1.06	46	200	282
1983	64	2.34	150	850	368

Proper stocking level (average) is 405 AUM.

Frequency trend analysis shows significantly higher occurrence of crested wheatgrass in 1989 as compared to the initial reading in 1983, with no other significant differences noted.

5. Diamond Pastures

Table 5. Use pattern mapping summary - acres and (percent) by use class for Diamond Unit.

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>81%)
1988	7765(51.5)	2388(15.8)	2142(14.2)	2775(18.4)	0
1990	9489(64.5)	2290(15.6)	1849(12.6)	1037(7.0)	36(0.2)

Roughly half of the Diamond Unit (approximately 7000 acres) is not accessible to cattle due to extremely steep topography. Heavy/severe use includes 15 to 38% of the usable acres in these pastures for 1990 and 1988. Fall trailing of sheep has not been evaluated, since this occurs after the use mapping is completed in October. The limited spring sheep use in Diamond #3 & 4 (600 head for a month) was monitored in 1990, and indicates minimal impacts to the vegetation.

Because of unreliable stockwaters and poorly maintained fencing in several of the pastures, the rest-rotation system for the Diamonds has not been well followed, and actual use for these pastures is only applicable to the entire unit, rather than each pasture. For these reasons, the proper stocking level for cattle will be calculated for the entire unit, and apportioned to each pasture based on the usable acreage within that pasture. Perennial grass species, primarily Stipa spp. will be used as the key species for stocking level calculations. Bitterbrush use is considered critical to mule deer in this area, but browse utilization by both livestock and resident deer has been less than or equal to use on grass species. It is assumed therefore, that if utilization on grass species is within allowable use levels, browse use by cattle will also be at acceptable levels. Utilization figures are taken from transects done at the same location in 1988 and 1990 for the Diamond #3 pasture in the use zone which includes most of the usable acres for this unit.

← where can rest rotation be?

Utilization/stocking rate calculations:

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1990	61%	0.90	55%	795	723
1988	63	1.06	67	1411	1053

Proper stocking level (average) is 888 AUM.

When apportioned to each pasture based on usable acreage, the proper stocking rates are as follows:

Pasture	Usable Acres* (percent)	AUM's
Diamond #1	1602 (19.9%)	177
Diamond #2	1823 (22.7%)	201
Diamond #3	2676 (33.3%)	296
Diamond #4	1942 (24.1%)	214

* digitized from 1988 use pattern map

V. CONCLUSIONS

A. Land Use Plan Objectives

III. B. 1. (a) - Not Met

Rationale: Although existing vegetation is in acceptable successional stages, long term objectives would not be met if short term use continues to exceed allowable levels. In recent years, areas which exceed allowable use levels are somewhat limited (roughly 20% of the allotment) but actual use has been between 37 and 50% of preference. If full preference were used, these areas of overuse would be much more extensive.

* III. B. 1. (b) - Not Met

Rationale: Allowable use levels have been exceeded on portions of the allotment grazed by wild horses and livestock.

III. B. 1. (c) - Not Met

Rationale: Areas used by mule deer and antelope are in appropriate seral stages, but allowable use levels have been exceeded on portions of these areas.

III. B. 1. (d) - Not Met

Rationale: Allowable use levels have been exceeded on portions of the allotment.

B. Rangeland Program Summary Objectives

III. B. 2. (b) - Met

Rationale: Phototrend plots in the seeding pastures indicate acceptable forage condition.

III. B. 2. (c) - Not Met

Rationale: Utilization levels have exceeded NRMH allowable use levels on portions of the allotment. In recent years, areas which exceed allowable use levels are somewhat limited (approximately 20% of the allotment) but actual use has been between 37 and 50% of preference. If full preference were used, these areas of overuse would be much more extensive.

III. B. 2. (d) - Not Met

Rationale: Allowable use levels in mule deer habitat have been exceeded.

III. B. 2. (e) - Met

Rationale: Allowable use levels on black sage/big sage sites have not been exceeded.

III. B. 2. (f) - Met

Rationale: Big sagebrush sites within 2 miles of strutting grounds are being maintained in mid to late seral stages with a minimum of 30% shrub composition.

III. B. 2. (g) - Met

Rationale: There are no winterfat sites within 2 miles of the only ferruginous hawk nest site on this allotment.

III. B. 2. (h) - Not met

Rationale: Allowable use levels have been exceeded on portions of the allotment.

III. B. 2. (i) - Met

Rationale: Two out of four of the key riparian areas identified in this evaluation are excluded from cattle use. The Abal Springs complex will be considered for riparian protection fencing, and more intensive monitoring data collected prior to re-evaluation.

III. B. 2. (j) - Met

Rationale: The 9.25 miles of stream riparian identified in the RPS consists of 9.0 miles of Connors Creek and .25 miles of Cold Creek. The stream riparian identified for Connors Creek was in error, since the majority of this drainage is an ephemeral wash with no associated riparian vegetation. Live water is present in the vicinity of Defoe Spring (T 25 N, R 55 E, sec.'s 25, 26) but this involves less than 0.5 miles of drainage, and consists primarily of large stature sagebrush and rubber rabbitbrush. Cold Creek has been excluded from livestock use, and is in excellent condition.

C. Habitat Management Plan Objectives

III. B. 3. (a) - Met

Rationale: Corta Springs riparian enclosure was completed in 1990 and will reduce utilization to acceptable levels. Connors Creek at the legal location listed in the HMP, consists of an ephemeral wash with no associated riparian vegetation. Utilization levels at this location have not exceeded allowable use levels.

III. B. 3. (b) - Met

Rationale: This location has been excluded from livestock use by a riparian fencing enclosure. Condition rating is 90% (excellent).

VI. TECHNICAL RECOMMENDATIONS

1. Short Term Solutions

The primary problem on this allotment is overuse of key species by cattle and wild horses. Cattle have been run at less than 50% of preference in recent years, and activation of full preference would aggravate this overuse. Rest rotation systems have not been followed in the Diamond pastures, and roughly half of the acreage in this unit is unavailable to cattle, causing overuse on the remainder. The Diamond Unit is also of critical concern to the wildlife resources in this area.

a. Strawberry seedings.

Since distribution is not a problem on this unit, the stocking rate should be changed to reflect the values for each pasture calculated in section IV. C., above. This would result in a total stocking rate of 1466 AUM for the entire unit, to continue in the rest rotation schedule set up in the AMP. Since pasture stocking rates vary, the actual dates allowed in a given pasture will vary, depending on which pasture is rested. Maximum numbers and pasture move dates for a full four year cycle are shown in Appendix 1. 1466 AUM is a 55% reduction from the original preference of 3254 AUM for this unit. Since these seedings were fenced from wild horse use prior to 1971, wild horses are not included in this adjudication, and will not be allowed access to these seedings.

b. Griswold seedings

Since distribution is not a problem on this unit, the stocking rate should be changed to reflect the values for each pasture calculated in section IV. C., above. This would result in a total stocking rate of 1218 AUM for the entire unit, to continue in the rest rotation schedule set up in the AMP. Since pasture stocking rates vary, the actual dates allowed in a given pasture will vary, depending on which pasture is rested. Maximum numbers and pasture move dates for a full four year cycle are shown in Appendix 1. 1218 AUM is a 63% reduction from the original preference of 3326 AUM for this unit. Since these seedings were fenced from wild horse use prior to 1971, wild horses are not included in this adjudication, and will not be allowed access to these seedings.

c. Newark Unit

The stocking level for the Newark #1 seeding should be set at 292 AUM as indicated in section IV. C. above. The operator has requested a spring/summer season of use to better utilize this seeding, which was allowed in the 1990 grazing season with good results. Season of use should be set for April 16 through August 31. Since the seeding was fenced from wild horse use prior to 1971, wild horses are not included in this adjudication, and will not be allowed access to this seeding.

The Newark #2 native pasture should have a tentative stocking rate of 150 AUM, as indicated in the analysis section, and be monitored/re-evaluated when use is made. The operator would have the option of using this pasture either in the spring (April 16 - June 15) or in the winter (November 1 - Feb. 28) depending on the availability of water for livestock.

The combined preference for the two pastures in this unit would be 442 AUM, a 52% increase from the original 291 AUM for this unit. In accordance with 43 CFR 4710.5(b), which states that no domestic horse permits will be allowed within the boundaries of wild horse Herd Management Areas, the horse permit for 200 AUM associated with the Newark Unit will be cancelled.

d. Huntington Unit

Since distribution is not a major problem on this unit, and allowable use levels have not been exceeded on these pastures, the stocking rate should be changed to reflect the values for each pasture calculated in section IV. C., above. This would result in a total stocking rate of 1408 AUM for the entire unit, with the livestock to continue in the approximate rest rotation schedule set up in the AMP. 1408 AUM is an 85% increase from the original preference of 761 AUM for this unit, but the original adjudication did not take wild horses into account, nor did it adequately address the increased forage production on the burn seeding in Huntington #4. In allocating the increase between horses and livestock, the following calculations and assumptions were used:

- Wild horse use is confined to Huntington pastures 1 through 3, not in the burn seeding of Huntington #4. Huntington #4 is also outside the HMA boundary. The calculated stocking rate for the #4 pasture will therefore be allocated to livestock only.

- The three native pastures provide 75% of the current calculated stocking rate, or 1251 AUMs total. At the same percentage, these pastures provided 571 AUMs of the original cattle preference.

- Existing horse use for the three native pastures is estimated at 492 AUMs.

- The total current demand, therefore, is 1063 AUMs, with 571 AUMs (54%) for cattle, and 492 AUMs (46%) for horses. The remaining increase of 188 AUMs (1251 - 1063) for Huntington pastures 1-3 will be allocated as an additional 102 AUMs (54%) for livestock, and 86 AUMs (46%) for wild horses (7 horses yearlong). This results in a total of 48 horses yearlong for the three Huntington native pastures.



The AML for wild horses on this portion of the Buck and Bald HMA would therefore be set at 48 animals yearlong, confined to the three Huntington native pastures.

Livestock preference would be apportioned to the Huntington pastures as follows:

<u>Pasture</u>	<u>AUMs</u>
Huntington #1	294
Huntington #2	102
Huntington #3	291
Huntington #4	405
Total	<u>1092</u>

Because of the unequal ratings of the four pastures, the exact rest rotation as outlined in the AMP would be impractical. The same approximate scheduling should be adhered to, with the actual dates for each pasture move changed yearly to accommodate the number of AUMs available in each pasture (Appendix 1).

e. Diamond Unit

The Diamond Unit does have significant cattle distribution problems, with roughly half the acreage unavailable due to extremely steep slopes. This results in overuse on the areas that are available. Also, due to problems with fence maintenance and stockwaters, the rest rotation system has not been closely followed. Generally, cattle have used every pasture to some extent, every year. To deal with this overuse, two options are available:

1. Stocking rate adjustment, continued cattle use

Under this option, cattle stocking level would be reduced to the levels calculated in the analysis of data, section IV. C. for a total of 888 AUM, to be used in the rest rotation schedule set up in the AMP. Turnout would not be allowed without functioning waters and fences, and use supervision would be stressed to maintain the pasture rotations. 888 AUM would be a 49% reduction from the original preference of 1739 AUM. Since pasture stocking rates vary, the actual dates allowed in a given pasture will vary, depending on which pasture is rested. Maximum numbers and pasture move dates for a full four year cycle are shown in Appendix 1. With either option, wild horses would be removed from the Diamond Mountains horse-free area, in order to confine their distribution to existing herd areas. Also, the Paris sheep preference would remain at 242 AUM, since no problems are indicated at this time with the limited sheep use.

2. Cattle to sheep conversion

Under this option, the cattle preference would be converted to sheep, with the same seasons of use. Initially, the preference for these pastures would remain at 1739 AUM, to be monitored/re-evaluated as sheep use occurs. Herding

stipulations would be introduced on the permit to improve livestock distribution and spread out use into areas currently not utilized. This use would have to be closely monitored to prevent increased competition or conflict with resident and migratory mule deer.

f. General (all pastures)

The total cattle preference for all pastures in the Cold Creek allotment would be set at 5042 AUMs, allocated to the various pastures and units as outlined in previous sections. This is a 47% reduction from current active preference. Actual use billing, as set up in the AMP, would be retained within the pasture adjudication limits. If use supervision indicates problems with adherence to AUM limits, timely pasture moves, or timely submission of actual use, this privilege would be revoked and the allotment licensed in advance. In order to maintain a thriving natural ecological balance, the AML for that portion of the Buck and Bald HMA within the Cold Creek allotment would be set at 48 animals yearlong, within the Huntington #1,2, and 3 pastures, where wild horses have historically made the majority of their use. Wild horses in horse-free areas would be removed.

2. Long Term Solutions

Regardless of which short term option or combination of options is selected, the following long term solutions should be implemented:

- (a) Continue to monitor to determine if further adjustments to livestock use are necessary.
- (b) Manage wild horse numbers at a level which will maintain a thriving natural ecological balance as determined through monitoring.
- (c) Fencing of additional riparian areas (i.e. Abal Springs) will be considered if overuse continues.

3. Additional Monitoring Data Required

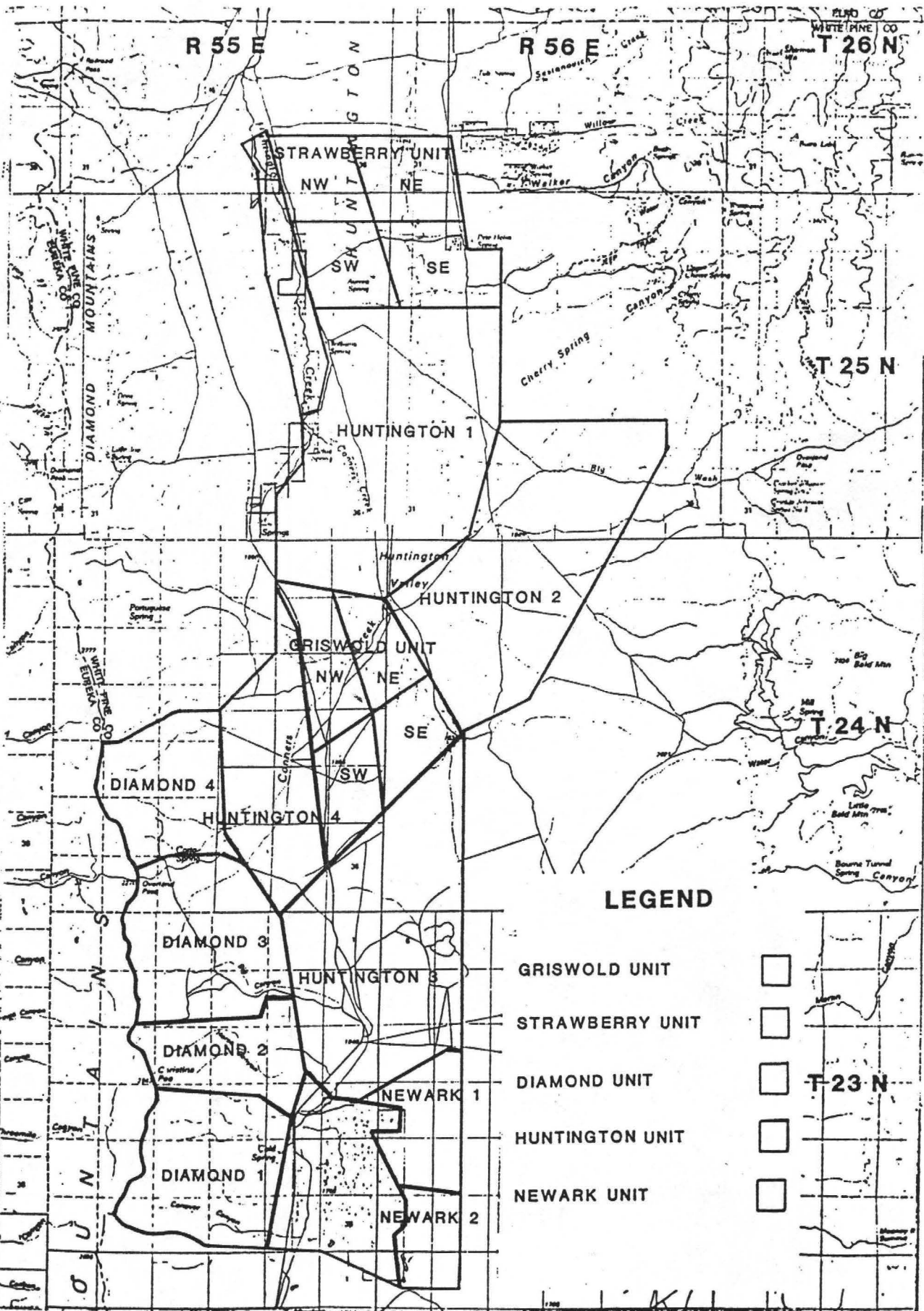
Continue to conduct use pattern mapping and key area utilization.

Continue to conduct aerial census of wild horses to monitor movements and actual use.

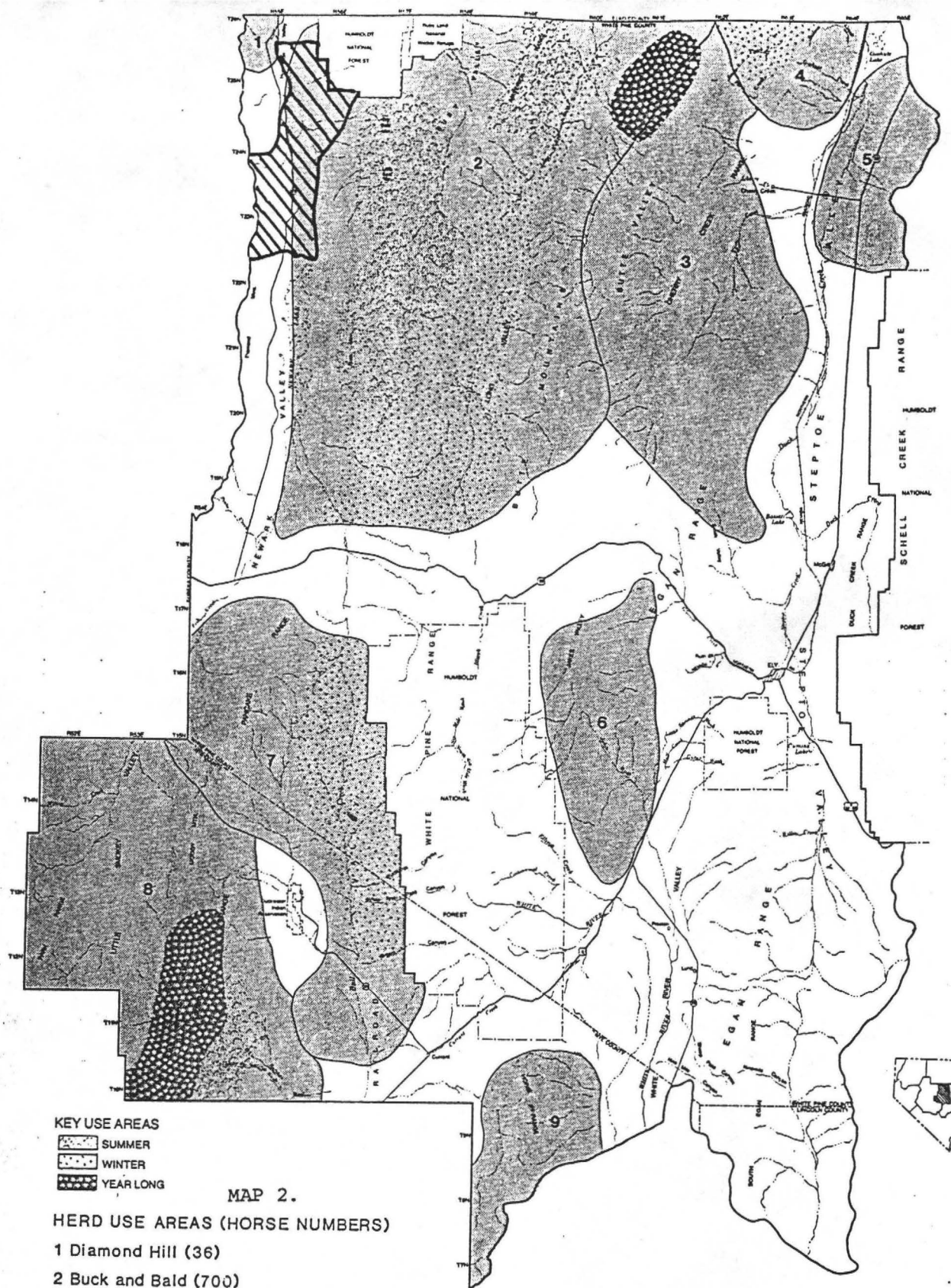
Continue to monitor livestock and wildlife actual use.

Increase use supervision to insure pasture rotation according to AMP schedule.




Map ecological status for the allotment using the recently completed third order soil survey and range site information.



MAP 1. Pasture Units



KEY USE AREAS

-  SUMMER
-  WINTER
-  YEAR LONG

MAP 2.

HERD USE AREAS (HORSE NUMBERS)

- 1 Diamond Hill (36)
- 2 Buck and Bald (700)
- 3 Butte (60)
- 4 Cherry Creek (11)
- 5 Antelope (14)
- 6 Jakes Wash (20)
- 7 Monte Cristo (96)
- 8 Sand Springs (494)
- 9 White River (20)

Appendix 1.
COLD CREEK ALLOTMENT
GRAZING SCHEDULE
TREATMENTS BY PASTURE

YEAR 1 (1992)

STRAWBERRY UNIT
NW NE
8/10-10/31 6/29-8/9

STRAWBERRY 176 C

SW SE
REST 4/16-6/28

TO JIGGS

HUNTINGTON 122 C

HUNTINGTON #1

4/16 - 6/27

HUNTINGTON #2

10/6 - 10/31

GRISWOLD UNIT
NW NE
4/16 REST
7/16

GRISWOLD 144 C

DIAMOND #4
9/16-10/31

6/28 -
10/5

SW SE
7/17-
8/20

8/21-10/31

HUNTINGTON #4

REST

HUNTINGTON #3

DIAMONDS 141 C

DIAMOND #3
7/14-9/15

DIAMOND #2
6/1-7/13

TO WARM SPRINGS RANCH

DIAMOND #1
REST

NEWARK #1

4/16 -
8/31

PRIVATE LAND

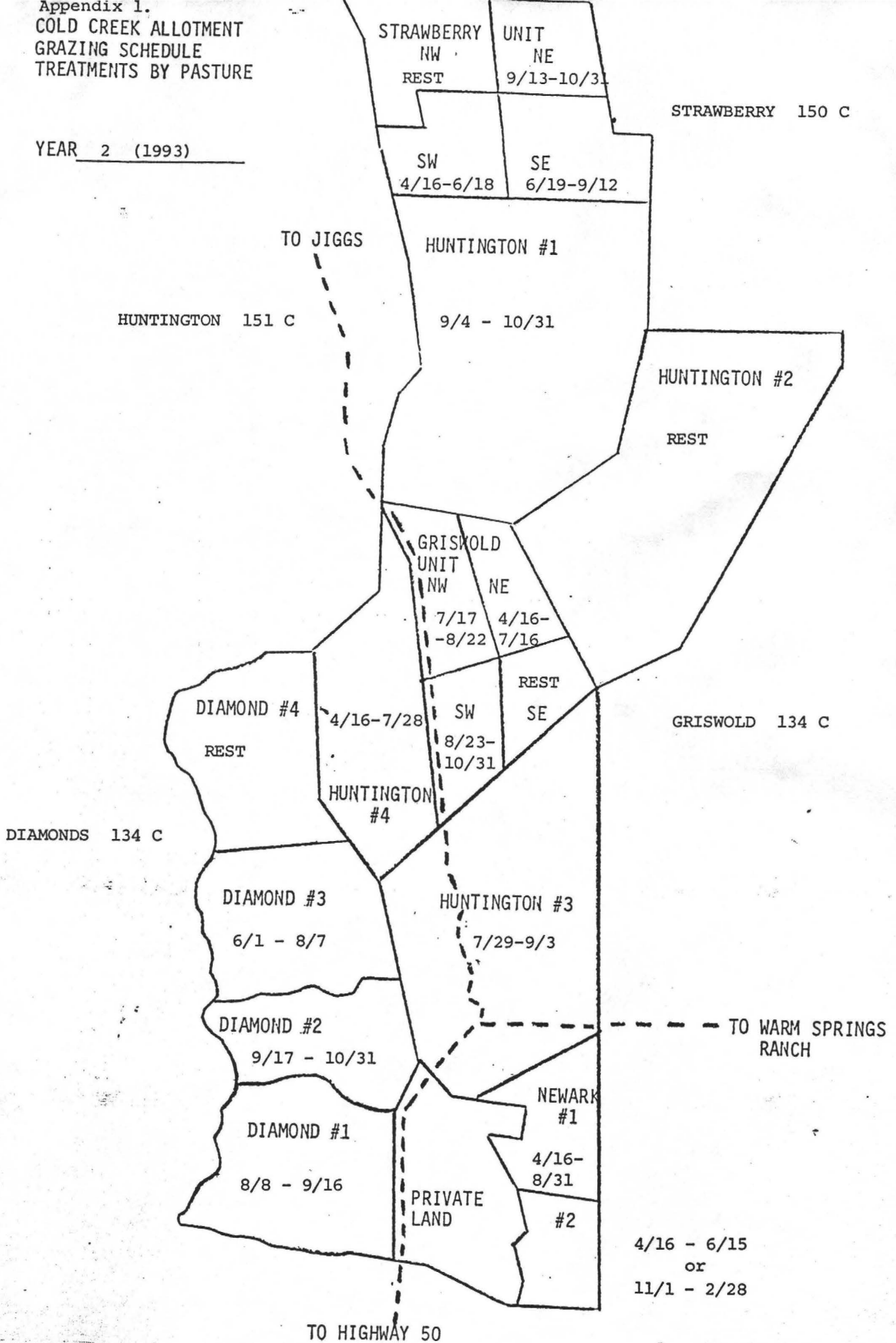
#2

4/16 - 6/15
or
11/1 - 2/28

TO HIGHWAY 50

Appendix 1.
COLD CREEK ALLOTMENT
GRAZING SCHEDULE
TREATMENTS BY PASTURE

YEAR 2 (1993)



APPENDIX 1.
COLD CREEK ALLOTMENT
GRAZING SCHEDULE
TREATMENTS BY PASTURE

YEAR 3 (1994)

STRAWBERRY
NW
4/16-7/2

UNIT
NE
REST

STRAWBERRY 187 C

SW
7/3-8/23

SE
8/24-10/31

TO JIGGS

HUNTINGTON #1

HUNTINGTON 122 C

REST

HUNTINGTON #2

6/28 - 7/22

GRISWOLD
UNIT
NW

NE

8/28
10/31

6/29-
8/27

4/16-6/28

DIAMOND #4

7/23-
10/31

7/12-8/28

SW

SE

REST

GRISWOLD 139 C

DIAMONDS 136 C

HUNTINGTON
#4

7/23 - 10/31

DIAMOND #3

8/29 - 10/31

HUNTINGTON #3

DIAMOND #2

REST

TO WARM SPRINGS
RANCH

DIAMOND #1

6/1 - 7/11

NEWARK
#1

4/16-
8/31

PRIVATE
LAND

#2

4/16 - 6/15

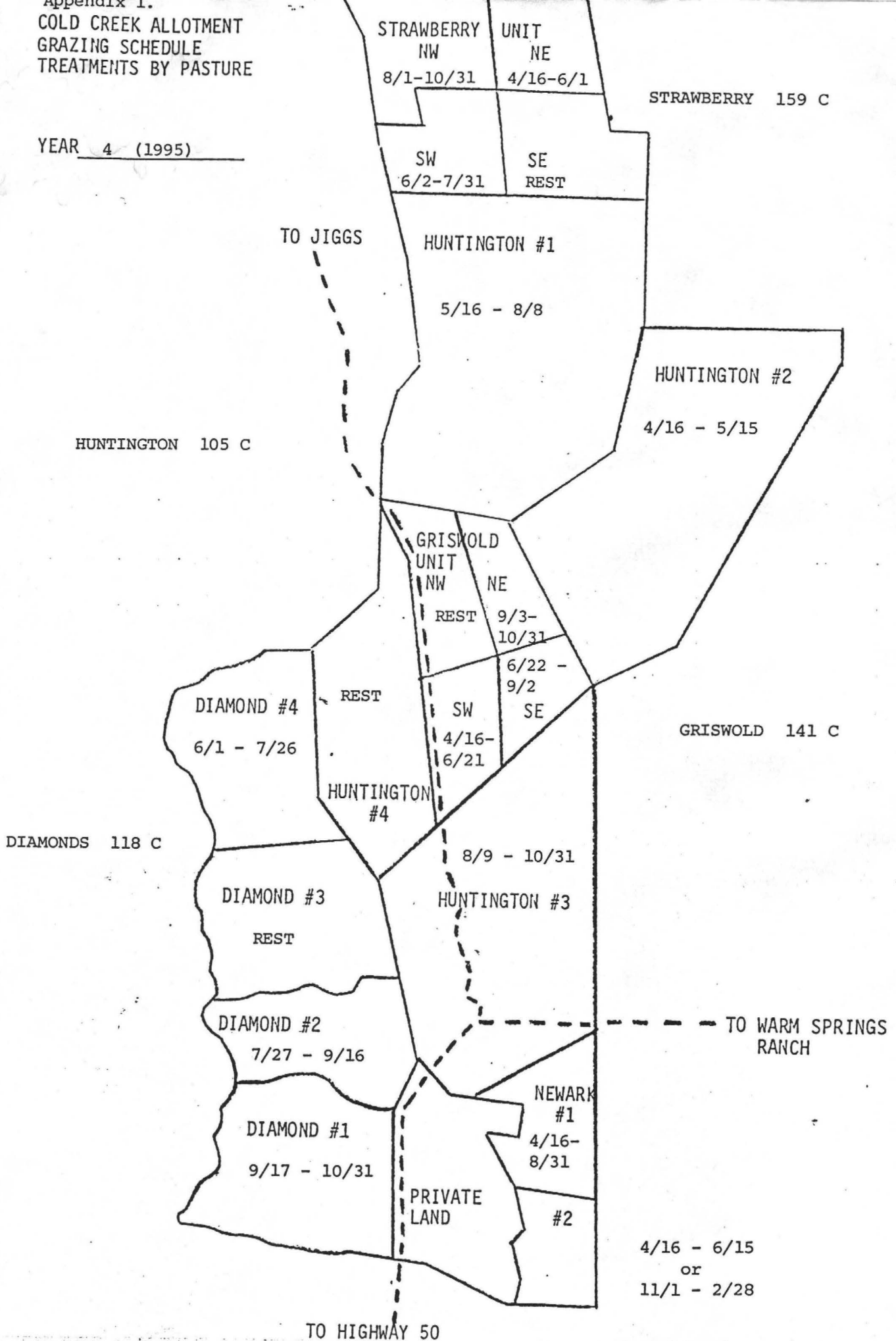
or

11/1 - 2/28

TO HIGHWAY 50

Appendix 1.
COLD CREEK ALLOTMENT
GRAZING SCHEDULE
TREATMENTS BY PASTURE

YEAR 4 (1995)



FAXED 7/12/91 7/12/91

BOB MILLER
Governor

STATE OF NEVADA

CATHERINE BARCOMB
Executive Director



**COMMISSION FOR THE
PRESERVATION OF WILD HORSES**

**Stewart Facility
Capitol Complex
Carson City, Nevada 89710
(702) 687-5589**

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July 12, 1991

Gene L. Drais, Manager
Egan Resource Area
Ely district Office
HC33 Box 150
Ely, Nevada 89301-9408

Dear Mr. Drais,

Thank you for the opportunity to comment on the Cold Creek,
Horse Haven, and North Cove allotment monitoring evaluations.

COLD CREEK

I need clarification of some of the statements presented. On page 14 you presented that fences were down and in disrepair by the permittee allowing for for movement of livestock in various pastures. Were the horses contained in their HMA by this boundary? You had also mentioned removal of any horses outside of their HMA? Has the disrepair of the fencing allowed the horses to leave thier HMA thus causing a potential removal of those animals? When will the fences be repaired?

On page 12 you state "actual use AUM's for these pastures includes estimates of wild horse use...based on field observations and professional judgement." I am not quite sure what you mean by this statement, how does this compare to helicopter census data for accuracy? How can this be documented for census?

NORTH COVE & HORSE HAVEN

Thank you for the receipt of these monitoring evaluations. At this time I have no comments or need for clarification on these documents. Please continue to include me in any correspondence in the future concerning these allotments.

I would appreciate a written response to my questions. If you have any questions, please feel free to call me.

Sincerely,

A handwritten signature in cursive script that reads "Cathy Barcomb".

CATHY BARCOMB
Executive Director

7/29/91



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

ELY DISTRICT OFFICE
HC33 BOX 150
ELY, NEVADA 89301-9408



IN REPLY REFER TO:

4525/4130
(NV-047)

JUL 29 1991

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

Dear Ms. Barcomb,

In reference to your comment letter dated July 12, 1991, concerning the Cold Creek allotment evaluation, I would like to provide the clarification you requested on several points.

Regarding the disrepair of fences in the Diamond Unit, this fencing does not involve containing horses within the Buck and Bald HMA. Sound fencing to the east of this unit forms an effective boundary for this HMA. However, horses have drifted into this area from the Diamond Hills HMA to the north and Battle Mountain District to the west. Cross-fencing in the Diamonds consists of drift fences that dead-end in steep terrain. These fences do not provide barriers to horse movements at higher elevations. Currently, these fences are in the process of reconstruction and maintenance, to be completed sometime this year.

Regarding the horse counts for the Huntington Unit, the total number is based on helicopter census, as indicated in the text. Because of the scale involved with aerial census, division of these numbers into the three pastures was not feasible. To apportion this horse use to the three pastures, on-the-ground counts by field personnel (range conservationists, horse specialist, etc.) were used, and are felt to be a reasonably accurate estimate.

I hope this has adequately addressed your questions and concerns in this matter. If you have further questions, please feel free to contact Brian Dick of my staff at (702)289-4865.

Sincerely,

Gene Drais, Manager
Egan Resource Area

1 Enclosure

- 1. Letter dated July 12, 1991 (1 p)