8-24-93

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:

4100
(NV-0241.5)

August 24, 1993

Dear Interested Party:

Please find enclosed a draft copy of an allotment evaluation prepared for the Deer Creek allotment.

I ask you to review the evaluation and provide me with your comments by September 27, 1993. After the comments are received and reviewed, I will decide whether or not a meeting with interested parties are warranted.

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

Sincerely yours,

Scott Billing

Scott Billing, Area Manager
Paradise-Denio Resource Area

Enclosures

AML BEING ESTABLISHED PER CURRENT CENSUS!

USING 10 YRS AS MONITORING VERSUS AVERAGE OF 3 ACTUAL

Deer Creek
Draft Allotment Evaluation Summary

I. Introduction

A. Allotment: Deer Creek Allotment (00055)
B. Permittee: Robert and Delia Nuffer
C. Evaluation Period: 1983 to present
D. Selective Management Category: C

II. Initial Stocking Level

A. Livestock

1. Grazing Preference

a. Total Preference 1,843 AUMs
b. Suspended Preference 1,089 AUMs
c. Active Preference 754 AUMs

2. Season of Use: 03/01 to 12/31
3. Kind and Class of Livestock: Cattle (cow/calf)
4. Percent Federal Land: 100%
5. Grazing System:

The system utilized from 1983 to present is as follows:

Winter Range	30	C	03/25 to 03/31	7 AUMs
Spring/Summer	120	C	04/01 to 07/31	481 AUMs
Summer/Fall	27	C	08/01 to 09/30	54 AUMs
Winter Range	70	C	10/01 to 12/31	212 AUMs

B. Wild Horses and Burros

1. Initial Starting Point for Horses: 20 Horses (as per the Land Use Plan)
2. Herd Use Area: Jackson Mountain
3. AUM Demand for Horses: 240 AUMs

C. Wildlife Use

1. Wildlife Use

Mule Deer summer, winter, and yearlong range as well as California Bighorn Sheep yearlong habitats have been identified in the Deer Creek Allotment.

a. Reasonable numbers developed in conjunction with NDOW personnel for the Deer Creek Allotment are:

mule deer	112 AUMs
bighorn sheep	58 AUMs

b. The following key or critical management areas have been identified within the allotment.

1. Mule Deer:

a) Reasonable numbers: 112 AUMs
b) Key/Critical mgmt. areas: deer summer; 1253 acres (DS-8), deer winter; 2528 acres (DW-13), deer yearlong; 6262 acres (DY-18; DY-20; DY-6)

2. Bighorn Sheep:

a) Reasonable numbers: 58 AUMs
b) Key/Critical mgmt. areas: bighorn yearlong; 3812 acres (BY-6)

3. Other:

a) Various other game and non-game bird and mammal species occur in the Deer Creek Allotment

D. Riparian/Streams

Deer Creek, the only stream within the Deer Creek Allotment, has very little potential for supporting a fishery. The majority of Deer Creek is intermittent to ephemeral in nature. The reach of Deer Creek between where the road ends at a washed out stream crossing upstream to the confluence of the South Fork of Deer Creek has downcut three to eight feet in several locations (most likely a result of the 1983 - 1984 high water events). Willow has developed throughout most of this reach. The streambed is comprised mainly of loose gravel and cobble. Ungulate use at one spring site was heavy.

In 1992, the South Fork of Deer Creek had very little vegetation along the lower reach as a consequence of natural conditions of loose rock. Most streamflow is subsurface. It appeared as if this reach runs dry throughout most of the year.

Based on these existing conditions, it is doubtful that Deer Creek currently supports a fishery and has very low potential for supporting fish.

III. Allotment Profile

A. Description

The Deer Creek Allotment lies approximately eight miles south of the Quinn River Crossing and State Route 140. The allotment encompasses the Jackson Mountain Range on the eastern boundary and the Black Rock Desert on the western boundary. The Leonard Creek Road is the northern boundary.

The elevation in the allotment ranges from 4,000 feet to 6,400 feet. The lower elevations are dominated by greasewood - shadscale community types. As the elevations increase, the community types change to shadscale - bunchgrass type and finally, a sagebrush -bunchgrass community type. Deer Creek is the major drainage in the allotment.

B. Acreage

1. Allotment Totals

a.	Total Acres:	30,393 Acres
b.	Public Acres:	30,087 Acres
c.	Private Acres:	306 Acres

2. Pastures/Use Areas

The allotment consists of the following use areas:

Black Rock Desert:	Winter/Spring
Jackson Mtn. (Deer Creek)	Spring/Summer/Fall

C. Objectives

1. Land Use Plan

a. Objective RM-1

To provide forage on a sustained yield basis through natural regeneration. Reverse the downward deterioration of public grazing lands by improving 1,000,000 acres in poor 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 WL-1

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

d. Objective W-1

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

e. Objective W-2

Provision of adequate water to support public land uses.

f. 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.

g. Objective WH/B-1

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

2. Allotment Specific Objectives

The allotment specific objectives tie the Land Use Plan into quantified objectives for this allotment.

a. Short Term

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

2) Utilization of key plant species in upland habitats shall not exceed 50%.

b. Long Term

1) Maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with a forage demand of 112 AUMs for mule deer and 58 AUMs for bighorn sheep (WL 1.4, WL 1.5, WL 1.11, WL 1.23, WL 1.24).

a. Improve to and maintain 10,043 acres in good to excellent mule deer habitat condition.

b. Improve to and maintain 3,812 acres in good to excellent bighorn sheep habitat condition.

2) Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with a stocking level of 754 AUMs. (RM-1, RM-2, W-3)

3) Improve range condition from poor to fair on 3,039 acres. (RM-1, W-3)

4) Manage, maintain and improve public rangeland conditions to provide forage for a viable population of horses. (RM-2, W-3)

5) Improve to and maintain the state water quality criteria for Deer Creek. (W-1, W-2, W-3)

D. Forage Species Monitored

1. Upland Habitat

Common Name	Scientific Name
Wyoming big sagebrush	Artemisia tridentata wyomingensis
shadscale	Atriplex confertifolia
Nevada ephedra	Ephedra nevadensis
basin wildrye	Elymus cinereus
bottlebrush squirreltail	Sitanion hystrix
Sandberg bluegrass	Poa secunda

E. Other Information

The Deer Creek Ranch has had three owners in the last 10 years.

IV. Management Evaluation

A. Purpose

The purpose of the management 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	TNR Authorized	Total
1983	754	146*	900
1984	754	87*	841
1985	754	119*	873
1986	754	180*	934
1987	754	0	754
1988	753	0	753
1989	754	0	754
1990	754	0	754
1991	740	0	740
1992	728	0	728

* TNR - Temporary Nonrenewable Use

2. Wildlife Populations

a. Land Use Plan reasonable numbers:

Mule Deer: 112 AUMs
Bighorn Sheep: 58 AUMs

b. Wildlife (Existing Numbers)

The Deer Creek Allotment lies in NDOW hunt units 035 and 034, and wildlife habitat area 7. Nearly all identified big game habitat is in unit 035. According to data collected by NDOW over the last five years, mule deer populations have increased. While pronghorn antelope habitat was not identified in the 1983 land use plan for the Deer Creek allotment, antelope populations in unit 035 have been expanding, and have been observed in the Deer Creek Allotment in both hunt units.

Mule deer population estimates for hunt unit 035 are provided annually by NDOW and have been analyzed for the Deer Creek allotment. NDOW game biologist Jim Jeffress has indicated that deer populations in the Jackson Mountain range primarily migrate elevationaly between winter/yearlong and summer ranges. Considerable lateral movement occurs throughout the seasonal range as a function of weather/vegetation conditions and competition, therefore, actual deer and pronghorn use each year will vary significantly. The

final population estimate for hunt unit 035, as derived from modelling, is also influenced yearly due to differing sample sites, as a result of weather conditions at the time of the survey which impacts animal observations. With this in mind, an estimate of allotment specific numbers of deer on the Deer Creek allotment is highly variable from year to year and may not be a clear indicator of habitat condition and trend relative to mule deer or pronghorn. The Deer Creek Allotment is one of five allotments which are in the Jackson Mountain Range.

To estimate existing numbers on an allotment, first the percent of hunt area 3 encompassed by unit 035 was determined. This determination was based on actual deer distribution data collected by NDOW over the last thirteen years. This data has revealed that deer distribution and relative density is not proportional to amount or quality of habitat for a given hunt unit therefore population estimates based on amount or quality of habitat are not a precise measure of deer use in an area. Rather, it was found that populations could be more accurately estimated by following trends of actual animal occurrence as observed in NDOW census flights. The following population estimates for the Deer Creek allotment were calculated by determining the percent of deer habitat in unit 035 which occurs in the allotment. Using this percent, the unit 035 deer population can then be apportioned to each allotment in the unit. The following numbers were derived for the Deer Creek allotment for deer populations.

1988	53.9	161.7	AUMs
1989	39.4	118.2	AUMs**
1990	not available		
1991	57.48	172.44	AUMs
1992	59.97	179.91	AUMs

** Sampling methodologies differed between 1989 and 1991 data, and are not directly comparable.

Winter and yearlong habitat was calculated in the Deer Creek allotment for comparison to the actual deer use estimates to get an indication as to the degree to which deer use the available habitat in hunt unit 035. While more then thirty-three percent of the deer winter and yearlong habitat in area 3 is located in unit 035, just over eighteen percent of the total deer population has been found to actually use the habitat.

It is unclear as to the reason for this unusual distribution, however, factors such as the isolated nature of the Jackson range, may be involved.

Bighorn sheep historically inhabited the Jackson Mountain Range and were observed as late as 1946. In 1977, the Jackson Mountains were identified for re-establishment of California Bighorn Sheep by the "Jackson Mountains Habitat Management Plan". Wildlife Habitat Area 7 was further identified in the 1980 "Jackson Mountains Wildlife Habitat Management Plan (N2-WHA-T-7)". Both documents identified specific habitat management and improvement needs , however, specific projects and actions were not identified for the Deer Creek Allotment.

In the Winter of 1986-87, 17 California Bighorn Sheep were captured in Southeastern Oregon and released in the north end of the Jackson Mountain Allotment. The Sheep use the upper elevations of the Parrot Peak area during the summer months, and the lower foothills in the Deer Creek Allotment sporadically in the winter. Since the initial re-introduction, the Parrot Peak population has steadily expanded (Table 1.), and the population is projected to continue to expand in both numbers and range into the Deer Creek Peak area in future years.

Table 1. Population estimates, as provided by NDOW in the annual "Big Game Status Report and Hunting Season Recommendations" for the Parrot Peak population of the Jackson Mountains, Humboldt County, Nevada.

YEAR	ESTIMATE	AUMs
1989	23-27	55- 65
1990	30-35	72- 84
1991	30-40	72- 96
1992	40-50	96-120*

* Estimated population size is for the entire Parrot Peak Herd, no data is available concerning actual use by bighorn in the Deer Creek Allotment aside from the fact that it does occur on a limited basis.

c. Wildlife Habitat Inventory

1. Priority Species: mule deer, sage grouse, California bighorn sheep

2. Other Species: Chukar, Hungarian partridge, California quail

3. A special habitat features inventory was conducted in September and October, 1977. This inventory identified locations 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.

4. Riparian and Meadow Habitat-126 acres located in scattered pockets throughout the allotment and along the Deer Creek drainage.

5. Juniper-190 acres located in scattered pockets throughout the higher elevations.

3. Wild Horses and Burros

a. In January, 1993, the Jackson Mountain Herd Management Area (HMA) had an aerial census conducted. Ten adults and one young were counted.

b. Prior to the June, 1989 Interior Board of Land Appeals (IBLA) ruling the initial numbers for the HMA was established by the Paradise-Denio Land Use Plan (LUP)

decision of 1982. The LUP established an initial level of 20 horses for the Deer Creek Allotment portion of the HMA. In accordance with the June 1989 IBLA ruling, management levels for wild horses must be based upon monitoring data. The current (1993) numbers and forage consumption by wild horses within the HMA are as follows:

Current Numbers	Forage Consumption (AUMs)
10	120

Future adjustments in numbers and management levels of wild horses would be based upon monitoring studies.

4. Climate

Precipitation For Leonard Creek Ranch (NOAA Station 1983-1992) Precipitation in Inches

Year	*Growing Season	Annual Total
1983	6.94 M	17.74
1984	3.0	8.50 M
1985	2.48	6.82 M
1986	4.85	9.60
1987	5.42	9.30
1988	2.94	8.11
1989	3.98	7.48
1990	5.06	8.87
1991	4.67	7.19
1992	1.98 M	M

* Growing season is defined as March through August.
M Partial or Incomplete Data
Growing Season Average 4.13", Yearly Average 9.29"

5. Utilization

a. Use Pattern Mapping (UPM)

UPMs were completed in 1993. The following is a summary of this data.

The utilization classes used for UPM were:

No Use	0%
Slight	1-20%
Light	21-40%
Moderate	41-60%
Heavy	61-80%
Severe	81-100%

The UPMs are summarized below on a pasture by pasture or use area basis. Actual use and licensed use were utilized for AUM computations.

Winter/Spring Use

Data Collected 05/06/93

70 C	10/01 to 12/31	212 AUMs
30 C	03/25 to 03/31	7 AUMs
	Total	219 AUMs

Approximately 90% of the winter grounds had slight use while the remaining was light.

Utilization data was collected in 1983, 1984, and 1985. However, the use pattern maps were incomplete and combined utilization classes and, therefore, can not be applied to assess the status of allotment specific objectives and calculate a Desired Stocking Rate for use areas within the allotment.

6. Trend

In May of 1993, Key Management Area DW-DC-01 was established in the spring/summer ranges of the Deer Creek allotment using the line intercept method. The study was established in accordance with Technical Manual's Rangeland Monitoring - Trend Studies (Technical Reference 4400-4) and BLM Manual 6630 guidelines. The following is the key species used for the site, the percent composition and percent cover of key species:

Key Species	% Composition	% Cover (Basal and Crown)
Shadscale	62%	15%
Wyoming Big Sage	30%	7%
Sandberg Bluegrass	6%	2%
Annuals	2%	T*
Total	100%	24%

* - Trace

The above is baseline data only, due to one year of data being collected. No determination of trend can be made at this point.

7. In 1978 a range survey was conducted using the Ocular Reconnaissance Method. The survey was conducted to provide baseline data for analysis purposes in the Paradise-Denio EIS. This survey indicated that 237 AUMs were available in 1978 for livestock and wild horses.

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 from this inventory which resulted in the following condition classifications for the Deer Creek allotment:

Good	Fair	Poor
0 (acres)	0 (acres)	30,393 (acres)

8. Ecological Status Inventory/Soil Survey

A Order 3 Soil Survey has been completed on this allotment. An Ecological Site Inventory (ESI) has not been initiated for this allotment.

9. Wildlife

a. Habitat Evaluation

On May 7, 1993, DW-DC-01 was established to monitor condition and trend of deer winter range in the Deer Creek Allotment. Studies established were in accordance with BLM Manual 6630 guidelines and Rangeland Monitoring - Trend Studies (Technical Reference 4400-4). The 6630 manual identified four studies which may be used to monitor the condition and trend of big game habitat. Of these four potential studies, three were established at DW-DC-01. These were as follows:

1. Line Intercept; monitors species diversity and frequency of occurrence within the study site based on canopy coverage and basal width.

2. Key Browse; evaluates key browse species age and form class distribution.

3. Vertical Cover; evaluate the ability of vegetation and topographic factors to provide crucial hiding and thermal cover, and provides a photo point with which trend can be assessed.

DW-DC-01 is located in Jackson Mountains DW-13 in a Loamy 5-8" range site. The transect is representative of approximately 1,250 acres or about half of the deer winter habitat in the allotment.

Sagebrush was the dominant desirable key browse species throughout the allotment, and occurred predominantly in the drainages of the study area. Using the Cole Browse survey method, all sampled sagebrush plants registered no use on current years growth, and slight use on the previous years growth. Several plants had been heavily browsed some time in the past as evidenced by an abundance of twigs browsed down to ¼" to ½" diameter. Reproduction within the community was fair to good with seedling and young plants representing slightly over fifty percent of the total population sampled. One other key browse species was observed in very scattered densities in the northern end of the study site. Nevada Ephedra occurred in approximately half of the study area. Form class observations indicated moderate to heavy use in past years.

Vertical cover analysis indicated vegetative cover averaged approximately six inches in height for a rating of poor. Extensive topographic relief throughout the study area in the form of rolling hills and outside the study area in the form of steep mountains, extreme relief, rock outcrops, and scattered juniper pockets contribute substantially to the ability of the area to provide thermal and protective cover, and resulted in a final cover rating of fair.

Human disturbance throughout most of the year is light and is probably highest during the hunting season. This disturbance is concentrated along the lower foothills which makes up most of the study area. Deer behavior likely shifts during this time to utilize the topography of the uplands as hiding cover. The upland areas offer excellent opportunities for hiding cover, due to the very limited access by roads. Due to the presence of nearby, quality hiding cover, and the limited duration of disturbance, the overall disturbance rating for the study area is good (See Appendix 1, Disturbance or Interference Ratings).

The overall habitat condition rating for the area as reflected by DW-DC-01 is good for mule deer.

10. Wild Horse Habitat

The following is the results from all known wild horse census and/or distribution flights in the portion of the Jackson Mountain Herd Management Area located in the Deer Creek Allotment. Helicopter flights represent censuses; fixed wing flights represent distribution data.

Date	# Horses (1)	Aircraft (2)
1/18/93	10/1	H (Bell Soloy)
9/27/92	1/0	FW (Maule 6)
7/24/92	0/0	FW (Maule 5)
5/20/92	5/0	FW (Maule 5)
3/4/92	2/0	FW (Maule 5)
7/30/91	0/0	FW (Maule 5)
2/1/91	4/0	FW (Cessna 210)
2/28/90	0/0	FW (Cessna 210)
7/19/89	2/1	H (Bell Soloy)
9/28/88	6/2	H (Bell B-1)
6/13/86	2/1	H (Bell B-1)

(1) Adults/foals
(2) H - Helicopter; FW - Fixed Wing

11. Desired Stocking Rate (DSR)

Monitoring data was inadequate or not available to calculate the Desired Stocking Rates for the Deer Creek Allotment. Therefore, the following will be the starting points for livestock and wild horse forage demands during this evaluation period:

Livestock:	754 AUMs
Wildhorses:	120 AUMs
Total:	874 AUMs

These values represent the current active preference for livestock and wild horse forage demands based upon the 1993 census.

12. Water Quality

Water quality data for Deer Creek was not collected during the evaluation period.

V. Conclusion

A. Short Term Objectives

1. This objective was met in winter ranges in 1993. Monitoring data is not available to assess the status of this objective for summer ranges.

2. This objective was met in winter ranges in 1993. Monitoring data is not available to assess the status of this objective for summer ranges.

B. Long Term Objectives

1. A habitat evaluation based on a key area established in May 1993 indicates mule deer winter habitat is in good condition due to the presence of quality hiding cover and the lack of roads throughout the area. Wyoming Big Sagebrush is considered the dominate desirable key browse species for mule deer throughout the area and represents approximately 30% of the vegetative community. Thermal and protective cover was considered to be fair at most. At present, however, overall trend of the site is unknown due to one year of baseline trend data being collected.

Baseline and current trend data has not been collected for the evaluation of bighorn sheep habitat.

2. A key area was established in the spring/summer ranges during May 1993 and baseline trend data was collected. Use pattern map data collected in 1993 for spring/winter ranges indicates progress is being made towards maintaining the objective. Slight to light utilization levels is occurring in these areas. Data is not available to determine if the objective is met and/or maintained in the spring/summer use area.

3. A key area was established in the spring/summer ranges during May 1993 and baseline data was collected. However, the overall trend of the site cannot be determined at this point due to one year of baseline trend data being collected. Ecological Site Inventory data will be collected in the future which will provide baseline data to determine the seral stage of the vegetative community.

4. A key area was established in the spring/summer ranges during May 1993 and baseline trend data was collected. Census collected from 1986 to 1993 indicates that 0 to 10 horses with an average of 3 horses have utilized the allotment. Use pattern map data collected in 1993 for spring/winter ranges indicates progress is being made towards maintaining the objective and conflicts with livestock and wild horses are not occurring in this area. Slight to light utilization levels is occurring in these areas. Data is not available to determine if the objective is met and/or maintained in the spring/summer use area.

5. Water quality data for Deer Creek has not been collected during the evaluation period.

VI. Technical Recommendations

A. Alternative 1

1. Technical Recommendations

a. The carrying capacity is 874 AUMs for the Deer Creek allotment. This represents the current active preference for livestock use in the allotment and wild horse forage demand based on 1993 census data.

b. The active preference for livestock is 754 AUMs. The grazing system will be as follows:

Winter Range	30 C	03/25 to 03/31	7 AUMs
Spring/Summer	120 C	04/01 to 07/31	481 AUMs
Summer/Fall	27 C	08/01 to 09/30	54 AUMs
Winter Range	70 C	10/01 to 12/31	212 AUMs
		Total	754 AUMs

c. Establish an Appropriate Management Level (AML) of 10 horses and 120 AUMs as per the 1993 census data.

d. Conduct studies to determine migration patterns of wild horses between the Deer Creek and Happy Creek Allotments.

e. Continue reading the trend study established in the spring of 1993 and establish utilization studies in the north-central and southern portions of the spring/summer use areas.

f. Re-evaluate the Deer Creek Allotment in 1997.

2. Rational

Livestock numbers and use periods will continue on as from 1983 to present. Adequate monitoring data is not available to determine the status of short-term utilization objectives for wetland riparian and upland habitats and to determine a carrying capacity for the allotment based on the Desired Stocking Rate formula. However, monitoring data collected in 1993 does indicate the short-term utilization objective for upland habitats in the winter range are being met.

The AML will be set at ten horses as per the 1993 census, which is the most recent data indicating wild horse numbers in the Deer Creek Allotment. This area is used very little by wild horses and could be used as a migration route for horses in Happy Creek to other portions of the Jackson Mountain HMA. The average number of adult horses since 1986 is three with ten being the highest. The study of wild horse movement in the allotment can establish migration patterns and determine if the Deer Creek horses are part the Happy Creek herd.

A re-evaluation in 1997 will allow for three years of monitoring data to be collected and analyzed to determine if current livestock stocking levels, use periods, and wild horse numbers are meeting short and long term allotment specific objectives for the allotment. Current monitoring

data is inadequate and/or non-existent to determine if allotment specific objectives are being met under current management of the allotment. A three year evaluation period may be appropriate to determine the status of the short and long-term objectives and if further management action are required to meet these objectives.

3. Terms and Conditions

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

A certified actual use report is due 15 days after end of the authorized grazing period.

The next evaluation will be conducted in 1997.

B. 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 intended to be "allowable use levels" dictating livestock removal on a seasonal basis. 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) Utilization of key plant species in wetland riparian habitats is 50%. Utilization data will be collected at the end of the grazing period. [1]

b) Utilization of key plant species in upland habitats is 50%. Utilization data will be collected at the end of the grazing period. [1]

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

2) Long Term

a) Maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with a forage demand of 112 AUMs for mule deer and 58 AUMs for bighorn sheep.

1. Improve to and maintain 10,043 acres in good to excellent mule deer habitat condition.

2. Improve to and maintain 3,812 acres in good to excellent bighorn sheep habitat condition.

b) Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 754 AUMs.

c) Improve range condition from poor to fair on 3,039 acres.

d) Manage, maintain and improve public rangeland conditions to provide forage for a viable population of horses.

e) Improve to and maintain the state water quality criteria for Deer Creek.

f) Protect sage grouse strutting grounds and brooding areas. Maintain a minimum of 30% canopy cover of sagebrush for nesting and winter use.

C. Monitoring

1) Collect the following types of monitoring data to continue the evaluation of management practices.

a) Utilization
b) Actual Use
c) Climate
d) Wildlife Habitat Evaluation
e) Trend
f) Ecological Status
g) Wild Horse Census
h) Water Quality

DISTRIBUTION

APPENDIX 1

BLM 6630 Manual Big Game Studies Release No. NV-6-41

Disturbance or Interference Ratings

Historically crucial, reproduction and/or migration areas are undisturbed by an influx of people and/or their facilities with little change in the last 10 years. Few if any conflicts or hazards are documented. 18 points *

Historically crucial, reproduction and/or migration areas have been slightly disturbed in the last 10 years; only a few new roads or facilities have been constructed; a small number of conflicts or hazards are obvious enough to be documented. 13 points *

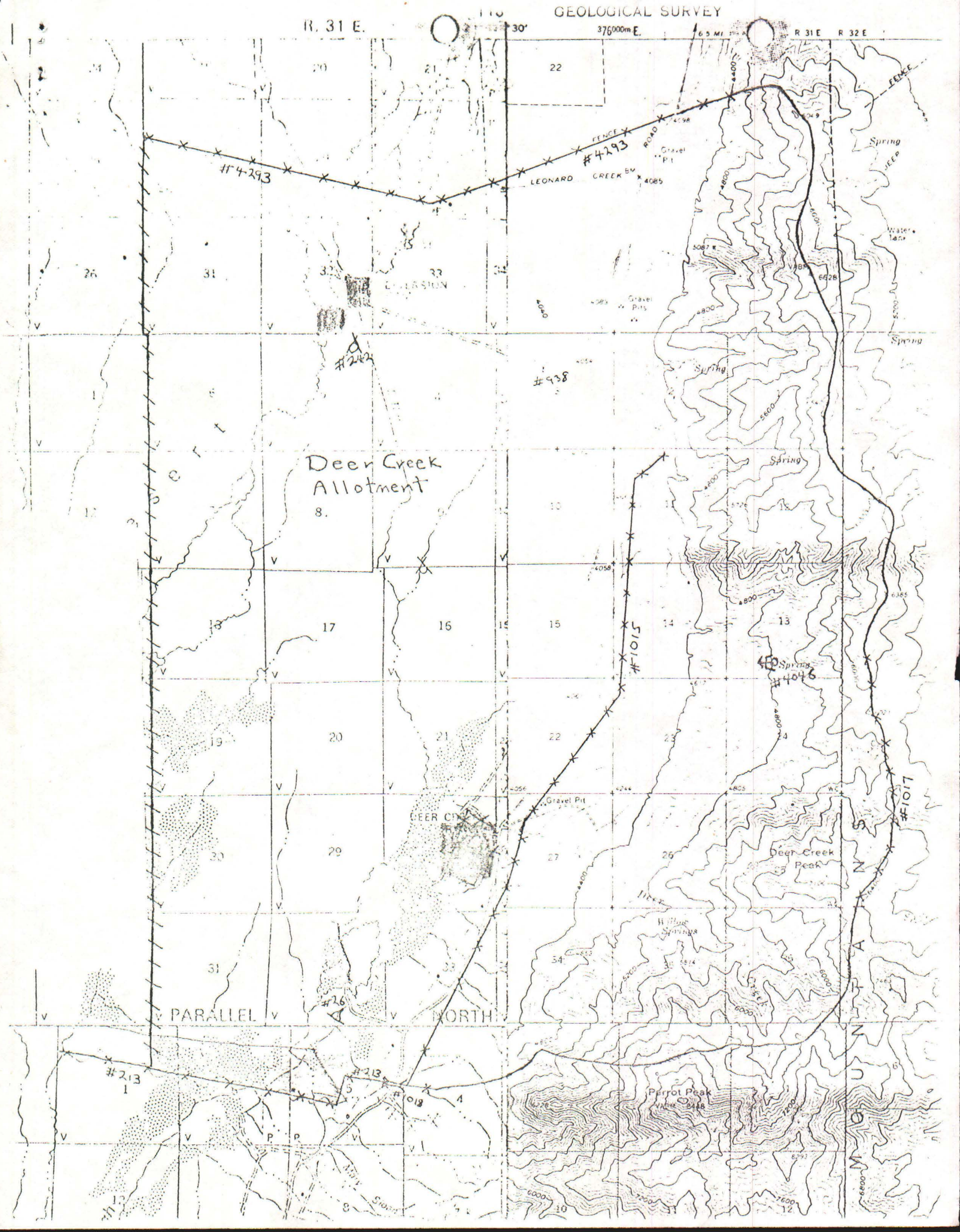
Historically crucial, reproduction and/or migration areas have been noticeably disturbed in the last 10 years. Conflicts and hazards could easily be identified and documented. 9 points *

Historically crucial, reproduction and/or migration areas have been severely disturbed in the last 10 years. 5 points *

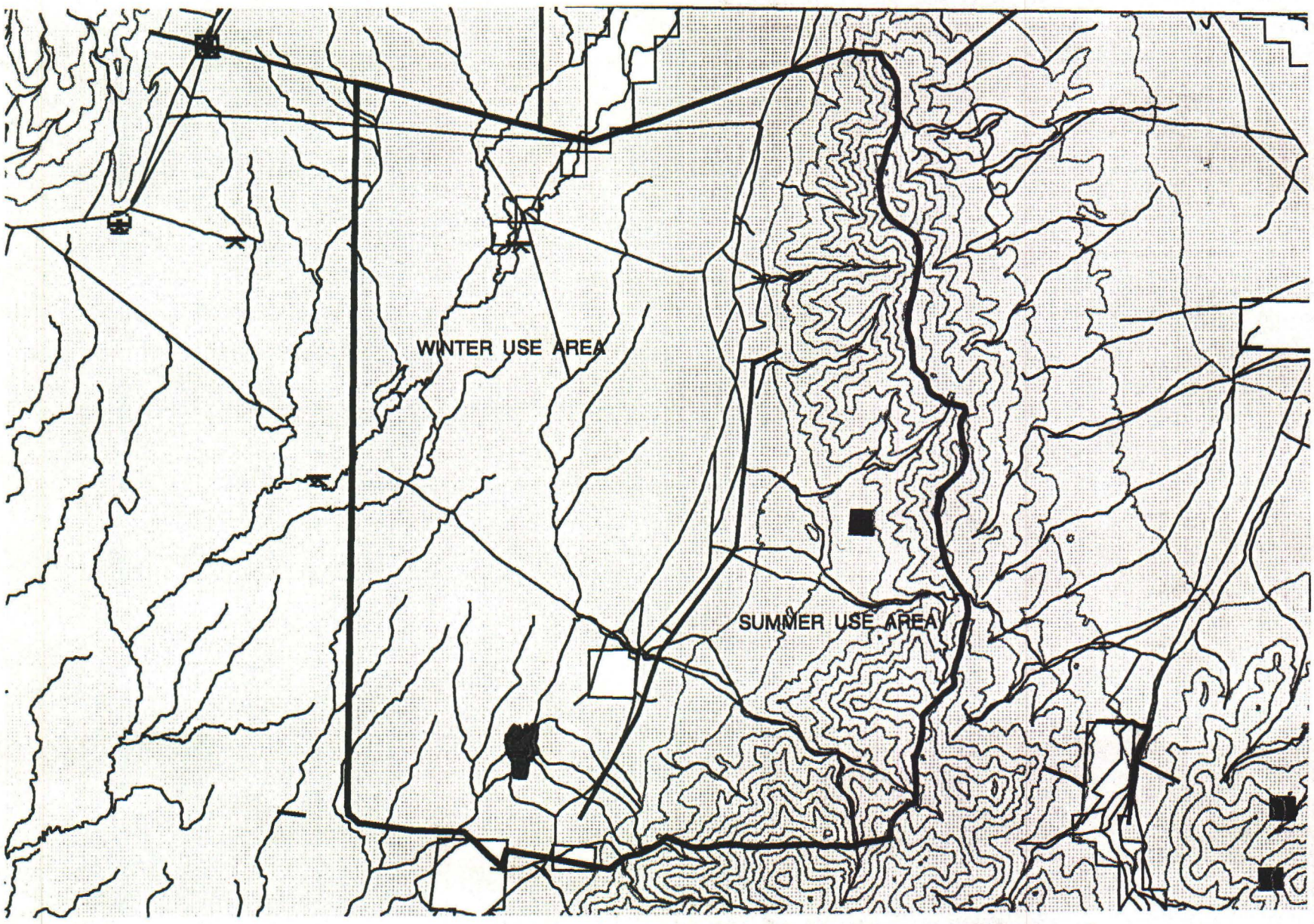
* a verbal rating was applied to the Four disturbance categories as follows:

Disturbance Rating	Verbal Rating
18	Excellent
13	Good
9	Fair
5	Poor

The verbal rating was derived from the final Summary Rating which also converted four numeric score categories to ratings of excellent, good, fair or poor.


GEOLOGICAL SURVEY
R. 31 E.
30'
376000m E.
R 31 E
R 32 E
FENCE
#4293
ROAD
Gravel Pit
LEONARD CREEK
#4-293
EXTENSION
Gravel Pits
#242
#938
Spring
Deer Creek
Allotment
#1015
#4046
Spring
Water Tank
Gravel Pit
DEER CITY
Deer Creek Peak
Willow Springs
#1017
#26
PARALLEL
NORTH
#213
#213
#1018
Parrot Peak
MOUNTAINS

APPENDIX 3 - MAP 1
DEER CREEK ALLOTMENT

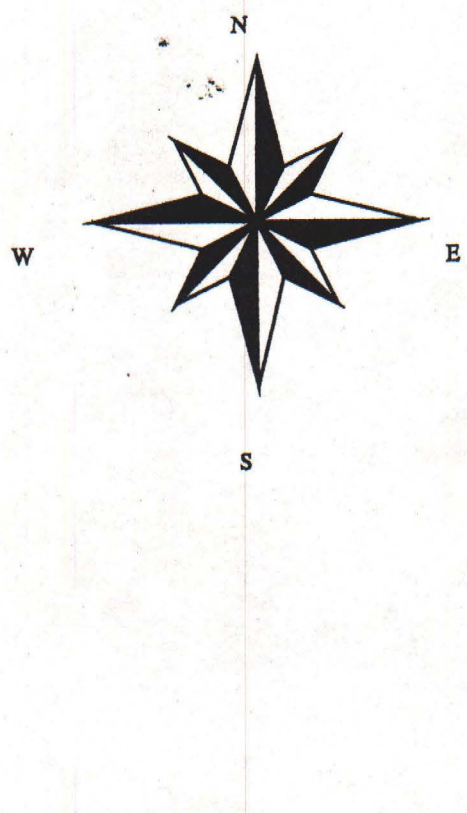


4 0 4 8 Miles

ALLOTMENT BOUNDARY

RANGE IMPROVEMENTS
- FENCE
- PVT FENCE
- CATTLE GUARD
- CORRAL
- RESERVOIR
- WATER TROUGH
- WATER WELL
- ROADS
- CREEKS
- CONTOUR LINES

LAND OWNERSHIP
- BLM
- BLM/PUBLIC WTR RESERVES
- BLM/RADIO FACILITIES
- INTERMITTENT WATER
- NATIVE AMERICAN RESERVATIONS
- PRIVATE LAND



APPENDIX 3, MAP 2

DEER CREEK RIPARIAN FUNCTIONALITY REACHES