m 7-21-94

United States Department of the Interior

TAKE PRIDE IN AMERICA

BUREAU OF LAND MANAGEMENT
Ely District Office
HC 33 Box 33500
Ely, Nevada 89301-9408

IN REPLY REFER TO:

4400.5 (NV-047)

JUL 21 1994

Dear Affected Interest:

Enclosed for your information and review as an affected interest is the final Duckwater Allotment Evaluation. We appreciate your interest in being involved in the consultation process and encourage your written or verbal response to this final evaluation. This is another opportunity for you to provide allotment specific information and comments to the evaluation. Please forward your information and/or comments by August 12, 1994, to allow BLM ample time to review all input and adhere to our schedule. All of the information received will be considered prior to the development of the Management Action Selection Report and Proposed Multiple Use Decision.

Several minor modifications have been made to the draft Duckwater Evaluation. The modifications were based upon pertinent information and comments brought out by written response to the draft evaluation and oral comments during the public meeting concerning the draft evaluation held at the BLM Ely District Office on June 21.

One modification was made to the use area boundary joining the Little Smoky Valley, Sand Springs North, and Sand Springs South Use Areas. This was based upon new information presented at the public meeting. A revised Duckwater Allotment Use Area map (Map B) is included as well as new legal descriptions of the three use areas. All other maps and legal descriptions sent to you with the draft evaluation remain unchanged.

We appreciate your participation and solicit your continued involvement in the consultation process. If you have any questions please contact Mark Lowrie of my staff at (702) 289-4865.

Please forward your written comments to:

Mark Lowrie, Range Conservationist
Bureau of Land Management
Egan Resource Area
HC 33 Box 33500
Ely, NV 89301

Sincerely,

Gene L. Drais

Gene L. Drais, Manager
Egan Resource Area

2 Enclosures
1. Final Duckwater Allotment Evaluation
2. Map B with Legal Descriptions

Map B Duckwater Allotment Use Areas

1. Broom Canyon/South Railroad Vlly.
2. Bull Creek/North Railroad Vlly.
3. Bull Corner/Poison Patch
4. Duckwater Hills
5. Pogues Station
6. Green Springs Valley
7. Ike Springs/Ike Bench
8. Little Smoky Valley
9. North Sand Springs Vlly.
10. Pancake East Bench/Dckwtr. Vlly.
11. Red Mountain/Callaway Well
12. South Sand Springs Valley

Legal Description for Little Smoky Valley Use Area

A parcel of land lying within the Duckwater Allotment, Ely District, Nevada BLM, more particularly described as follows:

Commencing at the northern boundary of the allotment where the Nye County line crosses the Duckwater-Fish Creek fence in the W 1/2 of section 19, T15N, R54E, which is the northeast corner of the use area and true point of beginning; thence south then southeasterly along the fenceline to the fence end in the SE 1/4 of section 31, T15N, R54E; thence to the SE corner of section 31; thence south along the section line through the Moody Mountains to the SE corner of section 19, T14N, R54E; thence generally southerly to the summit of Moody Peak in the NW 1/4 of section 29, T13 1/2N, R54E; thence generally southerly to the two-track road intersection in the SW 1/4 NW 1/4 of section 18, T13N, R54E; thence westerly along the two-track road to the NE corner of section 28, T13N, R53E; thence southerly following the 6520 foot elevation line on the west side of the Dry Lake Hills to the NE corner of section 21, T12N, R53E; thence south along the section line to the boundary of the allotment in the SW corner of section 34, T12N, R53E; thence west along the section line to the west boundary of the allotment in the SW corner of section 31, T12N, R52E; thence following the allotment boundary north to the NW corner of the allotment just north of Cockalorum Wash in the N 1/2 of section 19, T15N, R52E; thence west along the allotment boundary to the point where the Duckwater-Fish Creek fence crosses the allotment boundary in the NW 1/4 of section 19, T15N, R54E; thence generally southerly along the fenceline to the true point of beginning.

All sectionalized subdivisions refer to the Mt. Diablo baseline and meridian.

Legal Description for North Sand Springs Valley Use Area

A parcel of land lying within the Duckwater Allotment, Ely District, Nevada BLM, more particularly described as follows:

Commencing at the NE corner of section 30, T14N, R54E which is the northwest corner of the use area and true point of beginning; thence southeasterly through the high ridges of the Moody Mountains and Pancake Mountains to a point where the Big Louie Spring two-track road intersects a north-south track in the SE 1/4 NW 1/4 of section 34, T14N, R54E; thence southeasterly along the Louie track to the SE corner of section 24, T13 1/2N, R54E; thence southeasterly through the Pancake Mountains west of Big Louie and Florio Springs to the summit of the 6799 foot peak in the NE 1/4 SE 1/4 of section 8, T13N, R54E; thence south along the high ridges of the Pancake Mountains to the SE corner of section 29, T13N, R55E; thence west along the section line to the midpoint of section 29; thence south along the high ridges of the Pancake Mountains to the SE corner of section 8, T12N, R55E; thence west along the section line then westerly to the intersection of the Brown Summit Reservoir track and Sand Springs road in the W 1/2 of section 7; thence west along the Brown Summit Reservoir track through the Dry Lake Hills to the intersection of the track with the 6520 foot elevation line in the SE1/4 of the SW1/4 of section 9, T12N, R53E; thence northerly following the 6520 foot elevation line to the NE corner of section 28, T13N, R53E; thence northeasterly along a two-track road to the two-track road intersection in the SW1/4 of the NW1/4 of section 18, T13N, R54E; thence northerly to the summit of Moody Peak in the NW 1/4 of section 29, T 13 1/2, R54E; thence northerly through the Moody Mountains to the SW corner of section 19, T14N, R54E; thence north along the section line to the true point of beginning.

All sectionalized subdivisions refer to the Mt. Diablo baseline and meridian.

Legal Description for South Sand Springs Valley Use Area

A parcel of land lying within the Duckwater Allotment, Ely District, Nevada BLM, more particularly described as follows:

Commencing at the intersection of the Brown Summit Reservoir track and the 6520 foot elevation line near the SW corner of section 9, T12N, R53E which is the NW corner of the use area and true point of beginning; thence easterly along the track to the SW corner of section 8, T12N, R55E; thence east along the section line to the SW corner of section 9; thence southeasterly to the SE corner of section 16; thence southerly along the high ridges of the Pancake Mountains to the SW corner of section 21, T11N, R55E; thence east along the section line for 0.4 miles; thence southwesterly then southerly along the high ridges of the Pancake Mountains to the southern boundary of the allotment at the SE corner of section 35, T10N, R54E; thence west along the allotment boundary to the SW corner of section 34, T10N, R53E; thence generally north along the allotment boundary to the SW corner of section 34, T12N, R53E; thence north along the section line to the NE corner of section 21, T12N, R53E; thence northerly following the 6520 foot elevation line on the west side of the Dry Lake Hills to the true point of beginning.

All sectionalized subdivisions refer to the Mt. Diablo baseline and meridian.

FINAL DUCKWATER ALLOTMENT EVALUATION

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Map B - Duckwater Allotment Use Areas - Replaces Map B of the draft evaluation

Legal Descriptions of the Little Smoky Valley, Sand Springs North, and Sand Springs South Use Areas - Replaces those of the draft Evaluation

I. INTRODUCTION

The Duckwater Allotment (0701) is comprised of approximately 822,329 total acres (807,662 acres public; 3,785 acres Duckwater Shoshone Indian Reservation; 10,882 acres private; See Map A). Total preference is 56,223 AUMs of livestock use with 22,416 AUMs in suspended non-use. Of this total, the Ely District BLM administers 50,300 AUMs total preference with 20,048 AUMs in suspended non-use while the Battle Mountain District BLM administers 5,923 AUMs total preference with 2,368 AUMs in suspended non-use (see Table 1). Of the active preference of 33,807 AUMs (both districts) 24,284 AUMs are cattle use with 9,523 AUMs sheep use. This allotment is in the "I" category (improve category) and has two approved activity plans. These are the Little Smoky and Big Sand Springs Valley Habitat Management Plan (HMP), 1992, and the Monte Cristo Wild and Free Roaming Horses Management Plan (HMAP), 1977. An Allotment Management Plan (AMP) has not been initiated for Duckwater. There are 12 permittees on the allotment. Two permittees, Dan Russell and Richard McKay, retain cattle grazing privileges on the Duckwater Allotment; however, they license with Battle Mountain District BLM (Table 1). The evaluation period covered 4 years, from 1988 to 1991.

For many years the Duckwater Shoshone have sought aboriginal and treaty rights to the Duckwater area including the Duckwater Allotment as well as other lands throughout the west. The Ely District Bureau of Land Management recognizes the past and present negotiations and the treaty issues; however, these issues are beyond the scope of this allotment evaluation. This evaluation can not settle broad land issues. It can only make technical recommendations for improved grazing management of the area.

Table 1. Permittees and Grazing Preference (Animal Unit Months) From 1988 - 1991, Duckwater Allotment

Table 1
Present Situation - Livestock

Permittee	Grazing Preference Active	Grazing Preference Suspended Non-Use	Season of Use From - To	Kind of Livestock
1. Duckwater Stockmen's Assoc.	11122	7414	3/1 - 11/30	Cattle
2. Duckwater Cattle Co.	6379 66	4186 0	3/1 - 2/28 3/16 - 9/30	Cattle Sheep
3. Dan Russell	4310 1017	2874 676	11/1 - 4/15 1/1 - 3/31	Sheep Sheep
4. Triple E Livest.	3024	2016	11/1 - 4/15	Sheep
5. John & Gailin Manzonie	1514	1008	3/1 - 6/15 11/1 - 2/28	Cattle
6. Manzonie Irrevocable Trust	926	614	3/1 - 6/15 11/1 - 2/28	Cattle
7. Paris Livestock	1106	739	12/15 - 3/31	Sheep
8. Barry K. & Norma J. Bradshaw	562	372	3/1 - 6/15 11/1 - 2/28	Cattle
9. Denny Manzonie	209	138	3/1 - 4/30 12/1 - 2/28	Cattle
10. Carter Cattle Co.	17	11	11/1 - 11/30	Cattle
Subtotal (Ely District)	20729 C 9523 S	13743 C 6305 S		
Total (Ely)	30252	20048		
11. Dan Russell (Battle Mtn.)	3526	2348	10/1 - 4/15	Cattle
12. Richard Mckay	29	20	12/1 - 3/31	Cattle
Total (Battle Mtn)	3555	2368		
Total (Ely + B.M.)	33807	22416		

II. INITIAL STOCKING LEVEL

The active preference for the Duckwater Allotment is 33,807 AUMs combined cattle and sheep use. The three year average licensed use documented in the Egan Resource Management Plan (RMP) and Rangeland Program Summary (RPS) is 16,274 AUMs per year of cattle and sheep use (calculated for 1979 - 1981). Licensed use has averaged 16,105 AUMs for the last three years, 1989 - 1991. In addition, an average of 5,576 AUMs cattle use has been utilized but not licensed for the last 3 years by the Duckwater Stockman's Association, based on their belief that the Duckwater Shoshone Tribe has rightful title to the allotment. Total use has thus averaged 21,681 AUMs for the last three years, 1989 - 1991.

Grazing use of the allotment is "in common"; that is, in theory, any permittee can graze anywhere on the allotment. However, customary or traditional use areas have been generally recognized by the permittees, and it is these use areas, in combination with natural landforms, fences, and roads that form the basis for subdividing the allotment into 12 use areas for purposes of evaluation (Map B). No formal grazing system is in use in Duckwater, due to the large size of the allotment and lack of division fencing. Historically, livestock use has been yearlong, from 3/1 to 2/28.

Each of the use areas will be evaluated and discussed separately in the following discussion. Preference demand by use area is based upon 1962 Range Survey maps (rechecked in 1967) and the subsequent Grazing Decision of 1967 which reduced preference demand 40% for all permittees of the allotment. Because the 1962 range survey established only an allotment wide preference for all range users, it was necessary to determine a criteria for allocating the initial preference by permittee by use area. Thus, for those use areas involving combined grazing by more than one permittee, the four year (1988 - 1991) average actual livestock use of each permittee in that use area was considered in determining an equitable preference for each permittee of that use area.

A. Livestock Use

1. Land Use Plan Objective (AUMs - Ely District and Battle Mountain District).

		Ely	Battle Mountain
a.	Total Preference -	50,300	5,923
b.	Suspended Non-Use -	20,048	2,368
c.	Active -	30,252	3,555
d.	Temporary Non Renewable -	0	0

2. Season of Use - Yearlong
3. Kind/Class - Sheep, Cow/calf
4. Percent Federal Range - 100%
5. Other information - for specific grazing preference by permittee refer to Table 1
6. There is currently no licensed domestic horse use in the Duckwater allotment. The last domestic horse license, issued to Karl Bradshaw for 5 head on BLM lands, was discontinued in 1974 because of conflicts with efficient management of the wild and free-roaming horses.

B. Wild Horse Use

The Duckwater allotment has fostered substantial wild horse use in recent years. The allotment encompasses the entire Sand Springs East Herd Management Area (HMA) as well as portions of the Monte Cristo HMA and White River HMA (Map C).

The Rangeland Program Summary (RPS) objective for this allotment is to provide habitat and forage for approximately 575 horses (6895 AUMs), with provision for 494 horses (5928 AUMs) in the Sand Springs East HMA, 73 horses (876 AUMs) in the Monte Cristo HMA, and 8 horses (91 AUMs) in the White River HMA. Table 2 summarizes the RPS objective as well as the acres of each HMA within the allotment.

Table 2
Duckwater Allotment Herd Management Areas, Acres, and 1988 Rangeland Program Summary Objective

	Acres Within Allotment	1988 RPS Objective Numbers	/AUMs
Sand Springs East HMA	386,776	494	5,928
Monte Cristo HMA	155,330	73	876
White River HMA	50,094	8	91

Wild horses in the Duckwater Allotment within the Sand Springs East HMA and Monte Cristo HMA use the rangeland yearlong. Wild horses in the Duckwater Allotment within the White River HMA generally use the rangeland seasonally for approximately nine months during spring/summer/fall and winter in the Cove Allotment to the east.

The entire Sand Springs East HMA lies within the Duckwater Allotment. It lies west of and adjacent to the Monte Cristo HMA. It also borders the Fish Creek HMA (Battle Mountain District, Shoshone/Eureka Resource Area) to the north and west and Sand Springs West HMA (Battle Mountain District, Tonopah Resource Area) to the west and south. The north, west, and east boundaries of the HMA are unfenced. A portion of the south and southwest

boundary is fenced east of the Squaw Hills. Although there is some movement of wild horses across district divisions, this allotment evaluation will be based upon censused wild horses or wild horse sightings and observations within the Duckwater allotment, Egan Resource Area, Ely District (Maps C,D).

That portion of the Monte Cristo HMA within the Duckwater allotment is bordered (entirely unfenced border) on the north by those portions of the same Monte Cristo HMA within the Newark, South Pancake, and Monte Cristo allotments. Home ranges are well delineated by geographic features in these areas; however, seasonal movement of wild horses has been noted across allotment boundaries. To the northwest, the Monte Cristo HMA is bordered by the Fish Creek fence, an effective district division fence which prevents movement of wild horses between the Fish Creek and Monte Cristo herds. To the east, the entire Monte Cristo HMA is bordered by the west slopes of the White Pine Range and the Humboldt National Forest. There is considerable movement of wild horses within the HMA between BLM lands and the National Forest. Wild horses water at several springs on the National Forest (Maps C,E).

The Monte Cristo Herd is currently managed under a cooperative Herd Management Area Plan (HMAP) finalized and signed in 1977 by personnel of the White Pine Ranger District, Humboldt National Forest, and personnel of the Egan Resource Area, Ely District BLM. This HMAP is in need of revision to incorporate changes in the wild horse and burro program. However, this document presents excellent history on the Monte Cristo herd area, documents certain wild horse home ranges, presents information on wild horse forage preferences, lists water sources, and discusses range condition and livestock - wild horse conflicts during the early 1970's. This document is available for review at the Ely District BLM office.

The Egan Resource Area, Ely District BLM, and White Pine Ranger District, Humboldt National Forest, reached an agreement and compromise on March 20, 1992, regarding the division of Monte Cristo Herd use between the BLM and Forest Service. It was agreed that on an annual basis approximately 70% of the Monte Cristo Herd has been and will continue to forage on BLM lands whereas 30% of the herd has been and will continue to forage on Forest Service lands. This consensus was based upon BLM aerial census, Forest Service ground surveys, and professional judgments, and was arrived at following conference and discussion between the two agencies. Some years wild horses use BLM lands yearlong; while other wild horses use Forest Service lands yearlong. Many wild horses summer on the Forest while using BLM lands during other seasons. During open winters, increased wild horse use occurs on the Forest, whereas harsher winters with snow move wild horses to the valley BLM lands.

Monte Cristo Herd use in the Duckwater allotment represents a good portion of the 70% total herd use on BLM lands. Appropriate management levels (AMLs) of wild horses, representing other portions of the 70% total use, have already been established for the South Pancake, Six Mile, and Newark Allotments through the allotment evaluation process. No AML has yet been established for the Monte Cristo allotment.

The White River HMA occurs within the Duckwater, North Cove, Cove, and Wells Station Allotments within the Egan Resource Area and the Hardy Springs Allotment and an area of land designated as "reserved for wildlife" within the Schell Resource Area, Ely District BLM. That portion of the White River HMA within the Duckwater Allotment occurs in the southeast of the allotment. This portion is bordered by the Horse Range of mountains to the north and east and the Grant Range to the south and west (Maps C,F).

Although this evaluation will determine wild horse utilization and set appropriate management levels (AMLs) of wild horses on a use area basis, the management of wild horses is established and administered on an overall herd management area (HMA) basis. Wild horse numbers may fluctuate up or down within any one use area but would not require removal of excess animals unless the overall AML of the HMA is exceeded. When excess wild horses are removed, priority sites for trapping will be selected based upon those use areas most overutilized by wild horses.

C. Wildlife Use

The RPS objective for this allotment is to provide forage and habitat for reasonable numbers of wildlife, i.e., 2313 AUMs for deer and 510 AUMs for antelope. Existing wildlife use listed in the RPS is 1513 AUMs for deer and 240 AUMs for antelope. Since the publication of the RPS, the antelope population in all valleys of the allotment has increased. Winter mortality has been reduced due to mild winters resulting in higher recruitment to the population. For a thorough discussion of existing wildlife use in the allotment, see the Wildlife Actual Use section of this evaluation beginning on page 20.

1. Mule Deer
    a. Reasonable numbers: RPS objective - 2,313 AUMs
    b. Existing use: RPS - 1,513 AUMs
    c. Existing use from wildlife studies:
        > Summer (4/1 - 11/30) - 440 AUMs
        > Mild winters (12/1 - 3/31) - 560 AUMs
        > Severe winters (12/1 - 3/31) - 800 AUMs
    d. Key/Crucial Areas: None identified

2. Pronghorn Antelope
   a. Reasonable numbers: RPS objective - 510 AUMs
   b. Existing use: RPS - 240 AUMs
   c. Existing use from wildlife studies - 336 AUMs
   d. Key/Crucial Areas: None identified

D. Threatened and Endangered Species

Railroad Valley Springfish - The final rule declaring the Railroad Valley Springfish (Crenichthys nevadae) a threatened species with critical habitat was published in the Federal Register, Volume 51, Number 61, Monday March 31, 1986. This ruling by the USFWS became effective April 30, 1986. Two thermal springs and outflows within the Duckwater Allotment were identified as critical habitat:

1. Big Warm Spring, its outflow pools, marshes, and streams and a 50 foot riparian zone around the spring, outflow pools, marshes, and streams in T 13 N., R 56 E., Section 31, NE1/4 and SE1/4 and Section 32, NW1/4. About .40 miles of the outflow of Big Warm Springs in the SE1/4 of Section 31 is on public land, while the remaining thermal flow is on the Duckwater Shoshone Indian Reservation.

2. Little Warm Springs and its outflow pools, marshes, and streams and a 50 foot riparian zone around the spring, outflow pools, marshes, and streams in T 12 N., R 56 E., Section 5. A small ephemeral channel flowing from Little Warm Springs flows onto public land west of the springs. The remaining thermal flow of Little Warm Springs is on the Duckwater Shoshone Indian Reservation.

BLM has conducted monitoring of the critical habitat of the Railroad Valley Springfish on the following dates:

April, May, and September * 1986
April and December 1987 (field trip reports filed)
January and July 1988 (field trip reports filed)
May, August **, November, and December 1989 (field trip reports filed)
February and December 1990 (field trip reports filed)
August ***, September 1991 (field trip report filed)
April and August *** 1992
February 1993 (field trip report filed)

* Joint monitoring with NDOW
** Monitoring by Jon Sjoberg & Dan Langhorst of NDOW
*** NDOW population surveys

The conclusions of the accomplished monitoring relevant to this allotment evaluation follow:

1. No Railroad Valley Springfish have been found in seven years of monitoring on public land south of Big Warm Springs (in the outflow of the Valley Fish Catfish Farm - formerly Don Rey Catfish Growers). This has been due to several factors including:

* The presence of escaped predaceous catfish

* The large number of guppies (Poecilia reticulata) present, which compete for food and habitat

* The widening and deepening of the channel by the catfish operators to remove algae and oxygenate waters

* Effluent from the catfish farm increasing the turbidity of the waters

* Heavy utilization of channelside riparian vegetation (primarily rushes) by domestic livestock leading to loss of shaded, marshy habitat

2. Railroad Valley Springfish have been identified several times on public lands in the small ditch that is the west outflow of Little Warm Springs, from a high of "many fish" in 1986 at a location 200 feet west of State Route 379, to a low of no fish/no outflow in April, 1992. There have been only minor clearing modifications of this west outflow ditch on public lands since the species was declared threatened in 1986. The volume and flow of water in the canal west of State Route 379 have varied with weather events and use of the canal for irrigation. In 1990, 1991 & 1992 there was little to no flow west of the road.

E. Candidate Species

Railroad Valley Tui Chub - It is believed that this chub does occur on private land at Bull Creek Spring, T14N, R56E, Sec. 14.

Duckwater Tui Chub - This chub may occur on private land in Duckwater Creek, T12N, R57E, Sec. 27.

Western Snowy Plover - The western snowy plover has been observed on the playa in Little Smoky Valley on several occasions over the past ten years. No documented nesting has been observed; however, the times that the plover has been observed would indicate that possible nesting is occurring.

Northern Goshawk - There is one documented northern goshawk nest site on the allotment. The nest site occurs in the Park Range at the following location, T12N, R52E. This nest has been occupied periodically since discovered in 1983.

The black tern, white-faced ibis and western least bittern, candidate category 2 species, occur on the allotment during periods of migration for the species and can be observed utilizing private lands as well as ephemeral wetlands on the allotment during periods of migration.

The pygmy rabbit and loggerhead shrike are yearlong residents of the allotment.

F. Other Uses

Threatened and Endangered Plants

Two candidate category II plant species are known to occur in the Duckwater Allotment. They are Blaine's fishhook cactus (Sclerocactus blainei) and Jone's globemallow (Sphaeralcea caespitosa). The grazing use as proposed in the Technical Recommendations section of this evaluation will not contribute to the need to list these two plant species. Blaine's fishook cactus is unpalatable to livestock, wild horses, or wildlife while Jone's globemallow has received no use to slight use by livestock, wild horses, or antelope during the allotment evaluation years.

Oil and Gas

The Duckwater Allotment is located in an area with high potential for oil and gas resources. There has been extensive oil and gas exploration and drilling within the allotment. An average of 12 miles of seismic lines are run per year and an average of two exploration drilling operations occur per year in the allotment.

Locatable Minerals

The Duckwater Allotment has high potential for locatable mineral resources in the mountain and foothill portions of the allotment and low potential for locatable mineral resources in the valley regions. There is one gold cyanide heap leach operation within the allotment, the Easy Junior Mine.

The Easy Junior Mine, occupying approximately 150 public land acres on the west benches of Tiger Mountain, has recently resumed operations. It was inactive from 1991 to September of 1993. It was first operative from 1988 to 1990.

The Green Springs Mine concluded operations in 1993. It still occupies approximately 100 acres on public land (both BLM and Humboldt National Forest Service domain) on the west slopes of the White Pine Range. This mine was operative from 1986 to 1993.

The Green Springs Mine has been awarded a State of Nevada reclamation award for reclamation actions. Approximately 70 acres have already been reclaimed by native perennial vegetation, according to BLM standards.

III. ALLOTMENT PROFILE

A. Description

The Duckwater Allotment (0701), a category "I" allotment involving 807,662 federal acres, is located in White Pine and Nye Counties, Nevada, approximately 60 miles west of Ely in the western portion of the Ely District (Map A). Mountain ranges traverse the allotment in a north - south direction. The allotment is bordered on the east by the White Pine Range, Horse Range, and Humboldt National Forest. The border with the forest is entirely unfenced. To the west of the allotment are the foothills of the Hot Creek and Antelope Ranges, also unfenced. The Pancake Range, with peaks from 7000 to 8000 feet, extends through the approximate center of the allotment, while the Park Range lies in the southwest. Four broad valleys - Railroad, Duckwater, Sand Springs, and Little Smoky - lay between the mountain ranges and vary in elevation from 5000 to 6000 feet. To the north of the allotment is unfenced range bordering the Newark, South Pancake, and Monte Cristo allotments, also in the Egan Resource Area. To the northwest, the north - south Fish Creek Division Fence separates the northern portion of Little Smoky Valley in the Duckwater Allotment from the Fish Creek Allotment, administered by the Battle Mountain District BLM. An unfenced boundary divides the main portion of Little Smoky Valley in the Duckwater Allotment from the Fish Creek Allotment. The south end of the allotment borders the Tonopah Resource Area, Battle Mountain District BLM. This is a fenced border west of the Pancake Range and an unfenced border east of the Pancakes.

In the southwest portion of the allotment is the Park Range Wilderness Study Area (WSA) (Map G). The WSA contains 47,268 acres, all of which have been recommended to Congress for wilderness designation. Of this total 31,300 acres are within the Duckwater Allotment, while 15,968 acres are within the Battle Mountain District, Tonopah and Shoshone/Eureka Resource Areas. Until Congress makes a final decision on wilderness designation for this WSA, BLM is mandated to prevent impairment of wilderness qualities by managing the area under authority of the "Interim Management Policy and Guidelines For Lands Under Wilderness Review" published in November of 1987.

There are many vegetation types in the Duckwater Allotment. The three main types are salt desert shrub, northern desert shrub (big sagebrush types), and pinyon - juniper. Mountain brush communities are very infrequent at the higher elevations. The salt desert shrub communities, mainly growing at lower elevations, may be dominated by black sagebrush, greasewood, shadscale, green rabbitbrush, or winterfat. The big sagebrush communities at mid to higher elevations may occur as nearly pure stands or share dominance with green rabbitbrush. Needle-and-thread grass can be abundant in the big sagebrush types. Pinyon

- juniper range may be open or closed with different species dominating the understory. Mountain brush communities can contain a mix of big sage, Mountain mahogany, bitterbrush, serviceberry, snowberry, Mormon tea, or cliffrose.

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 (ROD), p. 3).

(b) Wild Horses and Burros - Wild horses will be managed at a total of 494 animals within the Sand Springs East HMA, 96 animals within the Monte Cristo HMA, and 20 animals within the White River 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. 6). Actual wild horse numbers will be determined by this evaluation based upon monitoring data in order to maintain a thriving natural ecological balance and prevent deterioration of the range.

* The 494 wild horses yearlong in the Sand Springs East HMA, 96 wild horses in the Monte Cristo HMA, and 20 wild horses in the White River HMA are no longer valid AMLs. The Interior Board of Land Appeals June 7, 1989 decision (IBLA 88-591, 88-638, 88-648, 88-679) ruled in part: "An AML established purely for administrative reasons because it was the level of wild horse use at a particular point in time cannot be justified under the statute." The IBLA further ruled that AML must be established through monitoring "in terms of the optimum number which results in a thriving natural ecological balance and avoids deterioration of the range."

c) Wildlife - "Habitat will be managed for "reasonable numbers" of wildlife species as determined by the Nevada Division of Wildlife " (Egan ROD, p. 6).

"Reintroductions of big game species will be accomplished in cooperation with the Nevada Division of Wildlife, where such reintroductions would not conflict with existing uses and if sufficient forage is available." (Egan ROD, p. 6)

"Forage will be provided for "reasonable numbers" of big game as determined by the Nevada Division of Wildlife." (Egan ROD, p. 8).

(d) Riparian - "Where management objectives are not being obtained through application of management practices, fencing will be considered." (Egan ROD, p. 13).

(e) 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 systems and aesthetic values." (Egan ROD, p. 44).

2. Rangeland Program Summary Objectives

Range

(a) "Provide forage for up to 16,274 AUMs of livestock use.

(b) Maintain or improve the ecological condition of Sand Springs Valley. Maintain or improve the current ecological condition of the remainder of native range with utilization levels not to exceed Nevada Rangeland Monitoring Handbook (NRMH) levels on key species. Allowable use levels for winterfat and perennial grass species are 50%.

Wild Horses

(c) "Initially manage rangeland habitat to support an Appropriate Management Level (AML) of 575 wild horses in the Duckwater Allotment as part of the Sand Springs East HMA (494 wild horses), White River HMA (8 wild horses), and Monte Cristo HMA (73 wild horses). Provide forage for up to 6,895 AUMs of wild horse use (5,928 AUMs - Sand Springs East HMA; 91 AUMs - White River HMA; 876 AUMs - Monte Cristo HMA)." Actual wild horse numbers will be determined by this evaluation in accordance with monitoring data to maintain a thriving natural ecological balance and prevent deterioration of the range. (The AML of 575 wild horses identified in the RPS is no longer a valid AML - See asterisk note on page 12 for reasons why).

Wildlife/Riparian

(d) "Manage rangeland habitat and forage condition to support reasonable numbers of wildlife, as follows: Mule deer 2,313 AUMs, Pronghorn antelope 510 AUMs."

(e) "Maintain or improve Mule deer and Pronghorn antelope yearlong habitats to good or better condition."

(f) "Improve and maintain habitat condition of meadows and riparian areas in poor/fair condition to good or better for pronghorn antelope, mule deer, and upland game."

(g) "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.

(h) Protect Ferruginous hawk nest sites by limiting utilization to 50% on winterfat flats within 2 miles of nest sites.

(i) "Improve 5.0 miles of stream riparian in poor condition to good or better."

3. Little Smoky and Big Sand Springs Valley Habitat Management Plan (HMP) - Specific objectives which apply to the Duckwater Allotment.

(a) Limit utilization of bitterbrush and other browse species to 35% of current year's growth by September 30 to insure adequate forage availability for wintering mule deer at the following key locations:

Moody Mountain	T 13 N., R 54 E.
Portuguese Mountain	T 10 N., R 55 E., Section 30
Park Mountain	T 13 N., R 52 E., Section 28

(b) Limit utilization levels to 55% of current annual growth on perennial grasses and grasslike species along riparian areas and mesic meadows by May 1 on the following key locations:

Cottonwood Spring	T 13 N., R 51 E., Section 36
Cottonwood Spring	T 12 N., R 52 E., Section 5
Tank Spring	T 13 N., R 52 E., Section 33
Unnamed Spring	T 12 N., R 52 E., Section 33
Bassit Spring	T 12 N., R 52 E., Section 21

(c) Limit utilization to 45% of current year's growth on riparian shrub species (willows, chokecherry, etc...) and 25% of current growth on riparian associated tree species (cottonwood, aspen) by November 1, at the following key locations:

Park Mountain	T 12 N., R 52 E., Section 5
Park Mountain	T 12 N., R 52 E., Section 7

(d) Limit utilization on streamside riparian vegetation to 55% by May 1 on the following key areas:

Willow - Snowball Creek	T 14 N., R 52 E., Section 20
Cottonwood Creek	T 12 N., R 52 E., Section 7

The utilization goal for riparian areas in fair to poor condition will be less than 40% use. This will improve the areas to good or better.

(e) Limit utilization to 50% of current annual growth on winterfat and associated perennial grass species by April 15 at the following winterfat key areas, to provide adequate forage for ferruginous hawk prey species:

Big Sand Springs Valley	T 11 N., R 54 E., Section 15
Big Sand Springs Valley	T 12 N., R 54 E., Section 10
Little Smoky Valley	T 15 N., R 53 E., Section 21
Little Smoky Valley	T 14 N., R 53 E., Section 20

(f) Manage the following key sage grouse areas for big sagebrush in mid to late seral stages with at least 25% sagebrush cover:

Willow Creek	T 14 N., R 53 E., Sections 25, 30
Willow Creek	T 14 N., R 52 E., Section 10
N. Park Range	T 13 N., R 52 E., Section 8

(g) Plans are underway to augment pronghorn antelope into Little Smoky Valley and Big Sand Springs Valley. Releases of 50 to 100 animals by NDOW will take place at predetermined locations, but not until planned guzzlers are in place. The long-term pronghorn population goal in the HMP area is 200 - 250 animals. The first release will not likely occur until calendar year 1995. Once release occurs, utilization of antelope key forage species (black sage, budsage, and shadscale) will not be allowed to exceed 45% of current year's growth, to increase antelope forage availability. If determined through monitoring, that additional forage is available for pronghorns once the population goal of 250 animals is obtained, the animals will be allowed to increase until monitoring determines that pronghorns are exceeding established utilization goals.

4. Monte Cristo Wild and Free Roaming Horses Management Plan Objectives

(a) The objectives of this plan deal primarily with AMLs for specific areas, which are no longer valid (see asterisk note on page 12). The general objectives of this plan are covered under the Land Use Plan Objectives for the Duckwater Allotment.

C. Key Species Identification

The key forage perennial grass species in the allotment for livestock and wild and free-roaming horses are Indian ricegrass (Oryzopsis hymenoides), needle-and-thread grass (Stipa comata), bottlebrush squirreltail (Sitanion hystrix), and galleta grass (Hilaria jamesii).

Key forage shrubs in the allotment for cattle, sheep, and wild horses include winterfat (Eurotia lanata), blacksage (Artemisia nova), shadscale (Atriplex confertifolia), budsage (Artemisia spinescens), and spiny hopsage (Grayia spinosa). winterfat, blacksage, and budsage are important shrub species for sheep during winter and early spring.

Sickle saltbush (Atriplex falcata) and fourwing saltbush (Atriplex canescens) are both important yearlong forage for all classes of livestock or winter forage for deer and antelope. Both shrubs grow in limited quantities throughout the allotment.

Basin wildrye (Elymus cinereus), sand dropseed (Sporobolus cryptandrus), sandberg's bluegrass (Poa secunda), kentucky bluegrass (Poa pratensis), species of sedges (Carex spp.) and rushes (Juncus spp.) are found at certain springs where they are monitored to determine riparian condition.

Key forage species for Mule deer in the allotment include antelope bitterbrush (Purshia tridentata), little leaf mahogany (Cercocarpus intricatus), and mexican cliffrose (Cowania mexicana), with wyoming big sagebrush (Artemisia tridentata var. wyomingensis) and blacksage (Artemisia nova) being secondary. Various perennial grasses and forbs are also important. Key forage shrubs for Pronghorn antelope include big sagebrush, blacksage, budsage, shadscale, and fourwing saltbush. Globemallow (Sphaeralcea coccinea) is a key forb for antelope.

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this evaluation is to assess whether current management practices are meeting the multiple use objectives for the allotment and to determine the appropriate stocking level and management system for domestic livestock and appropriate management level for wild horses.

B. Summary of Studies Data

1. Livestock Actual Use Calculations by Use Area.

a. Broom Canyon/South Railroad Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	1788	100	0	1888
1989	2069	148	0	2217
1990	2047	217	185	2449
1991	1009	160	521	1690

* Triple E Livestock, sheep trail AUMs only.

b. Bull Creek/North Railroad Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	1044	56	1392	2492
1989	2719	93	1584	4396
1990	1668	120	1668	3456
1991	1198	90	1764	3052

* Triple E Livestock, sheep trail AUMs only.

c. Bull Creek Corner/Poison Patch Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Sheep Trail*	Wild Horses	Total
1988	1408	1599	373	216	3596
1989	599	2536	360	252	3747
1990	990	3461	488	264	5203
1991	902	2907	399	288	4496

* Paris Livestock, sheep trail AUMs only.

d. Duckwater Hills Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Wild Horses	Total
1988	687	347	0	1034
1989	983	537	0	1520
1990	797	770	0	1567
1991	714	703	0	1417

e. Green Springs Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Wild Horses	Total
1988	489	0	192	681
1989	891	0	204	1095
1990	488	0	156	644
1991	755	0	204	959

f. Pogues Station Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Sheep Trail*	Wild Horses	Total
1988	1529	164	187	504	2384
1989	1704	1011	164	348	3227
1990	1747	706		0	2453
1991	1604	274		792	2670

* Paris Livestock, sheep trail AUMs only.

g. Ike Springs/Ike Bench Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	160	0	1020	1180
1989	175	0	1164	1339
1990	177	0	780	957
1991	86	216	1860	2162

* Paris Livestock, sheep trail AUMs only.

h. Little Smoky Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Wild Horses	Total
1988	1972	763	2520	5255
1989	1972	1300	3372	6644
1990	2169	1090	5208	8467
1991	1582	1000	3396	5978

i. North Sand Springs Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	273	167	336	776
1989	304	156	612	1072
1990	312	162	720	1194
1991	301	54	1344	1699

* Paris Livestock, sheep trail AUMs only.

j. Pancake East Bench/Duckwater Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep	Sheep Trail*	Wild Horses	Total
1988	2675	600	560	252	4087
1989	2983	800	525	396	4704
1990	3058	904	462	204	4628
1991	2777	800	373	1032	4982

* Paris Livestock, sheep trail AUMs only.

k. Red Mountain/Callaway Well Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	1076	100	63	1239
1989	1135	147	72	1354
1990	1070	218	81	1369
1991	1095	158	90	1343

* Triple E Livestock, sheep trail AUMs only.

l. South Sand Springs Valley Use Area

Actual Use Summary (AUMs)

Year	Cattle	Sheep Trail*	Wild Horses	Total
1988	0	323	1632	1955
1989	0	302	3744	4046
1990	0	272	2436	2708
1991	0	104	3108	3212

2. Wildlife Actual Use

Current actual wildlife numbers were requested from the Nevada Division of Wildlife (NDOW) in November 1991; however, NDOW did not provide these numbers. Since they could not be obtained from NDOW, estimates of current wildlife numbers for the allotment are from the Egan Resource Area Wildlife Biologist. Following is a breakdown of wildlife information and estimated actual use by species:

Mule Deer

The Duckwater Allotment contains portions of two NDOW mule deer Management Areas (MAs), MA 13 and MA 16. Mule deer populations in this area of Nevada have been static to decreasing due to the persistent drought this area of Nevada has been experiencing. Fawn production has been reduced, resulting in limited recruitment to the population. Mule deer summer use of the allotment is contingent on perennial water.

Summer use by mule deer is generally within a two mile radius of perennial water. The highest summer densities of deer found on the allotment are on Moody Mountain and in the Park Range; however, all perennial water sources will receive limited use by resident deer. The summer use period by deer is 4/1 thru 11/30. Estimated numbers of deer are between 250-300 animals during that period or approximately 440 AUMs of use.

Mule deer winter use of the allotment is contingent on the amount of snow received in the surrounding areas adjacent to the allotment. Mule deer from three NDOW MAs are believed to winter on the allotment. Deer from MAs 13, 14 and 16 move onto the allotment in varying numbers depending on winter severity. Estimated use in mild winters, such as in the four evaluation years, is approximately 600-800 animals wintering on the allotment from 12/1 thru 3/31 utilizing approximately 560 AUMs. In severe winters it is believed that up to 1000 deer winter on the allotment utilizing 800 AUMs. From the presence of shed antlers, the highest concentrations of wintering mule deer have been documented on Moody Mountain, the north and east sides of the Park Range and west of the Duckwater Indian Reservation in the Pancake Range.

While in operation, the Green Springs Mine activity disrupted normal mule deer migration routes, forcing deer to locate new migratory routes. A deer winter area is located on BLM and Humboldt National Forest land immediately to the southeast of the mine.

Pronghorn Antelope

Pronghorn antelope utilize all valleys and portions of the Pancake Range within the allotment. Pronghorn numbers are low but are increasing due to mild winters and excellent "kid" survival. Following is a breakdown of estimated pronghorn use on the allotment:

Railroad Valley, in the eastern portion of the allotment, provides habitat for an estimated 50-60 pronghorn antelope yearlong. These animals utilize approximately 132 AUMs. Portions of the Pancake Mountains and Big Sand Springs Valley provide yearlong habitat for approximately 40 antelope, utilizing

approximately 96 AUMs. Little Smoky Valley provides habitat for approximately 40-50 antelope yearlong, utilizing approximately 108 AUMs.

Ferruginous Hawks

There are twelve known ferruginous hawk nest sites on the allotment. The hawk is presently a category II species listed by the U.S. Fish and Wildlife Service (USFWS). Yearly monitoring of the twelve nest sites has indicated that nest occupancy of breeding pairs of the hawk has declined from a high of seven in 1983 to a low of two in 1991.

Sage Grouse

There are 13 documented sage grouse leks on the allotment. The greatest concentrations of grouse are found in northern Railroad Valley on the east side of the allotment from Bull Creek Ranch north to Monte Cristo and on the west side of the allotment in and around the Park Range. Yearly sage grouse lek inventories/monitoring has indicated that the number of strutting males on these leks is at a static level. Sage grouse populations on the allotment is considered to be at low to moderate levels.

3. Wild Horse Actual Use

In the Sand Springs East HMA, 6 years of wild horse census maps combined with many years of range observation indicate wild horses concentrate yearlong in several locations including the Ike Springs area and Pancake Range east and north of Portuguese Mtn.; throughout Sand Springs Valley; throughout Little Smoky Valley, especially in the whitesage benchlands north and west of Moody Peak; and throughout the Pancake range from McClure Spring in the south to Big Louie Spring in the north. In addition, data and observations indicate seasonal concentrations of wild horses during summer in the Moody Mountain area. (Map D).

Censused wild horse numbers by specific use area within the Sand Springs East HMA are shown in Table 3.

Table 3. Aerial Census of Wild Horses in the Sand Springs East HMA by Specific Use Area - Duckwater Allotment

Date	South Sand Springs	Ike Sp. Ike Bench	Little Smoky Vlly.	Pogues Sta.	Pancake East Bench	North Sand Springs	Total HMA
4/86	461	44	170	35	47	29	783
7/87*	70	126	259	31	99	71	636
4/88**	136	85	210	28	21	28	508
8/89	312	97	281	14	33	51	788
3/90	203	65	434	0	17	60	779
7/91	259	155	283	41	86	112	936

* The 1987 census was conducted following a contract gather and removal of 408 wild horses from the HMA. Of the 408 removed, approximately 358 were taken from Sand Springs Valley proper, while about 50 were removed from surrounding use areas. This accounts for the low number of wild horses censused in South Sand Springs in 1987.

> Far fewer wild horses were counted during the April 1988 census than in July 1987 because the Battle Mountain District conducted a contract gather and removal of its Fish Creek HMA north of Moody Peak immediately following the July 1987 census. Also, some of the Sand Springs East wild horses were wintering to the east in the Monte Cristo HMA.

In the Monte Cristo HMA, 4 years of census maps together with general range observations indicate yearlong concentrations of wild horses throughout Railroad Valley, especially in the Green Springs area east of Tiger Mtn. and along the western benches of the White Pine Range from Broom Canyon in the south to Lampson Canyon in the north; and throughout the Pancake Range from south of the county line north to the allotment boundary. Snow moves the wild horses to the lower benches or valleys of these same areas during winter. Wild Horse use is also common during fall, winter, and spring in the Poison Patch area north of the Duckwater Shoshone Reservation (north and east of Nevada Governor's Spring). More recent wild horse census data and range observations indicate that as the wild horse population escalates, wild horses are pushing south of Broom Canyon to Silver Spring and beyond on the west benches of the White Pine Range (Map E).

Censused wild horse numbers by specific use area within the Monte Cristo HMA (that portion of the HMA within the Duckwater Allotment) are shown in Table 4.

Table 4. Aerial Census of Wild Horses in the Monte Cristo HMA by Specific Use Area - Duckwater Allotment

Date	Bull Creek	Pogues Sta.	Broom Canyon	Poison Patch	Green Sps.	Total Dckwtr. HMA
5/85*	126	6	0	0	15	147
2/86	78	6	0	26	6	116
3/89	139	22	0	30	17	208
4/91**	96	0	20	0	0	116
7/91	170	36	62	7	3	278

* 96 wild horses were gathered from the Monte Cristo HMA in 1979 and 43 horses were gathered in 1983. The 1985 census was accomplished prior to a wild horse gather of 182 horses in July of 1985.

** This was a partial census completed in April of 1991. A census of the entire HMA was planned but not completed due to flight hour limitations. As this census and the July, 1991 census illustrate, yearlong wild horse use is pushing south along the White Pine benches into the Broom Canyon Use Area and northwest into the Fish Creek Use Area.

In the White River HMA, 3 years of census maps combined with several years of range observations indicate seasonal wild horse use for approximately nine months during spring/summer/fall in the Red Mtn./Callaway Well Use Area south of Stone Cabin towards Wells Station Summit and Albert Spring. These horses use the Cove Allotment to the east during the winter months (Map F).

Censused wild horse numbers for the White River HMA (those portions of the HMA both within and outside the Duckwater allotment) are shown in Table 5.

Table 5. Aerial Census of Wild Horses in the White River HMA by allotment and Specific Use Area*

Date	Duckwater Allot.	Cove Allot.	Total HMA
	Red Mtn./Callaway Well Use Area	East Bench Horse Range	HMA
3/88	15	20	68
3/89	5	36	90
4/91	18	17	133

* The Red Mtn./Callaway Well Use Area in the Duckwater allotment provides spring/summer/fall range for some of the wild horses that winter on the east benches of the Horse Range in the Cove allotment

4. Precipitation Data

Data from the precipitation recording station at Snowball Ranch, on the western boundary of the allotment, is being used for this evaluation. This data is reported to and summarized by the Office of the State Climatologist, University of Nevada, Reno. Data from the National Oceanic and Atmospheric Administration weather station located at Ely, Nevada shows similar trends in monthly/annual rainfall patterns, with the exception of 1988, when significantly higher precipitation was measured at Snowball Ranch. 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 precipitation). For the Intermountain Big Sagebrush Region this includes precipitation 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 6 shows the yield indices for the Snowball Ranch station for the evaluation years.

Table 6. Yield Indices, Snowball Ranch station

Year	Crop Yield	Precip Index	Yield Index
1988	10.35	1.51	1.63
1989	6.22	.91	.89
1990	5.82	.85	.81
1991	5.36	.78	.73

5. Utilization

a. Key Area Utilization

Use transects have been completed on various portions of the allotment since 1985. Currently there are 14 utilization cages established at key areas throughout the allotment to reflect current grazing year's growth of key forage species. Utilization transect studies are conducted at the key area utilization cage locations and other grazing locations throughout the allotment. Map H shows the location of the utilization cages.

b. Utilization Pattern Mapping

Use patterns were mapped for a majority of the allotment in spring of 1989, 1990, 1991, and 1992. Many utilization transects were also accomplished in fall of 1991. That portion of Little Smoky Valley within the Duckwater Allotment (the old Duckwater Trail area) that is licensed and administered for cattle use by the Battle Mountain District BLM, as part of the Fish Creek Ranch Allotment (10038), was use mapped in spring of 1986, 1989, and 1990.

Use patterns were mapped for yearlong grazing use in the allotment. Results by use class, acres, and percent of total acres mapped are listed by the 12 use areas of the allotment in table 7 (refer to Map B for use area locations).

Table 7. Use Pattern Mapping Summary - Acres and (Percent of Mapped Acres) by Use Class for 12 Use Areas in the Duckwater Allotment.

Use Area # 1. Broom Canyon/South Railroad Valley

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	<0>	4100(8)	11216(22)	2660(5)	83(T)	33100(65)
Spg 90	1792(3)	3958(8)	7674(15)	25190(49)	512(1)	12121(24)
Spg 91	1530(3)	4315(8)	12109(24)	12755(25)	8825(17)	11624(23)
Fll 91& Spg 92	5596(11)	2221(4)	17066(33)	12085(24)	2826(6)	11231(22)

Use Area # 2. Bull Creek/North Railroad Valley

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	<0>	12336(27)	7997(18)	6547(15)	12396(27)	5724(13)
Spg 90	<0>	<0>	2887(6)	29211(65)	12898(29)	<0>
Spg 91	930(2)	1361(3)	6288(14)	30689(68)	5729(13)	<0>
Fll 91& Spg 92	<0>	2596(6)	3696(8)	20354(45)	18351(41)	<0>

Use Area # 3. Bull Creek Corner/Poison Patch

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	8736(13)	7430(12)	8132(13)	10348(16)	<0>	29504(46)
Spg 90	23643(37)	8784(14)	11389(18)	10105(16)	3386(5)	6818(10)
Spg 91	19392(30)	2022(3)	9336(15)	21439(33)	<0>	12034(19)
Fll 91& Spg 92	10039(16)	9062(14)	11281(18)	33722(52)	102(T)	<0>

Use Area # 4. Duckwater Hills

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	2886(10)	2887(10)	4702(16)	3521(12)	129(T)	15281(52)
Spg 90	1348(5)	4742(16)	13278(45)	10033(34)	<0>	<0>
Spg 91	<0>	11600(41)	9520(32)	5476(19)	2342(8)	<0>
Fll 91& Spg 92	3148(11)	11463(39)	4465(15)	10071(34)	211(1)	<0>

Use Area # 5. Pogues Station

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	3279(7)	20914(42)	5430(11)	<0>	<0>	19694(40)
Spg 90	14094(29)	7831(16)	13948(28)	10968(22)	618(1)	1890(4)
Spg 91	11668(24)	6679(13)	5940(12)	24120(49)	947(2)	<0>
Fll 91& Spg 92	2492(5)	12291(25)	4336(9)	21224(43)	8985(18)	<0>

Use Area # 6. Green Springs Valley

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	4585(15)	21067(67)	2360(8)	3222(10)	<0>	<0>
Spg 90	6150(20)	5301(17)	10902(35)	8155(26)	726(2)	<0>
Spg 91	6004(19)	5688(18)	8388(27)	11154(36)	<0>	<0>
Fll 91& Spg 92	5411(17)	3852(12)	6653(21)	14273(46)	909(3)	<0>

Use Area # 7. Ike Springs/Ike Bench

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	15495(21)	5418(7)	27557(37)	22675(30)	4046(5)	<0>
Spg 90	19869(26)	12466(17)	11905(16)	30963(41)	<0>	<0>
Spg 91	23335(31)	7526(10)	8976(12)	32732(44)	2635(3)	<0>
Fll 91& Spg 92	9334(12)	18082(24)	16828(22)	30969(41)	<0>	<0>

Use Area # 8. Little Smoky Valley

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	64497(37)	24795(14)	5033(3)	823(T)	81(T)	78502(45)
Spg 90	29804(17)	48000(28)	15982(9)	1464(1)	114(T)	78417(45)
Spg 91	6011(3)	<0>	719(T)	<0>	<0>	166975(97)
Fll 91& Spg 92	22126(13)	12199(7)	18881(11)	46023(26)	2637(2)	71968(41)

Use Area # 9. North Sand Springs

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	38554(96)	2220(4)	88(T)	<0>	<0>	<0>
Spg 90	25439(62)	9939(24)	2291(6)	164(T)	<0>	3029(8)
Spg 91	12081(30)	1459(3)	6491(16)	78(T)	<0>	20754(51)
Fll 91&						
Spg 92	14242(35)	8277(20)	2602(6)	15742(39)	<0>	<0>

Use Area # 10. Pancake East Bench/Duckwater Valley

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	43972(50)	14756(17)	16215(18)	12639(14)	818(1)	<0>
Spg 90	16201(18)	6371(7)	18482(21)	19031(22)	948(1)	27395(31)
Spg 91	29187(33)	11133(13)	21898(25)	15500(17)	383(T)	10338(12)
Fll 91 &						
Spg 92	18644(21)	16298(18)	13566(15)	28716(32)	810(1)	10310(12)

Use Area # 11. Red Mountain/Callaway Well

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	<0>	<0>	<0>	<0>	<0>	72364(100)
Spg 90	18799(26)	4454(6)	2925(4)	<0>	<0>	46167(64)
Spg 91	55707(77)	3508(5)	6183(8)	6985(10)	<0>	<0>
Fll 91&						
Spg 92	11735(16)	2557(4)	2924(4)	5781(8)	<0>	49541(68)

Use Area # 12. South Sand Springs

Year	Slight (0 - 20%)	Light (21 - 40%)	Moderate (41 - 60%)	Heavy (61 - 80%)	Severe (>80%)	Not Mapped
Spg 89	43823(50)	17053(20)	15503(18)	5281(6)	5027(6)	<0>
Spg 90	11540(13)	43990(51)	21684(25)	7120(8)	2471(3)	<0>
Spg 91	3074(3)	343(T)	1213(1)	221(T)	455(T)	81384(94)
Fll 91&						
Spg 92	13415(15)	277(T)	10033(12)	25886(30)	6396(7)	30641(35)

6. Trend

a. Frequency Trend

Frequency trend transects have been established on seven native key grazing areas in the allotment. Plant species frequency was measured first in fall of 1989, again in fall of 1991, and a third time in fall of 1992. One transect, DW 05, was established and read in 1989 but not read in 1991 due to time limitations. DW 05 was re-read in fall of 1992. Another transect, DW 09, was newly established and read in fall of 1991 and re-read in fall of 1992. Only statistically significant changes are presented. Table 10 lists the results.

Table 10. Frequency Trend for Key Areas on Duckwater Allotment

Range Studies:

Key Area	Years Read	Significant Changes	Indicated Trend
DW 01 Green Springs Vy.	89/91/92	None	Static
DW 02 Bull Creek	89/91/92	'91 - Less SIHY	Down
		'92 - Less SIHY	
		- Less EULA	Down
DW 03 Ike Bench	89/91/92	'92 - Less ORHY	Down
DW 04 Pancake East Bench	89/91/92	'91 - Less ARSP	Down
		'92 - Less ARSP	Down
DW 05 Bull Creek Corner	89/92	'92 - Less SIHY	Down
DW 06 Sand Springs South	89/91/92	'91 - Less SIHY	Down
		'92 - Less SIHY	Down
DW 09 Broom Canyon	91/92	'92 - More ARSP	Static*

* Although significantly more budsage was recorded in the key area ecological condition transect in 1992, the indicated trend is static at best because plant community production was measured at 28% of normal in 1992, species diversity was rated as poor, and plant vigor, age class distribution, and soil erosion all received negative ratings in 1992.

b. Phototrend

There are 5 phototrend studies established on the Duckwater Allotment. These studies were photographed in 1976, 1977, 1978, 1987, and 1991. Each study entails taking both range plot and general view photographs. The studies are as follows:

Study	Location	Use Area
1. Monte Cristo Herd Unit #2	T 15 N., R 57 E., Section 17, SW 1/4	Green Springs
2. Monte Cristo Herd Unit #3	T 14 N., R 57 E., Section 33, SE 1/4	Bull Creek/North Railroad Valley
3. Monte Cristo Herd Unit #5	T 12 N., R 57 E., Section 29, NW 1/4	Bull Creek/North Railroad Valley
4. Sand Springs Valley #4	T 11 N., R 54 E., Section 35, SW 1/4	Sand Springs South
5. Sand Springs Valley #5	T 11 N., R 54 E., Section 29, SE 1/4	Sand Springs South

1. The Monte Cristo Herd Unit #2 study is located in a large winterfat meadow of a terrace benchland just above the valley floor. This study reveals the following:

> Photos taken in August of 1976 and June of 1977 reveal a winterfat meadow of fair vigor with few other plants present. Range notes for 1976 indicate very light range utilization; good seed production; little seedling reproduction; halogeton invading the interspaces; little grass or budsage present; many studpiles noted.

> Photos taken in August of 1979 reveal a winterfat meadow in excellent vigor, with none to slight grazing indicated. Few other plants are recognizable in the photo.

> July 1987 photos indicate a meadow of good vigor with cured perennial grasses or cheatgrass somewhat abundant. Again, grazing use appears slight or less.

> August 1991 photos indicate a declining winterfat range. Winterfat vigor is fair at best and grasses within the study plot are grazed heavily. Cattle dung appears in the study for the first time.

2. The Monte Cristo Herd Unit #3 study is located in Freeland Canyon in a draw dominated by winterfat. This study reveals the following:

> Photos taken in August 1976 and June 1977 reveal a winterfat range in fair to good condition, with light grazing indicated. Few other plants are recognizable in the photo. Range notes for 1976 indicate good seed production; moderate horse use increasing up canyon towards Birch Spring; some ricegrass production; some budsage and fourwing saltbush present; some halogeton & russian thistle present; some gullying; need to maintain control of livestock and get better control of wild horses in the area.

> August 1987 photos indicate winterfat declining in frequency and vigor, with much cured grass present. Heavy cheatgrass production is apparent.

> July 1991 photos indicate a heavily grazed winterfat range with frequent halogeton or russian thistle growing in the interspaces.

> August 1992 photos reveal a range blanketed with russian thistle and halogeton; the study plot is choked with russian thistle. Winterfat continues to decline in frequency.

3. The Monte Cristo Herd Unit #5 is located on a lower benchland of the White Pine Range east of Bull Creek Reservoir. This is mixed desert shrub range with shadscale saltbush a major dominant. This study reveals the following:

> September 1976 and June 1977 photos indicate a desert shrub range in fair to good vigor, with abundant plants apparent. Range notes for 1976 indicate a fair amount of winterfat and budsage present, with galleta grass present in patches; low productive site; light horse use in the area.

> September 1987 photos indicate a desert shrub range with much cured perennial grass production (mostly bottlebrush squirreltail) and cheatgrass production. Shrubs appear to be in fair vigor at best.

> July 1991 photos indicate a range fairly barren of desert shrubs with much halogeton and russian thistle growing in the interspaces. The study plot is dominated by halogeton.

4. The Sand Springs Valley #4 study is located on the lower west benches of the Pancake Range east of the Sand Springs Valley bottom. This is mixed desert shrub range with winterfat a dominant plant. This study reveals the following:

> September 1976 photos indicate a heavily utilized range with many small plants present. Grasses are heavily utilized within the study plot. Range notes for 1976 indicate a good mixture of grasses, forbs, and shrubs; a fair amount of winterfat and budsage present; Winterfat appears small and not too vigorous on a shallow, rocky soil; the site seems productive for the conditions present; horse use is heavy; halogeton is invading the area in small patches or scattered plants.

> June 1977 photos indicate a more vigorous summer range with good green up on small bunchgrasses. Good plant species diversity is again shown.

> July 1978 photos indicate a range in fair vigor, with good species diversity. Use on winterfat appears moderate at most.

> August 1979 photos indicate a heavily grazed range.

> August 1991 photos indicate a severely grazed range with plant species diversity not apparent.

5. The Sand Springs Valley #5 study is located in a winterfat bottom in Sand Springs Valley that is west of Portuguese Mountain. This study reveals the following:

> September 1976 photos indicate a fairly vigorous winterfat meadow with much halogeton invasion. Range notes for this study indicate an extensive winterfat meadow; much halogeton invasion; ricegrass infrequent and heavily grazed; winterfat relatively ungrazed; no cattle grazing; perhaps some sheep use.

> June 1977 photos indicate a vigorous winterfat meadow with few other plants recognizable in the photos. Grazing use appears light at most. Within the study plot, no other plants are growing with winterfat.

> June 1987 photos again reveal a winterfat meadow in good vigor with light use at most by horses. Again, few other plants are recognizable in the photos. Horse dung appears in the general range view shot.

> August 1991 photos indicate a winterfat range heavily utilized. Few plants grow in the winterfat interspaces. Range notes for this study indicate frequent young age plants; much halogeton invasion; heavy to severe horse use; light soil movement; fair vigor for August.

c. Wildlife Frequency Trend

Five wildlife frequency and trend studies have been established on the allotment, as follows:

Study Name	Use Area	Years Read	Significant Changes	Indicated Trend
Broom Canyon	Broom Canyon	83/88/91	88 - None 91 - Less ORHY - Less BRTE - Less SPCO2 - Less Penst - Less PHHOC	Static Down
Central Sand Springs Valley	South Sand Sps.	82/87/91	87 - Less HIJA - Less EULA - Less ARSP 91 - Less HIJA - Less SPCO2	Down Down
Big Sand Springs Valley	South Sand Sps.	81/87/91	87 - More ORHY - More HIJA - More SIHY 91 - Less SIHY	Up Static
South Park Range	Little Smoky Vly.	Established 8/91		
North Park Range	Little Smoky Vly.	Established 8/91		

A summary of wildlife frequency and trend studies established on the Duckwater Allotment is as follows:

Study name : Broom Canyon, Railroad Valley, T 12 N., R 57 E., Section 21, NE¼

This wildlife frequency trend (vegetation) study was initially established in 8/83. The study was placed in an area that pronghorn antelope utilize. When the study was first re-read in 9/88 there was no significant increase or decrease of any species found at a .95 confidence interval (C.I.). The study was read again in 7/91. During this reading, a significant downward trend of 5 species was documented at a .95 C.I. Three desirable forbs (globemallow, phlox and penstemon), one species of annual grass (cheat grass) and one species of perennial grass (Indian ricegrass) demonstrated the downward trend. This downward trend could be attributed, in part, to the persistent drought this area of Nevada is experiencing; however, the area of the study receives heavy use from cattle and wild horses.

Study name : Central Big Sand Springs Valley, T 11 N., R 54 E., Section 03, SE¼ SW¼

This wildlife frequency trend (vegetation) study was initially established in 8/82. The study was placed in an area that pronghorn antelope utilize. When the study was first re-read in 8/87, a significant downward trend of three species was documented at a .95 C.I. The species demonstrating the downward trend were one perennial grass (galleta grass), as well as two desirable shrub species (winterfat and budsage). The study was again read in 8/91. A significant downward trend was documented in three species at a .95 C.I. The species demonstrating this downward trend were one perennial grass (galleta grass), one very desirable annual forb (globemallow), and one undesirable annual forb (halogeton), which showed a significant increase at a .95 C.I. The downward trends can be attributed to the persistent drought and excessive use by wild horses. Livestock grazing in Big Sand Springs Valley has been negligible with only trailing sheep use for the last six years.

Study name : Big Sand Springs Valley East, T 12 N., R 52 E., Section 05, NW¼ NE¼

This wildlife frequency trend study was initially established in 10/81. This study was placed in a location that pronghorn antelope utilize. When the study was re-read in 8/87 a significant increase of three species of perennial grass (squirreltail, galleta, and Indian ricegrass) was documented at a .95 C.I. The increase in these species can be attributed to "not" encountering any of the species on the establishment of the study and three years of above normal precipitation. The study was again read in 8/91. One species of perennial grass (squirreltail) demonstrated a significant downward trend at a .95 C.I. This could be due, in part, to the persistent drought that this area of Nevada is experiencing.

Study name : South Park Range, T 11 N., R 52 E., Section 05, NE¼ NE¼

This wildlife frequency trend study was established in 8/91. The study was analyzed through the Bureau's WILDIVE program which assigns a habitat condition rating to the vegetation study from a cover rating read while establishing the frequency. This study rated in a high fair habitat condition. The study was placed in an area that pronghorn antelope and mule deer utilize. Sage grouse have also been documented in the area.

North Park Range, T 13 N., R 52 E., Section 10, NE¼ SW¼

This wildlife frequency trend study was established in 8/91. The study was analyzed through the Bureau's WILDIVE program. This study rated in a good habitat condition. The study was placed in an area that mule deer utilize in the winter and spring. Pronghorn antelope have been observed in the vicinity of this study on several occasions over the past two years.

7. Ecological Status

Ecological condition status has been mapped for portions of three use areas in the Duckwater Allotment - Sand Springs North, Sand Springs South, and Little Smoky Valley. Mapping was accomplished for the entire Sand Springs South Use Area and a small portion of the Sand Springs North Use Area in fall of 1987. Approximately one half of the Little Smoky Valley Use Area (that half of the valley within the Duckwater Allotment administered by the Battle Mountain District BLM) was mapped in 1987 and 1988. Ecological status was also determined for a majority of the allotment in Fall of 1991 and 1992.

Soils and range site descriptions for the Duckwater Allotment were revised by SCS in 1988 as part of its Major Land Resource Use Area (MLRA 28B) revision. Soils and Range Site information continues to be periodically updated by SCS for Nye, White Pine, and Eureka Counties. These revisions will influence future ecological ratings.

Ecological status estimates the stage of succession at a given range site, by measuring plant species composition and comparing it to composition of the Potential Natural Community (PNC) or climax for that site. This is estimated as a percentage of PNC; Classifications include Early Seral, or poor, (0 - 25%); Mid Seral, or fair, (26 - 50%); Late Seral, or good, (51 - 75%); And Potential Natural Community (PNC), or excellent, (76 - 100%).

Table 8 presents ecological status acreage for three use areas of the Duckwater Allotment. Only portions of two use areas were mapped (thus the percent of use area figures do not add up to 100%). Note that Sand Springs North and Sand Springs South are combined. The Pinyon Juniper Woodlands within the Little Smoky Valley Use Area were rated according to the Forage Value for Woodland Sites developed by SCS, since ecological condition ratings are not appropriate for woodland range sites. These woodland ratings range from very high to low based upon production of palatable forage.

Table 8. Ecological Status, Acres, and (Percent of Use Area) for Three Use Areas of the Duckwater Allotment, 1987 - 1988.

Use Area	Early Seral	Mid Seral	Late Seral	PNC	Rock Outcrop& Wash	P/J Woodlands
Sand Springs Valley North& South	6049 (4.6%)	75087 (57.7%)	6605 (5.1%)	<0>	57 (T)	<0>
Little Smoky Valley	10715 (6.2%)	50013 (28.9%)	8847 (5.1%)	1137 (0.7%)	3696 (2.1%)	1302 (Low) (0.7%) 4354 (Mod) (2.5%)

Ecological status has also been determined for nine native key grazing areas of the allotment in July of 1991 and August of 1992. Results are presented in Table 9.

Table 9. Ecological Condition Status for Native Key Areas, Duckwater Allotment.

Key Area	Use Area	Range Site	Veg Type	Ecological Status
DW01	Green Springs	28BY084NV	Winterfat	'91 Mid Seral (Fair) '92 Mid Seral (Fair)
DW02	Bull Creek	28XY017NV	Desert Shrub	'91 Mid Seral (Fair) '92 Mid Seral (Fair)
DW03	Ike Bench	29XY087NV	Desert Shrub	'91 Early Srl. (Poor) '92 Mid Seral (Fair)
DW04	Pancake East Bench	29XY022NV	Desert Shrub	'91 Mid Seral (Fair) '92 Mid Seral (Fair)
DW05	Bull Corner	28BY078NV	Atca/Orhy	'91 Not Read '92 Late Seral (Good)
DW06	Sand Springs South	29XY020NV	Winterfat	'91 Mid Seral (Fair) '92 Mid Seral (Fair)
DW 07	Ike Bench	29XY008NV	Arno/Orhy	'91 Early Srl. (Poor) '92 Not Read
DW 08	Pogues Station	28BY047NV	Desert Shrub	'91 Early Srl. (Poor) '92 Not Read
DW 09	Broom Canyon	29XY024NV	Desert Shrub	'91 Early Srl. (Poor) '92 Early Srl. (Poor)

8. Riparian Data

The Egan Resource Area 1982 Water Resource Inventory indicated that the Duckwater Allotment contained water resource sites including 28 reservoirs, 30 springs, 12 wells, 2 creeks, 2 pipelines, and 1 seep. Much of this inventory was accomplished by air and contains little riparian condition information.

Three riparian sources in the allotment were identified as streams by the Egan Resource Area 1980 - 1981 Stream Inventory. These were Crystal, Currant, and Willow - Snowball Creeks.

Crystal Creek, in the Broom Canyon/South Railroad Valley Use Area, was identified in July of 1981 as having 0.4 acres riparian habitat along 3.0 miles of public land; however, in August 1981 the streambed was dry. In July of 1981 Crystal Creek was determined to be in a Class II (good) condition for streambanks and shorelines. Off bank stream riparian condition (vegetation condition) was not recorded nor was utilization mapped; however, photographs were taken and are on file in the Egan Resource Area. Mike Perkins, Egan Wildlife Biologist, has noted that the creek has been dry since 1982; thus, no further monitoring of the creek has been completed. For the past several years an essentially ephemeral flow of approximately 5 gallons per minute during March, April, and May has originated from Crystal Spring. Crystal Spring has been diverted for many years from the spring channel approximately 1 mile below the spring by pipeline to the private ground of Donald Lani. Crystal Spring has been and will continue to be monitored and evaluated as a key riparian site (see text list below).

Currant Creek, also in the Broom Canyon/South Railroad Valley Use Area, was identified in June of 1981 as having .05 acres of riparian habitat along 2.0 miles of public land. It was determined to be in a Class IV (poor) condition for streambanks and shorelines. Photographs reveal little riparian vegetation along a straight, ditchlike channel. No off bank stream riparian condition or utilization was recorded. No further monitoring of Currant Creek has been completed; however, it has been noted that the creek stopped flowing on public lands in 1985, following several normal to high rainfall years (Mike Perkins, personal communication). Currant Creek is highly diverted northeast of the town of Currant, before it arrives on public land, by Manzonie ranches. There are no plans to monitor Currant Creek in the future.

Willow - Snowball Creek, in the Little Smoky Valley Use Area, was identified in 1981 as having 4 acres of riparian on 1 mile of public land east of the Willow Ranch private parcel. In August of 1981 the creek was determined to be in a Class II (good) condition for streambanks and shorelines. Photographs reveal willows in healthy condition in 1981 with some heavy livestock utilization evident. No off bank stream riparian condition or utilization was recorded. In June of 1981 a water resource inventory report done on Willow Creek indicated the banks and riparian vegetation in good condition with many young willows and vigorous grassy meadows.

In April of 1992 an off bank stream riparian condition study showed Willow - Snowball Creek to be in low good condition, with many willow and willow regeneration noted. Heavy cattle use was recorded on riparian plants. With the exception of early spring flow, it has been noted that Willow - Snowball Creek is generally dry on public domain (Mike Perkins, personal communication).

The following locations will be considered as key riparian sites on the Duckwater allotment and monitored/evaluated accordingly:

(a) Ike Spring - T 10 N., R 55 E., Section 16
Ike Spring/Ike Bench Use Area
Condition rating: 6/91 - 57% (good)
5/92 - 56% (good)
Utilization levels: 6/91 - slight (15%)
6/92 - light (25%)

b) Little Ike Spring - T 10 N., R 55 E., Section 19
Ike Spring/Ike Bench Use Area
Condition rating: 6/91 - 35% (fair)
5/92 - 43% (fair)
Utilization levels: 6/91 - heavy on willows (70%)
5/92 - heavy on willows (70%)
- willows increasing in frequency

(c) Crystal Springs - T 11 N., R 58 E., Section 15
Broom Canyon/South Railroad Valley Use Area
Condition rating: 6/92 - 73% (good)
Utilization levels: 6/91 - slight (15%)
6/92 - slight (15%)

(d) Sand Springs North - T 13 1/2 N., R 54 E., Section 33
North Sand Springs Use Area
Condition rating: 6/91 - 59% (good)
5/92 - 68% (good)
Utilization levels: 6/91 - light (30%)
5/92 - moderate (50%)

(e) McClure Spring - T 12 N., R 55 E., Section 9
Pancake East Bench Use Area
Condition rating: 8/91 - 60% (good)
6/92 - 54% (good)
Utilization levels: 8/91 - moderate (45%)
6/92 - heavy (65%)

(f) Portuguese Spring - T 11 N., R 55 E., Section 17
South Sand Springs Use Area
Condition rating: 8/91 - 16% (poor)
5/92 - 21% (poor)
Utilization levels: 8/91 - heavy on rushes (70%)
moderate on wildrye (50%)
5/92 - heavy on rushes (70%)
heavy on wildrye (70%)

(g) Mahogany Spring - T 13 1/2 N., R 54 E., Section 27
North Sand Springs Use Area
Condition rating: 6/91 - 74% (good)
5/92 - 77% (excellent)
Utilization levels: 7/89 - moderate horse use (50%)
6/91 - slight on all species (10%)
5/92 - slight on all species (10%)

(h) Young Florio Spring - T 13 N., R 55 E., Section 9
Pancake East Bench Use Area
Condition rating: 6/91 - 58% (good)
5/92 - 55% (good)
Utilization levels - 6/91 - heavy (62%)
5/92 - heavy (70%)

(i) Indian Spring - T 11 N., R 56 E., Section 31
Ike Springs/Ike Bench Use Area
Condition rating: 6/91 - 74% (good)
5/92 - 74% (good)
Utilization levels: 6/91 - light on sedge & rush (30%)
5/92 - moderate on sedge & rush (50%)

(j) Cottonwood Spring - T 12 N., R 52 E., Section 5
Little Smoky Valley Use Area
Condition Rating: 8/91 - 55% (good)
4/92 - (good - personal communication
with Mike Perkins, 11/4/92)
Utilization levels: 8/91 - slight by horses and deer (10%)
4/92 - slight by horses and deer (10%)

(k) Bassit Spring - T 12 N., R 52 E., Section 21
Little Smoky Valley Use Area
Condition rating: 6/92 - 70% (good)
Utilization levels: 6/92 - high moderate, all horse use,
limited mule deer use (59%)

(l) Birch Spring - T 14 N., R 57 E., Section 22
Bull Creek/North Railroad Valley Use Area
Condition rating: 8/92 - 58% (good)
Utilization levels: 8/92 - slight within exclosure (10%)

(m) Tank Spring - T 13 N., R 52 E., Section 33
Little Smoky Valley Use Area
Condition rating: 6/92 - 35% (low fair)
Utilization levels: 6/92 - heavy by horses (75%)

(n) Unnamed Spring - T 12 N., R 52 E., Section 33
Little Smoky Valley Use Area
Condition rating: 6/92 - 62% (good)
Utilization levels: 6/92 - moderate by horses (59%)

(o) Martin Spring - T 11 N., R 53 E., Section 2
Little Smoky Valley Use Area
Condition rating: no data
Utilization levels: no data

V. CONCLUSIONS

A. Land Use Plan Objectives

III. B. 1. (a) - Not met
Rationale: The vast majority of the allotment is in an unacceptable seral stage, being in early seral or mid seral ecological condition. Key areas in all use areas of the allotment show very limited production of key forage species, particularly indian ricegrass, winterfat, and needle-and-thread grass. In recent years, large areas of most use areas have been in heavy or severe use classes. Frequency trend determinations on five of seven key areas of the allotment indicate downward trend, while two key areas are static. Long term objectives would not be met if short term use continues to exceed allowable use levels.

III. B. 1. (b) - Not met
Rationale: Allowable use levels have been exceeded allotment wide by wild horses and livestock.

III. B. 1. (c) - Not met
Rationale: Mule deer objective allowable use levels have been exceeded in portions of the allotment, due to cattle and wild horse use. Allowable use levels established to protect ferruginous hawk habitat have also been exceeded, due to wild horse use. Antelope yearlong habitat is not being maintained in good or better condition, due to the drought in combination with heavy cattle, wild horse, and sheep use. Sage grouse breeding complex sagebrush shrub composition objectives are generally being met, however, the forb and perennial grass component has been particularly poor to almost completely lacking the last several years.

III. B. 1. (d) - Partially met
Rationale: In spring of 1992 ten of fifteen key springs rated good riparian condition while one of fifteen rated excellent. Allowable use levels were exceeded on only five of the fifteen key springs in 1992, by cattle and wild horses. New exclosure fencing is needed on only one key spring in the allotment - Portuguese Spring.

III. B. 1. (e) - Not met
Rationale: Allowable use levels have been exceeded allotment wide by cattle, wild horses, and sheep.

B. Rangeland Program Summary Objectives

Range

III. B. 2. (a) - Not met
Rationale: Studies show there are currently 22,831 AUMs of forage available for livestock; however, key species utilization objectives and range ecological condition objectives are not being met due to overutilization by cattle, wild horses, and sheep.

III. B. 2. (b) - Not met
Rationale: The ecological condition of Sand Springs Valley has not been maintained or improved with severe wild horse use documented the last two years of the evaluation. On most other native pastures of the allotment, utilization levels have exceeded NRMH allowable use levels for key forage species, resulting in declining ecological condition.

Wild Horses

III. B. 2. (c) - This management objective is no longer appropriate due to a legal ruling (See page 12 of this evaluation). This evaluation will recommend a new appropriate management level for the entire Sand Springs East HMA and for those portions of the Monte Cristo HMA and White River HMA within the Duckwater Allotment, based upon new appropriate management levels for 12 use areas of the allotment.

Wildlife/Riparian

III. B. 2. (d) - Met
Rationale: Allowable use levels on the majority of mule deer habitat have not been exceeded. The allotment is currently supporting from 1170 AUMs of deer use in years of mild winters to 1530 AUMs in years of severe winters (see the wildlife use section of this evaluation, pages 9 - 11). The allotment is currently supporting about 336 AUMs per year of antelope use. Although allowable use levels have been exceeded on antelope yearlong range by cattle, wild horses, and sheep, antelope are in good condition and increasing because 1) over-winter survival of young has been excellent due to recent relatively snow free winters and 2) because of abundant big sagebrush, black sagebrush, budsage and shadscale.

III. B. 2. (e) - Not met
Rationale: Mule deer yearlong habitat is being maintained in a late seral (good) to PNC (excellent) ecological condition; however, antelope yearlong habitat is not being maintained in a late seral to PNC ecological condition due to overutilization by cattle and wild horses.

III. B. 2. (f) - Met
Rationale: A majority of spring sites meet condition and utilization objectives. Seven of nine key springs monitored were rated good in summer of 1991; Ten of fourteen key springs monitored were rated good and one excellent in spring of 1992. Utilization on perennial grasses and grass - like species was less than 55% on seven springs in 1991 and seven springs again in 1992. Only one spring had heavy utilization on browse or shrubs (willows) in both 1991 & 1992 - Little Ike Spring. Portuguese Spring, rated poor both years, is in need of new exclosure fencing and will be addressed in the technical recommendations.

III. B. 2. (g) - Met
Rationale: Sage grouse breeding complexes are being maintained. Big sagebrush sites within two miles of strutting grounds are being maintained in mid to late seral stages with a minimum of 30% shrub composition.

III. B. 2. (h) - Not met
Rationale: Utilization on winterfat flats within two miles of ferruginous hawk nest sites exceeds proper use.

III. B. 2. (i) - This objective will no longer be managed for, since the two "streams" identified in the water resource inventory of 1981 have been dry from 1985 to the present time.

C. Habitat Management Plan Objectives - The following objectives pertain to a HMP that was recently developed for the area. These objectives have been monitored for only one grazing season.

III. B. 3. (a) - Met
Rationale: Utilization of bitterbrush, cliff rose, little leaf and other browse species has been slight over the 1992 grazing season.

(b) - Not Met
Rationale: Utilization levels have been exceeded on 3 out of the 5 key locations. Use levels on the Cottonwood Springs have met the objective. Very limited wild horse use has been documented and little to no livestock use has been observed. However, on Tank Spring, the unnamed spring and Bassit Spring wild horse use has been documented in the heavy category. All three of the springs have been identified for protective fencing in the HMP.

(c) - Met
Rationale: This objective was met this year. Mule deer use on aspen has been documented but does not exceed 10% on current year's growth.

(d) - Met

Rationale: Past livestock utilization on the public land portion of Willow-Snowball Creek has been excessive. This past grazing season, utilization levels were monitored on both creeks with moderate utilization being documented on Willow-Snowball and light use on Cottonwood Creek.

(e) - Not Met

Rationale: In all four locations listed in the HMP, utilization has exceeded proper use, with heavy to severe use being documented. This use was made by cattle and wild horses.

(f) - Met

Rationale: This objective is met as far as percent sagebrush cover is concerned.

VI. TECHNICAL RECOMMENDATIONS

1. Short Term Solutions

A. Resource Problems

The primary resource problem in the Duckwater Allotment is overutilization of key forage species by cattle, wild horses, and sheep, even though cattle and sheep have been run at less than active preference in recent years. The key species involved include Indian ricegrass, needle-and-thread grass, bottlebrush squirreltail, winterfat, and black sagebrush for winter ranges and all perennial grass species, budsage, and shadscale on summer ranges. The cause of resource deterioration can be tied to excessive animal numbers, yearlong grazing and poor distribution. Riparian utilization is also a problem with heavy use by cattle and/or wild horses on some of the riparian areas.

B. Causes/Concerns

1. As confirmed by the 1962 range survey, in terms of forage availability most of the allotment is better suited to sheep grazing than cattle grazing. A majority of plant communities are dominated by shrub species, particularly big sage, black sage, greasewood, green rabbitbrush, or shadscale saltbush. Grass production on many of these areas is severely limited. The depletion of perennial grass in the allotment is well documented in BLM files dating before 1970.

2. The Duckwater Allotment fosters a large and expanding wild horse population, which contributes to overgrazing. Wild horse use only or combined utilization by cattle and wild horses has been documented as severe in many use areas.

3. Development of a formal grazing system in Duckwater is limited by several factors including:

> Large size of the allotment (822,000 acres) and almost complete lack of division fencing. This makes pasture rotation systems unfeasible without large expenditures for fencing. Large scale fencing is also undesirable in the three wild horse herd areas.

> A lack of alternative forage sources. Areas rated as no use to slight on utilization maps on both winter and summer ranges are generally not used due to inaccessibility or an almost complete lack of forage. This leaves little opportunity to rotate livestock out of heavily used areas.

> Lack of sufficient water sources to distribute livestock grazing. Two permittees, Gailin Manzonie and the Duckwater Stockmen's Association, haul water for cattle during spring,

summer, and fall. The sheep operators also must haul water in the absence of adequate snow during fall, winter, and early spring. There is currently only one working well in the entire allotment.

C. Utilization and Stocking Rate Calculations by Use Area.

Data will be analyzed and proper stocking levels calculated on a use area/ pasture basis. Appropriate stocking levels will be based on monitoring information and calculated using the following formula:

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

* Value from use pattern mapping, adjusted using yield index
** Value from Nevada Rangeland Monitoring Handbook - Native perennial grasses 50%; Winterfat 50%

The Desired Utilization (Proper Use Factor) used in the Stocking Rate Calculations for the Duckwater Allotment is 50% allowable use for perennial grasses and winterfat. The allowable use factor of 50% is supported by current range literature, and applies to all 12 use areas of the allotment. Land Use Plan Objectives are expected to be accomplished using the "take half - leave half" benchmark for livestock grazing.

In areas involving combined use by livestock and wild horses, the calculated proper stocking rate will be adjusted according to preference demand for livestock and the latest census during the evaluation period for wild horses.

Broom Canyon/South Railroad Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1988	64%	1.63	100.0% *	1888	944
1989	63%	.89	56.1%	2217	1976
1990	67%	.81	54.3%	2449	2255
1991	76%	.73	55.5%	1690	1523

* Corrected utilization can not exceed 100%.

The average proper stocking level is 1675 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,796 (77.5%)
Sheep Preference	0 (0)
Wild Horses (7/91 census)*	521 (22.5%)
Total	2,317 (100.0%)

* The 521 AUMs are 70% of 744 AUMs used by 62 wild horses yearlong. See pages 5 and 24 for clarification.

2. AVERAGE ACTUAL USE AND WILD HORSE CENSUS (AUMs)

Cattle	1,728 (71.8%)
Sheep *	156 (6.5%)
Wild Horses (7/91 census)	521 (21.7%)
Total	2,405 (100.0%)

* Trail use

3. STOCKING RATE ADJUSTMENTS

a. Demand	2,317 AUMs
Stocking level	1,675 AUMs
Reduction	642 AUMs

Sheep will not be reduced in the Broom Canyon Use Area because Triple E Livestock has made trail use of the area, moving north in fall and south in spring in a timely manner. Monitoring data from spring of 1992, 1993, and 1994 shows that Triple E Livestock generally moves sheep through this use area north in fall or south in spring in two days or less. Sheep are not

contributing to the non-attainment of resource objectives in this use area. Triple E Livestock will be allowed a trailing permit through this use area with the annual trail determined by the authorized officer.

b. Revised actual use - Based on reduction to cattle and wild horses.

Cattle	1,728	(76.8%)
Wild horses	521	(23.2%)
Total	2,249	100.0%

Reduction by user - Based on percentage of average actual use & most recent wild horse census.

Cattle	642 AUMs	X .768	=	493 AUMs
Sheep	0 AUMs			
Wild Horses	642 AUMs	X .232	=	149 AUMs
				642 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle permittees in the Broom Canyon/South Railroad Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Cattle reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
John & Gailin Manzonie	42.1	X	493	=	208 AUMs
Manzonie Irrevocable Trust	25.8	X	493	=	127 AUMs
Duckwater Cattle Co.	19.9	X	493	=	98 AUMs
Barry & Norma Bradshaw	12.2	X	493	=	60 AUMs
	100.0				493 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
John & Gailin Manzonie	756 AUMs	-	208 AUMs	=	548 AUMs
Manzonie Irrevocable Trust	464 AUMs	-	127 AUMs	=	337 AUMs
Duckwater Cattle Co.	357 AUMs	-	98 AUMs	=	259 AUMs
Barry & Norma Bradshaw	219 AUMs	-	60 AUMs	=	159 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	1,796	-	493	=	1,303 AUMs
Sheep	(0)				
Wild Horses	521	-	149	=	372 AUMs AML (31 wild horses yearlong)
	2,317	-	642	=	1,675 Total Use

Bull Creek/North Railroad Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1988	69%	1.63	100.0% *	2492	1246
1989	82%	.89	73.0%	4396	3011
1990	73%	.81	59.1%	3456	2924
1991	74%	.73	54.0%	3052	2826

* Corrected utilization can not exceed 100%.

The average proper stocking level is 2502 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	2,854	(61.8%)
Sheep Preference	0	(0)
Wild Horses (7/91 census)*	1,764	(38.2%)
Total	4,618	(100.0%)

* 170 wild horses were censused in the Bull Creek Use Area and 40 wild horses were censused in the Humboldt National Forest immediately east of the Bull Creek Use Area. The 1,764 AUMs are 70% of the total 210 wild horses censused (147 wild horses yearlong). See pages 5 and 24 for clarification.

2. AVERAGE ACTUAL USE AND WILD HORSE CENSUS (AUMs)

Cattle	1,657	(47.2%)
Sheep *	90	(2.6%)
Wild Horses (7/91 census)	1,764	(50.2%)
Total	3,511	(100.0%)

* Trail use

3. STOCKING RATE ADJUSTMENTS

a. Demand	4,618	AUMs
Stocking level	2,502	AUMs
Reduction	2,116	AUMs

Sheep will not be reduced in the Bull Creek Use Area because Triple E Livestock has made trail use of the area, moving north in fall and south in spring in a timely manner. Monitoring data

from spring of 1992, 1993, and 1994 shows that Triple E Livestock generally moves sheep through this use area north in fall or south in spring in one day or less. Sheep are not contributing to the non-attainment of resource objectives in this use area. Triple E Livestock will be allowed a trailing permit through this use area with the annual trail determined by the authorized officer.

b. Revised actual use - Based on reduction to cattle and wild horses.

Cattle	1,657	(48.4%)
Wild horses	1,764	(51.6%)
Total	3,421	(100.0%)

Reduction by user - Based on percentage of average actual use & most recent wild horse census.

Cattle	2,116 AUMs	X	.484	=	1,024 AUMs
Sheep	0 AUMs				
Wild Horses	2,116 AUMs	X	.516	=	1,092 AUMs
					2,116 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle permittees in the Bull Creek/North Railroad Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Cattle reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
Duckwater Cattle Co.	95.5	X	1,024	=	978 AUMs
Barry & Norma Bradshaw	4.5	X	1,024	=	46 AUMs
	100.0				1,024 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Cattle Co.	2,725 AUMs	-	978 AUMs	=	1,747 AUMs
Barry & Norma Bradshaw	129 AUMs	-	46 AUMs	=	83 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	2,854	-	1,024	=	1,830 AUMs
Sheep	(0)				
Wild Horses	1,764	-	1,092	=	672 AUMs AML (56 wild horses yearlong)
	4,618	-	2,116	=	2,502 Total Use

Bull Creek Corner/Poison Patch Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	56%	1.63	91.3%	3596	1969
1989	79%	.89	70.3%	3747	2665
1990	61%	.81	49.4%	5203	5266
1991	64%	.73	46.7%	4496	4814

The average proper stocking level is 3679 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,503	(24.6%)
Sheep Preference	4,328	(70.7%)
Wild Horses (7/91 census)*	288	(4.7%)
Total	6,119	(100.0%)

* Seven wild horses were censused in the Bull Corner/Poison Patch Use Area. The 288 AUMs, or 24 wild horses yearlong, is the most reasonable approximation for this use area based upon past and present wild horse census (92 wild horses were censused in this use area in February of 1993), wild horse sightings and observation of wild horse sign by BLM resource personnel, and the professional opinions of the two wild horse specialists of the Ely District BLM.

2. AVERAGE ACTUAL USE (AUMs)

Cattle	975	(22.9%)
Sheep	2,626	(61.6%)
Sheep Trail*	405	(9.5%)
Wild Horses (four year average)	255	(6.0%)
Total	4,261	(100.0%)

* Paris Livestock, sheep trail AUMs only.

3. STOCKING RATE ADJUSTMENTS

a. Demand	6,119	AUMs
Stocking level	3,679	AUMs
Reduction	2,440	AUMs

b. Revised actual use - Based on reduction to cattle, sheep (excluding trail use), and wild horses.

Cattle	975	(25.3%)
Sheep	2,626	(68.1%)
Wild horses	255	(6.6%)
Total	3,856	(100.0%)

Reduction by user - Based on percentage of average actual use.

Cattle	2,440 AUMs	X .253	=	617 AUMs
Sheep	2,440 AUMs	X .681	=	1,662 AUMs
Wild Horses	2,440 AUMs	X .066	=	161 AUMs
				2,440 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the livestock permittees in the Bull Corner/Poison Patch Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area. There is no reduction to Paris Livestock, based upon the trailing nature of his sheep use which resulted in moderate or less forage utilization in those areas where Paris Livestock trailed. Monitoring data from spring of 1993 and 1994 shows that Paris Livestock has been trailing through the higher elevations of this use area. Paris Livestock sheep have not been contributing to the non-attainment of vegetative resource objectives in the Bull Corner/Poison Patch Use Area.

a. Cattle reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
Duckwater Cattle Co.	65.1	X	617	=	402 AUMs
Duckwater Stockmen Assoc.	34.9	X	617	=	215 AUMs
	100.0				617 AUMs

b. Sheep reduction by permittee

Permittee	% Actual Use	X	Reduct.	=	Individual Reduct.
Russell Ranches (S)	53.3	X	1,662	=	886 AUMs
Triple E Livestock (S)	46.7	X	1,662	=	776 AUMs
Paris Livestock (S)	(no reduction)			=	0 AUMs
	100.0				1,662 AUMs

c. New preference by permittee

Permittee	Prefer.	- Individ. Reduct.	= New Prefer.
Duckwater Cattle Co. (C)	978 AUMs	- 402 AUMs	= 576 AUMs
Duckwater Stockmen Assoc. (C)	525 AUMs	- 215 AUMs	= 310 AUMs
Russell Ranches (S)	1,918 AUMs	- 886 AUMs	= 1,032 AUMs
Triple E Livestock (S)	2,065 AUMs	- 776 AUMs	= 1,289 AUMs
Paris Livestock (S)	345 AUMs	- 0 AUMs	= 345 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	1,503	- 617	=	886 AUMs
Sheep	4,328	- 1,662	=	2,666 AUMs
Wild Horses	288	- 161	=	127 AUMs AML (11 wild horses yearlong)
	6,119	- 2,440	=	3,679 Total Use

Duckwater Hills Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1988	52%	1.63	84.8%	1034	610
1989	60%	.89	53.4%	1520	1423
1990	64%	.81	51.8%	1567	1513
1991	57%	.73	41.6%	1417	1703

The average proper stocking level is 1312 AUMs. Since this is combined use, the stocking level will be proportioned to cattle and sheep based on preference demand for livestock.

1. FORAGE DEMAND (AUMs)

Cattle Preference	959	(59.9%)
Sheep Preference	643	(40.1%)
Wild Horses (7/91 census)	0	(0)
Total	1,602	100.0%)

2. AVERAGE ACTUAL USE AND WILD HORSE CENSUS (AUMs)

Cattle	795	(57.4%)
Sheep	589	(42.6%)
Wild Horses	0	(0)
Total	1,384	100.0%)

3. STOCKING RATE ADJUSTMENTS

a. Demand 1,602 AUMs
Stocking level 1,312 AUMs
Reduction 290 AUMs

b. Reduction by user - Based on percentage of average actual use.

Cattle	290 AUMs	X .574	=	166 AUMs
Sheep	290 AUMs	X .426	=	124 AUMs
Wild Horses	0 AUMs			
				290 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the Duckwater Hills Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing

Decision and the 1988 - 1991 four year average actual use of the permittees in the use area.

a. Cattle reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
Duckwater Stockmen Assoc.	52.5	X	166	=	87 AUMs
Duckwater Cattle Co.	47.5	X	166	=	79 AUMs
	100.0				166 AUMs

b. Sheep reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
Triple E Livestock	100.0	X	124	=	124 AUMs
	100.0				124 AUMs

c. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Stockmen Assoc. (C)	503 AUMs	-	87 AUMs	=	416 AUMs
Duckwater Cattle Co. (C)	456 AUMs	-	79 AUMs	=	377 AUMs
Triple E Livestock (S)	643 AUMs	-	124 AUMs	=	519 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	959	-	166	=	793 AUMs
Sheep	643	-	124	=	519 AUMs
Wild Horses	0				
	1,602	-	290	=	1,312 Total Use

Green Springs Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	42%	1.63	68.5%	681	497
1989	60%	.89	53.4%	1095	1025
1990	58%	.81	47.0%	644	685
1991	66%	.73	48.2%	959	995

The average proper stocking level is 801 AUMs. Since this is combined use, the stocking level will be proportioned to cattle and wild horses based on preference demand for cattle and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,701	(89.3%)
Sheep Preference	0	(0)
Wild Horses (7/91 census)*	204	(10.7%)
Total	1,905	(100.0%)

* Three wild horses were censused in the Green Springs Use Area and 21 wild horses were censused in the Humboldt National Forest immediately to the east of the Green Springs Use Area. The 204 AUMs are 70% of the total 24 wild horses censused (17 wild horses yearlong). See pages 5 and 24 for clarification.

Since a reduction in current demand based on the four year average actual use of wild horses would result in an AML of only four AUMs for wild horses, and since no documentation exists of wild horses making heavy or severe use in Green Springs Valley as a whole, the stocking level will be proportioned to cattle and horses based on preference demand for cattle and existing use by wild horses.

2. STOCKING RATE ADJUSTMENTS

a. Demand 1,905 AUMs
Stocking level 801 AUMs
Reduction 1,104 AUMs

b. Reduction by user - Based on percentage of demand.

Cattle	1,104 AUMs	X .893	=	986 AUMs
Sheep	0 AUMs			
Wild Horses	1,104 AUMs	X .107	=	118 AUMs
				1104 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

One permittee grazes Green Springs Valley, Duckwater Cattle Co.

a. Cattle reduction by permittee

Permittee	% Prefer.	X	Reduct.	=	Individual Reduct.
Duckwater Cattle Co.	100.0 / 100.0	X	986	=	986 AUMs / 986 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Cattle Co.	1701 AUMs	-	986 AUMs	=	715 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	1,701	-	986	=	715 AUMs
Sheep	(0)				
Wild Horses	204	-	118	=	86 AUMs AML (7 wild horses yearlong)
	1,905	-	1,104	=	801 Total Use

Pogues Station Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	44%	1.63	71.7%	2384	1662
1989	57%	.89	50.7%	3227	3182
1990	68%	.81	55.1%	2453	2226
1991	79%	.73	57.7%	2670	2314

The average proper stocking level is 2346 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,733	(53.0%)
Sheep Preference	746	(22.8%)
Wild Horses (7/91 census)*	792	(24.2%)
Total	3,271	(100.0%)

* Wild horses from both the Sand Springs East HMA and the Monte Cristo HMA use the Pogues Station Use Area. The 792 AUMs are 70% of 36 wild horses (25 wild horses using 300 AUMs yearlong) in the Monte Cristo HMA plus 41 wild horses using 492 AUMs yearlong in the Sand Springs East HMA. See pages 5, 23, and 24 for clarification.

2. AVERAGE ACTUAL USE AND WILD HORSE CENSUS (AUMs)

Cattle	1,646	(53.7%)
Sheep	627	(20.5%)
Wild Horses (7/91 census)	792	(25.8%)
Total	3,065	(100.0%)

3. STOCKING RATE ADJUSTMENTS

a. Demand 3,271 AUMs
Stocking level 2,346 AUMs
Reduction 925 AUMs

b. Reduction by user - Based on percentage of average actual use & most recent wild horse census.

Cattle	925 AUMs X	.537 =	497 AUMs
Sheep	925 AUMs X	.205 =	190 AUMs
Wild Horses	925 AUMs X	.258 =	238 AUMs
			925 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the Pogues Station Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Livestock reduction by permittee

Permittee	% Actual Use	X	Reduct.	=	Individual Reduct.
Duckwater Stockmen Assoc. (C)	53.7	X	925	=	497 AUMs
Russell Ranches (S)	20.5	X	925	=	190 AUMs
	74.2				687 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Stockmen Assoc. (C)	1,733 AUMs	-	497 AUMs	=	1,236 AUMs
Russell Ranches (S)	746 AUMs	-	190 AUMs	=	556 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	1,733	-	497	=	1,236 AUMs
Sheep	746	-	190	=	556 AUMs
Wild Horses	792	-	238	=	554 AUMs (46 wild horses yearlong)
	3,271	-	925	=	2,346 Total Use

Ike Springs/Ike Bench Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	64%	1.63	100.0% *	1180	590
1989	64%	.89	57.0%	1339	1175
1990	73%	.81	59.1%	957	810
1991	69%	.73	50.4%	2162	2145

* Corrected utilization can not exceed 100%.

The average proper stocking level is 1180 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	226	(9.4%)
Sheep Preference	316	(13.2%)
Wild Horses (7/91 census)	1,860	(77.4%)
Total	2,402	(100.0%)

2. AVERAGE ACTUAL USE (AUMs)

Cattle	150	(10.7%)
Sheep Trail*	54	(3.8%)
Wild Horses (four year average)	1,206	(85.5%)
Total	1,410	(100.0%)

* Paris Livestock, sheep trail AUMs only.

Over the four grazing evaluation years, 10.7% of the actual use in this use area has been made by cattle, while 85.5% has been made by wild horses. Monitoring data shows that sheep grazing is not making a negative impact to the resource in this use area. Although Triple E Livestock did not graze sheep in this use area during the evaluation years, conversation records plus monitoring data gathered after the evaluation years show Triple E Livestock has historically grazed sheep mainly on the black sagebrush plant communities in the vicinity of Bradshaw Spring and Indian Spring during February, March, and early April. Because of heavy and severe wild horse impacts to the range surrounding the Ike Springs area and also the Indian Springs/Bradshaw Springs areas, it has been impossible to graze cattle in these areas the past several years.

Since the percentage of current demand by livestock is so small relative to wild horse demand in this use area, the recommendation for the Ike Springs/ Ike Bench Use Area is to maintain livestock preference at 542 AUMs and establish a Wild Horse AML at 632 AUMs (53 wild horses yearlong).

Use of the Stocking Rate Calculations for this use area would result in a new livestock preference of 419 AUMs and a new Wild Horse AML of 755 AUMs (63 horses yearlong).

3. STOCKING RATE ADJUSTMENTS

a.	Demand	2,402 AUMs
	Stocking level	1,180 AUMs
	Reduction	1,222 AUMs
b.	Reduction by user	
	Cattle (retain preference)	0 AUMs
	Sheep (retain preference)	0 AUMs
	Wild Horses	1,222 AUMs
		1,222 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The livestock preference will be proportioned among the cattle and sheep permittees in the Ike Springs/Ike Bench Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittees in the use area.

a. Livestock reduction by permittee

Permittee	% Prefer. X Reduct. = Individual Reduct.
Barry & Norma Bradshaw (C)	No reduction
Triple E Livestock (S)	No reduction

b. New preference by permittee

Permittee	Prefer. - Individ. Reduct. = New Prefer.	
Barry & Norma Bradshaw (C)	Retain preference	226 AUMs
Triple E Livestock (S)	Retain preference	316 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	226	-	0	=	226 AUMs
Sheep	316	-	0	=	316 AUMs
Wild Horses	1,860	-	1,222	=	638 AUMs (53 wild horses yearlong)
	2,402	-	1,222	=	1,180 Total Use

Little Smoky Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level AUMs
1988	62%	1.63	100.0% *	5255	2628
1989	64%	.89	57.0%	6644	5828
1990	83%	.81	67.2%	8467	6300
1991	80%	.73	58.4%	5978	5118

* Corrected utilization can not exceed 100%.

The average proper stocking level is 4969 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep and wild horses based on preference demand for livestock and four year average actual use by wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	3,555	(41.6%)
Sheep Preference	1,598	(18.7%)
Wild Horses (7/91 census)	3,396	(39.7%)
Total	8,549	(100.0%)

2. AVERAGE ACTUAL USE (AUMs)

Cattle	1,924	(29.2%)
Sheep	1,038	(15.8%)
Wild Horses (four year average)	3,624	(55.0%)
Total	6,586	(100.0%)

3. STOCKING RATE ADJUSTMENTS

a. Demand 8,549 AUMs
Stocking level 4,969 AUMs
Reduction 3,580 AUMs

b. Reduction by user - Based on percentage of average actual use.

Cattle	3,580 AUMs	X	.292 =	1,045 AUMs
Sheep	3,580 AUMs	X	.158 =	566 AUMs
Wild Horses	3,580 AUMs	X	.550 =	1,969 AUMs
				3,580 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the Little Smoky Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Livestock reduction by permittee

Permittee	% Actual Use	X	Reduct.	=	Individual Reduct.
Russell Ranches (C)	29.2	X	3,580	=	1,045 AUMs
Richard Mckay (C)	(insignificant use)				0 AUMs
Russell Ranches (S)	15.8	X	3,580	=	566 AUMs
	45.0				1,611 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Russell Ranches (C)	3,526 AUMs	-	1,045 AUMs	=	2,481 AUMs
Richard Mckay (C)	29 AUMs	-	0 AUMs	=	29 AUMs
Russell Ranches (S)	1,598 AUMs	-	566 AUMs	=	1,032 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	3,555	-	1,045	=	2,510 AUMs
Sheep	1,598	-	566	=	1,032 AUMs
Wild Horses	3,396	-	1,969	=	1,427 AUMs (119 wild horses yearlong)
	8,549	-	3,580	=	4,969 AUMs

North Sand Springs Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	18%	1.63	29.3%	776	1324
1989	29%	.89	25.8%	1072	2078
1990	50%	.81	40.5%	1194	1474
1991	67%	.73	48.9%	1699	1737

The average proper stocking level is 1653 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,874	(55.9%)
Sheep Preference	133	(4.0%)
Wild Horses (7/91 census)	1,344	(40.1%)
Total	3,351	(100.0%)

2. AVERAGE ACTUAL USE (AUMs)

Cattle	298	(25.1%)
Sheep*	135	(11.4%)
Wild Horses (four year average)	753	(63.5%)
Total	1,186	(100.0%)

* Paris Livestock, sheep trail AUMs only.

3. STOCKING RATE ADJUSTMENTS

a. Demand	3,351 AUMs	
Stocking level	1,653 AUMs	
Reduction	1,698 AUMs	

The recommendation is to retain 133 AUMs sheep preference and allocate the livestock reduction of 620 AUMs (36.5% of actual use) to cattle, for the following reasons:

1. Monitoring data shows that sheep grazing is not making a negative impact to the resource in this use area. Sheep are mainly using black sagebrush in this use area.

2. The 1962 Range Survey rated this use area very high for sheep grazing (3474 AUMs).

3. This use area is well suited to sheep grazing with black sagebrush dominating much of the Salt Desert Shrub range.

4. A reduction of 620 AUMs to the cattle preference of 1874 AUMs would establish a new proper cattle stocking level of 1254 AUMs, which is far and above the four year average actual use by the Duckwater Stockmen's Association of 298 AUMs.

b. Reduction by user - Based on percentage of average actual use.

Cattle	1,698 AUMs X .365	=	620 AUMs
Sheep	(no reduction)	=	0 AUMs
Wild Horses	1,698 AUMs X .635	=	1,078 AUMs
			1,698 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the North Sand Springs Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Livestock reduction by permittee

Permittee	% Actual Use	X	Reduct.	=	Individual Reduct.
Duckwater Stockmen Assoc. (C)	36.5	X	1,698	=	620 AUMs
Paris Livestock (S)	(no reduction)			=	0 AUMs
	36.5				620 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Stockmen Assoc. (C)	1,874 AUMs	-	620 AUMs	=	1254 AUMs
Paris Livestock (S)	133 AUMs	-	0 AUMs	=	133 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	1,874	-	620	=	1,254 AUMs
Sheep	133	-	0	=	133 AUMs
Wild Horses	1,344	-	1,078	=	266 AUMs (22 horses yearlong)
	3,351	-	1,698	=	1,653 Total Use

Pancake East Bench/Duckwater Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	51%	1.63	83.1%	4087	2459
1989	61%	.89	54.3%	4704	4331
1990	57%	.81	46.2%	4628	5009
1991	65%	.73	47.5%	4982	5244

The average proper stocking level is 4261 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	2,939	(53.4%)
Sheep Preference	1,535	(27.9%)
Wild Horses (7/91 census)	1,032	(18.7%)
Total	5,506	100.0%

2. AVERAGE ACTUAL USE AND WILD HORSE CENSUS (AUMs)

Cattle	2,873	(55.7%)
Sheep	776	(15.0%)
Sheep Trail*	480	(9.3%)
Wild Horses (7/91 census)	1,032	(20.0%)
Total	5,161	(100.0%)

* Paris Livestock, sheep trail AUMs only

3. STOCKING RATE ADJUSTMENTS

a. Demand 5,506 AUMs
Stocking level 4,261 AUMs
Reduction 1,245 AUMs

b. Revised actual use - Based on reduction to cattle, sheep (excluding trail use), and wild horses.

Cattle	2,873	(61.4%)
Sheep	776	(16.6%)
Wild horses	1,032	(22.0%)
Total	4,681	(100.0%)

Reduction by user - Based on percentage of average actual use & most recent wild horse census.

Cattle	1,245 AUMs	X .614	=	764 AUMs
Sheep	1,245 AUMs	X .166	=	207 AUMs
Wild Horses	1,245 AUMs	X .220	=	274 AUMs
				1,245 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the Pancake East Bench/Duckwater Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area. Monitoring data shows that sheep grazing by Duckwater Cattle Co. and Paris Livestock is not making a negative impact to the range resource in this use area; Thus, there is no reduction to either of those operators. Duckwater Cattle Co. grazed sheep only one year of the four evaluation years (1989) during summer in range dominated by greasewood or small rabbitbrush west of the private ranch. Monitoring data collected after the evaluation years shows that the 50 head of sheep licensed for 1989 must have made light or less forage utilization in an area of range that is not a key area. Paris Livestock grazed this use area an average of eight days north in spring and eight days south in fall during the four evaluation years, making trail use of the area. There is little to no winterfat in the Pancake East Bench use area. The key forage species are Indian ricegrass and galleta grass.

a. Cattle reduction by permittee

Permittee	% Prefer.	X Reduct.	=	Individual Reduct.
Duckwater Stockmen Assoc.	94.9	X 764	=	725 AUMs
Duckwater Cattle Co.	5.1	X 764	=	39 AUMs
	100.0			764 AUMs

b. Sheep reduction by permittee

Russell Ranches (S)	100.0	X 207	=	207 AUMs
Paris Livestock (S)	(no reduction)			0 AUMs
Duckwater Cattle Co. (S)	(no reduction)			0 AUMs
	100.0			207 AUMs

b. New preference by permittee

Permittee	Prefer.	-	Individ. Reduct.	=	New Prefer.
Duckwater Stockmen Assoc. (C)	2,789 AUMs	-	725 AUMs	=	2,064 AUMs
Duckwater Cattle Co. (C)	150 AUMs	-	39 AUMs	=	111 AUMs
Russell Ranches (S)	1,065 AUMs	-	207 AUMs	=	858 AUMs
Paris Livestock (S)	404 AUMs	-	0 AUMs	=	404 AUMs
Duckwater Cattle Co. (S)	66 AUMs	-	0 AUMs	=	66 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	2,939	- 764	=	2,175 AUMs	
Sheep	1,535	- 207	=	1,328 AUMs	
Wild Horses	1,032	- 274	=	758 AUMs	(63 wild horses yearlong)
	5,506	- 1,245	=	4,261 AUMs	Total Use

Red Mountain/Callaway Well Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988*					
1989	50%	.89	44.5%	1354	1521
1990	50%	.81	40.5%	1369	1690
1991	62%	.73	45.3%	1343	1482

* No utilization data is available for 1988.

The average proper stocking level is 1564 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

1. FORAGE DEMAND (AUMs)

Cattle Preference	1,446	(94.1%)
Sheep Preference	0	(0)
Wild Horses (7/91 census) *	90	(5.9%)
Total	1,536	(100.0%)

* Eighteen wild horses were censused in the Red Mountain/Callaway Well Use Area. The 90 AUMs, or 10 wild horses for 9 months, is the most reasonable approximation for this use area based upon wild horse census, wild horse sightings and observation of wild horse sign by BLM resource personnel, and the professional opinions of the two wild horse specialists of the Ely District BLM.

2. AVERAGE ACTUAL USE (AUMs)

Cattle	1,100	(81.2%)
Sheep *	174	(12.8%)
Wild Horses (three year average)	81	(6.0%)
Total	1,355	(100.0%)

* Triple E Livestock, sheep trail AUMs only.

3. STOCKING RATE ADJUSTMENTS

a. Demand	1,536	AUMs
Stocking level	1,564	AUMs
Increase	28	AUMs

Sheep will not be increased in the Red Mountain Use Area because Triple E Livestock has made trail use of the area, moving north in fall and south in spring in a timely manner. Triple E Livestock will be allowed a trailing permit through this use area with the annual trail determined by the authorized officer.

b. Increase by user - Based on percentage of demand

Cattle	28 AUMs	X	.941 =	26 AUMs
Sheep	28 AUMs	X	0 =	0 AUMs
Wild Horses	28 AUMs	X	.059 =	2 AUMs
				28 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle permittees in the Red Mountain/Callaway Well Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area. There is no increase to Denny Manzonie or Carter Cattle Co. since they have not grazed cattle in this use area in many years.

a. Cattle increase by permittee

Permittee	% Actual Use	X	Increase	=	Individual Increase
John & Gailin Manzonie (C)	62.0	X	26	=	16 AUMs
Manzonie Irrevocable Trust (C)	38.0	X	26	=	10 AUMs
Denny Manzonie (C)	0	X	26	=	0 AUMs
Carter Cattle Co. (C)	0	X	26	=	0 AUMs
	100.0				26 AUMs

b. New preference by permittee

Permittee	Prefer.	+	Individ. Increase	=	New Prefer.
John & Gailin Manzonie (C)	757 AUMs	+	16 AUMs	=	773 AUMs
Manzonie Irrevocable Trust (C)	463 AUMs	+	10 AUMs	=	473 AUMs
Ernest Gubler (C)	209 AUMs	+	0 AUMs	=	209 AUMs
Carter Cattle Co. (C)	17 AUMs	+	0 AUMs	=	17 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand plus increase = authorization

Cattle	1,446	+ 26 =	1,472	AUMs
Sheep	0			
Wild Horses	90	+ 2 =	92	AUMs
				(10 wild horses for nine months)
	1,536	+ 28 =	1,564	Total Use

South Sand Springs Valley Use Area

Utilization/Stocking Rate Calculations

Year	Raw Utiliz.	Yield Index	Corrected Utilization	Actual Use AUMs	Proper Stocking Level
1988	59%	1.63	96.2%	1955	1016
1989	62%	.89	55.2%	4046	3665
1990	82%	.81	66.4%	2708	2039
1991	81%	.73	59.1%	3212	2717

The average proper stocking level is 2359 AUMs. Since this is combined use, the stocking level will be proportioned to cattle, sheep, and wild horses based on preference demand for livestock and the most recent census during the evaluation period for wild horses.

In the case of this use area, cattle have made no actual use during the four year evaluation period. Sheep have made 8.4% (250 AUMs) average actual use over four years. Wild horses have made 91.6% (2730 AUMs) average actual use over four years. Since a reduction in current demand based on this data would require a reduction of 4272 AUMs to horses, or 1164 AUMs more than current horse demand, the recommendation is to establish an AML of 0 AUMs for wild horses, retain the 224 AUM preference for sheep, and establish a cattle preference of 2135 AUMs. Because wild horses may continue foraging in this use area, future evaluations may establish a revised AML in this use area.

Monitoring data shows that Paris Livestock sheep are not causing damage to the resource in this use area. Paris Livestock has been trailing sheep on the west benches of the Pancake Range or else in the Dry Lake Hills on the west side of the valley, away from the main winterfat bottom.

1. FORAGE DEMAND (AUMs)

Cattle Preference	3,698	(52.6%)
Sheep Preference	224	(3.2%)
Wild Horses (7/91 census)	3,108	(44.2%)
Total	7,030	(100.0%)

2. AVERAGE ACTUAL USE (AUMs)

Cattle	0	(0.0)
Sheep*	250	(8.4%)
Wild Horses (four year average)	2,730	(91.6%)
Total	2,980	(100.0%)

* Paris Livestock, sheep trail AUMs only.

3. STOCKING RATE ADJUSTMENTS

a. Demand 7,030 AUMs
Stocking level 2,359 AUMs
Reduction 4,671 AUMs

b. Reduction by user - see above discussion and rationale

Cattle	1,563 AUMs
Sheep	0 AUMs
Wild Horses	3,108 AUMs
	4,671 AUMs

4. NEW LIVESTOCK PREFERENCE BY PERMITTEE

The new livestock preference will be proportioned among the cattle and sheep permittees in the South Sand Springs Valley Use Area as follows, based on current active preference which is based upon the 1962 Range Survey and subsequent August, 1967 Grazing Decision and the 1988 - 1991 four year average actual use of the permittee in the use area.

a. Livestock reduction by permittee

Permittee	Individual Reduction
Duckwater Stockmen Assoc. (C)	1,563 AUMs
Paris Livestock (S)	0 AUMs

b. New preference by permittee

Permittee	Prefer. - Individ. Reduct. = New Prefer.
Duckwater Stockmen Assoc.(C)	3,698 AUMs - 1,563 AUMs = 2,135 AUMs
Paris Livestock (S)	224 AUMs - 0 AUMs = 224 AUMs

5. TOTAL USE AUTHORIZATIONS (AUMs) AND WILD HORSE AML

a. demand less reduction = authorization

Cattle	3,698	-	1,563	=	2,135 AUMs
Sheep	224	-	0	=	224 AUMs
Wild Horses	3,108	-	3,108	=	0 AUMs AML
	7,030	-	4,671	=	2,359 AUMs

D. Short Term Solutions by Use Area

1. Broom Canyon/South Railroad Valley Use Area

> Set the stocking rate at 1,303 AUMs for cattle, as indicated by monitoring studies.

> Establish a wild horse AML of 372 AUMs (31 wild horses yearlong), as indicated by monitoring studies.

> Maintain cattle season of use for all permittees in this use area as spring/winter (from 3/1 to 6/15 and 11/1 to 2/28) to make use of winterfat, budsage, shadscale, and extremely limited perennial bunchgrass during spring and winterfat, galleta grass, and cured bunchgrass during winter.

> Defer spring cattle turnout for all permittees the first year of the grazing decision and every third year thereafter from 3/1 to 4/30 to allow proper rest for forage plants during the critical growing period.

> Construct an east/west fence dividing the Broom Canyon Use Area from the Bull Creek Use Area to the north. This will facilitate better control of cattle grazing.

> Triple E Livestock will be allowed to license a sheep trailing permit on an annual basis north in fall and south in early spring through this use area. Sheep will be trailed to the west of County Highway 20. The sheep trailing route and stipulations will be determined annually by the authorized officer.

> Sheep will not be bedded in the prominent winterfat flat located on the west side of Highway 20 between the gravel pit and the old Bull Creek Well. This winterfat flat is located in T. 11N., R. 57E., sections 16, 21, and 22. Sheep bedding grounds will be located a minimum of 1/4 mile from this prominent winterfat flat. Sheep will be moved a minimum of five miles per day through this use area.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

2. Bull Creek/North Railroad Valley Use Area

> Set the stocking rate at 1,830 AUMs for cattle, as indicated by monitoring studies.

> Establish a wild horse AML of 672 AUMs (56 wild horses yearlong) as indicated by monitoring studies.

> Establish a cattle season of use for both permittees in this use area as spring/fall/winter (from 3/1 to 6/15 and 9/1 to 2/28). Control cattle grazing by herding cattle to different locations in the use area each year on the turnout date. These locations will be determined on an annual basis and included in the Terms and Conditions of the permit.

> Defer spring cattle turnout for both permittees the first year of the grazing decision and every third year thereafter from 3/1 to 4/30 to allow proper rest for forage plants during the critical growing period.

> Triple E Livestock will be allowed to license a sheep trailing permit on an annual basis north in fall and south in spring through this use area. Sheep will be trailed to the west of County Highway 20. The sheep trailing route and stipulations will be determined annually by the authorized officer.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

3. Bull Creek Corner/Poison Patch Use Area

> Set the stocking rate at 886 AUMs for cattle and 2,666 AUMs for sheep, as indicated by monitoring studies.

> Establish a wild horse AML of 127 AUMs (12 wild horses yearlong) as indicated by monitoring studies.

> Establish a cattle season of use as summer/fall/winter (from 5/1 to 2/28). The Duckwater Stockmen's Association will graze this area during summer and fall (5/1 to 11/30) while Duckwater Cattle Company will graze this area during fall and winter (11/1 to 2/28). This grazing system provides for spring rest of forage plants during the critical growing period.

> Maintain the sheep season of use for Russell Ranches and Triple E Livestock as 11/1 - 4/15. In this use area, Russell Ranches will graze lands along the main Poison Wash (Road 4106) and west of the wash, while Triple E Livestock will graze lands east of the main Poison Wash and south of the Easy Junior Mine (Road 4108 and Road 4109). Maintain the sheep season of use for Paris Livestock as winter (12/15 - 3/31). Paris Livestock will be allowed a sheep trailing window of approximately 20 days south through the allotment from 12/15 to 02/15 and 20 days north through the allotment from 03/01 to 03/31. Paris Livestock will be allowed three alternate routes while herding sheep south in

winter or north in early spring through this use area. These are along roads 4105, 4106, or 4109 (Map I).

> Ensure no concentrated sheep grazing in the main Poison Wash (road 4006). Ensure that the main pasture in this use area (T 14N., R56E., Sec. 10,14,15,16) receives adequate rest during the critical growth period, allowing for seed ripe of native perennial species.

> Sheep herding will not be concentrated in the main Poison Wash (road 4006) but will be distributed in other small valleys and drainages. Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season. Sheep camps and bedding grounds will be located a minimum of 1/4 mile from springs. If sheep must water at springs, they must move to and from the area in a timely manner.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

4. Duckwater Hills Use Area

> Set the stocking rate at 793 AUMs for cattle and 519 AUMs for sheep, as indicated by monitoring studies.

> A Wild Horse AML of 0 will be established for this use area.

> Establish a cattle season of use for Duckwater Cattle Co. east of the Duckwater Hills north/south ridgeline as spring/fall/winter (3/1 to 6/15 and 9/1 to 2/28) corresponding to the season of use in the Bull Creek Use Area. Defer cattle grazing from 3/1 to 4/30 the first year of the grazing decision and every third year thereafter to rest forage plants during the critical growing period. Establish a cattle season of use for the Duckwater Stockmen's Association west of the ridgeline as spring/summer/fall (3/1 to 11/30). Cattle grazing will also be deferred west of the ridgeline from 3/1 to 4/30 the first year of the grazing decision and every third year thereafter to rest forage plants. The Duckwater Stockmen's Association will be required to haul water to the north Duckwater Hills area in T. 14N., R. 56E., sec. 29.

> Maintain season of use for sheep as 11/1 to 4/15. Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs. If sheep must water at springs, they should move to and from the area in a timely

manner. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season.

> North of the intersection of State Route 379 and Bull Creek Road, sheep are to be herded in the Duckwater Hills west of Bull Creek Road and Bull Creek, and are not to water in Bull Creek. Water hauling will be required for sheep use in this area in the absence of snow.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

5. Green Springs Use Area

> Set the stocking rate at 715 AUMs for cattle, as indicated by monitoring studies (there is no sheep grazing in this use area).

> Establish a wild horse AML of 86 AUMs (7 wild horses yearlong) as indicated by monitoring studies.

> Maintain the cattle season of use for Duckwater Cattle Co. as summer (6/1 to 7/30).

> If water is available to pump, the stock well located in T. 15N., R. 57E., Section 17, SE 1/4 is to be repaired to good working condition by Duckwater Cattle Co., to improve cattle distribution.

> Construct an east/west fence in cooperation with Duckwater Cattle Company dividing the Green Springs Valley Use Area from the Monte Cristo Allotment to the north. This will facilitate better control of livestock grazing.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

6. Pogues Station Use Area

> Set the stocking rate at 1,236 AUMs for cattle and 556 AUMs for sheep, as indicated by monitoring studies.

> Establish a wild horse AML of 554 AUMs (46 wild horses yearlong) as indicated by monitoring studies.

> Establish a cattle season of use for the Duckwater Stockmen's Association as summer/fall (5/1 to 11/30). Maintain sheep season of use for Russell Ranches as late fall/winter/early spring (11/1 to 4/15).

> To accomplish better control and distribution of cattle, the Duckwater Stockmen's Association will haul water to different locations within the use area to be determined on an annual basis.

Three different locations for hauling water in this use area are identified as follows:

1. Pogues Station - T. 15N., R. 54E., sec. 11.
2. West of Pogues Station - T. 15N., R. 54E., sec. 10.
3. North of Duckwater Road - T. 16N., R. 54E., sec. 15.

> Sheep camp locations in this use area will be determined by the authorized officer on an annual basis.

> Ensure sheep grazing is not concentrated in the former winterfat stringer meadows to the southwest of Pogues Station or anywhere else in this pasture. This will allow rest for severely degraded rangelands.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs; If sheep must water at springs they should move to and from the area in a timely manner. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

7. Ike Springs/Ike Bench Use Area

> Maintain the stocking rate at 226 AUMs for cattle and 316 AUMs for sheep (no reduction to livestock) as indicated by monitoring studies.

> Establish a wild horse AML of 638 AUMs (53 wild horses yearlong) as indicated by monitoring studies.

> Maintain cattle season of use for Barry & Norma Bradshaw in a spring/winter rotation system (3/1 to 6/15 and 11/1 to 2/28). Defer spring cattle turnout the first year of the grazing decision and every third year thereafter from 3/1 to 4/30 to allow proper rest for forage plants during the critical growth period.

> The water ditch running south of the Bradshaw Ranch near valley bottom will be maintained and improved by adding at least one small reservoir near the southern end of the ditch. This will better distribute cattle grazing until such time as the

rangeland on the east benches of the Pancake Range recovers from heavy horse impacts. As wild horses are removed and the vegetation recovers, water can be developed from Indian Spring and/or Ike Spring.

> Maintain a winter season of use for Triple E Livestock for sheep grazing (11/1 to 4/15). Water hauling will be required for sheep grazing in this use area in the absence of snow.

> Sheep camps and bedding grounds will be located at least 1/4 mile away from springs on the east slopes of the Pancake Mountains. If sheep must water at springs, they should move to and from the area in a timely manner. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season. No salt or supplement will be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

8. Little Smoky Valley Use Area

> Set the stocking rate at 2,510 AUMs for cattle and 1,032 AUMs for sheep as indicated by monitoring studies.

> Establish a wild horse AML of 1,427 AUMs (119 wild horses yearlong) as indicated by monitoring studies.

> Establish a cattle season of use for Russell Ranches as winter (10/1 to 3/31). Dick McKay's cattle season of use will remain the same (12/1 to 3/31).

> Maintain the sheep season of use for Russell Ranches as winter (1/1 to 3/31). Sheep camp locations in this use area will be determined by the authorized officer on an annual basis.

> Sheep herding will not be concentrated in the winterfat flats or benches to the northwest of the Moody Mountains nor in Big Fault Wash, Snowball Creek Wash, Willow Creek Wash, Cockalorum Wash, or other major washes running west to east, in order to allow proper rest for severely degraded winterfat areas.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs. If sheep must water at springs they must move to and from the area in a timely manner. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season.

> During the first year of the grazing decision, one band of sheep should be herded in Little Smoky Valley (where black sagebrush is dominant over much of the rangeland) to lessen range impacts by sheep and allow for range recovery in the Bull Creek

Corner/Poison Patch and Pogues Station Use Areas (where winterfat requires rest from grazing). The band should be herded on the west benches of the Moody Mountains away from the overgrazed winterfat stringer meadows in the bottoms and on the lower benches.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

9. North Sand Springs Valley Use Area

> Set the stocking rate at 1,254 AUMs for cattle and maintain the stocking rate at 133 AUMs for sheep as indicated by monitoring studies.

> Establish a wild horse AML of 266 AUMs (22 wild horses yearlong) as indicated by monitoring studies.

> Maintain cattle season of use for the Duckwater Stockmen's association as spring/fall (3/1 to 5/1 and 9/1 to 11/30). This pasture will be rested the first spring of the grazing decision and every third year thereafter from 3/1 to 4/30 to allow proper rest for forage plants during the critical growing period.

> The Duckwater Stockmen's Association will continue to haul water to their main stock tank in Section 31, Township 13 North, Range 55 East. The Duckwater Stockmen's Association is also to insure that the Florio spring development is in good working condition with adequate water in the stock tank.

> Maintain sheep season of use for Paris Livestock as winter (12/15 to 3/31). Paris Livestock will be allowed a sheep trailing window of approximately 20 days south through the allotment from 12/15 to 02/15 and 20 days north through the allotment from 03/01 to 03/31.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs. If sheep must water at springs they must move to and from the area in a timely manner.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

10. Pancake East Bench/Duckwater Valley Use Area

> Set the stocking rate at 2,175 AUMs for cattle and 1,328 AUMs for sheep, as indicated by monitoring studies.

> Establish a wild horse AML of 758 AUMs (65 wild horses yearlong) as indicated by monitoring studies.

> Maintain season of use for cattle for the Duckwater Stockmen's Association as summer/fall (5/1 to 11/30). The Duckwater Stockmen's Association will control cattle grazing by herding cattle to different watering locations each year on the turnout date. Watering locations will be determined on an annual basis. Establish a season of use for cattle for Duckwater Cattle Co. as spring/summer/fall (3/1 to 11/30).

> Insure maintenance of existing water developments at Big Louie, Florio, and McClure Springs. The Duckwater Stockmen's Association will continue water hauling to the bench just west of the intersection of State Route 379 and Big Louie Road in Township 14 North, Range 55 East, Section 22. They will also continue water hauling to the small valley northwest of Bull Fork in Township 14 North, Range 55 East, Section 16.

> Maintain the sheep season of use for Russell Ranches as late fall/winter/early spring (11/1 - 4/15). Maintain the sheep season of use for Paris Livestock as winter (12/15 - 3/31). Sheep herding by Russell Ranches and Paris Livestock will not be concentrated east of the Big Louie Road so as not to conflict with cattle grazing. Sheep will be herded primarily in the Pancake Mountains to the west of Big Louie Road. Paris Livestock will be allowed a sheep trailing window of approximately 20 days south through the allotment from 12/15 to 02/15 and 20 days north through the allotment from 03/01 to 03/31. Establish a sheep season of use for Duckwater Cattle Co. as summer (6/1 to 8/31). No sheep camps or bedding grounds are to be located within 1/4 mile of springs. If sheep must water at springs they should move to and from the area in a timely manner. Sheep camps will be moved every seven days. No two sheep camps will camp in the same area in a grazing season.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

11. Red Mountain/Callaway Well Use Area

> Set the stocking rate at 1,472 AUMs for cattle as indicated by monitoring studies.

> Establish a wild horse AML of 92 AUMs (10 wild horses for 9 months) as indicated by monitoring studies.

> Establish a cattle grazing season of use for all permittees as spring/winter (3/1 to 6/15 and 11/1 to 2/28). Defer spring cattle turnout from 3/1 to 4/30 the second year of the grazing decision and every third year thereafter to allow proper rest for

forage plants during the critical growing period.

> Cattle grazing in this use area will be dependent on continued water hauling and rotating seasons of use between spring and fall. Cattle grazing will not be concentrated in the bottoms around Callaway Well, to allow rest for severely degraded rangelands.

> Triple E Livestock will be allowed to license a sheep trailing permit on an annual basis north in fall and south in early spring through this use area. The sheep trailing route and stipulations will be determined annually by the authorized officer.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs. If sheep must water at springs, they must move to and from springs in a timely manner. Sheep will be moved a minimum of five miles per day through this use area.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

12. Sand Springs South Use Area

> Set the stocking rate at 2,135 AUMs for cattle and maintain the stocking rate at 224 AUMs for sheep, as indicated by monitoring studies.

> Establish a wild horse AML of 0 AUMs (0 wild horses yearlong) as indicated by monitoring studies.

> Establish a summer/winter season of use for the Duckwater Stockmen's association cattle grazing (5/1 to 7/30 and 10/1 to 2/28). This pasture will be rested one full year following the first horse gather of the Sand Springs HMA.

> Maintain sheep season of use for Paris Livestock as winter (12/15 - 3/31). Paris Livestock will be allowed a sheep trailing window of approximately 20 days south through the allotment from 12/15 to 02/15 and 20 days north through the allotment from 03/01 to 03/31. Sheep use will not be concentrated in the winterfat flats or stringer meadows on the valley bottom and lower benches but will be distributed to the west slopes of the Pancakes on the east side of the valley or the Dry Lake Hills on the west side of the valley. This will allow some rest for severely degraded rangelands in the valley bottom.

> Sheep will not be trailed or bedded in winterfat flats or bottoms. Sheep bedding grounds will be located a minimum of 1/4 mile from winterfat flats or bottoms. No sheep camps or bedding grounds are to be located within 1/4 mile of springs; If sheep must water at springs they must move to and from the area in a timely manner.

> Salt and supplements will not be allowed within 1/2 mile of stock waters, nor in winterfat vegetation.

E. General (All pastures)

Total active preference for livestock on the Duckwater Allotment for all permittees would be a total of 23,309 AUMs with 10,498 AUMs held in suspended non-use. Cattle AUMs would be 16,535 active, with 7,749 held in suspended non-use; While sheep AUMs would be 6,774 active, with 2,749 held in suspended non-use. The new active preference of 23,323 AUMs for the allotment would be licensed separately for each of the 12 use areas as outlined in previous sections. Active preference for each of the use areas is summarized as follows:

Use Area	Cattle AUMs	Sheep AUMs
Broom Cnyn.	1,303	<0>
Bull Creek	1,830	<0>
Bull Corner/ Poison Patch	886	2,666
Duckwater Hills	793	519
Green Springs Vlly.	715	<0>
Pogues Station	1,236	556
Ike Springs/ Ike Bench	226	316
Little Smoky Vlly.	2,510	1,032
North Sand Springs	1,254	133
Pancake East Bench/ Duckwater Vlly.	2,175	1,328
Red Mountain	1,472	<0>
South Sand Springs	2,135	224
Total	16,535	6,774

Overall, this is a 32% reduction in cattle preference and a 29% reduction in sheep preference.

A summary of the new total active preference on the Duckwater Allotment broken down by permittee and use area follows:

Permittee	Use Area and AUMs						
	Bull Corner/ Poison Patch	Duckwtr. Hills	Pogues Sta.	Pancake East Bench	Sand Springs North	Sand Springs South	Total
Duckwater Stockmen's Assoc. (C)	310	416	1236	2064	1254	2135	7415

	Broom Canyon	Bull Creek	Bull Corner/ Poison Patch	Duckwtr. Hills	Green Springs	Pancake East Bench	Total
Duckwater Cattle Co.	259	1747	576	377	715	(111 C) (66 S)	3851

	Bull Corner/ Poison Patch	Pogues Sta.	Little Smoky Valley	Pancake East Bench	Total
Dan Russell (S)	1032	556	1032	858	5959
(C)			2481		

	Bull Corner/ Poison Patch	Duckwater Hills	Ike Springs/ Ike Bench	Total
Triple E Livestock (S)	1289	519	316	2124

	Broom Canyon	Red Mountain	Total
John & Gailin Manzonie (C)	548	773	1321

	Broom Canyon	Red Mountain	Total
Manzonie Irrevocable Trust (C)	337	473	810

	Bull Corner/ Poison Patch	Sand Springs North	Pancake East Bench	Sand Springs South	Total
Paris Livestock (S)	345	133	404	224	1106

	Broom Canyon	Bull Creek	Ike sps. Ike Bench	Total
Barry & Norma Bradshaw (C)	159	83	226	468

	Red Mountain	Total
Denny Manzonie (C)	209	209

	Little Smoky Valley	Total
Dick McKay (C)	29	29

	Red Mountain	Total
Carter Cattle Co. (C)	17	17

The authorized livestock use as determined through the analysis of monitoring data for the Duckwater Allotment will be as follows:

Use Area & Permittee	No.	Kind	Period of Use	%PL	Active
Broom Canyon					
John & Gailin Manzonie	78	Cattle	03/01 to 06/15	100	274
	69	Cattle	11/01 to 02/28	100	272
Manzonie Irrevocable Trust	47	Cattle	03/01 to 06/15	100	165
	43	Cattle	11/01 to 02/28	100	170
Duckwater Cattle Co.	36	Cattle	03/01 to 06/15	100	127
	33	Cattle	11/01 to 02/28	100	130
Barry & Norma Bradshaw	22	Cattle	03/01 to 06/15	100	77
	20	Cattle	11/01 to 02/28	100	79
Bull Creek					
Duckwater Cattle Co.	375	Cattle	03/01 to 06/15	100	1,319
	72	Cattle	09/01 to 02/28	100	428
Barry & Norma Bradshaw	23	Cattle	03/01 to 06/15	100	81
Bull Creek Corner/Poison Patch					
Duckwater Cattle Co.	57	Cattle	05/01 to 02/28	100	570
Duckwater Stockmen's Assoc.	31	Cattle	05/01 to 02/28	100	310
Triple E Livestock	1,180	Sheep	11/01 to 04/15	100	1,288
Russell Ranches	945	Sheep	11/01 to 04/15	100	1,031
Paris Livestock	490	Sheep	12/15 to 03/31	100	345

Duckwater Hills

Duckwater Stockmen's Assoc.	46	Cattle	03/01 to 11/30	100	416
Duckwater Cattle Co.	53	Cattle	03/01 to 06/15	100	186
	32	Cattle	09/01 to 02/28	100	190
Triple E Livestock	475	Sheep	11/01 to 04/15	100	518

Green Springs

Duckwater Cattle Co.	118	Cattle	06/01 to 11/30	100	710

Pogues Station

Duckwater Stockmen's Assoc.	175	Cattle	05/01 to 11/30	100	1,231
Russell Ranches	509	Sheep	11/01 to 04/15	100	556

Ike Springs/Ike Bench

Barry & Norma Bradshaw	31	Cattle	03/01 to 06/15	100	109
	29	Cattle	11/01 to 02/28	100	114
Triple E Livestock	289	Sheep	11/01 to 04/15	100	315

Little Smoky Valley

Russell Ranches	414	Cattle	10/01 to 03/31	100	2,477
Richard McKay	7	Cattle	12/01 to 03/31	100	28
Russell Ranches	1,744	Sheep	01/01 to 03/31	100	1,030

North Sand Springs Valley

Duckwater Stockmen's Assoc.	312	Cattle	03/01 to 04/30	100	626
	210	Cattle	09/01 to 11/30	100	628
Paris Livestock	189	Sheep	12/15 to 03/31	100	133

Pancake East Bench/Duckwater Valley

Duckwater Stockmen's Assoc.	293	Cattle	05/01 to 11/30	100	2,061
Duckwater Cattle Co.	15	Cattle	03/01 to 06/15	100	53
	9	Cattle	09/01 to 02/28	100	54
Russell Ranches	785	Sheep	11/01 to 04/15	100	857
Paris Livestock	574	Sheep	12/15 to 03/31	100	404
Duckwater Cattle Co.	54	Sheep	06/01 to 11/30	100	65

Red Mountain/Callaway Well

John & Gailin Manzonie	110	Cattle	03/01 to 06/15	100	387
	98	Cattle	11/01 to 02/28	100	387
Manzonie Irrevocable Trust	67	Cattle	03/01 to 06/15	100	236
	60	Cattle	11/01 to 02/28	100	237
Denny Manzonie	39	Cattle	03/15 to 05/31	100	100
	54	Cattle	10/01 to 11/30	100	108
Carter Cattle Co.	4	Cattle	03/01 to 06/15	100	14

South Sand Springs Valley

Duckwater Stockmen's Assoc.	353	Cattle	05/01 to 07/31	100	1,068
	215	Cattle	10/01 to 02/28	100	1,067
Paris Livestock	318	Sheep	12/15 to 03/31	100	224

A summary of sheep grazing and trailing areas, periods of use, and new active preference by permittee follows:

Permittee & Use Area	No.	Kind	Period of Use	Active
Russell Ranches				
Bull Creek Corner	945	Sheep	11/01 to 04/15	1,032
Pogues Station	509	Sheep	11/01 to 04/15	556
Little Smoky Valley	1,744	Sheep	01/01 to 03/31	1,032
Pancake East Bench	786	Sheep	11/01 to 04/15	858
Total active preference				3,478
Triple E Livestock *				
Bull Creek Corner	1,181	Sheep	11/01 to 04/15	1,289
Duckwater Hills	475	Sheep	11/01 to 04/15	519
Ike Springs/Ike Bench	289	Sheep	11/01 to 04/15	316
Total active preference				2,124

* Triple E Livestock will be allowed to license a sheep trailing permit on an annual basis north in fall and south in spring through the Red Mountain, Broom Canyon, and Bull Creek Use Areas. The sheep trailing route and stipulations will be determined annually by the authorized officer.

Paris Livestock *

Bull Creek Corner	490	Sheep	12/15 to 03/31	345
North Sand Springs	189	Sheep	12/15 to 03/31	133
Pancake East Bench	574	Sheep	12/15 to 03/31	404
South Sand Springs	318	Sheep	12/15 to 03/31	224

Total active preference 1,106

* Paris Livestock will be allowed a sheep trailing window of approximately 20 days south through the allotment from 12/15 to 02/15 and 20 days north through the allotment from 03/01 to 03/31. The sheep trailing window of 20 days can be extended under special circumstances. For example, if Paris Livestock trails fewer numbers of sheep through the allotment or if additional days of trailing are required because of weather conditions. Paris Livestock will also be allowed to license a trailing permit in use areas other than those listed above when emergency weather conditions are encountered. Such a trailing permit will only be issued for those use areas where Paris Livestock has made historical and customary grazing use (Ike Springs, Little Smoky Valley, Pogues Station).

New wild horse AMLs for the Duckwater Allotment by use area and herd management area (HMA) are summarized as follows:

Wild Horse Use Area	HMA	AUMs	(# Animals)
Broom Cnyn.	Monte Cristo	372	(31)
Bull Creek	Monte Cristo	672	(56)
Bull Corner/ Poison Patch	Monte Cristo	127	(11)
Duckwater Hills	Monte Cristo	0	(0)
Green Springs	Monte Cristo	86	(7)
Pogues Sta.	Monte Cristo	554	(46)
Total HMA		1811	(151)
Ike Springs/ Ike Bench	Sand Springs East	638	(53)
Little Smoky V.	Sand Springs East	1427	(119)
North Sand S.	Sand Springs East	266	(22)
Pancake East B./ Duckwater Vlly.	Sand Springs East	758	(63)
South Sand S.	Sand Springs East	0	(0)
Total HMA		3089	(257)

Red Mountain	White River	92	(10*)
Total HMA		92	(10)
Total Duckwater		4962	417

* 10 horses for 9 months

2. Long Term Solutions

The following long term solutions should be implemented. Any projects recommended will be initiated when time, funding, and manpower allows.

(a) Continue to monitor to determine if further adjustments to livestock and wild horse use are necessary. This will include rereading existing studies, establishing new studies, accomplishing utilization surveys, horse census, and other studies as needed.

(b) Manage wild horse numbers at a level which will maintain a thriving natural ecological balance and prevent deterioration of the range.

(c) Continue to work with the permittees in the allotment to rest the range during the critical growing period of spring, allowing for seed ripe of native perennial plant species.

Broom Canyon/South Railroad Valley Use Area

Insure proper maintenance of the Silver Springs water development, pipeline, and troughs.

Duckwater Hills Use Area

Continue to work with Duckwater Cattle Co. and Triple E Livestock to control livestock distribution on the east side of the Duckwater Hills. Continue to monitor the critical habitat of the Railroad Valley Springfish.

Green Springs Use Area

Traditionally, this use area has been grazed by cattle in summer, during which time calves are branded; Following summer the cattle pairs are then turned out in the permittee's Monte Cristo Allotment to the north or in the Treasure Hill U.S. Forest Service Allotment to the east and north. Thus summer use in this pasture is well suited to the needs of the livestock operation, and should continue until such time as the BLM and Duckwater Cattle Co. can reach agreement on an improved grazing system.

An opportunity exists in the northeast portion of Green Springs Valley to accomplish a vegetative conversion, improving the vegetative composition and ecological condition for cattle, wild horses, wintering mule deer, yearlong antelope, and other wildlife. East of White Pine County Road 5, on the southwest benches of Mt. Hamilton, a chaining, chaining and seeding, prescribed burn, or prescribed burn and seeding will have multiple benefits in range that currently supports an excellent bunchgrass/shrub component beneath an encroaching Pinyon/Juniper overstory.

Ike Springs/Ike Bench Use Area

As wild horses are removed and the range vegetation recovers, work with the permittee to develop the water at Indian Spring and/or Ike Spring to improve cattle distribution in this use area and lessen impacts to the adjacent Broom Canyon/South Railroad Valley Use Area.

Pancake East Bench/Duckwater Valley Use Area

Cattle use on this bench should largely be maintained as summer/fall use, as galleta grass, the major dominant perennial grass in this area, is a warm season, late maturing bunchgrass.

Red Mountain/Callaway Well Use Area

A potential exists in this use area to accomplish a vegetative conversion by conducting two small prescribed burns of about 500 acres each. One Burn would be in the big sagebrush/perennial grass draw northeast of Manzonie Well (T. 10N., R. 59E., Sections 3,9,10,15,16). The other burn would be in a big sagebrush/perennial grass draw southwest of Wells Station Summit towards Albert Spring (T. 8N., R. 59E., Sections 4,5,6 and T. 9N., R. 59E., Section 33). These burns would be undertaken for several reasons including improving forage conditions for cattle, wild horses, and wintering mule deer and improving the watershed conditions, biodiversity, and ecological condition of the site. Because a variety of native perennial grasses and shrubs are characteristic of each site, these prescribed burns could be accomplished with minimal reseeding.

South Sand Springs Valley Use Area

When the rangeland in this use area recovers from severe wild horse use, work with the Duckwater Stockmen's Association to control cattle distribution in this pasture. The exclosure fence around Portuguese Spring should be repaired and strengthened to exclude cattle and wild horses. The Portuguese Spring water development should be maintained in good working order. Because wild horses may continue foraging in this use area, future evaluations may establish a revised AML in this use area.

3. Threatened and Endangered Species Solutions

The habitat of the Railroad Valley Springfish - Big and Little Warm Springs - is within the Duckwater Hills Use Area of the allotment. This evaluation proposes to reduce the cattle grazing preference in this use area for the Duckwater Stockmen's Association from 503 to 416 AUMs. In addition, the Duckwater Stockmen's Association will be required to haul water to the north Duckwater Hills, where there is available forage, away from the springs. There should be no increased grazing near either warm spring. The Duckwater Stockman's Association will be encouraged to limit cattle use in the vicinity of the critical habitat on public lands near Big and Little Warm Springs.

4. Additional Monitoring Data Required

Continue to conduct use pattern mapping, key area utilization, and re-read frequency studies to insure correct stocking rates.

Continue to monitor livestock, wild horse, and wildlife actual use. Require pasture specific actual use from the livestock permittees.

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

Continue to accomplish off-bank riparian surveys on all key riparian sites.

9-29-94

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September 29, 1994

COPY FOR YOUR INFORMATION

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SANDS SPRINGS EAST and
MONTE CRISTO HMAs

DRAFT DUCKWATER ALLOTMENT EVALUATION
and
1994 WILD HORSE REMOVAL PLAN
FINAL "DR"/FONSI

The Animal Protection Institute is an interested party to BLM's wild horse and burro protection and wildlife habitat management programs. Wild horses, predator control, and fur bearer takings are the three specific issues of greatest concern to our national membership. While we realize we have missed the deadline for appealing this decision, we wish to submit our comments for your records. It is our understanding that all of Sands Springs East Herd Management Area (HMA) and a portion of Monte Cristo HMA fall within the Duckwater Allotment.

We agree with your admission that the "AML" set in the land use plan is not a valid management objective. We are impressed with the data you have collected during the monitoring period. We appreciate the maps and extensive descriptions of utilization, range condition, trend, and the ecological status. However, the missing data that is the crucial data for determining whether there are excess wild horses and burros and how many you are allowed to remove is the census-distribution map for wild horses and burros.

This is the information that will show to what extent wild horses and burros contribute to over grazing and thus how many need to be removed to restore the thriving natural ecological balance. For management purposes, this balance is measured by setting an allowable utilization level (AUL). Census-distribution mapping, like suitability criteria, appears to be another management practice purged from BLM's field operations.

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On page 48 of the evaluation document, you explain that the "proper stocking rate" equation is applied to the combined actual use of horses and cows in each of the twelve monitored units. Combining use only makes sense where there is spatial overlap. The distribution information is needed to show this. The equation says: if this number of animals cause this utilization, how many animals will cause 50 percent utilization (the AUL). The outcome is the proper stocking rate of animals. It does not show proper stocking rate for horses ("AML"). The equation needs to be applied separately for wild horses to utilization data in those key areas that are monitored for wild horse use.

You refer to your 50 percent allowable forage take off level as the "allowable use factor." In fact, it is the Allowable Utilization Level (AUL). It is extremely important to us that "use" and "utilization" not be confused. We're correcting your terminology because the confusion between "use" and "utilization" is sometimes used to purposely confuse the public. It is an extremely important difference when it comes to what it is you are managing for (management objectives), how you do it, and the purpose being served.

The laws are specific that you are not simply to manage without further degradation but to restore the ecosystem to its most productive level and maintain it at the level in perpetuity.

The Wild, Free-Roaming Horse and Burro Protection Act amended by the Public Rangeland Improvement Act REQUIRES that you manage for the thriving ecological balance in wild horse/burro habitat areas. The Secretary has no discretionary authority in this. The law allows BLM to remove ONLY the number needed to achieve the thriving ecological balance. For management purposes that is the "allowable utilization level" (AUL). The equation refers to this as the desired utilization level. Setting the AUL or desired level is a technical decision that only BLM professional staff is authorized to set. It is not set by popular demand. Your AUL is "half off, half on" except in those areas where special protections require leaving more on. The AUL is the management objective. The AML is the outcome of monitoring.

First, combining actual use does not in anyway allow you to determine how many wild horses are excess or how many to remove. Your data show that by adding the "actual use" of horses and cows there are 14,603 AUMs (horses) and 14,250 actual use by cows. The new adjustment (after applying the equation and dividing proportionately) allows 4,948 AUMs for horses and 16,261 AUMs for cows. How is it that a reduction for cows ends up as an increase in actual use?

It is because you have subtracted the livestock reduction from "preference" rather than actual use. This is outrageous. It is actual use that causes overgrazing. Any subtraction needs to come from actual use not from a number that exists on paper only. "Preference" is the forage allocation made back in 1962 (32 years ago). Preference on the Duckworth Allotment is 24,284 AUMs allocated for livestock but only 14,250 was authorized for use. Your "preference demand" misuses the word preference to mean an allocation of forage granted to livestock. It is an allocation carried over on the ten year permit in 1974 and again in 1984 without correction or adjustments. Now you are using it as it as the basis of this "adjustment."

Where your data DO indicate a severly overgrazed area where only wild horses graze (South Sand Springs), you have replaced 3100 AUMs of horse use with 2135 AUMs for cows to use. We would not have objected to a reduction of wild horses in this area based on the data. Either there are 2,135 AUMs there and the wild horse reduction is in error or you are allocating non-existent AUMs to livestock.

IBLA disallows proportionate reductions and the Secretary has thrown out your definition of "preference" in the pending rulemaking. Combining use is a fallacious practice that precludes your actually correcting overgrazing, it violates the directive in the wild horse law that allows only the removal of wild horses needed to restore the thriving ecological balance.

In summary, your field data is excellent except for the missing census-distribution maps (the crucial information for managing wild horses). It is your administrative decision that makes no sense in terms of regulating and controlling human use of the natural resources. It does not correct overgrazing. It does not begin to meet the statutory obligations to restore and improve the range to its most productive level then regulate human use to sustain that level, without degradation, in perpetuity. Your decision protects a forage allocation for livestock at the highest level regardless of damage to the land and despite the laws. This proposed reduction of wild horses violates the law. The allocation of increased AUMs to livestock violates the law. If you intend to remove wild horses by selective removal in which every horse is captured, the young removed, and the old turned back, that violates the least feasible management actiity clause in the law. This outlaw management is in need of correction.

The Strategic Plan for Wild Horses which you follow implements Regulations and the Regulations violate the law. The Secretary has never brought the wild horse Regulations (43 CFR 4700) into compliance with Dahl v Clark (1985) or the series of IBLA rulings. The 1984 rulemaking, finalized in 1986 was issued knowing they violated the Dahl v Clark ruling.

The Strategic Plan was issued specifically to get around the IBLA rulings. The full force and effect Regulation was promulgated knowing IBLA had already ruled against it more than once. We believe Congress passed sound laws and, if they were implemented, sound management practices that actually correct overgrazing would result.

FOR THE ANIMAL PROTECTION INSTITUTE

Nancy Whitaker

Nancy Whitaker
Director, Public Land Wildlife Division

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September 29, 1994

Lee Delaney, Area Manager
Ridgecrest Resource Area
300 South Richmond Road
Ridgecrest, CA 93555-4436

WILD HORSE/BURRO REMOVAL
SLATE AND CENTENNIAL HMAs
EA No. CAO EA 94-10 (4700)

Dear Mr. Delaney:

The Animal Protection Institute represents 150,000 members nationwide as an interested and concerned party in the public comment procedures for wild horses and burros and other wildlife on the public lands. We appreciate the opportunity to review and comment on your proposed decision to reduce wild horse and burro populations in the Slate and Centennial HMAs. Your plan is to remove 58 burros from the SLATE HMA to "zero out" that herd use area. The plan also refers to an **ESTIMATED** population of 600 wild horses and 300 burros in the CENTENNIAL HMA. You quote the law as saying you "must" immediately remove excess animals down to "AML" which you state is 0 for the SLATE HMA and 168 horses, 0 burros in the CENTENNIAL HMA.

We have three specific objections with this proposed action and we do intend to appeal them as gross violations of the Wild, Free-roaming Horse and Burro Protection Act (amended).

Our objections are not merely that you say one thing and do another; e.g., you "must reduce immediately" to 168 horses and 0 burros; but instead have decided to take off only 150 of each from the Centennial HMA. If you actually believed 168 wild horses are all the land can carry without damage caused by burros, then by leaving 264 behind, you are derelict in your duty to manage without degradation (as required by FLPMA). The fact is you have no way of knowing how many to remove and how many to leave because you have not conducted the monitoring and inventorying needed to determine how many are too many or how many to remove to restore the thriving natural ecological balance.

API OBJECTIONS

* The laws (NEPA, PRIA, FLPMA) do not allow BLM to manage for an arbitrary, pre-determined number of either wild horses or livestock whether that counting is head count or allocated AUMs.

* Overpopulation is not and cannot be measured by numbers alone. It is always relative to available resources and the impact of the existing population on the resources.

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* The laws require that BLM measure that impact on current conditions.

* A number that appears in a management plan (whether it is head count or allocated AUMs) is a starting point for the next specified monitoring period. If there are no livestock, it is the timeframe and the utilization level that is the management objective listed in the management plan.

* "AML" is the outcome of monitoring and inventorying.

Our first objection has to do with the failure to monitor utilization to determine how many horses/burros need to be removed to achieve a thriving ecological balance as per Dahl v Clark and IBLA rulings. The second has to do with the intensive handling and intrusive, invasive management activity involved in the capture operation which violates the least feasible management activity clause. This constitutes an objection to the "Strategic Plan for the Management of Wild Horses and Burros." (Enclosed is a copy of an IBLA ruling which explain what information is required to support a population reduction.) Our third objection has to do with the elimination of a herd use area (loss of habitat).

FALSE HISTORICAL ACCOUNT

Aside from the points of our formal appeal, we have a standing complaint with regard to the false history BLM invents for the wild horses and burros of North America. The Introduction Section on page 1 of your Environmental Assessment (EA) document, suggests early miners introduced burros into the southwestern desert areas. In fact the burros preceded the miners to these areas. The miners did not bring the burros with them, but captured them after arrival. The burros were re-introduced by the early Spanish explorers (1500s) and used in the mission/rancho land-grant system (1750-1840). Burros were used as carrier animals as well as breeding stock to produce mules--the preferred riding mount by the Spanish. The burro found its home on the desert because it evolved as a species in this ecosystem. It is by law and by nature a re-introduced wildlife species. This pre-United States Government history gives these animals their historical and cultural value in the regions where they were found at the time the law was enacted in 1971. In fact, the United States acquired wild horses and burros when they acquired the land by treaty and purchase. Wild burros are very much a part of the history of the land. In other cases, wild horses are very much a part of the American Indian culture. To ignore or deny this history is a distortion of facts for political ends.

STATUS OF MILITARY LANDS AND THE 1971 ACT

With regard to past removals of horses and burros from the China Lake Weapons Center, API had always been led to believe that these wild horses and burros did not come under the 1971 act because they were on military land. In the early 1980s, we did not know and were not told that these military lands were actually part of the Bureau of Land Management's

(BLM) California Desert Conservation Resource Area and addressed in a BLM Management Plan.

Even today we are confused with regard to the land status of these military lands. We need to know if they are on 15-year withdrawal permits; when the permits expire and the renewal process begins; and how many acres are actually used for the purpose of the withdrawal? If these lands are subject to the Base Closure and Realignment Act we need to know what public comment process is involved and what decisions affect wildlife and protected wild horses and burros.

Page 7, of the EA, ascribes 338,880 acres of land to BLM and 605,708 acres to the military in CENTENNIAL HMA; 88,320 acres to BLM and 49,920 acres to the military in the SLATE HMA. Today, we would not disagree with the removal of burros from the area where there is direct conflict with military operations. But we do not know what that conflict is and where it occurs today on Fort Irwin lands or the China Lake Weapons Center. To "zero out" burros from their entire habitat area violates the law. The law says they are protected in the areas where they existed in 1971.
There is no census-distribution map. There is no use pattern map. Where ever there are livestock, energy development, or mining activities permitted, we presume it is multiple-use land. If multiple use land is in an HMA then burros belong there. In our opinion, only Congress would be able to eliminate a herd use area that had been identified under the 1971 law. We have no information on how or when BLM set the boundaries for these HMAs or what criteria was used to determine where the boundary should be set.

Since more than 100 herd use areas have been eliminated since 1984 for "administrative convenience," we intend to raise this as an issue and appeal it on every occasion. It is an alarming trend. Major actions have been taken against wild horses and burros that were obscured from the public. The decisions that changed Herd Use Areas to Herd Management Areas were never made public. Herd Management Area Plans (HMAPs) were never part of an EIS or EA. We believe "zeroing out" the population of an identified herd use area violates the clause in the law that says horses are to managed and protected in the areas where they existed in 1971.

LACK OF SUFFICIENT DATA TO SUPPORT THE PROPOSED REMOVAL

The fact wild horse and burro populations exceed the number set as a management objective in a resource plan does not justify a removal down to that arbitrary number. Set numbers (AML) are not a management objective but the outcome of monitoring. No utilization monitoring has been done to determine how many are excess or how many need to be removed to achieve the thriving natural ecological balance (e.g., the Allowable Utilization Level).

Page 10 of the EA refers to an aerial census done in 1982. The table on Page 2 refers to an "**estimated** population" of 600 wild horses and 300 wild burros in the CENTENNIAL HMA

and 58 burros in the SLATE HMA. Population estimates based on a twelve year old census is not valid today. There have been at least two population reductions (roundups) since the roundups of 1982.

The EA contains excellent descriptions of the terrain and natural values of the land. The basic information on what will be monitored as ecological condition status is detailed. But there is no reference to the information having been collected (e.g., frequency and composition readings). They are to be the basis for this proposed population reductions decision.

We appreciate the descriptive maps. The descriptions of surface water says these occur in the form of seeps, wells (presumably livestock troughs), perennial springs, and developed wildlife drinkers. Page 11 describes the loss of perennial grasses due to cattle, horses and burros. It says that areas near water are severely impacted and weedy annuals have colonized disturbed areas. This generic observation does not supplant inventorying and monitoring nor does it identify cause of overgrazing in order to meet the requirement in the law that allows only the removal of the number of horses needed to achieve the thriving ecological balance.

The EA says that wild horses and burros "out-competed" native wildlife and have a detrimental impact on the land. Since 1978, BLM has had specific statutory directives requiring that BLM show the detrimental impacts caused by wild horses and burros and those caused by livestock. This is done by measuring utilization and ecological condition trends (frequency and composition data). The intentional misquote of the law in the last paragraph of Page 1 that invents a policy of managing for numbers (AML and Preference), continues to outrage us because we appealed it so often and IBLA has repeated their ruling so often. Yet here it is again.

In summary, there is nothing to support your removing 150 horses and burros from the CENTENNIAL HMA or 58 burros from the SLATE HMA as the numbers needed to correct overutilization and restore the thriving natural ecological balance.

CAPTURE PLAN

The Capture Plan implements the Strategic Plan which implements the Regulations which were never changed to comply with the law as per the 1989-90 and 91-92 IBLA rulings or the federal court ruling of Dahl v Clark.

Rounding up every horse, transporting it, herding, feeding and watering, and separating male and female to pick out adoptables and turn back unadoptables is cowboying wild horses to supply a market demand. It is intensive management activity. It is intrusive. It is the very reason Congress was compelled to add the "least feasible management activity" clause to the law. It destroys the social structure of harem bands and the hierarchial pecking order within them that constitutes the built-in population defense mechanisms and adaptive knowledge that makes wild horses wild.

There are two specific policies in this Strategic Plan that we protest and will appeal. First is

the "selective removal" practice that allows handling every horse to manipulate the age and sex ratio of a natural population. The second is the practice of "combining use" data based on number of animals and their season of use to create a forage pie which is then divvied up proportionately or in some cases equally. The IBLA has addressed proportionate reductions. We intend to appeal intrusive and intensive management practices.

We hope to persuade you to review your proposed decision and bring it into compliance with law. We hope California BLM will take a leadership role in managing for the thriving natural ecological balance as the basis of a strong wildlife/habitat protection program in general.

FOR THE ANIMAL PROTECTION INSTITUTE

Nancy Whitaker

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Director, Public Land Issues

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6/30/94

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. . . a note from

Dawn Y. Lappin

June 30, 1994

Mr. Gene L. Drais
Egan Resource Area
Bureau of Land Management
HC 33 Box 33500
Ely, Nevada 89301

Subject: Draft Duckwater Allotment Evaluation

Dear Mr. Drais:

WHOA appreciates this opportunity to provide comment to the Draft Duckwater Allotment Evaluation. Our review of this particular document focuses upon the assumptions and methodologies of establishing a carrying capacity and allocation of that available forage for wild horses. We realize that land use plans and activity plans may have some variation by resource area, but basic application of established Bureau policy and procedures should be consistent.

SPECIFIC COMMENTS

Page 13, Rangeland Program Summary Objectives

Allowable use levels for riparian key species has been established at 55 percent yearlong in the Nevada Rangeland Monitoring Handbook. Resource Areas land use plan without allowable use levels have adopted this standard or guideline for allotment evaluations.

Page 14, Wildlife/Riparian

Objectives for spring utilization of riparian habitat are misleading. As state above, allowable use levels for riparian habitats are commonly 55 percent. Rangeland monitoring studies measure this utilization after the grazing season. Are the riparian objectives set for after the grazing season? Are riparian area severely or heavily utilized by the end of the growing season or fall?

Page 17, Actual Use

Actual use data for wild horses should be based upon the population estimate for each year by use area. The documents states the AUMs for actual use were based upon a census. Were the AUMs determined by actual count (100%) or expanded data for the wild horse population estimate? Were foals counted as adults?

Page 23, Wild Horse Actual Use

Data presented does not easily correlate to actual use data found on Page 17. How are the use areas for livestock and wild horses combined?

Page 27, Use Pattern Mapping Data

Most allotments have area's unsuitable for livestock grazing. Are areas mapped slight or light not used by livestock or wild horses? How do these marginal area correspond to the SVIN Analysis? If these areas were excluded as unsuitable, what percentage of this allotment would be exceeding the allowable use levels for key species?

Page 36, Ecological Status

Ecological range condition was measured for all land use plans. Data collected during the fall of 1991 and 1992 should be compared to the same parameters of the original land use plan to measure progress in range improvement.

Page 40, Riparian Data

Stating use of riparian vegetation provides no perspective of residual vegetation important to riparian areas. As stated before, the allotment objectives are not consistent good range management.

Page 48, Stocking Rate Calculations

Carrying capacities are to be determined by allotment evaluations. Available forage is to be allocated to wildlife, wild horses and livestock to establish a thriving natural ecological balance. Monitoring data are to be used to establish this carrying capacity.

We find the use of "corrected utilization" or "yield index" a method that does not address the problems of over grazing of this allotment. This process adjusts the observed utilization to meet the desired utilization. The end result of these computations are essentially no significant change. We find the carrying capacities invalid by these errors.

We find the allocation of available forage biased against wild horses and wildlife. Use of "Demand" or "Preference" does not present the actual use or real number of livestock causing over use of key species. As we have discussed, the allocation is based upon "paper cows".

SUMMARY

The computations to establish appropriate management levels are flawed. We question the determination of actual use by horses, the validity of the allotment objectives, use of yield indexing and reductions from actual livestock use. We suggest that corrections be made in this evaluation and alternatives be developed to better address the resource problems on the Duckwater Allotment.

Sincerely,

Dawn Y. Lappin

DAWN Y. LAPPIN
Director

TO: Roy | LEACH

June 30, 1994

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Sincerely,

Catherine Barcomb
Director.