

Little Owyhee Desert-Snowstorm Mountains

Wild Horse

Herd Management Area Plan

1986

Little Owyhee Desert-Snowstorm Mountains
Wild Horse Herd Management Area Plan
Paradise-Denio Resource Area
Winnemucca District

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I. Introduction and Background Information

A. Location and Setting

This activity plan (HMAP) is developed to set forth management goals and objectives for two Herd Management Areas (HMA) -- the Little Owyhee Desert and Snowstorm Mountains HMAs. Wild free-roaming horses will be managed to achieve and maintain a thriving ecological balance on public lands (BLM).

The geographical center of the HMAs is located approximately 40 air miles northeast of Winnemucca and 20 miles northeast of Paradise Valley, Nevada.

Prominent landmarks/features found within or near the HMAs are the North and South Forks of the Little Humboldt River, portions of the Snowstorm Mountains, the Santa Rosa Mountains, and the South Fork of the Little Owyhee River.

The area is in the Paradise Planning Unit of the Paradise-Denio Resource Area. The area consists of approximately 560,258 acres, of which about 95 percent is public (BLM) land. The east one-third of the area lies within the Elko BLM District, but all renewable resources occurring within this area are administered by the Winnemucca District.

A Coordinated Resource and Management and Planning (CRMP) Plan was developed and approved for both allotments in 1982.

The Little Owyhee Desert HMA is located within the Little Owyhee Allotment, and the Snowstorm Mountains HMA is in the Bullhead Allotment. Refer to attached maps (Appendix a).

Relation To Planning Documents

An Allotment Management Plan (AMP) was signed in 1972 for the Little Owyhee Allotment. Since 1972, this plan has been modified a number of times. An AMP for the Bullhead Allotment was signed in 1985. Both plans contain elements that conflict with wild horse use. Refer to discussion on Constraints on page 8 for information of impacts of these AMPs on wild horses.

The Paradise-Denio Unit Resource Analysis (URA) was completed in 1979. The URA described the physical resources of the HA, the conditions/problems of the wild horse population, and presented (in tabular form) the estimated population for both HAs. The primary condition/problems which were described were: fences that cause problems and injure horses; improper distribution of water sources; no specific use levels (AUMs) for wild horses; existence of wilderness study areas that could be potential problem (specifics

were not addressed); and degradation of some riparian areas caused by over-utilization of forage. At the time the URA was prepared, it was estimated that there were 565 wild horses in the Snowstorm Mountain HA, and about 2,324 in the Little Owyhee HA.

The Paradise-Denio land use plan (Management Framework Plan - Step III) was approved on July 7, 1982. This decision document established an appropriate Management Level (AML) of 200 adult wild horses in the Little Owyhee Desert HMA and 50 adults in the Snowstorm Mountain HMA. Also of significance, the land use plan did not reserve any forage (AUMs) for wild horses. The decision was to make future adjustments in grazing use based upon monitoring.

B. Resource Information

1. Wild Horse and Burro Use History

There are no burros in either HMA.

Since 1981, there have been five BLM authorized removals. These were:

Capture Data

<u>Calendar Year</u>	<u>Number of Wild Horses Gathered</u>	<u>HA Removed From</u>
1977	1,065	Little Owyhee Desert
1981	51	Little Owyhee Desert
	479	Snowstorm Mountains
1983	342	Little Owyhee Desert
	426	Snowstorm Mountains
1984	487	Little Owyhee Desert
	199	Snowstorm Mountains
1985	726	Little Owyhee Desert
	258	Snowstorm Mountains
TOTAL REMOVED = 4,033		

Past removals have removed approximately 60% females and 40% males. The age structure of these animals indicates that removals are leaving adequate numbers of each age class--especially in the one to five year old class.

The following table represents all BLM censuses conducted in the HAs.

<u>Year</u>	<u>Population Count and HMA</u>	<u>Method Of Inventory</u>
1974	875 Little Owyhee	Aerial count/Super Cub
1975	954 Little Owyhee	Aerial count/Super Cub
1976	1,399 Little Owyhee	Aerial count/Super Cub
	429 Snowstorm Mountains	Aerial count/Super Cub
1977	1,381 Little Owyhee	Aerial count/Super Cub
1979	1,081 Little Owyhee	Aerial count/B1 Helicopter
	453 Snowstorm Mountains	Aerial count/B1 Helicopter
1980	1,483 Little Owyhee	Aerial count/B1 Helicopter
	545 Snowstorm Mountains	Aerial count/B1 Helicopter
1982	1,024 Little Owyhee	Aerial count/Super Cub
	456 Snowstorm Mountains	Aerial count/Super Cub
1984	833 Little Owyhee	Aerial count/B1 Helicopter
	234 Snowstorm Mountains	Aerial count/B1 Helicopter

Research conducted by Siniff et al. (1981) suggests that when conducting an aerial census, only a percentage of the total number of animals are ever counted. An analysis of past inventories in the HMAs further suggests some factors which may have influenced the accuracy of census data in the HMA. The primary factors to consider are:

- a. Different types of aircraft were used.
- b. Number of observers varied from one to two in succeeding years.
- c. Census was not conducted at the same time period each year.
- d. Prior to 1979, animals which were counted in the southern portion of the Lake Creek Pasture (Little Owyhee HMA) were added to the Snowstorm HMA. Those counts should have been added to the Little Owyhee data.
- e. For a number of years, there has been periodic emigration and immigration occurring into and out of both HMAs. Bureau personnel have been aware of the fluctuations in population numbers for a number of years. There appears to be more influx of horses coming into both HAS than are leaving. It is suspected that horses are coming into the HAS from the Hot Springs HA, and from HAS located in the Elko District.

The obvious concern with the continuing immigration is that it is difficult to reach Appropriate Management Levels (AMPs). Another problem associated with fluctuations in population numbers concerns the monitoring and removal processes. For example, if an aerial census indicates there are X number of wild horses in an HA, and shortly thereafter an additional unknown number enter from another HA, there would be no reliable population information for monitoring and removal decisions would be somewhat unreliable.

A documented cause for the fluctuations in numbers is the lack of fence maintenance. For example, the fence separating the Kelly Creek Pasture and the Tall Corral Pasture requires maintenance. The exterior fence on the northwest side of the Little Owyhee Allotment is down. Portions of the fence which separates the very southeast corner of the Bullhead Allotment from the Elko District requires repair. The fence which divides the Lake Creek Field and the Owyhee Allotment (Elko District) requires maintenance. The fence between the Little Owyhee and Bullhead Allotments needs maintenance. In 1984 and 1985 much of this maintenance was done by the BLM and permittees. In some areas it was obvious that wild horses had broken through these fences as part of continuing their normal distribution and movement patterns. In other places the reason for maintenance could not be determined. Refer to maps for general locations.

It is estimated (from inventory data) that the present population, as of January, 1986, of wild horses in the two HMAs is 250 animals. The horses migrate from north to south in the Little Owyhee area and east to west in the Snowstorms area. In the summertime the horses are scattered (in the Little Owyhee from the North Fork of the Little Humboldt River to the Oregon and Idaho borders). The concentrations become less dense the farther north one goes.

Refer to Appendix A. map for seasonal migration patterns for both HMAs.

In both HMAs, there is a lack of demographic characteristics such as sex ratios, age structures, young adult ratios, and actual use.

In the late spring, summer, and fall, the wild horses in the Snowstorm Mountains HMA will concentrate in the Castle Ridge area, and also south along the breaks of the South Fork of the Little Humboldt River. Historically, the horses also utilized the higher country up to, and around, the Kelly Creek Burn Fence.

In the wintertime, the wild horses in the Little Owyhee HA will concentrate on the southern slopes and breaks around the North Fork of the Little Humboldt River. The wild

horses in the Snowstorm Mountain HMA will winter in the Dry Hills and Kinney Creek Areas. Refer to Appendix a. for further details of movement patterns.

There is suspected, although not documented, movement of wild horses from the Little Owyhee to the Snowstorm Mountains HMA, and vice versa. There are two fences which physically separate the two HMAs. These fences always require maintenance, and if some movement does occur between the two HMAs, it is a result of movement through very poorly maintained fences. Since the fences are constructed on private land, and the BLM has no control about maintenance of the fences, the two HMAs will be kept separate for management purposes.

The major limiting habitat factor in the summer for both HMAs is the lack of adequate water. At certain time during the winter, the lack of exposed forage is a problem.

Over 90 percent of the wild horses in both HMAs exhibit a solid bay or sorrel color pattern.

2. Reference To Land Use Plan

The Little Owyhee and Bullhead CRMP Committee recommended an initial AML of 200 adult wild horses for the Little Owyhee Allotment and 50 for the Bullhead Allotment. The Winnemucca District Manager approved this recommendation, and the Elko BLM District concurred with the AML numbers. These numbers are management's decision for initial AML for the HMA.

An AMP for the Little Owyhee Allotment was signed in 1972. An AMP for the Bullhead Allotment was signed in 1985. The monitoring plans for the Bullhead and Little Owyhee Allotments are scheduled to be completed in 1985 and 1986, respectively. CRMP recommendations were developed and approved for both allotments in 1982. These documents are located in the District files and can be reviewed upon request.

The land use plan (MFP III) did not establish levels of use (in AUMs). Since 1982, the use of forage for all consumptive users (wildlife, wild horses, and livestock) for both allotments is based upon CRMP recommendations. These forage use levels will be used until adjustments are indicated by monitoring data.

There are seven pastures in the Little Owyhee Allotment--three spring pastures and four summer pastures. The Little Owyhee Desert HA encompasses all three spring pastures. The names of the spring pastures are Twin Valley, Fairbanks, and Lake Creek. Domestic livestock are excluded from one of the spring pastures each year. Except for consumptive use by wildlife, this exclusion benefits those wild horses located in rested pastures by lessening competition for forage, water and space. Those horses located in the grazed pasture will experience intensive competition for forage, water, and space.

The Bullhead AMP is also a spring-summer rest-rotation grazing complex. Wild horses have free access to the First Creek, Castle Ridge, and Dry Hills Pastures (spring pastures). The AMP was designed and implemented to exclude livestock grazing from one of the spring pastures each year.

CRMP Recommendations

Bullhead Allotment

The active preference for the Bullhead Allotment is 12,050 AUMs. Based upon CRMP recommendations and subsequent District Manager's decision to make the recommendations operational, the initial forage use levels (AUMs) for all consumptive users was:

<u>Year</u>	<u>Livestock</u>	<u>Wildlife</u>	<u>Wild Horses</u>	<u>Total</u>
1982		1,029 deer		
		101 antelope		
	5,700	1,130	3,000	9,830

As horse numbers are reduced to AML, livestock use levels increase in direct proportion to the number of horses removed the previous grazing year. For example, the 1985 use level was:

	<u>Livestock</u>	<u>Wildlife</u>	<u>Wild Horses</u>	<u>Total</u>
(1)	7,614	(3) 1,130	(1) 1,336	9,880
(2)	5,886	(3) 1,130	(2) 3,064	10,080

- (1) AUMs available if horses removed as scheduled.
- (2) AUMs available if horses are not removed as scheduled.
- (3) AUMs for wildlife will remain constant unless requested differently by the Nevada Department of Wildlife.

Based upon land use plan decisions, and subsequent CRMP recommendations, the forage use levels (for 1985 through 1988) for the Bullhead Allotment will be 8,350 AUMs for livestock and 600 AUMs for wild horses. After 1988, levels of use will be determined by management decisions based upon monitoring data.

Little Owyhee Allotment

The active preference for the Little Owyhee Allotment is 44,882 AUMs. Based upon CRMP recommendations and subsequent District Manager's decision to make the recommendations operational, the initial forage use level (AUMs) for all the consumptive users was:

<u>Year</u>	<u>Livestock</u>	<u>Wildlife</u>	<u>Wild Horses</u>	<u>Total</u>
1982		1,233 antelope		
		63 deer		
	15,800	1,299	15,578	32,677

The CRMP Plan has as one of its objectives a ten year (1992) goal to provide 44,882 AUMs for livestock and 3,840 AUMs for wild horses. Monitoring data will determine if this goal is attainable.

Constraints

Approximately 60 miles of interior fence have been installed in the Little Owyhee Allotment. By 1986, almost 40 miles of interior fences will have been installed in the Bullhead Allotment. These fences have impeded and restricted the movement of wild horses. An inventory was conducted in 1982 (Little Owyhee Allotment) to determine what maintenance was necessary for these fences. The inventory revealed almost 50 holes in the fences. The holes were created by wild horses because the fences disrupted their normal distribution and movement patterns. There is an obvious need for some type of fence modification--especially for the interior pasture fences in the Little Owyhee Allotment, and between the Little Owyhee and Bullhead Allotments.

When completed, the interior fences which are going to be installed in the Bullhead Allotment will restrict migration of horses to areas which they historically used as summer range. These areas are the Snowstorm Flat, Winters Ridge, First and Pole Creek areas. These areas will be inspected for possible fence modifications, through the addition of gates.

As previously mentioned, lack of water is a problem. Areas where more water should be developed for wild horses in the Bullhead Allotment are the Dry Hills area, and Castle Ridge and First Creek Pastures. Areas in the Little Owyhee Allotment are the south one-half and the northeast corner of the Fairbanks Pasture, the northwest portion and the south one-half of the Lake Creek Pasture, and the northern one-third of the Twin Valley Pasture.

During the summer and fall seasons, wild horses have historically used the Castle Ridge Pasture. In the design of the Bullhead AMP, the Castle Ridge Pasture became one pasture in a three-pasture rest-rotation system. This means that the Castle Ridge Pasture would be grazed by livestock every other third year. Due to the lack of available water and forage, however, this pasture will not be used by livestock until such time that water and forage becomes available. Water and vegetative manipulation projects which may be proposed in this area would benefit wild horses. Therefore, a program of cost sharing for such projects may be appropriate. An equitable cost-share method could be one based upon percentage use (AUMs) of a pasture by livestock vs. wild horses.

When designed and implemented, the Little Owyhee AMP established a three-pasture rest-rotation grazing system for the spring pastures--one pasture would be grazed early, one after seedripeness (July 15), and one pasture receiving complete rest. Since 1982, two of the pastures are used at the same time (April 1) by livestock. Two pastures being used concurrently restricts freedom of movement by wild horses, and results in added competition for forage and water.

3. Other Biotic Components

In addition to wild horses, other important resource values in the HMA are: wildlife, watershed, fisheries, livestock, Wilderness Study Areas, and riparian values. All of these resources are considered to be of equal value to one another and any activity plan must be formulated to consider all multiple-use values.

Wildlife

Wildlife species currently found within the HAs are many and varied. However, those which principally compete with domestic livestock and wild horses for forage are limited to mule deer (Odocoileus hemionus), antelope (Antilocapra americana), rodents, lagomorphs, and insects. The Lahontan cutthroat trout is the only threatened species that occurs within the HMA. Other important game species are found within the HMA are:

Quail	Deer
Brook trout	Chukar partridge
Antelope	Sage grouse

II. Objectives

A. Habitat Objectives

1. Maintain the forage use levels for all herbivores within the HMA at a level which does not exceed proper use of key forage plant species as identified by the Nevada Rangeland Task Force. By 1988, provide 3,578 AUMs of forage for wild horses in the Little Owyhee Desert HMA, and 900 AUMs for wild horses in the Snowstorm Mountains HMA.
2. Increase the amount of available forage in the Castle Ridge Pasture by artificial methods (sagebrush control or seeding). A minimum of 816 additional AUMs are required for wild horses in this pasture.
3. Provide for additional year-round water in both HMAs.
4. Improve the free-roaming nature of the horses within both HMAs by the installation of let down panels, and leaving gates open at critical times during migration.
5. Acquire data on the home ranges and distribution/movement patterns of the animals in both HMAs to facilitate evaluation of effects of range improvement.

B. Animal Objectives

1. Within the AMLs of 200 adult wild horses in the Little Owyhee Desert HMA and 50 adult wild horses in the Snowstorm Mountains HMA, allow the population to increase by +35 percent in both

HMA's before another removal is considered. The +35 percent variance factor would allow the population to increase to 270 adult wild horses in the Little Owyhee HMA, and to 68 adult wild horses in the Snowstorm Mountains HMA before being reduced to AMLs.

2. Acquire data on the demographic characteristics of the wild horse population in both HMA's to include information on sex ratios, age structures, young/adult ratios, and actual use. These parameters will be analyzed to determine natality, mortality, and rate of increase.
3. Genetically enhance the color patterns in both HMA's.

III. Management Methods

A. Habitat Objective Number:

1. Wild horses will be maintained within the AML of 200 adults in the Little Owyhee HMA and 50 adults in the Bullhead HMA until and unless proper use levels are not obtained on key forage plant species. When proper use levels are not obtained, wild horse use levels will receive a proportionate adjustment.
2. Artificially treat approximately 5,000 acres of sagebrush in the Castle Ridge Pasture in T. 41 N., R. 45 E. A feasibility study is needed to determine the most effective method of artificial treatment.
3. Develop additional permanent water sources for wild horses by developing new springs and reservoirs, and improving existing springs and reservoirs. Refer to Appendices A and B for specific location and type of improvement.
4. Implement action items 8, 9, and 10 of the CRMP Wild Horse Management Plan recommendations. Refer to Appendix d for specifics.
5. Conduct studies designed to collect information regarding wild horse distribution and movement patterns.

B. Animal Objective Number:

1. A total count inventory will be conducted (by helicopter) on both HMA's immediately prior to a proposed removal to determine the exact number of adult wild horses which would have to be removed to reach the AML of 200 (Little Owyhee) and 50 (Snowstorm Mtns.) in each HMA.

During removals, the wild horse population will not be reduced below the AML for either HMA.

2. Studies will be established to collect information regarding sex ratios, age structure, rate of increase, and actual use. This

kind of information needs to be obtained before some of the action items of the CRMP Wild Horse Management Plan recommendations can be implemented.

For more details on types, frequency and intensity of study methods, refer to Section IV, Evaluation and Revision, and Appendix D of this plan.

3. Introduce wild horses into both HAS that have solid white, Pinto or Paint color patterns.

Introduce 10 mares with any combination of these colors into the Little Owyhee Desert HA, and 5 into the Snowstorm Mountains HMA.

The 15 introduced animals will be mares ranging from one to four years in age.

The 15 animals will be introduced from the Sonoma Range HA. The animals will be inspected by a veterinarian at the capture site, and before they are turned loose into the HMA.

IV. Evaluation and Revision

Data necessary to effectively manage the wild horse and burro population is virtually unavailable for the HMA. The following studies have been initiated or will be established to evaluate the effectiveness of the management methods identified in this plan to meet the objectives. Refer to the Little Owyhee and Bullhead Monitoring Plan, Appendix e, to find the time of year and frequency that the following studies will be read as well as the key area locations.

A. Habitat Study Methods

1. Climatological

Climatological data will be obtained from the Paradise Valley Station. This data can be supplemented by data published by the National Oceanic and Atmospheric Administration. This data will be obtained on a yearly basis and will consist of average monthly precipitation and temperature.

2. Frequency and Trend

One of the parameters to show changes in plant composition (trend) is frequency. Frequency data will be collected using the quadrat-frequency method as described in the Nevada Range Monitoring Procedures Handbook. Data will be stored and analyzed using standard statistical analysis procedures as a part of the Bureau ADP computer program. When a statistically significant change in frequency data is noted, the double-sampling transect will be read. Frequency data will be used in combination with the ecological status to determine trend. This data will be collected at key areas on a yearly basis until management determines that adequate information has been obtained.

Refer to Appendix a map which shows key area locations.

3. Ecological Status

Ecological status (formerly referred to as "ecological range condition") will be determined by FY 1986 on all of the key management areas discussed in the monitoring plan. The double-sampling methods as described in the National Range Handbook (SCS 1976) will be used to determine ecological status.

Refer to Appendix a map which shows key area locations.

4. Utilization

Vegetation utilization data, which includes utilization made by livestock, wildlife and wild horses/burros will be collected using the key forage plant method, which is also described in the Range Monitoring Handbook. Utilization cages will be placed on all key areas for calibration purposes.

Utilization data will be collected twice a year, once just prior to livestock turn-out, and once just after livestock are removed. These studies would show the degree of utilization made by wild horses and wildlife when livestock are absent from specific pastures. Studies will also be conducted when all three kinds of herbivores are using a specific pasture. These studies will be able to show the total utilization which occurred, during that period, but will not be able to differentiate use made by any particular species.

B. Wild Horse and Burro Population Study Methods

1. Home Range and Seasonal Movements

A comprehensive study will be conducted to secure an understanding of home ranges and seasonal movements of wild horses. This will be accomplished by collaring 25 wild horses in the Little Owyhee HMA and 7 in the Snowstorm Mtns. HMA with radio tracking equipment. Once accomplished the animals will be observed in the field from vehicles and from the air, and their locations and movements will be recorded. Observations will be conducted a minimum of four times each year, for a period of at least two years (i.e., spring, summer, fall, and winter). Collaring horses may be accomplished either during removal roundups or special capture operations.

2. Productivity, Survival, and Population Estimates

To implement the Wild Horse Management Plan CRMP recommendations, additional information is needed for wild horses in both HMAs.

Productivity and Survival

General productivity indices will be estimated from the relative age composition (percent foals) of the HAs population as per NSO Manual 4730. The desired data will be secured from aerial census and ground observations every third year until the indices become established and are predictable. Aerial censuses designated to obtain wild horse home range and seasonal movement patterns can also supply relative age composition.

First year survival rates will be approximated through shrinkage of foal incidence between post-parturition composition surveys and parturition surveys (Wolfe 1980). Such surveys will be conducted in July and January in conjunction with seasonal movement and home range inventories. The surveys will be conducted every third year.

Population Estimates-Actual Use

Population estimates will be developed every third year. These estimates will be derived by conducting an aerial census using a Bell 47B1 helicopter.

These estimates will be analyzed with other wild horse studies to obtain a more reliable data base of population estimates. The census will place the animals in adult, foal, and if possible, in yearling categories.

Locations of the wild horses, weather conditions, flight period and flight patterns will be recorded as described in NSO Manual Supplement 4730.

3. Sex Ratio-Age Structure Determination

Both the sex ratio and age structure of the population of wild horses in the HMAs will be estimated from an analysis of capture data obtained whenever excess animals are removed. This information will be further supplemented by developing basic life tables as described in NSO Manual 4730.

4. Animal Condition

Since the general condition of the animals is also an indicator of the population health and habitat conditions, during any on-the-ground observations or aerial censuses, all negative animal conditions will be recorded. Some of the conditions that will be recorded are deformities within individual bands, glossiness of coat, fleshiness of animals, etc.

C. Revision

Revision of this plan may be necessary when adequate studies data is gathered which indicates that changes to the grazing system,

Monitoring Plan, and/or the AML of animals are warranted because key area and/or resource objectives are not being met. This will be determined by the Area Manager, Supervisory Range Conservationist, and District Wild Horse/Burro Specialist in consultation with the CRMP group.

If the habitat studies data indicates that additional forage is available, proportionate increases will be given to wild horses, wildlife, and livestock. This provision is consistent with both CRMP plans.

V. Coordination

A. Cooperation in Management

Approximately one-third of the HMA is located within the administrative boundary of the Elko BLM District. An agreement (CN-020-33) for the Administration of Resource between the Winnemucca and Elko Districts was signed on August 19, 1977. This agreement allows the Winnemucca District to administer the wild horses for the entire HMA.

Both the Little Owyhee and Bullhead CRMP and AMPs have received concurrence by the Elko BLM District.

There is an agreement between the Bureau of Land Management and the State Department of Agriculture. State brand inspections will be conducted to determine if horses captured during roundups should be released to the state and transferred to private owners under estray laws. Unbranded horses will be considered wild with the exception of those which can be shown, to the satisfaction of the BLM authorized officer, after consultation with the state brand inspector, to be privately owned.

All range improvement projects proposed for the HMA will be analyzed in depth to by all interdisciplinary team to determine if construction of the projects will impact the wild free-roaming characteristics of the horses.

VI. Appendices

A. Maps

Maps are attached as Appendix a.

B. Range Improvements

Refer to Appendix b. For both allotments, all of the existing projects were installed for the benefit of livestock. Some of the proposed projects would be be beneficial for wild horses, and are so noted under "comments."

C. Color Types and Assorted Population Data

Refer to Appendix c.

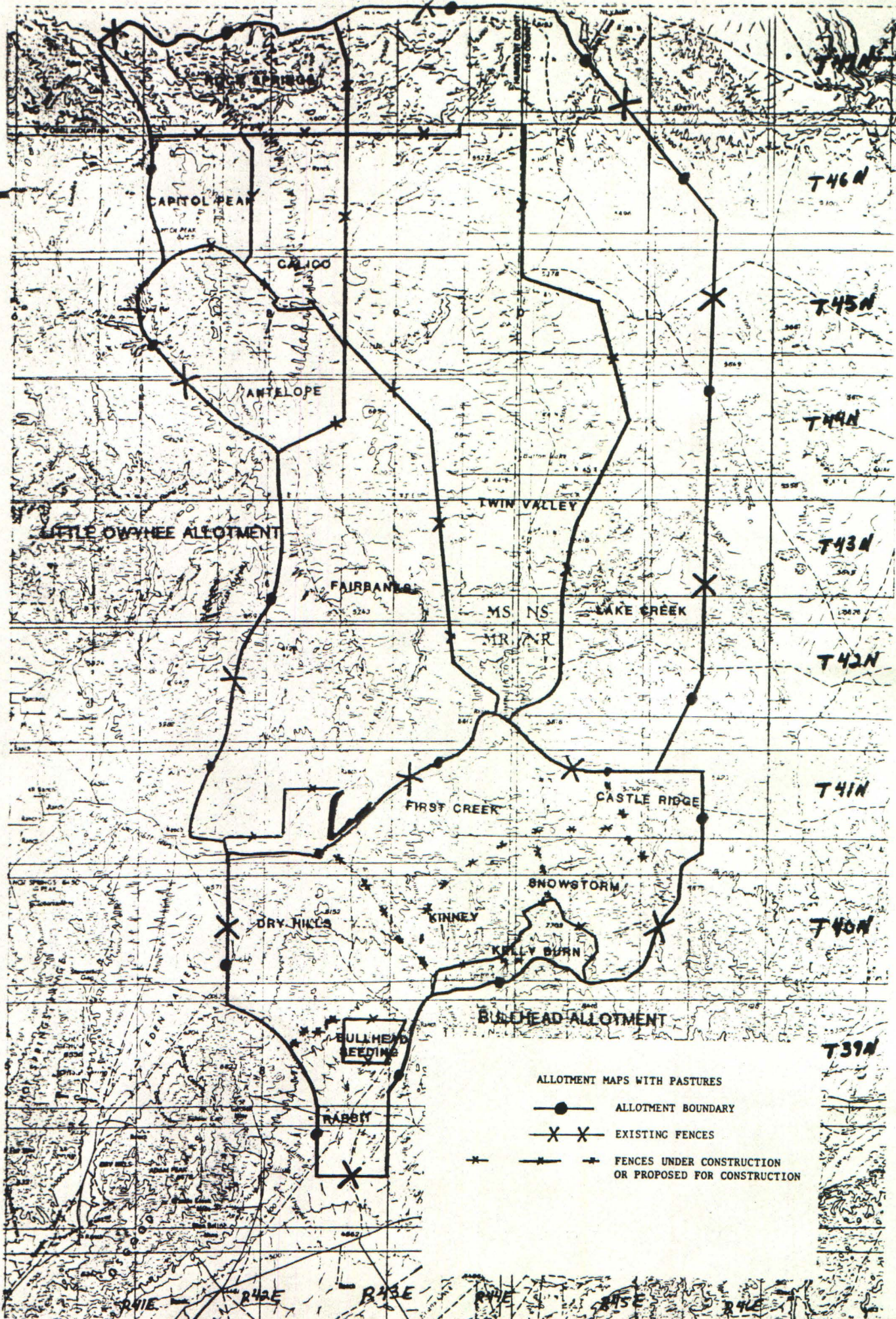
D. CRMP Wild Horse Management Plan Recommendations

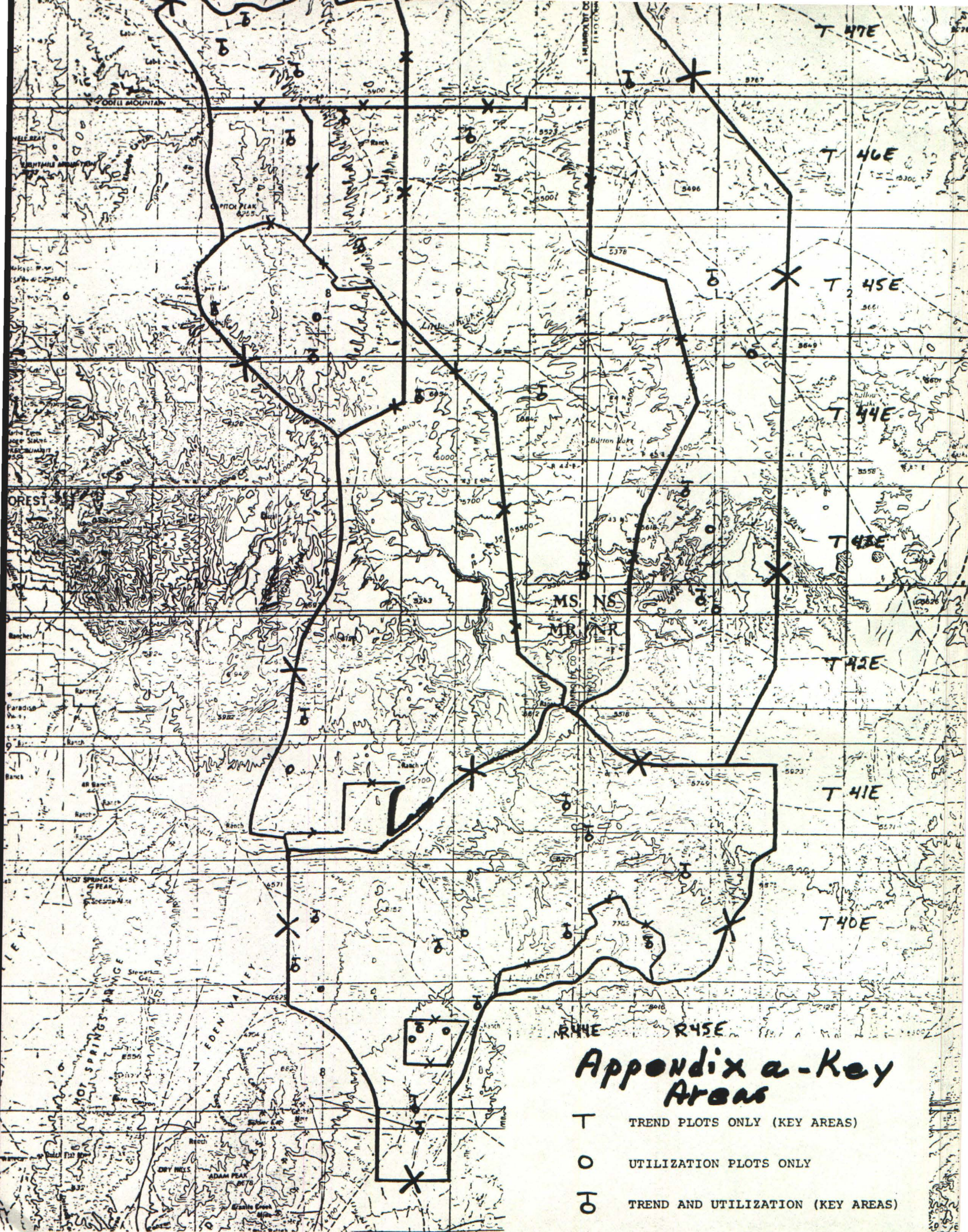
Refer to Appendix d.

VII. Funding

All actions undertaken pursuant to this plan are contingent upon available funding. Funding for range improvement projects will be secured from various Bureau programs, the District Advisory Board, and contributed monies from livestock permittees. The possibility also exists that some funding may be provided by the Nevada Governor's Wild Horse Committee appointed to administer the Heil Fund bequest. These monies could be used for animal and habitat studies.

Appendix a.

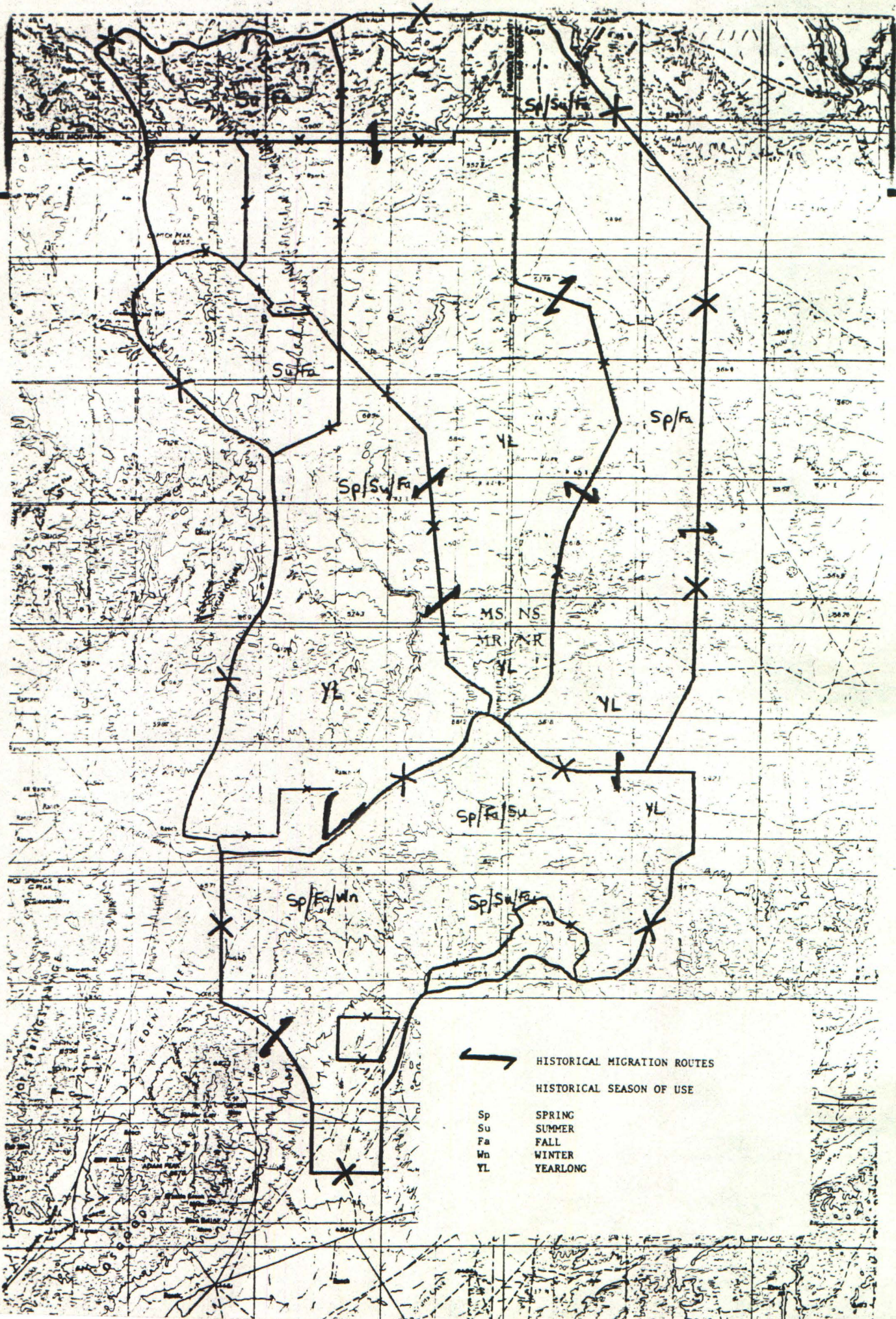




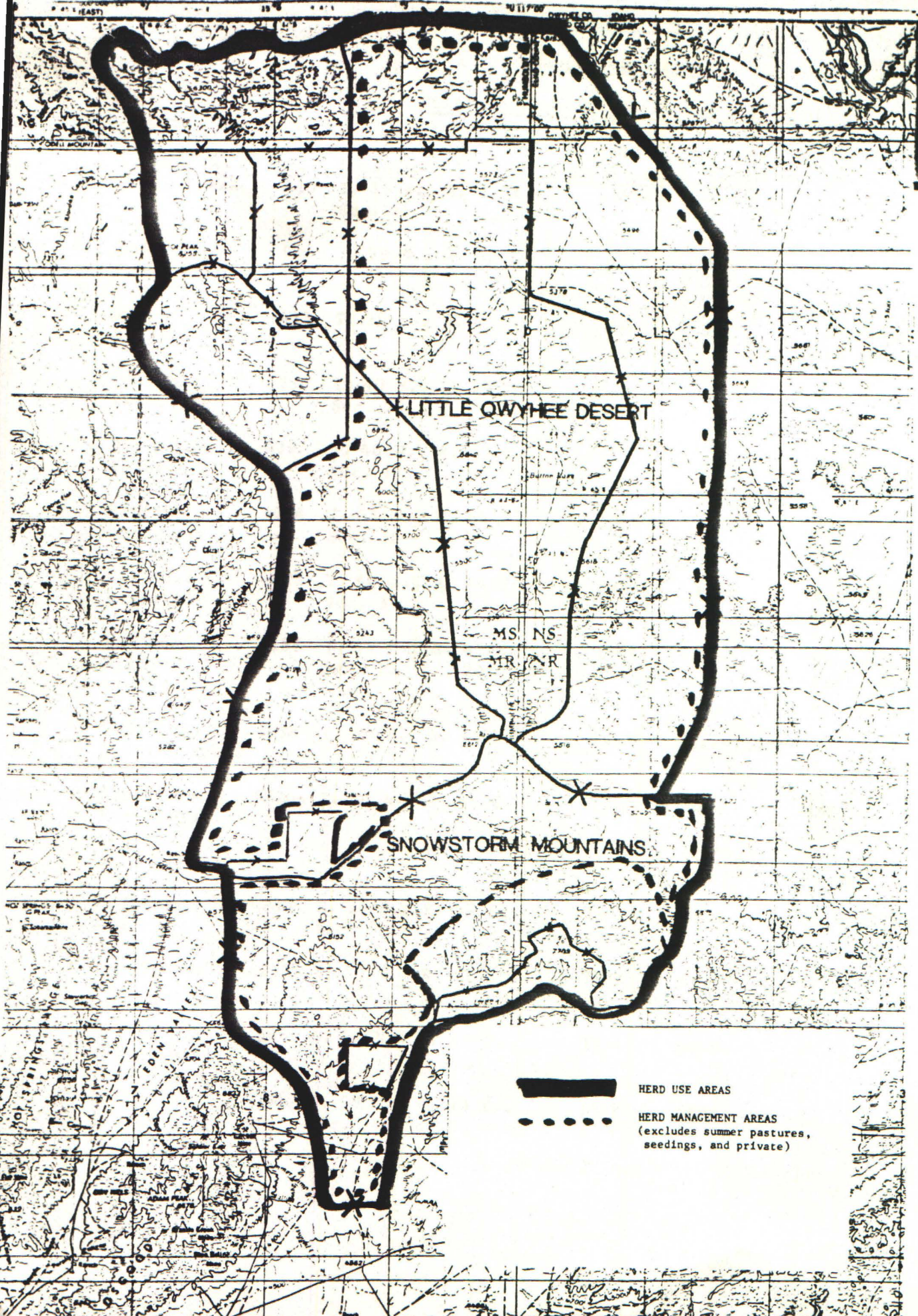
Appendix a - Key Areas

- T TREND PLOTS ONLY (KEY AREAS)
- O UTILIZATION PLOTS ONLY
- T O TREND AND UTILIZATION (KEY AREAS)

Appendix a.



Appendix a.



LITTLE OWYHEE DESERT

SNOWSTORM MOUNTAINS



HERD USE AREAS



HERD MANAGEMENT AREAS
(excludes summer pastures,
seedings, and private)

Appendix b.

Range Improvements

Existing Projects (Bullhead Allotment)

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date Constructed</u>	<u>Condition</u>	<u>Comments</u>
Kelly Creek Wash Res.	410	T. 39 N., R. 42 E., Sec. 24	1946	Fair	Not used by horses
Tobin Reservoir	412	T. 39 N., R. 42 E.	1946	Fair	Reservoir is dry when used by horses
Meyer Reservoir	413	T. 39 N., R. 43 E.	1946	Fair	Dry when horses are in area.
Mainroad Reservoir	4796	T. 40 N., R. 43 E., Sec. 29		No data	Dry when horses are in area
Dry Hills Reservoir	4797	T. 40 N., R. 43 E., Sec. 19		Fair	Sometimes bene- ficial to horses.
Rimrock Reservoir	4798	T. 41 N., R. 45 E., Sec. 32	1968	Good	Beneficial to horses
Cleavage Reservoir	4813	T. 40 N., R. 44 E., Sec. 3	1968	Fair	Beneficial to horses
Bullhead Seeding Pipeline	1187	T. 39 N., R. 43 E. Sec. 16, 17, 20	1968	Good	Reconstructed 1981. Horses do not use this area.
Bullhead Seeding Fence	1038	T. 39 N., R. 43 E.	1967	Excellent	
Snowstorm Fire Rehab. Fence	4720	T. 40 N., R. 45 E.	1976	Good	1980-1, Restricts movement of horses to historic summer range.
Bullhead Well	4230	T. 39 N., R. 43 E., Sec. 9	1972	Good	No benefit to horses
Hot Springs Well	4231	T. 40 N., R. 42 E., Sec. 4	1972	Good	Sometimes bene- ficial to horses.
North Fork Cattleguard	546	T. 41 N., R. 42 E.	1964	Good	
Bullhead Seeding Cattleguard	1134	T. 39 N., R. 43 E., Sec. 14 and 22	1968	Good	

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date to be Constructed</u>	<u>Condition</u>	<u>Comments</u>
Kelly Creek & Red House Cattleguard	1161	T. 38 N., R. 43 E., Sec. 20	1967	Good	
Snowstorm Fire Rehab. Cattleguards	4721	T. 40 N., R. 45 E., Sec. 20; T. 40 N., R. 44 E., Sec. 12	1976	Good	
First Creek Cattleguard	4877	T. 40 N., R. 44 E., Sec. 2	1983	Excellent	

1/ Proposed Projects (Bullhead Allotments)

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date to be Constructed</u>	<u>Condition</u>	<u>Comments</u>
Purple Sage Reservoir	4811	T. 40 N., R. 43 E., Sec. 14 NW NE			Would appreciably benefit horses
South Fork Reservoir	4815	T. 41 N., R. 45 E., Sec. 18 SE SW			Would appreciably benefit horses
Cupola Reservoir	4818	T. 41 N., R. 46 E., Sec. 20 SW SW			Would appreciably benefit horses
Triangle Butte Res.	4821	T. 41 N., R. 45 E., Sec. 17 NW SW			Would appreciably benefit horses
Kelly Spring and Pipeline	4795	T. 40 N., R. 43 E., Sec. 22			Pipeline and troughs would benefit horses
Surprise Spring and Reservoir	4812	T. 40 N., R. 43 E., Sec. 12 NW SW			No benefit to horses
Twin Corral Spring	4814	T. 40 N., R. 44 E., Sec. 12 NW	10/82		No benefit to horses
Big Bend Spring (WL)	N/A	T. 40 N., R. 44 E., Sec. 2 NE SW			No benefit to horses.
Hot Springs Pipeline	4806	T. 39 N., R. 42 E., Sec. 4	10/82		Would benefit horses
Hot Springs Pipeline Ext.	N/A	T. 39 N., R. 42 E., Sec. 4	10/82		Would benefit horses.
Kelly Creek Pipeline	N/A	T. 39 N., R. 43 E., Sec. 14 and 15			No benefit
South Fork Fence	4510	T. 40 and 41 N., R. 45 E.			BLM contracts in progress. Would restrict movement of horses.

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date to be Constructed</u>	<u>Condition</u>	<u>Comments</u>
Snowstorm Short Fence	4871	T. 40 N., R. 44 E., Sec. 26			BLM contracts in progress. Would have no effect on horses.
Snowstorm Fence	4875	T. 40 N., R. 43 E.			BLM contracts in progress. Could restrict movement of horses to historic summer range. Should be periodically checked for damage.
First Creek Basin Fence		To be located			
Ernie Spring		T. 42 N., R. 44 E., Sec. 14 NE1/4SE1/4			To be constructed 1985 BLM. Would benefit horses.
Rabbit Fence	N/A	T. 39 N., R. 42 and 43 E.			Could possibly effect movement of horses.
Rodear Flat West Cattleguard	4848	T. 41 N., R. 45 E., Sec. 16	11/82	Excellent	NFC
Rodear Flat East Cattleguard	4849	T. 41 N., R. 45 E., Sec. 15	11/82	Excellent	NFC
Castle Ridge Seeding	N/A	To be determined			Would greatly benefit horses
Kelly Creek Prescribed Burn	N/A	To be determined			Would benefit horses
First Creek Aspen Burn	N/A	T. 40 N., R. 44 E., Sec. 9 and 10			Would benefit horses

Refer to CRMP Plan for implementation stages and responsible parties (Objectives #3, #4, and #8).

Additional projects needed will be added to this plan as they are identified. The projects will be implemented in consultation and recommendations from the licensee and CRMP committee. Funding responsibilities have been agreed to in the CRMP Plan under Objectives #3, #4 and #8.

Existing Projects (Little Owyhee Allotment)

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date Constructed</u>	<u>Condition</u>	<u>Comments</u>
<u>Fairbanks Field:</u>					
Gonda Division Fence	550	T. 41 N., R. 41 E.		Good	No effect to horses
Fairbanks Management Fence	4711	T. 43 N., R. 43 E.		Fair	Restricts movement
North Fork Stream Improvement	4397	T. 43 N., R. 42 E.		Unknown	No effect
McCleary Well	34	T. 44 N., R. 43 E.		Unknown	No benefit to horses
Antelope Reservoir	428	T. 42 N., R. 42 E.		Good	Beneficial to horses
Jackrabbit Reservoir	430	T. 42 N., R. 42 E.		Good	Beneficial to horses
Fairbanks Reservoir	431	T. 41 N., R. 42 E.		Fair	Beneficial to horses
McCleary Reservoir	871	T. 41 N., R. 41 E.		Good	Beneficial to horses
Owyhee #1 Reservoir	968	T. 42 N., R. 41 E.		Good	Beneficial to horses
Sagehen Protection Fence	935	T. 42 N., R. 43 E.		Good	No effect
<u>Twin Valley Spring Field:</u>					
Twin Valley Capture Corral	4746	T. 45 N., R. 43 E.		Unknown	No effect
Four Mile Reservoir	4729	T. 42 N., R. 45 E.		Fair	Beneficial to
Eight Mile Reservoir	4731	T. 43 N., R. 45 E.		Fair	Beneficial to horses
Button Lake Reservoir	327	T. 44 N., R. 44 E.		Good	Beneficial to horses
Owyhee #13 Reservoir	4499	T. 43 N., R. 44 E.		Good	Beneficial to horses
Owyhee #9 Reservoir	4501	T. 43 N., R. 45 E.		Fair	Beneficial to horses

<u>Project Name</u>	<u>No.</u>	<u>Location</u>	<u>Date Constructed</u>	<u>Condition</u>	<u>Comments</u>
Button Lake Well	694	T. 44 N., R. 44 E.		Unknown	No benefit
Owyhee #14 Reservoir	4502	T. 43 N., R. 45 E.		Good	Beneficial to horses
Owyhee #44 Reservoir	4503	T. 43 N., R. 45 E.		Good	Beneficial to horses
Owyhee #8 Reservoir	4504	T. 44 N., R. 45 E.		Unknown	Unknown benefits
Owyhee #20 Reservoir	4505	T. 44 N., R. 45 E.		Unknown	Unknown benefits
Owyhee #21 Reservoir	4506	T. 44 N., R. 45 E.		Good	Beneficial to horses
Owyhee #22 Reservoir	4507	T. 44 N., R. 45 E.		Unknown	Unknown benefits
Owyhee #25 Reservoir	4508	T. 44 N., R. 45 E.		Good	Beneficial
<u>Lake Creek Field:</u>					
Lake Creek Management Fence	4693	T. 43 N., R. 45 E.		Good	Restricts movement of horses
Corral Lake Pipeline	4258	T. 44 N., R. 46 E.		Unknown	Unknown benefits
Reed and Taylor Reservoir	4727	T. 45 N., R. 45 E.		Unknown	Beneficial to horses
Lake Creek Reservoir	4728	T. 47 N., R. 45 E.		Unknown	Beneficial to horses
Owyhee Storage Tank	4155	T. 44 N., R. 46 E.		Unknown	Unknown benefits
Owyhee #43 Reservoir	4498	T. 45 N., R. 46 E.		Unknown	Unknown benefits
Corral Lake Well	4003	T. 44 N., R. 46 E., Sec. 36		Good	No benefits to horses

2/ Proposed Projects (Little Owyhee Allotment)

<u>Project Name</u>	<u>Location</u>	<u>Comments</u>
North Fork Fence	From Forks Ranch to Greeley Crossing	Could close access of horses to water
Construct fence around Maiden Springs	Maiden Springs	No effect to horses
Repair and improve existing reservoirs	As needed	Unknown benefit to horses
Repair wells	As needed	Beneficial to horses
Develop new reservoirs in the Fairbanks, Twin Valley, and Lake Creek Fields	Refer to pages 8 and 9	Beneficial to horses
If feasible, develop new springs in the Fairbanks and Lake Creek Fields	As determined by feasibility studies	Beneficial to horses
Vegetative manipulative projects	As determined by feasibility studies	Beneficial to horses

2/ From CRMP Plan. Site specific projects have yet to be located.

Appendix c

Color Types

Data From 1981 Little Owyhee/Snowstorm Gather

<u>Color Type</u>	<u>Number</u>	<u>Percent</u>
Appaloosa	1	-
Bay	173	25
Black	63	9
Brown	46	7
Buckskin	26	4
Chestnut	24	3
Gray	48	7
Palomino	27	4
Roan	43	9
Sorrel	210	30
Pinto	9	1
Sevina	7	1
Dun	6	-
Albino	3	-
	<u>686</u>	<u>100</u>

Sex Ratio

1. Total population = 57% females; 43% males
2. Adult population = 59% females; 41% males
3. Foal population = 53% females; 47% males
4. Foal/100 adults = 34/100

Appendix c

Color Types

Data From 1983 Little Owyhee/Snowstorm Gather

<u>Color Type</u>	<u>Number</u>	<u>Percent</u>
Bay	154	21
Black	43	6
Brown	83	11
Buckskin	25	3
Chestnut	27	4
Gray	121	17
Palomino	28	4
Roan	79	11
Sorrel	144	20
Pinto	17	2
Sevina	7	1
Dun	1	-
Albino	3	-
	<u>732</u>	<u>100</u>

Color Types

Data From 1984 Little Owyhee/Snowstorm Gather

<u>Color Type</u>	<u>Number</u>	<u>Percent</u>
Bay	226	32
Black	76	11
Brown	85	13
Buckskin	12	2
Chestnut	14	2
Gray	64	10
Palomino	5	1
Roan	49	7
Sorrel	136	20
Pinto	4	1
Sevina	4	1
	<u>675</u>	<u>100</u>

Data from 1983 Little Owyhee/Snowstorm Gather

<u>Age Class</u>	<u>Males</u>	<u>Females</u>
0-11 months	82	93
1 year	36	59
2	49	58
3	25	34
4	5	13
5	8	16
6	22	24
7	35	33
8	16	32
9	5	9
10	-	5
11	-	-
12	7	5
13	2	-
TOTAL	292	381

57% Females vs. 43% Males

Appendix c.

Data from 1984 Little Owyhee/Snowstorm Gather

<u>Age Class</u>	<u>Males</u>	<u>Females</u>
0-11 months	68	84
1 year	46	83
2	19	39
3	17	35
4	15	15
5	9	22
6	18	34
7	22	33
8	29	27
9	4	7
10	4	7
11	1	6
12	2	2
13	1	1
14	3	1
15	2	1
16	1	2
17	4	1
18	4	1
19	-	-
20	2	2
22	1	-
25	1	-
27	1	-
TOTAL	<u>274</u>	<u>403</u>

60% Females gathered vs. 40% Males

Appendix d.

Objective #5

Establish a wild horse management plan.

- a. Perpetuate a viable herd which is manageable and compatible with livestock operations, wildlife, and resources available.
- b. Preserve unique types and primitive mustang markings.
- c. Reduce internal barriers to herd migration within wild horse herd area.

A base herd of 200 wild horses was agreed as compatible with livestock operations as planned, wildlife demand, and resources available in the Little Owyhee spring range area. An additional 50 wild horses shall be included as part of the Owyhee herd and Bullhead allotment spring range shall be included as part of the wild horse management area.

ACTIONS:

1. Gathering of wild horses in Little Owyhee and Bullhead Allotment.
Who: BLM
When: 1981, 1982 and 1983 before spring turn-out.
2. Select a base herd of 250 head for the Little Owyhee and Bullhead spring range consisting of:
 - a. Equal numbers of male and female.
 - b. Approximately proportions of 45% age 204 year olds, 40% age 5-8 year olds, and 15% age 9+ years.
 - c. All primitive marking mustang types gathered will be returned as part of the base herd.Who: BLM
When: 1982, 1983
3. Select with base herd a considerable portion of foals to assure replacements surviving two winters prior to time they become part of the base herd. Efforts will be made to allow foals to "mother-up" with mares selected for the base herd.
Who: BLM
When: 1982, 1983
4. Select with the base herd a portion of yearlings needed to develop into two year olds for base herd replacements for death loss from old age and other causes.
Who: BLM
When: 1982, 1983
5. Establish a herd monitoring system including:
 - a. Observation of gathering and selection process.
 - b. Inventory of initial herd by age, sex, type & condition.
 - c. Herd photographic inventory.
 - d. Seasonal inventory by location (ocular & photographic every spring and fall).

e. Yearly review of herd proportions, condition, health, locations, migrations and trends.

Who: BLM & CRMP #1 Wild Horse Committee

When: Beginning 1982

6. Adjust herd inventory if monitoring indicates any age or sex group is disproportionately large or small. Gather excess groups, return deficient group with large proportion of potential replacements.
Who: Wild Horse Committee decides and recommends adjustments to be made by BLM.
When: Every two years.
7. In the event the natural base herd is reduced below 100 head by disease, accident or other causes, reintroduction of a base herd up to 250 head should be made from wild horse gatherings within Nevada.
Who: BLM
When: Within two years of the time base herd is found to be reduced below 100 head.
8. Internal division fences in herd area shall have gates at one mile minimum intervals and new gates (minimum 20 ft. wide) at all locations receiving heavy pressures from past wild horse populations.
Who: BLM
When: 1982
9. All gates on division fences between Lake Creek, Twin Valley, Fairbanks pastures and Bullhead Allotment, shall be opened and tied back from July 1 to March 15 to facilitate "free-roaming" migration of the base herd within spring range area and Bullhead Allotment. A deterioration of range condition caused by excessive use in any one field may be controlled by gate closure if deemed necessary by CRMP Wild Horse Committee.
Who: BLM & NFC
When: 1983
10. Wild horse use of checkerboard and scattered deeded properties. Where wild horses now exist, wild horses shall be permitted use of unfenced Nevada First Corporation deeded properties in the same ratio of domestic livestock to wild horses as in the Little Owyhee and Bullhead CRMP plans when managed under a plan approved by CRMP Local #1. BLM will adjust the exchange of use agreement with Nevada First Corporation to account for AUMs used by wild horses on Nevada First Corporation private lands.
Who: BLM & NFC
When: 1982

Glossary of Terms

Active Preference - the allowable grazing use made by domestic livestock during the grazing year, and generally expressed in AUMs.

Adjudication (or range adjudication) - the allocation of grazing areas or use of allotments, season of grazing use, numbers and class of livestock, and numbers of AUMs to qualified livestock operators (Nevada Report). The "Nevada Report" is a document prepared by Bureau personnel in 1974. The Nevada Report was about the effects of livestock grazing on wildlife, watershed, recreation, and other resource values in Nevada.

Adult Horse - any wild horse two years or older (NSO Instruction Memorandum NV 83-289).

Allotment - an area of land where one or more individuals graze their livestock. It generally consists of public lands but may include parcels of private or state owned lands. The number of livestock and period-of-use are stipulated for each allotment. An allotment may consist of several pastures or be only one pasture (Nevada Report).

Allotment Management Plan (AMP) - means a documented program which applies to livestock operations on the public lands, prepared in consultation and cooperation with the permittee(s), lessee(s), or other involved affected interests (43 CFR 4100.0-5).

Animal Unit Month (AUM) - means the amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month (43 CFR 4100.0-5).

Appropriate Management Levels (AMLs) - the median number of wild horses or burros to be maintained by herd management area (NSO Instruction Memorandum No. 83-289).

Carrying or grazing capacity - as used in this document, the words are synonymous. The phrase means the maximum stocking rate possible without inducing damage to vegetation or related resources.

Coordinated Resource Management and Planning (CRMP) - public involvement program in which interest groups, other agencies, users, and affected individuals develop multiple-use plans as part of the BLM's planning process (Winnemucca Preliminary Final Environmental Impact Statement).

Endangered species - any species in danger of extinction throughout all or a significant portion of its range (WPFEIS).

Grazing system - systematic sequence of grazing use and nonuse of an area, which is designed to achieve established objective (Nevada Report).

Herd - means one or more stallions and their mares or jacks and their jennies (43 CFR 4700.0-5).

Herd Management Area Plan (HMAP) - an activity plan which addresses the management of wild horses or burros and the habitat on one or more herd management areas (NSO Instruction Memorandum NV 83-289).

Herd Management Area (HMA) - a herd area identified in an approved land use plan where wild horses or burros will be maintained and managed (WO Instruction Memorandum No. 83-289).

Management Framework Plan (MFP) - a land-use plan for the public lands which provides a set of goals, objectives, and constraints for a specific planning area to guide the development of detailed plans for the management of each resource (WPFEIS).

MFP II - a BLM Area Manager's recommendation to the District Manager for the Management Framework Plan based on conflict resolution (WPFEIS).

MFP III - the District Manager's land use decision for management of the public lands and their resources (WPFEIS).

Management Plan - means a written program of action designed to protect, manage, and control wild free-roaming horses and burros and maintain a natural ecological balance on the public lands (43 CFR 4700.0-5).

Multiple use - the management of public lands and their various resource values so that they are utilized in a combination that will best meet the present and future needs of the public (WPFEIS).

Public lands - means any lands administered by the Secretary of the Interior through the Bureau of Land Management (43 CFR 4700.0-5).

Range survey (vegetation inventory) - a method for the measuring or inventory of vegetation to provide base data for use in management decisions and establishment of the grazing capacity.

Riparian - a biological zone influenced by the presence of water. Also used to refer to vegetation that grows along streams or around springs (WPFEIS).

Threatened species - any species likely to become endangered within the foreseeable future throughout all or a significant part of its range (WPFEIS).

Unit Resource Analysis (URA) - a description of the basic physical characteristics of an area.

Wilderness Study Area (WSA) - an area determined to have wilderness characteristics. Study areas will be subject to interdisciplinary analysis and public comment to determine wilderness suitability. Suitable areas will be recommended to the President and Congress for wilderness designation (WPFEIS).

Wild free-roaming horse and burro - all unbranded and unclaimed horses and burros that use public lands as all or part of their habitat or that have been removed from these lands by the authorized officer but have not lost their status under section 3 of the Act (NSO Instruction Memorandum NV 83-289).

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