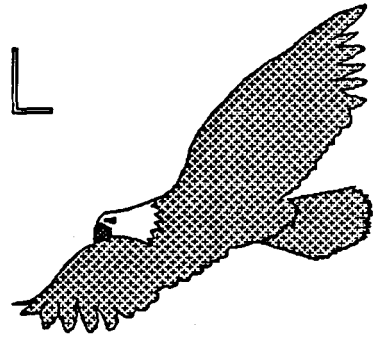
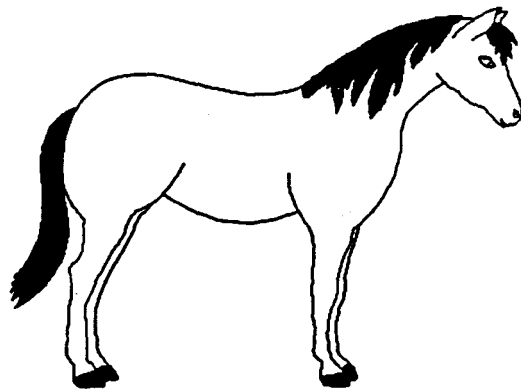


WILD HORSE GATHERING  
AND  
REMOVAL



BITNER, HIGH ROCK, NUT  
MOUNTAIN, AND WALL CANYON  
HERD MANAGEMENT AREAS



ENVIRONMENTAL ASSESSMENT  
SURPRISE RESOURCE AREA  
JUNE 22, 1993

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**WILD HORSE GATHERING AND REMOVAL  
BITNER, HIGH ROCK, NUT MOUNTAIN, AND WALL CANYON  
HERD MANAGEMENT AREAS**

**SURPRISE RESOURCE AREA**

**ENVIRONMENTAL ASSESSMENT CA-028-93-03**

**BACKGROUND**

The Proposed Action would occur on the Surprise Resource Area, Cowhead/Massacre Planning Unit, Washoe County, Nevada.

The Proposed Action is subject to the Cowhead/Massacre Management Framework Plan 3 (MFP), and has been reviewed for conformance with the MFP (43 CFR 1610.5, BLM MS 1617.3). Actions on four Herd Management Areas (HMA) are evaluated. For the High Rock HMA East of Canyon Home Range the proposed action is in conformance with sub-unit 1; Decision #3 as amended on 11/3/83 and Decision #7. For the Bitner, Nut Mountain, and Wall Canyon HMAs the proposed action is in conformance with Sub-unit 2; Decisions #4 and #15. The proposed action complies with the resource management goals for the High Rock Canyon area and the utilization standards for the other areas.

**NEED FOR PROPOSED ACTION**

**BITNER, NUT MOUNTAIN, AND WALL CANYON HMAs**

An analysis of the current monitoring data, utilization mapping, 1992 wild horse counts, and the most recent trend data, found that there were excess wild horses on the four HMAs. With the current numbers, on the Bitner, Nut Mountain, and Wall Canyon HMAs a thriving natural ecological balance could not be maintained.

**HIGH ROCK HMA, EAST OF CANYON HOME RANGE**

The 11/3/83 amendment to the MFP referring to the High Rock sub-unit (sub-unit 1) states in part; when additional forage becomes available, "allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

Through the EIS and MFP processes the primary resource values in the High Rock area were determined to be scenic, cultural, historical, wildlife, and primitiveness. Sub-unit 1; Decision # 6 states, "manage all ecological sites within Subunit 1 to achieve site potential." Grazing by livestock and wild horses was determined to be detrimental to the primary values and Decision #6. Livestock grazing was ended in 1984. A small number of wild horses was determined to be compatible with these values and Decision #6. The Herd Management Area Plan (HMAP) set the management level at 30 - 40 wild horses on the East of Canyon Home Range. 1992 counts found 55 wild horses in High Rock and east of the canyon.

**DEFINITION**

**Site Potential** Part of ecological theory is that we can predict what plant community will exist in a specific setting in the absence of disturbances. This plant community, which will take some number of years after the last disturbance to develop, will have a stable species composition for many years. This assemblage of plant species is called site potential.

The process for arriving at the recommended wild horse management levels conforms with BLM Instructional Memo No. 90-30 (IM 90-30) issued October 12, 1989.

## PROPOSED ACTION

### DESCRIPTION OF PROPOSED ACTION

Gather wild horses on the Bitner, Nut Mountain, Wall Canyon HMAs to the minimum recommended management levels. Gather wild horses on the High Rock HMA, East of Canyon Home Range, and reduce their numbers to the minimum number set in the MFP. Each HMA will be gathered to the minimum management level and allowed to increase to the maximum management level before further analysis.

Table 1. Herd Management Areas and Wild Horse Population Levels.

<u>HMA</u>	<u>Recommended Management Levels</u>	<u>1992 Census</u>	<u>1993 Projection</u>	<u>Approximate Number to be Removed</u>
Bitner	15 - 25	40	48	33
Nut Mountain	30 - 55	52	62	32
Wall Canyon	15 - 25	78	94	79
High Rock East of Canyon Home Range	30 - 40	55	66	36

These herds would also be restructured at this gather. Herd integrity will be carefully preserved. The goal is that only horse which are four years old and younger will be removed. Younger horses are more adoptable, so they cost BLM less for holding and maintenance.

### DEFINITIONS

Base Herd is the reproductive horses returned to a herd management area following a gather. In Susanville District, this number is the minimum management level.

Structured Herd Management is: Gathering as many horses from a herd management area as practical. Selecting horses for return to the HMA which are five years old and older and appear capable of propagating offspring which are well adapted to the herd's habitat. Selecting younger horses needed to complete the "base herd" for return to the herd management area. At subsequent gathers replacing "base herd" horses that have died with horses four years old and younger either from the herd or from other wild horse herds.

Structured herd management was developed by the Susanville District. It is analogous to, but more detailed than, the general BLM policy of selective removal.

Herd Integrity is choosing horses for the "base herd" which reflect existing characteristics in the herd that have made it well adapted to its habitat.

For specifics of the gather see the "Helicopter Gathering Plan for Wild Horses in the Bitner, Wall Canyon, Nut Mountain and High Rock Herd Management Areas," (appendix 1).

## OTHER ALTERNATIVES

1. Gather wild horses on the four HMAs, but do not structure the herds. This alternative was not given further consideration, because it violates the BLM policy of selectively removing young horses at gathers.
2. Do not gather wild horses at this time. Wait until monitoring data shows that there has been a degradation in the condition of upland vegetation.
3. Remove all the wild horses from the High Rock HMA. This alternative would be in conformance with the MFP's Objective 2; subunit 1, land use goals 1 and 2 and decision #6. This alternative would not comply with decision #3, the forage allocation decision.

As long as wild horse numbers can be kept low, 70 - 100 head in the High Rock HMA, with 30 - 40 head in the East of Canyon Home Range, and the vegetation continues to progress towards site potential and impacts to cultural sites are acceptable, then there is no need to consider removing all wild horses from the High Rock HMA. The proposed action has been meeting the MFP's vegetation and cultural resources goals, therefore, the complete removal of wild horses from the High Rock HMA alternative will not receive further consideration.

## ISSUES

Three main issues will be addressed in this EA: 1) Riparian area utilization. 2) Wild horse populations in balance with the primary resource management goals in the High Rock Canyon area, preservation of cultural resources, wildlife habitat enhancement, and reestablishment of a primitive setting. 3) Affects on wild horses.

On the Bitner, Nut Mountain, and Wall Canyon HMAs heavy and severe utilization of riparian areas is occurring. In 1992, as a result of the drought and subsequent reductions in cattle numbers, there were areas where, in the complete absence of cattle, wild horses produced heavy and severe utilization on riparian areas.

High Rock HMA has two home ranges, East of Canyon and Little High Rock, separated by High Rock Canyon. High Rock Canyon is an Area of Critical Environmental Concern and a proposed National Conservation Area. The Canyon contains the Lassen/Applegate Trail, a National Register historical site. It also has many National Register quality archeological sites. These historical and archeological values, along with the improving condition of the vegetation in High Rock and its tributary canyons, both for its own value and for wildlife habitat, are being negatively impacted by the current number of wild horses using the canyons.

The proposed action is to gather wild horses. The alternative is to not gather horses at this time. The impacts and affects of both actions on the retained and removed horses will be assessed.

## DESCRIPTION OF THE ENVIRONMENT

### WATER

1992 was the sixth consecutive year of drought (below normal precipitation) in northwestern Nevada. As a result drinking water amounts and sources for all animals have been greatly reduced. Generally 50% of the drinking water locations were dry in 1992. The result has been the concentration of animals at the remaining water sources and increased intra- and inter-specific interaction and stress. It resulted in direct competition between wild horses and antelope for drinking water. Increased animal concentrations also resulted in heavier than normal trampling impacts on riparian vegetation and soils.

The winter of 1992-93 was wetter than normal. Drinking water problems are likely to be reduced in 1993. However, the adverse affects of severe use on the areas around water sources during the drought persist. Also the amount of ground water recharge required for recovery of normal spring and stream flows is not known.

Badger Creek, which crosses about one mile of public land, is the only perennial creek on the Bitner HMA. Most of the creek lies on fenced, private land. The East of Canyon Home Range has one intermittent creek, High Rock Canyon. The Nut Mountain HMA has one perennial creek, Hanging Rock Canyon. The Wall Canyon HMA has one perennial creek, Cottonwood Creek.

Most of the drinking water sources on the Bitner HMA are reservoirs. On the East of Canyon Home Range most of the drinking water is at springs. On the Nut Mountain HMA drinking water sources include reservoirs, springs, and Hanging Rock Canyon. On Wall Canyon HMA drinking water sources are mainly springs and the creek.

## SOILS AND VEGETATION

The four HMAs lie along the eastern side of the Surprise Resource Area in northeastern Washoe County, Nevada. The soils are desert and volcanic influenced soils typical of the region. Sagebrush/grassland is the dominant vegetation community. There are large areas of low sagebrush. Big sagebrush is abundant in areas with deeper soils. Areas with higher salinity are dominated by greasewood. At higher elevations and in some areas with better moisture regimes, mountain brush species enter the plant community. Grasses and grass-like plants make up about 15% of the total vegetation. Riparian areas occupy much less than 1% of the total area. The plant communities on the four HMAs range from early to late successional stages. Trend is generally up in upland areas, as a result of improving livestock management over the past 10 - 20 years and maintaining wild horse populations around carrying capacity.

### DEFINITION

Riparian Area is an area of land directly influenced by permanent water. It has different physical, soil, and vegetation characteristics than the surrounding uplands reflecting the influence of permanent water. Riparian areas occur as stream side corridors, lake shore margins, and meadows below springs.

Unlike most of the surrounding uplands, the riparian area vegetation has not been improving. Riparian areas in the Bitner, Nut Mountain, and Wall Canyon HMAs are in unacceptable condition. The soils have received perennial, year long trampling producing hummocks in meadows and destabilizing creek banks. Trampled stream banks slough into the creek. As a result the creek becomes shallower, wider, and siltier. Loss of protective bank vegetation results in gully formation during runoff events. In combination these changes change perennial creeks into intermittent or ephemeral creeks. The desirable perennial sedges, grasses, and shrubs have been replaced by annual grasses and forbs, less desirable grasses and sedges, and sagebrush and junipers.

These changes did not happen recently. Probably most of the creek and meadow riparian areas had been degraded by the first decade of the twentieth century as result of the thousands of cattle and tens of thousands of sheep grazed in this area beginning in the late 1800s. The entire area was overgrazed. As a result there are no known riparian relict areas on the Surprise Resource Area. We cannot point to some area as an example of what the meadows and creeks should look like. We must extrapolate from other areas with similar soils, climate, and hydrology.

The BLM's "Riparian-Wetland Initiative for the 1990's" directed that 75% of BLM riparian areas be in "properly functioning condition" by 1997. This standard is not currently being met in these four HMAs. Additional measures are required for riparian area improvement.

## **WILDLIFE**

The four HMAs provide habitat for the large variety of wildlife typically found in the region. The most common species are pronghorn antelope, sage grouse, black-tailed jackrabbits, Brewer's sparrows, deer mice, coyotes, raptors, and bobcats. There are mule deer in areas with big sagebrush and other taller shrubs which provide cover.

During the summer of 1992 competition for water between antelope and wild horses was observed at several different locations. Wild horses would be at a water hole. Antelope would stand around until the horses left. When antelope approached too closely, one or two mares would move towards the antelope, which would move away from the water hole.

Riparian areas are also important, because of their wildlife habitat value. Over half of the wildlife species in this area are dependant upon riparian communities for habitat during some portion of the year. Many of the less common species, including voles, killdeer, amphibians, and song birds would not occur in the area without riparian habitats. Sage grouse are dependent upon the meadows at springs for brood rearing habitat. Most wildlife species depend on the riparian areas as a source of drinking water. It is likely that where there were willow and other riparian shrub communities, there were birds, amphibians, and reptiles which no longer use this area.

The main affect of the proposed action, or any of the alternatives, on wildlife values will be through impacts on riparian areas.

## **THREATENED AND ENDANGERED SPECIES**

No federally listed plants or animals are known to occur within the four HMAs.

## **WILD HORSES**

Generally these four herds appeared in good health and condition before the winter of 1992-93. Helicopter observations of the four HMAs on February 10, 1993, found the horses to be active and still healthy looking. The snow ranged from two to three feet deep. It had several inches of icy crust over softer, crystallly snow. Fewer horses were seen than in the fall '92 counts. About 225 horses were counted on the four HMAs during the Fall of '92. Only 20 horses were found in the same areas in February, 1993. (The winter flight was not as comprehensive as the fall counts.) Some recognizable bands that have been associated with certain areas could not be found in those areas, nor on "traditional" winter ranges. This shows that in a winter with heavy, persistent snow there is very little winter range on these four HMAs. By mid-March around 45 wild horses had returned to the area of the Bitner and Nut Mountain boundary. They were active, but bony. On May 13, 1993, there was a lot of horse manure in High Rock Canyon. Perhaps many of the horses from these four HMAs wintered in High Rock. One of the important gaps in our knowledge is where these horses go during deep snow winters. In recent years it has not been a factor. If winters return to a more "normal" regime, the amount of winter range may be an important limiting factor for these HMAs.

Conformance with the HMAPs, specifically keeping wild horse numbers within the carrying capacity of the range in combination with the other uses of the range, has resulted in thriving wild horse herds. This was reflected by the absence of death loss during the winter of 1992-93. Also the average reproductive rate for the herds on the Surprise Resource Area is 20% per year.



## **Wild Horse Diets**

A study of herbivore diets on the Surprise Resource Area using fecal analysis found that through the year wild horse diets contained 89.76% grass and grass-like plants. Spring diets were the most varied. Several early spring samples contained less than 50% grass and up to 60% forbs and shrubs. Winter samples were mostly grasses and grass-like species. Some samples contained 100% grass. Fifty six samples were collected from four different habitat types, juniper/shrub, sagebrush/mixed shrub, mountain shrub, and wet meadow/juniper habitat types.

Two important conclusions were drawn from this study: Wild horse diets concentrated on riparian area species. Wild horse diets had very little overlap with antelope or mule deer.

Of the 56 samples 42 contained riparian species, such as sedges, rushes, bulrushes, and hairgrass. When this is compared to the very small amount of riparian vegetation present and the amount that a horse eats plus their year long presence, the severe impact of wild horses on riparian areas becomes apparent.

The other conclusion from this study was that wild horse diets have very little overlap with antelope or deer. The time of greatest overlap was during the spring, when there was an abundance of forage, and all herbivores appeared to be selecting the greenest forage available. During the rest of the year there was very little dietary overlap. Three of the 56 wild horse samples contained small amounts of bitterbrush. The results indicated that there was little or no competition for forage between wild horses and antelope or deer. Wild horse and cattle had very similar diets. Both depended on grasses.

## **Wild Horse Riparian Forage Demand**

How much riparian forage can the wild horses eat and how much is being produced on the four HMAs? In appendix 3 these values were calculated. In any such determination there are many generalizations. A summary of riparian forage production and wild horse demand for each HMA is shown in table 2.

Table 2. Wild Horse Riparian Species Summer Forage Demand and Current Riparian Species Forage Production.

	BITNER HMA	HIGH ROCK HMA East of Canyon Home Range	NUT MOUNTAIN HMA	WALL CANYON HMA
1992 Counts	40 horses	55 horses	52 horses	78 horses
Summer Riparian Forage Demand	78,560 pounds	108,020 pounds	102,128 pounds	153,192 pounds
Recommended Minimum Number	15 horses	30 horses	30 horses	15 horses
Summer Riparian Forage Demand	29,460 pounds	58,920 pounds	58,920 pounds	29,460 pounds
Recommended Maximum Number	25 horses	40 horses	55 horses	25 horses
Summer Riparian Forage Demand	49,100 pounds	78,560 pounds	108,020 pounds	49,100 pounds
Total Riparian Forage Production	2,380 pounds - 354,380 pounds	311,400 pounds	17,290 pounds	23,800 pounds

Table 2 clearly illustrates two points. On the Nut Mountain and Wall Canyon HMAs wild horses, at any likely population level, could eat the total annual production of riparian forage each summer. The Bitner HMA has several dry lakes, in some years, like 1992, they did not produce any vegetation. In other years, maybe 1993, they do not produce much vegetation, because they are flooded most of the growing season. They have the potential to be very productive. In years when the lake beds are productive, they can provide forage for both horses and livestock. Unfortunately productivity is extremely variable.

This table also shows that potential production from riparian habitats is great. The High Rock HMA and the Wall Canyon HMA both have large canyon areas. In Wall Canyon most of those areas are producing upland vegetation. In High Rock many of those areas are abundantly producing riparian vegetation. As a result High Rock is producing 13 times more riparian vegetation than Wall Canyon is producing. A similar comparison cannot be made for the Bitner and Nut Mountain HMAs, because Bitner has no canyons, and Nut Mountain only has Hanging Rock.

### **Current Wild Horse Population Levels**

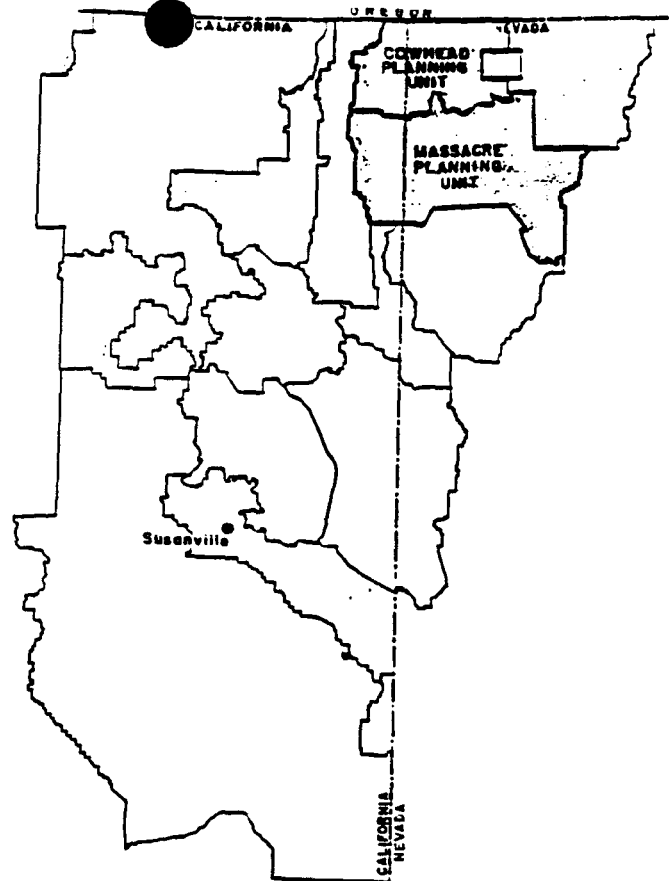
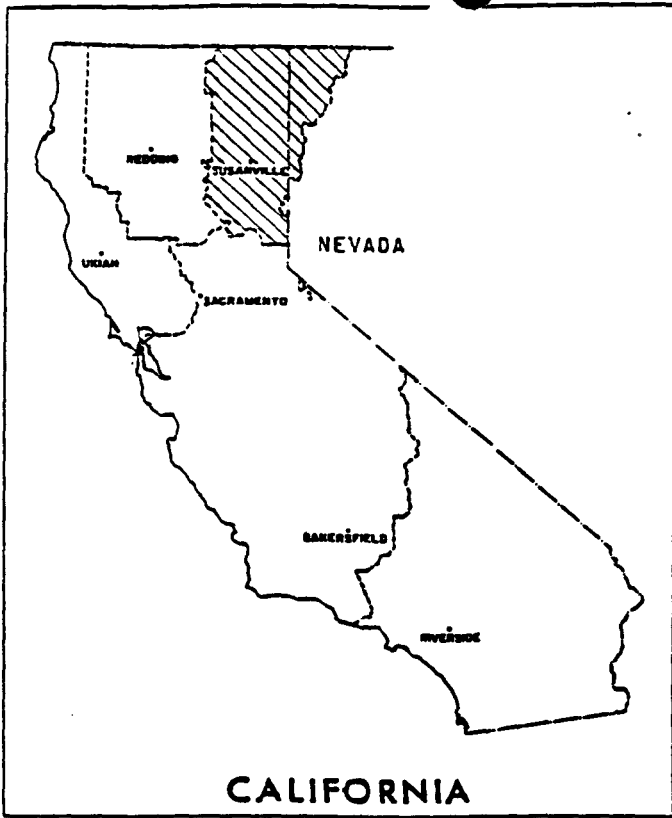
Comparison of the 1992 wild horse counts with population estimates found that estimated populations were less than the actual counts, 30% on Bitner and 50% on Wall Canyon. On Wall Canyon there were 19 horses in the fall, 1988 and 79 in October, 1992. This was an average annual increase of 43%. A wild horse recruitment rate much greater than 20% per year due to reproduction alone is improbable. There are two likely reasons for there being so many more horses than estimated. There was a lot of movement from the Winnemucca District onto the Surprise Resource Area. This has occasionally been observed. Another reason for higher counts has been the mild winters over the past several years and resultant decline in winter death loss. This had two affects. More foals survived, and then there were more mares to bare foals.

#### **Bitner HMA (Herd Area #CA-267)**

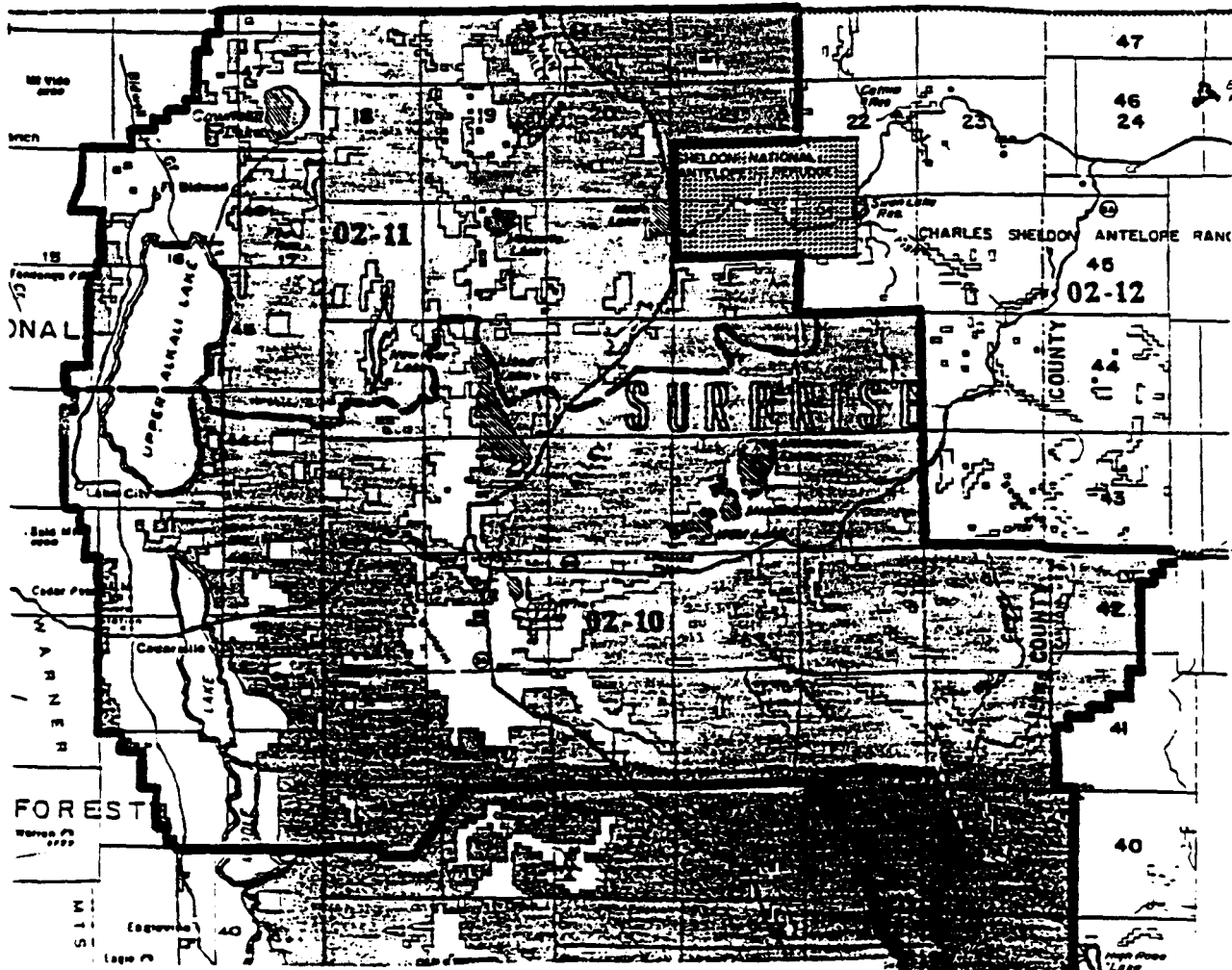
The four HMAs are located approximately 40 miles east and southeast of Cedarville, CA and form a contiguous block of HMAs (maps 1 - 2).

The Bitner HMA (map 3) contains 50,660 acres. The area was first separated in 1964 when a boundary fence was built between the Massacre Lakes and Nut Mountain Allotments. In 1982 the Bitner Allotment was created from the old Nut Mountain Allotment by fencing off the norther portion. This fence split the Bitner HMA. Five 50 foot long "wild horse" gates were placed in the new fence. These gates are opened each fall to allow access to the lower elevation winter ranges. Tracks and observations show that horses move back and forth through these gates. So far they have been successful. The MFP specified a population of 15 - 25 wild horses on the Bitner HMA. This allocation of forage is shown in Table 3. The Analysis determined that there was sufficient forage for 15 - 25 horses.

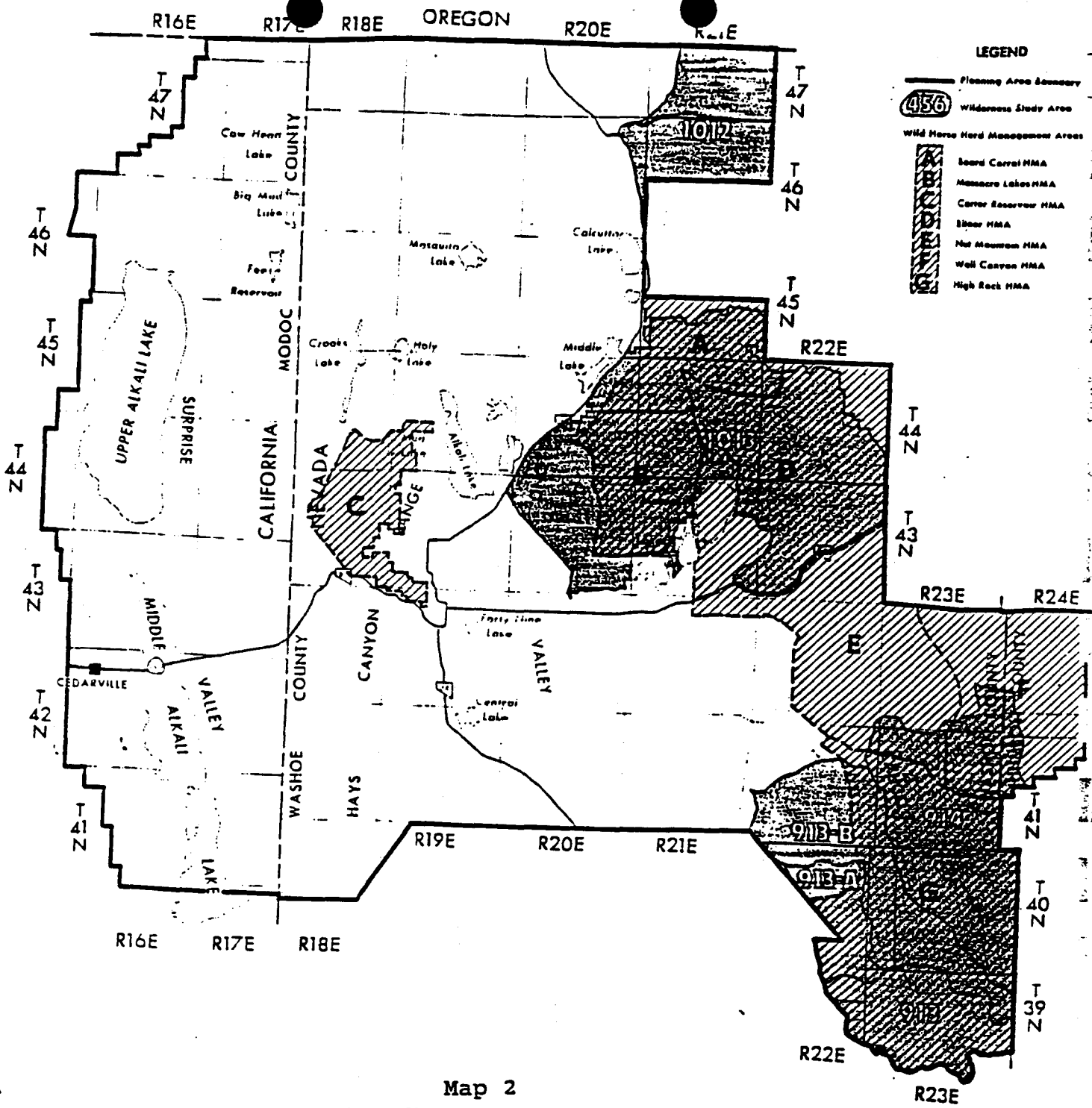
These horses descended from feral ranch stock. They are light horses. Horses from this HMA probably mix with wild horses on the Massacre Lakes and Nut Mountain HMAs and the Sheldon Antelope Range.



SUSANVILLE DISTRICT



COWHEAD/MASSACRE PLANNING UNIT



**LEGEND**

- Planning Area Boundary
- Wilderness Study Area
- Wild Horse Herd Management Areas**
- Board Corral HMA
- Massacre Lakes HMA
- Carter Reservoir HMA
- Elbow HMA
- Not Mountain HMA
- Wolf Canyon HMA
- High Rock HMA

**Map 2**  
**COWHEAD/MASSACRE**  
**PLANNING AREA**  
**MFP 3**

**WILDERNESS STUDY AREAS**  
**&**  
**WILD HORSE**  
**HERD MANAGEMENT AREAS**

# Bitner HMA

Map 3

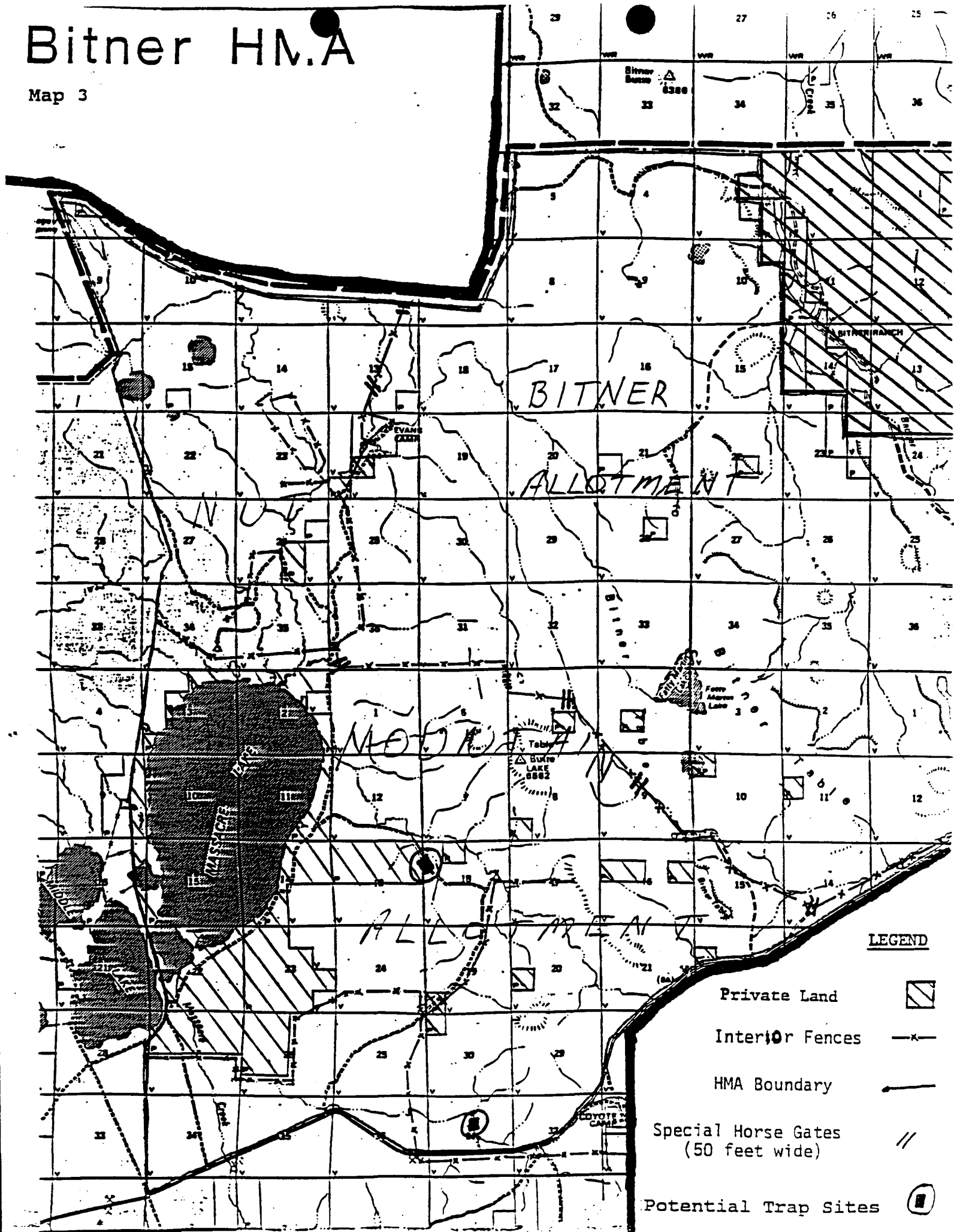


Table 3. Forage Allocation for the Area Containing the Bitner, Nut Mountain, and Wall Canyon HMAs.

AREA	EXISTING FORAGE PRODUCTION (AUMs) <sup>1</sup>	WATERSHED. WILDLIFE COVER. SOIL STABILIZATION	WILDLIFE (AUMs) <sup>2</sup>				LIVESTOCK			WILD HORSES		GRAND TOTAL
			Deer	Antelope	Bighorn	Total	Class	Season	AUMs	Numbers <sup>3</sup>	AUMs	
2A	4,104	2,052					Cattle	4/15-10/15	1,446	-	-	
2B	3,430	1,715					Cattle	4/15-9/30	1,715	13	156	
<i>Part of Bitner HMA</i>												
2C	4,138	2,069					Cattle	4/16-8/31	1,342	7	84	
2D	800	800					-	-	-	-	-	
2E	31,922	15,961					Seeding:			80	960	
							Cattle	4/16-5/15				
							Natives <sup>4</sup>					
							Sheep	5/1-6/30				
							Sheep	10/8-11/30				
									20,347			
<i>Part of Bitner and all of Nut Mtn and Wall Canyon HMAs</i>												
TOTAL	44,394	22,597	1,350	770	-	2,120			24,850	100	1,200	50,767 <sup>4</sup>

The area including the Bitner HMA was counted in February and August, 1973, 116 and 127 horses were counted. In August, 1984, 138 horses were removed from the area with 15 horses being returned to the Bitner HMA. In the fall of 1988, 33 horses were gathered from the Bitner HMA. This was a 21% increase per year from 1984 to 1988. Thirteen horses were returned to the HMA. This HMA was placed under structured management in 1988. It was estimated that there would be 27 horses by the fall of 1992, however, when the horse gates were opened in November, 1992, 40 horses were counted.

- 1 Estimate based on 1979 and 1980 BLM actual use and utilization data except for Massacre Mountain Allotment. Livestock forage production is 22,597 AUMs at 50% use levels in the livestock use areas, except Massacre Mountain Allotment (the entire 800 AUMs within Area 2D is allocated to non-consumptive uses). Total production is 44,394 AUMs.
- 2 Allocation is made on a unit wide basis.
- 3 Average numbers. Numbers may vary from a low of 70 to a maximum of 125.
- 4 Actual use data for the Massacre Mountain Allotment is incomplete. Therefore, total active use is being allocated until a production survey is completed in the Sub Unit 2 and 3 portion of the Massacre Mountain Allotment.

**High Rock HMA (#CA-264)**

The High Rock HMA (map 4) contains 115,000 acres. The HMAP split the HMA into two home ranges. The East of Canyon Home Range lies north of Grassy Canyon and East of High Rock Canyon. The Little High Rock Home Range is the area between Grassy Canyon and Little High Rock Canyon. The home ranges tend to represent summer ranges. The horses from both home ranges share a common winter range. The East of Canyon Home Range is proposed for gathering at this time. The Little High Rock Home Range is not. There are no fences within this HMA. The MFP allocated forage for 70 - 100 wild horses in the High Rock HMA. This allocation of forage is shown in Table 4. The HMAP specified 30 - 40 horses on the East of Canyon Home Range and 40 - 60 on the Little High Rock Home Range.

Table 4. Forage Allocation for the Area Containing the High Rock HMA.

EXISTING FORAGE PRODUCTION (AUMs) <sup>5</sup>	WATERSHED, WILDLIFE COVER, SOIL STABILIZATION	WILDLIFE (AUMs) <sup>6</sup>				LIVESTOCK <sup>7</sup>			WILD HORSES		GRAND TOTAL
		Deer	Antelope	Bighorn	Total	Class	Season	AUMs	Numbers <sup>8</sup>	AUMs	
21,596 <i>High Rock HMA</i>	10,848	250	350	120	720	Sheep	4/01-4/30 12/01-12/15 <sup>9</sup>	500	100	1,200	13,268

Some mustang characteristics appear in this herd, dorsal stripe and barred or striped legs. Sorrel and palomino pintos are more typical colors on this HMA. These are light horses. Horses from this HMA mix with horses from the Wall Canyon, Nut Mountain, and Fox Hog HMAs. There is also movement into this HMA from the Winnemucca District.

In 1973, 136 horses were counted in this area (including today's Nut Mountain and Wall Canyon HMAs). In October, 1981, 25 horses were removed from the area east of High Rock Canyon. In 1985, 235 horses were counted in the East of High Rock Home Range. In July 1985, 102 horses were trapped in this Home Range and removed. At least 45 horses were known to have been left on the Home Range.

In the fall of 1988, 53 horses were gathered on the East of Canyon Home Range; 33 were returned to the range, and 20 were removed. Four horses were known to have been missed. Forty horses were counted after the gather. The East of Canyon Home Range was placed under structured management and the base herd established in 1988. 1988 was another drought year and some of the horses were in poor condition due to lack of drinking water. These poor condition horses were included among those removed. It was estimated that there would be 84 wild horses

<sup>5</sup> Existing livestock forage production is 10,848 AUMs at 50 percent use level. Therefore, total production is 10,848 AUMs x 2 = 21,696 AUMs.

<sup>6</sup> Allocation is made on a unit wide basis.

<sup>7</sup> Livestock use area is west of High Rock Canyon and north of Little High Rock Canyon.

<sup>8</sup> Maximum numbers. Numbers can vary from 70 head to 100 head.





<sup>9</sup> One week trail during a two week period.

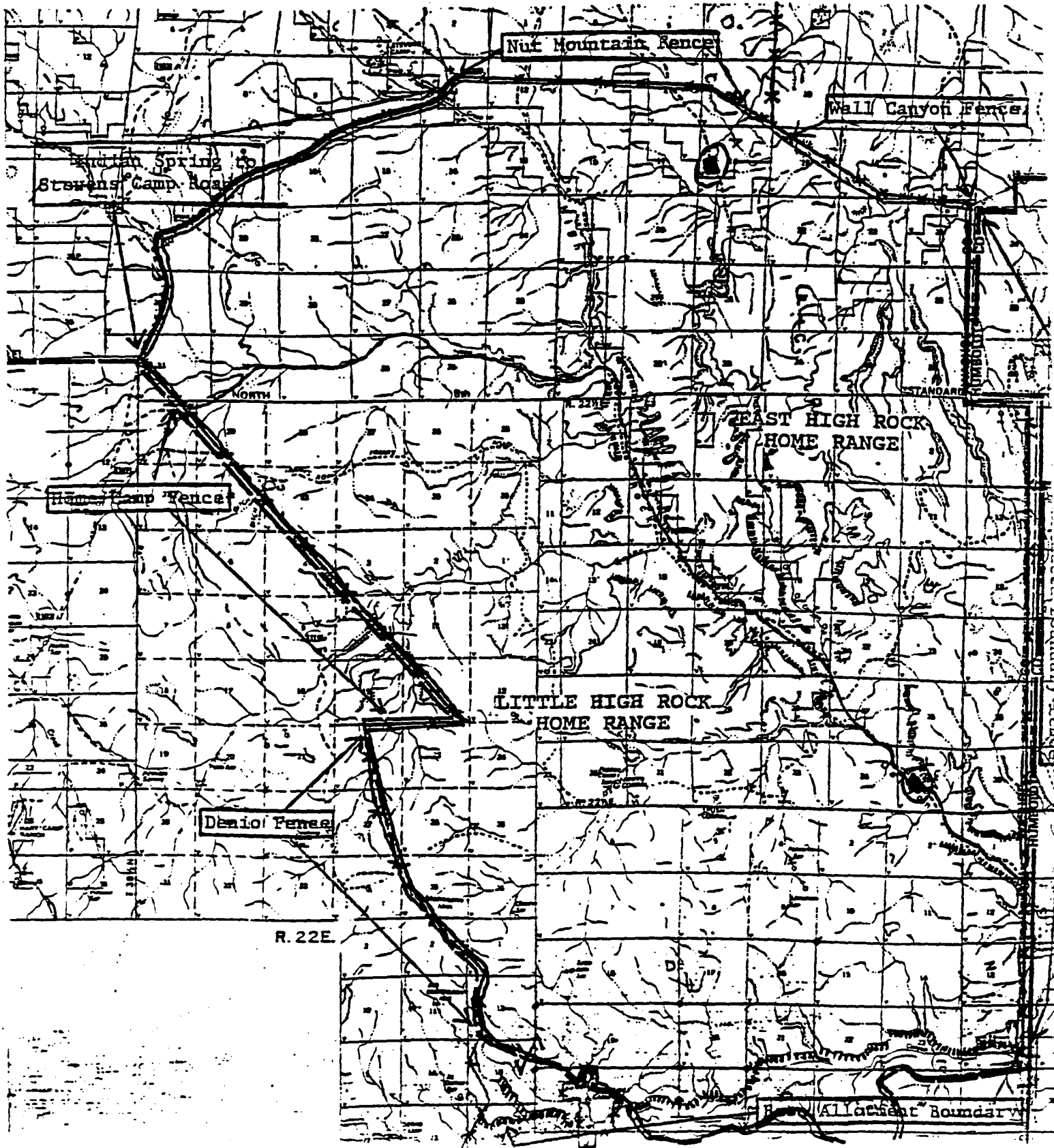


HERD MANAGEMENT AREA

Map 4

Legend:

-  HMA Boundary
-  Prominent Rims & Canyon Faces
-  Fences
-  Potential Trap Sites



in the East of Canyon Home Range in the fall of 1992. A flight over High Rock Canyon in the fall of 1992 found 55 horses in the canyons. A flight in February, 1993 found 20 horses at the two lowest springs in Pole Canyon at its junction with High Rock. These horses were active and looked in good condition. No horses were seen in the uplands and there were no tracks in the snow.

Wild horses were last gathered on the Little High Rock Home Range in November, 1990. Horses gathered showed albino traits, signs of distemper, and drought stress.

#### **Nut Mountain HMA (#CA-266)**

The Nut Mountain HMA (map 5) contains 40,680 acres. The Nut Mountain HMA lies between the Bitner, Wall Canyon, and High Rock HMAs. The MFP specified a population of 30 - 55 horses for this HMA. This allocation of forage is shown in Table 3. The Analysis determined that there was sufficient forage for 30 - 55 horses.

These horses descended from feral ranch stock. They are light horses. Blacks and bays are the most common colors. There are some piebald horses. There are several easily identifiable bands with black or palomino paint studs and subsequent off spring.

This herd was last gathered in 1988, 70 horses were gathered, 40 were removed and 30 returned to the range. This HMA was placed under structured management and the base herd was established at this gather. It was estimated that there would be 61 horses on the HMA by the fall of 1992. Counts during the summer and fall of 1992 found about 52 horses on the HMA.

#### **Wall Canyon HMA (#CA-265)**

The Wall Canyon HMA (map 6) contains 49,277 acres. This HMA lies along the eastern boundary of the resource area. It is bordered on the north by the Sheldon Antelope Range and on the east by the Winnemucca district. Horses from this HMA mix with horses from Winnemucca, the Sheldon, and the High Rock and Nut Mountain HMAs. These horses are similar to the Nut Mountain HMA horses, with fewer paints. The MFP specified a population of 15 - 25 horses for this HMA. This forage allocation is shown in Table 3. The Analysis determined that there was sufficient forage for 15 - 25 horses.


This HMA was also last gathered in 1988; when 142 horses were trapped, and 123 were removed leaving a population of 19 horses. This herd was placed under structured management and the base herd was established in 1988. It was estimated that there would be 40 horses on the whole HMA in the fall of 1992. A helicopter count of the northern part of the HMA in October 1992, found 78 horses. Also in the fall of 1992, coincidental observations along the boundary between Wall Canyon and Winnemucca found many horses and severe utilization on the Winnemucca side and slight utilization on the Wall Canyon side. Undoubtedly there is movement of horses from Winnemucca onto this HMA.

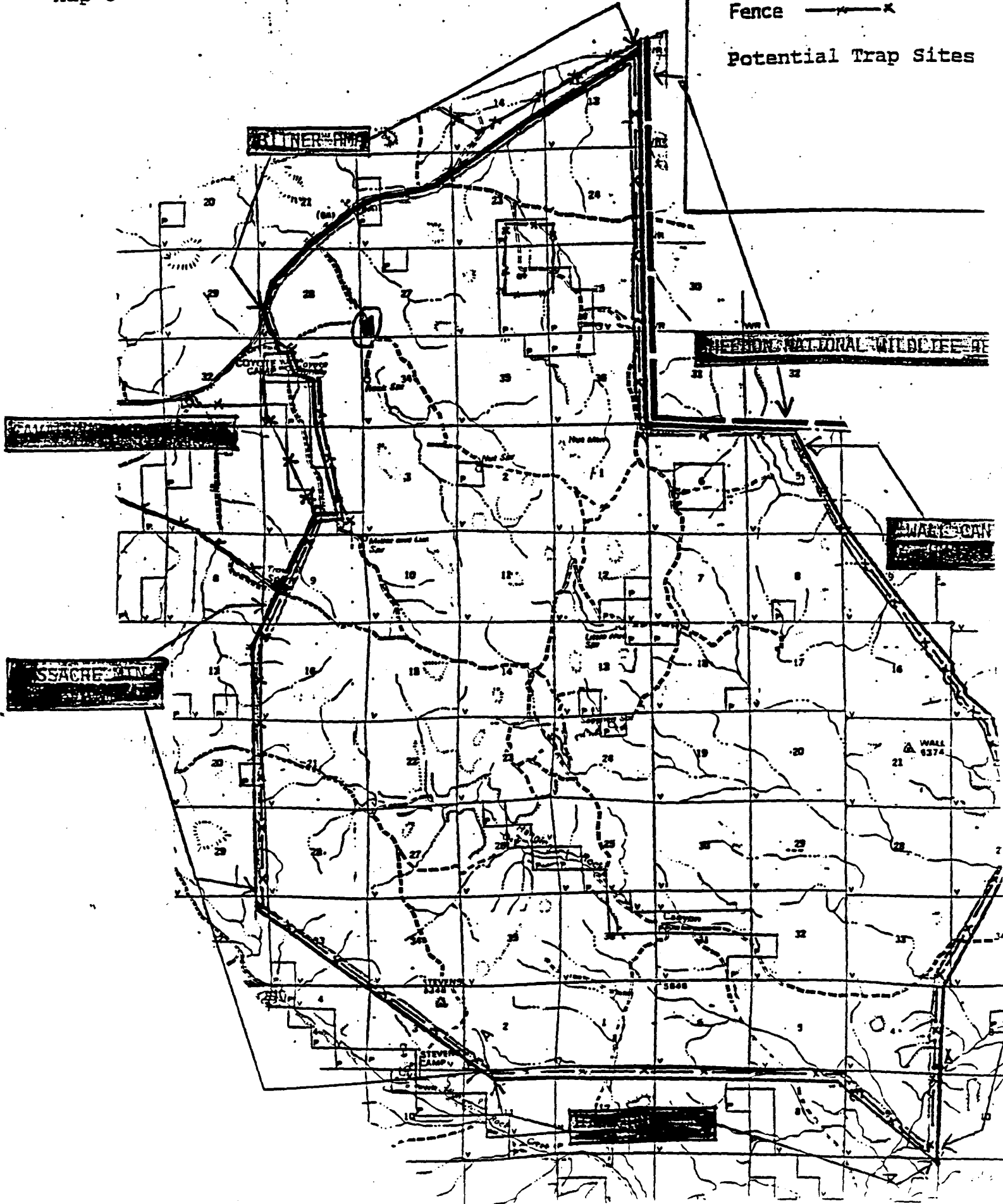
#### **Monitoring Results and Recommended Management Levels**

The current monitoring data (appendices 4 - 6) found that the current wild horse numbers were deleterious to the concept of "thriving natural ecological balance and multiple use relationships" on the Bitner, Nut Mountain, and Wall Canyon HMAs. IM 90-30 defined "thriving natural ecological balance" as "the condition of the public range that exists when resource objectives related to wild horses and burros in approved land use and/or activity plans have been achieved."

HMA Boundary 

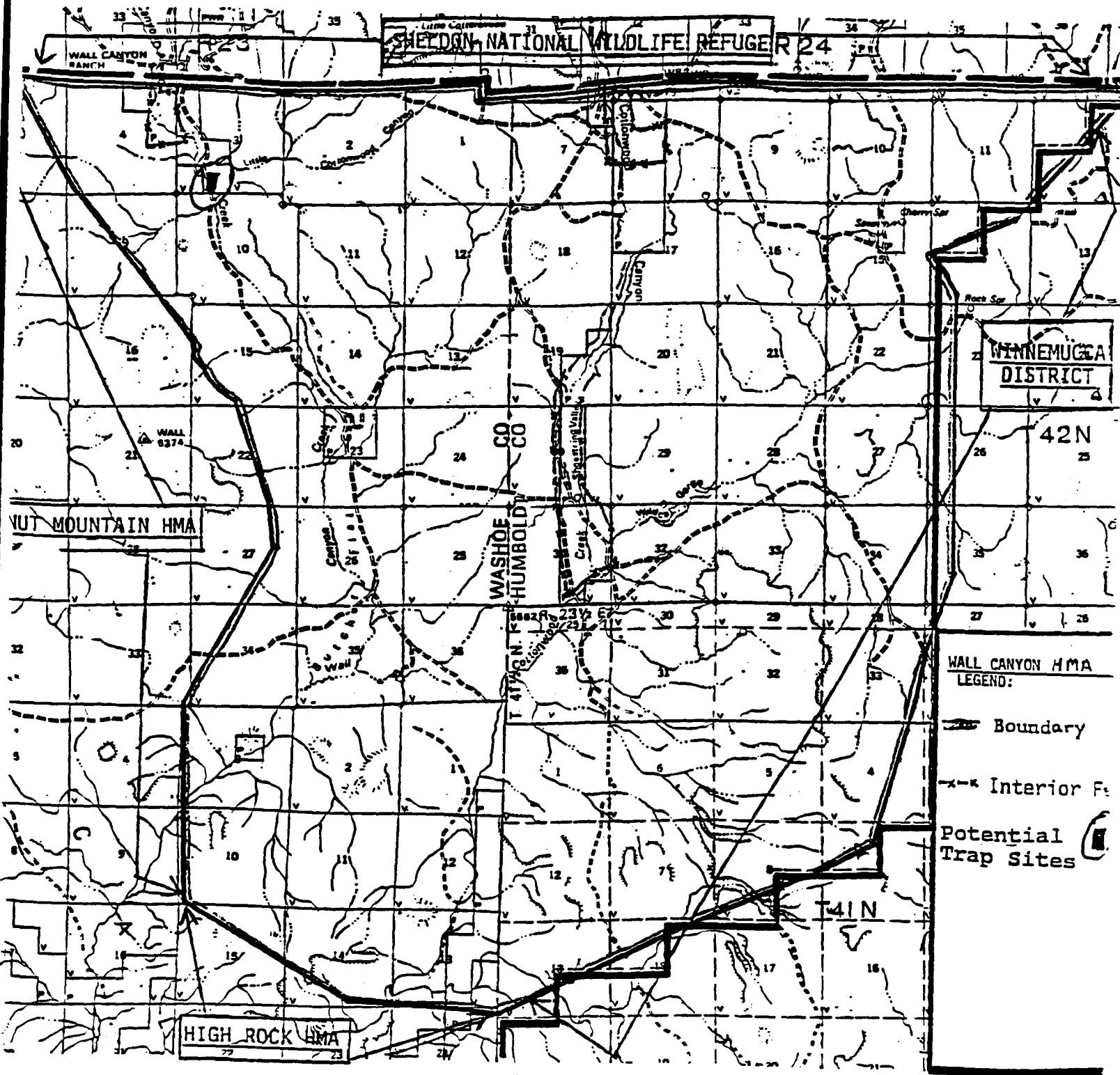
Fence 

Potential Trap Sites 



WALL CANYON  
HERD MANAGEMENT AREA

Map 6



The MFP defined thriving natural ecological balance for the area of these three HMAs as occurring when ecological sites are in mid-successional vegetative condition. The MFP further defined grazing's place in the multiple use relationships as moderate utilization of grasses.

In 1992, wild horse utilization on key areas in the three HMAs exceeded utilization standards specified in the MFP. As a result of the drought and reduced cattle numbers, there were key areas on these three HMAs which were used by wild horses, but not by cattle. 1992 wild horse utilization was determined in these key areas.

#### DEFINITIONS

Slight Utilization occurs when less than 20% of the annual production of forage plants has been consumed.

Light Utilization occurs when 20% - 40% of the annual production of forage plants has been consumed.

Moderate Utilization occurs when 40% - 60% of the annual production of forage plants has been consumed.

Heavy Utilization occurs when 60% - 80% of the annual production of forage plants has been consumed.

Severe Utilization occurs when 80% - 100% of the annual production of forage plants has been consumed.

Riparian areas were chosen as key areas, because they were targeted for improvement in the MFP, but have remained in poor condition, and 75% of riparian areas must be in properly functioning condition by 1997. Upland areas generally have an upward condition trend. A summary of the most recent trend monitoring data is contained in appendix 4. Utilization monitoring over the past several years has shown that the areas in poorest condition, riparian communities, have continued to receive unacceptably heavy utilization. Utilization monitoring for the allotments which contain the Bitner, Nut Mountain, and Wall Canyon HMAs is shown in appendix 5.

The trend data and subsequent utilization mapping, indicated that upland vegetation condition trend was, and remains, unchanged or upward. While riparian area condition was poor. Utilization has been heavy and severe in riparian areas since the last condition studies. This level of utilization would be expected to maintain poor condition. Actual Use Reports (appendix 6) for the period 1988-92 showed steady cattle use, with reductions during the past several years in response to the drought and changes in management.

Appropriate management levels based on the monitoring data were developed in appendix 1. The recommended wild horse management levels from appendix 1 and several other management levels are shown in Table 5.

Table 4. Wild Horse Management Levels for the Bitner, Nut Mountain, and Wall Canyon HMAs.

HMA	MFP MIN	MFP MAX	RECOMMENDED MIN	RECOMMENDED MAX	ANALYSIS MIN	ANALYSIS MAX
BITNER	15 horses	25 horses	15 horses	25 horses	16 horses	34 horses
NUT MOUNTAIN	30	55	30	55	25	52
WALL CANYON	15	25	15	25	28	58

The management levels based on the 1992 monitoring data were very close to the management levels in the MFP for the Bitner and Nut Mountain HMAs. For Wall Canyon the management levels from the 1992 monitoring data were about twice the MFP's levels. It was decided that the management levels based on the 1992 monitoring data were similar enough with the MFP's management levels to support the MFP's management levels. The recommended appropriate management levels for all three HMAs were the same as in the MFP.

The conclusion drawn from the 1992 utilization pattern mapping and the observations made on the HMAs was, there was not additional forage to allocate to additional users. This was particularly the case in riparian areas. Also, although 1992 was a very poor production year, cattle numbers on these HMAs were from 56 - 24% of normal. In more normal years there will neither be this lack of production, nor the reduction in cattle. The other conclusion from the 1992 monitoring plus experience was at the recommended wild horse management levels and normal cattle numbers the users are generally in balance with the forage. There is not additional forage to allocate to additional users.

#### WILDERNESS

All four HMAs contain Wilderness Study Areas (WSA). Parts of the Nut Mountain and Wall Canyon HMAs and the East of Canyon Home Range are within the East Fork High Rock Canyon WSA (#914). Much of the Bitner HMA lies within the Massacre Rim WSA (#1013). All the potential trap sites in the East of Canyon Home Range are in WSA. None of the potential traps sites on the Bitner, Nut Mountain, or Wall Canyon HMAs are in WSA.

The Interim Management Plan (IMP) permits installation of temporary facilities in WSAs for the purpose of gathering wild horses, as long as they satisfy the nonimpairment criteria.

#### CULTURAL RESOURCES

Several and continuing inventories and excavations have found that High Rock Canyon is rich in historical and archeological sites. Massacre Bench has many, high quality archeological sites. Many of these archeological and historical sites are at springs. When horses or cattle congregate, trample, and disturb the soil surface at springs, they destroy the context of artifacts and can damage them.

The Cowhead/Massacre EIS determined that cultural resources in High Rock area and on the Massacre Bench required special management actions. Decisions HR009 and HR010 stated that if wild horse impacts were shown, through monitoring, to be causing significant impacts on cultural resources, the wild horses would be adjusted. This would be accomplished by fencing and/or herd reduction. Decision MN009 stated that factors which may destroy the high archeological values in Area 2D were to be excluded. The 1,600 acre Massacre Bench Cultural Resource Management Area enclosure in the Bitner HMA was one result. The second MFP goal for the High Rock area was, "preserve 1,953 archeological sites, 12 historical sites, and 16 miles of the Lassen/Applegate Trail."

Throughout the MFP and technical review team processes grazing use in the canyons was an intensely debated issue. At one point it was decided that there would be no cattle or horses in the canyons. Eventually a compromise was reached. Cultural resources, wildlife habitat, and a primitive setting were affirmed as the primary values. In order to protect the primary resource values, there would only be a small wild horse herd, 30 - 40 head, and no cattle grazing in High Rock and the uplands to the east. Some archeological site survey forms from the High Rock area are in appendix 6. The locations and identifiers have been removed, because this is proprietary information. These examples correspond with horse populations of 45 to 250 in the East of Canyon Home Range (see page 5, High Rock HMA discussion). When horse numbers were higher than the levels set in the HMAP, damage to archeological sites was noted.

All the proposed trap sites have received cultural surveys and been approved for use.

## LIVESTOCK

There are four grazing allotments in the proposed gather area. The Bitner HMA contains the Bitner Allotment plus the part of the Nut Mountain Allotment north of highway 8A. The High Rock HMA lies within the Massacre Mountain Allotment. The Nut Mountain HMA contains the part of the Nut Mountain Allotment south of highway 8A. The Wall Canyon HMA contains the entire Wall Canyon (east) Allotment.

Beginning in 1934, with the passage of the Taylor Grazing Act and the end of nomadic sheep bands, and continuing through several livestock adjudications and the Grazing Environmental Impact Statement and resulting MFP and AMPs, cattle numbers in this area have been reduced to around carrying capacity. All the permittees currently on these allotments have taken stocking rate cuts for the purpose of making cattle numbers compatible with the other plant community values, specifically soil protection and fertility, functioning watersheds, healthy productive plant communities, and secondary values of wildlife habitat, scenery, wild horse habitat, and livestock forage production.

For the past several years cattle numbers have been reduced on all these allotments. In 1992 Actual Use was 24 % of active preference on the Bitner Allotment, 56 % on the Nut Mountain Allotment, and 47 % on the Wall Canyon (east) Allotment. Also High Rock Canyon and the area to the east in the East of Canyon Home Range has been closed to domestic livestock use since 1984.

### DEFINITION

Active Preference is the amount of livestock use permitted based on the amount of forage available for livestock grazing established in the land use plan, MFP.

The Bitner Allotment is part of a Coordinated Resource Management Plan which includes this allotment, the Bitner Ranch, and the South Catnip Allotment on the Sheldon Antelope Range. The planned season of use is April 16 to July 7 each year. The planned use has been greatly reduced in the past three years in response to the drought and changes in the permittees operation.

The Nut Mountain Allotment has three pastures divided into five use areas. A deferred-rest rotation grazing system is used on the allotment. The two early use pastures are rested every other year. Cattle are moved south to north and north to south through the allotment in alternating years. The grazing season is April 16 to October 15. The grazing pattern has been altered, and the number of cattle reduced for the past several years due to the drought.

The Wall Canyon (east) Allotment has one pasture. It was used as part of a grazing system which included the Badger Mountain Allotment on the Sheldon Antelope Range. The season of use is April 16 to September 30 with approximately two month use each year. The use period rotated between spring, summer, and fall. The grazing pattern has been altered, and the number of cattle reduced for the past

several years due to the drought. Actual use has been about 51% of active preference over the past three years. Work is in progress to include the Soldier Meadows Allotment on the Winnemucca District in this grazing system.

## **IMPACTS OF THE ALTERNATIVES (per HMA)**

Three issues were identified for assessing the alternatives, heavy and severe utilization of riparian areas, protection of specific resources in the High Rock Canyon area, and affects on wild horses. The impacts of the proposed action and alternative 2 will be assessed. The other resource values discussed are secondary results of riparian area condition. For example the main wildlife impacts result from the availability of properly functioning riparian areas to provide habitat. An important wilderness impact is the degradation of the feeling of a pristine setting due to degradation of riparian areas. The analysis of alternatives will focus on these three issues. Also, for this analysis, the Bitner, Nut Mountain, and Wall Canyon HMAs will be discussed separately from the High Rock HMA, because in the three HMAs, the main issue is habitat damage, while in High Rock the main issue is the selection of other resource values over wild horses and maintenance of wild horses within the limits specified.

### **BITNER, NUT MOUNTAIN, AND WALL CANYON HMAs**

#### **Riparian Issues**

##### Proposed Action

Implementing the proposed action will help address the riparian community concerns and the MFP objectives in riparian areas. Reducing wild horse numbers to levels which are within the carrying capacity of the plant communities which they are most likely to damage, riparian areas, in conjunction with the livestock grazing management which exists on the allotments in these HMAs, will result in acceptable utilization levels on the riparian areas. Due to the presence of water in riparian areas the vegetative response to sound grazing management and proper utilization is faster and more dramatic than on surrounding upland communities.

In spring meadows the first steps to recovery will be the presence of litter in the spring and an increase in more desirable sedges such as Nebraska sedge. It will take several years of weathering, after implementation of proper use, to reduce the hummocks.

Along creeks the first step to recovery will be the presence of residual vegetation to catch silt during runoff events. Proper utilization of the creek side corridor will allow the more desirable sedges and grasses to increase. Gradually the banks will build up producing a narrower and deeper creek. Improvement in the creek will raise the water table adjacent to the creek. This will provide habitat for riparian plants such as willows. The cumulative affects of these changes in the creek will be a longer period of flow each summer. This happens because there is less evaporation from the narrower, deeper, shaded channel, and the properly functioning riparian zone captures more water during runoff, so it can release water during a longer period each summer.

These changes in vegetation and its affects on hydrologic functions are the first steps in changing a non-functioning riparian area to a properly functioning riparian area.

##### Alternative 2

Wild horse use on riparian areas will continue to increase as the populations continue to grow. Riparian communities will continue to be dominated by upland plants, in particular big sagebrush. Continued trampling of spring meadows will spread out some springs so much that they no longer produce water. Creeks will continue to down cut making runoff faster and the period of summer stream flow shorter. The amount and quality of vegetation produced in the riparian corridors will



remain low compared to their potential. The riparian areas which are not now properly functioning will continue to get worse. Riparian areas which are functioning, but at risk, will become non-functioning.

## Wild Horses

There is a finite amount of range available. Since wild horses are not native to North America, they have no natural predators to keep populations under control. Since the passage of the Wild Horse and Burro Act, they cannot be captured by the general public. Wild horses can either be allowed to increase, over populate their range, and, as in the winter of 1992-93, starve to death during a snowy winter. Or they can be gathered, in this case by the BLM, and some of them removed from the range.

### Proposed Action

The main benefit to wild horses of being gathered is reduced competition between bands for water, forage, space, and seasonal ranges. Implementing the proposed action will result in the removal of approximately 180 wild horses from these three HMAs. The selection of excess horses for removal and placement in the Susanville adoption program will be carried out following the procedures and policies in the Susanville Wild Horse Management Plan. The goals of this plan are to make wild horse gathering as safe as possible for the horses, assure that the excess horses are adopted into adequate, healthy settings, and the horses that remain on the range are healthy and vigorous and within the carrying capacity of their habitat.

Gathering and structuring a herd maintains herd integrity. Only younger horses are removed from the range, so band social structures and use areas are left intact. Younger horses are also more adoptable. Gathering provides the opportunity to see many of the horses in the herd. It is the only time that accurate age structures, sex ratios, and reproductive rates of the herds are determined. This information is necessary for BLM to properly manage the horses.

The BLM is required to manage public lands in a multiple use context, including wild horses. These herds have not been gathered since 1988. In the four years from fall, 1988 to fall, 1992, we lost track of how many horses were on these HMAs, and what their seasonal ranges were. So far in spring, 1993 we have had some reports and observations that some bands have returned to their traditional summer use areas, but some have not. Only one dead horse has been reported on these HMAs and two on an adjacent HMA. Where are the other horses? Did last winter make horses abandon some areas? Will they move back, or will these areas be repopulated by neighboring bands? There are too many questions to assume that BLM is providing good wild horse management. The HMAP files show that when BLM had ongoing wild horse management activities most of these questions were answered. As the program has lagged, so has knowledge about the herds.

Gathering is inherently risky. Running wild horses into a trap then loading them onto a truck, is a source of risk and stress for the animals. Horses have been injured and killed during gathering, but it is not common. Foals can be separated from mares. Band social structure can be disturbed by mixing with other bands or leaving a band with too few individuals.

### Alternative 2

Implementing alternative 2 will mean that horses will not be gathered from these HMAs at this time. The horses will not face any of the stress or potential dangers associated with gathering. There will be no disruption of band structure or separation of foals from mares due to gathering.

Implementing alternative 2 will mean increasing intraspecific competition among wild horses. The 1992 counts found that there were more wild horses on the HMAs than could be accounted for through reproduction. 1992 utilization data showed that wild horses were in excess of carrying capacity of their habitat based on how they use the areas they occupy.

Implementing alternative 2 moves the horse herds closer to the possibility of die offs during heavy winters. It is believed that the history of regular gathering and removal of wild horses and keeping their populations within the carrying capacity of the range accounts for the absence of winter kill this year on these four HMAs specifically and the Surprise Resource Area generally.

Implementing alternative 2 will mean that the current estimated numbers, age structure, sex ratio will continue to be used in managing these herds. Management based on estimates will continue. The much needed infusion of information will not happen.

Table 6 shows projected wild horse populations on the HMAs for the "Proposed Action" and "Alternative 2."

Table 6. Wild Horse Population Projections: Proposed Action and Alternative 2.

HMA	1992 COUNTS	1993		1994		1995		1996		1997	
		PROP	ALT 2	PROP	ALT 2	PROP	ALT 2	PROP	ALT 2	PROP	ALT 2
BITNER	40 horses	15	48	19	58	23	69	26	83	31	100
HIGH ROCK East of Canyon Home Range	55	30	66	38	79	45	95	53	114	62	137
NUT MOUNTAIN	52	30	62	38	74	45	89	53	107	62	129
WALL CANYON	78	15	94	19	113	23	135	26	162	31	195

#### Wilderness

Both the Proposed Action and Alternative 2 comply with the IMP's nonimpairment criteria for WSAs (see appendix 7).

When a final determination is made on status of the WSAs, it may prohibit gathering using helicopters, it may require the complete removal of wild horses as an incompatible use, or wild horse gathering may be a legislated or grand fathered activity. The WSAs also may not be designate wilderness. There is no clear indication at this time.

#### Proposed Action

None of the potential trap sites for these three HMAs are in WSAs.

A helicopter will be used over the Massacre Bench WSA to gather horses on the Bitner HMA. This will disturb the feeling of solitude more present at other times. This activity will take place during two or three days, and will not be repeated for about four years. There will be no residual impacts following the gather. No reclamation will be required. Wild horse gathering using

helicopters is a permitted activity under the WSA Interim Management Plan. This activity will not affect the WSA's potential for being designated a wilderness area.

#### Alternative 2

Wild horses will not be gathered at this time. Impacts to solitude caused by helicopter operations will not occur.

#### **Cultural Resources**

The alternatives are not expected to have significantly different impacts on cultural resources within the three HMAs. The National Register quality area in the Bitner HMA has been fenced off.

#### **HIGH ROCK HMA, EAST OF CANYON HOME RANGE**

##### **Riparian Issues**

##### Proposed Action

In High Rock Canyon riparian areas have progressed towards the site potential goal as a result of the livestock grazing closure implemented in 1984 and regular wild horse removals begun in 1985. In the past few years, as wild horse populations have increased, year long use of springs in the canyons has resumed. Implementing the proposed action, which was originally designed to prevent year round wild horse use in High Rock and tributary canyons, will allow plant communities in the canyons, including riparian communities, to continue improving.

##### Alternative 2

Grazing pressure will continue to increase in the canyons. Use at springs in the canyons will increase and more springs will be impacted as horse numbers increase. The riparian plant communities, along with adjacent areas, will not be able to reach site potential. Areas that had begun to recover from heavy cattle grazing will degrade due to year long wild horse use.

##### **Cultural Resources**

##### Proposed Action

The springs that wild horses have been using in Pole and High Rock Canyons are identified archeological sites. Continued horse use of these areas disturbs the sites destroying the context of the artifacts and in some cases damaging the artifacts. Implementation of the proposed action will end, or reduce to an acceptable level, wild horse use of these springs. Based on past experience populations of 30 - 40 wild horses in the East of Canyon Home Range results in little use of the canyons which tends to be limited to winter when the sites are frozen and may be snow covered.

##### Alternative 2

Implementation of this alternative will increase the amount of wild horse use of cultural sites at springs. As the number of horses, and amount of use, increases, the amount of damage to the sites will increase.

## Wild Horses

### Proposed Action

In the High Rock Canyon area the MFP stated that any additional forage would be allocated to wildlife and non-consumptive uses. The purpose for this decision was to protect the primary resource values from damage by wild horse use. Allowing wild horse numbers to be above the MFP management levels is de facto allocation of additional forage to wild horses, a consumptive use. The proposed action would comply with the MFP by reducing wild horses on the East of Canyon Home Range, so that their numbers were in compliance with the MFP.

### Alternative 2

Implementation of this alternative would not be in compliance with the MFP's direction for wild horse management in the High Rock Area.

## Wilderness

Both the Proposed Action and Alternative 2 comply with the IMP's nonimpairment criteria for WSAs (see appendix 7).

### Proposed Action

There is a potential trap site in the East Fork of High Rock WSA. There is a road to the site. The horse trailer and trucks will use that road. There will be a turn around at the trap site. This will be the only off road travel. The trap is completely portable. No sign of its presence remains following the gather. In conjunction with removing the trap at the end of the gather, the site is completely reclaimed. No residual impacts remain from the gathering activity.

A helicopter will be used to drive wild horses through the East Fork of High Rock WSA to the trap site. This activity will take place during two to four days, and will not be repeated for approximately four years. During the gather, the helicopter and horses will disturb the sense of solitude that is normally present. When the gather is completed, there will be no residual affects, and no reclamation will be required.

The Wilderness Study Area, Interim Management Plan permits wild horse gathering within WSAs. This activity will not affect the WSA's potential for being designated a wilderness area.

### Alternative 2

Wild horses will not be gathered, so there will be no helicopter or other gathering activity intrusions at this time.

## DESCRIPTION OF MITIGATION MEASURES AND RESIDUAL IMPACTS

Implementation of the proposed action following the Susanville District wild horse management policies will result in safe and humane treatment of the horses. No residual impacts are anticipated and no mitigation measures will be required.

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**DATE:** June 21, 1993