

Table of Contents

URA Step 3  
Denio Planning Unit

	<u>Page</u>
Introduction . . . . .	1
Characteristics . . . . .	2
Grazing Administration-Wild Free-roaming Horses/Burros . .	3
Vegetation-Domestic Livestock, Condition and Trend, and Grazing Administration-Domestic Livestock . . . . .	4
Wild Horse/Burro Food Habits . . . . .	5
Vegetative Relationships . . . . .	6
Herd Use Areas . . . . .	12
McGee Mountain Use Area . . . . .	12
Jackson Mountains Use Area . . . . .	16
Krum Hills Use Area . . . . .	20
Eugene Mountains Use Area . . . . .	24
Slumbering Hills South Use Area . . . . .	27
Black Rock Range East Use Area . . . . .	30
Plant and Animal List . . . . .	35
Bibliography . . . . .	36

Denio Planning Unit - Unit Resource Analysis  
Wild Free-roaming Horses/Burros  
Present Situation - Step 3

I. Introduction

- A. The Denio Planning Unit - Unit Resource Analysis (Step 3) was compiled to conform to Bureau of Land Management (BLM) Draft Manual 1605.44, May 1976.

Within the Denio Planning Unit wild burros are known to occupy one geographic location and wild horses are known to occupy five (see Range Management Step 3 URA Overlay #3).

Information as to when the wild horse (Equus caballus) and burro (Equus asinus) first appeared in the Denio Planning Unit is undocumented. Historically, horses and burros returned to the feral state as they escaped from the early Spanish explorers and settlers in the 15th century and later from early settlers and ranchers. Many homesteaders and ranchers abandoned their animals to the open range when they went out of business and many others released quality stock in the hopes of upgrading the quality of existing wild horse herds to supply their workstock, thus, very few if any present day wild horse have direct bloodlines back to Spanish stock.

Congress enacted Public Law 86-234 in 1959 making it illegal to use aircraft or motorized vehicles to capture or kill wild horses. On December 15, 1971, the Wild Horse and Burro Act, Public Law 92-195, was signed into law by President Richard M. Nixon. Public Law 92-195 charges the Secretaries of the Departments of Interior and Agriculture with the protection, management, and control of wild free-roaming horses and burros which occupy the lands under their respective jurisdictions. Public Law 92-195 created an advisory board to make recommendations on the management and protection of wild horses and burros.

Public Law 94-579 was signed into law October 21, 1976. This law allowed the use of helicopters to aid in the capture of wild horses and burros. It also allowed the use of motorized vehicles for transporting the captured animals.

On October 25, 1978, Public Law 95-514 was signed into law. Section 14 of this law states that:

There shall be maintained a current inventory of wild free-roaming horses and burros on given areas of the public lands.

Where an overpopulation exists on given areas of public lands and action is necessary to remove excess animals, there shall be immediate removal of excess animals from the range so as to achieve appropriate management levels, restore a thriving natural ecological balance to the range and protect the range from the deterioration associated with overpopulation.

Old, sick, or lame horses shall be destroyed in the most humane manner. Excess animals that cannot be adopted shall be destroyed in the most humane manner.

The knowledge of wild horse and burro population dynamics and their interrelationship with wildlife shall be furthered.

Individuals who have received excess animals and are qualified and have provided humane conditions, treatment, and care for such animal or animals for a period of one year can receive title to this animal, not to exceed 4 animals per year. This law amends the Wild Horse and Burro Act of 1971.

There have been preliminary injunctions that have halted horse gatherings on different areas within the state. These injunctions pointed out the inconsistencies between the regulations and statutes, particularly in regard to wild horses occupying private land that is not fenced.

- B Characteristics*
- B. Wild horses are generally found in bands or herds that vary in size from three or four horses to herds with 30 or more individuals.

The herd is generally controlled by one dominant male or stud that dictates general herd activity. There is usually a female or mare that is older and acts as a leader if the stud is not present (Zarn 1977).

Wild horses should follow the general pattern for nutrition of a domestic horse and consume 2 to 2.5% of body weight of forage per day (National Academy of Science).

There is no definite information on the weights of wild horse on the Winnemucca District (Hall). Hall considered 800-850 pounds somewhat average for the Pryor Mountain horses. If these figures are used, a daily average of forage consumption for a mature wild horse would be 21 pounds of green weight forage per day.

The foaling dates usually occur between late March and mid-July. Gestation period averages 340 days plus or minus 30 days. Postpartum estrous usually occurs seven to eleven days after foaling (Ensminger 1951).

General indications show that horses will utilize the best forage possible within the physical limits of water. Most bands or herds will remain in general areas during the summer and more accommodating areas during the winter months.

Wild horses will use areas that have burned and have revegetated. If these areas have revegetated into predominately cheatgrass stands, it will provide an unreliable source of forage for the horses.

## II. Grazing Administration-Wild Free-roaming Horses/Burros

### A. Population History Overview

Distribution data are scarce and it can only be assumed that wild horses and burros occupy the identical areas at this time as they did on December 15, 1971, except that their numbers have increased markedly (see Range Management Step 3 URA Overlay #3). Population history data are discussed individually by use area, although a synopsis is provided in Table 1. Burros are present in the McGee Mountain and Eugene Mountains areas only. The number of burros in the Eugene Mountains is undetermined. The McGee Mountain area is the only use area lacking wild horses.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Table 1

## Synopsis of Wild Horse/Burro Inventory Data

	<u>1977</u>	<u>Winter</u> <u>1975</u>	<u>Winter</u> <u>1974</u>	<u>Summer</u> <u>1974</u>	<u>1973</u>	<u>1972</u>	<u>1971</u>
Bloody Run							
Mountains	123	127	101	105	101 *	89	78
Eugene Mtns.	151	51	84	-	84 *	74	65
Slumbering							
Hills	228	116	91	87	91 *	80	70
Jackson Mtns.	124	-	49	125	49	110	97
McGee Mountain	50 **	-	30 **	-	30 *	26	23
Black Rock							
Range	240	252 *	56	215	222	195	172
Krum Hills	206						

Figures not asterisked are from that years inventory.

\* Figures used to compute back to December 15, 1971, levels assuming a 14% yearly increase.

\*\* Burros.

Domestic horse use is licensed in Wilder Bilk, Horse Creek, Little Horse Creek, Coyote Hills, and Pine Forest Allotments. Wild horses may occur in these areas, although there is no documentation available at this time. Licensed domestic horse and burro use has been terminated in all wild horse and burro use areas.

### III. Vegetation-Domestic Livestock, Condition and Trend, and Grazing Administration-Domestic Livestock

The following subjects are described in detail in the Physical Profile and Range Management portions of the Denio Planning Unit-Unit Resource Analysis: livestock-noxious or poisonous weed infestations, livestock-vegetative condition and trend, existing habitat problems and livestock, ecologically unique areas, nature of base properties, livestock classes, basis for livestock seasonal distributions, allotment management plans, land treatments and management facilities, and livestock use conflicts with wild horses and burros.

Water resources, livestock-vegetative relationships, soils, and vegetative types are discussed in the appropriate sections of the Physical Profile Step 2 URA.

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Prepared by: Erick G. Campbell 6/76

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#### IV. Wild Horse/Burro Food Habits

Direct observations of forage consumption by wild horses and burros are nonexistent in the Denio Planning Unit. Wild horses in the Jackson Mountains and Owyhee Desert have been observed indirectly to have pawed apart undesirable overstory shrubs (i.e., shadscale [Atriplex confertifolia]) 1/ in order to utilize more desirable understory grass species (Stickley personal communication, Hoem personal communication). In both instances light snow was covering the ground.

Burros appear to be highly adaptive with a relatively unspecialized diet. Ohmart, Woodward, and Seegmiller (1975) propose that burros are very adaptive in their forage requirements; they prefer to utilize grasses and forbs, but they will utilize browse if grass and forbs are unavailable. Table 2 presents the percentages of forage categories in burros diets for four areas in the southwest. Dietary differences between these areas reflects the variation in plant species composition within each area.

Table 2

Percentages of Major Forage Categories in Annual Burros Diets

<u>Location</u>	<u>Grass</u>	<u>Forbs</u>	<u>Shrubs</u>	<u>Source</u>
Chemehuevi Mts., AZ.	3.17	29.09	61.43	Ohmart, Woodward, & Seegmiller 1975
Death Valley, CA.	10.00	39.00	51.00	Browning 1960
Black Mts., AZ.	1.0	88.0	11.00	McMichael 1964
Grand Canyon, AZ.	61.0	11.4	27.5	Hansen and Martin 1973

Wild horses are primarily grazing animals. Studies conducted in the southwest vegetation type indicate that 80% to 95% of the annual diet consists of grass and grass-like plants and that browse is more common in the diet than are forbs (Kinsinger personal communication). Hall (1973) determined that the major forage items utilized on the Pryor Mountain Wild Horse Range in Montana during the spring, summer, and fall periods were grass species, whereas during the winter period the major forage items were browse species with grass species being utilized where available. The preferred grasses were bluebunch wheatgrass (Agropyron spicatum) and

1/ A complete list of plants and animals is given on page

Sandberg bluegrass (Poa sandbergii) and the preferred browse species were saltbrush (Atriplex spp.), gray rabbitbrush (Chrysothamnus nauseosus), and big sagebrush (Artemisia tridentata). The percentages of forage categories in the diets of wild horses from the Ely, Nevada, BLM District; Salmon, Idaho, BLM District; and the Susanville, California, BLM District are presented in Tables 3, 4, and 5. The forage items present in each of these three areas are somewhat similar to those found in the Winnemucca District and may be indicative of preferred forage species in this District. The percentages of major forage categories and seasonal preference are summarized in Tables 6, 7, and 8 for each of the three previously mentioned BLM Districts. In general, grass species were the staple of the diet throughout all seasons and forb and browse species were of secondary importance. Forbs were utilized more heavily in the Susanville and Salmon Districts, whereas shrubs were more heavily utilized in the Ely District.

Under starvation conditions, horses will utilize areas and forage not normally used. Figures 1 and 2 show horse utilization of big sagebrush. Utilization on rye grass species varied from 90 to 100% forcing the horses to utilize less desirable forage. Wild horses will tend to utilize burned over areas or reseeded areas to a higher degree. These areas if they do not become a strictly cheatgrass stand will provide important source of forage for wild horses.

Food habits data for wild horses and burros in the Winnemucca District are sorely lacking and should be acquired for knowledgeable management of both species.

#### V. Vegetative Relationships

Forage preferences of wild horses and cattle (Bos taurus) were determined to be 59% to 75% identical in the Piceance Basin area of Colorado (Hubbard and Hansen 1976). Olsen and Hansen (1976) found that wild horse food items were 45% identical to cattle, 40% identical to elk (Cervus canadensis), and 27% identical to domestic sheep (Ovis aries) in the Red Desert area of Wyoming. There appeared to be no serious dietary overlap between wild horses and mule deer (Odocoileus hemionus) in Colorado or with pronghorns (Antilocapra americana) in Wyoming.

A study, in the Granite Range in northeastern Nevada, Elko County, showed the dietary overlap for wild horses and deer was 3%, cattle and deer 17%, and wild horses and cattle 77% (Nawa 1978).

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TABLE 3. Percentages of forage categories in the diets of wild horses, cattle, sheep and pronghorns determined by the microhistological analysis of feces technique (400 fields at 100X were examined per sample). Ely District, Nevada.

Season of Collection	Summer	Fall	Winter	Comp.
	Horse # 9	Horse # 10	Horse # 11	Horse # 12
Threeawn ( <i>Aristida</i> )				
Blue grama ( <i>Douteloua gracilis</i> )	1.38	0.06		1.89
Brome ( <i>Bromus</i> )				
Sedge ( <i>Carex</i> )	0.16			0.24
Wildrye ( <i>Elymus</i> )	0.51	0.28		0.40
Galleta ( <i>Hilaria jamesii</i> )	71.40	5.26	8.55	22.18
Indian ricegrass ( <i>Oryzopsis hymenoides</i> )	10.52	1.76	21.64	10.96
Bottlebrush squirreltail ( <i>Sitanion hystrix</i> )	1.04	1.24	0.87	1.14
Dropseed ( <i>Sporobolus</i> )	1.68	0.09	0.74	7.34
Needlegrass ( <i>Stipa</i> )	5.36	2.46	5.99	30.75
Unknown grass			0.49	0.08
Sagebrush ( <i>Artemisia</i> )				
Saltbrush ( <i>Atriplex</i> )	0.31	1.73	7.68	1.64
Rubber rabbitbrush ( <i>Chrysothamnus nauseosus</i> )				
Douglas rabbitbrush ( <i>Chrysothamnus viscidiflorus</i> )				
Tansy mustard ( <i>Descurainia</i> )			0.49	
Horned tea ( <i>Ephedra</i> )				
Wallflower ( <i>Erysimum</i> )			0.12	
Winterfat ( <i>Eurotia lanata</i> )	7.29	86.90	70.45	22.82
Halogeton ( <i>Halogeton glomeratus</i> )				
Utah juniper ( <i>Juniperus utahensis</i> )				
Prickly-pear ( <i>Opuntia</i> )				
Phlox ( <i>Phlox</i> )			0.25	0.24
Russian thistle ( <i>Salsola kali</i> )			0.12	
Nightshade ( <i>Solanum</i> )				
Scarlet globe-mallow ( <i>Sphaeralcea coccinea</i> )				
Unknown chenopod	0.08			0.08
				0.16

Table 4. Relative percent density of discerned fragments from wildhorse fecal samples from Salmon District, Idaho. Based on 400 fields per sample.

TENTATIVE IDENTIFICATIONS*	Season			
	SPRING	SUMMER	FALL	WINTER
Western wheatgrass ( <i>Agropyron smithii</i> )	0.31	0.50		0.57
Bluebunch wheatgrass ( <i>Agropyron spicatum</i> )	52.87	39.63	77.90	43.20
Brome ( <i>Bromus</i> )		0.20		
Reedgrass ( <i>Calamagrostis</i> )	0.62	1.00	0.36	0.11
Sedge ( <i>Carex</i> )	1.74	1.93	2.45	0.46
Wildrye ( <i>Elymus</i> )		1.11		
Idaho fescue ( <i>Festuca idahoensis</i> )	5.22	18.72	0.21	1.16
Junegrass ( <i>Koeleria cristata</i> )	3.18	10.09	0.94	5.86
Indian ricegrass ( <i>Oryzopsis hymenoides</i> )	2.20	2.77	0.14	1.16
Bluegrass ( <i>Poa</i> )	5.10	5.29	0.87	3.70
Squirreltail ( <i>Sitanion</i> )	0.51	1.61		1.63
Dropseed ( <i>Sporobolus</i> )	0.51	0.40	0.14	0.23
Needlegrass ( <i>Stipa</i> )	0.62	5.75	0.21	0.69
Unknown sedge	0.10	1.61	0.14	
Unknown grass		0.10		0.81
Sagebrush ( <i>Artemisia</i> )	0.20	0.50	0.36	10.08
Milkvetch ( <i>Astragalus</i> )		0.30	0.07	0.57
Saltbush ( <i>Atriplex</i> )			0.07	0.46
Rabbitbrush ( <i>Chrysothamnus</i> )			0.07	
Buckwheat ( <i>Eriogonum</i> )		2.45	0.07	4.20
Winterfat ( <i>Eurotia lanata</i> )	3.85	3.09	1.46	3.70
Prickly phlox ( <i>Leptodaactylon pungens</i> )			4.55	0.11
Lupine ( <i>Lupinus</i> )	0.31	0.10	1.84	0.93
Phlox ( <i>Phlox</i> )	22.95	2.45	8.01	19.58
Mullein ( <i>Verbascum</i> )		0.10		
Unknown forb				0.11
Lichen		0.20		0.57
Moss	0.31	0.10	0.14	0.11

\* Date for this table was 10 March 1975

Table 5. Percent relative density of discerned plant fragments from horse fecal samples from Susanville, California. Based on 400 fields per sample.

Tentative Identifications*	Buckhorn	Toledad	Nevada	Pilgrim Lake	Copper Smith
Wheatgrass ( <i>Agropyron</i> )	41.44	11.82	15.13	45.21	3.04
Brome ( <i>Bromus</i> )	0.25	0.27	0.14	0.41	
Sedge ( <i>Carex</i> )	0.61	2.44	22.16	14.36	2.95
Idaho fescue ( <i>Festuca idahoensis</i> )	12.20	12.08		5.67	3.52
Rush ( <i>Juncus</i> )		0.09	14.51	2.95	27.00
Indian ricegrass ( <i>Oryzopsis hymenoides</i> )	34.51	27.28	26.19	29.65	15.71
Bluegrass ( <i>Poa</i> )	6.98	11.32	18.39		5.77
Dropseed ( <i>Sporobolus</i> )	0.25				
Sedge unidentified ( <i>Carex?</i> )		33.33	1.95		41.58
Sagebrush ( <i>Artemisia</i> )				0.10	
Composite (unknown)		0.37			
Buckwheat ( <i>Eriogonum</i> )			0.14		
Juniper ( <i>Juniperus</i> )	1.24				
Unknown legume	2.52	0.73	1.25	1.55	0.43
Unknown forb		0.27	0.14	0.10	

\* Date of this table was 10 March 1975

Table 6

Percentages of Major Forage Categories in the Diets of Wild Horses  
in the Ely, Nevada, BLM District

<u>Season</u>	<u>Grass</u>	<u>Forbs</u>	<u>Shrubs</u>
Summer	92.05	0.27	7.68
Fall	11.14	0.22	88.63
Winter	19.28	2.22	78.13
Composite	74.98	0.32	24.62

Table 7

Percentages of Major Forage Categories in the Diets of Wild Horses  
in the Salmon, Idaho, BLM District

<u>Season</u>	<u>Grass</u>	<u>Forbs</u>	<u>Shrubs</u>
Spring	72.98	23.26	4.05
Summer	90.71	5.40	3.59
Fall	83.36	14.54	1.96
Winter	59.58	25.50	14.24

Table 8

Percentages of Major Forage Categories in the Diets of Wild Horses  
in the Susanville, California, BLM District  
(Spring Period Only)

<u>Location</u>	<u>Grass &amp; Grass-like</u>	<u>Forbs</u>	<u>Shrubs</u>
Buckhorn	96.24	1.24	2.52
Toledad	98.63	1.37	0
Nevada	98.47	1.53	0
Pilgrim Lake	98.25	1.65	0.10
Copper Smith	99.57	0.43	0

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Figure 1. Note the bark of big sagebrush stripped from the stems and lack of available forage.



Figure 2. Wild horse died of starvation. Note the trench dug with hooves prior to death.

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Although the area involved receives a greater amount of precipitation, there is a striking similarity in the range types of this area and the Winnemucca District, which is directly west and overlaps the Winnemucca District. Dietary overlaps for this area and the Winnemucca District would be similar.

## VI. Herd Use Areas

Herd use areas delineated in this Unit Resource Analysis (URA) are the geographic limits used by a particular herd over a period of years and under varying seasons and weather conditions. Insufficient data are available to accurately delineate herd use area boundaries, thus resulting in an estimate of present wild horse and burro use areas (see Range Management Step 3 URA Overlay #3). Much more intensive inventory data are required to accurately ascertain present herd use area boundaries and individual herd home ranges. An ideal end product of such studies would be a breakdown of the herd use areas into a larger number of smaller herd use areas for more intensive management purposes.

Further studies would also provide insight into distribution, home ranges, movement patterns, sex and age ratios, recruitment rates, birth rates, size, colors, and types of wild horse and burros. Information of this type, as well as conflicts with livestock and wildlife, and effects of outside influences is lacking.

Information that is specifically lacking from each of these herd use areas is seasonal use areas, and physical characteristics of the herds within the use area. As more intensive management occurs on these use areas, this information will become available.

### A. McGee Mountain Use Area

The McGee Mountain use area is located in northwestern Humboldt County, Nevada. The area is in the northwestern corner of the Denio Planning Unit (see Range Management Step 3 URA Overlay #3). This use area is bordered on its northern and western boundaries by the Charles Sheldon Antelope Range, which is administered by the U.S. Fish and Wildlife Service, and is bordered on its southern and eastern boundaries by Craine Creek.

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The area is characterized by fairly steep slopes, high elevations, and sparse vegetation. Elevations vary from 6,667 feet on McGee Mountain proper to approximately 4,300 feet in Bog Hot Valley area. Big sagebrush, rabbitbrush, shadscale, horsebrush (Tetradymia spp.), spiny hopsage (Grayia spinosa), Indian ricegrass (Oryzopsis hymenoides), bluebunch wheatgrass, and cheatgrass (Bromus tectorum) predominate at higher elevations, whereas shadscale, rabbitbrush, bud sagebrush (Artemisia spinescens), horsebrush, spiny hopsage, and cheatgrass are the major species at the lower elevations.

Halogeton (Halogeton glomeratus) occurs in the lower elevations, especially in disturbed areas, as does greasewood (Sarcobatus vermiculatus). Locoweed (Astragalus spp.) occurs randomly throughout most of the area. The extent to which any of these poisonous plants affects the burros is undetermined. For distribution of poisonous plants see Range Management Step 3 URA narrative and Overlay #2. The herd use area is comprised of approximately 50,000 acres, all of it public land.

A burro census was conducted in the winter of 1974. At that time there were 30 adult animals inventoried. Mr. Buster Dufurrena (personal communication) estimated the 1976 population level at 100 animals.\*

It should be noted that all wild horse/burro inventories were conducted from either fixed wing aircraft or helicopter and that aerial surveys are at best a rough estimate of the actual population size. Caughley (1974) found in his study and search of the literature that the closest an aerial survey ever came to the actual population size was 89%.

Mr. Dufurrena captured 99 head of burros on the Antelope Refuge in 1977. Present estimations of burros on the Sheldon Antelope Range is 35 to 40 animals (Bruce Wiseman assistant refuge manager personal communication).

Migrations do occur along the entire boundary of the Sheldon Antelope Range. The degree of the migrations is not known, but only small numbers of burros have been observed on public land east of the antelope refuge.

There is a drift fence that runs from Thousand Creek southwest to the base of McGee Mountain. This fence forms a boundary against further migration onto the flats.

\* SEE Appendix 1

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The Sheldon Antelope Refuge is in the process of constructing a fence on the east boundary. This will also stop most migration. The fence is expected to be completed in late 1979. Depending on the time of completion, the number of burros in the McGee Mountain use area will be minimal or possibly nonexistent.

The area is broken down into two wilderness study areas. The northern half is reclassified as multiple use area, which will cause no conflicts with wild burro management activity.

The southern half has been classified as an intensive study area which could limit future activity of wild burro management. If this area is included in a "wilderness" classification, harassment of the burros in this area would decrease (see Wilderness Step 3 URA Overlay).

Mining activity and off-road vehicles (ORV) activity are limited in this area and have a very minimal effect upon the burros (Simontacchi personal communication; Hand personal communication).

Mule deer and chukar partridge (Alectoris chukar) hunters frequent the area in the fall, but no data are available as to their effect upon the burros (see Recreation Step 3 URA, Overlay #2 and narrative p. 14).

The higher elevations of the McGee Mountain use area constitutes the winter range for approximately 50 mule deer (see Wildlife Step 3 URA Overlay #2). Approximately 95 pronghorn utilize "critical" winter habitat in the southern portion of the area (see Wildlife Step 3 URA Overlay #1). The season of use for the mule deer and antelope for this area is November 1 to April 30. No data are available on competition between big game species and burros, and data must be acquired to accurately ascertain the extent of burro-mule deer, burro-pronghorn, and burro-miscellaneous wildlife competition.

Phase I Watershed Conservation and Development (WC&D) Inventory data for the area and immediate vicinity indicates a general slight to moderate erosion condition class. For further information refer to Watershed URA Step 3 Overlay #2.

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Most local ranchers feel that the burro population should be reduced drastically and then maintained at a low level. A public relations program directed to the local level for the preservation of wild horses and burros would aid in alleviating some of these problems. In 1972 several animals were reported shot in the immediate vicinity, although not on the area proper. Due to the large size of the Winnemucca District and the relatively small number of Bureau personnel, protection in this, and essentially all, areas has been negligible. The full extent of violations of Public Law 92-195 are unknown, although violations have occurred throughout the Winnemucca District. Increased protective measures would benefit wild horses and burros.

Water supplies and developments are discussed in detail in the Physical Profile (see Physical Profile Step 2 URA Overlay #7a and tabulations p. 67).

An individual burro consumes between 10 (2.6 gallons) and 15 liters (4.0 gallons) of water per day (Baudelaire 1972). Annually an individual burro consumes between 949 and 1,460 gallons which means that the McGee Mountain burros consumed between 28,470 (0.09 acre feet) and 43,800 gallons (0.13 acre feet) in 1974. Available water supplies are a major limiting factor of burro use. Burros may use snow, when available, which could extend their range.

The herd use area is located within the Alder Creek and Bilk-Wilder Allotments. Table 9 gives the breakdown for each allotment.

Table 9.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use In AUM's</u>	<u>% Herd Use Area Within Allotment</u>
Alder Creek	Bill Pendola	11,787	93%
	Rich Drake	6,032	
		17,819	
Bilk-Wilder	Ivory Ranches	13,877	7%
	Duffurena Sheep Co.	3,430	
	Melvin Casey	102	
		17,409	

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The number of burros presently utilizing public land in this area is from 45-60 burros from November to April. This would mean that approximately 300 AUM's would be used by the burros for this period. There is no distribution pattern for the use area, thus the assumption that the 300 AUM's would be taken uniformly over the entire use area. With that assumption it was surmised that 93% or 279 AUM's would be utilized from the Alder Creek Allotment and 7% or 21 AUM's were utilized from the Wilder-Bilk Allotment.

At this time there is no allocation of forage for wildlife or burros, thus the 279 AUM's and 21 AUM's are over and above the licensed use of each of the respective allotments.

As the population of burros increases, the allocation of forage is proportionately overextended.

Data on the following subjects are notably lacking for this and all use areas. Acquisition of the following data would greatly facilitate management: wild horse and burro distributions and home ranges; population condition; sex and age ratios; recruitment; birth rates; sizes; colors; types; wild horse and burro-livestock conflicts; wild horse and burro-wildlife conflicts; trend, condition, and utilization of forage resources and effects of poisonous plants, mining, and recreationists on wild horse and burro populations.

#### B. Jackson Mountains Use Area

The Jackson Mountains use area is located in the south-central portion of the Denio Planning Unit (see Range Management Step 3 URA Overlay #3). The area is bordered on the west by the Black Rock Desert, on the east by Desert Valley, on the north by State Highway 140 and the Quinn River and on the south by the Western Pacific railway. The elevation ranges from 8,923 feet on King Lear Peak to approximately 4,000 feet in both valley floors. The area is approximately 283,000 acres; 274,920 acres (97%) public land and 8,080 acres (3%) private lands. Big sagebrush, rabbitbrush, juniper (Juniperus osteosperma), quaking aspen (Populus tremuloides), serviceberry (Amelanchier alnifolia), snowberry (Symphoricarpos spp.), oceanspray (Holodiscus discolor), miscellaneous annual forbs, Sandberg bluegrass, bluebunch wheatgrass, and Idaho fescue (Festuca idahoensis) predominate at the higher elevations, whereas shadscale, greasewood, bud sagebrush, horsebrush, clasping pepperweed (Lepidium perfoliatum), seepweed (Sueda spp.), cheatgrass, and squirreltail (Sitanion hystrix) predominate at the lower elevations.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Only wild horses have been observed in the Jackson Mountains use area. An early summer inventory in 1974 revealed the numbers and ratio shown. See Table 10.

Table 10.

Wild Horse Inventory Data-Jackson Mountains. \*

<u>Season and Year</u>	<u>Adults</u>	<u>Juveniles</u>	<u>Total</u>	<u>Bands</u>
Summer 1974	101	24	125	15
Fall 1980	135	31	166	
Summer 1986	175	40	215	

There have been discrepancies in the inventories in the Jackson Mountains but the 125 figure for 1974 will be used as a base figure for estimates. *updated by Dick Whuber 5-11-88*

On March 31, 1977, the Jackson Mountains area was inventoried with the following results.

Table 11.

	<u>Adults</u>	<u>Yearlings</u>	<u>Colts</u>	<u>Total</u>	<u>Bands</u>	<u>Yearling/ 100 Adults</u>
March 1977	92	28	4	124	27	30.4

The inventory in 1977 was not a representative count because of high winds at the time of the count, and the inventory was before the peak foaling season. It would be expected that the count could have been somewhat greater with better conditions.

The horses in the Jackson Mountains area are divided between two areas. The greatest number appear to concentrate in the southern half of the area from King Lear Peak south. The smaller group is on the north end of the range in the Parrot Peak, Deer Creek Peak, and Happy Creek area.

There are seven areas within the Jackson Mountains use area defined in the wilderness criteria. Five of these areas, approximately 40% of the use area, have been reclassified as multiple use areas. Two areas, approximately 60% of the use area, are undergoing further intensive study for wilderness criteria. The effect of these areas on the wild horses will depend on their future classification (see Wilderness Step 3 URA Overlay).

\* SEE APPENDIX I

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Mines are scattered throughout the area (see Minerals Step 3 URA Overlay #2), but are largely inactive at this time. Prospecting and exploration are present and small-scale mining operations may be operating, although the extent to which they affect wild horses is unknown (Simontacchi personal communication). Rockhounds frequent portions of the area (see Recreation Step 3 URA Overlay #2 and narrative p. 28) and their effect upon wild horses is estimated to be minimal. ORV use in the area is minimal and has little effect upon the horse population (see Recreation Step 3 URA Overlay #2 and narrative p. 56). Deer, pronghorn, and chukar partridge hunters frequent the area in late summer and fall, but no data are available as to their effect upon the wild horses (see Recreation Step 3 URA Overlay #2 and narrative p. 17). Minimal fishing activity occurs along several streams in the area and their effects upon the wild horses is undetermined (see Recreation Step 3 URA Overlay #2 and narrative pp. 6-7).

The medium and higher elevations of the Jackson Mountains use area constitute winter and summer range for approximately 300 mule deer. The majority of this use is in the northern part of the range where the number of horses is lower (see Wildlife Step 3 URA Overlay #2).

There is yearlong antelope habitat for approximately 15 antelope habitat for approximately 15 antelope in the north-east corner of the use area.

Diet overlap between wild horse and deer and wild horse and antelope are quite low. The competition between these classes of animals on this particular area would not be critical.

Fifteen bands of wild horses were recognized during the summer 1974 inventory and the mean number of horses per band was 8.3. No data are available on population condition, seasonal use areas, or migration patterns. Small wet meadows occur throughout the higher elevations of the area (see Range Management Step 3 URA Overlay #2). The small wet meadows are heavily utilized and overuse tends to be the general rule rather than the exception.

D-WH/B-

Prepared by Erick G. Campbell 6/76

Revised by Paul A. Jancar 5/15/79

Phase I WC&D Inventory data for the area and immediate vicinity indicate a general slight to moderate erosion condition class, although small portions are stable, critical, and severe. For further information refer to Watershed Step 3 URA Overlay #2.

Local ranchers attitudes are negative in regards to continued wild horse use of the range. The ranching industry in Nevada would like to see ownership of wild horses return to the State and they have claimed that poor range conditions are due to wild horse use. No claims for feral horses have been received and no reports of illegal gathering have been received.

Water supplies and developments are discussed in detail in the Physical Profile. Water supplies are judged to be adequate. Daily water consumption per horse is approximately 10 gallons (Talbot 1926). Annually an individual horse consumes approximately 3,650 gallons of water which translates into an annual consumption for 1974 of 456,250 gallons (1.4 acre feet) of water for the Jackson Mountains herd. Horses may use snow when available, which could extend their range.

This herd use area is located within the Wilder-Bilk, Deer Creek, Happy Creek, Jackson Mountains, and Desert Valley Allotments.

Table 11 gives a breakdown for each allotment.

Table 11.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use</u>	<u>% Herd Use Area Within Allotment</u>
W#7 Wilder-Bilk	Ivory Ranches Dufurrena Sheep Co. Melvin Casey	13,877 3,430 102	.5%
S5 Deer Creek	John & Helen Cator	754	5.0%
S6 Happy Creek	Jule DeLong	3,724	13.5%
S8 Jackson Mountains	DeLong Ranches Inc.	12,266	74.0%
S7 Desert Valley	Leslie McKernan	1,596	7.0%

The number of horses presently on the Jackson Mountains use area is unknown. In 1977 at least 124 horses were using this area yearlong.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

There is no specific distribution pattern for the use area, thus the assumption that the 1,488 AUM's (124 horses X 12 months) would be taken uniformly over the entire use area. With that assumption it was surmised that:

74.0% or 1,101 AUM's were utilized from the Jackson Mountains Allotment  
13.5% or 201 AUM's were utilized from the Happy Creek Allotment  
7.0% or 104 AUM's were utilized from the Desert Valley Allotment  
5.0% or 74 AUM's were utilized from the Deer Creek Allotment  
0.5% or 7 AUM's were utilized from the Wilder-Bilk Allotment

At this time there is no allocation of forage for wild horses, thus the 1,488 AUM's are over and above the licensed use of each of the respective allotments. As the population of horses increases, the allocation of forage will be proportionately overextended.

Periodic fires in this area affect wild horse distribution and the forage available to them.

The competition with domestic livestock for forage is the greatest limiting factor to the wild horses in this use area.

There are four major fences that could restrict the movement of the horses in this area. The boundary fences on the Desert Valley Allotment and Happy Creek Allotment would be the major barriers at this time (see Range Management Step 3 URA Overlay #4).

C. Krum Hills (Denio) Use Area

The Krum Hills (Denio) use area is located in the southeastern corner of the Denio Planning Unit (see Range Management Step 3 URA Overlay #3). The area is bordered on the west by Desert Valley, on the north by the Crescent Dunes area, on the east by U.S. Highway 95, and on the south by the Western Pacific Railway. The elevation ranges from over 6,200 feet on Winnemucca Mountain to 4,400 feet in the valley floor. The size of the use area is approximately 54,000 acres; 23,400 acres (43%) are private land and 30,600 acres (57%) are public land.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Big sagebrush, green rabbitbrush, spiny hopsage, horsebrush, lupine, phlox, balsamroot (Balsamorhiza sagittata), cheatgrass, Sandberg bluegrass, and squirreltail predominate at the higher elevations, whereas shadscale, bud sagebrush, big sagebrush, spiny hopsage, cheatgrass, and squirreltail predominate at the lower elevations.

Halogeton, greasewood, locoweed, and lupine occur in the area (see Range Management Step 3 URA narrative and Overlay #2), but the extent to which any of these poisonous plants affects wild horses is unknown.

The wild horses in the entire area were inventoried in 1977 (Table 12). \*

Table 12.

	<u>Adults</u>	<u>Yearlings</u>	<u>Colts</u>	<u>Total</u>	<u>Bands</u>	<u>Average Band</u>	<u>Yearlings/100 Adults</u>
Krum Hills	187	17	2	206	29	7.1	9:100

No data are available on population condition, seasonal use areas or migration patterns within the area. Horses are known to interchange among the Bloody Run Mountains, Slumbering Hills, Blue Mountain, and Krum Hills.

The horses in the Krum Hills are predominantly found in two areas, Winnemucca Mountain and Blue Mountain. These areas are used because of various springs that are present. There are times in the year (mostly winter) when the horses will utilize the area between these two mountains and also migrate out to Slumbering Hills.

The Krum Hills use area is not within any wilderness study area.

There is one active bentonite mine in the area as well as constant exploration (Simontacchi personal communication). The extent to which mining affects the wild horses is undetermined (see Minerals Step 3 URA Overlay #2).

ORV use in the area is substantial (see Recreation Step 3 URA). The extent of the influence of ORV's is unknown.

\* SEE APPENDIX 1

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Since this use area is located close to a population center (Winnemucca) general public exposure and harassment to wild horses is higher than most other use areas.

There have been proposals to include part of this use area into a wild horse viewing area. Horses in this area are more adjusted to seeing man in their environment and therefore are not as apt to try to elude man.

The Krum Hills are in a checkerboard area where every other section of land is privately owned. This makes management of wild horses difficult, as most private landowners do not want horses on their private lands. Kearns land exchanges proposed in this area, if consummated, would aid in providing a desirable viewing area especially from Winnemucca Mountain.

There are two separate mule deer herds, each composed of approximately 20 head that utilize this use area yearlong. These herds are concentrated around Winnemucca Mountain and Blue Mountain. Their use area is closely related to the use area of the wild horses. There are also chukar partridge in the area (see Wildlife Step 3 URA Overlay #2).

Phase I WC&D Inventory data for the area and immediate vicinity indicate a generally slight to moderate erosion condition class, although 15% is considered to be in critical condition. For further information refer to Watershed Step 3 URA Overlay #2.

Local ranchers attitudes are negative in regards to retention of the wild horses. No claims for feral horses have been received nor have any reports of illegal gathering been received.

There are two fences in the use area but they have a limited effect on the horse movement (see Range Management Step 3 URA Overlay #4).

Water supplies and developments are discussed in detail in the Physical Profile (see Physical Profile Step 2 URA Overlay #7a). Water supplies are judged to be inadequate for proper range utilization. Utilization of snow may supplement water needs when snow is available.

In 1975 wild horses (127 animals) in the entire area consumed approximately 463,550 gallons (1.42 acre feet) of water.

Three permanent capture corrals are located in the area (see Range Management Step 3 URA Overlay #3), although their condition is unknown.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

This herd use area is located within the Sand Dunes and Blue Mountain South Allotment. Table 13 gives a breakdown of each allotment.

Table 13.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use</u>	<u>% Herd Use Area Within Allotment</u>
Sand Dune	Malvin Pedroli	368	92%
	Clifford Casteel	183	
	T Quarter Circle	3,314	
Blue Mountain	DeLong Ranches Inc.	4,313	8%

The number of horses presently on the Krum Hills use area is unknown. In 1977 an inventory showed 206 horses using the area yearlong.

There is no specific distribution pattern for the use area, thus the assumption that the 2,472 AUM's (206 horses X 12 months) would be taken uniformly over the entire use area. Considering that assumption it was surmised that:

92% or 2,274 AUM's were utilized from the Sand Dunes Allotment.  
8% or 198 AUM's were utilized from the Blue Mountain Allotment.

At this time there is no allocation of forage for wild horses, thus the 2,472 AUM's are over and above the licensed use of each of the respective allotments. As the population of the horses increase, the allocation of forage will be proportionately overextended.

All operators who have private land that are utilized by wild horses have been contacted to see if they will enter into a cooperative agreement with the Bureau for the management of these horses.

Competition occurs between domestic livestock and wild horses for water and forage. The horses used approximately 1.42 acre feet of water during 1975.

The extent to which mule deer and wild horses compete for resources in this area is unknown. These figures include all consumption in the Bloody Run and Krum Hills use area.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

The number of wild horses that are presently using this area is unknown. Data for numbers, sex ratios, seasonal use areas are lacking.

D. Eugene Mountains (Denio) Use Areas

The Eugene Mountains (Denio) use area is located in the southern portion of the Denio Planning Unit (see Range Management Step 3 URA Overlay #3). The area is bordered on the north by Desert Valley, on the east by the Humboldt River, on the south by the Humboldt River and the Blue Wing Planning Unit and on the west by Haystack Butte. The elevation ranges from 7,520 feet to approximately 4,200 feet in the valley floors. The area lies within the Denio Planning Unit of the Paradise-Denio Resource Area and the Blue Wing Planning Unit of the Sonoma-Gerlach Resource Area. The entire area is approximately 84,760 acres. The portion of the area which lies within the Denio Planning Unit is approximately 77,529 acres (91% of the total), of these acres 38,040 (49%) are privately owned lands and 39,489 (51%) are public land. Juniper, low sagebrush, phlox, buckwheat (Eriogonum spp.), Sandberg bluegrass, squirreltail, and cheatgrass predominate at the higher elevations, whereas shadscale, bud sagebrush, spiny hopsage, green rabbitbrush, big sagebrush, and cheatgrass predominate at the lower elevations.

Halogeton, greasewood, locoweed, and lupine occur in the area (see Range Management Step 3 URA narrative and Overlay #2), but the extent to which any of these poisonous plants affects wild horses and burros is unknown.

Burros have never been inventoried in this area, but are known to occur mainly around the Keystone Mine area on the eastern side of the Eugene Mountains. Inventory data on the numbers and locations of wild burros would greatly facilitate their future management.

The burros in this area are considered domestic and considered in trespass. Plans are being made to gather them and dispose of them under state estray laws.

The wild horses were inventoried during the winter periods of 1974, 1975, and 1977 (Table 10). (The reproductive success for 1975 was 18.6 young/100 adults) No data are available on physical characteristics, population condition, seasonal use areas, or migration patterns within the area. Horses are known to utilize the lower elevations during inclement weather.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Table 14.

Wild Horse Inventory Data-Eugene Mountains (Denio). \*

<u>Season and Year</u>	<u>Adults</u>	<u>Juveniles</u>	<u>Total</u>				
Winter 1974	84	-	84				
Winter 1975	43	8	51				
	<u>Adults</u>	<u>Yearlings</u>	<u>Colts</u>	<u>Total</u>	<u>Bands</u>	<u>Size/Band</u>	<u>Yearlings/ 100 Adults</u>
1977	117	25	9	151	20	7.5	21:100

The horses in this use area have two basic areas in which they range. The winter range is on the lower slopes from Keystone Mine south and around the point to Woody Canyon. The summer use area is on the peaks in the northern portion of the Eugene Mountains. There is a number of horses on Alpha Mountain.

The Eugene Mountains use area is in a checkerboard land pattern and was not included in any wilderness classification. Management of wild horses on this area would be difficult because of the land pattern.

There are several inactive mining operations in the area and exploration is present (see Minerals Step 3 URA Overlay #2). The effects of mining and exploration upon wild horses and burros is undetermined. ORV use of the area is considered minimal (Hand personal communication). Mule deer and chukar partridge hunters frequent the area in the fall, although their influence upon the wild horses and burros is unknown (see Recreation Step 3 URA Overlay #2 and narrative p. 18). Local ranchers attitudes are negative in regard to continued use of the range by wild horses and burros. No claims for feral horses have been received, but one illegal gathering operation of wild horses was detected and stopped in April 1975. The number of horses removed in the gathering operation is unknown.

There is a herd of approximately 100 mule deer that utilize the use area yearlong (see Wildlife Step 3 URA Overlay #2). The competition between the mule deer and wild horse is not expected to be severe.

Water supplies and developments are discussed in detail in the Physical Profile. Water supplies are judged to be inadequate for proper range utilization. In 1977 wild horses (151 animals) in the entire area consumed approximately 551,150 gallons (1.69 acre feet) of water. Additional water may be available to horses in the form of snow.

\* SEE Appendix 1

D-WH/B-

Prepared by: Erick G. Campbell 6/76  
Revised by: Paul A. Jancar 5/15/79

Two permanent capture corrals are located in the area (see Range Management Step 3 URA Overlay #3), but their condition is unknown.

Phase I WC&D Inventory data for the area and immediate vicinity indicate a slight to moderate erosion condition. For further information refer to Watershed Step 3 URA Overlay #2.

This herd use area is located within the Humboldt Valley Allotment. Table 15 gives a breakdown of the allotment.

Table 15.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use</u>	<u>% Herd Use Area Within Allotment</u>
Humboldt Valley	T Quarter Circle DeLong Ranches Inc.	1,763	94%

The number of horses presently on the Eugene Mountains use area is unknown. In 1977 an inventory showed 151 horses using the area year-round. There is no specific distribution pattern for the use area, thus the assumption that the 1,812 AUM's (151 horses X 12 months) would be taken uniformly over the entire use area. With that assumption it was surmised that:

94% or 1,703 AUM's were utilized from the Humboldt Valley Allotment.  
6% or 104 AUM's were utilized from the Sonoma Planning Unit.

At this time there is no allocation of forage for wild horses, thus the 1,812 AUM's are over and above the licensed use of the allotment involved. As the population of the horses increase, the allocation of forage will be proportionately overextended.

There have been reports of several illegal roundups on this area. As of this date, no concrete information is available to take any legal action.

D-WH/B-

Prepared by: Erick G. Campbell 6/76  
Revised by: Paul A. Jancar 5/15/79

E. Slumbering Hills (South) Use Area

The Slumbering Hills (South) use area is located in the southwestern portion of the Paradise Planning Unit (see Range Management Step 3 URA Overlay #3). The area is bordered on the west by Desert Valley, on the north by Paradise-Denio Planning Units boundary on the east by Silver State Valley, and on the south by the Blue Mountain-Krum Hills complex. The elevation ranges from 6,437 feet on Awakening Peak to approximately 4,000 feet in both valley floors. The area lies within both the Denio and Paradise Planning Units. The total area comprises 79,547 acres. The portion of the area which lies within the Denio Planning Unit is composed of 29,767 acres (37.4% of the total). Approximately 51% of it is public land.

Big sagebrush, Douglas rabbitbrush (C. viscidiflorus), spiny hopsage, buckwheat, gilia (Lepodactylon pungens), phlox, cheatgrass, Sandberg's bluegrass, and squirreltail predominate at the higher elevations, whereas shadscale, greasewood, bud sagebrush, spiny hopsage, winterfat (Ceratoides lanata), big sagebrush, halogeton, Indian ricegrass, cheatgrass, Sandberg's bluegrass, and clasping pepperweed predominate at the lower elevations.

Halogeton, locoweed, and death camas (Zigadenus spp.) occur in the area (see Range Management Step 3 URA Overlay #2 and narrative), but the extent to which any of these poisonous plants affects wild horses is unknown.

The horses were inventoried in 1977. The following numbers and ratios were found. \*

Table 16.

	<u>Adults</u>	<u>Yearlings</u>	<u>Colts</u>	<u>Total</u>	<u>Band</u>	<u>Band Size</u>
Slumbering Hills- South End	187	23	13	223	31	7.2
Slumbering Hills- Daveytown	5			5	2	2.5

\* SEE Appendix 1

D-WH/B-

Prepared by: Erick G. Campbell 6/76  
Revised by: Paul A. Janzar 5/15/79

This was the most recent survey and included the entire Slumbering Hills area. The majority of the horses in the Slumbering Hills use area are found in the southern half. These horses range from Blue Mountain to the sand dunes and the Krum Hills depending on the time of year and availability of water.

The majority of the horses will be found on checkerboard land in the Denio Planning Unit.

This area was not considered in any wilderness classification because of the checkerboard pattern of the land.

Heavy mining activity has occurred in the area in the past and light mining activity is currently being performed in the area (see Minerals Step 3 URA Overlay #8 and narrative page 44). Recreation use of the area is characterized by a high amount of ORV use, a light amount of rockhounding and an undetermined degree of historical sightseeing at Daveytown (see Recreation Step 3 URA Overlay #2 and narrative). Local resident attitudes are poor in regards to continued use of the range by wild horses. No claims for feral horses or reports of illegal gathering have been received.

There are no substantial numbers of deer or antelope in the use area that would impact the wild horses to any great extent.

Chukar partridge and California quail inhabit the use area (see Wildlife Step 3 URA Overlay # ).

Phase I WC&D Inventory data for the area and immediate vicinity indicate a general stable to moderate erosion condition. For further information refer to Watershed Step 3 URA Overlay #2.

Local ranchers attitudes are negative in regard to continued use of the range by wild horses. No claims for feral horses or reports of illegal gathering have been received.

Water supplies and developments are discussed in detail in the Physical Profile (see Physical Profile Step 2 URA Overlay #7a and narrative). The water supply is judged to be inadequate for proper range utilization. In 1977 wild horses (225 animals) in the entire Slumbering Hills area consumed approximately 821,250 gallons (2.52 acre feet) of water. An undetermined amount of snow is utilized as a water source at times of the year.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

This use area is located within the Sand Dunes Allotment. Table 17 gives a breakdown of the allotment.

Table 17.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use</u>	<u>% Herd Use Area Within Allotment</u>
Sand Dunes	Malvin Pedroli	368	100%
	Clifford Casteel	183	
	T Quarter Circle	3,314	

The number of horses presently on the Slumbering Hills use area is unknown. In 1977 an inventory showed 225 horses using the area yearlong. There is no specific distribution pattern for the use area, thus the assumption that the 2,700 AUM's (225 horses X 12 months) would be taken uniformly over the entire use area. With that assumption it was concluded that:

100% or 2,700 AUM's were utilized from the Sand Dunes Allotment.

At this time there is no allocation of forage for wild horses, thus the 2,700 AUM's are over and above the licensed use of the allotments involved. As the population of the horses increase, the allocation of forage will be proportionately overextended.

All operators who have private land that is utilized by wild horses have been contacted to see if they will enter into a cooperative agreement with the Bureau for the management of the horses.

Competition occurs between domestic livestock and wild horses for water and forage. Wild horses in the entire area consumed approximately 1,392 AUM's in 1975, in addition to the 2.52 acre feet of water.

The Slumbering Hills use area is divided into north and south portions by the Sand Dunes Allotment fence. This prevents any horse moving north of the Silver State Mine (see Range Management Step 3 URA Overlay #4).

The number of wild horses presently using the area is unknown. Data for numbers, sex ratios, and seasonal use areas are lacking.

D-WH/B-

Prepared by Erick G. Campbell 6/76

Revised by Paul A. Jancar 5/15/79

F. Black Rock Range (East) Use Area

The Black Rock Range (East) use area is located in the west-central portion of the Denio Planning Unit (see Range Management Step 3 URA Overlay #3). The use area is bordered on the south and east by the Black Rock Desert, on the north by the southern boundary of the Charles Sheldon Antelope Range. The west boundary is the boundaryline between the Denio and Buffalo Hills Planning Units. There is no physical barrier to prevent movement between the planning units. The number expressed for each area is an average estimate from several years of inventory. The elevation ranges from 8,508 feet at Pahute Peak to 4,100 feet at the valley floor.

The Black Rock Range (East) use area contains approximately 95,104 acres. Of this, 91,024 acres or approximately 96% is public land and 4,080 or 4% is privately owned. Big sagebrush, rabbitbrush, cheatgrass, squirreltail, and Sandberg's bluegrass with various forbs predominate at higher elevations, whereas shadscale, greasewood, squirreltail, and saltgrass are the major species found at lower elevations.

There are various poisonous plants that occur at the different elevations but the extent to which they affect wild horses is not known.

The past inventory data shows that the horses are generally found in the northern part of the range. These horses will utilize the higher elevations during the summer and the majority of the horses utilize the area west of the range during the winter.

All inventories of this area show numbers for the complete area. Breaking down the count to the east and west use areas show 39% of the horses were counted on the east side and 61% on the west. This is an average overall of all the recent inventories. In 1977 this was a result of the inventory: \*

Table 18.

	<u>Adults</u>	<u>Colts</u>	<u>Total</u>
Black Rock Range	508	107	615

Taking the average of 39% on the east side, this would result in the following numbers:

Table 19.

	<u>Adults</u>	<u>Colts</u>	<u>Total</u>
Black Rock Range (East)	198	42	240

\* SEE Appendix 1

D-WH/B-  
Prepared by Erick G. Campbell 6/76  
Revised by Paul A. Jancar 5/15/79

There are five areas that are classified in the wilderness criteria, that are part of the Black Rock Range (East) use area. All of the use area, except a small portion of the northern end, has been classified as areas slated for more intensive study under the wilderness guidelines. This could make management of the wild horses in the area more difficult (see Wilderness Step 3 URA overlay).

There is no recent mining activity in this use area. There is a limited amount of prospecting and exploration, but this is found at the very northern tip of the use area (see Minerals Step 3 URA narrative).

Recreational use of this area is quite extensive and varies from ORV use to rockhounding, hunting, fishing, and general sightseeing. The amount of activity and the number of people in the area would generally make management of this area more difficult. With a large number of people in the area at different times the amount of harassment to the wild horse population would increase.

The entire Black Rock Range (East) horse use area is affected by seasonal deer use areas (see Wildlife Step 3 URA Overlay #2). The higher elevations of this use area are two distinct summer use areas for deer. One is used by approximately 150 deer and one by 600 deer. The lower elevations make up the deer winter use area. This winter use area includes most of the horse use area and is used by approximately 600 deer.

The Black Rock Range (East) area is also used by antelope. The very southern end of the area is part of an antelope winter use area or approximately 30 animals. There are three antelope summer use areas also making up part of the use area. These summer use areas contain 30, 117, and approximately 22 antelope.

Diet overlap between wild horse and deer and wild horses and antelope are expected to be low, thus competition among these classes of animals for this particular area are not critical.

Condition of the horses varies from year to year depending on the amount of forage and the harshness of the seasons. The small wet meadows are heavily utilized by wild horses and domestic livestock and overuse tends to be the general rule rather than the exception.

D-WH/B-

Prepared by: Erick G. Campbell 6/76

Revised by: Paul A. Jancar 5/15/79

Phase I WC&D Inventory data for the area and immediate vicinity indicate a general slight to moderate erosion condition with small isolated areas of critical condition class. For further information see Watershed Step 3 URA Overlay #2.

Water supplies and developments are discussed in the Physical Profile (see Physical Profile Step 2 URA Overlay #7a). In 1977 wild horses (198 animals) in the Black Rock Range (East) area consumed approximately 722,700 gallons of water or 2.2 acre feet. Horses will also utilize snow when available and extend their range.

This use area is within the Pine Forest, Paiute Meadows, and Alder Creek Allotments. Table 20 gives a breakdown of the allotments.

Table 20.

<u>Allotment</u>	<u>Operator</u>	<u>Active Use</u>	<u>% Herd Use Area Within Allotment</u>
Paiute Meadows	Ken Earp	1,140	100%
	Pine Forest Land & Livestock Co.	7,827	

The present number of horses on the Black Rock Range (East) is unknown. In 1977 an inventory showed 240 horses using the area yearlong. There is no specific distribution pattern for the use area, thus the assumption that the 2,880 AUM's (240 horses X 12 months) would be taken uniformly over the entire use area. With that assumption it was concluded that:

100% or 2,880 AUM's were utilized from the Paiute Meadows Allotment.

At this time there is no allocation of forage for wild horses, thus the 2,880 AUM's are over and above the licensed use of the allotments involved. As the population of the horses increases, the allocation of forage will be proportionately overextended.

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Competition occurs between domestic livestock and wild horses. The competition with livestock for forage and water would be the greatest limiting factors to the wild horses in this use area.

There are several fences at the north end of this area. These fences are the dividing line of the allotment. These fences limit access to only a small portion of the use area and should not be critical to horse movement.

There is a seeding at the southern portion of this area. The seeding is fenced off from horse use and will conflict with seasonal use areas. There are future plans for further reseeding and maintenance of the fence.

The information on migration is limited although it is believed that the horses that use the east side of the Black Rock Range are in a constant state of flux and intermingle freely with horses on the west side.

Population levels were shown for each use area. The year shown was the most recent inventory data. To date there is no updated information.

Although no numbers were shown on the sex ratios of wild horses, some data was collected during several wild horse gatherings.

During the period of July 1977-January 1978, 1,752 wild horses were gathered in three separate areas. The gatherings were conducted on the East Range, Owyhee Desert, and the Hot Springs Mountain, all within the Winnemucca District. There was a substantial difference in the percentage of males and females gathered females predominated. This could be explained in that an average band of horses gathered will have a higher percentage of females. Although a higher percentage of females were gathered, it was assumed that the sex ratio was 50-50 and that the gathering techniques were not random (Hall).

Throughout this discussion consumption of water was measured in acre feet. This gives an idea of how much water was consumed, but did not stress the importance of availability. If 10 acre feet of water is available at ten areas (1 acre foot apiece) utilization of the area by horses will be much better and water would not be a limiting factor. If 10 acre feet is available at only one area then the utilization of forage around that area becomes critical and forage and water will become limiting factors. Forage will be limiting at that specific area and water will be limiting throughout the rest of the range.

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Figure 3 shows an area where only marginal water was available. As a result many colts were either trampled into the mud or stuck in the mud and abandoned. This should stress the importance of available water throughout the year.



Figure 3. Colts found in a waterhole where production of water was not adequate.

Appendix 1

PARADISE-DENIO

2/6/73

Herd Use Area	Gathering		Inventory		Gathering		Estimated Numbers		Gathering		Estimated Numbers	
	1980		1980		1981		1981		1982		1982	
	H	B	H	B	H	B	H	B	H	B	H	B
Black Rock Range (East)			46				52				59	
Jackson Mountains			166				189				215	
Slumbering Hills			180		20		185		78		122	
McGee Mountain				41				41				41
Eugene Mountains			358		292		116		16		114	
Krum Hills			342		20		370		200		194	
Bloody Runs			256		133		159				181	
Hot Springs Mtns.			103				117		48		79	
Osgood Mountains			25				29				33	
Snowstorm Mtns.			545		133		488		477		1,900	
Owyhee Desert			1,549		59		1,707		51			

Appendix 2

Paradise-Denio - Synopsis of Wild Horse Removal Data

Herd Area Name	Removal 1977		Removal 1978		Removal 1979		Removal 1980		Removal 1981		Removal 1982	
	H	B	H	B	H	B	H	B	H	B	H	B
Black Rock Range (East)					1,025 2/	10						
Jackson Mountains												
Slumbering Hills												
McGee Mountain												
Eugene Mountains									292			
Krum Hills											282	
Bloody Runs									173			
Hot Springs Mtns.			391 1/								44	
Osgood Mountains												
Snowstorms Mtns.									497			
Owyhee Desert	1,065									51		

1/ Osgood Mountains removal numbers were included with the Hot Springs removal numbers.

2/ Black Rock Range (East) removal numbers were included with the Black Rock Range (west) removal numbers.

*Updated by Dick Wheeler 4/28/89  
Concur 4-29-88  
Scott Bellamy PDAM*

Appendix 2

Paradise-Denio - Synopsis of Wild Horse Removal Data

Herd Area Name	Removal 1977		Removal 1978		Removal 1979		Removal 1980		Removal 1981		Removal 1982	
	H	B	H	B	H	B	H	B	H	B	H	B
Black Rock Range (East)					1,025 2/	10						
Jackson Mountains												
Slumbering Hills												
McGee Mountain												
Eugene Mountains									292			
Krum Hills												282
Bloody Runs									173			
Hot Springs Mtns.			391 1/									44
Osgood Mountains												
Snowstorms Mtns.									497			
Owyhee Desert	1,065									51		

1/ Osgood Mountains removal numbers were included with the Hot Springs removal numbers.

2/ Black Rock Range (East) removal numbers were included with the Black Rock Range (west) removal numbers.

*Updated by Dick Wheeler 4/28/88*  
*Concur*  
*Scott Billings 4-29-88*  
*PDAM*

Appendix 2 (Continued)

Paradise-Denio - Synopsis of Wild Horse Removal Data

Herd Area Name	Removal 1983		Removal 1984		Removal 1985		Removal 1986		Removal 1987		Removal 1988	
	H	B	H	B	H	B	H	B	H	B	H	B
Black Rock Range (East)							4/	193				445
Jackson Mountains												
Slumbering Hills	3/	111	3/	90	100			146				
McGee Mountain												
Eugene Mountains					377	2M						
Krum Hills					176			11				
Bloody Runs					88			294				
Hot Springs Mtns.								178				
Osgood Mountains												
Snowstorms Mtns.	426		199		258							
Owyhee Desert	342		487		726							

3/ Includes wild horses removal from the Krumm Hills HA.

4/ Includes wild horses removed from the Black Rock Range (West) HA.

*updated by Dick Whelan 4/28/88  
 fence 4-29-88  
 Scott Bellamy PDAM*

Table 7 (Continued)

Synopsis of Wild Horse/Burro Inventory Data

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Bloody Run Mountains	--	--	256	--	167	--	--	364	--	--	
Eugene Mountains	--	--		--	99	--	--	299	--	--	
Slumbering Hills	--	--	180	--	130	--	--	208	--		
Jackson Mountains	--	--	166	--	--	--	--	--	215	--	
McGee Mountain	--	--	5	--	--	--	--	--	--		
Black Rock Range East	--	--	46	--	--	--	--	--	1/1,313	--	
Krum Hills	--	--	342		126	--	--	181	--		

-- Means no inventory was conducted.

(1) Includes those animals counted in Black Rock Range (West).

updated by Dick Lethuler  
4/28/88  
Concur 4-28-88  
Scott Billing PDAM

Table 7. Synopsis of Wild Horse Inventory Data

	1978	1979	Summer 1980	1981	Fall 1982	1983	1984	Fall 1985	Summer 1986	1987
Lower Paradise Valley	--	--		--	--	--	--	0	--	--
Osgood Mts.	--	--	25	--	0	--	--	208	--	
Slumbering Hills - North	--	--	180	--	130	--	--	364	--	
Bloody Run Mts.	--	--	256	--	167	--	--	124	--	
Hot Spring Mts.	--	--	103	--	50	--	--	--	--	
Snowstorm Mts. East	--	--	545	--	515	--	--	--	117	
Little Owyhee Desert	--	--	1,483	--	1,104	--	--		359	
Slumbering Hills- South			(1)	--	(1)			(1)		

-- Means no census (inventory) was conducted.

(1) Data is included with Slumbering Hills North.

*Updated by Dick Wheelin  
4/28/88*

*Concur 4-28-88  
Scott Bellamy PDAM*

## Plant and Animal List

### Plants

balsamroot	<u>Balsamorhiza sagittata</u>
big sagebrush	<u>Artemisia tridentata</u>
bluebunch wheatgrass	<u>Agropyron spicatum</u>
buckwheat	<u>Eriogonum</u> spp.
bud sagebrush	<u>Artemisia spinescens</u>
cheatgrass	<u>Bromus tectorum</u>
clasping pepperweed	<u>Lepidium perfoliatum</u>
Douglas rabbitbrush	<u>Chrysothamnus viscidiflorus</u>
fourwing saltbush	<u>Atriplex canescens</u>
gray rabbitbrush	<u>Chrysothamnus nauseosus</u>
greasewood	<u>Sarcobatus vermiculatus</u>
Great Basin wildrye	<u>Elymus cinereus</u>
gilia	<u>Lepodactylon pungens</u>
death camas	<u>Zigdenus</u> spp.
green rabbitbrush	<u>Chrysothamnus</u> spp.
halogeton	<u>Halogeton glomeratus</u>
horsebrush	<u>Tetradymia spinosa</u>
Idaho fescue	<u>Festuca idahoensis</u>
Indian ricegrass	<u>Oryzopsis hymenoides</u>
juniper	<u>Juniperus osteosperma</u>
larkspur	<u>Delphinium</u> spp.
locoweed	<u>Astragalus</u> app.
low sagebrush	<u>Artemisia arbuscula</u>
lupine	<u>Lupinus caudatus</u>
needlegrass	<u>Stipa</u> spp.
oceanspray	<u>Hobodiscus discolor</u>
phlox	<u>Phlox</u> spp.
quaking aspen	<u>Populus tremuloides</u>
rose	<u>Rosa woodsii</u>
rumex	<u>Rumex</u> spp.
saltbrush	<u>Atriplex</u> spp.
Sandberg bluegrass	<u>Poa sandbergii</u>
seepweed	<u>Sueda</u> spp.
serviceberry	<u>Amelanchier alnifolia</u>
shadscale	<u>Atriplex confertifolia</u>
snowberry	<u>Symphoricarpos</u> spp.
spiny hopsage	<u>Grayia spinosa</u>
squirreltail	<u>Sitanion hystrix</u>
Thurber's needlegrass	<u>Stipa thurberiana</u>
winterfat	<u>Ceratoides lanata</u>

### Animals

chukar partridge	<u>Alectoris chukar</u>
domestic cow	<u>Bos taurus</u>
domestic sheep	<u>Ovis ovis</u>
mule deer	<u>Odocoileus menionus</u>
pronghorn	<u>Antilocapra americana</u>
Rocky Mountain elk	<u>Cervus canadensis</u>
sage grouse	<u>Centrocercus urophasianus</u>
wild burro	<u>Equus asinus</u>
wild horse	<u>Equus caballus</u>

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