United States Department of the Interior



BUREAU OF LAND MANAGEMENT Elko Field Office 3900 East Idaho Street Elko, Nevada 89801-4611 http://www.nv.blm.gov

Maverick/Medicine complex Evaluation 4130/4400.4 (NV-012)

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MAR 31 2000

3/31/00

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Dear Permittees:

On December 4, 1998, the interested public was informed that the Elko Field Office was beginning the process of evaluating the monitoring data for the Currie, McDermid Creek, Odgers, Bald Mountain, and Maverick/Ruby #9 Allotments hereafter referred as the Maverick/Medicine Complex. The Elko Field Office has completed an evaluation of monitoring data to determine whether changes in existing grazing management are necessary to ensure significant progress toward attainment of multiple use objectives and Standards for Rangeland Health. I have enclosed a copy of the allotment evaluation for your review. Please provide any written comments presented as clearly and concisely as possible, by May 1, 2000.

Sincerely yours,

CLINTON R. OKE Assistant Field Office Manager Renewable Resources

Enclosures: as stated above

Nevada Cattlemen's Assoc. Nevada Division of Wildlife Commission for the Preservation if Wild Horses Wild Horse Organized Assistance (WHOA) Nevada State Division of Agriculture Nevada State Clearinghouse U.S. Fish and Wildlife Service Elko Board of County Commissioners White Pine - Board of County Commissioners Resource Concepts Inc. Bureau of Land Management, Ely Field Office HTT Resource Advisors Carol Sherman M. Jeanne Hermann

cc:

MAVERICK/MEDICINE COMPLEX EVALUATION

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Prepared by : Renewable Resources Staff

Table of Contents

I.	INTRODUCTION	-1-
Π.	 INITIAL STOCKING LEVEL A. LIVESTOCK USE B. WILD HORSE USE 1. Herd Management Areas 2. Use Patterns within the Maverick/Medicine Complex 3. Appropriate Management Levels (AML C. WILDLIFE USE 1. Mule Deer 2. Pronghorn 3. Elk 4. Grouse e. Fish 6. Special Status Species: 7. Other Wildlife D. FORESTRY 1. Upland Forest 2. Riparian Forest 2. Non-stream Riparian Habitat F. NOXIOUS WEEDS G. FIRE AND FUELS MANAGEMENT Fire Occurrence Fire Management Plan 	-3- -5- -5- -6- -8- -8- -9- -9- -9- -11- -11- -11- -12- -13- -13- -13- -13
III.	MAVERICK/MEDICINE COMPLEX PROFILE A. Description B. Acreage C. Maverick/Medicine Complex Objectives D. Key Species Identification	-14- -14- -14- -15- -15-
IV.	MANAGEMENT EVALUATION A. Purpose B. Summary of Studies Data 1. Livestock Grazing Use a. Actual Use b. Key Area Utilization c. Use Pattern Maps d. Long Term Trend/Ecological Status e. Weight-Estimate Production Data f. Ecological Site Inventory g. Utilization Based Adjustments	-17- -17- -18- -18- -18- -18- -18- -19- -24- -25- -25- -25-

		h. Vegetative Cover2	6-
	2.	Wild Horse Use	6-
		a. Actual Use Data2	7-
		b. Key Area Utilization Data2	7-
	3.	Mule Deer Habitat	7-
		a. Currie Allotment	7-
		b. North Butte Valley Allotment	0-
		c. Odgers Allotment3	0-
		d. Bald Mountain Allotment3	0-
		e. Maverick/Ruby 9 Allotment3	0-
	4.	Pronghorn Habitat3	1-
		a. Currie Allotment	1-
		b. North Butte Valley Allotment3	3-
		c. Odgers Allotment	3-
		d. Maverick/Ruby #9 Allotment	3-
	5.	Elk Habitat	4-
	6.	Precipitation	4-
	7.	Riparian/Stream Habitat3	5-
		a. Currie Allotment	57-
		McDermid Creek	57-
		Cottonwood Creek3	57-
		Phalen Creek	57-
		b. North Butte Valley, Odgers, Bald Mountain, and Maverick/Ruby	у
		9 Allotments	8-
		Odgers Creek	8-
		Taylor Creek3	8-
	8.	Non-Stream Riparian Habitat3	8-
		a. Currie Allotment	8-
		b. North Butte Valley, Odgers, Bald Mountain, and Maverick/Ruby	У
		9 Allotments	9-
CONC	LUSIO	DNS	19-
Α.	Maver	rick/Medicine Complex Objectives	19-
	1.	General Land Use Plan (LUP) Objectives and Rangeland Program	n
		Summary (RPS) Objectives3	19-
		a. Currie Allotment4	-0-
		b. McDermid Creek Allotment4	4-
		c. North Butte Valley Allotment4	5-
		d. Odgers Allotment4	-6-
		e. Bald Mountain Allotment4	-7-
		f. Maverick/Ruby # 9 Allotment4	8-
	2.	Key Area Objectives4	-9-
	3.	Cherry Creek Habitat Management Plan Objectives5	6-
	4.	Wild Horse Management Objectives	57-
		A. Wells Resource Management Plan Wild Horse Amendment O	bjectives
			57-

V.

	 B. Antelope Valley Herd Management Area Plan Objectives60- (applies to the Currie Allotment only)
	Area of Nevada62-a.Standard 1. Upland Sites-62-b.Standard 2. Riparian and Wetland Sites:-64-c.Standard 3. Habitat:-65-d.Standard 4. Cultural Resources-68-
VI.	TECHNICAL RECOMMENDATIONS68-
VII.	CONSULTATIONS
VIII	APPENDICES
IX	MAPS

I. INTRODUCTION

This document is an interdisciplinary evaluation being conducted by the Elko Field Office-Bureau of Land Management (Elko-BLM) of six allotments that make up a large portion of the Maverick-Medicine Herd Management Area (HMA) and a portion of the Antelope Valley HMA for wild horses (Refer to Map 1). The allotments are Currie, McDermid Creek (within the boundaries of Ely-BLM), Maverick/Ruby #9, North Butte Valley, Bald Mountain, and Odgers. The McDermid Creek Allotment is in White Pine County, situated at the headwaters of McDermid Creek. It has natural mountain ridgetop barriers on all but the north side (Elko-White Pine County Line). Because this allotment is normally grazed in association with the Currie Allotment, it is administered by Elko-BLM as per an agreement with Ely-BLM dated 10/13/83. The McDermid Creek Allotment contains a portion of the Cherry Creek HMA. Throughout the remainder of this evaluation, the two allotments (Currie and McDermid Creek) will be referred to as the Currie Allotment.

In 1994 the Elko Field Office issued a Final Multiple Use Decision (FMUD) on the West Cherry Creek Allotment. In the FMUD the BLM agreed to re-evaluate the Taylor Canyon pasture of the West Cherry Creek Allotment in FY97. The FMUD states "The reevaluation will specifically address sheep use in Taylor Canyon and Snow Creek Units as it relates to key area objectives established in this multiple use decision." The Taylor Canyon and Snow Creek Units were rested from livestock grazing for two years since the West Cherry Creek FMUD was issued. Due to a lack of monitoring data, the re-evaluation could not be completed within the stated time frames. The re-evaluation of these units will be completed when the BLM and Nevada Division of Wildlife (NDOW) collect sufficient data.

In March 1999, Elko-BLM issued a final decision canceling the Te-Moak Livestock Association's grazing preference and grazing permit attached to the Odgers Ranch located in the Odgers and Bald Mountain Allotments. The final decision was issued due to a long-standing history of noncompliance with the grazing regulations. The Te-Moak Livestock Association (TLA) and Odgers Ranch have continued to graze these allotments without authorization.

This evaluation will determine if current grazing practices in this complex are consistent with the objectives of the land use plan (LUP) and the Standards for Rangeland Health approved for the Northeastern Great Basin Resource Advisory Council area. This Maverick/Medicine Complex evaluation is a comprehensive assessment of existing monitoring data to determine the appropriate management levels (AML) for wild horses in the Maverick-Medicine, Antelope Valley and Cherry Creek HMAs. The allotment evaluation process will culminate in a multiple use decision that will set appropriate management levels for the Maverick-Medicine HMA and portions of the Antelope Valley and Cherry Creek HMAs, establish any necessary changes in terms and conditions for

livestock grazing permits for this area, and make any necessary changes in wildlife management to ensure attainment of multiple use objectives.

Although some fences exist within the Maverick/Medicine Complex, wild horses within the Maverick-Medicine HMA are able to move from one grazing allotment to another; thus it was determined that the six allotments would be evaluated through an ecosystem approach. The West Cherry Creek Allotment has already undergone an allotment evaluation and a final multiple use decision (FMUD) was issued on August 30, 1994. The West Cherry Creek evaluation, in part, established an appropriate management level for a portion of the Maverick-Medicine HMA. The Spruce Allotment, which makes up a large portion of the Maverick-Medicine HMA, was evaluated in 1995 with a final multiple decision issued on January 30, 1998. The Spruce Allotment evaluation in combination with the Maverick-Medicine Complex evaluation will completely set AML within the Maverick-Medicine HMA. Completing the Maverick/Medicine Complex evaluation, in combination with the Spruce FMUD, will also set AML for the majority of the Antelope Valley HMA.

Table 1. Maverick/Medicine Complex, General Information					
Allotment Name and Number	Selective Management	Acres of Public Land			
	Category (see Appendix 8 for an explanation)	Total Acres	Acres within Herd Management Areas		
Currie (4311)	Improve (I)	147,864	147,864 Antelope Valley		
North Butte Valley (4308)	Maintain (M)	30,896	30,896 Maverick-Medicine		
Odgers (4328)	Improve (I)	25,319	25,319 Maverick-Medicine		
Bald Mountain (14303)	Maintain (M)	31,283	31,283 Maverick-Medicine		
Maverick/Ruby #9 (4323)	Improve (I)	58,080	58,080 Maverick-Medicine		

The Maverick/Medicine Complex evaluation covers the period from 1979 to 1999. Map 3 shows the two HMAs and the grazing allotments. General information for each allotment is shown in Table 1.

II. INITIAL STOCKING LEVEL

A. Livestock Use

Table 2 shows the initial levels of livestock use by allotment as identified in the Wells Resource Management Plan (the general BLM land use plan covering this area) and associated documents. The total authorized use by livestock kind, identified in Table 2, for the Maverick/Medicine Complex is 13,302 AUMs for cattle and 138 AUMs for domestic horses, for a total of 13,440 AUMs of specified livestock grazing. Period of use, kind of livestock, and percent federal range are also shown.

An allotment management plan (AMP) was developed and signed for the Currie Allotment in 1987; it was not fully implemented until 1992. The AMP implemented a rest/deferred rotation system designed to improve riparian and upland plant communities in the Cottonwood and McDermid Units. The grazing system also identified specific seasons of use for crested wheat seedings and other native pastures.

An allotment evaluation was completed for the North Butte Valley (NBV) Allotment in 1990. A grazing agreement was signed in the same year. The agreement established stocking levels and seasons of use in each of the six pastures. This season of use established a rest rotation grazing system for the seedings and deferment of the native pastures until after seed ripe.

The remaining allotments in the Maverick/Medicine Complex have not been evaluated and do not have grazing agreements or decisions in place. Table 2 outlines the season of use for the Odgers, Bald Mountain and Maverick/Ruby #9 Allotments.

Table 2. Maverick/Medicine Complex, Authorized Use, Historical Suspended Use (HSU), Periods of Use, Kind of Livestock, and Percent Federal Range							
Allotment and Permittee	Authorized Use (AUMs)	HSU	Period of Use	Kind of Livestock	Percent Federal Range		
Currie Kay and Mary Lear (Cottonwood Unit) Louise Lear (McDermid Unit)	138 540 803 482 764 52 676	844 534	03/01-02/28 04/15-06/30 07/01-10/14 10/15-11/30 12/01-02/28 03/01-03/31 05/01-06/30	horses cattle cattle cattle cattle cattle	96 96 96 96 96 100 96		
Indian Creek Ranch	1,004 910	0	07/01-10/14	cattle	96 100		
North Butte Valley William G. Dickinson	1,645	0	05/01-12/22	cattle	100		
Odgers (TLA cancelled)	1,596	0	04/16-11/15	cattle	100		
Bald Mountain Louise Lear (TLA cancelled)	440 736	500 403	06/01-09/15 06/01-10/31	cattle cattle	100 100		
Maverick/Ruby #9 Jack and Terry Bowers	3,654	874	05/01-02/28	cattle	100		
TOTAL	13,440	2,281					

B. WILD HORSE USE

1. Herd Management Areas

Refer to Map 3 for the location of each allotment in relation to the Maverick/Medicine Complex, which includes the Antelope Valley and the Maverick-Medicine Herd Management Areas (HMAs).

The Wild and Free-Roaming Horse and Burro Act became law on December 15, 1971. With the passage of this act, the authority to manage wild horses and burros on public land was assigned to the Bureau of Land Management (BLM) and U.S. Forest Service. The Act proclaims that wild and free-roaming horses and burros are protected from capture, branding, harassment, or death. They are to be considered, in the area where they were found in 1971, as an integral part of the natural system.

Elko-BLM was formerly divided into two Resource Areas and the management of wild horses for this area was guided by the Wells Resource Management Plan (RMP). This plan recognized herd areas and set initial herd sizes for wild horses within those herd areas.

In 1992, the Wells Resource Area began a wild horse amendment to the Wells RMP. This process was completed on August 2, 1993, with the issuance of the Final Wells Resource Management Plan Approved Wild Horse Amendment and Decision Record. The Wild Horse Amendment is the document which currently guides wild horse management in the complex.

The Wells RMP Wild Horse Amendment set initial herd size in the Antelope Valley HMA at 240 horses. This number was modified to 299 horses by the Spruce FMUD. The initial herd size for the Maverick/Medicine HMA was set at 389 horses. This number was modified to 332 horses by the West Cherry Creek FMUD and further modified to 273 horses by the Spruce FMUD.

Wild horses are able to move freely about the Maverick/Medicine Complex, with the exception of some fenced pastures in the North Butte Valley Allotment. Horses from the Maverick-Medicine HMA are able to intermix with the horses from the Antelope Valley HMA by simply traveling over the top of the Cherry Creek Mountains. Census flights during summer months have found horses traveling along well established trails on top of these mountains. This is important information to understand, because while an appropriate management level may be set very low in one allotment, it does not mean that those horses will be isolated from breeding and interacting with horses in another grazing allotment. The AML will be set allotment-by-allotment for an overall, total AML for the Maverick-Medicine HMA and a large portion of the Antelope Valley HMA.

The Cherry Creek HMA, located in White Pine County, is managed by the Ely Field Office as horse free. In more than fourteen years of census flights, no wild horses have been found in the McDermid Creek Allotment. The Schell RMP initially set AML at one wild horse to allow for incidental use from the Elko herd areas. Data has shown that wild horses do not use this area.

Table 4 shows the years that censuses were completed on the Maverick/Medicine Complex and the number of wild horses within the allotments. It is important to note that some years display incomplete census counts due to the fact that not all of the HMAs were flown. From 1991 through 1993, the number of horses is the average of horses counted during three or four census flights.

2. Use Patterns within the Maverick/Medicine Complex

Wild horse use patterns are very similar to those of livestock within the allotments. The areas not covered with pinon-juniper forest, including the white sage dominated plant communties, receive year-long use by wild horses. However, the horses are selective when in the white sage (winterfat) flats during the spring and summer, concentrating their use on perennial grass species. They begin to utilize white sage about the same time as livestock. In the early spring, horses can be found at the mid to higher elevations using snow for water and moving upward in elevation as the growing season progresses. During the summer months, horses will migrate to the highest elevations seeking shade and cooler temperatures, but they can also be found on the valley floors if that is where they can find water. In the winter months most horses will be found in the valley bottoms, utilizing the white sage and Nuttall's saltbush areas.

3. Appropriate Management Levels (AML)

In Nevada, the management levels for wild horses identified in the initial land use plans are not considered AML, based upon an interpretation of the Interior Board of Land Appeals (IBLA) Decisions 88-591, 638, 648, and 679, decided June 7, 1989. These IBLA decisions required that AML be established through the analysis and evaluation of monitoring data to determine thriving natural ecological balance for wild horses and burros with all other resource uses as specified in the Act. The 1993 Wells RMP Wild Horse Amendment set new objectives for the management of wild horses in this portion of the Elko-BLM area of jurisdiction. As determined by the Wild Horse Amendment, the initial herd sizes for the Maverick-Medicine and Antelope Valley HMAs was set at 389 and 240 wild horses respectively (as modified by previous FMUDs). These numbers were based on monitoring data collected from 1990-92. The amendment goes on to say that in the long-term, adjustments to herd size will be based on monitoring and grazing allotment evaluations. The AML for wild horses in the Maverick/Medicine Complex will be determined through this allotment evaluation process.

Fable 4. Maverick/Medicine Complex, Number of Wild Horses Counted in Each Allotment by Year													
Allotment	1985	1987	1988	1989	1990	1991	1992	1993	1994	1995	1997	1998	Avg
Maverick/Ruby #9	66	72	nd	106	nd	nd	112	77	90	51	136	111	91
Currie	95	44	21	nd	27	71 ¹	122 ¹	70 ¹	88 ¹	36¹	43	215	76
North Butte Valley	25	0	nd	0	nd	0	13¹	24 ¹	17 ¹	25 ¹	3	19	18
Bald Mountain	3	109	nd	9	nd	101	148 ¹	32 ¹	63 ¹	63¹	0	200	81
Odgers	0	16	nd	14	nd	43	29 ¹	26 ¹	211	34 ¹	69	16	30
TOTAL	189	241	nd	nd	nd	nd	424	229	279	209	251	561	
¹ When several census flights occurred during one year, the results were averaged for this table. ² Wild horse gathers have taken place within the complex in 1992, 1994, 1997, 1998-99.													

nd = no data

C. WILDLIFE USE

1. Mule Deer

Table 5 portrays the reasonable and existing numbers by allotment within the Maverick-Medicine Complex. Key/crucial areas include deer summer, winter, transitional, and year-long habitat/use areas. See Map 5 for mule deer seasonal use areas.

Table 5. Maverick/Medicine Complex, Reasonable and Existing Numbers of Mule Deer Specified in the Rangeland Program Summary of the Wells RMP						
Allotment	Reasona	able Numbers	Existin	g Numbers		
Currie	2,124	(2,576 AUMs)	1,488	(1,832 AUMs)		
North Butte Valley	819	(840 AUMs)	562	(578 AUMs)		
Odgers	193	(196 AUMs)	131	(132 AUMs)		
Bald Mountain	47	(94 AUMs)	19	(38 AUMs)		
Maverick-Ruby #9	1,400	(1,600 AUMs)	950	(1,050 AUMs)		
TOTAL	4,583	(5,306 AUMs)	3,150	(3,630 AUMs)		

2. Pronghorn

Existing pronghorn numbers are 120 (288 AUMs). Reasonable pronghorn numbers are 90 (216 AUMs). In the Wells RMP, existing and reasonable numbers were only identified for the Currie Allotment, but pronghorn do exist in other areas within the Maverick/Medicine Complex. Key/crucial areas include pronghorn year-long, summer, and winter habitat within the complex. See Map 6 for pronghorn seasonal use areas.

3. Elk

The Wells RMP did not identify elk habitat objectives or management areas in the Maverick/Medicine Complex. In the late 1980s and early 1990s, elk pioneered into adjacent suitable habitats within the Wells Resource Area from the Pilot Peak herd area and Utah and Idaho. The Wells RMP and Approved Elk Amendment, approved 2/14/96, addressed the issue of pioneering elk in the Wells Resource Area and established target elk population levels. The Maverick/Medicine Complex is within the Cherry Creek Elk Management Area (west of Highway 93). A small portion of the complex also exists within the Spruce/Pequops Elk Management Area. The target population level established for both management areas is 560 total elk, part of which could utilize habitats in the Maverick/Medicine Complex. At the present time, a small population of elk does exist in the Cherry Creek Range, although exact numbers are

not known.

4. Grouse

No grouse population data is available. There are 11 known historic sage grouse strutting grounds in the Currie Allotment and two in the Odgers Allotment. There are no known historic sage grouse strutting grounds in the North Butte Valley, Bald Mountain, or Maverick /Ruby #9 Allotments. Blue Grouse are known to exist in the Cherry Creek Mountains (Currie and West Cherry Creek Allotments).

5. Fish

Relict Dace

Current population data is not available. Several relict dace populations were present in northern Butte Valley when the Nevada Division of Wildlife (NDOW) surveyed the area in 1994, with the major population in upper Odgers Creek. A 1980 survey conducted by NDOW revealed that relict dace were present at Twin Springs and Phalen Creek. Key/crucial management areas are Odgers Creek and associated springs, Quilici Springs, and Twin Springs/Phalen Creek.

Rainbow Trout

Current population data is not available. NDOW surveys in 1979-80 showed trout to be present in a 3.5 mile portion of Taylor Creek and in a 5.0 mile stretch of McDermid Creek.

Key/crucial management areas are Taylor Creek and McDermid Creek.

Brook Trout

Current population data is not available. Brook trout were found in a one mile section of McDermid Creek during a 1979-80 survey by NDOW.

6. Special Status Species

Special status species (see Appendix 8 for definition) have either been documented or are considered likely to be present in the Maverick/Medicine Complex (Table 6). The bald eagle is listed as threatened by the U.S. Fish and Wildlife Service. While BLM has legal obligations to manage habitat for the benefit of listed species under the Endangered Species Act of 1973, it is also BLM policy to ensure its management actions also conserve sensitive species and their habitats to prevent them from becoming threatened or endangered.

Table 6. Maverick/Medicine Complex, Special Status Species						
NAME	SCIENTIFIC NAME	LIKELIHOOD OF OCCURRENCE				
Federal Threatened						
Bald Eagle	Haliaeetus leucocephalus	Documented				
	Nevada-BLM Sensitive					
Mammals						
Spotted bat	Euderma maculatum	Not Likely				
Small-footed myotis	Myotis ciliolabrum	Likely				
Long-eared myotis	Myotis evotis	Likely				
Fringed myotis	Myotis thysanodes	Likely				
Long-legged myotis	Myotis volans	Likely				
Pale Townsend's big-eared bat	Plecotus townsendii pallescens	Likely				
Pacific Townsend's big-eared bat	Plecotus townsendii townsendii	Likely				
Birds						
Northern goshawk	Accipiter gentilis	Likely				
Burrowing owl	Speotyto cunicularia	Likely				
Ferruginous hawk	Buteo regalis	Documented				
Swainson's hawk	Buteo swainsoni	Documented				
Sage grouse	Centrocercus urophasianus	Documented				
Black tern	Chlidonias niger	Not Likely				
Western snowy plover Charadrius alexandrinus nivosus Not Likely						
Fish						
Relict dace	Relictus solitarius	Documented				

7. Other Wildlife (non-game)

Numerous species of songbirds, raptors, mammals, amphibians, and reptiles inhabit the complex on a seasonal or year-long basis. Because of the presence of water, riparian habitat is particularly important to the majority of these animals. About 80% of the 363 terrestrial species known to occur in the Great Basin of southeastern Oregon are directly dependent on riparian zones or utilize them more than other habitats (Thomas et. al., 1986). Because the habitat in the Maverick/Medicine Complex is similar, it is expected that animals here are just as dependent on riparian zones.

D. FORESTRY

The forest resources have been divided into two categories: 1) Upland Forest (not associated with surface water) and 2) Riparian Forest (associated with surface water, i.e., seeps, springs, and streams).

1. Upland Forest

The Upland Forest is the dominant forest cover type in the Maverick/Medicine Complex. Tree species within this type include singleleaf pinyon (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), white fir (*Abies concolor*), limber pine (*Pinus flexilus*), whitebark pine (*Pinus albicaulis*), quaking aspen (*Populus tremuloides*), bristlecone pine (*Pinus aristata*), and Engelmann spruce (*Picea engelmanni*). The pinyon/juniper woodlands are currently managed for commercial and noncommercial sustained yield production of woodland products. This includes the harvest of Christmas trees, firewood, pinenuts, posts, and wildlings (live transplants).

2. Riparian Forest

This forest type occupies areas of higher moisture content such as seeps, springs, and streams. The tree species known to exist within this type are quaking aspen (*Populus tremuloides*), cottonwood (*Populus spp.*), alder (*Alnus spp.*), chokecherry (*Prunus spp.*) and several varieties of willow (*Salix spp.*).

E. RIPARIAN/STREAM HABITAT

1. Perennial Streams

Odgers Creek is a perennial stream located along the east side of Odgers Allotment on four miles of public land. This stream originates from several springs and spring/seep complexes in the southern portion of Odgers Allotment and the adjoining West Cherry Creek Allotment. It flows approximately 15 miles through a flat valley basin with 13.9 miles through public land. The watershed is nearly 100% public land. Riparian vegetation here consists of sedge and rush with a few willows. Nevada Division of Wildlife (NDOW) found relict dace (a NV BLM sensitive species) in Odgers Creek in a 1994 survey. It is the only perennial stream in the western portion of the Maverick/Medicine Complex that has been surveyed over a period of time.

McDermid Creek runs through 1.4 miles of public land that includes 0.3 miles of Corral Canyon Creek, a major tributary. Sixty-two percent of the channel is on private land; however, the adjoining watershed is almost entirely public land. McDermid Creek flows 5.3 miles through relatively narrow and steep canyons northeasterly from headwater springs on the eastern slope of the Cherry Creek Range. Riparian vegetation here consists of sedge and willows with chokecherry and some aspen. McDermid Creek was last surveyed for fish in 1980 by the Cooperative Stream Survey Team (BLM and NDOW). Five miles of rainbow trout-occupied stream and about one mile of brook trout-occupied stream were found. Beaver have not been observed.

Calf Canyon Creek is a perennial stream that originates on public land in the Calf/Lower McDermid Canyon pasture in the Currie Allotment. The watershed is mainly public land. The upper reach of the creek is composed of rock and woody riparian vegetation. The lower reach of the creek is dominated by non-riparian vegetation such as sage brush and juniper.

Cottonwood Creek is a perennial stream that originates on the east side of the Cherry Creek Range in the Currie Allotment. The watershed is mostly public, with a few parcels of private waters along the canyon. Sedge, rush, aspen, chokecherry, and some willows are the predominant riparian vegetation.

Phalen Creek flows mainly on private land, however its watershed is located on public land within the Currie Allotment. Twin Springs, the source springs, are on private land. Sedge and rush comprise the riparian vegetation community here. Relict dace have also been identified in this system.

2. Non-stream Riparian Habitat

Currie Allotment

Several springs in the higher elevation areas flow into Cottonwood and McDermid Creeks and their tributaries. Their average flow is 2 gallons per minute (gpm) in late summer with one spring measured at 38 gpm (1980 water inventory). The riparian vegetation ranges from sedge and rush with Kentucky bluegrass in narrow zones to areas of several age classes of aspen in groves with heavy sedge cover. There may also be Kentucky bluegrass, wild rose, dogwood, and chokecherry understories. Most of the springs in the lower elevations are on private land; some adjoining springs on public land have been fenced and/or developed through BLM projects.

Maverick/Ruby #9, Bald Mountain, North Butte Valley, and Odgers Allotments

These allotments are much drier with few springs or seeps, except for the headwater springs of Odgers Creek in the Odgers Allotment. Bald Mountain has no natural waters. North Butte Valley has two identified springs on public land. Maverick/Ruby #9

has three springs on public land.

The headwater springs of Odgers Creek within the Odgers Allotment has flows averaging 35 gpm (1980 water inventory), but the average flow of other springs in this area is 0.5 gpm. Other scattered springs had less flow. Vegetation at spring sites is predominately Kentucky bluegrass, sedges, and rushes, with willow at one site.

F. NOXIOUS WEEDS

Elko-BLM conducted a survey in 1998 for noxious weeds in the complex. These invasive, introduced species can replace native plant communities with an unproductive monoculture that severely depresses biological diversity and other values (including forage). Several noxious weeds were found during the survey. In the Currie Allotment, houndstongue (*Cynoglossum officinale*), hoary cress (*Cardaria draba*), musk thistle (*Carduus nutans*), and bull thistle (*Cirsium vulgare*) were found in the McDermid Canyon area. Scotch thistle (*Onapordum acanthium*) was found in the Calf Canyon area. In Cottonwood Canyon, bull and musk thistle were found in the riparian areas. In North Butte Valley Allotment, hoary cress was found along the road in the North and South pastures. In the Odgers Allotment, hoary cress was found along the county road and Odgers Creek. No noxious weeds were found in the Vicinity of the Red Hill Well. It should be noted that in Nevada, bull thistle is not yet on the noxious weed list, however, it was identified as being present and may be treated with other noxious weeds.

G. FIRE AND FUELS MANAGEMENT

1. Fire Occurrence

The Maverick-Medicine Complex allotments have a moderate wildland fire occurrence. In the period from 1980 to 1996, there have been 35 documented wildland fires. There is no easily accessible data for 1997 to 1999, but based on prior history, there were probably an additional six to ten wild land fires. Approximately 66 percent of the wildland fires have occurred in the pinyon-juniper woodlands. The rest of the area has a very low fire occurrence. Most of these fires have been small, averaging less than 1/2 acre, with only two occurrences of larger fires; a 650-acre fire in 1988 and a 2,100-acre fire in 1986 (See Appendix 5).

2. Fire Management Plan

Six different fire management areas (polygons) identified in the 1998 Elko-BLM Fire Management Plan occur within the complex (Appendix 5). These areas (polygons) include urban interface (Currie and Odgers Ranch), low sage and desert shrub, big sagebrush, pinyon-juniper woodlands, mixed conifer, and the Ruby Marsh, Franklin, and Snow Water Lake area. Depending on the area, fire suppression strategies range from full suppression with minimal acreage loss to areas where natural ignitions may be allowed to meet management goals.

3. Prescribed fire and fuels management

The goals and objectives range from no prescribed fire to areas in the mixed conifer where prescribed fire and mechanical fuel treatments are the primary tools to meet management objectives.

III. MAVERICK/MEDICINE COMPLEX PROFILE

A. Description

The Maverick/Medicine Complex encompasses approximately 293,442 acres of public land within Elko County and small portion of White Pine County. The complex area is located in the south central portion of the Elko-BLM administrative area. The Ruby Lake National Wildlife Refuge and Ruby Mountains make up the western boundary. The eastern boundary is a few miles east of Highway 93. The southern boundary is the Elko/White Pine County line. The northern boundary is generally Palomino Ridge and Delcer/West Buttes. Elevation extends from approximately 5,800 feet in the valley bottoms to approximately 10,300 feet on top of the Cherry Creek Range.

Most of the allotments within the complex are fenced or partially fenced. The Odgers, Bald Mountain, and Maverick/Ruby #9 Allotments have limited fencing and water. Map 4 shows the pastures within each allotment.

B. Acreage

There is a total of 298,360 acres in the Maverick/Medicine Complex (293,442 public acres and 4,918 private acres).

Table 7. Maverick/Medicine Complex, Allotment Acreage by Public Land, Private Land, and Total Acres					
Allotment	Public Acres	Private Acres	Total		
Currie/McDermid Creek	147,864	3,852	151,718		
North Butte Valley	30,896	312	31,208		
Odgers	25,319	517	25,836		
Bald Mountain	31,283	0	31,283		
Maverick/Ruby #9	58,080	235	28,315		
Total	293,442	4,918	298,360		

C. Maverick/Medicine Complex Objectives

Objectives for the Maverick/Medicine Complex including Rangeland Program Summary (RPS), allotment specific, wildlife, wild horse, and habitat management plan (HMP) objectives, and the standards for rangeland health are listed in the conclusions section of this evaluation.

D. Key Species Identification

Tables 8 and 9 list the key plant species used for this evaluation.

Table 8. Maverick/Medicine Complex, Livestock and Wild Horse Key Species				
Species Code	Common Name	Scientific Name		
AGSP	Bluebunch wheatgrass	Agropyron spicatum		
ORHY	Indian ricegrass	Oryzopsis hymenoides		
STTH2	Thurber's needlegrass	Stipa thurberiana		
FEID	Idaho fescue	Festuca idahoensis		
EULA5	White sage (winter fat)	Eurotia lanata		
PUTR2	Antelope bitterbrush	Purshia tridentata		
ATNU2	Nuttall's saltbush	Atriplex nuttallii		
ATCO	Shadscale	Atriplex confertifilia		

Table 8. Maverick/Medicine Complex, Livestock and Wild Horse Key Species				
Species Code Common Name		Scientific Name		
ARARN	Black sagebrush	Artemisia arbuscula nova		
ARSP5	Bud sagebrush	Artemisia spinescens		
SIHY	Bottlebrush squirreltail	Sitanion histrix		
AGCR	Crested wheatgrass	Agropyron cristatum		
STCO4	Needle and thread grass	Stipa comata		
STNE3	Letterman's needlegrass	Stipa lettermanii		
ELCI2	Basin wildrye	Elymus cinereus		
ELTR3	Creeping wildrye	Elymus triticoides		
SPAI	Alkali sacaton	Sporobolus airoides		
JUNCU	Rush	Juncus spp.		
DISPS2	Inland saltgrass	Distichlis spicata stricta		
AGSM	Western wheatgrass	Agropyron smithii		
MURI	Mat muhly	Muhlanbergia richardsonis		

Table 9. Maverick/Medicine Complex, Wildlife and Riparian Key Species				
Species Code	Common Name	Scientific Name		
ARTRW	Wyoming big sagebrush	Artemesia tridentata wyomingensis		
PUTR2	Antelope bitterbrush	Purshia tridentata		
ARVA2	Mountain big sagebrush	Artemisia vaseyana		
CELE3	Curlleaf mountain mahogany	Cercocarpus ledifolius		
ROWO	Wild rose	Rosa woodsii		
SALIX	Willow	Salix spp.		
POTTR	Quaking aspen	Populus tremula tremuloides		
CAREX	Sedge	Carex spp.		

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this evaluation is to determine whether or not present grazing management is achieving or making significant progress toward achieving the multiple use objectives established for the Maverick/Medicine Complex and Standards and Guidelines for Rangeland Health for the Northeastern Great Basin Area of Nevada. This evaluation includes technical recommendations proposing either changes in management when needed to achieve the multiple use objectives (including recommendations on proper stocking rates) or a recommendation for no change.

B. Summary of Studies Data

Rangeland monitoring studies were conducted during the evaluation period to monitor livestock, wild horse, and wildlife use. Actual use, utilization, use pattern maps (UPM's), production, frequency, and ecological status were analyzed by key area. Additional studies consisted of wild horse census data, wild horse utilization data, stream survey assessments, proper functioning condition (PFC) assessments, and wildlife habitat studies. These monitoring studies were conducted in accordance with approved BLM technical references and the Nevada Rangeland Monitoring Handbook.

Key areas established in the complex were selected based on their location, use, or grazing value as a monitoring point for measuring change in soil and vegetation and the impacts of grazing. See Appendix 1 for a summary of the data referred to in this document.

1. Livestock Grazing Use

a. Actual Use

Actual use data was collected to determine the amount of AUMs used by livestock during each grazing year. The permittees are required to submit actual use reports on an annual basis. This information reflects the actual numbers of livestock and the period of use on each allotment. Table 10 outlines the average actual use in the complex during the evaluation period.

Table 10. Maverick Medicine Complex, Average Actual Use by Livestock						
Allotment	Average Actual Use (A (AUMs)					
Currie	5,178	5,369				
North Butte Valley	1,721	1,645				
Odgers	1,596	1,596				
Bald Mountain	935	1,173				
Maverick/Ruby #9	638	2,774				
Complex Average	10,068	12,557				

b. Key Area Utilization

Utilization data have been recorded at the established key areas in the Maverick/Medicine Complex since 1979. Refer to the key area studies summary in Appendix 1 for utilization results.

c. Use Pattern Maps

Use pattern maps have been prepared on the Maverick/Medicine Complex that indicate the degree and pattern of use on key forage species by all grazing animals on the pasture or allotment. The percent of each allotment mapped in each use category by year can be found in Appendix 1.

Use pattern mapping data for the complex shows that the heaviest use has historically occurred near riparian areas (streams, springs, and seeps) and other permanent water sources (wells, catchments, etc.). Significant use has also occurred on plant communities dominated by white sage and seasonal mule deer ranges where bitterbrush is a main component of the plant community. Many areas in the complex are not suitable for livestock grazing due to topography or distance from water and

have shown slight to no use.

d. Long-term Trend/Ecological Status

Frequency studies have been conducted on the Maverick/Medicine Complex since 1979 to determine a long-term trend. Ecological status data has been collected since 1983. Frequency is the change in the presence or absence of a plant species in the community over time. Ecological status refers to the condition of a plant community in relation to its potential. The following tables illustrate the percent frequency of key species, key area ecological status and trend assessment for each key area in the complex.

Table 11. Currie Allotment, Cottonwood Unit, Ecological Status and Trend									
Pasture	Key Area	Key Species	Percent Frequency			Ecole (perc	ogical S cent of F		
	(frame size)	198 6	1989	1997	1986	1989	1997	Irena	
Mustang	CU-02	ORHY(10)	26.5	22.5	27.5				
Well		ORHY(30)	79.0	74.5	82.0	07		74	
		EULA5 (10)	11.5	8.0	10.5	37	30		upward
		EULA5 (30)	48.0	43.0	51.5				
Currie	CU-09	ORHY (30)	7.5	12.0	12.0				$= 5e^{i\phi}$ (
Gardens		SIHY (30)	58.0	45.0	54.0	30	48	52	static to
		ATCO (30)	69.5	40.5	47.0				upward
Cottonwoo	CU-22	AGSP (30)	75.0	50.0	53.0				
d Canyon	STCO4 (30)	37.0	44.0	33.5	44	36	33	downward	
Bold values	Bold values indicate statistical significance at the 90% confidence level.								
* 0-25	- early se	eral							

- 26-50 mid seral
- 51-75 late seral
- 76-100 Potential Natural Community (PNC)

Table 12. Ci	urrie Allo	tment, McDer	rmid Un	it, Ecolo	ogical St	latus an	d Trend			
Pasture Key Area	Key Species	Percent Frequency			Ecological Status (percent of PNC)*			Trend		
		and frame size	1979	1986	1989	1997	1986	1989	1997	Hend
Currie Flats	CU-01	ORHY(30)		10.5	8.0	14.0			48 47	
		SIHY(30)		4.0	0.0	6.5	61	48		static to upward
		EULA5 (30)		8.0	9.5	14.0				
Calf Cyn. L. McDermid	CU-16 ¹	AGSP (30)	1.0	10.5	7.0	16.5	20	29	29 35	static to upward
Cyn.		PUTR2(30)	29.5	20.0	15.5	26.0	30			
U. McDermid	CU-17	AGSP (30)		77.5	71.0	81.5			29 46	
Cyn.		STLE4 (30)		4.5	2.5	4.0	38	29		upward
		PUTR2 (30)		22.5	17.5	25.5				
¹ CU-16 was Bold values in	read in 1 ndicate st	983 instead of tatistical signif	1986. icance a	at the 90	% confic	dence lev	vel.			
* 0-25 - 26-50 51-75 76-10	early sei - mid sei - late sei 0 - Poten	ral ral ral tial Natural Co	ommunit	ty (PNC)	220					

Table 13. North Butte Valley Allotment, Ecological Status and Trend								
Pasture	Key Area	KeyPercentSpeciesFrequencyand framesize		Ecol Sta (perc PN	ogical atus cent of IC)*	Trend		
			1988	1997	1988	1997		
Palomino Seeding ¹	L001	AGCR	41.0	41.0	560 Ibs/ac	609 Ibs/ac	static to upward	
Lower Seeding ¹	L002	AGCR	44.5	10.0	398 Ibs/ac	1,058 lbs/ac	upward	
South	L003	SPAI	19.5	18.5	10	70		
		ELTR3	42.0	61.5	40	73	upward	
North	L004	SPAI	60.5	36.75		10		
		ELCI2	12.5	9.75	55	40	downward	
Spring	L005	ELCI2	43.5	16.5				
		MURI	26.5	34.5	63	20	downward	
¹ Ecological S Ecological St Bold values ir	¹ Ecological Status is not analyzed. Production data is presented in lieu of Ecological Status. Bold values indicate statistical significance at the 90% confidence level.							

0-25 - early seral 26-50 - mid seral 51-75 - late seral 76-100 - Potential Natural Community (PNC)

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Table 14. Odgers Allotment, Ecological Status and Trend								
Pasture	Key Area	Key Key Area Species		Percent Frequency		ogical tus ent of C)*	Trend	
			1988	1995 1988 1995	1995			
Odgers	1010	AGSM	43.5	41.0				
	ъ	DIST	44.0	32.0	16	8	downward	
		JUBA	17.5	31.0		5 5		
Bold value	s indicate s	tatistical signif	icance at	the 90%	confider	nce level.		
* 0-2 26- 51- 76	5 - early se 50 - mid se 75 - late se	ral ral ral	mmunity					

Table 15. Bald Mountain Allotment, Ecological Status and Trend							
Pasture Key Are:	Key Area	Key Species	Pero Frequ	cent Jency	Ecological Status (percent of PNC)*		Trend
			1988	1995	1988	1999	
Bald	1009	AGSP	43.5	41.0	05	58	stable to
Mouritain		PUTR2	44.0	32.0	35		upward
Bold values	indicate s	tatistical signi	ficance a	t the 90%	6 confide	ence level	
* 0-25 26-50 51-75 76-10	- early ser) - mid ser 5 - late ser)0 - Poten	ral ral ral tial Natural C	ommunity	(PNC)			

Table 16.	Table 16. Maverick/Ruby #9 Allotment, Ecological Status and Trend									
Pasture Key Key Area Species		Key Species	Pe	Percent Frequency			Ecological Status (percent of PNC)*			Trend
			1983	1988	1993	1997	1988	1993	1997	
Minnow Spring	KA-01	ORHY (30)	59.0	69.5	80.0	89.0				
Ruby #9		ORHY (10)	N/A	22.0	30.0	61.5	42	53	53 59	upward
		EULA5	52.5	54.0	56.0	61.5	î			
Ruby	KA-02	ORHY	N/A	40.5	59.0	58.5	07		70	stable to upward
wasn		EULA5	N/A	56.0	49.5	45.0	37	IN/A	73	
Cherry	KA-	AGSP	N/A	5.5	7.5	34.5		45	10	stable to
Spring	03	STTH2	N/A	3.0	10.0	10.5	44	45	49	upward
¹ KA-03 wa	as read ir	1999.								

Bold values indicate statistical significance at the 90% confidence level.

0-25 - early seral

26-50 - mid seral

51-75 - late seral

76-100 - Potential Natural Community (PNC)

e. Weight-Estimate Production Data

Weight-estimate studies have been conducted on the Maverick/Medicine Complex to determine production on key areas in relation to their site potential. Refer to the studies summary in Appendix 1 for production by key area. Production from the crested wheatgrass seedings in the Maverick/Medicine Complex is outlined in the table below.

Table 17. Key area	crested wheatgrass pro	oduction		
Key Area and Pasture	1986	1989	1997	
CU-28 Twin Springs Sdg.	814 lbs/ac	320 lbs/ac	606 lbs/ac	
CU-29 Twin Springs Sdg.	594 lbs/ac	385 lbs/ac	467 lbs/ac	
CU-30 Twin Springs Sdg.	424 lbs/ac	273 lbs/ac	441 lbs/ac	
CU-31 McDermid Sdg. ¹	Seeding established in 1989.	774 lbs/ac	1,228 lbs/ac	
CU-32 McDermid Sdg. ¹	Seeding established in 1989.	481 lbs/ac	1,110 lbs/ac	
L001 Lower Sdg. ²	not read	398 lbs/ac	1,058 lbs/ac	
L002 Palamino Sdg.²	not read	560 lbs/ac	609 lbs/ac	
L006 Juniper Sdg.	not read	not read	662 lbs/ac	
¹ Key areas were re	ad in 1992.	4		

² Key areas were read in 1988.

f. Ecological Site Inventory

Ecological Site Inventory (ESI) was conducted in the Maverick/Medicine Complex between 1991 and 1993. See Appendix 1 for a summary of the ESI by allotment completed during the evaluation period.

g. Utilization-based Adjustments

Actual use and key area utilization data were compared to the desired utilization level for each allotment. The formula used was taken from Rangeland Monitoring: Analysis, Interpretation, and Evaluation (TR 4400-7).

<u>Actual Use (AUMs) x Desired Utilization</u> = Desired Carrying Capacity Measured Utilization

Carrying capacity for each allotment in the Maverick/Medicine Complex is summarized in Technical Recommendation 1 in Section VI of this evaluation (see pg. 67).

h. Vegetative Cover

Point cover data were collected at key areas in the Currie, North Butte Valley and Maverick/Ruby #9 Allotments. A summary of the cover studies conducting in 1998 is presented in the following table.

Table 18. Summary	y of Cover D	ata				
ALLOTMENT Key Area(s)	VEGETATIVE (BASAL)	VEGETATIVE (CANOPY)	LITTER	BARE GROUND	ROCK	CRYPTOGAMIC CRUST
CURPLE McDermid Unit						
Currie Flat CU-01	no data			a		
Calf/L. McDermid Canyon CU-16	14.5%	39.0%	34.8%	9.0%	2.7%	0%
McDermid Canyon CU-17	15.9%	28.4%	19.5%	28.3%	8.0%	0%
McDermid Seeding CU-31, CU-32	no data				9	
CURRIE Cottonwood Unit						
Mustang Well CU-02	no data			10 10		
Currie Gardens CU-09	16.7%	16.7%	10.4%	11.0%	23.0%	22.2%
Cottonwood Canyon CU-22	9.2%	37.5%	44.7%	6.9%	1.8%	0%
Twin Springs Seeding CU28, CU29, CU30	no data					
NORTH BUTTE VALLEY						
Palomino Seeding L001	10.7%	27.3%	26.1%	30.8%	2.4%	2.7%
Lower Seeding L002	5.9%	19.7%	23.0%	49.0%	2.0%	0.4%
South Pasture L003	8.1%	18.2%	22.2%	51.5%	0%	0%
North Pasture L004	10.1%	19.8%	18.9%	53.3%	0%	1.8%
Spring Pasture L005	7.0%	10.4%	26.0%	56.5%	0%	0.1%
Juniper Pasture L006	no data		<u>.</u>			
MAVERICK/RUBY #9						
Ruby #9 KA-01	9.2%	11.6%	18.2%	37.6%	1.7%	21.7%
Ruby Wash KA-02	7.4%	15.2%	21.4%	50.8%	0.1%	5.2%
Cherry Springs KA-03	19.5%	32.6%	26.0%	19.7%	1.8%	0.5%

2. Wild Horse Use

a. Actual Use Data

Prior to the intensive seasonal flights, which began in 1992, the BLM flew the HMAs approximately once per year. The best available data for the years prior to 1992 on actual use by horses within the Maverick/Medicine Complex is the total number of wild horses observed within the allotments on one flight multiplied by 12 months. Actual use data (i.e., number of AUMs of wild horse use) for the Maverick/Medicine complex from 1992 to 1999 is derived from the total number of horses (adults and foals, foals included in counts as per IBLA 92-241) observed in the allotments from 3/1 to 2/28 using wild horse numbers from census flight to census flight. Wild horse numbers for 1996 are projected from the latest 1995 census. Table 19 displays the use in AUMs by wild horses.

Table 19. Maverick/Medicine Complex, Average Estimated Use by Wild Horses						
Allotment	Average Estimated Use Average Number of (AUMs) Horses ¹					
Currie	842	70				
North Butte Valley	192	16				
Odgers	357	30				
Bald Mountain	912	76				
Maverick/Ruby #9	1,159	97				
Maverick/Medicine Complex Total	3,462	289				

¹ Average number of wild horses in this table differs from Table 4 because calculating actual use made by wild horses is different from simply counting horses.

b. Key Area Utilization Data

Several of the key areas in the Maverick/Medicine Complex established for livestock monitoring receive use by wild horses. Wild horse utilization data has been collected prior to the winter turnout of livestock at the established key areas in the Currie and Maverick/Ruby #9 Allotments on several years. This data was collected to determine if wild horses are exceeding the 10% utilization level prior to the entry by livestock in combined winter use areas (Wells RMP Wild Horse Amendment). This data can be found in Appendix 1.

3. Mule Deer Habitat

a. Currie Allotment

The majority of the Cherry Creek Range makes up mule deer crucial year-long range, used by wintering and summering deer. Five habitat studies have been established within this area of the allotment. Habitat conditions are discussed below by predominant season of use at each key area.

Three habitat studies have been established within mule deer summer range, representing approximately 10,545 acres (Table 20). Available data indicate mule deer summer habitat conditions in the Currie Allotment currently range from fair to good (50% of the habitat area = FAIR; 50% = GOOD). Readings of the Wood Canyon portion of the Cherry Creek Range (south of McDermid Creek and north of the Elko-White Pine County line, representing 50% of the available habitat) show a downward trend from good in 1981 to fair condition in 1988. Available data indicate the most limiting factor on this deer summer range is poor forage diversity and conflicts with livestock use of important riparian habitats.

Table 20. Currie Allotment, Mule Deer Summer Habitat Condition							
Key Area		Habitat Condition*	Habitat Rating	Percentage of Area**			
DS1T02	1981 1988	Good Fair	71 75	25			
DS1TCU22	1988	Fair	57	25			
DS1T04	1983 1988	Good Good	66 66	50			
* Mule Deer: 10-	50 = Poor; 5	1-60 = Fair; 61-80 = Goo	d; 81-100 = Excellen	t			

* Percentage of Area = Percent of herd use area represented by the key area.

Two big game habitat condition studies have been established within crucial mule deer winter range, representing approximately 70% of the 29,340 acres of available habitat (Table 21). Available data indicates winter habitat conditions are mostly poor (70% of available habitat area = poor; 30% = no data available) with significant signs of a downward trend. Data from the Calf Canyon key area (representing 30% of available habitat) indicates a downward trend in habitat condition since 1979. This area was first rated in excellent condition in 1979, good condition in 1983, fair condition in 1988, and poor condition in 1992. The McDermid Canyon area study (representing approximately 40% of the available habitat) was established in 1988 and was rated in fair condition, declining to poor condition in 1992, indicating a downward trend.

Table 21. Currie Allotment, McDermid Canyon (east slope - Cherry Creek Mountains), Mule Deer Winter Habitat Condition								
Key Area Year		Habitat Condition*	Habitat Rating	Percentage of Area**				
DCW1T01	1979 1983 1988 1992	Excellent Good Fair Poor	81 76 57 49	30				
DCW1TCU17	1988 1992	Fair Poor	51 43	40				

* Mule Deer: 10-50 = Poor; 51-60 = Fair; 61-80 = Good; 81-100 = Excellent

** Percentage of Area = Percent of herd use area represented by the key area.

Data from both studies indicate a primary limiting factor on mule deer winter range in the Currie Allotment is the unsatisfactory age structure of bitterbrush. The combined percentage of bitterbrush seedlings and young plants is far exceeded by the percentage of decadent plants, i.e., there are too few seedlings and young plants present to ensure long-term survival of the bitterbrush population. The Cherry Creek HMP established objectives to increase the percentage of seedlings and young plants to 10 percent by the year 2000 as-well-as to maintain or increase the foliar coverage of the Cherry Creek bitterbrush population (Note: three key areas are currently established to evaluate habitat objectives within the Cherry Creek HMP area; one on the west slope - West Cherry Creek Allotment and two on the east slope - Currie Allotment). Tables 22 and 23 outline existing bitterbrush Cole browse and canopy cover data.

Table 23. Currie Allotment, East Slope-Cherry Creek Range, Bitterbrush Cole Browse						
Key Area	Year	No. of Samples	No. of Seedlings	Percent Seedlings		
DCW1T01	1979		4	15		
	1983	25	3	12		
	1988	50	3	6		
	1992	20	0	0		
DCW1TCU17	1985	310*	11	4		
	1988	56*	11	20		
	1992	40	1	3		

than D(C)W-1-T-CU17

Key Area	Bitterbrush Total Inches (line intercept)				
Year	1979	1983	1988	1992	
DCW1T01	81	206	125	47	
DCW1TCU17	nd	nd	23	7	

Utilization data prior to 1987 is lacking. However, the 1979 and 1983 studies indicated the form class of bitterbrush in the McDermid Creek area was unsatisfactory. The Cherry Creek HMP and Currie AMP established a maximum total utilization objective of 45% of annual twig length for bitterbrush (25% maximum by livestock). Beginning in 1987, utilization of bitterbrush has been measured annually in the fall (following removal of livestock and prior to the influx of migrant deer herds) and spring (after deer leave and prior to spring growth and cattle use). From 1987-1998, livestock use (measured in fall) in Calf Canyon and McDermid Canyon has averaged 29% and 63% respectively, far exceeding the 25% objective level (see Appendix 1). Annual heavy to severe use of bitterbrush has severely reduced plant vigor. Coupled with an unsatisfactory age class structure, this bitterbrush population will be lost in the near future without a change in grazing use.

b. North Butte Valley Allotment

The allotment consists of mule deer year-long range associated with the lower foothills of the Cherry Creek Range. It contains no crucial deer habitat. No habitat studies have been established to evaluate condition.

c. Odgers Allotment

This allotment contains a small amount of deer winter habitat on the flanks of the Medicine Range and deer year-long habitat near the Narrows. No crucial deer habitat or habitat condition studies exist for the Odgers Allotment.

d. Bald Mountain Allotment

The allotment consists of mule deer winter and summer habitat. The winter habitat occurs on the flanks of the Medicine Range. The summer habitat surrounds the High Bald Peaks area. No mule deer crucial habitat exists in the allotment. One key area has been established within mule deer winter range. Results from this study are portrayed in Table 24. The data indicates habitat condition is good, with upward trend. A Cole browse study completed in 1996 indicated an improvement in age class structure and form class of bitterbrush. Although there is still a lack of seedlings and young plants, no decadent
plants were recorded.

Table 24. Bald Mountain Allotment, Mule Deer Winter Habitat Condition						
Key Area	Year	Habitat Condition*	Habitat Rating	Percentage of Area**		
DW5T-I 009	9 1988 Fair 1998 Good		53 71	100		
* Mule Deer: 10-50 ** Percentage of A	0 = Poor; 51 Area = Perc	I-60 = Fair; 61-80 = Goo ent of herd use area rep	d; 81-100 = Exceller resented by the key	nt area.		

e. Maverick/Ruby #9 Allotment

This allotment contains mule deer summer habitat associated with the top of the Maverick Springs Range. No crucial habitat exists in the allotment. One habitat condition study (DS-6-T-01) has been established, representing approximately 10,000 acres of summer habitat. This study area is located at T. 26 N., R. 59 E., sec. 4, NE¼SE¼. Results from this study are portrayed in Table 25. The data indicates habitat condition is good, with upward trend.

Table 25. Maverick/Ruby #9 Allotment, Mule Deer Summer Habitat Condition					
Key Area	Year	Habitat Condition*	Habitat Rating	Percentage of Area**	
DS-06-T-01	1989 1999	Fair Good	53 65	100	
* Condition bas	ed on 10-50 -	- Poor 51-60 - Fair 61-8	30 = Good' 81-100 =	Excellent	

* Percentage of Area = Percent of herd use area represented by the key area.

4. Pronghorn Habitat

a. Currie Allotment

Four pronghorn habitat condition studies have been established within this allotment, representing approximately 100,400 acres of pronghorn range. Table 26 depicts habitat conditions for pronghorn range in the Currie Allotment. Two studies are in crucial year-long pronghorn range in the northwest end of Steptoe Valley. One study is in crucial winter pronghorn habitat adjacent to Currie Hills. The last study is in non-crucial year-long range northeast of Currie.

Table 26. Curry Allotment, Pronghorn Habitat Condition						
Key Area	Year	Habitat Condition*	Habitat Rating	Percentage of Area**		
ACYT-CU10	1984	Fair	36	25		
Currie Gardens	1988	Fair	38			
ACYT-CU09	1988	Fair	44	25		
Currie Gardens	1997	Fair	52			
AYT-CU02	1988	Fair	30	25		
Mustang Well	1997	Fair	42			
ACWT-CU01	1988	Fair	34	25		
Currie Flats	1997	Fair	40			
* Pronghorn habita	t condition	rating based on 5-30 =	Poor; 31-60 = Fair; 6	1-105 = Good		

Percentage of Area = Percent of herd use area represented by the key area.

Table 27 depicts forage composition by vegetation class. The most common limiting factors at all key areas are poor forage diversity and water availability. The Currie Hills (represented by ACWT-CU01) are utilized by pronghorn mostly during the winter months. Available water is a limiting factor in the overall habitat condition rating for this area. Although this area has a poor forage diversity of forbs and grasses, it shows a relatively high percent composition and diversity of desirable shrubs, which make up most of the pronghorn diet during the winter months. This area was heavily grazed during the winter months by sheep 10-20 years ago, creating a high degree of dietary overlap with pronghorn. Because of the lack of water and the change to cattle, this area has not received extensive livestock use since the conversion. Therefore, livestock cannot currently be contributing to the poor forage diversity is most likely the result of poor site response potential. Site potential for the other key areas, particularly for more forbs, is greater than present conditions.

Table 27. Currie Allotment, Pronghorn Habitat Plant Composition							
		Grasses		Forbs		Shrubs	
		% Comp	% Comp # Spp		# Spp	% Comp	# Spp
Percent Optimum		40-60	5-10	10-30	20-40	5-20	5-10
Key Area	Year						
ACYT-CU10	1988	24	2	2	1	74	3
ACYT-CU09	1997	46	4	0	0	54	3
AYT-CU02	1997	29	2	0	3	71	4
ACWT-CU01	1997	14	2	1	2	85	5

b. North Butte Valley Allotment

One habitat study has been established within pronghorn year-long range in the North Butte Valley Allotment. No crucial pronghorn habitat exists in the allotment. Data from L005 (Table 28) indicates that current habitat conditions are fair. The limiting factors contributing to this rating are water availability and vegetation quality. There is a low availability of forbs (2% composition) and excessive composition (88%) of shrubs.

Table 28. North Butte Valley Allotment, Pronghorn Habitat Condition						
Key Area	Year	Habitat Condition*	Habitat Rating	Percent of Area**		
AY-01-L005	1988 1997	Fair Fair	43 39	100		
* Pronghorn hat	pitat condition	rating based on 5-30 = I	Poor: 31-60 = Fair: 61	-105 = Good		

"Percent of Area = Percent of herd use area represented by the key area.

c. Odgers Allotment

No crucial pronghorn habitat exists in this allotment, although pronghorn year-long habitat is present. No habitat studies have been established in this allotment.

d. Maverick/Ruby #9 Allotment

No crucial pronghorn habitat is present in this allotment. One key area (Table 29) has been established within the pronghorn year-long range in the Maverick/Ruby #9 Allotment. This represents an area of about 22,600 acres and is located at T. 26 N., R. 58 E., Sec. 14 SW¼SW¼. Readings of this key area indicate this habitat is static and in

poor condition. One limiting factor is poor forage diversity. Forb and grass composition is 0% and 3% respectively (Table 30). Shrubs account for 97% of the plant community here. Water is also a limiting factor within this pronghorn range.

Table 29. Maverick/Ruby #9 Allotment, Pronghorn Habitat Condition						
Year	Habitat Condition*	Habitat Rating	Percent of Area**			
AY-01-T-(R9-1) 1988 Poor 1998 Poor		26 29	100			
	/ear 988 998	YearHabitat Condition*988Poor998Poor	YearHabitat Condition*Habitat Rating988Poor26998Poor29			

"Percent of Area = Percent of herd use area represented by the key area.

Table 30. Mave	rick/Rub	y #9 Allotme	int, Prongho	orn Habitat I	Plant Comp	osition		
			Grasses		Forbs		Shrubs	
		% Comp	# Spp	% Comp	# Spp	% Comp	# Spp	
Percent Optimum		40-60	5-10	10-30	20-40	5-20	5-10	
Transect #	Year							
AY-01-T-(R9-1)	1998	3	2	0	0	97	3	

5. Elk Habitat

No habitat condition studies have been established specifically for elk in the Maverick/ Medicine Complex.

6. Precipitation

The Ruby Lake Station, located at the Ruby Lake National Wildlife Refuge headquarters, provides the closest and most representative climatic information for this area. However, the site is located at the base of the Ruby Mountains and may reflect higher precipitation levels than those representative of the Maverick/Medicine Complex. Precipitation data is presented in the following table.

Table 31. Average precipitation at the Ruby Lake Weather Station					
Year	Total Precipitation (in.)				
1987	11.04				
1988	9.34				
1989	11.57				
1990	9.78				
1991	11.89				
1992	10.42				
1993	13.67				
1994	10.76				
1995	16.90				
1996	19.72				
1997	15.89				
Average Precipitation	12.82				

7. Riparian/Stream Habitat

Riparian/stream habitat conditions were analyzed using data gathered from stream surveys (1980-1998) and proper functioning condition (PFC) assessments (1998). The initial surveys included both private and public portions of the streams. Subsequent surveys were conducted only on public land portions as RMP objectives are based on public land. Therefore, for the purposes of this evaluation, only data from the survey stations located on the public portions of each stream were analyzed. A table of the PFC site information can be found in Appendix 4. Table 32 and the following narrative summarize this data.

Table 32. Stream Habitat Summary for the Maverick/Medicine Complex								
Stream	Habitat Parameter		Stream Survey Years					
		1980	1987	1992	1994	1998	Trend	
Odgers Creek ⁴	Riparian Condition Class ¹ (% optimum)	41.5	25	56		51	Not apparent	
(8 stations)	Stream Width to Depth Ratio ²	10.0	13.3	7.1		13	Not apparent	
	PFC ³					FAR/NF ⁷	Down	
Taylor Creek ⁵	eek ⁵ Riparian Condition Class ¹ (% optimum)		34.5	79.0		75.0	Up	
(1 station)	Stream Width to Depth Ratio ²	6.0	5.9	6.7		3.1	Up	
	PFC ³						Not done	
McDermid Creek ⁶	eek ⁶ Riparian Condition Class ¹ (% optimum)		34		62.5		Up	
(5 stations) Stream Width to Depth Ratio ²		18.4	15.9		9.8		Up	
	PFC ³				-	FAR ⁷	Not apparent	
¹ Riparian condition 70.0% and ² Stream width to de ³ Proper functioning large woody improving w groundwate channel cha breeding, a when the au Riparian/we ⁴ Based on data fro ⁵ Based on data fro ⁶ Based on data fro ⁷ FAR is functioning	class is an average of bank cover and bank above = Excellent 60.0% - 69.9% = G epth ratio is channel bankfull width divided by g condition (PFC). Riparian/wetland areas ar y debris is present to: dissipate stream energy vater quality; filter sediment, capture bedload er recharge; develop root masses that stabiliz aracteristics to provide the habitat and water nd other uses; and support greater biodivers rea is in functional condition but an existing s etland areas are considered nonfunctional wh m S-9 through S-14 with tributaries SC-1 and m S-8. m S-1, S-3, S-5, S-8, and tributary SA-1 (Con- g-at-risk; NF is nonfunctional.	stability ratin ood y bankfull dep re in proper fu y associated l, and aid floo ze streamban depth, duratio ity (BLM 1993 soil, water, or nen they clean I SD-1 include rral Canyon).	gs as follow 50.0% oth. The low inctioning ca with high w d plain deve ks against of on, and tem 3). Riparian vegetation rly are not n ed for 1980,	vs: - 59.9% = F ver the num ondition whe rater flow, the elopment; in cutting action perature ne n/wetland ar attribute man neeting the 1987, and	air aber, the be en adequat hereby redu mprove floo n; develop ecessary for reas are con akes them s above para 1992.	49.9% and etter the ratio te vegetatio icing erosio od water rete diverse por r fish produ nsidered fur susceptible ameters.	below = Poor o. n, land form, or n and ention and nding and ction, waterfowl nctioning-at-risk to degradation.	

a. Currie Allotment

Only McDermid Creek has riparian stream habitat survey stations. Phalen Creek was visited in 1980. McDermid and Cottonwood Creeks and their tributaries were visited in 1998 for PFC assessment.

McDermid Creek. A riparian/stream habitat survey has been established on 1.4 miles of McDermid Creek located within the Currie Allotment. Of the 5.3 stream miles, 3.9 miles of McDermid Creek is located on private land. The three riparian/stream survey stations on the public land portions of the stream, represent approximately 0.5 miles per station. The creek was functioning-at-risk along three reaches (approximately 1.5 miles) with another 0.25 miles rated as nonfunctional when assessed in 1998.

Steep land form gradients produce an erosion susceptibility rating of "critical" throughout the area inventoried. The overall stream gradient average of 2.6% increases the chance of severe bank erosion during high water flows. Ungulate stream damage and access road erosion continue along the stream channel with trampling causing bank sloughing, contributing to excessive sedimentation in the stream. The high sedimentation found in McDermid Creek has reduced the amount of desirable stream bottom materials for trout. Quality pools are very scarce in this stream and are needed to improve trout survival in the stream.

Associated meadows and riparian zones appear to be drying out with the increase of currant, wild rose, sagebrush, and rabbitbrush, as well as cheatgrass and thistle. There has been little aspen regeneration in the upper basin area. Bank stability values in 1980 and 1987 show overgrazing of riparian plants and the subsequent loss of their soil holding root masses are reflected in low riparian condition ratings for these years. Recent field observations indicate a static trend of the bank stability values on McDermid Creek. Riparian vegetation, consisting of sedges and willows, is continuously grazed, allowing little regrowth. Other vegetation includes chokecherry and some aspen.

Cottonwood Creek and its tributaries are not in good riparian condition. The perennial reaches assessed (approximately four miles) rated as functioning-at-risk with a downward trend or trend not apparent. There were several headcuts, a lack of riparian vegetation diversity along channels, hummocking in spring/seep areas of the drainage, and overutilization of riparian vegetation adjacent to source springs and channels. Kentucky bluegrass, not a riparian species, was the predominant vegetation along the channels with thistles occurring in some areas. Livestock use is detrimentally impacting riparian condition of this stream.

Phalen Creek was visited by the BLM-NDOW Cooperative Stream Survey Team in 1980 when the stream channel was assessed and given a "poor" rating. This was due to the limited bank vegetative cover, substantial sedimentation, and unstable banks. Livestock grazing was primarily responsible for deteriorated riparian conditions. Because Phalen

Creek is on private land and access is restricted, no stream survey has been conducted on Phalen Creek since 1980 and the current conditions are not known.

b. North Butte Valley, Odgers, Bald Mountain, and Maverick/Ruby #9 Allotments

Odgers Creek has eight riparian/stream habitat survey stations. The riparian condition has been variable on both the main stem and tributary stations with relatively stable but wider stream width to depth ratios. The creek within the 1989 mainstream exclosure (0.75 miles) is in proper functioning condition. Prior to the construction of the exclosure, the riparian area was in poor condition. The remainder of the creek rated functioning-at-risk with a downward trend (0.75 miles) or nonfunctional (4.5 miles).

Station 1 and the tributaries have slightly higher gradients than the rest of the creek, but because it is a low energy stream with reasonably consistent flow from spring sources, the erosion susceptibility remains low. Approximately 500 feet upstream from where the stream enters the Te-Moak Indian Reservation, the stream has been channelized (station 14). Bank stability has remained fair although improvement since the 1980 survey is probably due to increased bank cover. The low rock content and fine, non-cohesive soils make the stream banks susceptible to excessive erosion when damaged by ungulate use or when vegetative cover is lost. Bank cover has been poor over the survey period although an increase since 1980 is primarily due to the exclosures where undisturbed riparian vegetation has flourished. The loss of riparian vegetation outside the exclosure has resulted in the degradation of Odgers Creek.

Taylor Creek has one riparian stream habitat survey station, located within an exclosure (0.5 miles) at the bottom of perennial flow just inside the Odgers Allotment boundary. The overall riparian condition has been excellent since the exclosure was built. Previous riparian condition was poor in 1980 and 1987.

8. Non-Stream Riparian Habitat

Information on more than 125 springs and seeps has been collected for the allotments in the Maverick/Medicine Complex as part of a water resource inventory. Although most of the data collected was limited to flow rates and water chemistry, notes and photographs provide some insight into habitat conditions at these sites. Proper functioning condition (PFC) assessments were conducted on a representative sample of these springs and seeps (17) within the complex in 1998. See Appendix 5 for PFC assessment summary.

a. Currie Allotment

Goshute Lake Pasture: Numerous springs exist in this pasture. A PFC assessment was completed on several of these springs in 1998. Two springs rated in proper functioning condition. These two springs were characterized by the vigorous, dense, riparian vegetation growth. The third spring was nonfunctional.

McDermid Canyon Pasture: There are six spring exclosures in this pasture that were excluded from sampling because the springs are fenced. One unfenced seep was assessed at PFC.

Dry Canyon Pasture: No perennial springs exist in this pasture.

Cottonwood Canyon Pasture: There are multiple springs within the five exclosures in this pasture; these were excluded from sampling. Three springs representative of the different elevations rated as functioning-at-risk with a downward trend. One aspen-spring complex showed an upward trend.

Currie Gardens and Mustang Well Pasture: There are three springs in exclosures (one in Mustang Well and two in Currie Gardens) which were excluded from sampling.

In general, the higher elevation water sources of this allotment are heavily impacted by livestock and wild horses which have trampled the soil and heavily used the riparian areas. The lower springs in the Cottonwood Canyon Pasture show heavy hummocking/trampling and heavy use of riparian vegetation by livestock.

b. North Butte Valley, Odgers, Bald Mountain, and Maverick/Ruby #9 Allotments In the Maverick/Ruby #9 Allotment, three of the five springs were sampled. All three springs rated as nonfunctional. Additional springs exist on private land and were not sampled.

There are no springs in the Bald Mountain Allotment.

There are multiple springs/spring complexes within the Odgers Allotment. Of these, two springs and two spring/seep complexes were assessed. The four were either nonfunctional or functioning-at-risk with a downward trend. These four sources are heavily impacted by livestock and wild horses, displaying trampling/hummocking and heavy utilization of riparian vegetation.

In North Butte Valley Allotment, the only spring on public land is fenced and was not sampled.

V. CONCLUSIONS

- A. Maverick/Medicine Complex Objectives
- 1. Resource Management Plan (RMP) Objectives
- a. Provide for livestock grazing consistent with other resource uses.

- b. Conserve and enhance wildlife habitat to the maximum extent possible.
- c. Eliminate all fencing hazards within big game habitat; most of the fencing hazards in non-crucial big game habitat.
- d. Eliminate all of the high and medium priority terrestrial riparian habitat conflicts in coordination with other uses.
- e. Prevent undue degradation of all riparian/stream habitat due to other uses.
- f. Improve high and medium priority riparian/stream habitat to at least good condition.

Attainment or non-attainment of these objectives is included under conclusions for RPS and key area objectives. The Wells RMP Wild Horse Amendment modified the RMP objectives; these are presented in number four of this section.

2. Rangeland Program Summary (RPS) Objectives.

In the conclusions for each allotment, the attainment or non-attainment of the RMP, RPS, objectives is presented under conclusions for allotment, RPS, and allotment specific objectives (range and wildlife).

Currie Allotment

a. Improve livestock distribution on the bench areas near Goshute Lake, Currie Gardens, and on the winter ranges east of Highway 93 (which include Currie Flats, Currie Hills, and Mustang Well) by developing water facilities.

Partially Met. Four water developments were proposed for the benches near Goshute Lake, Currie Gardens, and the winter range east of Highway 93. Three have been completed and livestock distribution has improved according to monitoring data. Distribution has improved in Currie Flats, Currie Hills and Goshute Lake Pastures.

b. Improve the ecological status of the summer grazing areas in the Cherry Creek Mountains, particularly in the Cottonwood Canyon, Calf Canyon, Corral Canyon (located within the McDermid Canyon Unit), and the McDermid drainage.

Not met. Evaluation of existing data indicates that this objective is not being met at two of the three key areas. Ecological status in Cottonwood Canyon declined from 44% of potential natural community (PNC) in 1986 to 33% in 1997. Ecological status in the Calf, Corral, and Lower McDermid Canyon areas declined from 38% in 1986 to 35% in 1997. Ecological status in Upper McDermid Canyon increased from 38% in 1986 to 46% in 1997. Seral stage has remained at mid-seral for these summer grazing areas.

c. Improve and/or maintain the ecological status of winter grazing areas east of Highway 93 (which include Currie Flats, Currie Hills and Mustang Well) and the bench areas near Goshute Lake and Currie Gardens. **Partially met.** Ecological status in Currie Gardens increased from 30% of PNC in 1986 to 52% in 1997. Ecological status in the Mustang Well area increased from 37% in 1986 to 71% in 1997. Ecological status in the Currie Flats area decreased from 61% in 1986 to 47% in 1997. The seral stage has remained in mid-seral to late seral for the winter grazing areas. There are no long-term study key areas in the Goshute Lake pasture at this time.

d. Periodically evaluate the monitoring data for the allotment to reinstate suspended non-use when they become permanently available.

Not met. Since the RPS was issued there has been no evaluation of monitoring data until this allotment evaluation. This evaluation will determine if suspended non-use AUMs will become available.

e. Develop an AMP to be signed in FY86

Met. The Currie AMP was signed on 1/20/87.

f. Improve or maintain all seasonal big game habitat in the Currie Allotment to good or excellent condition to provide forage and habitat capable of supporting 2,124 mule deer (2,576 AUMs) and 90 pronghorn (216 AUMs).

Mule Deer

Partially Met - Summer Habitat

Seasonal mule deer habitat conditions vary from fair to good. Available data indicates approximately 50% of the available summer habitat in the Currie Allotment (Cottonwood Canyon area) is currently in fair condition and shows a downward trend from the good conditions measured in 1981. The remaining 50% of the available summer range (Wood Canyon-south of McDermid Canyon) is currently rated in good condition. The most limiting factor on summer range in the Currie Allotment is poor forage diversity and direct conflicts with livestock for important riparian habitats; i.e., most all terrestrial riparian habitats within deer summer range are currently rated in poor condition.

Not Met - Winter Habitat

Available data, representing approximately 70% of the crucial winter habitat in the Currie Allotment, shows that deer winter habit is in poor habitat condition. The Calf Canyon area has shown a downward trend since 1979. McDermid Canyon shows signs of a downward trend since 1988. The limiting factors on this portion of the deer wintering areas within this crucial year-long habitat are poor age class structure of bitterbrush and annual heavy use of bitterbrush by livestock (see Appendix 1).

No data is available to rate the remaining 30% (north Cottonwood Canyon) of the crucial deer winter habitat. Approximately 650 acres in north Cottonwood Canyon burned in

1988, with 100 acres reseeded in 1988/89. Current observations indicate that there was a partial success in the establishment of wildlife forage species in this burned area.

Pronghorn - There is insufficient data to make a conclusion on attainment of this objective. Existing numbers currently exceed reasonable numbers for this year-long range. Available data throughout seasonal antelope habitats in the Currie Allotment indicate habitat conditions are fair. Poor forage diversity occurs on 75% of the habitat area. Water availability appears to be the most limiting factor on the remaining 25% (Currie Hills). Although forage diversity is currently below optimum levels for pronghorn in the Currie Hills, rest from livestock use for the past 10-20 years seems to indicate a low vegetative response potential. Further monitoring will help determine the ecological potential of seasonal antelope range in Currie Allotment.

Based on present pronghorn population levels, it appears the current mid-seral ecological conditions and fair habitat conditions as per the BLM 6630 manual guidelines are adequately meeting the needs of pronghorn here.

g. Facilitate big game movements by modifying existing fences to Bureau standards where necessary.

Partially met. Evaluation of existing data indicates that some progress has been made toward this objective. The Wells RMP provides for 50 miles of fence to be modified within the Cherry Creek Resource Conflict Area (RCA). The Cherry Creek HMP was approved 9/30/87 and specifically identified 17.1 miles of fence to be modified with the remaining 32.9 miles to be added to the list at a future date. Currently 8.5 miles of fence (JDR# 4059) in the Currie Allotment have been specifically identified as needing modification. A portion of the McDermid Canyon pasture fence was modified in 1990. Additional fences will be identified if necessary following further evaluation of all fences within the Cherry Creek HMP area.

Improve crucial deer winter habitat by: -cutting (thinning) within 7,000 acres of the pinyon/juniper forest type. -chaining or burning and seeding 250 acres of sagebrush.

Partially met. A pinyon/juniper selective cutting program began in the Cherry Creek deer winter range in 1986 within Phalen Canyon. However, this unit was burned in the Phalen fire during August 1988 (see below). Since then, selective cutting has occurred within the Calf Canyon Cutting Unit from 1988 - 1989 (three units harvested); the McDermid Creek Cutting Unit from 1989 - 1991 (three units harvested); and from 1991 to the present within the Lower Cottonwood Cutting Unit (eight units harvested to date). There have been about 1,385 acres improved through harvesting in these 14 units. A 10-year greenwood harvest plan for the Cherry Creek HMP area scheduled selective cutting within the Currie Allotment to continue through 1997. This was reevaluated and updated in 1997 to

continue until the plan has been fully implemented. Specific objectives are outlined in the 10-year sale plan. There are also about 600 Christmas trees harvested annually from the Cherry Creek Range. This equals about 24 acres thinned per year.

Approximately 650 acres of crucial deer winter range in the north Cottonwood Canyon area burned in August 1988. Some of this area was proposed to be burned and seeded as part of the Cherry Creek HMP. Therefore, approximately 100 acres was seeded with bitterbrush, prostrate kochia, and other species in fall 1988 and spring 1989. In addition, 1,500 bitterbrush seedlings were planted in March 1989 (seedling survival rate was 67.5%). An account of this rehabilitation project can be found in the Cherry Creek HMP second and third annual reports. The remaining 150 acres proposed to be burned or chained and seeded within the Currie Allotment will be identified as upcoming project work is planned. This objective may also be met through rehabilitation of any future wildfires within crucial deer winter habitat.

i. Prevent undue degradation of all riparian/stream habitat due to other uses.

McDermid Creek

Not met. McDermid Creek was functioning-at-risk along three reaches (approximately 1.5 miles) with another 0.25 miles rated as nonfunctional when assessed in 1998. Associated meadows and riparian zones appear to be drying out with the increase of currant, wild rose, sagebrush, and rabbitbrush, as well as cheatgrass and thistle. There has been little aspen regeneration in the upper basin area. Riparian vegetation, consisting of sedges and willows, is continuously grazed, allowing little regrowth. Other vegetation includes chokecherry and some aspen. Bank stability values in 1980 and 1987 show overgrazing of riparian plants and the subsequent loss of their soil holding root masses reflected in low riparian condition ratings for these years.

Cottonwood Creek

Not met. Cottonwood Creek and its tributaries are not in good riparian condition. The perennial reaches assessed (approximately four miles) rated as functioning-at-risk with a downward trend or trend not apparent. There were several headcuts, a lack of riparian vegetation diversity along channels, hummocking in spring/seep areas of the drainage, and overutilization of riparian vegetation adjacent to source springs and channels. Kentucky bluegrass, not a riparian species, was the predominant vegetation along the channels with thistles invading. Livestock use is detrimentally impacting riparian condition of this stream.

Phalen Creek

Undetermined. Phalen Creek was visited by the BLM-NDOW Cooperative Stream Survey Team in 1980 when the stream channel was assessed and given a "poor" rating. This creek has not been reassessed because it is all on private land with limited access.

j. Improve, enhance, or develop 20 springs in the Currie Allotment to good or excellent condition.

Partially met. The Cherry Creek HMP proposed 25 spring improvement projects in the Cherry Creek RCA. The HMP specifically identified 19 springs and allowed flexibility in identifying the remaining six. In addition to the RPS, the HMP specifically identified 15 springs to be improved in the Currie Allotment. To date 14 springs in the Currie Allotment have had exclosures built around them.

McDermid Creek Allotment (Schell RMP-Ely Field Office) a. Provide forage for up to 630 AUMs of livestock use.

Not met. Carrying capacity analysis indicates that the current permitted use of 630 AUMs is unavailable for livestock use.

b. Maintain or enhance native vegetation with utilization not to exceed Nevada Range Management Handbook levels on key species.

Not met. Evaluation of existing data indicates that utilization levels have been exceeded during the evaluation period. Utilization objectives were exceeded every year at key areas CU-17 and CU-18. This level of use has resulted in a static trend on key species at Key Area CU-17.

c. Maintain or improve current ecological condition of native range.

Met. Evaluation of existing data indicates that the ecological status has improved from 38% of the PNC in 1986 to 46% in 1997. The ecological status has been maintained in mid-seral and trend on key species remains static.

d. Manage rangeland habitat and forage condition to support reasonable numbers of wildlife, (deer 45 AUMs, pronghorn six AUMs). Maintain or improve mule deer year-long habitat to a good or better condition.

Not met. Habitat condition at key area DCW1TCU17 has declined from fair in 1988 to poor in 1992. From 1987-1998, livestock utilization on bitterbrush averaged 60% (see Appendix 1), far exceeding the allowable level of 25% to still have forage available for deer. Utilization at this level also exceeds that allowable (45%) needed to meet plant physiological requirements. No habitat for pronghorn exists within the McDermid Creek Allotment.

e. Maintain habitat condition of meadows and riparian areas in good or better condition for pronghorn antelope, mule deer, and upland game.

Undetermined. There is insufficient data to fully evaluate this objective, however,

North Butte Valley Allotment

a. Manage livestock grazing to sustain 1,645 AUMs active grazing preference.

Met. The average actual use in the allotment is 1,975 AUMs. This includes approved temporary non-renewable use above the active grazing preference. Existing monitoring data indicates that 1,645 AUMs are available for livestock grazing.

b. Maintain or improve the present ecological status and trend.

Partially met. Evaluation of existing data indicates that ecological status has improved in the South pasture. Ecological status has decreased in the North and Spring pastures. Trend is upward in the South, while trend is downward in the Spring, and North pastures.

c. Improve livestock distribution in the Juniper Pasture.

Met. The Pinion Pipeline extension, completed in 1991, now provides water for the Juniper Seeding. Use pattern maps show that livestock distribution has improved with completion of the pipeline.

d. Improve or maintain mule deer summer and winter range to good or excellent condition to provide forage and habitat capable of supporting reasonable numbers of 819 mule deer with a forage demand of 840 AUMs.

Undetermined. The allotment includes of mule deer year-long range associated with the lower foothills of the Cherry Creek Range. It contains no crucial deer habitat. No habitat studies have been established to evaluate condition.

e. Facilitate big game movements by evaluating and modifying fences to Bureau standards if necessary.

Partially Met. To date, one fence has been evaluated for modification. No other fences have been identified or have been evaluated for modification in the North Butte Valley Allotment.

f. Protect, enhance, or develop one spring, seep, and/or wet meadow for its wildlife values.

Met. This objective has been met through the construction of the South Spring Exclosure in 1989. The exclosure has protected and enhanced South Spring.

g. Improve crucial deer winter habitat by cutting pinyon and juniper.

Not evaluated. No areas have been identified for cutting pinyon and juniper in the North Butte Valley Allotment.

Odgers Allotment

a. Improve ecological status on the north and south portions of the allotment.

Not met. Ecological status in the northern portion of the allotment remained in early seral. Long-term trend data indicates that only one of the three key species at the key area has increased in the plant community. Ecological status and trend data were not collected at the key areain the southern portion of the allotment during the evaluation period.

b. Improve livestock distribution in the northwest portion of the allotment.

Not met. Use pattern mapping data indicates that livestock distribution in the northwest portion of the allotment has not improved. Projects proposed in the RPS designed to attain this objective have not been constructed. Significant livestock use continues to occur in the eastern and southern portions of the allotment around perennial water sources. There is no water available in the northwest portion of the allotment to improve livestock distribution.

c. Manage rangeland habitat to provide for wildlife (deer 196 AUMs).

Not evaluated. This allotment contains a small amount of deer winter habitat on the flanks of the Medicine Range and deer year-long habitat near Odgers Creek in the southern portion of the allotment. No crucial deer habitat or habitat condition studies exist for the Odgers Allotment.

d. Facilitate big game movements by fence modification, if necessary.

Met. The majority of the fences within this allotment were built to Bureau specifications to facilitate big game movements. No additional fences have been identified for modification.

e. Improve 2 springs to good or better condition.

Met. Odgers Creek Exclosure No.1 (JDR# 5764), which encompasses two springs, was completed in 1989.

f. Improve riparian/stream habitat to good or better condition on Taylor Creek and Odgers Creek (4.6 miles)

Taylor Creek

Met. Taylor Creek has an exclosure (0.5 miles) at the bottom of perennial flow just inside the Odgers Allotment boundary. The condition has been excellent since the exclosure was built. There is no data on the condition on the perennial reach (0.25 miles) below the exclosure.

Odgers Creek

Not Met. Riparian/stream survey data indicates that Odgers Creek is in poor condition with a static trend. Proper functioning condition assessments indicate the creek is nonfunctional or functioning-at-risk with a downward trend.

g. Drill 2 wells within the Odgers Allotment.

Not Met. No wells have been drilled in the Odgers Allotment.

h. Seed 2,000 acres to crested wheatgrass.

Not met. This project has not been completed.

i. Prepare and implement an AMP.

Not Met. No AMP has been prepared for the Odgers Allotment.

Bald Mountain Allotment

a. Maintain present ecological status and trend.

Met. Ecological status increased from 35% (mid-seral) in 1988 to 58% (late seral) in 1999. Frequency on AGSP and PUTR2 has decreased. Overall trend at the key area is stable to upward.

b. Provide forage to sustain 1,173 AUMs for livestock grazing.

Not met. The active grazing preference for this allotment is 1,173 AUMs; however, the average actual use in the allotment is 960 AUMs. Existing monitoring data indicates that 1,173 AUMs are not available for livestock grazing.

c. Evaluate monitoring data to reinstate 903 AUMs of suspended non-use when they become permanently available.

Not met. Since the RPS was issued, there has been no evaluation of monitoring data until this allotment evaluation. This evaluation will determine if suspended non-use AUMs will become available.

d. Improve livestock distribution.

Not met. Use pattern mapping data indicates that livestock distribution has not improved during the evaluation period. Livestock use continues to concentrate in the vicinity of the well in the eastern portion of the allotment.

e. Manage rangeland habitat to provide for wildlife (deer 94 AUMs).

Met. The allotment consists of mule deer winter and summer habitat. The winter habitat occurs on the flanks of the Medicine Range. The summer habitat surrounds the High Bald Peaks area. No mule deer crucial habitat exists in the allotment. One key area (DW5T-I 009) has been established within mule deer winter range. The data indicates habitat condition is good, with upward trend. A Cole browse study completed in 1996 indicates an improvement in bitterbrush age class structure and form class.

f. Facilitate big game movements by fence modification, if necessary.

Not evaluated. No fences have been identified for modification in the Bald Mountain Allotment.

g. Implement a grazing system

Not Met. No grazing system has been implemented for the Bald Mountain Allotment.

Maverick/Ruby #9 Allotment

a. Improve livestock distribution in the Maverick Range.

Not met. Use pattern mapping data indicates livestock distribution in the Maverick Range is poor. This is due to the lack of water in the range and heavy use by wild horses of key area 4323-03 (Cherry Springs).

b. Improve ecological status of white sage and saltbush winter use areas in Ruby Wash and Ruby Valley.

Met. Key area 4323-01 (Minnow Well) improved from 42% (mid-seral) in 1988 to 59% (late- seral) in 1998. Key area 4323-02 (Ruby Wash) improved from 38% (mid-seral) in 1988 to 73% (late seral) in 1998.

c. Improve ecological status in the Maverick Range.

Partially met. Ecological status at key area 4323-03 (Cherry Springs) has improved from 42% in 1988 to 49% in 1999. However, the site remains in mid-seral stage.

d. Periodically evaluate the monitoring data for the allotment to reinstate suspended non-use when they become permanently available.

Not met. Since the RPS was issued there has been no evaluation of monitoring data until this allotment evaluation. This evaluation will determine if suspended non-use AUMs will become available.

e. Improve or maintain all seasonal big game habitat in the Maverick/Ruby #9 Allotment to good or excellent condition (deer 1,600 AUMS).

Met. This allotment contains mule deer summer habitat associated with the higher elevations of theMaverick Springs Range. No crucial habitat exists in the allotment. One habitat condition study (DS-6-T-01) has been established representing approximately 10,000 acres of summer habitat. Data from this study indicates habitat condition is good, with an upward trend.

f. Facilitate big game movements by modifying existing fences to Bureau standards, where necessary.

Not evaluated. No fences have been identified to be modified.

g. Drill 3 wells within the Maverick/Ruby #9 Allotment.

Not met. No water wells have been drilled in the Maverick/Ruby #9 Allotment during the evaluation period.

h. Seed 2,500 acres to crested wheatgrass.

Not met. No seedings have been completed.

2. Key Area Objectives

Key area objectives and conclusions are presented in the following tables.

Table 33.	Table 33. Currie Allotment, Key Area Utilization Objectives					
Key Area and Pasture	Key Species	Utilization Objective	Conclusion/Rationale			
CU-01 Currie Flats	ORHY STCO4 EULA5	50% 50% 50%	Met. Combined utilization by wild horses and livestock on ORHY, EULA5, and STCO4 did not exceed 50% during the evaluation period.			

Table 33.	Table 33. Currie Allotment, Key Area Utilization Objectives					
Key Area and Pasture	Key Species	Utilization Objective	Conclusion/Rationale			
CU-02 Mustang Well	ORHY EULA5	50% 50%	Not met. During the evaluation period, utilization by wild horses and livestock on ORHY was exceeded in 1992, 1994, 1995, 1997, and 1998. Utilization on EULA5 was exceeded in 1994 and 1995.			
CU-09 Currie Gardens	ORHY SIHY ATCO	50% 40% 20%	Not met. During the evaluation period, utilization by wild horses and livestock on ORHY was exceeded in 1988, 1989, and 1998. Utilization on SIHY was exceeded in 1987.			
CU-16 Calf Cyn/L. McDermid Cyn.	AGSP PUTR2	50% 25%	Partially met. During the evaluation period, utilization by livestock on PUTR2 was exceeded in 1987, 1990, 1992, and 1995.			
CU-17 U. McDermid Cyn.	AGSP STLE4 PUTR2	50% 50% 25%	Not met. During the evaluation period, utilization by livestock on PUTR2 was exceeded in 1987, 1989, 1990, 1991, 1994, and 1997. Utilization on AGSP was exceeded in 1989, 1991, and 1997.			
CU-22 Cottonwood Cyn.	AGSP STCO3	50% 50%	Not met. During the evaluation period, utilization by livestock and wild horses on AGSP was exceeded in 1987, 1989, 1991, and 1993. Utilization on STCO3 was exceeded in 1988, 1989, and 1993.			
CU-28 Twin Springs Sdg.	AGCR	65%	Partially met. Utilization exceeded 65% once in 1992. Utilization objectives were achieved in all other years during the evaluation period.			
CU-29 Twin Springs Sdg.	AGCR	65%	Partially met. Utilization has not exceeded 65% the in the last seven years. The objective of 65% utilization was exceeded in 1988 and 1992.			
CU-30 Twin Springs Sdg.	AGCR	65%	Met. Utilization did not exceed 65% during the evaluation period.			
CU-31 McDermid Sdg.	AGCR	65%	Partially met. Utilization exceeded 65% once in 1992. Utilization objectives were achieved in all other years during the evaluation period.			

Table 33. Currie Allotment, Key Area Utilization Objectives					
Key Area and Pasture	Key Species	Utilization Objective	Conclusion/Rationale		
CU-32 McDermid Sdg.	AGCR	65%	Partially met. Utilization exceeded 65% in 1992. Utilization objectives were achieved in all other years during the evaluation period.		

Table 34. Currie Allotment, Key Area Ecological Status & Production Objectives										
Key Area and Pasture	Objective	Conclusion/Rationale								
CU-01 Currie Flats	Improve and/or maintain ecological status	Not met. The ecological status at this key area decreased from 61% (late seral) in 1986 to 48% (mid-seral) in 1989 and 47% (mid-seral) in 1997. Trend from 1989 to 1997 is static to upward, however a significant increase in the shrub component contributed to decrease in ecological status over the evaluation period.								
CU-02 Mustang Well	Improve and/or maintain ecological status	Met. The ecological status at this key area decreased from 37% (mid-seral) in 1986 to 30% (early mid-seral) in 1989 and increased to 71% (late seral) in 1997. Increases in ORHY and EULA5 contributed to the increase in ecological status from 1989 to 1997. Current trend at this key area is upward.								
CU-09 Currie Gardens	Improve to late seral	Met. The ecological status at this key area increased from 30% (early mid-seral) in 1986 to 48% (mid-seral) in 1989 and 52% (late seral) in 1997.								
CU-16 Calf Cyn/L. McDermid Cyn.	Improve ecological status	Not met. The ecological status at this key area decreased from 38% (mid-seral) in 1986 to 29% (mid- seral) in 1989 and increased to 35% (mid-seral) in 1997. Grasses and shrubs increased from 1989 to 1997 at the key area, however, the seral stage remains in mid-seral. Trend from 1989 to 1997 is upward.								

Table 34. Currie Allotment, Key Area Ecological Status & Production Objectives									
Key Area and Pasture	Objective Conclusion/Rationale								
CU-17 U. McDermid Cyn.	Improve ecological status	Not met. The ecological status at this key area decreased from 38% (mid-seral) in 1986 to 29% (low-mid-seral) in 1989 and increased to 46% (mid-seral) in 1997. The grass component increased from 1989 to 1997, however the key area remains at mid-seral. Trend is upward.							
CU-22 Cottonwood Cyn.	Improve ecological status	Not met. The ecological status at this key area decreased from 44% (mid-seral) in 1986 to 36% (low-mid-seral) in 1989 and decreased further to 33% in 1997. Increases in mountain big sagebrush and decreases in the grass component have contributed to low-mid seral ecological status and downward trend.							
CU-28 Twin Springs Sdg.	Maintain production of 410 lbs/ac.	Met. Current data shows that 606 lbs per acre dry weight production of AGCR is available for livestock at this key area. Production of crested wheatgrass has increased from 320 lbs/ac in 1989 to 606 lbs/ac. in 1997.							
CU-29 Twin Springs Sdg.	Maintain production of 410 lbs/ac.	Met. Current data shows that 467 lbs per acre dry weight production of AGCR is available for livestock at this key area. Production of crested wheatgrass has increased from 385 lbs/ac in 1989 to 467 lbs/ac. in 1997.							
CU-30 Twin Springs Sdg.	Maintain production of 410 lbs/ac.	Met. Current data shows that 441 lbs per acre dry weight production of AGCR is available for livestock at this key area. Production of crested wheatgrass has increased from 273 lbs/ac in 1989 to 441 lbs/ac. in 1997.							
CU-31 McDermid Sdg.	Maintain production of 410 lbs/ac.	Met. Current data shows that 1,228 lbs per acre dry weight production of AGCR is available for livestock at this key area. Production of crested wheatgrass has increased from 774 lbs/ac in 1989 to 1,228 lbs/ac. in 1997.							

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Key Area and Pasture	Objective	Conclusion/Rationale
CU-32 McDermid Sdg.	Maintain production of 410 lbs/ac.	Met. Current data shows that 1,110 lbs per acre dry weight production of AGCR is available for livestock at this key area. Production of crested wheatgrass has increased from 481 lbs/ac in 1989 to 1,110 lbs/ac. in 1997.

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Table 35. North Butte Valley Allotment, Key Area Utilization Objectives										
Key Area and Pasture	Key Species	Utilization Objective	Conclusion/Rationale							
L001 Lower Sdg	AGCR	60%	Partially met. Utilization levels exceeded 60% once in 1991. Utilization objectives were achieved in all other years during the evaluation period.							
L002 Palomino Sdg.	AGCR	60%	Met. Utilization levels have not exceeded 60% during the evaluation period.							
L003 South	ELCI2 ELTR3	50% 50%	Partially met. Utilization exceeded 50% on ELCI2 and ELTR3 once in 1991. Utilization objectives were achieved in all other years during the evaluation period.							
L004 North	ELCI2 SPAI3	50% 50%	Partially met. Utilization exceeded 50% on ELCI2 and SPAI3 once in 1991. Utilization objectives were achieved in all other years during the evaluation period.							
L005 Spring	ELCI2	50%	Partially met. Utilization exceeded 50% on ELCI2 once in 1991. Utilization objectives were achieved in all other years during the evaluation period.							
L006 Juniper Sdg.	AGCR	60%	Partially met. Utilization exceeded 60% on AGCR once in 1991. Utilization objectives were achieved in all other years during the evaluation period.							

Table 36. North Butte Valley Allotment, Key Area Ecological Status & Production Objectives									
Key Area and Pasture	Objective	Conclusion/Rationale							
L001 Lower Sdg	Attain production of 3.0 ac./AUM of AGCR	Met. Current data shows that 1,058 lbs. per acre dry weight (1.2 acres per AUM) is available for livestock at this key area. Production of crested wheatgrass has increased from 398 lbs/ac. In 1989 to 1,058 lbs/ac. in 1997							
L002 Palomino Sdg.	Attain production of 3.0 ac./AUM of AGCR	Met. Current data shows that 609 lbs. per acre dry weight (2 acres per AUM) is available for livestock at this key area. Production of crested wheatgrass has increased from 560 lbs/ac. In 1989 to 609 lbs/ac. in 1997.							
L003 South	Improve to late seral	Met. The ecological status at this key area increased from 46% (mid-seral) in 1987 to 73% (late seral) in 1997. The improvement in ecological status is due to an increase in ELTR3							
L004 North	Maintain late seral	Not met. The ecological status at this key area decreased from 55% (late seral) in 1987 to 40% (mid-seral) in 1997. SPAI and ELCI2 decreased while SAVE4 and CHNA increased from 1988 to 1997.							
L005 Spring	Improve to late seral	Not met. The ecological status at this key area decreased from 63% (late seral) in 1987 to 20% (early seral) in 1997. The change in ecological status is due to a decrease in ELCI2 and other grasses, and increases in ARTR and CHNA.							
L006 Juniper Sdg.	Attain production of 3.0 ac./AUM of AGCR	Met. Current data shows that 662 lbs. per acre dry weight (1.9 acres per AUM) is available for livestock at this key area.							

Table 37. Bald Mountain and Odgers Allotments, Key Area Utilization Objectives								
Key Area and Pasture	Key Species	Utilization Objective*	Conclusion/Rationale					
1009 Bald Mt. Allotment	1009AGSP55%Bald Mt.PUTR245%AllotmentAllother45%		Not met. Utilization levels exceeded 55% on AGSP in 1990 and 1992. Utilization levels exceeded 45% on PUTR2 6 of 10 years measured.					
1010 DIST Odgers Allotment SPAI AGSM		55% 55% 55% 55%	Met. Utilization levels have not exceeded 55% during the evaluation period.					

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Table 38.	Table 38. Maverick/Ruby #9 Allotment, Key Area Utilization Objectives								
Key Area and Use Area	Key Species	Utilization Objective	Conclusion/Rationale						
4323-01 Minnow Well	ORHY SIHY ARSP5 EULA5	60% ¹ 50% ¹ 50% ¹ 50% ¹	Partially met. Utilization was exceeded once in 1992. Utilization objectives were achieved in all other years during the evaluation period.						
4323-02 ORHY Ruby Wash EULA5		60% ¹ 50% ¹	Not met. Utilization on EULA5 has exceeded 50% in 1993, 1995, 1996, and 1998.						
4323-03 Cherry Springs	AGSP STTH2	55% 55%	Partially met. Utilization was exceeded on both key species once in 1990. Utilization objectives were achieved in all other years during the evaluation period.						

¹as outlined in the Nevada Rangeland Monitoring Handbook for utilization on shrubs and perennial grasses.

Table 39. Maver	Table 39. Maverick/Ruby #9 Allotment, Key Area Ecological Status & Trend Objectives								
Key Area and Use Area	Objective	Conclusion/Rationale							
4323-01 Minnow Well	1. Increase the frequency of ORHY to 65%.	1. Met. Frequency increased from 59% in 1983 to 89% in 1998.							
	2. Increase the ecological status of the Silty 8-10" by 7%	2. Met. Ecological status has increased from 42% (mid-seral) in 1983 to 59% (late seral) in 1998. ORHY and EULA5 increased in the plant community.							
4323-02 Ruby Wash	 Increase the frequency of EULA5 and ORHY. Increase the ecological status of the Course Silty 6-8" by 7% 	1. Partially met. The percent frequency on ORHY increased from 40.5% in 1988 to 58.5% in 1998, while EULA5 decreased from 56% in 1988 to 45% in 1998.							
	by 7 /8.	2. Met. Ecological status has increased from 38% (mid-seral) in 1988 to 73% (late seral) in 1997. ORHY and EULA5 composition and production is consistent with site potential.							
4323-03 Cherry Springs	 Increase the frequency of AGSP and STTH2. Increase the ecological status of the loamy 10-12" by 6%. 	 Met. The percent frequency on AGSP increased from 5.5% in 1988 to 34% in 1998, while STTH2 increased from 3% in 1988 to 10% in 1998. Partially met. Ecological status at key area 4323-03 increased from 44% in 1988 to 49% in 1999. AGSP and forbs appropriate for the site have increased in the plant community. The shrub component has maintained its composition. 							

3. Cherry Creek Habitat Management Plan Objectives

Attainment or non-attainment of these objectives is addressed under conclusions for allotment specific RPS and key area objectives listed above.

- a. Improve to or maintain in at least good condition all deer use areas in the Cherry Creek Resource Conflict Area (RCA) by 2000.
- b. Increase the combined percentage of seedlings and young plant in the Cherry

Creek bitterbrush population to 10% by 2000.

- c. Achieve annual utilization of the Cherry Creek bitterbrush population which does not exceed 45% of twig length by 2000 (maximum of 25% for livestock).
- d. Maintain or increase the foliar coverage of the Cherry Creek bitterbrush population by 2000.
- e. Improve 1.5 miles of lower Taylor Creek from 36.9% to 48.0% of habitat optimum (30% improvement) within the short-term (by 1992). NOTE: The HMP objective was written for all of lower Taylor Creek. The specific objective for the Odgers Allotment should read: "Improve the riparian/stream habitat condition of 0.6 miles of lower Taylor Creek by a minimum of 30% (from 1980 baseline data) within the short-term (by 1992)."
- f. Improve 1.5 miles of lower Taylor Creek from 36% to at least 60% of habitat optimum (good condition) within the long-term (by 2000). NOTE: The HMP objective was written for all of lower Taylor Creek. The specific objective for the Odgers Creek should read: "Improve the riparian/stream habitat condition of 0.6 miles of lower Taylor Creek to good or better condition (60% or more of habitat optimum) in the long-term (by 2000).
- g. Complete one comprehensive study of the relict dace by 1992.
- h. Improve 8.5 miles of Odgers Creek from 32.4% to 42.1% of habitat optimum (30% improvement) within the short-term (by 1992). NOTE: The HMP objective was written for all of Odgers Creek. The specific objective for the Odgers Allotment should read: "Improve the riparian/stream habitat condition of 4.0 miles of Odgers Creek by a minimum of 30% (from 1980 baseline data) within the short-term (by 1992).
- i. Improve 8.5 miles of Odgers Creek from 32.4% to 60% of habitat optimum (30% improvement) within the short-term (by 1992). NOTE: The HMP objective was written for all of Odgers Creek. The specific objective for the Odgers Allotment should read: "Improve the riparian/stream habitat condition of 4.0 miles of Odgers Creek to good or better condition (60% or more of habitat optimum) in the long-term (by 2000).
- j. Improve 25 springs and wet meadows, presently in poor or fair condition, to good or excellent condition by 2000.
- 4. Wild Horse Management Objectives
- A. Wells Resource Management Plan Wild Horse Amendment Objectives
- 1. Manage wild horses within HMAs and to maintain a thriving, natural ecological balance consistent with other resource needs.

Partially met. Census data indicates that wild horses are being maintained within designated herd management area boundaries. Gathers have taken place in fall 1994,

summer 1997, and winter 1998-1999 in the Complex HMAs in an attempt to reach initial herd sizes as per the Wells RMP Wild Horse Amendment. However, the most recent census data indicates that the HMAs are again over initial herd size.

The conclusions of utilization and ecological status objectives for the complex indicate that desirable conditions associated with a thriving natural ecological balance are not being achieved throughout the complex. Utilization objectives for wild horses are not being achieved in the Maverick/Ruby #9 Allotment and winter use areas in the Currie Allotment. Combined use by livestock and wild horses in the Odgers Allotment has contributed to undesirable ecological status at the key area. Analysis of the data further suggests that a thriving natural ecological balance is being maintained in the remaining allotments in the complex.

The establishment of an AML within the HMAs through this allotment evaluation, should improve historic wild horse distribution problems and associated areas of over-utilization.

2. Combine portions of the wild horse herd areas where horses intermix between herd areas.

Met. Four HMAs have been delineated as per the Wells RMP Wild Horse Amendment and horses are managed in each HMA. The Cherry Creek Herd Area was combined into the Antelope Valley and Maverick-Medicine HMAs.

3. Delineate and manage wild horses in four HMAs as follows: Antelope Valley Herd Area (includes 44 percent of the former Cherry Creek herd area); Goshute Herd Area; Maverick-Medicine Herd Area (includes 56 percent of the former Cherry Creek herd area); and Spruce-Pequop Herd Area.

Met. Four HMAs have been delineated as per the Final Wells RMP Wild Horse Amendment and horses are managed in each HMA. Management currently consists of the reduction of horse numbers to initial herd size in each HMA and the maintenance of initial herd size until AML is established within the HMAs.

4. Remove sufficient wild horses to attain the initial herd size and maintain populations at a level which will maintain a thriving natural ecological balance consistent with other resource values.

Partially met. Evaluation of existing data indicates that some progress has been made toward the attainment of this objective. The Antelope Valley and Maverick-Medicine HMAs were gathered down to near initial herd size in fall 1994, summer 1997, and winter 1998-1999 (Antelope Valley HMA only). The most recent data indicates that the HMAs are over initial herd size. This evaluation process will analyze monitoring data and make a technical recommendation to establish an AML. A thriving natural ecological balance

should be attained within the Maverick/Medicine Complex with the maintenance of an AML; however, AML may be adjusted if future monitoring data shows a need.

5. Develop eight water sources to improve wild horse distribution, modify approximately one mile of existing fence so as not to impede wild-free roaming behavior, and construct approximately eighteen miles of new fence to prevent the return of wild horses to checkerboard land patterns.

Partially met. This objective has three separate parts and can be broken down into: Water Developments, Fence Construction, and Fence Modification.

Water Developments:

Not Met. The Wells RPS originally identified six waters to be developed for wild horses. One of these waters was identified for the Maverick/Ruby #9 Allotment: the Maverick water catchment. This catchment has not been constructed. The Wells RMP Wild Horse Amendment identified eight water sources to be developed and this objective supersedes the RPS objective. While the Amendment did not specifically identify the location of these additional waters, four sites are currently under review by staff specialists. However, none are in the Maverick/Ruby #9 Allotment. The feasibility and location of the water catchment originally identified in the RPS needs to be reexamined.

The development of critical springs to provide reliable year-long water should be a higher priority.

In conducting an inventory to either develop springs or construct other water sources for wild horses, an inventory of existing wire hazards around springs should be conducted. These wire hazards, especially old spring exclosures and wild horse traps, can cause extensive injuries and result in having to destroy animals that become entangled.

Fence Construction:

Does not apply. There are no checkerboard lands in the Maverick/Medicine Complex.

Fence Modification:

Met. Approximately one mile of fence along the northeast boundary of the Currie Allotment was modified in 1998 into a let-down fence.

6. The 1971 Wild Horse Herd Areas will continue to be maintained.

Met. The areas designated as herd areas in 1971 will continue to keep their status.

7. In areas grazed in common by wild horses and livestock, manage for an average of 10% use on key forage species by wild horses prior to entry by livestock on winter range (pre-livestock use).

Not met. In the Currie and Maverick/Ruby #9 Allotments, pre-livestock turn out utilization has exceeded the 10% objective six of the eight years monitoring data was collected.

Note: The Wells RPS identified allotment specific objectives for wild horses (i.e., the number of AUMs to be available to wild horses). These objectives were modified by the Wells RMP Wild Horse Amendment. The modified objectives are listed above.

B. Antelope Valley Herd Management Area Plan Objectives (applies to the Currie Allotment only)

1. Habitat Objectives

a. Vegetation

Manage for the most appropriate seral stages to provide for desired quantity, quality, and density of forage in order to meet the requirements of the wild horses and other foraging animals. In general, utilization levels will be maintained at approximately 45% on shrubs and 55% on grasses, in accordance with the recommended utilization levels in the Nevada Rangeland Monitoring Handbook (1984).

Partially Met. Evaluation of existing data indicates that some progress has been made toward attainment of the ecological condition and utilization objectives. A detailed discussion of this objective can be found in range key area objectives conclusions. The key areas in the Currie Allotment represent combined livestock and wild horse use.

b. Distribution and Water Availability

Improve distribution and provide water year-long for wild horses throughout the HMA where possible.

Not Met. To date no waters have been developed to improve the distribution of horses.

2. Wild Horse Objectives

a. Multiple Use

The objective in the Antelope Valley HMA is to maintain a healthy, viable population of wild horses in a thriving natural ecological balance with all other resources and users.

Not Met. While the data shows that the Antelope Valley HMA currently supports a healthy, viable population of wild horses, numbers are well over the initial herd size as outlined in the Wells RMP Wild Horse Amendment. This is not resulting in a thriving, natural, ecological balance with all other resources and users. When AML is established and achieved for each allotment within the Antelope Valley HMA, this objective will have been attained.

b. Appropriate Management Level (AML)

When the allotment evaluations are complete, total AML for the HMA will be determined. The number of horses will then be maintained within a range of \pm 15% of AML. As per the Strategic Plan for Management of Wild Horses and Burros, removals will be scheduled so that each HMA is gathered once every three years. AML will be maintained using one or more of the following options: periodic removals with no selectivity, selective removals targeting specific age groups, or fertility control.

Partially Met. Evaluation of existing data indicates that some progress has been made toward attainment of this objective. AML is set through the evaluation process and to date, three allotments have been evaluated and AML established.

There are ten allotments partially or completely within the Antelope Valley HMA. By the end of FY2000, AML will be determined for all of the allotments in the HMA.

c. Free-Roaming Characteristics

The wild horses within the Antelope Valley HMA will be managed in a manner that maintains their wild free-roaming characteristics.

Met. Wild horses within the Antelope Valley HMA are managed in a manner that maintains their wild free-roaming characteristics. This was accomplished by modification of problem fences and the construction of let-down type fence only within the HMA. The Spruce-Currie Allotment boundary fence has been modified to a let-down type fence to facilitate wild horse movements.

5. Resource Management Plan Forestry Objectives

a. Implement only those management actions that will improve and/or maintain the health, vigor and overall condition of the forested lands. All management actions will meet sustained yield mandates to provide a permanent source of wood products for future generations, while maintaining the biological and physical integrity of the forest.

Met. To date, all forest management projects have been designed and implemented to meet this objective. For example, the Christmas tree harvest is set up on a sustained yield harvest. Harvest levels are monitored and the commercial quota is adjusted in order to prevent the maximum allowable harvest from being exceeded.

b. Improve access and utilization of woodland product harvest areas to enhance understory vegetation, provide for public demand, and improve the health of the forest. **Partially Met.** Through the Cherry Creek 10-year sale plan, fifteen projects have been implemented on the Cherry Creek Range. The projects have been designed to thin overcrowded stands, reduce mistletoe infestation, enhance understory vegetation, provide forest products for the public, and improve watershed conditions.

c. Manage sites to improve Christmas tree production.

Not Met. Stand improvement projects specifically designed to improve Christmas tree production have not been implemented.

d. Reforest burns within five years if natural regeneration is unlikely.

Not Evaluated. New burns have not occurred in this area that would have required any reforestation.

6. <u>Standards for Rangeland Health Developed for the Northeastern Great Basin</u> <u>Area of Nevada.</u>

The attainment of these standards has been based on the analysis of available monitoring data within each allotment. Where the standard is not being met, significant progress and causal factor for the non-attainment of the standard are discussed.

a. Standard 1. Upland Sites:

Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.

Currie Allotment

Met. The analysis of cover (refer to Table 17), utilization and ecological status data indicates that sufficient ground cover and adequate vegetation are present to ensure proper soil infiltration and permeability rates appropriate to ecological sites in the following pastures: Currie Flats, Mustang Well, Currie Gardens and the crested wheatgrass seedings. During the evaluation period, utilization and ecological status and/or production objectives have been achieved at the key areas in these pastures.

This standard is being partially met in the Calf Canyon/Lower McDermid, Upper McDermid and Cottonwood Canyon Pastures in the Currie Allotment. Utilization and ecological status objectives have either not been met or partially met in these pastures. Analysis of the vegetative cover data at the key areas indicate that basal and canopy cover is appropriate for each ecological site as defined by the Natural Resources Conservation Service site description. Utilization and ecological status data indicate that this standard is not being met, however, cover studies show that sufficient ground cover is present to at least meet the minimum criteria needed to attain this standard.

North Butte Valley

Some progress is being made toward attainment of this standard. Evaluation of utilization, ecological status and cover data indicates that this standard is being met in the South Pasture, North Pasture and the crested wheat seedings.

This standard is not being met in the Spring Pasture. The ecological status at the key area is early seral (20%). Shrubs, primarily big sage and rabbitbrush, have come to dominate the plant community. The understory currently lacks appropriate herbaceous plants required to stabilize soils and ensure proper soil infiltration and permeability rates. Existing data shows that vegetative cover is 17.4 percent at the key area. The appropriate range for vegetative cover according to the ecological site description is between 15 and 30%.

Utilization data indicates that livestock grazing is not a causal factor in the non-attainment of this standard in the Spring Pasture. Combined utilization of key forage plants have exceeded objective levels only once during the evaluation period. Livestock grazing occurs after seed ripe each year when grazing impacts to herbaceous vegetation is minimal. Much of the lower elevation range sites in the allotment are dominate by rubber rabbitbrush and has achieved a steady state. Changes in plant community composition may be possible by physically altering the shrub component through herbicide or mechanical means.

Odgers Allotment

Some progress is being made toward attainment of this standard. Key area ecological status is low seral (8%). The plant community is dominated by shrub species and the understory currently lacks appropriate herbaceous species required to stabilize soils and ensure proper soil infiltration and permeability rates. However, ecological site inventory data indicates that the majority of the allotment is in a mid to late seral stage and is meeting this standard.

Combined utilization by livestock and wild horses have not exceeded the utilization objective of 55% during the evaluation period and are not a causal factor in the non-attainment of this standard at the key area.

Bald Mountain Allotment

Met. Data indicates that this standard is being met. Cover and ecological status data shows that sufficient ground cover and adequate vegetation are present to ensure proper soil infiltration and permeability rates appropriate to ecological sites within the allotment.

Maverick/Ruby #9 Allotment

Met. Data indicates that this standard is being met. Cover and ecological status data

shows that sufficient ground cover and adequate vegetation are present to ensure proper soil infiltration and permeability rates appropriate to ecological sites within the allotment.

b. Standard 2. Riparian and Wetland Sites:

Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

The waters of the Maverick/Medicine Complex meet state water quality criteria as unclassified waters. Ocular assessments made during routine monitoring of the allotments satisfied the minimum water quality standards applicable to all waters of the State of Nevada. The minimum standards can be found under the NRS 445A.121 "Standards Applicable to All Waters".

Currie Allotment

Some progress is being made toward attainment of this standard. It has been determined that this standard is not being met for McDermid and Cottonwood Creeks. Proper functioning condition assessments indicate that these riparian systems are either nonfunctional or functioning-at-risk with downward trends. Riparian stream habitat survey data indicates that some progress is being made on the upper reaches of McDermid Creek. The upper reach of Calf Canyon Creek was rated as being in PFC.

In the Currie Allotment, eleven springs and/or spring complexes were assessed for Proper Functioning Condition. In the Goshute Lake pasture, two springs were rated as being in PFC and one spring was rated as being non-functional. Two springs were assessed in the Upper and Lower McDermid Canyon pastures. Both springs were rated as being in PFC. In the Cottonwood Canyon pasture, three springs and/or spring complexes were assessed. Two of the springs rated as functional at risk with a downward trend and the third was rated as functional at risk with and upward trend.

In the Currie Allotment fifteen additional springs are enclosed by fences and were not assessed. The springs which were assessed, are a representative sample of all the springs in each pasture.

Livestock have been determined to be a causal factor in the non-attainment of this standard for Cottonwood, Calf, and McDermid Canyons. Use pattern mapping data shows heavy to severe use by livestock in the riparian areas located in the Cottonwood and McDermid Canyon areas. Do to the steep topography of the canyons and the season of use, livestock tend to congregate around the riparian areas.

North Butte Valley Allotment

Met. There are two riparian areas on public land in the NBV Allotment. South spring is enclosed by a fence and the other is a man made horizontal well (called Side Hill spring) which flows into a dirt tank. Since South spring is enclosed, significant progress towards

the attainment of this standard is to be expected.

Odgers Allotment

Not Met. Within this allotment, the riparian standard is being met on Taylor Creek (.5 miles). A riparian exclosure was built along this portion of the stream. Stream survey data shows the stream to be in excellent condition. A portion of Odgers Creek (.75 miles) is enclosed by a fence. It has been determined that this objective is not being met for the non fenced portion of Odgers Creek (5.25 miles). Proper functioning condition assessments indicate that these riparian systems within the Odgers Allotment are either nonfunctional or functioning-at-risk with downward trend. The 1998 riparian stream habitat surveys indicate the low end of fair riparian habitat condition with variable trend since 1980.

In the Odgers, three springs and/or spring complexes were assessed for Proper Functioning Condition. Two springs were rated as non functional with downward trend and the third was rated as was rated as being non-functional.

There are two springs enclosed by fences in the Odgers Allotment. The springs which were assessed, are a representative sample of all the springs in each pasture.

Livestock have been determined to be a causal factor in the non-attainment of this standard. Use pattern mapping data shows heavy to severe use by livestock in the riparian areas located in the vicinity of Odgers Creek. Due to the season long grazing, lack of additional water, livestock use is highest on the riparian areas.

Bald Mountain Allotment

N/A. This standard does not apply because there are no riparian areas within this allotment.

Maverick/Ruby #9 Allotment

Not Met. It has been determined that this objective is not being met for the springs in this allotment. Proper functioning condition assessments indicate nonfunctional conditions at all three springs (one, Cherry Spring is a well with a trough). There are no other riparian areas within this allotment.

Livestock and wild horses have been determined to be the causal factor in the nonattainment of this standard. Use pattern mapping data shows heavy use around live waters. Census data shows a high concentration of horse numbers around springs in the summer months.

c. Standard 3. Habitat:

Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover,

and living space for animal species and maintain ecological processes. Habitat conditions meet life cycle requirements of threatened and endangered species.

Currie Allotment

Some progress is being made toward attainment of this standard. Stream survey data indicates that some progress is being made on the upper reaches of McDermid Creek. It has been determined in Standard #2 that this standard is not being met for other parts of McDermid and Cottonwood Creeks and many of the springs in this allotment. Riparian stream and spring habitats do not provide the requirements for this standard. Suitable riparian habitat in these areas is not adequate for fish species, blue grouse, sage grouse, summering deer, and non-game wildlife. The present condition of these riparian areas does not promote the maintenance of ecological processes.

Big game habitat studies indicate that crucial winter habitat is in poor condition. However, ecological status and an upward trend indicate that some progress is being made toward this standard in the Upper McDermid Canyon pasture. Summer mule deer habitat and antelope winter habitat in the Currie allotment is in fair condition. Poor forage diversity is the limiting factor for antelope habitat, however the shrub component is satisfactory for sustaining winter use by antelope. Ecological status and an upward trend data indicate that some progress is being made toward this standard in the Mustang Well and Currie Gardens pastures.

Ecological status, ESI, trend, and utilization data indicate that this standard is not being met at upland key areas in the Cottonwood and Calf/Lower McDermid Canyon Pastures. Big game studies revealed that mule deer habitat is in poor condition in the Lower McDermid Canyon pasture. Furthermore, a downward trend in the condition of big game habitat in this pasture is evident by the loss of bitterbrush seedlings and the reduction of bitterbrush cover over the evaluation period.

Utilization data, use pattern mapping and season of use by livestock indicate that livestock are a causal factor in the non-attainment of this standard.

North Butte Valley Allotment

Some Progress is being made toward attainment of this standard. Data indicates that this standard is not being met in the Spring Pasture. The ecological status at the key area is low seral and the plant community is dominated by shrub species. The under story currently lacks appropriate herbaceous species needed to achieve the requirements of this standard. Ecological Site Inventory data indicates that some areas within the Spring Pasture which do not receive are currently meeting this standard.

There are no mule deer studies and only fair habitat conditions for Antelope in the NBV allotment. Utilization data, as well as livestock management practices, indicate that livestock management and wild horse use are appropriate to ensure the attainment of
resource objectives. Livestock and wild horses are not a causal factor in the nonattainment of this standard.

It is believed that the lack of frequent flooding has resulted in a change to a more shrub dominated site within the Spring Pasture. A large portion of this pasture is a saline bottom which should be dominated by a variety of herbaceous grass appropriate for the site. Historically, a large portion of this pasture was subject to annual flooding and high soil moisture content associated with runoff. Prior to the evaluation period, private land owners have restricted water via flood gates on private land. This lack of flooding has allowed for changes from a herbaceous dominated plant community to more shrub dominated community.

Odgers Allotment

Not met. It has been determined in Standard #2 that Odgers Creek and the majority of the springs in this allotment are either nonfunctional or functioning-at-risk with downward trends. Relict dace, a NV-BLM sensitive species inhabits Odgers Creek. Riparian data indicates that site characteristics on Odgers Creek are not adequate to provide the minimum requirements of this standard. Ecological status at the upland key area is low seral. The plant community is dominated by rabbitbrush while the understory lacks appropriate herbaceous species needed to meet this standard.

Livestock grazing management practices as well as wild horse use are a causal factor in the non-attainment of this standard. Although no habitat conditions were established for wildlife, use pattern mapping, utilization, trend data and riparian stream survey data indicate that no progress is being made toward the attainment of this standard.

Bald Mountain Allotment.

Met. Evaluation of existing trend, ecological status, and ESI data indicates that this standard is being met in the Bald Mountain allotment. Mule deer winter habitat is in good condition on the allotment. Big game studies denote improvement in age class structure and form class of bitterbrush. Ecological status at the key area is late seral with a stable to upward trend. ESI data show that approximately 96% of the allotment is in mid seral or better.

Maverick/Ruby #9 Allotment

Some progress has been made toward attainment of this standard. It has been determined in the Standard #2 assessment that the springs in this allotment are either nonfunctional or functioning-at-risk with downward trend. Riparian data indicates that site characteristics at Tick and Gardner Springs are not adequate to provide the minimum requirements of this standard.

Ecological status at key areas and ecological site inventory data indicate that this standard is being met in the uplands. The ecological status at the winter use areas is late

seral with either an upward trend or stable to upward trend. The ecological status at the key area at Cherry Spring is mid seral with a stable to upward trend.

Antelope habitat studies indicate that antelope winter habitat is in poor condition due to the lack of water and poor forage diversity. The habitat study area is dominated by winterfat and other desirable salt desert shrub species. Mule deer summer habitat is in fair condition.

Utilization and grazing impacts by livestock and wild horses on Tick and Gardner indicate that livestock and wild horses are a causal factor in the non-attainment of this standard. The remainder of the allotment is either achieving significant progress towards the attainment of the standard or is meeting the standard.

d. Standard 4. Cultural Resources:

Land use plans will recognize cultural resources within the context of multiple use.

Based on evaluation of actions taken within the Maverick/Medicine Complex, this standard has been met. All range improvements that cause surface disturbance have been subject to cultural resources review and modification by BLM or contract archeologists, as required by standard operating procedure specified in the Wells RMP Record of Decision.

VI. TECHNICAL RECOMMENDATIONS

1. Establish the total number of AUMs of permitted use and appropriate management level for wild horses for the Maverick/Medicine Complex as follows:

a. Currie Allotment

Table 41. Currie Allo	otment - Propose	d Livestock AUMs	and Wild Horse	AML	
Pasture	Pre-Evaluation (Capacity	Carrying	Post-Evaluatio	on Desired acity (CC)	Total Post- Evaluation CC
	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs) ¹	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)
COTTONWOOD UNI	Т				
Mustang Well	913	Initial stocking	638	39*	677
Currie Gardens	554	Horses was not	586	183	769
Cottonwood Canyon	720	established by pasture.	450	72	522
Twin Springs Seeding	540	puoluio	726	0	726
Total (Cottonwood Unit)	2,727		2,400	294	2,694
MCDERMID UNIT					
FFR	51	Initial stocking	51	0	51
Currie Flats	454	Horses was not	454	0(42)**	454
Currie Hills	101	established by pasture.	101	0 (228)**	101
Goshute Lake	467		539	114*	653
Calf/Lower McDermid Cyn.	384		369	20	389
Upper McDermid Cyn.	619	a may an	452	0	452
Dry Canyon	101		101	0	101
McDermid Seeding	659		1,037	52	1,089
Total (McDermid Unit)	2,642		3,104	186	3,290
Total (Currie Allot.)	5,369	718	5,504	480	5,984

¹ Initial herd size for the Antelope Valley HMA is 299 horses or 3,588 AUMs. 20% of the horses in the Antelope Valley HMA use the Currie Allotment for a total of 718 AUMs.

* AML based on 10% pre-livestock utilization for wild horses as established in the Wells RMP Wild Horse Amendment.

** AML set at 0 AUMs since these pastures are being proposed as horse free (refer to Technical Recommendation #3 pg.84).

Rationale: In the Currie Allotment the carrying capacity for livestock in the Currie Flats, Currie Hills, and Dry Canyon pastures will remain as identified in the Currie AMP. There is insufficient data to modify carrying capacity for these pastures.

The carrying capacity for the Currie Allotment was derived by evaluating utilization-actual use data from 1987-1999. By adjusting recorded utilization to objective levels with use of the stocking rate formula, a carrying capacity was determined for each year that data was recorded (refer to Appendix 2 for carrying capacity calculations).

The carrying capacity for livestock in the Mustang Well pasture was determined to be 638 AUMs, a reduction of 275 AUMs. The evaluation of existing data collected indicates that although utilization objectives are not being met, long term objectives and standards for rangeland health are being met for this pasture. The total carrying capacity for the Mustang Well pasture would be set 677 AUMs of which 39 AUMs would be allocated to wild horses. Adjustments in livestock carrying capacity may be made when monitoring data indicates additional AUMs are available upon the attainment of long term objectives (see Section V. Conclusions).

The carrying capacity analysis indicates that 769 AUMs are available for livestock and wild horses in the Currie Gardens pasture. The evaluation of existing data collected indicates that although utilization objectives are not being met, long term objectives and standards for rangeland health are being met for this pasture. 39 AUMs would be allocated to wild horses, while livestock carrying capacity would increase from 554 AUMs to 586 AUMs.

The total carrying capacity for livestock and wild horses in the Cottonwood Canyon pasture was determined to be 522 AUMs. The evaluation of existing data collected indicates that utilization objectives, long term objectives, big game habitat objectives, and standards for rangeland health are not being met for this pasture. Therefore, the livestock carrying capacity for the Cottonwood Canyon pasture would be adjusted to 450 AUMs while 72 AUMs would be allocated to wild horse use.

The carrying capacity analysis indicates that 769 AUMs are available for livestock and wild horses in the Twin Springs Seeding pasture. The evaluation of existing data indicates that although, utilization objectives being partially met, long term production objectives and standards for rangeland health are being met for this pasture. Therefore, the total carrying capacity for the Twin Springs pasture would be adjusted from 540 AUMs to 726 AUMs total use. No AUMs are allocated to wild horses in this fenced pasture.

The carrying capacity for the Calf/Lower McDermid Canyon pasture was determined to be 389 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being met, long term objectives, big game habitat objectives, riparian objectives and standards for rangeland health are not being met for this pasture.

Therefore, the livestock carrying capacity for the Calf/Lower McDermid Canyon pasture would be adjusted to from 384 AUMs 369 AUMs. A total of 20 AUMs would be allocated to wild horse use in the pasture.

The total carrying capacity for livestock and wild horses in the Upper McDermid Canyon pasture was determined to be 452 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being met, long term objectives, big game habitat objectives, riparian objectives and standards for rangeland health are not being met for this pasture. Therefore, the livestock carrying capacity for the Upper McDermid Canyon pasture would be adjusted from 619 AUMs to 452 AUMs. No AUMs are allocated to wild horses in this pasture.

The carrying capacity analysis indicates that 1,089 AUMs are available for livestock and wild horses in the McDermid Seeding pasture. The evaluation of existing data collected indicates that although utilization objectives are being partially met, long term objectives and standards for rangeland health are being met for this pasture. Therefore, the livestock carrying capacity for the McDermid Seeding pasture would be adjusted from 659 AUMs to 1,037 AUMs. A total of 52 AUMs would be allocated to wild horse use in the pasture.

The Antelope Valley HMA wild horse initial herd size was established at 299 horses x 12 months = 3,588 AUMs, as per the Wells RMP Wild Horse Amendment as amended by the Spruce FMUD. Census data indicates that 20% of the horses in the Antelope Valley HMA utilize the Currie Allotment ($20\% \times 3,588$ AUMs = 718 AUMs). 718 AUMs represent 13% of the total pre-evaluation permitted use (718 AUMs / 6,254 AUMs = 12%), therefore wild horses were given 12% of the post-evaluation carrying capacity AUMs. These AUMs were proportioned in those pastures which receive wild horse use based on aerial census data.

The 10% pre-livestock utilization objective for combined winter use areas applied to the Mustang Well, Currie Flats, Currie Hills, and a portion of the Goshute Lake pastures. Pre-livestock utilization data was collected from 1994 to 1998. Census data has shown a great amount of movement between the fore-mentioned pastures, therefore utilization was averaged between key areas in the Mustang Well, Currie Flats, and Goshute Lake pastures. Total AUMs for wild horses in these pastures were used in calculating the carrying capacity using the 10% pre-livestock objective (see Appendix 3 for summary of AML).

The carrying capacity for livestock in the Currie Allotment would be adjusted from 5,369 AUMs to 5,504 AUMs. The AML for wild horses would be established at 750 AUMs.

b. North Butte Valley Allotment

Table 41. North Butte Allotment - Proposed Livestock AUMs and Wild Horse AML						
Pasture	Pre-Evaluation Carrying Capacity		Post-Evaluation Desired Carrying Capacity (CC)		Total Post- Evaluation CC	
	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs)'	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)	
Lower Seeding	311	Initial stocking	526	0	526	
Palomino Seeding	311	Horses was not	444	0	444	
Juniper Seeding	311	established by pasture.	551	19	570	
Spring	324		237 (315) ³	9	246	
North	311		243 (342) ⁴	52	295	
South	311		372	135	507	
FFR	51		51	0	51	
Total	1,930 ²	164	2,424	215	2,639	

¹ Initial herd size for the Maverick/Medicine HMA is 273 horses or 3,276 AUMs. 5% of the horses in the Maverick/Medicine HMA use the NBV Allotment for a total of 164 AUMs.

Only 1.645 AUMs have been available for use since the NBV grazing agreement identified one seeding pasture for rest each year. 3 The calculated carrying capacity for livestock is 315 AUMs, however, since objectives are not being attained, the carrying capacity would remain at the average actual use of 237 AUMs.

4 The calculated carrying capacity for livestock is 342 AUMs, however, since objectives are not being attained, the carrying capacity would remain at the average actual use of 243 AUMs.

Rationale: The carrying capacity for the North Butte Valley Allotment was derived by evaluating utilization-actual use data from 1990-1999. By adjusting recorded utilization to objective levels with use of the stocking rate formula, a carrying capacity was determined for each year that data was recorded.

The total carrying capacity for the Lower Seeding pasture was determined to be 526 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being partially met (utilization objective was exceeded once during the evaluation period), long term objectives and standards for rangeland health are being met for this pasture. The monitoring data supports an increase from the average actual use of 355 AUMs to 526 AUMs total permitted use. No AUMs were allocated to wild horses in this pasture.

The carrying capacity for the Palomino Seeding pasture was determined to be 444 AUMs. The evaluation of existing data collected indicates that utilization objectives, long term objectives and standards for rangeland health are being met for this pasture. The monitoring data supports an increase from the average actual use 322 AUMs to 444 AUMs total permitted use. No AUMs were allocated to wild horses in this pasture.

The total carrying capacity for livestock and wild horses the Juniper Seeding pasture was determined to be 570 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being partially met, long term objectives and standards for rangeland health are being met for this pasture. The monitoring data supports an increase in the livestock carrying capacity from the average actual use 282 AUMs to 551 AUMs. A total of 19 AUMs were allocated to wild horse use in the pasture.

The total carrying capacity livestock and wild horses in the Spring pasture was determined to be 246 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being partially met, long term objectives and standards for rangeland health are not being met for this pasture. Because long term objectives and standards for rangeland health are not being met, and increases in grazing use would further prevent the attainment of these objectives, the livestock carrying capacity would remain at the average actual use of 237 AUMs. Livestock grazing in the Spring Pasture would continue to occur following seed ripe of key forage plants. Adjustments in livestock carrying capacity may be increased to the desired carrying capacity if monitoring data indicates that objectives and standards for rangeland health are being attained. 9 AUMs were allocated to wild horse use in the pasture.

The total carrying capacity for livestock and wild horses in the North pasture was determined to be 295 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being partially met, long term objectives and standards for rangeland health are not being met for this pasture. Because long term objectives and standards for rangeland health are not being met, and increases in grazing use would further prevent the attainment of these objectives, the livestock carrying capacity would remain at the average actual use of 243 AUMs. Livestock grazing in the North Pasture would continue to occur following seed ripe of key forage plants. Adjustments in livestock carrying capacity may be increased to the desired carrying capacity if monitoring data indicates that management is effective in attaining resource objectives and standards for rangeland health.

The total carrying capacity for livestock and wild horses in the South pasture was determined to be 510 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being partially met, long term objectives and standards for rangeland health are being met for this pasture. The monitoring data supports an increase in livestock carrying capacity from the permitted use of 311 AUMs to 375 AUMs. A total of 135 AUMs would be allocated to wild horse use in this pasture.

The Maverick/Medicine HMA wild horse initial herd size was established at 273 horses x 12 months = 3,276 AUMs, as per the Wells RMP Wild Horse Amendment as amended by the Spruce and West Cherry Creek FMUD's. Census data indicates that 5% of the horses in the Maverick/Medicine HMA utilize the North Butte Valley Allotment (5% x 3,276 AUMs = 164 AUMs). 164 AUMs represent 13% of the total pre-evaluation permitted use (164 AUMs / 1,421 AUMs = 12%). The 1,792 AUMs represents permitted use in those pastures that receive use by wild horses, therefore wild horses were given 13% of the post-evaluation carrying capacity AUMs. These AUMs were proportioned in those pastures which receive wild horse use based on aerial census data.

The total carrying capacity (livestock and wild horses in the North Butte Valley Allotment would be adjusted from 2,094 AUMs to 2,632 AUMs.

The carrying capacity for livestock in the NBV Allotment would be adjusted from 1,645 AUMs (available due to rest in the seeding pastures) to 2,424 AUMs. The desired carrying capacity is based on annual use in all pastures. The AML for wild horses would be established at 215 AUMs.

Table . Odgers Al	lotment - Proposed	Livestock AUMs an	d Wild Horse AN	IL		
Allotment	Pre-Evaluation Carrying Capacity		Post-Evaluation Desired Carrying Capacity (CC)		Total Post- Evaluation CC	
	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs) ¹	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)	
Odgers	1,596	197	1,596 (1,932) ²	239	1,835	

c. Odgers Allotment

¹ Initial herd size for the Maverick/Medicine HMA is 273 horses or 3,276 AUMs. 6% of the horses in the Maverick/Medicine HMA use the Odgers Allotment for a total of 197 AUMs 2 The calculated carrying capacity for livestock is 1,932 AUMs, however, since objectives are not being attained, the carrying capacity would remain at the average actual use of 1,596 AUMs.

Rationale: The carrying capacity for the Odgers allotment was determined to be 2,151 AUMs. The evaluation of existing data collected indicates that although utilization objectives are being met, long term objectives, riparian objectives, and standards for rangeland health are not being met for this allotment. Therefore, the carrying capacity would remain at the average actual use 1,596 AUMs.

The Maverick/Medicine HMA wild horse initial herd size was established at 273 horses x 12 months = 3,276 AUMs, as per the Wells RMP Wild Horse Amendment as amended by

the Spruce and West Cherry Creek FMUD's. Census data indicates that 6% of the horses in the Maverick/Medicine HMA utilize the Odgers Allotment (6% x 3,276 AUMs = 197 AUMs). 197 AUMs represent 11% of the total pre-evaluation permitted use (197 AUMs / 1,793 AUMs = 11%). While this is an increase over the initial stocking level it has been determined that current wild horse use is a casual factor in the non-attainment of the standards for rangeland health. Establishing wild horse AML at 239 AUMs would be a decrease from their average actual use of 350 AUMs.

Livestock carrying capacity would remain at 1,596 AUMs while wild horse AML would be adjusted from 350 AUMs (average actual use for wild horses) to 239 AUMs.

	Pre-Evaluation Carrying Capacity		Post-Evaluation Desired Carrying Capacity (CC)		Total Post- Evaluation CC	
Allotment	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs) ¹	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)	
Bald Mountain	1,176	330	843	330	1,173	

d. Bald Mountain Allotment

¹ Initial herd size for the Maverick/Medicine HMA is 273 horses or 3,276 AUMs. 20% of the horses in the Maverick/Medicine HMA use the Bald Mountain Allotment for (6 months 5/1 to 11/1) a total of 328 AUMs.

Rationale: The carrying capacity for livestock in the Bald Mountain allotment was determined to be 843 AUMs. The evaluation of existing data collected indicates that utilization objectives are not being met. Frequency of key forage species has declined over the evaluation period. Although, overall trend is stable to upward and the standards for rangeland health are being met, adjustments in grazing use levels are deemed necessary. The increase in ecological status is attributable to increases shrub species. The desired carrying capacity of 843 AUMs livestock grazing would ensure proper use of key forage species.

The Maverick/Medicine HMA wild horse initial herd size was established at 273 horses. Census data has shown that 20% of the wild horses in the Maverick/Medicine HMA use the Bald Mountain allotment for 6 months a year (5/1 to 11/01), hence 20% of 273 horses x 6 months = 330 AUMs, as per the Wells RMP Wild Horse Amendment as amended by the Spruce and West Cherry Creek FMUD's. Wild horse use in the Bald Mountain allotment is independent of livestock use. Wild horse use occurs in the upper elevations during the summer months. Livestock use does not occur in these areas due to the lack of water and topography. Livestock carrying capacity would adjusted from 1,176 AUMs to 843 AUMs while wild horse AML would be established at 330 AUMs.

Table 45. Maverick/F	tuby #9 Allotment	- Proposed Livest	ock AUMs and V	Viid Horse	AML	
Pasture	Pre-Evaluation Carrying Capacity		Post-Evaluation Desired Carrying Capacity (CC)		Total Post- Evaluation CC	
	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs) ¹	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)	
Ruby #9 (winter use area)	е е В е	Initial stocking level for Wild	683	150	833	
Maverick (summer use area)	2,774	Horses was not established by pasture.	1,350	296	1,646	
Ruby Wash (winter use area)			741	163	904	
Total		622	2,774	609	3,383	

e. Maverick/Ruby #9 Allotment

¹ Initial herd size for the Maverick/Medicine HMA is 273 horses or 3,276 AUMs. 19% of the horses in the Maverick/Medicine HMA use the Maverick/Ruby # 9 Allotment for a total of 624 AUMs.

Rationale: The desired carrying capacity for livestock is determined to be 2,774 AUMs, which equals pre evaluation permitted use. The AML for wild horses was determined to be 782 AUMs.

Carrying capacity analysis was conducted on each of the three use areas in the allotment. Key area utilization and use pattern map data in the Ruby #9 and Ruby Wash winter use areas were reflective of combined use by livestock and wild horses. Therefore, carrying capacities were established for these areas which were based on this data. Data was insufficient to determine carrying capacity and AML for the Maverick summer use area. Since objectives and standards being attained (the non-attainment of standard 2 in the Maverick summer use area is addressed in Technical Recommendation 2 and 6), the carrying capacity for livestock would remain unchanged from the pre evaluation permitted use.

The Maverick/Medicine HMA wild horse initial herd size was established at 273 horses x 12 months = 3,276 AUMs, as per the Wells RMP Wild Horse Amendment as amended by the Spruce and West Cherry Creek FMUD's. Census data indicates that 19% of the

horses in the Maverick/Medicine HMA utilize the Maverick/Ruby #9 Allotment (19% x 3,276 AUMs = 622 AUMs). 622 AUMs represent 18% of the total pre-evaluation and post permitted use (622 AUMs / 3,396 AUMs = 18%). Therefore, wild horses received 18% of the total post-evaluation carrying capacity AUMs These AUMs were proportioned to each use area.

The evaluation of existing data collected indicates that although utilization objectives are being partially met, satisfactory progress is being made toward the attainment of long term objectives in the allotment. Standard #2 is not being met in the Maverick summer use area due to the condition of Gardner and Tick/Cone springs, however these springs are being proposed for fencing. To ensure that the fences are constructed in a timely manner, the BLM proposes to enter into a co-operative agree with the permittees. The BLM proposes to provide all materials while the permittee would provide the labor and maintenance. Fences would be built before the 2001 grazing season. All other standards are being attained or progress is being made toward attainment of these standards.

The desired carrying capacity of 2,774 AUMs livestock grazing and 609 AUMs of wild horse AML would ensure proper use of key forage species.

Table 46. Maverick/Medicine Complex - Proposed Livestock AUMs and Wild Horse AML, and Total AUMs							
Allotment	Pre-Evaluation Carrying Capacity		Post-Evaluation Desired Carrying Capacity (CC)		Total Post- Evaluation CC		
	Livestock permitted use (AUMs)	Wild Horse Initial Stocking Level (AUMs) ¹	Livestock permitted use	Wild Horse AML (AUMs)	Total Post- Eval. Carrying Capacity (AUMs)		
Currie	5,369	718	5,504	480	5,984		
North Butte Valley	1,645	164	2,424	215	2,639		
Odgers	1,596	197	1,596	239	1,835		
Bald Mountain	1,176	330	843	330	1,173		
Maverick/Ruby #9	2,774	624	2,774	609	3,383		
Total	12,560	2,034	13,141	1,873	15,014		

f. Maverick/Medicine Complex Summary

¹ Initial herd size for the Antelope Valley and Maverick/Medicine HMA's was established in the Wells RMP Wild Horse Amendment. Initial stocking level by allotment was determined from the proportion of horses using each allotment as determined from aerial census data.

Rationale: The desired carrying capacity and rationale for each allotment in the Maverick/Medicine Complex are presented above. The analysis of utilization, actual use, and wild horse census data as well as the attainment or non-attainment of objectives and standards for rangeland health were used to determine the desired carrying capacity for the Maverick/Medicine Complex.

The carrying capacities listed above reflect the proper stocking levels for livestock and the appropriate management levels for wild horses within each allotment. The derived carrying capacity, along with other technical recommendation objectives, will encourage attainment of land use plan objectives and the standards for rangeland health. Maintaining wild horses at the appropriate management level will result in a thriving, natural, ecological balance between horses and other resource values. Continued monitoring within the allotments will show if any adjustment in the AML or permitted levels of livestock grazing is needed.

This evaluation indicates that an additional 700 AUMs of livestock use is available in the Maverick/Medicine Complex. This increase above pre-evaluation permitted use is attributed to an increase of forage in crested wheatgrass seedings and native pastures.

Furthermore, this evaluation establishes an AML for the Maverick/Medicine Complex which is 154 AUMs above the initial herd size outlined in the Wells RMP Wild Horse Amendment. Wild horses within the complex move freely between administrative and allotment boundaries. Census data was used to derive an average percent of the Antelope Valley and Maverick/Medicine herd that use each allotment. The AUMs of wild horse use which have been established for each allotment is not a future prediction of what the actual wild horse use in each allotment will be.

НМА	Recruitment Rate	AML - Range to be Managed ¹
Antelope Valley	18%	119-231 ²
Maverick-Medicine	17%	149-280

¹To calculate the range of AML, the following mathematical equation was used: Maximum AML/1+the recruitment rate.

²The Antelope Valley HMA AML is not completely set. With the completion of the Sheep Complex Allotment Evaluation, this AML will be set.

The maximum AML is the upper threshold, in numbers of adult animals, the range can sustain before deterioration of the thriving natural ecological balance begins. The minimum AML is lowest number of adult animals allowed to graze on the range and considers genetics (herd viability), gather/removal cycles, and minimum disturbance to the herd by using as long a gather cycle as possible. Removals would never remove animals

below this level except in extreme emergency.

This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3, which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

2. Implement management systems and/or establish the season of use for each allotment in the Maverick/Medicine Complex as follows:

a. Currie Allotment

Management in the Currie Allotment will be in accordance with the Maverick/Medicine Complex Evaluation and the subsequent Assistant Field Manager's Final Multiple Use Decision. The grazing system would be as follows:

Cottonwood Unit							
Pasture	Year 1	Year 2	Livestock #'s	AUMs			
Mustang Well	11/1 to 2/28 3/1 to 2/28	11/1 to 2/28 3/1 to 2/28	132 C 12 H*	500 138			
Currie Gardens	4/15 to 6/14	8/1 to 9/30	304 C	586			
Cottonwood Canyon	6/15 to 7/15	6/15 to 7/15	460 C	450			
Twin Springs Seeding	7/16 to 9/30	4/15 to 6/14 7/16 to 7/30	299 C	726			
Total				2,400			
McDermid Unit							
Pasture	Period of Use		Livestock #'s	AUMs			
FFR	3/1 to	o 3/31	50 C	51			
Currie Hills	11/1 t	io 2/28	27 C	101			
Goshute Lake (Bald Mt. and Dry Cyn. herds)	5/1 to	o 6/30	145 C	298			
Calf/Lower McDermid Cyn. and Upper McDermid Cyn.	5/1 to 7/15		342 C	821			
Dry Canyon	7/1 to 9/15		42 C	101			
McDermid Seeding	5/1 to 5/15 7/16 to 10/14		275 C 225 C	136 660			
Total				2,168			

*Horse use would be confined to that portion of the Mustang Well Pasture east of Lear Ranches hay fields and west of highway 93. This portion of the Mustang Well pasture is fenced and is located outside of the Antelope Valley HMA.

McDermid Unit Indian Creek Ranch					
Pasture	Period of Use	Livestock #'s	AUMs		
Currie Flats	1/01 to 2/28	244 C	454		
Goshute Lake	12/1 to 12/31	244 C	241		
McDermid Seeding	11/1 to 11/30	244 C	241		
Total			938		

Special grazing stipulations:

1. Livestock would be moved in accordance with the dates outlined in the grazing system. No flexibility would be allowed for ending dates in the Cottonwood or McDermid/Calf Canyon Pastures.

2. The permittee would have 5 days flexibility at the end of the authorized period of use in each pasture with the exception of Cottonwood and McDermid/Calf Canyon pastures.

Rationale: Implementation of the proposed grazing system outlined above would enhance riparian areas and crucial deer winter habitat in the McDermid, Calf, and Cottonwood Canyons by reducing the duration of hot season grazing in these pastures and changing the period of use to spring/early summer. The seasons of use and/or duration of use outlined for the proposed grazing system would also ensure progress toward proper functioning condition of the riparian resources in these areas.

The proposed grazing system limits use of native uplands during the critical growing season by allowing growing season deferment annually or every other year in the Mustang Well, Currie Gardens, Twins Springs Seeding, Currie Hills, and McDermind Seeding pastures. Annual growing season use is being proposed in the Cottonwood, Goshute Lake, Upper and Lower McDermid Creek, and Dry Canyon Pasures in order to improve riparian resources and mule deer winter range. Proper stocking levels and reduced duration of use would ensure that use in these pastures during the critical growing season would not prevent attainment of resource objectives and progress towards the standards for rangeland health.

Seeded pastures would be used more to minimize impacts to riparian areas and wildlife habitat while providing livestock grazing consistent with other uses.

Salt desert shrub and saline meadow complexes would be grazed primarily during the winter dormant period each year. This period of use would minimize grazing impacts to the vegetation, thereby promoting the productivity of these plant communities. Where

growing season use is being proposed, limited duration of use as well as proper stocking levels would prevent overuse of these areas.

This grazing system was designed in cooperation with Kay and Mary Lear for the purpose of attaining land use plan objectives and the standards for rangeland health in the Currie Allotment.

b. North Butte Valley Allotment

Modify the current grazing system as outlined in the North Butte Valley grazing agreement signed in 1990 to be as follows:

North Butte Valley Grazing System					
Pasture	Year 1	Year 2	Year 3	Year 4	AUMs
Lower Seeding	8/11 to 8/22	6/21 to 8/10	4/15 to 6/20	Repeat	526
Palomino Seeding	4/15 to 6/20	8/11 to 8/22	6/21 to 8/10	Cycle	444
Juniper Seeding	6/21 to 8/10	4/15 to 6/20	8/11 to 8/22		551
Spring	8/23 to 9/10	11/1 to 12/22	9/16 to 10/31		237
North	11/1 to 12/22	9/16 to 10/31	8/23 to 9/15		243
South	9/11 to 10/31	8/23 to 9/15	11/1 to 12/22		372

Rationale: Through evaluation of the data, it has been determined that the existing grazing system on the North Butte Valley has allowed for the attainment of long term objectives in the seedings and in the South Pasture. Ecological status objectives for the North and Spring native pastures have not been met. Trend at the key areas in the North and Spring Pastures are downward. Utilization objectives for the allotment have been partially met.

It has been determined that livestock grazing is not a causal factor in the non-attainment of the standards for rangeland health. Livestock grazing has occurred after seed ripe and following the critical growing season for grasses in the native pastures. Although utilization objectives have only been partially met, the average utilization of key species in the North and Spring pastures is 43% and 46% respectively. Annual growing season deferment in the North and Spring pastures should encourage the attainment of utilization objectives and proper use of these pastures by livestock. The duration of use specified in the grazing system should prevent excessive and/or repeated utilization by livestock in these pastures.

The proposed grazing system will allow for the continued improvement in the seedings as well as the South Pasture by applying grazing treatments which are similar to pre-

evaluation management. Livestock grazing in the North and Spring Pastures would continue to occur after seed ripe and following the critical growing season for key herbaceous species. Carrying capacity analysis resulted in increased carrying capacity in livestock grazing for the North and Spring pastures. Since range conditions in these pastures fall short of those described by allotment specific and key area objectives, increases in livestock grazing use in conjunction with the proposed grazing system would not be implemented at this time.

c. Odgers Allotment

Modify the season of use for the Odgers Allotment to read as follows:

	Odgers A	llotment	
Period of Use	Livestock #'s	PPL	AUMs
10/1 to 12/30	533C	100	1,596

Rationale: Modify the grazing treatment for the Odgers Allotment to allow for a change in season of use and/or stocking levels in order to improve forage diversity in the Odgers Allotment. Eliminating hot season use along Odgers Creek would provide for sufficient herbaceous growth necessary to improve plant vigor, restore riparian habitat and provide streambank protection. The current grazing system has failed to achieve riparian/stream objectives.

The uplands would improve with rest during the critical part of the growing season each year.

d. Bald Mountain Allotment

Maintain the current season of use for the Bald Mountain Allotment as follows:

Bald Mountain Allotment							
Permittee Period of Use Livestock #'s PPL AUMs							
Kay and Mary Lear	6/15 to 9/15	102C	100	312			
TLA vacant permit	6/15 to 9/15	174C	100	531			

Rationale: Existing management has allowed for the attainment of multiple use objectives and the standards for rangeland health. Permitted use on the allotment was reduced from 1,176 to 843. This reduction was the result of existing management failing to meet key

area utilization objectives. No change in the season of use is being proposed since long term data indicate an upward trend and improvement in ecological status at the key area.

Interim	Grazing System for the	Maverick/Ruby	#9 Allotment	
Use Area	Period of Use	Livestock #'s	PPL	AUMs
Ruby #9	11/1 to 3/31	136 C	100	683
Ruby Wash	11/1 to 3/31	147 C	100	741
Maverick	7/01 to 10/31	334 C	100	1,350

e. Maverick/Ruby #9 Allotment

Long Term Grazing Sys completion of the ident	tem for the Maverick	Ruby #9 Allotme ent projects).	ent (effective	upon
Use Area	Period of Use	Livestock #'s	PPL	AUMs
Ruby #9	11/1 to 3/31	136 C	100	683
Ruby Wash	11/1 to 3/31	147 C	100	741
Proposed Seeding	4/1 to 6/30	134 C	100	400
Maverick	7/1 to 10/31	235 C	100	950

The carrying capacity would remain as outlined above until monitoring data supports an adjustment in AUMs.

Special grazing stipulations:

1. Wells would not be operated in the Ruby Wash or Ruby #9 areas from 3/1 to 10/31.

2. The permittee would be required to ensure that livestock do not graze the Ruby Wash and Ruby #9 use areas outside of the authorized period of use.

Rationale: The Ruby Wash and Ruby #9 use areas would be grazed from 11/1 to 3/31 annually. Grazing during the dormant season would ensure that salt desert shrub communities would continue to be maintained.

The proposed seeding would allow for the deferment of the native range in the Maverick use area and eliminate use during the growing season on the white sage plant communities.

Summer use in the Maverick use area would be limited to use after 7/15 in the interim grazing system. Upon completion of the proposed seeding, use in the Maverick use area would be authorized from 7/1 to 10/31. This evaluation proposes to construct exclosures around Gardner and Tick/Cone springs in the interim.

Grazing in the Maverick summer use area would not be authorized following the 2000 grazing season until Gardner and Tick Springs have been fenced. These exclosures would be constructed by the permittee prior to the 2001 grazing season.

Use in the seeding would occur from 4/1 to 6/30 annually. This would improve the ecological status and the vigor of upland herbaceous species.

This grazing system was designed in cooperation with Jack Bowers and Craig Kolvet for the purpose of attaining land use plan objectives and the standards for rangeland health on the Maverick/Ruby #9 Allotment.

Wild horse census and utilization studies indicate that use on some of the springs (Cherry Springs) in the Maverick use area has been made primarily by horses. Setting AML and removing excess horses in the Maverick/Medicine Complex would reduce impacts to riparian areas and allow for improved conditions.

The technical recommendation of establishing the season of use and grazing systems outlined above would implement Guidelines 1.1, 2.1, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, and 3.6 which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

3. Establish the Currie Hills and Currie Flats Pasture as wild horse free pastures. In the interim until horses are removed from these pastures, provide water for horses at Red Tank (Currie Flats) and Red Hill (Currie Hills) wells.

Rationale: The Nevada Department of Transportation (NDOT) is currently in the process of fencing Highway 93. The purpose of this fence is to prevent motor vehicles from striking wild horses and domestic livestock. The fence is needed to increase public safety when traveling this highway. The have also been several occurrences of wild horses being struck by vehicles and becoming so gravely injured that humane destruction was the only alternative.

Unfortunately, the fence would prevent wild horses which occupy the Currie Hills and

Currie Flats pastures access to water in the Goshute Lake vicinity and there is no permanent water within these pastures. The BLM has considered several options as a solution to this problem, however, establishing the pastures as horse free area is perhaps the only long term, viable alternative. Providing water to wild horses on a year-round basis in the remotely located pastures would require constant supervision and maintenance of the pumps, solar panels and troughs. Overpasses and underpasses would most likely be unsuccessful. Leaving a gap in the fence would necessitate that NDOT put two cattleguards on the highway on either side of the gap, which when proposed to the agency was unacceptable.

The fence along both the east and west sides of Highway 93 would establish the Currie Hills and Currie Flats pastures as horse free. During the next scheduled gather in the Antelope Valley HMA, all of the horses inhabiting the Currie Hills and Currie Flats pastures would be gathered and removed. The fence in the Currie Hills would be completed, creating completely fenced pastures.

4. Award the Odgers and Bald Mountain permit to a qualified applicant.

Rationale: The Temoke Livestock Association's grazing preference and permit for the Odgers and Bald Mountain Allotments was canceled in 1999. The permit would award the permit to a qualified applicant under the terms and conditions outlined above.

5. Modify and/or requantify the allotment specific and key area objectives for the Maverick/Medicine Complex to read as described in Appendix 6. The objectives includes upland, riparian and wild horse objectives. The general land use plan objectives and Standards for rangeland health developed for the Northeastern Great Basin Area remain unchanged.

Rationale: The Record of Decision for the Wells Environmental Impact Statement (EIS) and the Resource Management plan (RMP) was issued on July 16, 1985. These documents established the multiple use goals and objectives which guide management of the public lands in the Maverick-Medicine Complex. The Rangeland Program Summary (RPS) was issued on September 15, 1986. This document further identified the allotment specific objectives for these allotments.

Monitoring was established on the allotments within the Maverick-Medicine Complex to determine if existing grazing uses were consistent with attainment of the multiple use objectives established by the Wells RMP and RPS. Monitoring data were analyzed through the allotment evaluation process, to determine progress in meeting multiple use objectives and to determine what changes in existing grazing management, if any, are required.

The Maverick-Medicine Complex Allotment Evaluation summarized current grazing

management, determined whether or not progress was being made toward attainment of the multiple use objectives, and provided recommendation for future management. The allotment specific objectives which were analyzed in the allotment evaluation were formulated based on management issues which existed in 1986 when the RPS was published. Based on monitoring data and conclusions presented in this allotment evaluation, it is necessary to modify and/or requantify the allotment specific objectives to address the following resource issues:

-upland range conditions

-lotic and lentic riparian conditions

- -wildlife habitat conditions
- -wild horse management

This technical recommendation would also implement Guidelines 1.1, 2.1, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, and 3.6 which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

Proposed Range Improvements for the May	erick/Medicine Comple	ex
Project	Allotment	Units
Dry Canyon Boundary fence	Currie	2 miles
Dry Canyon Spring exclosure	Currie	1
Augustine Spring exclosure	Currie	1
Twin Springs Pipeline Reconstruction and Extension	Currie	12 miles
Phalen Creek fence	Currie	0.75 miles
Twins Springs Seeding fence extension	Currie	1 mile
McDermid Canyon Pasture fence extension	Currie	0.25 miles
McCeeCee Gap fences	Currie	4.5 miles
Spring Pasture Well storage tank	North Butte Valley	1
Mud Spring exclosure	Odgers	1
Odgers Spring Complex North exclosure	Odgers	1

6. Construct the following range improvement projects within the Maverick/Medicine Complex:

Proposed Range Improvements for the May	erick/Medicine Comple	x
Project	Allotment	Units
N. Fork Odgers Creek headwater spring complex exclosure	Odgers	1
Currie Hills Fence Extension	Currie	3 miles
Maverick Seeding and fence	Maverick/Ruby #9	2,500 acres
Maverick Well	Maverick/Ruby #9	3
Maverick/Ruby #9 boundary fence extension and cattleguard	Maverick/Ruby #9	0.5 miles & 1 cg
Gardner Spring exclosure	Maverick/Ruby #9	1
Cone Spring exclosure	Maverick/Ruby #9	1

Rationale: Completion of these projects will help achieve multiple use objectives and standards for rangeland health in the Maverick/Medicine Complex.

Required NEPA documentation would be completed prior to construction of the proposed projects.

The technical recommendation would implement Guidelines 1.1, 2.1, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, and 3.6 which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

7. Continue to implement the planned actions identified in the Cherry Creek 10-year sale plan.

Rationale: The Cherry Creek 10-year sale plan outlines sustained yield harvests of the various forest products within the Cherry Creek Range and the silvicultural systems designed to maintain/improve the forest sites while providing for other resource uses such as increased forage for big game habitat.

8. The terms and conditions on each term grazing permit within the Maverick/Medicine Complex should read as follows:

(1) Authorized grazing use will be in accordance with the Maverick/Medicine Complex Evaluation and the Assistant Field Manager's Final Multiple Use Decision dated _____.

(2) Payment of grazing fees will be made prior to livestock turnout.

(3) Supplemental feeding is limited to salt, mineral, and/or protein supplements in block, granular or liquid form. Such supplements will be placed at least 1/4 mile from live waters (springs, streams, and troughs), wet or dry meadows, and aspen stands.

(4) An actual use report (Form 4130-5) showing use by pasture will be turned in within 15 days after completing annual use.

(5) All range improvements will be maintained/repaired by the permittee prior to livestock turn out and throughout the grazing season in accordance with range improvement authorization permits.

(6) All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the Assistant Field Manager for Renewable Resources.

(7) The numbers of livestock to be grazed will remain flexible according to the needs of the permittee. The grazing system is based on the number of AUMs that may be removed from each pasture. Livestock numbers and periods of use will be applied for on an annual basis. Deviations beyond the flexibility described above may be allowed to meet the needs of the resources and the permittee as long as these deviations are consistent with multiple use objectives. Deviations beyond the limits of the flexibility outlined above, including deviations in the turnout date, increases in livestock numbers and deviation from the grazing system, will require an application, and written authorization from the Assistant Field Manager for Renewable Resources prior to grazing use.

(8) Pursuant 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer, by telephone with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects or objects of cultural patrimony. Further pursuant to 43 CFR 10.4 (c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Rationale: This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3, which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress towards conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

9. Inventory, identify and eliminate existing wire hazards. Clean up and dispose of old wire, especially where it creates a significant hazard to wild horses.

Rationale: Wild horses have become tangled in old barbed wire particularly in old spring exclosures and wild horse traps. Entanglement in barbed wire causes extensive injuries and in some cases the need for the animal to be destroyed.

10. Continue to collect combined use utilization data and collect wild horse use only utilization data.

Rationale: Collection of utilization data is necessary to determine if management practices are meeting objectives and will indicate management changes needed in response to climatological changes, such as drought, etc.

11. Continue to collect seasonal distribution data on the Antelope Valley and Maverick/Medicine HMAs.

Rationale: In 1991, intensive seasonal distribution flights were begun within the Elko District. These census flights have provided valuable information on horse movements and should continue until monitoring data indicates that the appropriate management level has been attained in all HMAs.

12. Continue to implement the planned actions identified in the Cherry Creek HMP.

Rationale: Completion of these planned actions within the Maverick/Medicine Complex will help achieve the multiple use objectives outlined in the Wells RPS, and the Cherry Creek HMP.

This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3, which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

13. Establish new key areas in the Maverick/Medicine Complex in the following locations.

Currie Allotment

The slopes of Lower McDermid Canyon - Livestock Dry Canyon Pasture - Livestock McDermid Seeding - Livestock The Currie Hills area - Livestock and Wild horses

North Butte Valley Allotment

Spring pasture - Livestock and Wild horses (Identify and locate a new key area site).

Odgers Allotment

Northern portion of the allotment - Livestock and Wild horses Western portion of the allotment - Livestock and Wild horses Southern portion of the allotment - Livestock and Wild horses

Bald Mountain Allotment

High Bald Peaks area - Wild horses

Maverick/Ruby #9 Allotment

On the west slopes of the Medicine Range - Wild horses Southeast of the Hot Springs - Livestock and Wild horses

Future locations will be determined on an as needed basis.

Rationale: The proposed key areas in L. McDermid Canyon, Dry Canyon, and the McDermid Seeding would help monitor livestock utilization. The proposed key area in the Currie Hills would be used to gather both short and long-term monitoring data for the Currie Hills area as well as monitor utilization by wild horses.

The proposed key area in the North Butte Valley Allotment would help monitor both short and long-term objectives in the Spring pasture.

The proposed key areas in the Odgers Allotment would help monitor both short and longterm objectives in the southern, northern, and western portions of the allotment.

The proposed key areas in the Bald Mountain Allotment would monitor utilization by wild horses.

The proposed key area on the west slopes of the Medicine range would monitor utilization by wild horses. The key area southeast of the Hot Springs would monitor utilization by livestock and wild horses.

This technical recommendation would implement Guidelines 1.1, 3.2, and 3.3, which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

14. Within the Maverick/Medicine Complex, treat invasive and noxious weeds in a manner that is most appropriate to the weed species and degree of infestation. Treatment would be in accordance with the Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States and the Elko District Programmatic Environmental Assessment of for the Treatment of Noxious Weeds. See Appendix 7 for a list of weed species, their potential habitat and proposed treatment.

Rationale: The BLM is mandated to manage vegetation on public lands. The BLM must control noxious weeds and undesirable plants to maintain or improve the quality of forests and rangeland for all multiple resources. Controlling noxious weeds within the Maverick/Medicine Complex would result in a more diverse plant community and therefore would improve wildlife habitat, soil stability and forage plant diversity.

This technical recommendation would implement Guidelines 1.2 and 3.4, which have been developed by the Northeastern Great Basin Resource Advisory Council of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

15. Implement Maverick/Medicine Complex Fire Management Plan.

Rationale: The 1998 Elko Field Office Fire Management Plan identified fire and fuels management goals and objectives for the Elko Field Office. The Maverick/Medicine Complex Fire Management Plan (Appendix 5) is tiered off the Field Office plan and identifies site specific fire suppression, prescribed fire, and mechanical fuel treatments goals and objectives for the public lands in this complex. The Maverick/Medicine Complex Fire Management Plan is required to effectively achieve the goals and objectives for Elko Field Office Fire Management Plan within the Maverick/Medicine Complex.

16. Manage sage grouse habitat (i.e. leks, nesting, brooding, and summer and winter habitats) consistant with the Western States Sage Grouse Guidelines, as adapted for use in Nevada.

Rationale: Sage grouse is a BLM sensitive species with a high probability of becoming a nationally threatened and endangered species. Maintaining and improving sage grouse habitat will assist in maintaining or increasing populations within the Maverick/Medicine Complex and may form a basis for future habitat conservation plans.

17. Continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the multiple use objectives. The Maverick/Medicine Complex will be re-evaluated in accordance with priorities established in the Elko Field Office Monitoring and Evaluation schedule. If monitoring studies indicate a need to bring grazing use in line with capacity, necessary adjustments will be made. Studies will be conducted in accordance with BLM policy manual guidance as outlined in the Nevada Rangeland Monitoring Handbook and will include, but are not limited, to the following:

Uplands:

forage production ecological condition trend frequency utilization actual use Upland Proper Functioning Condition Assessment Ecological Site Inventory Cover

Riparian:

stream inventory (BLM Manual 6720-1, BLM Manual 6671) fish population surveys Proper Function Condition Assessments (BLM TR 1737-16, 1999)

Wildlife Habitat:

habitat condition studies, Cole browse, utilization, condition studies, (BLM Manual 6630)

wildlife population census/updated maps (NDOW)

Wild Horses:

wild horse population census wild horse utilization data

Rationale: Additional monitoring and analysis will be required to determine whether objectives are being met and determine any necessary changes in grazing management.

VII. CONSULTATIONS

Elko Field Office BLM

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Permittees

Kay and Mary Kay Lear Indian Creek Ranch Jack and Terry Bowers William and Elizabeth Dickinson

Other Interested Publics

Nevada Division of Environmental Protection (NDEP) Nevada Division of Wildlife (NDOW) Wild Horse Organized Assistance Nevada Commission for the Preservation of Wild Horses Friends of Nevada Wilderness Board of County Commissioners Elko County Board of County Commissioners White Pine County U.S. Fish and Wildlife Service Natural Resource Conservation Service (NRCS) Nevada State Division of Agriculture Nevada State Clearinghouse Dept. Of Administration Nevada Department of Environmental Protection Resource Concepts, Inc.

VIII. APPENDICES

- 1. Summary of Studies Data
- 2. Carrying Capacity Calculations
- 3. Wild Horse Census and AML Data
- 4. Riparian Data
- 5. Maverick/Medicine Fire Management Plan
- 6. Maverick/Medicine Complex Objectives
- 7. Weed Species, Their Habitat and Proposed Treatment
- 8. Glossary

IX. MAPS

- Map 1: General Vicinity Map
- Map 2: Land Status Map
- Map 3: Herd Management Areas
- Map 4: Key Areas
- Map 5: Mule Deer Habitat
- Map 6: Antelope Use Areas
- Map 7: Sage Grouse Strutting Grounds
- Map 8: Stream Survey Stations
- Map 9: Proper Functioning Condition (PFC) Assessment Locations

Appendix 1 : Summary of Studies Data

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Currie Allo	tment Ke	y Area	Utilizat	ion Sun	nmary										
Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
Currie Flats CU01	ORHY EULA5 SIHY ATCA	Not read	5% 9% 20% 4%	Not read	Not read	Not read	53% 36%	Not read	Not read	Not read	Not read	Not read	Not read	Not read	20% 23% 20% 4%
Mustang Well CU02	ORHY EULA5 ARSP5	Not read	32% 29% 36%	Not read	Not read	42% 43% 37%	Not read	Not read	52% 52%	51% 55%	Not read	57% 46% 12%	58% 50%	31% 42%	46% 45% 28%
Mustang Well CU03	ORHY SIHY ATCO	Not read	13% 13% 17%	Not read	Not read	65% 55% 3%	Not řead	Not read	Not read	Not read	Not read	Not read	Not read	Not read	39% 34% 10%
Mustang Well CU04	ORHY ATCO ARSP5	Not read	9% 10% 10%	Not read	Not read	36% 16% 18%	Not read	Not read	35%	27%	Not read	14%	37%	6%	23% 13% 14%
Mustang Well CU05	EULA5 ATNU	Not read	10% 10%	Not read	Not read	41%	5%	Not read	57%	9%	Not read	3%	45%	16% 19%	23% 15%
Mustang Well CU06	ORHY ATNU EULA5	Not read	25% 24%	Not read	Not read	56%	Not read	Not read	Not read	Not read	Not read	3% 1%	Not read	Not read	14% 40% 1%
Mustang Well CU07	ORHY EULA5	Not read	57% 47%	Not read	Not read	44% 42%	19% 6%	Not read	Not read	27% 10%	Not read	5% 4%	Not read	Not read	30% 22%
Mustang Well CU08	ORHY EULA5	Not read	16%	Not read	Not read	37%	25% 6%	Not read	45%	Not read	Not read	45% 17%	30% 24%	Not read	36% 20%
Currie Gardens CU09	ORHY SIHY ARSP5	41%	54% 53%	54% 54%	41% 41%	39%	Not read	24% 9%	Not read	47%	Not read	52%	51%	41%	45% 41% 39%

Utilization in bold print is pre-livestock.

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Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
Currie Gardens CU10	ORHY SIHY EULA5 ARSP5	16% 19%	36% 34% 51%	48% 45% 46%	34% 40% 37%	42% 36%	40% 36%	49% 44% 14%	Not read	45% 36%	Not read	4% 10%	39% 38%	27% 31%	38% 19% 35% 37%
Goshute Lake CU11	ORHY SIHY ARSP5	43% 40%	45%	52% 44%	46% 43%	Not read	23%	Not read	24%	Not read	Not read	34%	Not read	Not read	37% 40% 44%
Goshute Lake CU12	ORHY SIHY ARSP5	42% 43%	27% 57%	47% 49%	29% 36%	Not read	Not read	Not read	32%	Not read	Not read	47%	Not read	Not read	37% 43% 47%
Goshute Lake CU13	ORHY SIHY ARSP5	35% 41%	49% 55%	37% 41%	36% 39%	Not read	45%	Not read	25%	Not read	Not read	42%	Not read	Not read	38% 41% 45%
Currie Gardens CU14	ORHY SIHY ARSP5	0% 2%	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	0% 2%
Calf Canyon Canyon CU16	AGSP PUTR2	44% 56%	37%	28%	40% 40%	50% 21%	42%	5%	38% 21%	44% 45%	15%	28% 20%	41% 23%	Not read	41% 29%
U. McDermid Canyon CU17	AGSP PUTR2 STIPA STCO	36% 68%	71%	56% 84% 54%	46% 89% 39%	54% 39% 27%	46% 42%	49%	46% 60% 39%	19%	Not read	51% 72% 38%	Not read	Not read	48% 59% 40% 38%
U. McDermid Canyon CU18	AGSP PUTR2 STIPA	76%	55% 76% 58%	55% 77% 58%	44% 40% 39%	Not read	Not read	54% 59%	59% 56%	Not read	Not read	77%	Not read	Not read	53% 66% 52%
U. McDermid Canyon CU19	AGSP	Not read	62%	57%	47%	44%	Not read	42%	37%	Not read	Not read	39%	Not read	Not read	47%
L. McDermid Canyon CU20	AGSP FEID POA	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	39% 21%	Not read	Not read	30%	Not read	39% 30% 21%

Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
Cottonwood Canyon CU22	AGSP STCO3 STLE	51% 53%	50% 56% 60%	58% 61% 61%	43% 42% 40%	57% 57%	42% 43% 41%	58% 55% 48%	Not read	Not read	Not read	37% 23% 39%	Not read	Not read	50% 48% 49%
Cottonwood Canyon CU23	AGSP STCO	54%	50%	53% 53%	52% 51%	Not read	16%	51% 52%	23%	42% 41%	Not read	38% 28%	Not read	Not read	42% 45%
Cottonwood Canyon CU24	AGSP STLE POA	61%	55% 70%	54%	42% 44%	46% 51%	11%	52%	9%	49%	Not read	31%	Not read	Not read	41% 70% 48%
Cottonwood Canyon CU25	AGSP	60%	57%	50%	42%	40%	25%	51%	14%	42%	Not read	36%	Not read	Not read	42%
Cottonwood Canyon CU26	AGSP STCO3 AGDA	58%	63% 65% 56%	58%	41%	50%	41%	47%	Not . read	Not read	Not read	42%	Not read	Not read	50% 65% 56%
Twin Springs Seeding CU28	AGCR	Not read	51%	42%	Not read	30%	73%	Not read	20%	16%	Not read	15%	29%	Not read	35%
Twin Springs Seeding CU29	AGCR	40%	67%	52%	Not read	41%	66%	Not read	41%	42%	44%	41%	30%	Not read	46%
Twin Springs Seeding CU30	AGCR	Not read	45%	37%	Not read	34%	Not read	Not read	32%	18%	Not read	23%	24%	Not read	30%
McDermid Seeding CU31	AGCR	Not read	Not read	Not read	Not read	Not read	73%	58%	Not read	39%	Not read	Not read	44%	52%	53%
McDermid Seeding CU32	AGCR	Not read	Not read	Not read	Not read	Not read	72%	55%	Not read	27%	Not read	Not read	48%	53%	51%

North Butte	Valley A	Allotmer	nt Key /	Area Ut	ilizatior	n Summ	iary	nuales							
Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
Palamino Seeding L001	AGCR	35%	61%	59%	56%	70%	60%	36%	40%	Not read	Not read	23%	39% 2	19%	45%
L.Seeding L002	AGCR	55%	49%	62%	61%	Not read	Not read	59%	Not read	27%	39%	Not read	32%	35%	47%
South Pasture L003	SPAI ELCI2 DIST ELTR3	59% 58% 34%	60% 42% 45% 42%	48% 50% 47% 45%	Not read	62% 11% 51%	49% 44%	Not read	Not read	Not read	36% 24% 18%	32% 25% 6% 29%	Not read	Not read	47% 44% 27% 42%
North Pasture L004	SPAI3 ELCI2	50% 53%	39% 50%	39% 42%	36% 42%	52% 57%	Not read	43% 41%	Not read	Not read	Not read	Not read	13% 18%	Not read	39% 43%
Spring Pasture L005	ELCI2 MURI	Not read	39% 21%	50% 47%	51% 43%	67% 50%	Not read	Not read	Not read	Not read	Not read	28% 23%	42% 34%	Not read	46% 36%
Juniper Seeding L006	AGCR	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	27%	Not read	54%	34%	Not read	38%
Juniper Seeding L007	AGCR	5%	Not read	Not read	Not read	Not read	63%	Not read	Not read	21%	Not read	49%	26%	Not read	33%

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Utilization for Palamino Seeding L001 is from T and R extension of use.

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Bald Moun	tain Allot	ment K	еу Агеа	Utiliza	tion Su	mmary									
Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
KA 1009	AGSP PUTR2	Not read	60% 63%	50% 58%	54% 57%	24% 38%	56% 42%	44% 49%	Not read	Not read	51% 54%	40% 54%	41% 47%	Not read	47% 51%
				• •									•		

Key Area	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
KA 1010	SPAI DIST JUNC AGSM	Not read	49%	51% 50%	54% 48% 52%	27% 44%	41% 18% 24%	Not read	Not read	Not read	33% 16% 34% 28%	46% 8% 32% 28%	48% 18% 33% 30%	Not read	44% 29% 38% 29%

Maverick/R	uby#9 Al	lotment	Key A	rea Util	ization	Summa	ry								
Кеу Агеа	Key Species	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average Utilization
Minnow Well 4323-01	ORHY SIHY EULA5 ARSP	Not read	18% 14% 43% 10%	14% 9% 15% 12%	90% 7% 30% 11%	76% 27% 34% 24%	80% 80%	55% 46% 54%	68%	63%	Not read	7% 4% 3%	22% 4% 27%	Not read	45% 16% 42% 14%
Ruby Wash 4323-02	ORHY EULA5	Not read	Not read	Not read	Not read	10% 4%	0% 62%	65% 63%	50% 72%	56%	72% 30%	Not read	38% 37%	76% 65%	40% 56%
Cherry Spring 4323-03	AGSP STTH2	Not read	Not read	Not read	64% 57%	36%	Not read	Not read	Not read	Not read	Not read	31% 21%	Not read	36% 36%	44% 38%
Maverick Range DS-6-T-01	STTH2 PONE3 AGSP PUTR2	Not read	Not read	Not read	29% 12% 0% 2%	17% 2% 3%	Not read	Not read	Not read	Not read	Not read	Not read	Not read	Not read	23% 7% 3% 0%

II. Frequency Results for the Maverick/Medicine Complex

Currie Allotment Cotto	mwood Unit Frequency					
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1986)	SECOND READING (1989)	THIRD READING (1997)	CHANGE
Mustang Well	CU-02	ORHY (10)	26.5	22.5	27.5	+,NSC
		ORHY (30)	79.0	74.5	82.0	+,NSC
		EULA5 (10)	11.5	8.0	10.5	-,NSC
		EULA5 (30)	48.0	43.0	51.5	+,NSC
Currie Gardens	CU-09	ORHY (30)	7.5	12.0	12.0	+,NSC
		SIHY (30)	58.0	49.0	54.0	-,S
4 °	*	ATCO (30)	69.5	40.5	47.0	-,S
Cottonwood	CU-22	AGSP (30)	75.0	50.0	53.0	-,S
Canyon		STCO4 (30)	37.0	44.0	33.5	-,NSC

(-) decrease

(S) Significant Change

(+) increase (NSC) No Significant Change

(=) no change

Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change.

(-,S) This implies that there was a significant decrease in the frequency of occurrence of the key species.

Currie Allotment McDermid Unit Frequency							
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1986)	SECOND READING (1989)	THIRD READING (1997)	CHANGE	
Currie Flats	CU-01	ORHY (30)	10.5	8.0	14.0	+,S +,S +,S	
		EULA5 (30)	8.0	9.5	14.0		
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1979)	SECOND READING (1983)	THIRD READING (1989)	FOURTH READING (1997)	CHANGE
Calf Cyn. L.	CU-16	AGSP (30)	1.0	10.5	7.0	16.5	+,S
McDermid Cyn.		PUTR2 (30)	29.5	24.5	15.5	26.0	-,NSC
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1986)	SECOND READING (1989)	THIRD READING (1997)	CHANGE	
Upper McDermid Cyn.	CU-17	AGSP (30)	77.5	71.0	81.5	+,NSC	
		STLE4 (30)	· 4.5	2.5	4.0	-,NSC	
		PUTR2 (30)	22.5	17.5	25.5	+ NSC	

(-) decrease

(S) Significant Change

(+) increase (NSC) No Significant Change

(=) no change

Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change.

(-,S) This implies that there was a significant decrease in the frequency of occurrence of the key species.
North Butte Valley Allotment Frequency											
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1983)	SECOND READING (1988)	THIRD READING (1997)	CHANGE					
Palamino Sdg.	L001	AGCR	43.5	41.0	41.0	-,NSC					
Lower Sdg	L002	AGCR	N/A	44.5	10.0	-,S					
South	Loo3	SPAI	25.0	19.5	18.5	-,S					
÷		ELTR3	37.5	42.0	61.5	+,S					
North	L004	SPAI	62.0	60.5	36.75	-,S					
		ELC12	16.5	12.5	9.75	-,S					
Spring	L005	ELC12	35.0	43.5	16.0	-,S					
		MURI	24.0	26.5	34.5	+,S					

(S) Significant Change

(+) increase (NSC) No Significant Change

(=) no change

Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change.

(-,S) This implies that there was a significant decrease in the frequency of occurrence of the key species.

Odgers Allotment Frequency												
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1988)	SECOND READING (1995)	CHANGE							
Odgers	1010	AGSM	43.5	41.0	-,NSC							
		DIST	44.0	32.0	-,S							
		JUBA	17.5	31.0	+,S							
 (-) decrease (S) Significant Change (+) increase (NSC) No Significant Change (=) no change Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change. 												
(-,S) This implies	that there wa	s a significant decreas	e in the frequency of occurrence	of the key species.								

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Bald Mountain Allotment Frequency											
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1988)	SECOND READING (1995)	CHANGE						
Bald Mt.	1009	AGSP	43.5	41.0	-,NSC						
		PUTR2	44.0	32.0	-,S						
(-) decrease (S) Significant Change (+) increase (NSC) No Significant Change (=) no change Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change.											

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Maverick/Ruby #9 Allotment Frequency													
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1983)	SECOND READING (1988)	THIRD READING (1993)	FOURTH READING (1998)	CHANGE						
Minnow	KA-01	ORHY (30)	59.0	69.5	80.0	89.0	+,S						
Spring Well		ORHY (10)	N/A	22.0	30.0	34.0	+,S						
Ruby #9		EULA5 (30)	52.5	54.0	56.0	61.5	+,NSC						
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1988)	SECOND READING (1993)	THIRD READING (1998)		CHANGE						
Ruby	KA-02	ORHY (30)	40.5	59.0	58.5	1	+,S						
Wash		EUILA5 (10)	56.0	49 5	45.0		-,8						
PASTURE	KEY AREA	KEY SPECIES (FRAME SIZE) (inches)	FIRST READING (1988)	SECOND READING (1993)	THIRD READING (1998)	CHANGE							
Cherry	KA-03	AGSP (30)	5.5	7.5	34.0		+.S						
Spring	-	STTH2 (30)	3.0	10.0	10.5		+,5						
(-) decrease(+) increase(=) no change	e	(S) Significan (NSC) No Sign	t Change ificant Change										

Example: (-,NSC) This implies that there was a slight decrease in the frequency of occurrence of the species, however, it was not a significant change.

(-,S) This implies that there was a significant decrease in the frequency of occurrence of the key species.

III. Ecological Site Inventory Results for the Maverick/Medicine Complex

Currie Allotment ESI			
Total Acres Surveyed and (Classified		
Seral Stage	Acres	% of Total Acres Surveyed	% of Total Acres in Allotment
Early Seral	12,125	11%	8%
Mid Seral	56,128	53%	37%
Late Seral	33,305	31%	22%
PNC	5,677	5%	4%
Total	107,235	100%	71%
Total Acres Unclassified			
Description	Acres	% of Total Acres Unclassified	
Woodland	14,146	32%	9.1%
Inclusions	18,497	42.4%	12.1%
Seedings	5,450	12%	3.5%
Rock Outcrop	2,474	5.3%	2%
Water	3,244	7%	2%
Fenced Private	482	1%	.2%
Hwy/Road	100	.2%	.06%
Total	43,203	100%	
Total Classified and Unclassified	149,848		98.75%

North Butte Valley Allotn	oent ESI		
Total Acres Surveyed and C	Classified		
Seral Stage	Acres	% of Total Acres Surveyed	% of Total Acres in Allotment
Early Seral	0	0	0
Mid Seral	631	3.8	2
Late Seral	13,299	81.6	42.6
PNC	2,379	14.6	7.6
Total	16,309	100	52.2
Total Acres Unclassified			
Description	Acres	% of Total Acres Unclassified	
Woodland	2,642	26%	8%
Inclusions	4,660	43%	15%
Playa	233	2%	.7%
Rock Outcrop	582	5%	1.3%
Total	10,759	100%	25%
Total Classified and Unclassified	31,265		100%

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Odgers Allotment ESI			
Total Acres Surveyed and Cl	assified		
Seral Stage	Acres	% of Total Acres Surveyed	% of Total Acres in Allotment
Early Seral	1,556	9%	7%
Mid Seral	13,807	79%	59%
Late Seral	1,753	10%	7%
PNC	405	2%	2%
Total	17,521	100%	75%
Total Acres Unclassified			
Description	Acres	% of Total Acres Unclassified	
Woodland	2,194	36%	8%
Inclusions	3,636	61%	16%
Rock Outcrop	174	3%	1%
Total	6,004	100%	
Total Classified and Unclassified	23,525		100%

Bald Mountain Allotment	ESI		
Total Acres Surveyed and O	Classified		
Seral Stage	Acres	% of Total Acres Surveyed	% of Total Acres in Allotment
Early Seral	0	0%	0%
Mid Seral	631	4%	2%
Late Seral	13,299	82%	43%
PNC	2,379	14%	8%
Total	16,309	100%	53%
Total Acres Unclassified			
Description	Acres	% of Total Acres Unclassified	
Woodland	8,590	59%	28%
Inclusions	4,689	33%	15%
Rock Outcrop	1,221	8%	4%
Total		100%	
Total Classified and Unclassified	30,809		100%

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	82		22	20	53	83	93					82				1					83		52	2	22			83		2			2.3	8	1	25		-	53		x	2	-	x	22		-	55		22	
44	88	1	œ	9	80	66	82		х.		0	сų,		53		۰.	22		22	68	ю	o	R.	84	й.			1	63	14	4	20		8	88	×	-	-	20	œ	e,	66	-		63	14	æ	20	88	88	Q
- 65	12	æ		23	-	62	2	14	22	62	44		÷		п	э	69	14	1	2	22	-1	85	а.		12	88	18	65	ъ		- 22	10	4.	2	۰.	65	~	22		F.	25	n	-2	8 B	- 22	54	68	55	88	
н	v	ч	-	80	۰.	14		т		H.	ы		D.	z			8	11	Ο.	۰	c	ы	Ð	а.	н	-	13		- 1	10		÷		•	н	т			1	38	ю	8	л	22	20		а.	23	æ	80	
		л		۰.		1	-	ж			-		۰.	22			e.	12	а.		23	х	-	œ	x	26	e	с.	3			а.		۰.		1		2		-		22	-	-	2.2		е.	с.	22	83	ň

Total Acres Surveyed and Classified

Seral Stage	Acres	% of Total Acres Surveyed	% of Total Acres in Allotment
Early Seral	0	0	0
Mid Seral	4,576	10%	8%
Late Seral	35,753	75%	62%
PNC	7,119	15%	12%
Total	47,448	100%	82%
Total Acres Unclassified			
Description	Acres	% of Total Acres Unclassified	
Woodland	9,965	94%	17%
Inclusions	667	6%	1%
Total	10,632	100%	18%
Total Classified and Unclassified	58,080		100%

Currie Allotment Ke	y Area Ecological S	Status			
KEY AREA	1986	1988	1989	1995	1997
Currie Flats CU01	54% late-seral		48% mid-seral 448 lbs/ac.		47% mid-seral 1,020 lbs/ac.
Mustang Well CU02	37% mid-seral 570 lbs/ac.		30% mid-seral 339 lbs/ac.		71% late-seral 1,550 lbs/ac.
Currie Gardens CU09	30% mid-seral 1,268 lbs/ac.		48% mid-seral 595 lbs/ac.		52% late-seral 620 lbs/ac.
Calf/L. McDermid Canyon CU16	38% mid-seral 6,515 lbs/ac.		29% mid-seral 1,457 lbs/ac.	A.	35% mid-seral 4,104 lbs/ac.
U. McDermid Canyon CU17	37% mid-seral 3,212 lbs/ac.		29% mid-seral 6,115 lbs/ac.		48% mid-seral 4,035 lbs/ac.
Cottonwood Canyon CU22	44% mid-seral 2,417 lbs/ac.		36% mid-seral 2,107 lbs/ac.		33% mid-seral 9,668 lbs/ac.

IV. Ecological Status Results for the Maverick/Medicine Complex

North Butte Valley A	liotment Key Area	Ecological Status			
KEY AREA	1986	1988	1989	1995	1997
South Pasture KA L003		46% mid-seral 1,695 lbs/ac		73% late- seral 1,457 lbs/ac.	
North Pasture KA L004		55% late-seral 1,089 lbs/ac.		40% mid- seral 872 lbs/ac.	
Spring Pasture KA L005		63% late-seral 3,715 lbs/ac.		20% early- seral 1,804 lbs/ac.	8

Bald Mountain Allotment Key Area Ecological Status				
Key Area	1988	1999		
KA 1009	35% mid-seral 1,711 lbs/ac.	56% late-seral 2,649 lbs/ac.		

Odgets Allotment Key Area Ecological Status				
Key Area	1988	1995		
KA 1010	16% early-seral 1,878 lbs/ac.	8% early-seral 5,775 lbs/ac.		

Mavenck/Ruby # 1	9 Allotment Key Area E	cological Status		
KEY AREA	1988	1993	1997	1999
Minnow Well 4323-01	42% mid-seral 413 lbs/ac.	59% late-seral 1,300 lbs/ac.	59% late-seral 1,955 lbs/ac.	
Ruby Wash 4323-02	37% mid-seral 481 lbs/ac.	N/A	73% PNC 2,269 lbs/ac.	а ⁴ нт п
Cherry Springs 4323-03	44% mid-seral 684 lbs/ac.	45% mid-seral 512 lbc/ac.		49% mid-seral 2,305 lbs/ac.

Maverick/Ruby 9 Allotment : Ruby #9 Use Area Use Pattern Map Data:

1992 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use (0%)	10,756	39.7%
Slight (1% - 20%)	3,675	13.6%
Light (21% - 40%)	3,132	11.6%
Moderate (41% - 60%)	4,845	17.9%
Heavy (61% - 80%)	4,298	15.9%
Severe (81% - 100%)	406	1.5%
Total	27,112	100.2%

Use Zone	Acres Mapped	% Acres Used
Non Use (0%)	14,129	52.1%
Slight (1% - 20%)	1,589	5.9%
Light (21% - 40%)	2,048	7.6%
Moderate (41% - 60%)	4,830	17.8%
Heavy (61% - 80%)	4,428	16.3%
Severe (81% - 100%)	88	.3%
Total	27,112	100%

Use Zone	Acres Mapped	% Acres Used
Non Use (0%)	20,496	75.6%
Slight (1% - 20%)	2,357	8.7%
Light (21% - 40%)	1,930	7.1%
Moderate (41% - 60%)	1,778	6.6%
Heavy (61% - 80%)	551	2%
Severe (81% - 100%)	0	0%
Total	27,112	100%

Maverick/Ruby #9 Allotment: Maverick Use Area Use Pattern Map Data

Use Zone	Acres Mapped	% Acres Used
Non Use (0%)	43,957	92.1%
Slight (1% - 20%)	694	1.5%
Light (21% - 40%)	928	1.9%
Moderate (41% - 60%)	1,051	2.2%
Heavy (61% - 80%)	1,099	2.3%
Severe (81% - 100%)	0	0%
Total	47,729	100%

Odgers Allotment Use Pattern Map Data:

1992 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	1,337	5.2%
Slight (1% - 20%)	23,650	91.5%
Light (21% - 40%)	410	1.6%
Moderate (41% - 60%)	439	1.7%
Heavy (61% - 80%)	0	0%
Severe (81% - 100%)	0	0%
Total	25,836	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	923	3.6%
Slight (1% - 20%)	14,267	55.2%
Light (21% - 40%)	6,349	24.6%
Moderate (41% - 60%)	2,451	9.5%
Heavy (61% - 80%)	1,590	6.2%
Severe (81% - 100%)	256	1%
Total	25,836	100.1%

Use Zone	Acres Mapped	% Acres Used
Non Use	12,256	47.4%
Slight (1% - 20%)	4,253	16.5%
Light (21% - 40%)	3,932	15.2%
Moderate (41% - 60%)	2,480	9.6%
Heavy (61% - 80%)	2,506	9.7%
Severe (81% - 100%)	409	1.6%
Total	25,836	100%

1988 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	9,871	38.2%
Slight (1% - 20%)	4,114	15.9%
Light (21% - 40%)	6,811	26.4%
Moderate (41% - 60%)	3,563	13.8%
Heavy (61% - 80%)	1,326	5.1%
Severe (81% - 100%)	151	.6%
Total	25,836	100%

1987 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	17,509	67.8%
Slight (1% - 20%)	0	0%
Light (21% - 40%)	2,658	10.3%
Moderate (41% - 60%)	2,511	9.7%
Heavy (61% - 80%)	2,385	9.2%
Severe (81% - 100%)	773	3%
Total	25,836	100%

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North Butte Valley Use Pattern Map Data: Juniper Seeding

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Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	5,692	78%
Light (21% - 40%)	587	8%
Moderate (41% - 60%)	922	12.6%
Heavy (61% - 80%)	150	2.1%
Severe (81% - 100%)	0	0%
Total	7,351	100.7%

1993 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	2,642	36.2%
Light (21% - 40%)	2,825	38.7%
Moderate (41% - 60%)	1,745	23.9%
Heavy (61% - 80%)	134	1.8%
Severe (81% - 100%)	0	0%
Total	7,346	100.6%

Use Zone	Acres Mapped	% Acres Used
Non Use	4,469	61.2%
Slight (1% - 20%)	1,057	14.5%
Light (21% - 40%)	1,153	15.8%
Moderate (41% - 60%)	527	7.2%
Heavy (61% - 80%)	94	1.3%
Severe (81% - 100%)	0	0%
Total	7,300	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,749	51.4%
Slight (1% - 20%)	1,610	22.1%
Light (21% - 40%)	1,229	16.8%
Moderate (41% - 60%)	593	8.1%
Heavy (61% - 80%)	119	1.6%
Severe (81% - 100%)	0	0%
Total	7,300	100%

North Butte Valley Use Pattern Map Data: North Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	3,218	42.7%
Slight (1% - 20%)	1,246	16.5%
Light (21% - 40%)	1,717	22.8%
Moderate (41% - 60%)	1,200	15.9%
Heavy (61% - 80%)	140	1.9%
Severe (81% - 100%)	14	.2%
Total	7,535	100%

1996 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	3,272	43.4%
Slight (1% - 20%)	1,516	20.1%
Light (21% - 40%)	1,519	20.2%
Moderate (41% - 60%)	1,079	14.3%
Heavy (61% - 80%)	149	2%
Severe (81% - 100%)	0	0%
Total	7,535	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,530	46.8%
Slight (1% - 20%)	421	5.6%
Light (21% - 40%)	2,231	29.6%
Moderate (41% - 60%)	1,150	15.3%
Heavy (61% - 80%)	203	2.7%
Severe (81% - 100%)	0	0%
Total	7,535	100%

North Butte Valley Use Pattern Map Data: Lower Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	18	.4%
Slight (1% - 20%)	0	0%
Light (21% - 40%)	1,918	44.1%
Moderate (41% - 60%)	1,936	44.5%
Heavy (61% - 80%)	479	11%
Severe (81% - 100%)	0	0%
Total	4,351	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	186	4.3%
Slight (1% - 20%)	670	15.4%
Light (21% - 40%)	1,244	28.6%
Moderate (41% - 60%)	1,557	35.8%
Heavy (61% - 80%)	680	15.6%
Severe (81% - 100%)	14	.3%
Total	4,351	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	1,634	37.6%
Slight (1% - 20%)	0	0%
Light (21% - 40%)	642	14.8%
Moderate (41% - 60%)	1,299	29.9%
Heavy (61% - 80%)	776	17.8%
Severe (81% - 100%)	0	0%
Total	4351	100.1%

North Butte Valley Use Pattern Map: Spring Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	93	1.9%
Slight (1% - 20%)	1,487	30.8%
Light (21% - 40%)	1,927	39.9%
Moderate (41% - 60%)	1,240	25.7%
Heavy (61% - 80%)	77	1.6%
Severe (81% - 100%)	6	.1%
Total	4,830	100%

1989 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	1,576	32.6%
Light (21% - 40%)	1,724	35.7%
Moderate (41% - 60%)	1,212	25%
Heavy (61% - 80%)	347	7.2%
Severe (81% - 100%)	0	0%
Total	4,859	100.5%

Use Zone	Acres Mapped	% Acres Used
Non Use	87	1.8%
Slight (1% - 20%)	0	0%
Light (21% - 40%)	2,766	57.3%
Moderate (41% - 60%)	913	18.9%
Heavy (61% - 80%)	913	18.9%
Severe (81% - 100%)	151	3.1%
Total	4,830	100%

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North Butte Valley Use Pattern Map Data: South Pasture

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Use Zone	Acres Mapped	% Acres Used
Non Use	2,787	55.1%
Slight (1% - 20%)	386	7.6%
Light (21% - 40%)	645	12.7%
Moderate (41% - 60%)	989	19.5%
Heavy (61% - 80%)	253	5%
Severe (81% - 100%)	0	0%
Total	5,060	99.9%

Use Zone	Acres Mapped	% Acres Used
Non Use	2,731	54%
Slight (1% - 20%)	378	7.5%
Light (21% - 40%)	916	18.1%
Moderate (41% - 60%)	809	16%
Heavy (61% - 80%)	190	3.8%
Severe (81% - 100%)	36	.7%
Total	5,060	100.1%

1992 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	2,766	56.7%
Slight (1% - 20%)	234	4.6%
Light (21% - 40%)	849	16.8%
Moderate (41% - 60%)	1,048	20.7%
Heavy (61% - 80%)	152	3%
Severe (81% - 100%)	11	.2%
Total	5,060	102%

Currie Allotment: Mustang Well Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	8,703	50%
Light (21% - 40%)	7,136	41%
Moderate (41% - 60%)	1,567	9%
Heavy (61% - 80%)	0	0%
Severe (81% - 100%)	0	0%
Total	17,406	100%

1988 Grazing Year - complete

Currie Allotment: Currie Gardens Pasture

Use Zone	Acres Mapped	% Acres Used	
Non Use	0	0%	
Slight (1% - 20%)	18,975	65%	
Light (21% - 40%)	2,919	10%	
Moderate (41% - 60%)	7,298	25%	
Heavy (61% - 80%)	0	0%	
Severe (81% - 100%)	0	0%	
Total	29,192	100%	-*

Use Zone	Acres Mapped	% Acres Used
Non Use	2,920	10%
Slight (1% - 20%)	7,298	25%
Light (21% - 40%)	5,546	19%
Moderate (41% - 60%)	12,844	44%
Heavy (61% - 80%)	584	2%
Severe (81% - 100%)	0	0%
Total	29,192	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	10,801	37%
Light (21% - 40%)	6,422	22%
Moderate (41% - 60%)	11,385	39%
Heavy (61% - 80%)	584	2%
Severe (81% - 100%)	0	0%
Total	29,192	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	292	1%
Slight (1% - 20%)	7,006	24%
Light (21% - 40%)	10,509	36%
Moderate (41% - 60%)	10,801	37%
Heavy (61% - 80%)	584	, 2%
Severe (81% - 100%)	0	0%
Total	28,900	100%

Currie Allotment: Calf Canyon

Use Zone	Acres Mapped	% Acres Used
Non Use	1,555	72.8%
Slight (1% - 20%)	80	3.7%
Light (21% - 40%)	260	12.2%
Moderate (41% - 60%)	180	8.4%
Heavy (61% - 80%)	60	2.8%
Severe (81% - 100%)	0	0%
Total	2,135	99.9%

Currie Allotment: Lower McDermid Canyon Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	4,247	68.5%
Slight (1% - 20%)	8707	14.1%
Light (21% - 40%)	0	0%
Moderate (41% - 60%)	841	13.6%
Heavy (61% - 80%)	235	3.8%
Severe (81% - 100%)	0	0%
Total	6,200	100%

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1987 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	4,238	68.4%
Slight (1% - 20%)	310	5%
Light (21% - 40%)	631	10.2%
Moderate (41% - 60%)	688	11.1%
Heavy (61% - 80%)	272	4.4%
Severe (81% - 100%)	61	1%
Total	6,200	100.1%

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Use Zone	Acres Mapped	% Acres Used
Non Use	4,806	77.5%
Slight (1% - 20%)	415	6.7%
Light (21% - 40%)	348	5.6%
Moderate (41% - 60%)	462	7.5%
Heavy (61% - 80%)	169	- 2.7%
Severe (81% - 100%)	0	0%
Total	6,200	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	4,561	73.6%
Slight (1% - 20%)	1,009	16.3%
Light (21% - 40%)	378	6.1%
Moderate (41% - 60%)	126	2%
Heavy (61% - 80%)	63	1%
Severe (81% - 100%)	63	1%
Total	6,200	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,354	54%
Slight (1% - 20%)	576	9.3%
Light (21% - 40%)	1,702	27.5%
Moderate (41% - 60%)	347	56%
Heavy (61% - 80%)	32	.5%
Severe (81% - 100%)	189	3%
Total	6,200	99.9%

Use Zone	Acres Mapped	% Acres Used
Non Use	4,737	76.4%
Slight (1% - 20%)	820	13.2%
Light (21% - 40%)	126	2%
Moderate (41% - 60%)	378	6.1%
Heavy (61% - 80%)	126	2%
Severe (81% - 100%)	13	.2%
Total	6,200	99.9%

Currie Allotment: Upper McDermid Canyon Pasture

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	Use Zone	Acres Mapped	% Acres Used
	Non Use	5,493	79.4%
	Slight (1% - 20%)	330	4.8%
	Light (21% - 40%)	0	0%
а.	Moderate (41% - 60%)	912	13.2%
	Heavy (61% - 80%)	185	2.7%
	Severe (81% - 100%)	0	0%
	Total	6,920	100.1%

1987 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	5,492	79.4%
Slight (1% - 20%)	137	2%
Light (21% - 40%)	200	2.9%
Moderate (41% - 60%)	892	12.9%
Heavy (61% - 80%)	196	2.8%
Severe (81% - 100%)	3	0%
Total	6,920	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	5,552	80.2%
Slight (1% - 20%)	116	1.7%
Light (21% - 40%)	120	1.7%
Moderate (41% - 60%)	987	14.3%
Heavy (61% - 80%)	145	2.1%
Severe (81% - 100%)	0	0%
Total	6,920	100.1%

1991 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	5,470	79%
Slight (1% - 20%)	276	4%
Light (21% - 40%)	138	2%
Moderate (41% - 60%)	898	13%
Heavy (61% - 80%)	69	1%
Severe (81% - 100%)	69	1%
Total	6,920	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	5,537	80%
Slight (1% - 20%)	553	8%
Light (21% - 40%)	69	1%
Moderate (41% - 60%)	622	9%
Heavy (61% - 80%)	35	.5%
Severe (81% - 100%)	104	1.5%
Total	6,920	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	5,399	78%
Slight (1% - 20%)	69	1%
Light (21% - 40%)	69	1%
Moderate (41% - 60%)	1,244	18%
Heavy (61% - 80%)	104	1.5%
Severe (81% - 100%)	35	.5%
Total	6,920	100%

Currie Allotment: Cottonwood Canyon Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	2,570	31%
Slight (1% - 20%)	2,485	30%
Light (21% - 40%)	828	10%
Moderate (41% - 60%)	1,739	21%
Heavy (61% - 80%)	580	7%
Severe (81% - 100%)	83	1%
Total	8,285	100%

1987 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	3,894	47%
Slight (1% - 20%)	1,242	15%
Light (21% - 40%)	745	9%
Moderate (41% - 60%)	1,657	20%
Heavy (61% - 80%)	580	7%
Severe (81% - 100%)	167	2%
Total	8,285	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	4,144	50%
Slight (1% - 20%)	911	11%
Light (21% - 40%)	911	11%
Moderate (41% - 60%)	1,739	21%
Heavy (61% - 80%)	497	6%
Severe (81% - 100%)	83	1%
Total	8,285	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,562	43%
Slight (1% - 20%)	1,325	16%
Light (21% - 40%)	663	8%
Moderate (41% - 60%)	2,154	26%
Heavy (61% - 80%)	414	5%
Severe (81% - 100%)	167	2%
Total	8,285	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,896	47%
Slight (1% - 20%)	1,242	15%
Light (21% - 40%)	1,491	18%
Moderate (41% - 60%)	1,325	16%
Heavy (61% - 80%)	248	3%
Severe (81% - 100%)	83	1%
Total	8,285	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	3,068	37%
Slight (1% - 20%)	1,574	19%
Light (21% - 40%)	1,242	15%
Moderate (41% - 60%)	1,822	22%
Heavy (61% - 80%)	331	4%
Severe (81% - 100%)	248	3%
Total	8,285	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	816	9.8%
Light (21% - 40%)	2,415	29.1%
Moderate (41% - 60%)	2,620	31.6%
Heavy (61% - 80%)	206	2.5%
Severe (81% - 100%)	0	0%
Total	6,057	73%

Currie Allotment:: Goshute Lake Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	1,322	8%
. Light (21% - 40%)	2,809	17%
Moderate (41% - 60%)	11,567	70%
Heavy (61% - 80%)	826	5%
Severe (81% - 100%)	0	0%
Total	16,524	100%
Use Zone	Acres Mapped	% Acres Used
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Non Use	3,469	21%
Slight (1% - 20%)	3,966	24%
Light (21% - 40%)	2,479	15%
Moderate (41% - 60%)	6,610	40%
Heavy (61% - 80%)	0	0%
Severe (81% - 100%)	0	0%
Total	16,524	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	3,470	21%
Light (21% - 40%)	4,297	26%
Moderate (41% - 60%)	8,592	52%
Heavy (61% - 80%)	165	1%
Severe (81% - 100%)	0	0%
Total	16,524	100%

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Use Zone	Acres Mapped	% Acres Used
Non Use	0	0%
Slight (1% - 20%)	5,122	31%
Light (21% - 40%)	10,741	65%
Moderate (41% - 60%)	661	4%
Heavy (61% - 80%)	0	0%
Severe (81% - 100%)	0	0%
Total	16,524	100%

Currie Allotment: Twin Springs Seeding Pasture

Use Zone	Acres Mapped	% Acres Used
Non Use	879	17%
Slight (1% - 20%)	414	8%
Light (21% - 40%)	1,811	35%
Moderate (41% - 60%)	672	13%
Heavy (61% - 80%)	1,035	20%
Severe (81% - 100%)	362	7%
Total	5,173	100%

Use Zone	Acres Mapped	% Acres Used	
Non Use	1,397	27%	
Slight (1% - 20%)	310	6%	
Light (21% - 40%)	931	18%	
Moderate (41% - 60%)	1,500	29%	
Heavy (61% - 80%)	776	15%	
Severe (81% - 100%)	259	5%	
Total	5,173	100%	

1991 Grazing Year - complete

Use Zone	Acres Mapped	% Acres Used
Non Use	1,241	24%
Slight (1% - 20%)	983	19%
Light (21% - 40%)	1,552	30%
Moderate (41% - 60%)	1,242	24%
Heavy (61% - 80%)	155	3%
Severe (81% - 100%)	0	0%
Total	5,173	100%

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Use Zone	Zone Acres Mapped % Acres	
Non Use	0	0%
Slight (1% - 20%)	2,690	52%
Light (21% - 40%)	310	6%
Moderate (41% - 60%)	621	12%
Heavy (61% - 80%)	1,552	30%
Severe (81% - 100%)	0	0%
Total	5173	100%

Use Zone	Acres Mapped	% Acres Used
Non Use	1,448	28%
Slight (1% - 20%)	1,862	36%
Light (21% - 40%)	1,397	27%
Moderate (41% - 60%)	466	9%
Heavy (61% - 80%)	0	0%
Severe (81% - 100%)	0	0%
Total	5,173	100%

Currie Allotment: McDermid Seeding Pasture

Use Zone	Acres Mapped % Acres Used 0 0%	
Slight (1% - 20%)		
Light (21% - 40%)	185	10%
Moderate (41% - 60%)	92	5%
Heavy (61% - 80%)	1,479	80%
Severe (81% - 100%)	0	0%
Total	1,756	95%

Bald Mountain Allotment Use Pattern Map Data

1988 Grazing Year - complete

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Use Zone	Acres Mapped	% Acres Used
Non Use (0%)	16,993 54.3%	
Slight (1% - 20%)	% - 20%) 3,746 11.9%	
Light (21% - 40%)	6,909	22.1%
Moderate (41% - 60%)	3,375	10.8%
Heavy (61% - 80%)	178	.6%
Severe (81% - 100%)	82	.3%
Total	31,283	100%

Use Zone	Acres Mapped	% Acres Used	
Non Use (0%)	20,174	64.5%	
Slight (1% - 20%)	2,737	8.7%	
Light (21% - 40%)	3,980	12.7%	
Moderate (41% - 60%)	4,019	12.8%	
Heavy (61% - 80%)	276	.9%	
Severe (81% - 100%)	97	.3%	
Total	31,283	99.9%	

Appendix 2 : Livestock Carrying Capacity Tables

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APPENDIX 2

ESTIMATED CARRYING CAPACITY CALCULATIONS FOR THE MAVERICK/MEDICINE COMPLEX AND SETTING APPROPRIATE MANAGEMENT LEVEL FOR Wild horses

The following is a summary of the carrying capacity calculations for livestock and wild horses by allotment. Utilization and actual use data were used along with the objective or desired utilization level. Actual use data includes use by cattle and wild horses wild horses where applicable. The carrying capacity for the Maverick/Medicine Complex was calculated using the following formula:

C.C. = <u>Actual Use (Livestock and Wild horses) x KA Util. Obj.</u> Utilization recorded at the KA

Desired capacity was determined for each year in each key area that utilization data was collected. An average of those years (minus the high and low readings) were used to calculate the carrying capacity for each pasture.

If more than one key area exists within a pasture, the key area wild horses which best represents the highest level of significant use was selected to determine the carrying capacity for the pasture.

In the Currie Allotment the carrying capacity for livestock in the Currie Flats, Currie Hills, and Dry Canyon pastures will remain as identified in the Currie AMP. There is insufficient data to modify carrying capacity for these pastures.

CARRYING CAPACITY ANALYSIS CURRIE ALLOTMENT MUSTANG WELL PASTURE					
Key Species	indian ricegrass (OI	RHY) white sage (EUL	A5), saltbush (ATRIP)		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ²	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMs ³⁴
1988-89	722	24	746	not read	N/A
1989-90	597	24	621	not read	N/A
1990-91	686	3	689	CU-06 ATNU-56%	616
1991-92	466	31	497	CU-02 ORHY-68%	365
1992-93	139	0	139	not read	N/A
1993-94	812	17	829	CU-02 EULA5-52%	797
1994-95	732	62	794	CU-02 EULA5-55%	722
1995-96	494	68	562	CU-02 EULA5-55%	511
1996-97	817	76	893	CU-02 EULA5-57%	783
1997-98	826	0	826	CU-02 ORHY-58%	712
1998-99	602	0	602	CU-02 EULA5-42%	716
AVG.	626	28	654		677
	Total C	arrying Capacity for the	Mustang Well Pasture		638 (livestock) 39 (Wild horses)

² Actual use by wild horses as determined by aerial census flights.
 ³ See Appendix 3 for a summary of how AML was established by allotment and pasture.
 ⁴ Bolded values were not used in the average carrying capacity.

CARRYING CAPACITY ANALYSIS CURRIE ALLOTMENT CURRIE GARDENS PASTURE							
Key Specie	es: Indian ricegras	s (ORIAN), white se	ige (EAUL5), bud sage (ARSP5)			
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMS ⁴⁴		
1988-89	649 ¹	0	649	CU-09 ORHY-54%	601		
1989-90	7821	48	782	CU-09 ORHY-54%	724		
1990-91	7021	0	702	CU-09 ORHY-41%	856		
1991-92	648 ¹	72	720	CU-10 ORHY-42%	857		
1992-93	542 ¹	127	669	CU-10 ORHY-40%	836		
1993	580	60	640	CU-09 ORHY-49%	653		
1994	492	146	638	CU-09 ORHY-47%	679		
1995	587	204	791	not read	N/A		
1996	529	244	773	not read	N/A		
1997	441	352	793	CU-09 ORHY-51%	777		
1998	540	140	680	CU-09 ORHY-41%	829		
AVG.	590	127	712		769		
	586 (livestock) 183 (Wild horses)						

³ See Appendix 3 for a summary of how AML was established by Allotment and pasture.
 ⁴ Bolded values were not used in the average carrying capacity.

		CARRY	TING CAPACITY ANA CURRIE ALLOTMENT SHUTE LAKE PASTU	LYSIS	
Key Speci	es: Indian ricegras	ss (ORHY) bud sageb	rush (ARSP5)		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMS ²³
1988	585	N/A	585	CU-12 ARSP5-57%	513
1989	677	12	689	CU-11 ORHY-52%	663
1990	530	36	586	CU-11 ORHY-46%	637
1991	272	8	280	not read	
1992	62	532	594	CU-13 ORHY-45%	660
1993	36	747	783	not read	N/A
1994	266	285	551	CU-12 ORHY-32%	861
1995	468	346	814	not read	N/A
1996	102	12	114	not read	N/A
1997	466	11	477	CU-12 ORHY- 47%	507
1998	66	0	66	not read	N/A
AVG.	466	199	504		653
Total Carry	539 (livestock) 114 (Wild horses)				
¹ Actual use ² See Appe	e by wild horses as ndix 3 for a summa	determined by aerial ce ry of how AML was esta	nsus flights. Iblished by Allotment a	ind pasture.	

³ Bolded values were not used in the average carrying capacity.

key Spec	Key Species: bluebunch wheatgrass (AGSP) antelope bitterbrush (PUTR2)							
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR	TOTAL CARRYING CAPCITY AUMS ⁴⁴			
1991	375	0	375	CU-16 AGSP-46%	407			
1992	336	0	336	CU-16 PUTR2-42%	200			
1993	rested	36	36	not read	N/A			
1994	348	15	363	CU-16 PUTR2-21%	432			
1995	351	0	351	CU-16 PUTR2-45%	187			
1996	rested	0	0	not read	N/A			
1997	412	0	412	CU-16 PUTR2-20%	515			
1998	499	375	874	CU-16 PUTR2-21%	1,040			
AVG.	387	47	344		389			
Total Carr	ying Cpacity for t	he Calf Canyon/Lowe	er McDermid Canyon Pa	isture.	369 (livestock) 20(Wild horses)			

CARRYING CAPACITY ANALYSIS CURRIE ALLOTMENT UPPER MCDERMID CANYON PASTURE								
Key Spe	cles: antelope l	bitterbrush (PUTR2),	bluebunch wheatgras	s (AGSP), needle and th	readgrass (STCO4)			
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ²	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR ⁴	TOTAL CARRYING CAPACITY AUMS ⁴⁵			
1991	551	0	551	CU-17 AGSP-54%	510			
1992	11 ¹	0	11	not read	N/A			
1993	403	13	416	CU-17 AGSP-54%	385			
1994	457	7	464	CU-18 AGSP-59%	393			
1995	47 ¹	0	47	not read for livestock use.	N/A			
1996	498	0	498	not read	N/A			
1997	598	0	598	CU-17 AGSP-51%	586			
1998	rest	0	0	not read	N/A			
AVG.	501	3	369		452			
Total Car	rying Capacity f	452(livestock) 0(Wild horses)						

 ¹ actual use was made by unauthorized livestock
 ² Actual use by wild horses as determined by aerial census flights.
 ³ The herbaceous key species with the highest recorded use was used to determine carrying capacity. The AE is proposing to change the season of use in this pasture which would result in the herbaceous key species being the limiting factor.

⁴ See Appendix 3 for a summary of how AML was established by Allotment and pasture.
 ⁵ Bolded values were not used in the average carrying capacity.

CARRYING CAPACITY ANALYSIS GURRIE ALLOTMENT COTTONWOOD CANYON PASTURE							
Key Spec	les: bluebunch	wheatgrass (AGSP)	columbia needlegraa	в (51с04)	an a		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMS ²⁰		
1988	618	0	618	CU-26 STCO4-65%	475		
1989	608	0	608	CU-22 STCO4-61%	498		
1990	478	0	478	CU-23 AGSP-52%	460		
1991	516	174	690	CU-22 AGSP-57%	605		
1992	281	77	358	CU-22 STCO4-43%	416		
1993	349	109	458	CU-22 AGSP-58%	395		
1994	481	4	485	CU-23 AGSP-23%	1,054		
1995	486	0	486	CU-24 AGSP-49%	496		
1996	704	0	704	not read	N/A		
1997	594	0	594	CU-26 AGSP-42%	707		
1998	497	318	815	not read	N/A		
AVG.	510	47	572		522		
	asture	450(livestock) 72(Wild horses)					
¹ Actual us ² See App	se by wild horse endix 3 for a sur	s as determined by ae mmary of how AML wa	rial census flights. s established by Allotm	nent and pasture.			

CARRYING CAPACITY ANALYSIS CURRIE ALLOTMENT TWIN SPRINGS SEEDING PASTURE								
Key Species: crested wheatgrass (AGCR)								
YEAR	ACTUAL USE Livestock AUMS	WILD HORSE ACTUAL USE AUMS ²	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMS ²³			
1988	525	0	525	CU-29 AGCR-67%	509			
1989	510	0	510	CU-29 AGCR-52%	638			
1990	387	0	387	not read	N/A			
1991	402	0	402	CU-29 AGCR-41%	637			
1992	470	0	470	CU-28 AGCR-73%	418			
1993	348	11	359	not read	N/A			
1994	503	0	503	CU-29 AGCR-41%	797			
1995	657	0	657	CU-29 AGCR-42%	1,016			
1996	426	0	426	CU-29 AGCR-44%	629			
1997	540	0	540	CU-29 AGCR-41%	856			
1998	594	0	594	CU-29 AGCR-30%	1,287			
AVG.	487	1	488		726			
	Total Carrying Capacity for the Twin Springs Seeding Pasture							
¹ Actual us ² See App ³ Bolded v	se by wild hors bendix 3 for a su values were not	es as determined by a ummary of how AML w t used in the average of	erial census flights. as established by Alloti arrving capacity.	ment and pasture.				

		CAF MC	REVING CAPACITY AN CURRIE ALLOTMEN DERMID SEEDING PA	ALYSIS T STURE	
Key Spec	les: crested wh	leatgrass (AGCR)			
YEAR	ACTUAL USE Livestock AUMS	WILD HORSE ACTUAL USE AUMs'	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY AUMS ²³
1992	1,309	3	1,312	CU-31 AGCR-73%	1,168
1993	446	2	448	CU-31 AGCR-58%	502
1994	462	29	491	AGCR-12% ¹	2,660
1995	835	84	919	CU-31 AGCR-39%	1,532
1996	604	48	652	not read	N/A
1997	no use	60	60	not read	N/A
1998	601	0	601	CU-32 AGCR-48%	814
1999	686	0	686	CU-32 AGCR-53%	841
AVG.	706	28	646		1,089
	1,037(livestock) 52(Wild horses)				

³ Bolded values were not used in the average carrying capacity.

CARRYING CAPACITY ANALYSIS NORTH BUTTE VALLEY ALLOTMENT LOWER SEEDING							
Key specie	es: crested whe	atgrass AGCR					
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS1	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY (AUMS) ²			
1990	344	No use by wild	AGCR-61%	367			
1991	rested	horses The Lower Seeding is	not read	N/A			
1992	rested	enclosed by a fence.	not read	N/A			
1993	241		AGCR-59%	266			
1994	partial use		not read	N/A			
1995	324		AGCR-27%	780			
1996	484		AGCR-39%	685			
1997	rested		not read	N/A			
1998	384		AGCR-32%	780			
AVG.	355			526			
Total carrying capacity for the Lower Seeding 526(livestock) Pasture							
* In 1994 th 11/27. ¹ Actual use ² Bolded va	ne Lower seeding by wild horses a	y was used in conjunction as determined by aerial ce	with the Juniper and Palom nsus flights. capacity.	ino seedings from 10/4 to			

		NORTH BUTTE PALO	E VALLEY ALLOTMENT MINO SEEDING	
Key speci	es: crested wheat	grass, AGCR		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY (AUMS) ²
1990	276	No use by wild horses	AGCR- 56%	320
1991	108	•	AGCR-70%	100
1992	268		AGCR-60%	290
1993	255		AGCR- 36%	460
1994	384		AGCR- 40%	624
1995	rested		not read	N/A
1996	317		AGCR- 39%	528
1997	647		AGCR- 39%	1,078
1998	rested		not read	N/A
AVG.	322			444
Total Carry	ying Capacity for the	e Palamino Seeding Pasture		444(livestock)

		CA NOR	RRYING CAPACITY ANAL TH BUTTE VALLEY ALLO JUNIPER SEEDING	YSIS TMENT	
Key Spec	ies: crested wh	eatgrass (AGCR)			
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY (AUMS) ²³
1990	rested	0	0	not read	N/A
1991	202	0	202	not read	N/A
1992	178	11	189	AGCR-63%	195
1993	rested	0	0	not read	N/A
1994	94	0	94	not read	N/A
1995	303	0	303	AGCR-27%	729
1996	rested	0	0	not read	N/A
1997	310	0	310	AGCR-49%	411
1998	412	0	412	AGCR-26%	1,030
AVG.	281	1	252		570
Total Can	ying Capacity for	the Juniper Pasture		c	551(livestock) 19(Wild horses)

³ Bolded values were not used in the average carrying capacity.

	CARRYING CAPACITY ANALYSIS NORTH BUTTE VALLEY ALLOTMENT SPRING PASTURE								
Key Spec	les: great basin	wildrye (ELCI2)							
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	TOTAL CARRYING CAPACITY (AUMS) ³				
1990	243	0	243	ELCI2- 51%	238				
1991	191	0	191	ELCI2- 67%	143				
1992	74	0	74	not read	N/A				
1993	235	0	235	not read	N/A				
1994	249	0	249	not read	N/A				
1995	350	17	367	not read	N/A				
1996	310	24	334	not read	N/A				
1997	310	32	342	ELCI2- 28%	611				
1998	250	0	250	ELCI2- 42%	298				
AVG.	237	8	254		246 237 (Livestock) 9(Wild horses)				

¹ Actual use by wild horses as determined by aerial census flights.
 ² See Appendix 3 for a summary of how AML was established by Allotment and pasture. The carrying capacity for the Spring pasture would be adjusted to the average actual use. Current monitoring data shows that long term objectives and the habitat standard for rangeland health or not being met in the Spring pasture. Current average actual use is making use at or below the utilization objective level.
 ³ Bolded values were not used in the average carrying capacity.

	CARRYING CAPACITY ANALYSIS NORTH BUTTE VALLEY ALLOTMENT NORTH PASTURE							
Key Spec	les: great basin wildry	/e (ELC12)						
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR	CARRYING CAPACITY (AUMS) ²²			
1990	303	0	303	ELCI2- 42%	361			
1991	266	0	266	ELCI2- 57%	233			
1992	158	18	174	not read	N/A			
1993	247	116	363	SPAI- 43%	422			
1994	34	61	95	not read	N/A			
1995	310	38	348	not read	N/A			
1996	304	80	384	not read	N/A			
1997	250	92	342	not read	N/A			
1998	311	8	319	ELCI2- 18%	886			
AVG.	243	46	288		295 243(Livestock) 52(Wild horses)			

¹ Actual use by wild horses as determined by aerial census flights. ² See Appendix 3 for a summary of how AML was established by Allotment and pasture. The carrying capacity for the North pasture would be adjusted to the average actual use. Current monitoring data shows that long term objectives and the habitat standard for rangeland health or not being met in the North pasture. Current average actual use is making use at or below the utilization objective level.

³ Bolded values were not used in the average carrying capacity.

		C/ NOR	ARRYING CAPACITY ANAL TH BUTTE VALLEY ALLO SOUTH PASTURE	LYSIS TMENT	
Key Specie	s: great basin w	lidrye (ELCi2) , alkalia s	acaton (SPAI)		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	CARRYING CAPACITY (AUMS) ²³
1990	377	0	377	not read	N/A
1991	264	0	264	ELCI2- 62%	213
1992	275	76	351	SPAI- 49%	358
1993	86	148	234	not read	N/A
1994	283	18	301	not read	N/A
1995	303	229	532	not read	N/A
1996	175	296	471	SPAI- 36%	655
1997	317	646	963	SPAI- 32%	1,035
1998	250	149	399	not read	N/A
AVG.	259	130	432		507 372 (Livestock) 135(Wild horses)

¹ Actual use by wild horses as determined by aerial census flights.
 ² See Appendix 3 for a summary of how AML was established by Allotment and pasture.
 ³ Bolded values were not used in the average carrying capacity.

		C/	RRYING CAPACITY ANALYS ODGERS ALLOTMENT	IS	
Key Specie	es: alkalla sacaton	(SPAI), Inland saltgr	ass (DIST), juncus (JUNC)		
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses (AUMS) ¹	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL LIMITING FACTOR	CARRYING CAPACITY (AUMS) ²³
1988	1,596	216	1,812	DIST - 49%	1,664
1989	1,596	252	1,848	DIST - 51%	1,812
1990	1,596	300	1,896	SPAI - 54%	1,756
1991	1,596	427	2,023	JUNC - 44%	2,399
1992	1,596	303	1,899	SPAI - 41%	2,316
1993	1,596	450	2,046	not read	N/A
1994	1,596	239	1,835	not read	N/A
1995	1,596	380	1,976	not read	N/A
1996	1,596	708	2,304	JUNC 34%	3,388
1997	1,596	830	2,426	SPAI - 46%	2,637
1998	1,596	427	2,023	SPAI - 48%	2,107
AVG.	1,596	350	2,029		2,171 1,932 (Livestock) 239 (Wild horses)

¹ Actual use by wild horses as determined by aerial census flights.
 ² See Appendix 3 for a summary of how AML was established by Allotment and pasture. The carrying capacity for the Odgers Allotment would be adjusted to the average actual use. Current monitoring data shows that long term objectives and the habitat standard for rangeland health or not being met in the Odgers Allotment. Current average actual use is making use at or below the utilization objective level.
 ³ Bolded values were not used in the average carrying capacity.

			CARRYING CA BALD MOUNT	PACITY ANALYSIS TAIN ALLOTMENT			
Key Species: antelope bitterbrush (PUTR2)							
YEAR	ACTUAL USE Livestock AUMS	WILD HORSE ACTUAL USE AUMs ¹²	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL. LIMITING FACTOR	WILD HORSE (AUMS) ³	LIVESTOCK CARRYING CAPACITY (AUMS)*	
1988	1991	N/A	N/A	PUTR2-63%		707	
1989	937			PUTR2-58%		726	
1990	952			PUTR2-57%		751	
1991	736			PUTR2-38%		871	
1992	837			PUTR2-42%	6 (1) (1) (1)	822	
1993	958			PUTR2-49%		879	
1994	952			not read		N/A	
1995	no use			not read		N/A	
1996	1,103			PUTR2-54%		919	
1997	1,122			PUTR2-54%		935	
1998	1,014			PUTR2-47%		970	
AVG.	960	330			330	843	
Total Carry	Total Carrying Capacity for the Bald Mountain Allotment				33(84 33)) + 843 = 1,173 13(Livestock) 0(Wild horses)	

¹ Wild Horse use is independent of livestock use in the Bald Mountain Allotment. Therefore the wild horse average actual use will be used to set the AML for the Bald Mountain Allotment.
 ² Actual use by wild horses as determined by aerial census flights.
 ³ See Appendix 3 for a summary of how AML was established by Allotment and pasture.
 ⁴ Bolded values were not used in the average carrying capacity.

CARRYING CAPACITY ANALYSIS MAVERICK/RUBY #9 ALLOTMENT RUBY #9 USE AREA							
Key Species	: Indian ricegrass (O	RHY), white sage ((EULA5), bottlebrush	squirreitail (SIHY)			
YEAR	ACTUAL USE Livestock ÄUMS	WILD HORSE ACTUAL USE AUMS'	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL RUBY #9 (MINNOW WELL)	TOTAL CARRYING CAPACITY ⁴		
1988-89	228	180	408	43% EULA5	474		
1989-90	476	948	1,424	55% UPM ²	1295		
1990-91	276	1,092	1,368	60% UPM ²	1140		
1991-92	485	804	1,289	76% ORHY	1018		
1992-93	no-use	759	759	61% UPM ²	622		
1993-94	no-use	443	443	55% ORHY	483		
1994-95	370	717	1,087	68% EULA5	799		
1995-96	no-use	304	304	63% EULA5	241		
1996-97	no-use	574	574	not read	not determined		
1997-98	382	1,212	1,594	not read	not determined		
1998-99	467	684	1,152	27% EULA5	2,131		
AVG.	383	702	946		833 683 (livestock) 150 (wild horses)		

¹ Actual use by wild horses as determined by aerial census flights.
 ² Utilization was calculated using the weighted average from UPM's.
 See Appendix 3 for a summary of how AML was established by Allotment and pasture.
 ³ Bolded values were not used in the average carrying capacity.

CARRYING CAPACITY ANALYSIS MAVERICK/RUBY #9 ALLOTMENT RUBY WASH WINTER USE AREA						
YEAR	ACTUAL USE Livestock AUMS	ACTUAL USE Wild horses AUMS	TOTAL ACTUAL USE (AUMS) Livestock & Wild horses	KMA UTIL RUBY WASH	CAPACITY FOR EACH KEY SPECIES (AUMS)	AVERAGE CARRYING CAPACITY
87-88	0	708		not read		
88-89	0	816		not read		
89-90	0	192		not read		
90-91	391	216		not read		
91-92	153	660		Ruby Wash 10% ORHY 4% EULA5		
92-93	0	638		Ruby Wash 0% ORHY 62% EULA5	0 514	514
93-94	279	353		Ruby Wash 65% ORHY 63% EULA5	583 501	542
94-95	365	365		Ruby Wash 50% ORHY 72% EULA5	876 506	691
95-96	363	419		Ruby Wash ORHY not read 56% EULA5	698	698
96-97	354	576		Ruby Wash 72% ORHY 30% EULA5	775 1,550	1,062
97-98	455	672		not read	N/A	N/A
98-99	1,053	648		Ruby Wash 38% ORHY 37% EULA5	2,686 2,298	2,492
99-00	1,203	756	1,959	Ruby Wash 65% ORHY 76% EULA5	1,546 1,506	1,526
Avg	513	551				904 741(livestock 163(Wild horse

¹ Actual use by wild horses as determined by aerial census flights. ² See Appendix 3 for a summary of how AML was established by Allotment and pasture Appendix 3: Wild Horse Data Tables

onth/Year	Number in Antelope	Number in Currie	% in Currie
	Valley HMA	Allotment	Allotment
6/85	349	95	27%
2/87	379	44	12%
6/88	131	21	16%
3/90	465	27	6%
2/91	366	30	8%
9/91	369	111	30%
3/92	583	80	14%
6/92	446	111	25%
9/92	576	176	31%
1/93 ¹	347	78	24%
5/93	312	61	19%
8/93	279	66	24%
12/93	427	75	18%
3/94	392	54	14%
8/94	377	121	32%
3/95 ²	310	36	12%
2/97	441	43	10%
7/98	524	215	41%

Table 2. Wild Horse Census Results - North Butte Valley Allotment						
Month/Year	Number in Maverick/Medicine HMA	Number in North Butte Valley Allotment	% in North Butte Valley Allotment			
9/85	291	41	15%			
12/85	224	24	11%			
6/87	443	0	0%			
2/89	323	0	0%			
7/91	507	0	0%			
6/92	580	0	0%			
9/92	589	30	5%			
1/93	597	17	3%			
5/93	401 ¹	35	9%			
8/93	390	30	8%			
1/94	406	16	4%			
8/94	452	18	4%			
3/95	375²	19	5%			
9/95	378	30	8%			
2/97	696	3	0 (.43%)			
7/98	675 ³	19	3%			
Average % in th	ne North Butte Valley Allo	otment	5%			

3

A horse gather took place in November, 1994. A horse gather took place in July 1997, however many horses are believed to have immigrated to the HMA from the Ely Buck and Bald HMA.

Table & Wild Horse Consus Results - Odgers Alloiment					
MontinMean	Number in Maverick/Medicine HMA	Number in Odgers Allotment	% in Oelgens Alleiment		
9/85	291	28	10%		
12/85	224	0	0%		
6/87	443	16	4%		
2/89	323	21	7%		
7/91	507	43	8%		
6/92	580	20	3%		
9/92	589	37	6%		
1/93	597	5	1%		
5/93	401 ¹	0	0%		
8/93	390	74	19%		
1/94	406	10	2%		
8/94	452	31	7%		
3/95	375 ²	15	4%		
9/95	378	53	14%		
2/97	696	69	10%		
7/98	675 ³	16	2%		
Average % in it			3%		

3

A horse gather took place in November, 1994. A horse gather took place in July 1997, however many horses are believed to have immigrated to the HMA from the Ely Buck and Bald HMA.

Table 4. With Horse Cansus Results - Balti Moumain Altorman						
Monin/Year	Number in Maventik/Medicine HIMA	Number in Bald Mountain Alforment	% of Mevertek Medicine Horse Population in Batel Mounatin Allorment			
9/85	291	106	36%			
12/85	224	3	1%			
6/87	443	103	23%			
2/89	323	3	0%			
7/91	507	89	18%			
6/92	580	166	29%			
9/92	589	129	22%			
1/93	597	0	0%			
5/93	401 ¹	19	5%			
8/93	390	78	20%			
1/94	406	70	17%			
8/94	452	56	12%			
3/95	375 ²	42	11%			
9/95	378	83	22%			
2/97	696	0	0%			
7/98	675 ³	200	30%			
Average % in the Bald Mountain Allotment						

2 3

A horse gather took place in November, 1994. A horse gather took place in July 1997, however many horses are believed to have immigrated to the HMA from the Ely Buck and Bald HMA.

Table 5, Wild Horse Census Results: Maverte /Ruby #9 Allotment					
Montil/Year	Number in Maverie@Medieme HM/A	Number in Maveriek/Ruby #9 Allotment	% m Maverie/Ruby #9/Alloment		
6/87	443	72	16%		
2/89	323	95	29%		
7/91	507	122	24%		
6/92	580	94	16%		
9/92	589	129	22%		
1/93	597	111	19%		
5/93	401 ¹	77	19%		
8/93	390	44	11%		
1/94	406	57	14%		
8/94	452	122	27%		
3/95	375 ²	51	14%		
9/95	378	nd ³	nd		
2/97	696	136	20%		
7/98	675⁴	111	16%		
AVALATION % IN IN	e Maveriek/Rulov #8 Alloi	ກອກໄ	×(C)%		

A horse gather took place in November, 1994.

The entire Maverick-Medicine HMA was not flown due to time constraints and an inexperienced pilot.

A horse gather took place in July 1997, however many horses are believed to have immigrated to the HMA from the Ely Buck and Bald HMA.

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Wable 6. Determination of MML in the Currite Allorintens, Summer Use Areas and Sectings								
(†IM/A (& Initia) †ero) (Size)*	Avg. % of total FIMAy WH's in Currie Allet	AV.g. #oi WHXsin Cuinte Allot	Pestures in RIMA	Avg. % in each pasture	Trotal/AML (AUIMs/#is) for each (Pasture	(Fow Determined		
Antelope Valley (299)	20%	60	Calf/L.McDermid Cyn.	6%	20/3h	299 (WH) x 12 months = 3,588 AUMs 20% (avg % in Currie) x 3,588 = 718 AUMs		
			U.McDermid Cyn.	0%	0/0h	718 (AUMs) + 5,369 (total livestock permitted use in the Currie Allot.) = 6,087 (total WH and Lvst.) AUMs		
			McDermid Sdg.	16%	52/4h	718 AUMs/6,087 AUMs = 12% of the forage allocation to WH		
			Currie Gardens	56%	183/15h	12% x 6,254 AUMs (adjusted total Carrying Capacity) = 750 (AUMs)		
			Cottonwood Cyn.	22%	72/12h	750 AUMs - 423 AUMs (winter use areas WH allocation) = 327 AUMs		
		1. A.	Twin Springs Sdg.	0%	0/0	327AUMs was proportioned to each pasture based on average % of horse numbers in each pasture.		
Total AML fo and Seeding	Total AML for the Summer Use Areas 327 AUMs/34 wild horses and Seedings in the Currie Allotment 327 AUMs/34 wild horses							
¹ Initia ² Base with	 Initial herd size as outlined in the Wells Wild Horse RMP Amendment. Based on initial herd size and census data, this column represents the number of wild horses that should be within the Currie Allotment. 							

Table 7 Determination of AML in the Currie Alloiment, Combined Winter Use Aveas						
- Men	Average Key Area Utilization (%)	Average Astnal Use by Wild horses	Pre-fivesneck Utilization Objective	Desired Carrying Capacity		
1992-93	26%	1,135	10%	87 197		
1994-95	10%	1,001	10%	1,001		
1995-96	no data	no data	10%	no data		
1996-97	30%	205	10%	68		
1997-98	17%	172	10%	i (c) i		
1998-99	13%	949	10%	(30)		
Average Carwing Capacity						
 The winter use areas include Currie Hills, Currie Flats, Mustang Well and the Goshute Lake pastures. The shaded cells indicate years that were used in determining wild horse carrying capacity. The formula actual use (ALIMs) = desired corriging capacity. 						

actual utilization

1

desired utilization (10%)

Puble 3. Determination of AVIL in the Currie Allorment, Combined Winter Use Area, by Pasture						
Pasime	% of Florses in Pasime	ANNE (for Pasture AUMS/Incree #s				
Currie Hills	54%	228/19h				
Mustang Well	9%	39/3h				
Currie Flats	10%	42/4h				
Goshute Lake	27%	114/10h				
Total AML for the Winter Use A	423/36h					

% of horses within the Currie Allotment that use each pasture.

Total AVIL to the Curve Altoment, Summer and Winter Use Areas 750 AUMS/6

Table 9 Determination of AML in the North Butte Valley Alloiment						
DHMA & miin Herd Size ¹	Avg. 20 of total HMA WHYS in NBA Alloit	Avg. # of WH's in NBV Allot?	Pastmesin HMA	Avg. % in each pasture	Total AML (AUMs/#3) for each Pasture	tHow Determined
Maverick/ Medicine (273)	5%	14	Lower Sdg.	0%	0/0h	273 (WH) x 12 months = 3,276 AUMs 5% (avg % in NBV) x 3,276 = 164 AUMs 164 (AUMs) + 1,257 (total lvst
			Palomino Sdg.	0%	0/0h	
			Juniper Sdg.	9%	19/2h	Spring, and Juniper Sdg) = 1,421 AUMs (WH and lvst).
			Spring	4%	9/1h	 104 AOMS 1,421 AOMS = 12.8 (of the forage allocation to WH) 12% x 1,792 (adjusted total Carrying Capacity for the North, South, Spring, and Juniper Sdg pastures) = 215 AUMS 215 AUMs was proportioned to each pasture based on average % of horse numbers in each pasture.
			North	24%	52/4h	
			South	63%	135/11h	
Total AML and wild horse numbers in the North Butte Valley Allotment		215 AUMs/18 wild horses				
¹ Initia ² Base Butte	l herd size as out d on initial herd s e Valley Allotmer	lined in the We size and census	ells Wild Horse RMP data, this column rep	Amendment. presents the nur	nber of wild horse	es that should be within the North

Table (): Der HMA A (nita) Herol Sizev	ermination of A Avg. % or total HIMA WH's In Odgers Allot	AVG. Joh AVG. Joh WHKaln Odgers Allor	gers Allotment Pastures In HMA	Avg. % in each (pasture	Total AML (AUMS/73) (or each Pasture	tov Datermineu	
Maverick/M edicine (273)	6%	16	Odgers Allotment	N/A	239/20h	273 (WH) x 12 months = 3,276 AUMs 6% (avg % in Odgers) x 3,276 = 197 AUMs 197 (AUMs) + 1,596 (total lvst permitted use in Odgers) =	
1 Initial herd size as outlined in the 2 Paged on initial herd size as outlined in the			239 AUMs/20 wild horses			1,793 AUMs (total WH and Lvst) 197 AUMS/1,793 = 11% (of the forage allocation to WH) 11% x 1,596 (adjusted total Carrying Capacity for Odgers) = 239 (AUMs) f wild horses that should be	
Table III. Determination of AVIL in the Bald Monniam Ailloiment							
---	---	--	---	-------------------------------	--	---	
HUA A Inita Herri Size	Avg. % 5/ toal HMA WH's In Bale Mt Allot	Avg, a off Witterin BatorMit Allois	Pathures in HUA	Avg: % in each pasiture	TOTEL AME (AUME/4*3) for Catch Pasture	How Determined	
Maverick/ Medicine (273)	20%	55	Bald Mountain Allotment	N/A	330/55	20% of 273 (WH) = 55 WH 55 WH x 6 months ³ = 330 AUMs	
Total AML an the Bald Mou	d wild horses nu ntain Allotment	mbers in	330 AUMs/55 wild horses for 6 months				
 Based on initial herd size and census data, this column represents the number of wild horses that should be within the Bald Mountain Allotment. Initial herd size as outlined in the Wells Wild Horse RMP Amendment. Wild horses use the Bald Mountain Allotment 6 months/ year. The Bald Mt. Allotment is a summer use area for wild horses due to topography and elevation. 							

Table 12. 1	Decermination o	AWIL -MANAF	ek/Ruby#9):	Vloiment	
HMA &Initial Herd Size	Avg. % of total HMA-WH's in Mav/Ruby #9 Allot	Avg. # of WH's in Maverick/Ruby #9 Allot	Use Areas In HMA	Total AML (AUMs/#*s) for each Pasture	tiov Pateminee
Maverick/ Medicine (273)	19%	52	Ruby #9 Maverick Ruby Wash	150 296 163	273 (WH) x 12 months = 3,276 AUMs 19% (avg % in Maveric/Ruby #9) x 3,276 = 622 AUMs 622 (AUMs) + 2,774 (total lvst permitted use in Maverick/Ruby#9) = 3,396 AUMs (total WH and Lvst) 622 AUMs/3,396 AUMs = 18% (of the forage allocation to WH) 18% of the total post evaluation carrying capacity in each pasture was
Total AML and wild horse numbers in the Maverick/Ruby #9 Allotment ¹ Initial herd size as outlined in the Wells Wild F ² Based on initial herd size and census data, this			609 AUMs/51 wild horses		allocated to wild horses. See the livestock carrying capacity summary for calculations.

Table IS AVIL On the	Bable 13. AVIL for the Meverlek Methone HMIA					
- EIMFA	Alloiment	Initial Herei Size	AMIL			
Maverick-Medicine	Bald Mountain	55	55²			
	Odgers	16	20			
	North Butte Valley	14	18			
	Maverick/Ruby #9	52	51			
	West Cherry Creek	32	32 ³			
	Spruce	104	104 ³			
TOEL		27/3	280			
Antelope Valley	Currie	60	40 ⁴			
	Antelope Valley	10	10			
	Spruce	181	181			
	West Whitehorse	not determined ⁵	pending			
	South pasture, Utah- Nevada #1	not determined⁵	pending			
	Ferber Flat	not determined ⁵	pending			
	Badlands	not determined ⁵	pending			
	Boone Springs	not determined ⁵	pending			
	Sugarloaf	not determined ⁵	pending			
	Whitehorse	not determined ⁵	pending			
TOEL		2099)	231 (logae)			
1- Initial herd size	e from the Wells RMP Wi	ild Horse Amendment. as	modified by the Spruce			

¹⁻ Initial herd size from the Wells RMP Wild Horse Amendment, as modified by the Spruce and West Cherry Creek FMUDs.

² Wild horses were alloted 330 AUMs in the Bald Mountain Allotment. This is 55 horses for 6 months or 27 horses for 12 months.

³ These AMLs were established in the West Cherry Creek FMUD, dated 8/30/94 and the Spruce FMUD.

⁴ The AML for the Currie Allotment is lower due to the Highway 93 fence and the resulting horse free pastures.

⁵ The allotment evaluation for these allotments is in progress. The percent of the Antelope Valley HMA wild horses in each allotment has not been determined at this time.

Table 14. Summary of AML							
HMIA	Recruitment Rate	AML - Frange to be Managed					
Antelope Valley	18%	119-231					
Maverick-Medicine	17%	149-280					

To calculate the range of AML, the following mathematical equation was used: Maximum AML/1+the recruitment rate. Horse would be gathered down to the low end of the ANL and allowed to increase over a four year period to the maximum AML. Once at the maximum AML a gather would occur. Appendix 4: Riparian Data

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MAVERICK/MEDICINE COMPLEX, SUMMARY OF PROPER FUNCTIONING CONDITION 1998-99

Per BLM Technical References TR 1737-15 and TR 1737-16, the following descriptions are provided to clarify the data presented in this appendix.

Proper functioning condition (PFC). Riparian/wetland areas are considered to be in proper functioning condition when adequate vegetation, landform, large woody or other debris is present to:

- dissipate stream energy associated with high water flow, or in the case of springs or ponds to dissipate energy associated with overland flow from adjacent sites, wind action, and wave action, thereby reducing erosion and improving water quality;
- filter sediment, capture bedload, and aid floodplain development;
- improve flood water retention and groundwater recharge;
- develop root masses that stabilize streambanks and shoreline features against cutting action;
- develop diverse ponding and channel characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses;
- support greater biodiversity.

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The functioning condition of riparian-wetland areas is a result of interaction among geology, soil, water, and vegetation. If a riparian-wetland area is not in PFC, it is placed into one of three other categories:

<u>Functional-at-risk</u>. Riparian/wetland areas that are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

<u>Nonfunctional</u>. Riparian/wetland areas that clearly are not providing adequate vegetation, landform, or debris to dissipate stream energy associated with high flows, or in the case of springs and ponds, overland flow, wind, or wave energy and thus are not reducing erosion, improving water quality, etc. as listed above.

Unknown. Riparian-wetland areas that BLM lacks sufficient information on to make any form of determination.

Trend is reported for areas that are identified as functional-at-risk, and is a key consideration in interpreting the data. Areas identified as functional-at-risk with a downward trend are often the highest management priority because a decline in resource values is apparent. Yet these areas often retain much of the resiliency associated with a functioning area. There is usually an opportunity to reverse this trend through changes in management. Functional-at-risk areas with an upward trend are improving

but remain at risk. They are often a priority for monitoring efforts to determine if movement toward PFC is sustained.

Appendix 5 c	Appendix 5 continued: MAVERICK/MEDICINE COMPLEX, SUMMARY OF PROPER FUNCTIONING CONDITION, 1998-99						
Area	Source	Identifica- tion #	Legal Description	Date	Status	Trend	
CURRIE ALLOTMENT							
Goshute Lake	Spring 1	MM-98-01	N26E64 02 NENE	7/7/98	PFC		
Pasture	Spring 2	-2	N26E64 10 SENE	"	Nonfunctional		
	Spring 3	-3	N27E64 15 NESE	66	PFC		
Lower McDermid Canyon	Calf Canyon Creek	-4	N27E63 22,23 (2 reaches)	"	1-PFC		
				"	2-Nonfunctional		
Pasture	Corral Canyon Creek	-5	N27E63 34, 35	7/6/98	Func at Risk	Not Apparent	
Upper	McDermid Creek	-6	N26E63 03,10 (4 reaches)	55	1-Func at Risk	Not Apparent	
McDermid Canyon				"	2-Func at Risk	Downward	
Pasture				"	3-Nonfunctional		
			(lower McDermid Cr.)	"	4-Func at Risk	Upward	
	McDermid Creek Seep	-7	N26E63 10 NENE	10/19/98	PFC		
Dry Canyon Pasture	Dry Canyon Springs	-8	N26E64 18 NESW	"	(Dry)		

Area	Source	Identifica- tion #	Legal Description	Date	Status	Trend
Cottonwood Canyon Pasture	Cottonwood Canyon Creek	-9	N28E63 17	7/8/98	Func at Risk	Downward
	West Fork Cottonwood	-10	N23E63 18	66	1-Func at Risk	Downward
	Canyon Creek		(2 reaches)	"	2-Func at Risk	Not Apparent
	Augustine Spring	-11	N23E63 18 SESW	66	Func at Risk	Downward
	South Fork	-12	N28E63 19 (2 reaches)	"	1-Func at Risk	Downward
	Cottonwood Canyon Creek			"	2-Func at Risk	Not Apparent
	Spring/Seep Complex	-14	N28E63 29 SWSW	55	Func at Risk	Upward
	Bare Spring	-15	N27E63 05 NWNE	£6	Func at Risk	Downward
		MAVERIC	CK-RUBY #9 ALLOTMF	İNT		
Allotment-	Cherry Spring	-19	N26E59 02 NESW	7/10/98	Nonfunctional	
Wide	Gardner Spring	-20	N27E59 20 NWSE	66	Nonfunctional	
	Tick/Cone Spring	-21	N27E59 33 NESE	"	Nonfunctional	

Are a	Source	Identifica- tion #	Legal Description	Date	Status	Trend			
	ODGERS ALLOTMENT								
Allotment- wide	Taylor Canyon Creek	-18	N27E62 04 (lower exclosure)	7/15/99	PFC				
	Mud Spring	-22	N27E61 11 SESE	7/9/98	Func at Risk	Downward			
	Odgers Creek	-23	N27E62 06, 07, 17 &	7/13/98	1-Nonfunctional	56			
			N27E61 36 (4 reaches)	"	2-PFC (exclosure)				
				**	3-Func at Risk	Downward			
				55	4-Nonfunctional				
	North Fork Odgers Creek	-24	N27E62 17	10/15/98	Nonfunctional				
	Spring 1	-25	N27E62 17 NWSE	н	Func at Risk	Downward			
	Spring/Seep Complex	-26	N27E62 17 S½NE & NWSE	п	Nonfunctional				
	Taylor Spring Creek	-28	N28R62 07 SESW	7/15/99	PFC				
	Spring Complex North	-29	N28E62 20 NE	7/15/99	Func at Risk	Downward			

SUMMARY: -9 lotic (creeks) mostly functional at risk downward and not apparent trends with spots of PFC and upward trend. -15 lentic (spring/seep sites): 3 at PFC, 1 functional at risk upward trend, 5 functional at risk downward trend, 5 nonfunctional,1 dry. Appendix 5: Fire Management Plan

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Table of Contents

I

Introduction
Background Information
B-5 Ruby Marshes Franklin Lake and Snow Water Lake
B-6 Low Sagebrush & Desert Shrub
B-7 Big Sagebrush Areas with Low to Moderate Response Potential
C-2 Mixed Conjfer
U-1 Small Towns Mining Operations and Recreation Sites -Urban Interface (Currie &
Odgers Ranch)
Fire History -6-
Table 1 Documented Fire History by Polygon -7-
Man 1. Mayerick/Medicine & West Cherry Creek Allotments Fire History and Fire
Polygons
Table 2. Cherry Creek Phase 1 Natural Ignition Plan
Table 3. Dispatch Run Card for Cherry Creek Phase 1 Natural Ignition Plan10-
Wildland Fire Suppression Tactics10-
Prescribed Fire and Fuels Management Objectives
Mixed Conifer Sites on the Cherry Creek Mountains
Aspen Sites in the Cherry Creek Mountains
Pinyon-Juniper
Sagebrush
Riparian Areas
Mountain Mahogany Stands14-
Monitoring and Evaluation15-
Map 2. Mayerick/Medicine & West Cherry Creek Allotments Prescribed Fire and Fuels
Projects

Introduction:

In 1998 the Elko Field Office prepared a new district-wide fire management plan, that encompasses all BLM administered public lands within the Elko District boundaries. This plan was prepared as per national direction and went through public review and internal review. This plan was approved at the national level in 1999. This plan defines the goals and general objectives for fire suppression, prescribed fire and fuels management for the District.

This site specific plan tiers off the Field Office plan and sets specific objectives for this area in the areas of prescribed fire fuels management. The wildland fire suppression objectives remain consistent with the Field Office plan. The site specificity of this plan will assist in meeting the goals and objectives of Elko Field Office Plan.

Background Information:

The Field Office fire management plan differentiated fire management goals and objectives by area and vegetation type. These areas (polygons) are the basis for all fire management activity within the district. The Maverick/Medicine Complex and the West Cherry Creek Allotment Fire Management Plan has six (6) of these areas located within its scope.

These areas (Map 1) and their descriptions are as follows:

B-4 Woodlands

Current Condition - The primary vegetation type in these polygons is woody vegetation dominated by Utah juniper, pinyon pine, bitterbrush and mountain mahogany with associated perennial grasses and shrubs. Management objectives are for woodland products and big game habitat.

Future Desired Condition - Maintain woodlands.

Constraints - None, unless archaeological sites are present. The critical watershed in this polygon is Taylor Canyon in the Cherry Creek Mountains.

Appropriate Fire Management Response - Fire Management Direction - Hold unplanned ignitions to 300 acres at least 90 percent of the time. The Battle Mountain and Ely Field Offices adjacent pinyon-juniper areas are in "C" polygons with much higher acreage totals (ranging from 1,000 to 5,000 acres) to hold unplanned ignitions to. The Elko District will be responsible for suppression costs of fires occurring within two miles of the District boundary that will cross boundaries. Fire history in these polygons is that of isolated small (0-10 acres) fires. The vegetation type is conducive to large wind-driven or plume-dominated fires that can burn 500 to 5,000 acres in one to two burning periods. Fire history for these areas show an average of 4.5 fires per year burning 175 acres.

Prescribed Fire/Fuels Management Opportunities - Mechanical vegetation treatments are preferred to change the vegetation age structure and composition. Prescribed fire should be used in a limited role to accomplish wildlife habitat goals while maintaining the woodland resources. When mechanical treatments cannot meet wildlife habitat management goals, use prescribed fire to create openings of 10 to 50 acres.

B-5 Ruby Marshes, Franklin Lake and Snow Water Lake

Current Condition - For the most part, the primary vegetation types do not have fire as part of their ecology. Vegetation is dominated by greasewood, shadscale and white sagebrush. Some inclusions of black sagebrush and pinyon-juniper woodlands exist in the higher elevations east of the Ruby Marshes. Some lower elevation sagebrush conversions to crested wheatgrass also exist. Primary management objectives for this area are to preserve sensitive cultural resources and to maintain the native vegetation for wildlife and livestock forage.

Future Desired Condition - Maintain native vegetation diversity. Reduce/prevent annual and non-native vegetation invasion.

Constraints - The main damage to the cultural sites does not come from the fire itself but from suppression activities. No mechanized equipment is to be used. An archaeologist needs to be on-site during suppression activities. Fire history in this area is minimal with an occasional small fire of less than one acre.

Appropriate Fire Management Response - Hold unplanned ignitions to 2,000 or less at least 90 percent of the time. Use MIST in desert shrub areas. At low fire activity levels (Manning Class 1 and 2) monitor unplanned ignitions in desert shrub if this will cause less resource damage than suppression. At higher fire activity levels (Manning Class 3 or higher) suppress all unplanned ignitions using MIST. Fire history for these areas show an average of 0.6 fires per year burning 0.2 acres.

Prescribed Fire/Fuels Management Opportunities - Prescribed fire can be considered as a management tool in portions of this area. Use prescribed fire in sagebrush and woodlands to accomplish specific management objectives. Chainings and seedings within this polygon will be maintained through the use of planned ignitions. These ignitions will not be considered part of the decadal burn targets since they are maintenance of existing developments.

B-6 Low Sagebrush & Desert Shrub

Current Condition - These areas are dominated by plant communities that do not have fire as part of their natural ecology. Vegetation types are dominated by desert shrub and low sage communities with varying degrees of perennial grasses and forb composition. Management objectives in these areas are to maintain the native community, to provide for livestock and wildlife forage. Some of the areas are important for winter antelope habitat.

Future Desired Condition - Prevent annual vegetation or non-native plant incursions into this vegetation type resulting from disturbance of the existing community. Maintain native vegetation composition.

Constraints - Low vegetation response potential, limited precipitation and fragile soils mean that mechanized equipment will scar the land and make rehabilitation expensive. Engine usage should be the preferred alternative since most of the fires occur next to roads.

Appropriate Fire Management Response - Hold unplanned ignitions to 100 acres at least 90 percent of the time. All human caused fires will be fully suppressed using minimal impact suppression techniques (MIST). At low fire activity levels, natural ignitions may be monitored if this will cause less ecological impact than suppression. All fires will be fully suppressed using MIST. Ely Field Office has an acreage target for unplanned ignitions of 50 acres for adjacent areas (Steptoe Valley) in the same vegetative community. Elko Field Office will suppress all fires within two (2) miles of the boundary to the higher Ely standard. Fire history in these areas show an average of 6.5 fires per year burning.

Prescribed Fire/Fuel Treatment Opportunities - Prescribed fire should be a very minor component in these areas; used to achieve only site specific resource objectives within the context of the larger area.

B-7 Big Sagebrush Areas with Low to Moderate Response Potential

Current Condition - The vegetation in these areas is dominated by big sagebrush and perennial grasses with bitterbrush on higher elevation sites. The management objectives in these areas are to maintain and improve the native vegetation conditions while protecting critical watersheds and providing forage for livestock and wildlife. These areas occur in lower precipitation zones (primarily 8-10"/year). The response potential following wildfire is limited due to current ecological conditions. This means that most wildfires in these areas will need rehabilitation to restore the native community and ground cover.

Future Desired Condition - Maintain and improve the native vegetation and species diversity. Increase perennial grass production. Improve riparian areas to make fully functioning.

Constraints - The low to moderate response potential of these sites means that mechanized equipment will leave long-term scars on the land and will increase the rehabilitation costs. Therefore, mechanized equipment should be used only to protect areas of high resource concerns or values, such as critical watersheds or streams and intermixed private property. The critical watersheds in this polygon are lower Marys River, North Fork Humboldt River, Pie, Jakes, Dry, Maggie, Indian, Susie, and Odgers Creeks.

Appropriate Fire Management Response - Hold unplanned ignitions to 300 acres or less at least 90 percent of the time. Minimize disturbance and retardant use in critical watersheds. Fire history in these areas is moderate with most fires being limited to one to 100 acres but 10-15 percent of the ignitions burn from 500 to 5,000+ acres. These areas also contain intermingled private property. Fire history for these areas show an average of 11.3 fires per year burning 2,894 acres.

Prescribed Fire/Fuel Management Opportunities - Prescribed fire may be used in limited areas to achieve specific management goals. Chainings and seedings within this polygon will be maintained through the use of planned ignitions. These ignitions will not be considered part of the decadal burn targets since they are maintenance of existing developments.

C-2 Mixed Conifer

Current Condition - These are high elevation areas with the predominant vegetation type being white fir, limber pine, bristlecone pine and spruce. These stands isolated on the tops of the higher elevation mountain ranges in the eastern part of the district. Because of the lack of disturbance most of these stands are becoming even aged stands and are dominated by dead standing and down trees. There is a heavy fuel load associated with these areas, making them more susceptible to a large stand replacing fire. Desired management for this area is to restore the health of the forest community. Some areas are also crucial big game habitat (Cherry Creek Mountains).

Future Desired Condition - Healthy mosaic of uneven aged conifer stands with reduced fuel loadings.

Constraints - Limited access into these areas makes aerial delivery of resources the most effective tool. The critical watershed in this polygon is upper Taylor Creek in the Cherry Creek Mountains.

Appropriate Fire Management Response - Hold unplanned ignitions to 100 acres at least 90 percent of the time. Fire history in these areas is that of occasional very small (0-1 acre) fires. The present stand composition would make any large wildfire (unplanned ignition) a lethal, stand replacement fire. Ely and Elko Districts will coordinate fire activity on the Cherry Creek Mountains. The districts will do a joint EFSA if a wildfire may cross jurisdictional boundaries. The Districts will also coordinate prescribed fire activities to cross district boundaries whenever appropriate. Fire history for these areas show an average of 1.1 fires per year burning 0.3 acres.

Prescribed Fire/Fuels Management Opportunities - Prescribed fire should play a large part in this process. Because of the fuel build-up in these areas, a series of low-intensity prescribed fires should be done to reduce fuel loadings, to open up mineral soil for seedling germination, to increase nutrient recycling and to create a mosaic of uneven aged pockets within the stand while avoiding total destruction of the stand as a whole. Prescribed fire can be used in conjunction with thinning projects to reduce the number of stems per acre. Planned ignitions will be used in these areas to meet the management objective of maintaining a healthy stand. Planned ignitions will be low-intensity surface fires with allowable torching of pockets of heavy fuels and will be planned in cycles (five years prior to reentry) to gradually reduce fuel loadings and create a mosaic of different aged stands. The entire polygon will be put into a planned ignition plan. The decadal burn target of approximately 23,500 acres is based on burning one half of the area once with low-intensity fire. Develop and apply fire prescription guidelines to allow for management of unplanned ignitions through monitoring and/or minimal suppression efforts in these areas if prescription guidelines are met. Planned ignitions will be curtailed if unplanned ignitions meet the decadal acreage target.

U-1 Small Towns, Mining Operations and Recreation Sites -Urban Interface (Currie & Odgers Ranch)

Current Condition - The primary vegetation type around these areas is sagebrush and perennial grasses with intrusions of cheatgrass and other annual vegetation. The management objective for these areas is to preserve and protect the developed features, life and property. This area also includes the rapidly growing urban interface around Elko and Spring Creek Recreation sites may be developed or undeveloped, but are moderately to heavily used during the summer and fall months.

Future Desired Condition - Maintain or improve the native vegetation in the area. Use vegetation manipulation to create buffer areas around critical developed sites to provide for public safety.

Constraints - Construction of fire line within the recreation sites should be avoided. If necessary, the minimum line needed should be located outside of developed sites, areas of concentrated use or Special Recreation Management Areas. Efforts should be made to keep unplanned ignitions from reaching these areas. Powerlines, communication sites and other critical sites within the mining and oil/gas sites need full protection. Problems associated with these areas include powerlines and arcing and chemical and explosive storage areas. Fire history for these areas shows an average of 9.4 fires per year burning 2,901 acres.

Appropriate Fire Management Response - Hold unplanned ignitions to minimal acreage within this polygon. Fire history is minimal because of their size, however, many can be easily threatened by wildfire. In particular, the towns of Midas and Tuscarora have been threatened in the past.

Prescribed Fire/Fuels Management Opportunities - Use planned ignitions to reduce fuel loadings. Most of the mining areas (Carlin Trend) and urban interface are within Nevada Division of Forestry protection zones. Work with NDF and the mining companies to do hazard fuel reduction (either mechanical or planned ignitions) around critical sites. Area also has great potential for green stripping projects to create buffers around critical areas.

Fire History

The Maverick-Medicine Complex and West Cherry Creek allotments have a moderate wildland fire occurrence. In the period from 1980 to 1996 there are 35 documented wildland fires. There is no easily accessible date for 1997 to 1999, but based on prior history, there are probably an additional 6 to 10 wildland fires. Approximately 66 percent of the wildland fires occur within the pinyon-juniper woodlands. The rest of the area has a very low fire occurrence. Most of these fires have been small, averaging less than ½ acre, with only two occurrences of large fires, a 650 acre fire in 1988 and a 2100 acre fire in 1986. Site visits to the mixed conifer and pinyon-juniper areas in the Cherry Creeks have found a large number of historic undocumented fire scars from fires that occurred prior to 1980.

Polygon	Number of Fires	False Alarms	Largest Fire Size and Year	Total Acres
B4 Pinyon-Juniper Woodlands	23	2	2100 - 1986*	2,805.6
B5 Ruby Marsh Area	2	1	.1 - 1985 & 1987	.2
B6 Low Sagebrush & Desert Shrub	5	2	5 - 1986	5.8
B7 Big Sagebrush	5	1	.1 - all 1981-1992	.5
C2 Mixed Conifer	0	1	N/A	0
U1 Urban Interface	0	0	N/A	0
Totals	35	7		2,812.1

Table 1. Documented Fire History by Polygon

* Includes acres burnt in B7 and C2 polygons.

Recorded fire occurrence sites are found on Map 1.

Map 1. Maverick/Medicine & West Cherry Creek Allotments Fire History and Fire Polygons

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Table 2. Cherry Creek Phase 1 Natural Ignition Plan

Table 3. Dispatch Run Card for Cherry Creek Phase 1 Natural Ignition Plan

Unit Priority	Staffing Class	#Units
E-1W*	1-4	1 & Immediately Notify Duty Officer and on-Call AFM for WFSA Preparation/Decision
Smokejumpers Elko Helitack	5	2 -&Notify Duty Officer

* May use aerial recon based on duty officer decision.

NOTE : USE SPRUCE MOUNTAIN RAWS SITE FOR STAFFING CLASS

Wildland Fire Suppression Tactics:

A. Recommendation: Maintain the current suppression strategies as called for in the 1998 Elko Field Office Fire Management Plan for "polygons" B4, B5, B6, B7,C2, and U1.

Rationale: The fire management plan takes into account fire occurrence and size and location of suppression resources to achieve the "Most Effective Level" of fire suppression for the district in its entirety. The effectiveness of suppression is monitored through periodic evaluations.

B. Recommendation: Create a Natural Fire Ignition Area on the Cherry Creek Mountains from the 7,500 foot elevation (approximate) to the top (Map 2). Establish fire prescription parameters to allow fire to be re-introduced into the ecosystem to assist in maintaining the remnant mixed conifer forests and their associated aspen stands, grass and sage "balds" and associated brush species. This will take place in two phases:

Phase 1: Initially use the go-no-go flow chart as illustrated in Table 1 in conjunction with the Wildfire Situation Analysis (WFSA) to show least cost/resource benefit decision.

Phase 2: Complete a natural ignition prescription using long term fire risk assessment, Maximum Management Acreage and other planning tools to allow for natural ignitions for the mountain range. This phase will include the cultural inventories necessary under the 1999 State Protocol Agreement between the BLM and the Nevada State Historic Preservation Office. **Rationale:** Allowing natural ignitions within defined prescription parameters would allow fire to start assuming its natural role in the higher elevation mixed conifer, aspen and sagebrush communities on the Cherry Creek Mountains. The use of natural ignitions in conjunction with prescribed fire and mechanical treatments will maintain the vegetation communities above 7,500 feet.

Prescribed Fire and Fuels Management Objectives (See Map 2 for locations):

For an in-depth discussion of fire effects on fire dependent vegetation types, see "Vegetation Treatment by Fire" Environmental Assessment BLM/EK/PL-98/026.

This fire management plan establishes baseline/minimum prescribed fire and fuels management goals for this complex. Other projects may be incorporated into this plan at a future date depending on additional resource needs.

A. Mixed Conifer Sites on the Cherry Creek Mountains

Recommendation: Initiate an aggressive prescribed burn program to reduce fuel loadings and to reduce stand density. Use fire to create uneven-aged stands to reduce the possibility of large stand replacement fires. Concentrate management ignited fire in the areas of white fire domination to eliminate disease problems (spruce budworm) and to open up mineral soil for new seedling establishment. Use natural ignitions in conjunction with this to allow fire to reestablish itself as part of the naturally functioning ecosystem. Mechanical treatments should also be used in the mixed conifer. These treatments can consist of 1- Thinning from below and either piling or lopping the slash accumulation; 2- Burning of the thinning piles after thinning; 3- Using commercial harvest for wood products - this may be difficult without an established logging economy. The target goal is to treat 75 to 100 percent of the mixed conifer stands within the next 10 years. Allotments with this vegetation type are Currie, West Cherry Creek and North Butte Valley.

Rationale: The mixed conifer on the Cherry Creek Mountains is a remnant forest. The current conditions are such that a stand replacement fire could eliminate portions of this forest. An aggressive fuels management program through mechanical treatments (thinning) and prescribed fire would reduce fuel loadings, create uneven aged stands and reduce the amount of disease (spruce budworm) within the stands. These objectives would increase the health of the stands and reduce the size of stand replacement events (crown fires). The goal of maintaining these remnant stands in a healthy condition and as a viable part of the ecosystem would be met.

B. Aspen Sites in the Cherry Creek Mountains

Recommendations: Use management ignited fire to reduce encroachment by white fir and sagebrush and to regenerate decadent aspen stands. Fencing or other grazing modifications need to be done to allow the aspen to reach 8-12 feet in height. There is approximately 500 to 1,000 acres of aspen within this allotment evaluation that could be treated with prescribed fire. Allotments with this vegetation type are Currie, West Cherry Creek and North Butte Valley.

Rationale: Aspen is a fire dependent species, that requires disturbance by fire to re-generate. Aspen stands within the Inter-Mountain West normally reach maturity at 80 to 100 years then begin to decline and die. Aspen stands are one organism that may be up to several thousand years old. Without disturbance these clones shrink in size and die as other vegetation invades their site. There is extensive sagebrush and white fir invasion of aspen stands in the Cherry Creek Mountains. Without treatment these stands will all eventually decline and die.

C. Pinyon-Juniper

1. Recommendations: Use prescribed fire in conjunction with mechanical treatments to open up 10-50 acre openings for wildlife. Much of the Pinyon-Juniper on the Maverick range, especially on the western slopes, occur on soil with a high component of desert pavement. Most of this probably didn't burn on a regular basis and should not be treated with prescribed fire. The Medicine range has a much higher sagebrush and grass component. Within this type there is potential for prescribed fire to be used for wildlife and wild horse benefit. Working in small blocks, there is 500 to 700 acres that could benefit from prescribed fire. Allotments with this vegetation type are Bald Mountain and Odgers.

Rationale: The pinyon-juniper stands occurring on rocky soils did not have wildfire as a large component of natural ecosystem. Fires in this vegetation type are normally one or two tree fires. There is an occasional (every 200-300 year) stand replacement crown fire when the canopies closed in and there is a significant wind event to carry the fire. Within these areas, prescribed fire should not be used. On deeper soils where there is (or was) a predominance of herbaceous and shrub vegetation fire played an active role in limiting the numbers of pinyon-juniper. Normally, wildfires had a relatively frequent return interval (from 10 to 70 years). Wildfires in these areas created an open savanna with scattered pinyon-juniper or maintained a grass/shrub community without trees. Without disturbance the sagebrush/grass communities with juniper encroachment will become closed canopy woodlands. This will cause a long-term loss of vegetative diversity as the trees out-compete the shrubs, forbs and

grasses. Prescribed fire will create openings for wildlife, increase the herbaceous and shrub component.

2. Recommendation: Use prescribed fire to open up closed canopy juniper and pinyon stands in the following areas: North of Cottonwood Canyon (approximately 640 acres total), and the area between Calf and Corral Canyons (approximately 1,000 acres total). Use prescribed fire to create a mosaic within the larger identified areas by burning approximately 50 percent of the total acres listed. Seed the areas as necessary for big game habitat improvement.

Rationale: These areas were identified for burning in the approved Cherry Creek Wildlife Habitat Management Plan (HMP) of 1987. They were identified as the crucial portions of the Cherry Creek deer winter range which needed treatment to improve the deer winter range. They are identified as prescribed fire and reseeding areas. This was to have been done in conjunction with thinning projects. The western slope prescribed fire project was accomplished in 1987, the others have not been done to date. These projects would benefit deer by opening up the tree canopies and allowing for the establishment of favored browse and herbaceous species and allow for attainment of big game objectives found within the HMP.

D. Sagebrush

Recommendation: The low sagebrush areas that occur in the area did not have fire as part of their ecology and should not be burnt. Much of the Wyoming big sagebrush is within the lower precipitation zones and also have a high cheatgrass component. Most of the drainages on the west side of the Maverick range has heavy sagebrush and juniper encroachment into the drainage/riparian areas. These could be treated with prescribed fire to re-establish the grass vegetation in these areas, if determination is made that there is a significant source of native grass seed and the cheatgrass component is low enough so it will not become the dominant vegetation. There are areas of Wyoming big sagebrush on High Bald Peaks and the Cherry Creek Mountains that have higher components of perennial native grass vegetation that are becoming closed canopy mature to decadent sagebrush stands and/or being invaded by juniper that could benefit from prescribed fire to increase the herbaceous component. It is estimated that approximately 1,000 acres could be treated in these areas. Allotment with low sage and no prescribed fire recommendations are Ruby 9 and Currie. Those with prescribed fire recommendations are Odgers, Bald Mountain, Maverick and West Cherry Creek.

There are large areas of high elevation mountain big sagebrush on the Cherry Creek range and High Bald Peaks. It is recommended that at least 4,000 acres of this vegetation type be treated by prescribed fire to increase the species diversity and grass production that is currently being lost. Allotments with this vegetation type are Currie, West Cherry Creek, North Butte Valley and Bald Mountain.

Rationale: The mountain big sagebrush areas on the Cherry Creeks and the High Bald Peaks have sagebrush production rates in excess of 9,000 pounds per acre. Traditionally this sagebrush had fire return intervals of from 11 to 40 years. These locations are becoming a monoculture of mountain big sagebrush, encroaching on high meadow areas and significantly reducing the herbaceous understory. The mountain big sagebrush is also encroaching on aspen stands. Changing management practices in these areas will not change this conversion to a sagebrush monoculture. Using prescribed fire to create a mosaic pattern in these areas will accomplish several objectives. Herbaceous vegetation will increase in burned areas; a mosaic of burned and unburned areas will create ecotones for the benefit of non-game wildlife species; leks may be created (or improved) for sage grouse habitat and the edge effect and regrowth of mountain big sagebrush will create food sources lower in mono-terpenes that are preferred by sage grouse.

The Wyoming big sagebrush has fire return intervals of 25 to 100 years. The lower lying areas in this complex that are dominated by Wyoming big sagebrush also have a high percent composition of cheatgrass in some areas. The use prescribed fire in the areas not dominated by cheatgrass will create a mosaic pattern of grass and sagebrush. This will increase herbaceous vegetation and create mixed age classes of sagebrush.

E. Riparian Areas

Recommendation: Taylor Creek Canyon was surveyed. There the sagebrush and juniper is encroaching on the riparian area and aspen groves. It is recommended that this area should be burnt in blocks to eliminate sagebrush encroachment and rejuvenate the riparian vegetation. The allotment with this area is West Cherry Creek.

Rationale: The upper reaches of Taylor Creek Canyon has significant sagebrush and juniper encroachment into riparian vegetation. Using prescribed fire within these areas would allow the riparian vegetation to maintain itself and expand. The lower reach of the creek, that is predominately private land, also has significant sagebrush and juniper encroachment. The Coordination of prescribed fire with the private landowner could restore the riparian vegetation in this canyon to it's historic boundaries. This would create a green strip of riparian vegetation to protect against future wildland fires. The vegetative community in this area consists of aspen, wild rose, willow, current, Kentucky bluegrass, sedges, and Great Basin wild rye. All these plant species are all well adapted to

fire and would have a good response to burning.

F. Mountain Mahogany Stands

Recommendations: Prescribed fire should not be used in the old growth stands on rocky soils. In areas that have encroachment by conifers prescribed fire can be used to decrease competition and increase mineral soil seedbeds (see mixed conifer technical recommendations). Isolated plants and small clumps of curlleaf mountain mahogany within sagebrush dominated communities can be burnt to meet those communities' vegetative goals. In these areas prescribed fire should be in a mosaic pattern to avoid concentrations of curlleaf mountain mahogany. Allotments with the largest concentrations of this vegetation type are Bald Mountain, West Cherry Creeks, Odgers and North Butte Valley.

Rationale: Wildland fire was not a major component of the old growth vegetation on rocky sites, so it should not be introduced. Wildland fire had a role in maintaining areas that have curlleaf mountain mahogany as a minor component of the vegetative community. Curlleaf mountain mahogany survived within this community by establishing itself on exposed mineral soil after a fire. In areas where curlleaf mountain mahogany has been encroached upon by conifers, unless the overstory is removed and bare soil exposed the curlleaf mountain mahogany will disappear from the community without fire as a disturbance.

Monitoring and Evaluation

All prescribed fires and fuels treatment projects will be monitored. Plots will be established prior to the treatment. The plots will be read pre-treatment and posttreatment to ascertain if project objectives were met. Wildland fire suppression activity will be evaluated periodically to ensure that suppression objectives are being met. This information will be used in modifying future objectives.

Sites with mechanical thinning and/or natural ignition plans will have a cultural inventory meeting the standards as outlined in the 1999 State Protocol Agreement between the Nevada State Historic Preservation Office (SHPO) and the BLM. All mixed conifer and aspen sites will be inventoried to obtain accurate data on stand size and location and fire history.



-16-

Appendix 6: Maverick/Medicine Complex Objectives

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Maverick/Medicine Complex Upland Objectives

A. Short term objectives:

- 1. Maximum utilization of 50% of current year's growth on key herbaceous species by the end of the grazing season.
- 2. Maximum utilization of 45% of current year's growth on salt desert shrub species by the end of the grazing season.
- 3. Maximum utilization of 25% of current year's growth on bitterbrush on crucial mule deer winter habitat by livestock and 45% utilization by livestock of bitterbrush in the remainder of the complex, as measured at the end of the livestock grazing season.
- 4. Allow for a maximum of 10% utilization by wild horses prior to turnout of livestock in the winter combined use areas.

B. Long term objectives: Desired Plant Community (DPC):

Key Area	Current Status (% allowable composition)		Desired Plant C (% allowable co	Community Imposition)
CU-01/Currie Allotment Shallow Calcareous Loam 8-12"p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 14 : 1 : 32	Perennial Grasses Perennial Forbs Perennial Shrubs	: 40-50 : 3-5 : 40-45
CU-02/Currie Allotment Shallow Calcareous Loam 8-12"p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 29 : T : 43	Perennial Grasses Perennial Forbs Perennial Shrubs	: 40-50 : 3-5 : 40-45
CU-09/Currie Allotment Shallow Calcareous Loam 8-12"p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 6 : 0 : 46	Perennial Grasses Perennial Forbs Perennial Shrubs	: 40-50 : 3-5 : 40-45
CU-16/Currie Allotment Shallow Loam 10-14"p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 2 : 2 : 31	Perennial Grasses Perennial Forbs Perennial Shrubs	: 50-60 : 5-10 : 30-35
CU-17/Currie Allotment Shallow Loam 16"+	Perennial Grasses Perennial Forbs Perennial Shrubs	: 14 : 6 : 26	Perennial Grasses Perennial Forbs Perennial Shrubs	: 60-75 : 5-10 : 25-30
CU-22/Currie Allotment Loamy 12-16"p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs/trees	: 6 : 1 : 31	Perennial Grasses Perennial Forbs Perennial Shrubs/trees	: 40-50 : 5-10 : 30-40
CU-28-30/Currie Allotment Crested wheat seeding	Production lbs/ac (AGCR)	: 504 (average)	Production lbs/ac (AGCR)	: 600 (average)
CU-31-32/Currie Allotment Crested wheat seeding	Production lbs/ac (AGCR)	: 1,169 (average)	Production lbs/ac (AGCR)	: 1,200 (average)
L001/North Butte Valley Allotment Crested wheat seeding	Production lbs/ac (AGCR)	: 609	Production lbs/ac (AGCR)	: 700
L002/North Butte Valley Allotment Crested wheat seeding	Production lbs/ac (AGCR)	: 1,058	Production lbs/ac (AGCR)	: 1,100

Key Area	Current Status (% allowable composition)		Desired Plant Community (% allowable composition)		
L003/North Butte Valley Allotment Saline bottom	Perennial Grasses Perennial Forbs Perennial Shrubs	: 62 : T : 16	Perennial Grasses Perennial Forbs Perennial Shrubs	: 60-80 : T-5 : 15-20	
L004/North Butte Valley Allotment Saline bottom	Perennial Grasses Perennial Forbs Perennial Shrubs	: 13 : T : 20	Perennial Grasses Perennial Forbs Perennial Shrubs	: 60-80 : T-5 : 15-20	
L006/North Butte Valley Allotment Crested wheat seeding	Production lbs/ac (AGCR) : 662		Production lbs/ac (AGCR) : 700		
KA-01/Maverick/Ruby #9 Allotment Silty 8-10" p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 3 : 0 : 56	Perennial Grasses Perennial Forbs Perennial Shrubs	: 20-30 : 2-5 : 60-70	
KA-02 /Maverick/Ruby #9 Allotment Course silty 6-8" p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 39 : 0 : 34	Perennial Grasses Perennial Forbs Perennial Shrubs	: 50-55 : 2-8 : 30-40	
KA-03 /Maverick/Ruby #9 Allotment Loamy 10-12" p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs/trees	: 11 : 7 : 31	Perennial Grasses Perennial Forbs Perennial Shrubs/trees	: 30-40 : 10-15 : 40-50	
1009/Baid Mountain Allotment Shallow loam 10-14" p.z.	Perennial Grasses Perennial Forbs Perennial Shrubs	: 18 : 6 : 34	Perennial Grasses Perennial Forbs Perennial Shrubs	: 40-60 : 5-15 : 30-40	
1010/Odgers Allotment Saline bottom	Perennial Grasses Perennial Forbs Perennial Shrubs	: 3 : T : 5	Perennial Grasses Perennial Forbs Perennial Shrubs	: 60-80 : 2-5 : 15-20	

Maverick/Medicine Complex Wild Horse Objectives

- 1. Remove sufficient wild horses to attain the appropriate management level and maintain populations at a level which maintain a thriving natural ecological balance consistent with other resource values.
- 2. Maintain a healthy, viable population of wild horses within the Maverick/Medicine Complex.
- 3. Adjust the appropriate management level if continued monitoring and evaluation of data shows a need.
- 4. Manage the wild horses within the Maverick/Medicine Complex in a manner that maintains their wild free-roaming characteristics.
- 5. Improve the distribution of wild horses within the Maverick/Medicine Complex by developing reliable water sources. Emphasis and priority should be given to the Maverick/Ruby #9 and Bald Mountain Allotments. Ensure the year-long habitat requirements of wild horses are met.

MAVERICK/MEDICINE COMPLEX, RIPARIAN HABITAT, MEASUREMENT OF SIGNIFICANT PROGRESS, AND OBJECTIVES

Data will be collected using methodology outlined in Nevada BLM Manual 6671- Stream Surveys including supplements or updates; BLM Technical Reference 1737-15, 1998, "A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas" for streams; and BLM Technical Reference 1737-16 1999 "A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas" for streams; and BLM Technical Reference 1737-16 1999 "A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas" for seeps/springs. Functional condition assessment is relative to capability and potential. Measurements and objectives are for public land only.

CURRIE ALLOTMENT					
		Time Frame and Parameters			
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010	
Calf Canyon Creek (perennial upper reach) T27N R63E Sec. 22	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of Calf Canyon Creek, the stream banks are medium to heavily covered with willows, chokecherry, and aspen. Banks have no more than one continuous 10-foot opening of tall shrubs or trees in 100 foot of bank are considered medium dense. In addition to one 10 foot opening, there may be several smaller openings less than 10 feet in length. At least two ages classes are expected of aspen and willow.	

CURRIE ALLOTMENT					
		Time Frame and Parameters			
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010	
Corral Canyon Creek T27N R63E Sec. 35	Functional at risk, trend not apparent Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of McDermid Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Scattered willows are also a vegetative component. Some erosion may be present, but is associated with high flows with banks recovering naturally.	
Creeks in Cotton- wood Canyon Pasture	Functional at risk trend not apparent or downward Banks are low to medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for creeks in this pasture, the stream banks are medium to heavily covered with willows, chokecherry, and aspen. Banks have no more than one continuous 10-foot opening of tall shrubs or trees in 100 foot of bank are considered medium dense. In addition to one 10 foot opening, there may be several smaller openings less than 10 feet in length. At least two ages classes are expected of aspen and willow.	

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CURRIE ALLOTMENT				
	Time Frame and Parameters			
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010
McDermid Creek Reach 1, 2 T26N R63E Sec. 10 Stream Survey Stations 1,2, 3	Functional at risk trend not apparent or downward Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of McDermid Creek, the stream banks are medium to heavily covered with willows, chokecherry, and aspen. Banks have no more than one continuous 10-foot opening of tall shrubs or trees in 100 foot of bank are considered medium dense. In addition to one 10 foot opening, there may be several smaller openings less than 10 feet in length. At least two ages classes are expected of aspen and willow.
McDermid Creek Reach 3 T27N R63E Sec. 35 Stream Survey Station 5	Nonfunctional Banks are covered with scattered low shrubs, forbs, or grasses, or a combination of these riparian plants, or is exposed. The average distance between riparian plants is greater than the average height of plants. Heavy erosion and bank sloughing is occurring on most of the streambank length.	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of McDermid Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Scattered willows are also a vegetative component. Some erosion may be present, but is associated with high flows with banks recovering naturally.

CURRIE ALLOTMENT						
		Time Frame and Parameters				
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010		
McDermid Creek Reach 4 T27N R63E Sec. 26 Stream Survey Station 8	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of McDermid Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Scattered willows are also a vegetative component. Some erosion may be present, but is associated with high flows with banks recovering naturally.		
Seeps/ Springs	See baseline PFC data portrayed in Appendix 5.	Functional at risk upward trend.	PFC	Based on site potential of the seeps/springs, a riparian herbaceous community composed primarily of sedges and rushes is expected. If aspen or willow are components, at least two ages classes are expected.		
MAVERICK/RUBY #9 ALLOTMENT						
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		Time Frame and Parameters				
Location	Baseline Data	2 years after grazing changed & AML reached	4 years after grazing changed & AML reached	Desired Condition 2010		
Seeps/ Springs	Nonfunctional	Functional at risk upward trend. At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.	PFC At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.	Based on site potential of the seeps/springs, a riparian herbaceous community composed primarily of sedges and rushes is expected. If aspen, willow, or chokecherry are components, at least two ages classes are expected. At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.		

NORTH BUTTE VALLEY ALLOTMENT				
		Time Frame and Parameters		
Location	Baseline Data	2 years after grazing changed & AML reached	4 years after grazing changed & AML reached	Desired Condition 2010
Seeps/ Springs	Data will be collected during 2002.	Functional at risk upward trend. At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.	PFC At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.	Based on site potential of the seeps/springs, a riparian herbaceous community composed primarily of sedges and rushes is expected. If aspen or willow are components, at least two ages classes are expected. At the end of the grazing season or growing season, whichever occurs later, grazing is such that at least 4" stubble height or greater of riparian herbaceous plants remain; 35% utilization or less on riparian woody species remain; and less than 20% hummocking and hoof action of the surface area, with recovery occurring after a season of rest.

ODGERS ALLOTMENT					
		Time Frame and Parameters			
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010	
Taylor Canyon Creek (in exclosure) Stream Survey Station 8	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of Taylor Canyon Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Some erosion may be present, but is associated with high flows with banks recovering naturally.	
Odgers Creek (Portion outside exclosure) Stream Survey Stations 8 thru 14	Functional at risk, trend downward or nonfunctional. Banks are covered with scattered low shrubs, forbs, or grasses, or a combination of these riparian plants, or is exposed. The average distance between riparian plants is greater than the average height of plants. Moderate to heavy erosion and bank sloughing taking place.	Functional at risk upward trend Banks are medium covered with low shrubs, forbs, or grasses, or a combination of these riparian plants. The average distance between riparian plants is less than the average height of plants. Moderate erosion and bank sloughing taking place.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of Odgers Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Some erosion may be present, but is associated with high flows with banks recovering naturally.	

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ODGERS ALLOTMENT				
		Time Frame and Parameters		
Location	Baseline Data	2 Years After Change To No Hot Season Grazing	4 Years After Change To No Hot Season Grazing	Desired Condition 2010
Odgers Creek (Portion inside exclosure) Stream Survey Stations 6,7,SC1, SD1	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	PFC Banks are heavily covered with low riparian shrubs, forbs, or grasses. Some moderate erosion and bank sloughing, mostly natural.	Based on site potential for this portion of Odgers Creek, a riparian herbaceous community composed primarily of sedges and rushes is expected. Some erosion may be present, but is associated with high flows with banks recovering naturally.
Seeps/ Springs	See baseline PFC data portrayed in Appendix 5.	Functional at risk upward trend.	PFC	Based on site potential of the seeps/springs, a riparian herbaceous community composed primarily of sedges and rushes is expected. If aspen or willow are components, at least two ages classes are expected.

Appendix 7: Noxious Weed Information

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Weed Species of the Maverick Medicine Complex: Their potential habitat and proposed treatments

Common Name	Habitat *	Herbicide
Canada thistle	Occurs in cropland, riparian areas, pastures, rangelands, rights-of-way and other disturbed areas.	Banvel at .25 to .5 pt. ai/A plus 2,4-D at .23 to .5 lb. ae/A. Tordon at 1 to 2 pt. ai/A plus 2, 4D at 1 lb. ae/A. Curtail at 1 to 5 qts product/A Stinger at .13 to .19 ae/A Telar at 1.5 oz. ai/A Escort at .6 oz. ai/A
Hoary cress Occurs in disturbed areas and in croplands, rangelands and riparian areas. Prefers alkaline soils.		Banvel at .25 to .5 pt/A plus 2,4-D at .25 to .5 ae/A Escort at .3 to .6 oz. ai/A Telar at .37 to .75 oz. ai/A 2,4-D at 2 to 3 lb ae/A Amitrole at 3.0 lb ai per 50 gallons of water
Houndstongue	Occurs in disturbed areas such as rights-of-way, rangeland and abandoned cropland.	2,4-D at 2.0 lb ae/A Escort at .75oz. product/A Tordon at .5lb. ae/A
Musk thistle Occurs in cropland and rangeland, rights-of-ways, riparian areas and meadows.		Banvel at .5 to 1.0 lb ae/A Tordon at .25 lb ae/A Telar at .75 oz ai/A Escort at .3 to .6 oz. ai/A 2,4-D at 1.5 to 2.0 lb ae/A
Russian knapweed Occurs on cropland, rangeland, riparian and waste areas.		Tordon at 1 to 1.5 lb ae/A 2,4-D at 4.0 to 8.0 lb ae/A Roundup at 3.0 lb ae/A Telar at 1 to 3 oz. product/A
Scotch thistle Occurs in waste areas, right-of-ways, pastureland, rangeland and riparian areas.		Banvel at .5 to 1 lb/A Tordon at .25 lb ae/A Telar at .75 oz. ai/A Escort at .3 to .6 oz. ai/A 2,4-D at 1.5 to 2.0 lb ae/A
Waterhemlock Occurs in old meadows, waste areas and floodplains.		2,4-D or MCPA at 2.0 lb ae/A

Weed Species of the Maverick Medicine Complex: Their potential habitat and proposed treatments				
Common Name	Habitat *	Herbicide		
Western waterhemlock	Occurs in old meadows, waste areas and floodplains.	2,4-D or MCPA at 2.0 lb ae/A		

* Habitats for listed weed species are not inclusive.

Appendix 8: Glossary

Glossary

Actual Use - a report of the actual livestock grazing use certified to be accurate by the permittee or lessee.

Allotment - an area of land designated and managed for grazing of livestock. Such an area may include intermingled private, State, or Federal lands used for grazing in conjunction with the public lands.

AMP - Allotment Management Plan. A documented program which applies to livestock grazing on the public lands, prepared in consultation, cooperation, and coordination with the permittee(s).

AML - Appropriate Management Level. The number of wild horses within a given area, usually an HMA, which will result in a thriving, natural ecological balance between wild horses and other resource uses.

AUM - Animal Unit Month. The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

Browse - the part of shrubs, half shrubs, woody vines and trees available for animal consumption.

Canopy Cover - the percentage of ground covered by a vertical projection downward of the outermost perimeter of the natural spread of foliage of plants.

CFR - Code of Federal Regulation.

Estimated use - the use made of forage on an area by wildlife, wild horses, wild burros, and/or livestock where actual use data are not available.

Ecological status - the present state of vegetation of a range site in relation to the potential natural community for the site. Ecological status is use independent. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential natural community and are called <u>early seral</u>, <u>mid seral</u>, <u>late seral</u>, and <u>potential natural community</u>, respectively.

ESI - Ecological Status Inventory. The methodical collection of data to determine ecological status of a range site.

FMUD - Final Multiple Use Decision. Subsequent to the protest period following a

PMUD, a FMUD is issued.

Forage Production - the weight of forage that is produced within a designated period of time or a given area. Production may be expressed as green, air dry, or oven weight.

Forb - any herbaceous plant other than those in the Gramineae (true grass), Cyperaceae (sedges), and Juncaceae (rushes) families, ie., any broad-leafed flowering plant whose stem, above ground, does not become woody and persistent.

Frequency - a quantitative expression of the presence or absence of individuals of a species in a population. It is defined as the percentage of occurrence of a species in a series of samples of uniform size.

HA - Herd Area - that area used by wild horses in 1971.

HMA - Herd Management Area. Designated areas established for the management of wild horses. HMAs are constrained to the boundaries of herd areas or smaller.

HMAP - herd management area plan. A single use activity plan that guides the management of wild horses in one or more HMAs.

HMP - herd management plan. A wildlife activity plan.

Hedging - the appearance of browse plants that have been browsed so as to appear artificially clipped; or consistent browsing of terminal buds of browse species causing excessive lateral branching and a reduction in upward and outward growth.

Key area - a relatively small portion of a rangeland selected because of it location, use, or grazing value as an area on which to monitor the effects of grazing use. It is assumed that key areas, if properly selected, will reflect allotment, or other grazing unit.

Key species - those species which must, because of their importance, be considered in a management program; or forage species whose use serves a s an indicator to the degree of use of associated species.

LUP - Land Use Plan. - A resource management plan, developed under the provisions of 43 CFR part 1600, or management framework plan. These plans are developed through public participation in accordance with the provision of the Federal Land Policy and Management Act (FLPMA) of 1976 and establish management direction for resource uses of public lands.

Noxious Weed - a plant that interferes with management objectives for a given area of land at a given point in time.

Monitoring - the orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

MUD - multiple use decision. A MUD establishes the terms and conditions of the grazing permit and implements changes to grazing use and or active preference. A MUD consolidates those resource decisions which are a direct result of using and interpreting monitoring data. MUDs may include a livestock decision, wild horse decision and a wildlife decision. MUDs establish an appropriate management level for wild horses and burros that occur within the allotment.

Objective - planned results to be achieved within a stated time period. Objectives are subordinate to goals, are narrower and shorter in range, and have increased possibility of attainment.

PFC - Proper Functioning Condition. A term used to explain riparian-wetland areas when adequate vegetation, land-form, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid flood plain development.

Plant Cover - or cover. The plants or plant parts, living or dead, on the surface of the ground. Vegetative cover or herbage cover is composed of living plants and litter cover of dead parts of plants.; the area of ground cover by plants of one or more species.

PMUD - Proposed multiple use decision. At the conclusion of the evaluation process, a PMUD is issued when the use objectives are not being met and a change in current management is needed.

PNC - Potential natural community. The biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental condition.

Proper Use - a degree of utilization of current year's growth which, if continued, will achieve management objectives and maintain or improve the long-term productivity of the site.

Range site - a kind of rangeland with a specif8c potential natural community and specific physical site characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management.

RMP - Resource Management Plan. A more specific land use plan which guides management of multiple resources in resource areas.

RPS - Rangeland Program Summary. The RPS is used to identify and inform the public of grazing allotment management objectives in three major categories which are:

Livestock, wildlife and wild horses. Additionally, the RPS identifies the specific kinds of monitoring studies used to measure management goals. Proposed range improvements are identified by allotment indicating the goals directed toward accomplishing the objectives of the land use plan.

Seep - wet areas, normally not flowing, arising from an underground water source.

Succession - the orderly process of community change; it is the sequence of communities which replace on another in a given area.

16

Trend - the direction of change in ecological status or in resource value ratings observed over time. Trend in ecological status is described as *toward* or *away from* the potential natural community or as *not apparent*. Trend in a resource value rating for a specific use should be described as *up*, *down* or *not apparent*.

Utilization - the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects).

Watershed - a total area of land above a given point on a waterway that contributes runoff water to the flow at that point. A major subdivision of a drainage basin.

Vigor - relates to the relative robustness of a l\plant in comparison to other individuals of the same species. It is selected primarily by the size of a plant and its parts in relation to its age and the environment in which it is growing.

Maps



Map 2 Maverick/Medicine Complex Land Ownership Status













 Perennial Streams
Town of Currie **US Highway 93** Maverick/Medicine Allotments West Cherry Creek Allotment **Dist landown** Public (Administered by BLM) **Bureau of Reclamation Department of Defense Native American Reservation** Private **U.S. Forest Service** U.S. Fish & Wildlife Service









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Map 6 Pronghorn Habitat Ranges (Use Areas)



Map 7 Maverick/Medicine Complex Sage Grouse Strutting Areas



Sage Grouse Strutting Areas
Perennial Streams
Town of Currie
US Highway 93
Maverick/Medicine Allotments

West Cherry Creek Allotment



Stream Survey Stations Map 8



Proper Functioning Condition (PFC) Assesment Locations Map 9 Spring PFC Trend



downward + upward Stream PFC Trend \wedge / Not apparent // downward / upward **Springs PFC** PFC dry func at risk non-functional **Stream PFC** \/PFC Nonfunctional Func at Risk **Town of Currie US Highway 93 Maverick/Medicine Allotments** West Cherry Creek Allotment Land ownership Public (Administered by BLM) **Bureau of Reclamation Department of Defense Native American Reservation Private U.S. Forest Service U.S. Fish & Wildlife Service** Dry lake Lake



40 Miles