



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carson City Field Office
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Carson City, Nevada 89701
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In Reply Refer To:
4130
(NV-032)
CF-2703011

JAN 30 2006

Dear Interested Public:

Enclosed are the 2004 Fort Churchill Allotment Standards and Guidelines Analysis and Environmental Assessment. If you would like to make comments, please do so by March 6, 2006.

If you have any questions, please call Peter Raffetto, Rangeland Management Specialist at (775) 885-6152.

Sincerely

Peter Raffetto
Rangeland Management Specialist
Renewable Resources

RECEIVED

JAN 30 2006

DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

Enclosures:

- (1) 2004 Fort Churchill Allotment Standards and Guidelines Analysis.
- (2) Fort Churchill Allotment Environmental Assessment Permit Renewal.

Fort Churchill Allotment
2004 Standards & Guidelines Analysis

This analysis provides background information necessary to renew a Term Grazing Permit, as per guidance provided by the Washington Office. It is necessary to determine if Standards and Guidelines (S & G's) are being met, if substantial progress is being made towards meeting them, or if they are not being met, what changes are necessary in order to meet them. The S & G's for rangeland health that apply to the Carson City Field Office were developed by the Sierra Front - Northern Great Basin Resource Advisory Council and approved by the Secretary of the Interior on February 12th, 1997. The Standards are as follows:

1. Soils: Soil processes will be appropriate to soil types, climate and land form as indicated by: (1) Surface litter is appropriate to the potential of the site; (2) Soil crusting formation in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water; (3) Hydrologic cycle, nutrient cycle and energy flow are adequate for the vegetative communities; (4) Plant communities are diverse and vigorous and there is evidence of recruitment; and (5) Basal and canopy cover (vegetative) is appropriate for site potential.

2. Riparian/Wetlands: Riparian/wetland systems are in properly function condition as indicated by: (1) Sinuosity, width/depth ratio and gradient are adequate to dissipate stream flow without excessive erosion or deposition; (2) Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion; and (3) Plant species diversity is appropriate to riparian-wetland systems.

3. Water Quality: Water quality criteria in Nevada and California State Law shall be achieved or maintained as indicated by: (1) Chemical constituents do not exceed the water quality standards; (2) Physical constituents do not exceed the water quality standards; (3) Biological constituents do not exceed the water quality standards; and (4) The water quality of all water bodies, including ground water located on or influenced by BLM lands will meet or exceed the applicable Nevada or California water quality standards. Water quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements as set forth under State law, and as found in Section 303(c) of the Clean Water Act.

4. Plant and Animal Habitat: Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse as indicated by: (1) Good representation of life forms and numbers of species; (2) Good diversity of height, size, and distribution of plants; (3) Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and (4) Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

5. Special Species Habitat: Habitat conditions meet the life cycle requirements of special status species as indicated by: (1) Habitat areas are large enough to support viable populations of special status species; (2) Special status plant and animal numbers and ages appear to ensure stable populations; (3) Good diversity of height, size, and distribution of plants; (4) Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and (5) Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

ALLOTMENT INFORMATION

The Fort Churchill Allotment is located 10 miles south of Silver Springs, Nevada. The allotment is located in Nevada and is administered by the Carson City Field Office (Nevada). Churchill Butte is on the north end of the allotment and the Churchill narrows are on the southern end. This allotment is partially fenced. The Weeks Ranch and Fort Churchill State Park bisect the middle of the allotment along the Carson River. Grazing occurs around the peak on the sandy, 5-8" rainfall range site. This allotment has historically been a cattle allotment during the spring/summer.

The allotment at one time was two allotments, Fort Churchill and Churchill Station. One allotment was north of the Carson River and one was south. One permit was in winter and the other was in the spring. They were combined in 1963. Total active use for both allotments was 560 AUMs. In 1990, 520 acres were leased to the Nevada Division of State Parks and the grazing permit was reduced by 19 AUMs to 541 AUMs. In 1993, the State of Nevada purchased the Weeks Ranch from the Depaoli's. Robert Depaoli then leased the ranch from the state through 2002, and acquired the Fort Churchill Allotment in his own name.

Vegetation in the allotment varies from Wyoming Big Sagebrush (*Artemisia tridentata wyomingensis*) at the higher elevations on the Churchill Butte to Basin Big Sagebrush (*Artemisia tridentata tridentata*), basin wildrye (*Elymus cinereus*), and Torrey quail bush (*Atriplex torreyi*). The majority of the vegetation in the allotment consist of shadscale (*Atriplex confertifolia*) and Bailey greasewood (*Sarcobatus vermiculatus baileyi*) with an under story of Indian ricegrass (*Oryzopsis hymenoides*) and Desert needlegrass (*Stipa speciosa*).

Approximately 20 acres of public land is found along the Carson River. A portion of this area is fenced out of the allotment. Of the portion that is not fenced, there is approximately 10 acres that is adjacent to the Fort Churchill road. This area receives recreational use. There is a problem with trash being dumped in this area.

The area is not currently contained in a Habitat Management Plan Area. Primary wildlife use is by non-game species. Game species using the area are chukar (*Alectoris chukar*) and mourning dove (*Zenaida macroura*). California quail (*Callipepla californica*) can be found along the Carson River. The riparian habitat adjacent to the river adds structural diversity and provides habitat for migratory non-game bird species. Management for these species has resulted in the construction of several guzzlers. Habitat diversity in the area is generally low, but appropriate for the area.

A limiting factor to improved range condition in this allotment is spring/summer grazing. The critical growing period for Indian ricegrass (*Oryzopsis hymenoides*) is March 1 through July 15 and Torrey quail bush (*Atriplex torreyi*) is March 1 to September 1. This is when the plants are most susceptible to damage by grazing.

Livestock grazing is authorized as a cow/calf operation. Grazing preference is 540 AUMs. In the allotment, 135 cattle are permitted from April 1 to July 31, with a public land rating of 100%.

The Allotment is classified as a category "M" (Maintain) based upon the relatively low resource conflicts and its overall good condition.

The Churchill Station Spring is the one spring source located on public lands. Some limited mining has/does occur. The area encompassed by the Fort Churchill Allotment is very popular with hunters and recreationists, because of its proximity to Reno and Fallon. Off-road racing occurs on the allotment. Access to the public lands is limited in many areas due to lack of roads.

An Allotment Evaluation was completed in 1994. It covered the years of 1977 to 1993. For this period of time the average AUM harvest was 445 AUMs.

Additional monitoring data has been collected and is analyzed on the following pages. **It covers the period of 1994 to the present.**

MONITORING DATA

I. Billed and Actual Use

Livestock actual use is recorded from a report provided by the permittee at the end of specific grazing periods. Data are verified by field checks and occasional counts. Actual use data contain dates, numbers, and classes of livestock turned out, moved, or gathered, as well as deaths.

Between 1994 and 2004, livestock use (Table 1) occurred as follows:

Table 1. Actual Use.

<u>Year</u>	<u>AUMs Billed</u>	<u>AUR AUMs</u>	<u>TAPU AUMs</u>
1994	361	358	540
1995	241	168	540
1996	241	241	540
1997	401	401	540
1998	481	481	540
1999	541	541	540
2000	541	541	540
2001	541	174	540
2002	381	101	540
2003	0	0	540
2004	160	0	540
TOTAL	3,889	3,006	5,940
AVERAGE	354	273	540

AUR = Actual Use Records.

TAPU = Total Active Permitted Use.

The total active permitted use for the Robert Depaoli permit is 540 AUM's. The average actual use for this evaluation period was 273 AUM's or 50.6% of the total active preference 540 AUM's. There is no specific location of the cattle on the allotment.

II. Frequency Data

Long-term monitoring measures changes in soil and vegetation over time and is used to periodically measure progress toward meeting long term grazing management objectives. Long term studies are usually done at permanent sampling locations in key areas. There are several techniques used for long term monitoring, of which quadratic frequency is one. Quadratic frequency transect data indicate statistically significant changes in the frequency of occurrence of the key species. This change is then evaluated to see if the specific management objectives for the rangeland represented by the key area are being met. Frequency is collected using procedures contained within the Nevada Rangeland Monitoring Handbook.

Trend data in the Fort Churchill Allotment is measured by the frequency of key species on any transect. For any given species, an increase in frequency means that (1) the number of the plants has increased, or (2) the plant is more uniformly distributed over the range, or both. A decrease means the opposite.

FC-01:

The Fort Churchill #1 frequency transect in the Fort Churchill Allotment was established on 07/12/84 and is on a 026XY011NV range site which is a South Slope 8-12" P.Z.

TABLE 2. COMPARING FREQUENCY OF PLANTS FROM THE RANGE TREND PLOT DATA COLLECTED AT STUDY SITE FC-01 OVER THREE POINTS OF TIME (12 YEARS). FRAME SIZES ARE 20" & 40".

PLANT	06/14/93	08/24/99	05/06/04
THURBER NEEDLEGRASS (T) #	65.5	85.0 ^	69.0
THURBER NEEDLGRASS (SD) #	0.0	0.0	0.5
BOTTLEBRUSH SQUIRRELTAIL	0.5	3.0 ^	0.0
INDIAN RICEGRASS (T) #	10.0	6.0	0.0 ^
WYOMING BIG SAGEBRUSH (20")	51.5	60.0 ^	37.5 ^
NEVADA EPHEDRA	10.5	10.5	14.5 ^
SPINY HOPSAGE #	0.5	8.0 ^	10.0 ^
RUBBER RABBITBRUSH	1.0	0.5	4.0 ^
SMOOTH HORSEBRUSH	0.5	0.0	0.0
BAILEY GREASEWOOD	0.0	0.0	1.0
VEGETATION	-	29.5	15.0 ^
BARE GROUND	-	62.0	70.0 ^
LITTER	-	8.0	14.5 ^
ROCK	-	0.5	0.5
TOTAL	-	100.0	100.0

T = MATURE PLANTS + SEEDINGS IN THE FRAME.

SD = SEEDINGS IN THE FRAME.

= KEY SPECIES.

* = SIGNIFICANT AT 80%.

^ = SIGNIFICANT AT 95%.

(40") = 40" FRAME SIZE.

The three study dates are compared to 06/14/93.

Table 2 shows there were significant changes both at 80% and 95% levels between 1993 and 2004 readings. Note the plants with significant changes are Indian ricegrass (*Oryzopsis hymenoides*) (T), Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), Nevada ephedra (*Ephedra nevadensis*), spiny hopsage (*Grayia spinosa*), and rubber rabbitbrush (*Chrysothamnus nauseosus*). The key species on the site were Thurber needlegrass (*Stipa thurberiana*), Indian ricegrass, and spiny hopsage. The frame size of 40" did not meet the minimum frequency for Indian ricegrass, bottlebrush squirreltail (*Sitanion hystrix*), Nevada ephedra, spiny hopsage, rubber rabbitbrush, smooth horsebrush (*Tetradymia glabrata*), and Bailey greasewood (*Sarcobatus vermiculatus baileyi*). Below 20% the frequency data does not approximate a normal

statistical distribution within the range and the frame size. The 40' frame size is the largest frame used in this Field Office.

Over the past 12 years, the amount of Indian ricegrass and bottlebrush squirreltail has significantly changed at the 95% confidence level, showing a major decrease. Between 1993 and 2004, Indian ricegrass, Wyoming big sagebrush, Nevada ephedra, spiny hopsage, and rubber rabbitbrush increased significantly.

The data shows vegetative cover decreased between 1999 and 2004. Overall, the amount of bare ground increased significantly between 1999 and 2004. The amount of litter increased significantly between 1999 and 2004.

The change in the amount of litter component, present on the ground, may be the result of several factors individually or collectively. Based upon the Rangeland Health Assessments (refer to Appendix II), many of the Thurber needlegrass plants have substantial amounts of litter still in association with the plants. It appears that several years of growth are still in contact with the plant. Since 1990, the region has been dominated by drought conditions (refer to the precipitation data section), with the exception of the mid-nineties. This in turn has affected the amount of vegetative production. Lastly, based on the billed and actual use data, the amount of use has been dramatically less than the total active preference. Livestock impacts are therefore not occurring at a level that would result in the hoof action knocking some of the litter down into contact with the soil.

II. Special Status Species

Known sage grouse (*Centrocercus urophasianus*) populations, in the vicinity of this area, are located by the Carson River and Lahontan Reservoir, to the east of the allotment. Recent information provided by the Nevada Division of Wildlife and found within the GIS systems shows yearlong and winter habitat areas exist southwest of the allotment.

There are no known T & E animals on the allotment. Loggerhead shrike (*Lanius ludovianus*) Nevada BLM special status candidate species may occur in the area but the BLM has no record of nests in the allotment. Grazing should have no adverse effect on Loggerhead shrike if utilization levels specified in the Technical Recommendations section are maintained.

The following sensitive species are found within the Fort Churchill Allotment: (1) Nevada suncup (*Camissonia nevadensis*), Lemmon buckwheat (*Eriogonum lemmonii*), and Churchill Narrows buckwheat (*Eriogonum diatomaceum*).

The habitat areas are large enough to support viable populations of the sensitive species, however there is no monitoring data collected on these species. With the lack of data it is not possible to address the standards and guidelines with any certainty regarding: stable populations, diversity, and distribution of plants, and the reproductive success necessary for stand maintenance. Monitoring of the Churchill Narrows buckwheat is planned for the summer of 2005 and 2006. The base-line data will be useful in accessing the condition of the species at that time and will be used to develop future monitoring protocol.

III. Wildlife

The area is not currently contained in a Habitat Management Plan area. Primary wildlife use is by non-game species such as coyotes (*Canis latrans*), kangaroo rats (*Dipodomys sp.*), shrub nesting birds, and blacktail jackrabbits (*Lepus californicus*). Main game species in the allotment are chukars (*Alectoris chukar*) and mourning dove (*Zenaida macroura*).

IV. Precipitation Data

Nevada experienced droughts from 1999 to 2004 which varied in degree dependent on the year. The critical time for precipitation for the key species is during the winter and early spring periods. Moisture storage in the soil is essential for the plants to initiate growth of twigs and foliage. This in turn allows the plants to increase rooting depth and size, increase root reserves, and enhance vigor.

No permanent weather station is located on the Fort Churchill Allotment. To cover the area, Lahontan, Nevada weather data is included with this evaluation. The Lahontan, Nevada weather station is approximately 5 miles north from the Cleaver Peak Allotment boundary. Depending upon the path, intensity, and duration of storms, the Sierra Nevada Mountains influence precipitation amounts in the allotment. Therefore the data presented provides the reader with an idea of what may have occurred during the years shown. The higher elevations receive larger amounts of precipitation than what is recorded at the station. The mean precipitation is 4.50 inches.

Table 3. Total Precipitation by year for Lahontan, Nevada.

Year	Amount in Inches
1992	2.51
1993	5.77
1994	2.62
1995	7.28
1996	5.51
1997	3.36
1998	6.01
1999	3.93
2000	3.51
2001	3.03
2002	1.99
2003	2.95
NOAA AVERAGE	4.50

As evidenced by the total precipitation data, the amount received during the year is low. This appears to be the norm rather than the exception. The total precipitation varied from a low of 1.99 inches in 2002 to a high of 7.28 inches in 1995. Total precipitation was four years above average and eight years below average. Note the last five years were below average.

V. Use Pattern Mapping

Table 4. Average utilization levels in the Fort Churchill Allotment by year. The information is taken from the utilization maps. Grazing period is from 04/01 to 07/31.

Year	Percent Utilization Level Classes					Total	Average %
	Slight	Light	Moderate	Heavy	Severe		
1993-1994			No Utilization Data				
1994-1995			No Utilization Data				
1995-1996			No Utilization Data				
1996-1997			No Utilization Data				
1997-1998	73.8	16.2	9.6	0.5	0.0	100.1	17.3
1998-1999	93.4	6.6	0.0	5.3	0.0	100.0	11.3
1999-2000	67.8	7.5	16.9	7.7	0.0	99.9	22.9
2000-2001	73.6	18.7	4.1	3.6	0.0	100.0	17.5
2001-2002	89.1	10.9	0.0	0.0	0.0	100.0	12.2
2002-2003			No Utilization Data				
2003-2004	100.0	0.0	0.0	0.0	0.0	100.0	10.0

The six years of data show a high amount of slight, light and moderate use. Five years of data was not collected because of the work load. The average percent utilization was well below the 55%. The highest average use was 22.9% in 1999-2000. To improve the distribution of livestock, water haul sites should be used on the allotment. The areas along the Carson River had the highest utilization. In 2003, new water haul sites were established on both pastures, the utilization levels on these areas can now be reduced. The use pattern maps would fall between slight and light use levels.

VI. Trend (Photo Plot Interpretation)

There were two photo trend plots established in the Fort Churchill Allotment.

PP FC-01:

Table 5. COMPARING FREQUENCY OF PLANTS FROM THE PHOTO TREND PLOT DATA COLLECTED AT STUDY SITE PP FC-01 OVER TWO POINTS OF TIME (12 YEARS). FRAME SIZE IS 5' X 5'.

PLANT	05/26/93	05/05/04	TREND
INDIAN RICEGRASS #	0	0	STATIC
GALLETA GRASS #	0	0	STATIC
BAILEY GREASEWOOD	1	1	STATIC

Table 5 shows there were no significant changes between the 1993 and 2004 readings. The key species in the study area were Indian ricegrass (*Oryzopsis hymenoides*) and galleta grass (*Hilaria jamesii*). The frame size is 5' X 5'.

The plot was established in 1977 and was photographed again in 1980, 1982, 1993, 1999, and 2004. Plot PP FC-01 is located in T. 17 N., R. 24 E., and Section 26 SWNW. It lies about half a mile from a water haul site. There appears to be no changes in the vegetation. There is an increase of cheatgrass (*Bromus tectorum*) in the area. The shrub component appears to be the same. There is no apparent evidence of any soil movement. The trend looks static.

PP FC-02:

Table 6. COMPARING FREQUENCY OF PLANTS FROM THE PHOTO TREND PLOT DATA COLLECTED AT STUDY SITE PP FC-02 OVER TWO POINTS OF TIME (12 YEARS). FRAME SIZE IS 5' X 5'.

PLANT	05/26/93	05/20/04	TREND
INDIAN RICEGRASS #	3	2	DECREASE
SHADSCALE	0	1	INCREASE
BUDSAGE #	0	1	INCREASE

Table 6 shows there were significant changes between the 1993 and 2004 readings. Note that the plants with significant changes were Indian ricegrass (*Oryzopsis hymenoides*), shadscale (*Atriplex confertifolia*), and budsage (*Artemisia spinescens*). The key species was Indian ricegrass and budsage. The frame size is 5' X 5'.

The plot was established in 1977 and was photographed again in 1980, 1982, 1993, 1999, and 2004. Plot PP FC-02 is located in T. 16 N., R. 24 E., and Section 10 NWSW. It lies about 1.2 miles from the Churchill Station Spring. There appears to be changes in the vegetation with less Indian ricegrass and more shadscale and budsage. The shrub component appears to be increasing. There is no apparent evidence of any soil movement. The trend looks upward.

VII. Riparian Functionality

The Churchill Station Spring is the only spring source on the allotment. The spring has the riparian functionality assessment completed in 2001 and 2004. In 2001, the spring was found to be Functional at Risk with upward trend. In 2002, the Churchill Station Exclosure was built around the spring to improve the condition by preventing livestock hoof impacts observed in 2001. Cattle can still water outside the exclosure. In 2004, the spring was found to be 50% Proper Functioning Condition and 50% Functional at Risk with upward trend. The stand of willows near the spring has expanded, but the area of riparian ground cover species has decreased. Also, the area in the exclosure that had high amount of hoof impact has not recovered as expected. It appears that the on going drought has reduced the amount of spring flows and made improvement of the site slower than expected.

VIII. Rangeland Health

Rangeland Health write-ups were completed in the vicinity of the two photo trend plots and the quadratic frequency plot. These write-ups can be found in Appendix II. For the three sites, two factors (Soil/Site Stability and Hydrologic Function) were rated as slight to none, and the Biotic Integrity was listed as slight for all three sites. On FC-001 site, it was noted that the vegetative component, particularly Thurber's needlegrass (*Stipa thurberiana*), could benefit from at least moderate grazing use. The grass plants at the FC-001 site were very wolfy. It might even be beneficial to utilize areas, at a higher use level, at least every other year but likely once every three years.

IX. Water Quality

No samples were taken at any of the water sources. The source, as defined by the State of Nevada, is directly where the water comes out of the ground. With this spring source located on public land being fenced, in all likelihood the water quality standards are being met.

X. Noxious Weeds

There are populations of Musk Thistle (*Carduus nutans*) and Tall Whitetop (*Lepidium latifolium*) around the Churchill Station Spring. During the course of the field work required to gather information for this Standard and Guideline Assessment, new sightings of noxious weeds were observed on the outside of the Fort Churchill Allotment. The Fort Churchill Riparian Area (Carson River) contained Tamarisk (*Tamarix ramosissima*) and Tall Whitetop (*Lepidium latifolium*) plants.

INTERPRETATION/CONCLUSIONS

Livestock Grazing

The current livestock management practices that are in place are meeting Standard #1 (Soils), Standard #2 (Riparian/Wetlands), Standard #3, (Water Quality), Standard #4. (Plant and Animal Habitat), and Standard #5. (Special Species Habitat).

At all sites visited the soil component was stable. The vegetative component was diverse and of adequate density to protect the soil surface. There was no readily visible evidence of overland flows, rills, or terracettes.

The Churchill Station Spring riparian area was 50% Proper Functional Condition and 50% functional at-risk, with an upward trend. On all the sites, the trend was static or upward. Significant progress is being made toward achieving proper functioning condition for the Churchill Station Spring. Though no water quality samples were taken, with the sources being fenced and inaccessible to livestock, the likelihood of water quality standards being met are significant.

There is a diverse plant community present. The density of vegetation and the fact that recruitment for all species is occurring is resulting in plant and animal habitat remaining stable and in good condition.

Wildlife

Overall, the wildlife habitat looks in good condition for species which utilize the allotment. Special species habitat as it relates to potential sage grouse wintering, is not being adversely affected by livestock grazing. The big sagebrush component is gradually increasing in many areas of the allotment. There are an adequate number of mature plants to provide a viable seed source for recruitment. The grass component is adequate. There is a diverse amount of forbs present. If anything, livestock could be used as a tool to favor the expansion of Thurber's needlegrass in the allotment. This could be accomplished by utilizing the grass component in future identified areas at higher use levels. The North Pasture has many wolfy grass plants.

Over time, this would result in improved conditions for the Thurber's needlegrass (*Stipa thurberiana*).

A series of photographs, taken in the Fort Churchill Allotment, are located in Appendix IV.

Recommendations

Nothing points to any immediate management changes being needed, prior to the start of the next grazing season, to meet or make progress towards meeting the Standards and Guidelines. Future considerations for changes in livestock management have been previously proposed. They are brought forward, with my revisions in bold, for review.

For reference, livestock grazing is authorized as a cow/calf operation. Grazing preference is 540 AUM's. The BLM should implement a two-year-deferred rotation between the north and south pasture. In year #1 in the North Pasture, 135 cattle are permitted from April 1 to May 7. In year #1 in the South Pasture, 135 head are permitted from May 8 to July 31. In year #2 in the North Pasture, 135 cattle are permitted from June 25 to July 31. In the South Pasture, 135 head are permitted from April 1 to June 24. This will include three-day flexibility on the movement of cattle in middle of the schedule.

Objectives identified were as follows:

- 1) Limit utilization on desirable shrubs (winterfat (*Eurotia lanata*), and budsage (*Artemisia spinescens*)) **so as not to exceed 45%**.
- 2) Limit utilization on key grasses (Indian ricegrass (*Oryzopsis hymenoides*) and Thurber's needlegrass (*Stipa thurberiana*)) **so as not to exceed 50%**.
- 3) Water hauling in both pastures will be required each year.
- 4) Establish a quadratic frequency FC-002 study plot on the South Pasture.

The Action Plan was presented as follows:

- 1) Use existing Carson River and Fort Churchill State Park to divide the Fort Churchill Allotment into two pastures.
- 2) Graze one pasture (moderate use of 40% to 50%) early each year beginning on April 1. Early use will utilize spring moisture and green-up to encourage cattle hoof action in association with removing old growth. Budsage and winterfat are preferred by cattle in the spring as much as it is in the summer. Use water haul and supplement blocks to even out use, moving them as necessary. The pasture that was grazed early and moderately would be used second in the sequence the following year.
- 3) In the two pastures, use water hauls and salt blocks (not supplements in those pastures where utilization on shrubs is a concern) to encourage even livestock distribution. Monitor use on desirable shrubs. Use is not to exceed 45% on winterfat and budsage by July 31 or moderate use (41% to 50%) by cattle on Indian ricegrass and Thurber's needlegrass.

- 4) Because the size of the pastures varies, timing of moves will have to be adjusted to keep cattle numbers relatively constant, while still managing for desired utilization objectives. The Southern Pasture is the largest.
- 5) If monitoring determines that the 45% limit on winterfat and budsage is being exceeded, additional studies would need to be conducted to determine whether cattle or wildlife are responsible. If cattle are found to be responsible, the length of time they are present in the pasture would be adjusted.

LIST OF REVIEWERS/PARTICIPANTS

Peter Raffetto	Rangeland Management Specialist
Russell Suminski	Lead Rangeland Management Specialist
Claudia Funari	Wildlife Management Biologist
Jim deLaureal	Soil Scientist/Noxious Weeds
Jim Schroeder	Hydrologist/Riparian Coordinator
Peggy Waski	Lead Archaeologist
Dean Tonenna	Plant Ecologist
John Axtell	Wild Horse and Burro Specialist
Terry Knight	Lead Wilderness/Recreation Specialist

Environmental Assessment

Fort Churchill Allotment Permit Renewal

EA-NV-030-05-19

CF-2703011

January 26, 2006

**U.S. Department of Interior
Bureau of Land Management
Carson City Field Office
5665 Morgan Mill Road
Carson City, Nevada 89701**

I. INTRODUCTION/PURPOSE AND NEED

1. Introduction:

This environmental assessment (EA) analyzes the impacts resulting from the use of the Fort Churchill Allotment (Figure 1) for grazing purposes. It analyzes the impacts that are anticipated to result from the implementation of the proposed action, modification of the existing utilization levels by adoption of the technical recommendations presented in the Fort Churchill Allotment Standards and Guidelines Analysis (2004), and the No Action Alternative, continuation of the current situation, Winter Grazing, and No Grazing alternative. This EA relies on and incorporates by reference a large portion of the recent Fort Churchill Allotment Standards and Guidelines Analysis (2004) which is attached to the EA for your convenience.

On February 12, 1997, Secretary of the Interior Bruce Babbitt approved the Standards and Guidelines for Rangeland Health and Grazing Management to be applied to BLM public lands in the State of Nevada. These standards and guidelines were developed in consultation with the Resource Advisory Councils (RAC) for the Bureau of Land Management (BLM) in Nevada to help ensure that grazing use of these public lands result in productive and sustainable rangelands for the use and enjoyment of future generations.

Standards and Guidelines are being implemented through two processes; (1) determination that the terms and conditions of the grazing permit are consistent with the Standards and Guidelines applicable to the allotment and (2) the allotment evaluation process to determine whether or not the current grazing utilization is expected to achieve the specific resource goals and objectives identified for the Fort Churchill Allotment in the applicable Resource Management Plan (RMP) and Rangeland Program Summary (RPS).

The EA references parts of the 2004 Fort Churchill Allotment Standards and Guidelines Analysis and standards and guidelines developed for the Sierra Front - Northwestern Great Basin Area (the specific area that includes the Fort Churchill Allotment).

2. Purpose and Need:

The purpose of the proposed action would include; (1) Administer grazing and implement grazing practices on the Fort Churchill Allotment in a manner consistent with the attainment of site specific objectives for the allotment found in the Carson City Field Office Consolidated Resource Management Plan 2001 and (2) Implement grazing practices that would ensure compliance with the Standards and Guidelines for Rangeland Health and Grazing Management.

The BLM is presently working to fully process grazing permit renewals. This action is a part of this process. The need for the proposed action stems from BLM mandates to conduct grazing activities in an ecologically sound manner. Grazing use of the Fort Churchill Allotment as well as requirements to conduct grazing activities in a manner consistent with the principles of multiple use and sustained yield and in an ecologically sound manner are found in the provisions of the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act of 1976 (FLPMA), the recently adopted 1995 Standards and Guidelines for Rangeland Health and Grazing Management, as well as various other federal laws and regulations.

3. **Land Use Plan Conformance Statement:**

The proposed action and alternatives described below are in conformance with the Carson City Field Office Consolidated Resource Management Plan, pages LSG-2.

- A. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values.
- B. Initially, manage livestock use at existing levels.
- C. Provide adequate, high quality forage for livestock by improving rangeland condition.
- D. Improve overall range administration.

The following activity plans apply to the geographic area of the proposed action and alternatives:

- A. 2004 Fort Churchill Allotment Standards and Guidelines Analysis, August 2004.

II. **PROPOSED ACTION AND ALTERNATIVES**

1. **Proposed Action:**

Issue a 10 year grazing permit to authorize livestock grazing on the Fort Churchill Allotment. The technical recommendations in the 2004 Fort Churchill Allotment Standards and Guidelines Analysis would be implemented to provide proper management of the range resource.

- A. In the Fort Churchill Allotment, 135 cattle would be grazed with a period of use (April 1 to July 31) each year, with a total of 540 AUMs. The BLM Federal Range is 100% of the allotment.

- B. The BLM would implement a two-year-deferred rotation between the north and south pasture. In year #1 in the North Pasture, 135 cattle are permitted from April 1 to May 7. In year #1 in the South Pasture, 135 head are permitted from May 8 to July 31. In year #2 in the North Pasture, 135 cattle are permitted from June 25 to July 31. In the South Pasture, 135 head are permitted from April 1 to June 24. This will include three-day flexibility on the movement of cattle in middle of the schedule.
- C. Limit utilization on desirable shrubs (winterfat (EULA) and budsage (ARSP)) so as not to exceed 45%. The utilization levels would be checked and when maximum utilization is reached, animals would be removed from the area.
- D. Limit utilization on desirable grasses (Indian ricegrass (ORHY) and Thurber's needlegrass (STTH2)) so as not to exceed 50%. The utilization levels would be checked and when maximum utilization is reached, animals would be removed from the area.
- E. Existing water hauling sites in both pastures would be required to be used each year.
- F. Establish a quadratic frequency FC-002 study plot on the South Pasture.
- G. Maintain existing ecological condition and trend.

2. Alternatives:

No action.

Maintain current management and status of the Fort Churchill Allotment.

- A. In the Fort Churchill Allotment, 135 cattle would be grazed with a period of use (April 1 to July 31) each year, with a total of 540 AUMs. The BLM Federal Range is 100% of the allotment. The entire allotment could be grazed season long.
- B. Maintain utilization not to exceed 55% on identified key species on the upland key areas.
- C. Maintain existing ecological condition and trend.

Fort Churchill Allotment

Legend

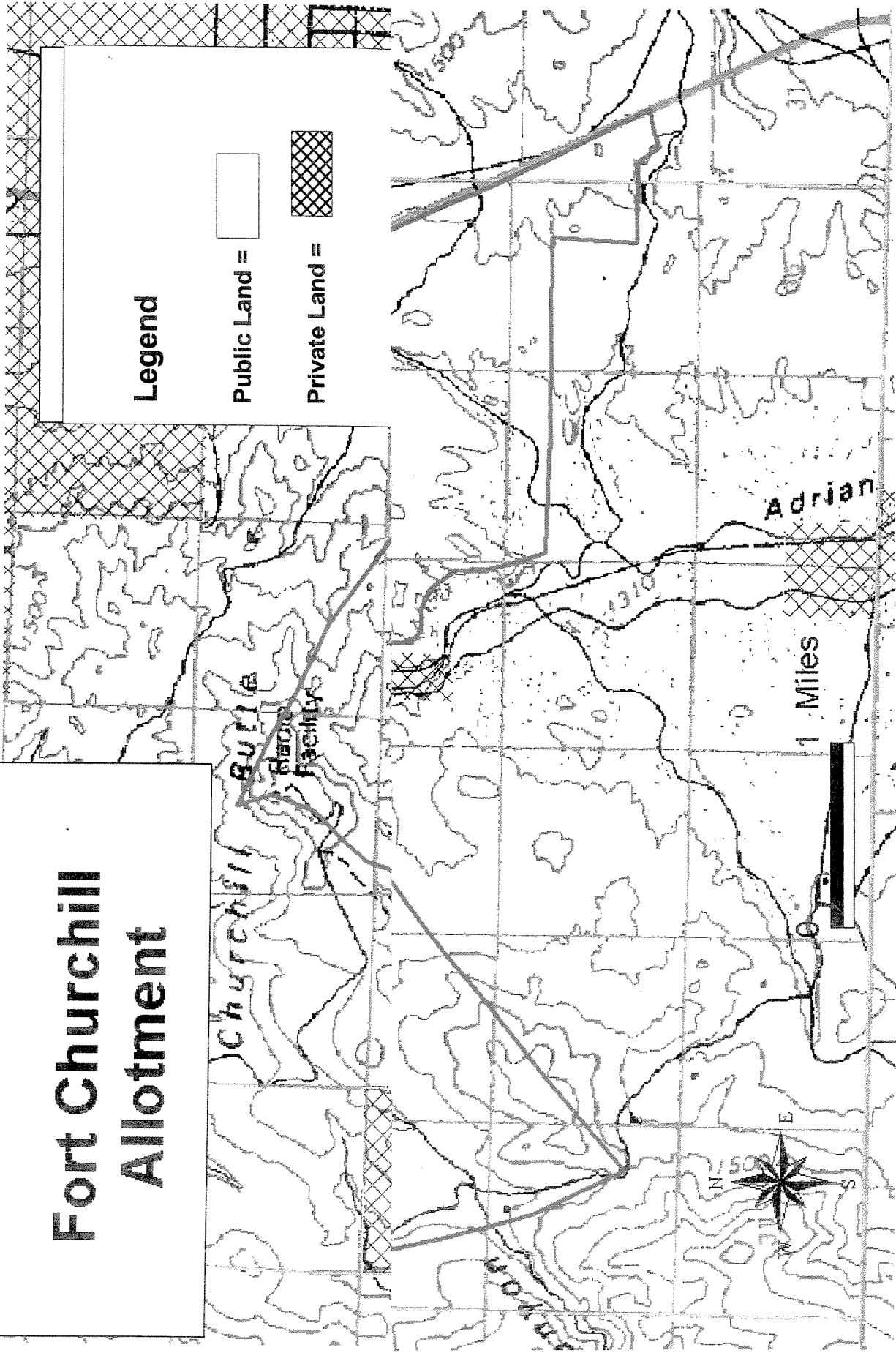
Public Land =

Private Land =

Churchill
Bull
Ranch
Facility

Adrian

1 Miles



Winter Grazing:

- A. In the Fort Churchill Allotment, 108 cattle would be grazed with a period of use (November 1 to March 31) each year, with a total of 540 AUMs. The BLM Federal Range is 100% of the allotment.
- B. The BLM would implement a two-year-deferred rotation between the North and South Pastures. In year #1 in the North Pasture, 108 cattle are permitted from November 1 to December 16. In year #1 in the South Pasture, 108 head are permitted from December 17 to March 31. In year #2 in the North Pasture, 108 cattle are permitted from November 1 to February 15. In the South Pasture, 108 head are permitted from February 16 to March 31. This will include three-day flexibility on the movement of cattle in middle of the schedule.
- C. Limit utilization on desirable shrubs (winterfat (EULA) and budsage (ARSP)) so as not to exceed 45%. The utilization levels would be checked and when maximum utilization is reached, animals would be removed from the area.
- D. Limit utilization on desirable grasses (Indian ricegrass (ORHY) and Thurber's needlegrass (STTH2)) so as not to exceed 50%. The utilization levels would be checked and when maximum utilization is reached, animals would be removed from the area.
- E. Existing water hauling sites in both pastures would be required to be used each year.
- F. Improve existing ecological condition and trend.

No Grazing Alternative:

- A. Under this alternative, no Term Grazing Permit would be issued, and no grazing would occur on this allotment in the future. There would be no further range improvements constructed on the allotment, and no grazing permittee to maintain current range improvements, including fences and water sources. A permittee would not be present on the allotment to continue proper day-to-day management, so these vital activities would no longer be performed.

III. AFFECTED ENVIRONMENT

1. SCOPING AND ISSUE IDENTIFICATION:

The current Fort Churchill Allotment Standards and Guidelines Analysis (2004) was conducted by a BLM interdisciplinary team and included scoping and review by interested parties including the general public. The analysis considered impacts on a wide range of resources, including cultural resources, and other authorized uses resulting from livestock grazing use of the allotment. The evaluation also considered resource objectives for the allotment and progress toward these objectives as measured by monitoring data collected by BLM resource specialists and made specific technical recommendations in regards to needed changes in livestock management. The evaluation recommends no change in total AUM's and concludes resource objectives have been achieved or significant progress toward these objectives is being made.

On December 1, 2004 a letter was sent to the interested public to identify those individuals and organizations interested in specific actions on specific Allotments under the jurisdiction of the Carson City Field Office. The purpose of the scoping letter was to gather information and determine who would be further interested in participating in the evaluation process on the Carson City grazing allotments.

The Environmental Assessment for the Fort Churchill Allotment Standards and Guidelines Analysis would be sent out for public review. A copy would be sent to the Nevada State Clearinghouse for distribution among the state agencies. In addition, copies would be sent to the following:

Robert Depaoli
Western Watersheds Project
U. S. Fish and Wildlife Service
Hodges Transportation Inc.
Yerington Paiute Tribe
Pyramid Lake Paiute Tribe

The Internal scoping with the BLM staff occurred between May of 2004 to September of 2004, which included the Fort Churchill Allotment Standards and Guidelines Analysis and this Environmental Assessment.

2. PROPOSED ACTION:

A. General Setting:

The Fort Churchill Allotment is primarily arid-land fan with rugged mountain foot hills and mountains. Grazing occurs around the hills on

sandy, 5-8" rainfall range site. This allotment has historically been a cattle allotment during the spring/summer. The area is mostly salt desert shrub communities.

B. Critical Elements of the Human Environment:

The following critical elements are not present or would not be affected by the analyzed alternatives: Air Quality, Areas of Critical Environmental Concern, Prime or Unique Farmlands, Floodplains, Native American Religious Concerns, Hazardous or Solid Wastes, Water Quality, Wilderness, Wild and Scenic Rivers, and Environmental Justice.

The following Critical Elements described below although present would not be affected by the proposed action and alternatives actions.

Cultural Resources:

Required Section 106 reviews, a Class I literature search was completed and no reconnaissance was found to be necessary for the Fort Churchill Allotment (CRR3-2253). For further details regarding the assessment of grazing impacts upon cultural resources, refer to the Carson City Field Office Protocols for Rangeland Activities in Compliance with Section 106 of the National Historic Preservation Act, per Washington Office IM No. 99-021 and protocol agreements between the BLM and the Nevada and/or California State Historic Preservation Offices.

Requirements of Section 106 of the National Historic Preservation Act will be met prior to construction and/or implementation of any individual range improvement projects proposed for this allotment. All projects with the potential to affect cultural resources are required to have a Class III cultural resource inventory conducted over the project area. Determinations of cultural resource eligibility and project effect could be made through consultation with the Nevada State Historic Preservation Office. Any National Register eligible or listed properties within the project area would either be avoided or mitigated to a "No Adverse Effect" project determination pursuant to Section 106 of the National Historic Preservation Act.

Native American Coordination:

Notification letters were sent on April 19, 2005 to the Yerington Paiute Tribe and Pyramid Lake Paiute Tribe.

C. **Resources Present but not Affected: (other than critical elements)**

The following elements are present but would not be affected by the proposed action, no action, winter grazing, and no grazing alternatives: Forestry, Geologic Resources and Lands, Paleontology, Wild Horse and Burros, and Socioeconomic.

The following Resources described below although present would not be affected by the proposed action and alternatives actions.

Recreation:

The area encompassed by the Allotment is very popular with hunters and recreationist, because of its proximity to Reno and Fallon. Off-road racing occurs on the allotment. Access to the public lands is limited in many areas because of lack of roads.

There would be no impacts to recreation resources or opportunities as a result of the proposed action and alternatives.

D. **Resources Present and Brought Forward for Analysis:**

1. **Livestock:**

540 AUMs are currently authorized on the Fort Churchill Allotment. See pages 2 & 3 of the Fort Churchill Allotment Grazing Use in the 2004 Fort Churchill Allotment Standards and Guideline Analysis.

The current grazing system has a spring and summer grazing strategy. See page 3 of the Fort Churchill Allotment Grazing Use in the 2004 Fort Churchill Allotment Standards and Guidelines Analysis.

2. **Wildlife:**

Overall, the wildlife habitat looks to be in good condition. There is adequate grass and shrub cover for foraging, reproduction and protection requirements of the common wildlife species in the area. There are an adequate number of mature plants to provide a viable seed source for recruitment. The grass component is adequate. There is a diverse amount of forbs present. Habitat diversity in the area is generally low, but appropriate for the area.

The area is not currently contained in a Habitat Management Plan. Primary wildlife use is by non-game species. Species such as least chipmunk (*Tamias minimus*), white-tailed antelope ground squirrel (*Ammosperophilus leucurus*), deer mice (*Peromyscus maniculatus*), kangaroo mice (*Dipodomys sp.*), white-crowned sparrows (*Zonotrichia leucophrys*), prairie falcons (*Falco mexicanus*), and dark-eyed juncos (*Junco hyemalis*) may all occur on the allotment. Game species using the area are coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), mountain cottontail (*Sylvilagus nuttali*), mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), chukar (*Alectoris chukar*), mourning dove (*Zenaida macroura*), and California quail (*Callipepla californica*) can be found along the Carson River.

The riparian habitat adjacent to the river adds structural diversity and provides habitat for migratory non-game bird species. BLM range areas adjacent to the river may be utilized for foraging or nesting of some of these migratory species. Management for these species has resulted in the construction of small game guzzlers.

Executive order #13186 titled "Responsibilities of Federal Agencies to Protect Migratory Birds," signed 01/10/01, requires that the BLM evaluate the effects of federal actions on migratory birds. No migratory bird inventory has been completed for the proposed project area. However, migratory birds fly over the area and may use the allotment water sources, including three wildlife water developments. Migratory birds will very likely nest in the allotment. Common migratory birds which may use and nest in the area include various species of sparrows, blackbirds, hawks, finches, and doves.

3. Soils:

The soils in the Fort Churchill Allotment vary from sandy to silt loams, with varying amounts of intermixed gravel and rocks. These soils are susceptible to wind and water erosion. High intensity, short-duration summer rainstorms have historically caused gully washing and sheet erosion.

For detailed soil descriptions see the Lyon County Soil Survey, published 1984.

4. **Vegetation:**

Key upland species on the Fort Churchill Allotment include three shrubs and three grass species. They are winterfat, budsage, Torrey quail brush, Indian ricegrass, Desert needlegrass, and Thurber's needlegrass. See page 2 of the 2004 Fort Churchill Allotment Standards and Guidelines Analysis.

5. **Threatened, Endangered, and Sensitive Species:**

There are no known T & E animals on the allotment.

Eriogonum diatomaceum (Churchill Narrows buckwheat) is a low matted perennial herbaceous buckwheat species known only to occur in the Churchill Narrows area, in Lyon County, Nevada. The species was first discovered in June 1997 and was subsequently identified and reported as a new species in 2002. The species is known worldwide from only 15 small patches of diatomaceous montmorillonite clay deposits of the Coal Valley Formation at elevations between 4300 and 4600 ft. The occurrences are contained within a 3 square mile area with three of the occurrences located within the upper northwest portion of the Adriance Valley Allotment. Six occurrences are found within the southwest leg of the Fort Churchill Allotment. The remaining six occurrences are located within the southern tip of the Clifton Flat Allotment. The area falls within the Pine Nut Mountains Planning area. As part of the ongoing Pine Nut Mountains Planning effort, an internal nomination to include all 15 occurrences as well as other diatomaceous outcrops within the immediate area has been approved by the Carson City Field Office and awaits further analysis and possible inclusion into the Pine Nut Mountain Land Use Plan Amendment. The species is currently listed as BLM Sensitive.

Eriogonum diatomaceum breaks dormancy in late spring and flowers from July until the first hard frost in early October. Seed cast occurs from September to mid November. The majority of living plants are older mature plants comprising roughly 77 % of the population with 5% of the population composed of seedlings. The stage class distribution appears to be typical for long lived perennials within an arid environment.

No noxious weeds were found in any of the monitoring plots. Cheatgrass was noted as a very small component within the habitat. During the Fall noticeable grazing of the herbaceous stems and

flower stalks was seen throughout the buckwheat occurrences. This same type of grazing was noted previously by consultant botanists in 1997 and the information was included in a status report prepared for the BLM in 2001 (Reynolds, 2001). There is evidence of cattle within the habitat, but at this time it is not known for certain if the herbivory is due to native wildlife, livestock or occasional wild horses use. Further investigation on herbivory is planned.

Eriogonum diatomaceum is negatively impacted by trampling. When trampled by humans or livestock, the fragile herbaceous stems and leaves break off from the woody base. Trampling also negatively impacts the flocculated soils which damages the soil structure and permeability. Trampling by humans can compact the soil column anywhere from 10 to 15 cm. Trampling by livestock or horses would have an even greater impact to the fragile soils.

Aside from mining and off-highway-vehicle use, which constitutes the greatest threats to *E. diatomaceum*, excessive trampling and herbivory by livestock and wild horses would be of concern.

No other survey was done for any listed threatened, endangered or BLM sensitive status plant species by BLM staff. It is unknown to BLM staff if the allotment has been surveyed by any other entity. Due to the lack of any BLM survey data, the data issued by the Nevada Natural Heritage Program (NNHP, 2005) was used to identify known locations of sensitive plants within the allotment. The NNHP information is made available to the Carson City Field Office with the following caveat: "The Nevada Natural Heritage Program provides information on the **known and previously reported** locations and status of threatened, endangered, candidate, sensitive, and other at-risk species throughout the state, to meet the legitimate needs of land-use-planning, development, conservation, and research activities. These data are constantly updated and added to, and do not constitute and **cannot replace** on-site surveys, conducted by qualified biologists at appropriate times of year, to detect all species of concern actually present in an area." (emphasis is NNHP, September, 2005, <http://heritage.nv.gov/reqintro.htm>)

Aside from the *E. diatomaceum*, there are no records in the NNHP database of any other threatened, endangered, candidate, or BLM sensitive plant species within the Allotment.

6. Invasive, Nonnative Species:

There is one known location of Musk Thistle and white top plants in the allotment. They were found next to the Churchill Station Spring.

7. Visual Resources:

The allotment is managed under both Class III and Class IV Visual Resource Management designations. In a Class III area, the objective is to partially retain the existing character of the landscape. Management activities may attract the attention but should not dominate the view of the casual observer. In a Class IV area, the objective is to provide for management activities which require major modification of the landscape. Management activities may dominate the view and be the major focus of viewer attention; however, every attempt should be made to minimize the impact of these activities.

8. Land Use/Access:

The entire Fort Churchill Allotment is public land. There are fenced private lands along the Carson River and State lands within the Fort Churchill State Park, including the park headquarters. The State lands are also fenced and are leased for livestock grazing. Currently, the BLM grazing permittee is not the State grazing lessee.

Other land uses in this area include various utility and road rights-of-way and a vehicle testing permit for Hodges Transportation (NATC). US Highway Alternative 95 runs generally along the eastern boundary of the allotment. Fort Churchill Road, a Lyon County road, crosses the allotment in an east-west alignment.

9. Wetlands/Riparian:

Churchill Station Spring is the only spring on the allotment, and had riparian functionality assessments completed in 2001 and 2004. The spring was functional-at-risk with an upward trend in 2001. The area near the spring head was in a healthy condition, but cattle congregating in the saltgrass area below had damaged the vegetation and soil with severe hoof impacts. To prevent further damage and to allow improvement of riparian health, an enclosure was built in 2002 that allows cattle to water outside the fence. The

spring was assessed again in 2004, and 50 percent was found to be in a properly functioning condition and 50 percent functional-at-risk with an upward trend. The stand of willows near the spring had expanded, but the area of riparian ground cover species had decreased somewhat. Also, the area impacted by hoof action was dry and had not recovered as expected, though it is protected by the enclosure. It appeared that the ongoing drought had reduced the amount of spring flow and the rate of improvement. There is also a small area with hoof impacts outside the enclosure where the animals now water, but this does not have a significant effect on the riparian area.

E. Alternatives:

The description of the affected environment for the No Action, Winter Grazing, and No Grazing alternatives would be the same as that for the proposed action.

IV. ENVIRONMENTAL CONSEQUENCES

1. Proposed Action:

A. Environmental Impacts:

1. Livestock:

The maximum number of 135 cattle would be run on the allotment. Implementation of the Proposed Action would require a change in the total AUM's of livestock utilizing the pastures. Only 164 AUM's would be used in the North Pasture and 377 AUM's would be used in the South Pasture.

The pastures would have a shortened period of time used, the entire grazing season would be same as the no action alternative, and with no change in the authorized (540) AUMs. These recommendations would increase the amount of winterfat and budsage plants on South Pasture where the plants were being lost due to full season grazing. With the reduction of use (45%) on the winterfat and budsage plants, the allotment would have a shorter period of use on those shrub plants than the no action alternative. The level of utilization would be checked during the grazing season and cattle would have to move out of the area when 45% is reached.

This proposed action would increase the amount of winterfat and budsage plants on these areas. The lower utilization (45%) would provide better livestock distribution over most of the allotment and over time improve the condition of the vegetation in the areas currently grazed. The length of time on areas of the allotment would be shorten when the maximum utilization levels are reached, allowing more of the allotment to be used during the grazing season. The desirable shrub vegetation that is grazed would have no more than the maximum proposed utilization level (45%) and would have more rest and should produce larger plants because of better plant reserves.

The maximum allowable utilization level on grasses will change by 5% and shrubs will change by 10% and they both would still be in the moderate category. The maximum utilization level would change to 50% and 45%. Growth patterns on rested areas should produce larger plants because of better plant reserves.

2. Wildlife:

Implementation of the Proposed Action would increase shrubs and would positively affect wildlife utilizing the allotment. These recommendations should increase the amount of winterfat and budsage plants on the South Pasture and produce larger plants over much of the allotment. The larger and more abundant shrubs would provide greater cover for wildlife in general and more habitat for shrub-nesting migratory birds. In particular, an increase in winterfat would provide more available forage for mule deer and pronghorn antelope. Wildlife may utilize the allotment for a longer period of time, due to the greater availability of food and cover. The proposed objectives would serve to protect and restore wildlife habitat.

3. Soils:

Since some of the soils within the Fort Churchill Allotment have moderate to severe water erosion hazard ratings, the Proposed Action would have a slight potential to positively impact this resource due to the utilization levels proposed. Most of these erosive soils however are located on very steep slopes which are not normally utilized by livestock, and so the actual impacts should not differ from the present situation.

Soils around the trails to the water troughs could become compacted and the surface around the troughs could become

broken up and turn into a powder substance.

4. Vegetation:

The utilization level would decrease to 50% for grasses and be reduced to 45% for shrubs. There would be no change in the utilization category (Moderate Use Class - 41% to 60%) for grasses and shrubs. The general allotment use is from 04/01 to 07/31. These grass plants can sustain as much as 50% use on the current year's growth without damage to the plant. Livestock removal by 07/31 will provide some time for regrowth before autumn dormancy. The grass utilization levels were recommended in the Nevada Rangeland Monitoring Handbook on page 23 as proper use. The proper use is the degree of utilization of current year's growth which, if continued, will maintain or improve the long term productivity of the site. This would meet vegetation objectives for the allotment.

5. Threatened, Endangered, and Sensitive Species:

Implementation of the Proposed Action with spring and summer grazing would have no negative impacts on the sensitive plant species as long as excessive numbers of livestock do not congregated or trail within the Churchill Narrows buckwheat habitat. If wild horse numbers were to increase in the area there could be negative impacts from trampling and soil compaction. The two year grazing rotation system has shortened the grazing season in each pasture. The AUM's that can be used in each pasture has been established in the proposed action. With the proposed action, the overall use levels in each pasture will be reduced from the current situation. The drought conditions during the last five years did have negative impacts on sensitive plant species because it reduced the chances of new seedlings to establish and it reduced the overall growth on the sensitive plants.

6. Invasive, Nonnative Species:

At this time, there is only one known site of noxious weeds (Musk Thistle & White Top plants) at the Churchill Station Spring area on the allotment. In the future, noxious weed seeds could be spread by animals (cattle and wildlife), people, wind, and by machinery (road grader, truck or car). The proposed action could create opportunities for the introduction of noxious weeds because of the water sites and the increased management on the allotment. A

continuous inventory would be maintained at the same time that utilization is assessed, and any infestations found would be treated using Integrated Weed Management Techniques.

7. Visual Resources:

The difference between the Proposed Action and the No Action Alternative from a visual resources standpoint is indistinguishable. The Proposed Action would meet VRM Class III and Class IV objectives. No surface disturbing projects are being proposed in this EA. If range improvement projects are proposed in the future a separate EA would be prepared at that time to analyze potential impacts to Visual Resources.

8. Land Use/Access:

No grazing impacts to the private or State lands in the vicinity of the allotment are anticipated, due to the presence of boundary fences. Livestock grazing is compatible with existing land use authorizations. The potential exists for collisions between livestock and vehicles traveling or being tested in the area. Collisions in the past have been rare and impacts are anticipated to be insignificant.

9. Wetlands/Riparian:

Significant impacts to Churchill Station Spring are not expected under any of the alternatives. The enclosure built in 2002 is affording adequate protection of the riparian area, and continued improvement is expected until the entire enclosure site is in a properly functioning condition. Regular assessments are scheduled as part of allotment monitoring to ensure continued improvement in riparian condition.

2. Alternatives (No Action):

A. Environmental Impacts :

1. Livestock:

Implementation of the No Action Alternative would not change the number of livestock utilizing the allotment, authorized AUMs or the season of use. There is no total AUM's established in the northern and southern pastures. With no grazing system in place,

the full 540 AUMs could possibly occur in only one pasture, causing over grazing.

2. Wildlife:

Effects of this alternative would be a higher utilization level for grasses and shrubs in certain areas, which would affect wildlife habitat. Shrubs and grasses, including important ungulate forage such as winterfat, would not increase in abundance and cover. Current vegetation diversity and structure would remain and wildlife utilization and numbers on the allotment would be maintained.

3. Soils:

Effects of this alternative would be higher impact to soils because the 540 AUM's may be used during the grazing season in only the northern or southern pastures. Since some of the soils within the Fort Churchill Allotment have moderate to severe water erosion hazard ratings, the No Action Alternative would have a slight potential to negatively impact this resource due to the 55% utilization levels proposed. Most of these erosive soils are located on very steep slopes which are not normally utilized by livestock, and so this alternative should result in very little change in impacts to the soil resource. Due to the higher utilization levels proposed in this alternative, there is a very slight potential to have a net negative impact.

4. Vegetation:

Effects of this alternative would be a higher utilization level for grasses and shrubs in certain areas. The general allotment use is from 04/01 to 07/31. When cattle are turned out in the allotment on 04/01, both the shrubs and grasses are in the growing stage. These grass plants can sustain as much as 50% of the current year's growth without damage to the plant. The growing period for the key plant species is from 03/01 to 08/15 each year. This alternative meets vegetation objectives established for the allotment.

5. Threatened, Endangered, and Sensitive Species:

If all the AUM's are used in only one pasture/area during the grazing year, the plant utilization levels in that area would increase. Livestock or wild horses within the Churchill Narrows buckwheat

habitat could negatively impact the plant with trampling and compaction of the fragile diatomaceous soils.

6. Invasive, Nonnative Species:

At this time, there is only one known site of noxious weeds (Musk Thistle & White Top plants) at the Churchill Station Spring area on the allotment. In the future, more noxious weed seed can be spread by animals, wind and machinery. A continuous inventory would be maintained at the same time utilization is assessed, and any infestations found would be treated using Integrated Weed Management Techniques.

7. Visual Resources:

Effects of this alternative would be the same as the proposed action on page 15. The difference between the Proposed Action and the No Action Alternative from a visual resources standpoint is indistinguishable.

8. Land Use/Access:

No grazing impacts to the private or State lands in the vicinity of the allotment are anticipated due to the presence of boundary fences. Livestock grazing is compatible with existing land use authorizations. The potential exists for collisions between livestock and vehicles traveling or being tested in the area. Collisions in the past have been rare and impacts are anticipated to be insignificant.

9. Wetlands/Riparian:

Significant impacts to Churchill Station Spring are not expected under any of the alternatives. The exclosure built in 2002 is affording adequate protection of the riparian area, and continued improvement is expected until the entire exclosure site is in a properly functioning condition.

3. **Alternatives (Winter Grazing):**

A. **Environmental Impacts :**

1. **Livestock:**

Implementation of the Winter Grazing Alternative would change the number of livestock utilizing the allotment, and the season of use. With a two-year grazing system, the established maximum amount of 540 AUM's would occur in the two pastures. Every other year, grazing in one pasture would occur during a small portion of the growing season (March 1 to March 31). The plant growth for forbs, grasses and shrubs should improve on the allotment. With time, the amount of perennial grasses should increase.

The maximum allowable utilization level on grasses will change by 5% and shrubs will change by 10% and they both would still be in the moderate category. The maximum utilization level would change to 50% and 45%. Growth patterns on rested areas should produce larger plants because of better plant reserves.

2. **Wildlife:**

Implementation of a winter grazing permit in place of spring and summer grazing would positively affect wildlife utilizing the allotment. It would improve both forage and cover for wildlife by reducing livestock utilization during the primary growing season of grasses, forbs, and shrubs. Effects of this alternative should improve the abundance and cover of forbs, perennial grasses and shrubs on the allotment. This community response would serve to protect and increase wildlife habitat on the allotment. Greater forb, grass, and shrub cover would mean an increase in the quality and quantity of habitat for migratory birds and common wildlife species. The larger and more abundant shrub plants would provide greater cover for general wildlife and more habitat for shrub-nesting and grass-nesting migratory birds. Wildlife may utilize the allotment for a longer period of time, due to the greater availability of forage and cover. In particular, an increase in forbs indicates good spring time forage for mule deer and pronghorn antelope, allowing for potential expansion of utilization and animal abundance in this area.

3. Soils:

Effects of this alternative would be the same as the proposed action on page 14. The same number of AUM's would be used in each pasture. Since some of the soils within the Fort Churchill Allotment have moderate to severe water erosion hazard ratings, the Winter Alternative would have a slight potential to positively impact this resource due to the utilization levels proposed. Most of these erosive soils are located on very steep slopes which are not normally utilized by livestock, and so this alternative should result in very little change in impacts to the soil resource compared with the present situation. There is a very slight potential to have a net positive impact, but this would probably be immeasurable.

4. Vegetation:

The utilization level would decrease to 50% for grasses and be reduced to 45% for shrubs. There would be no change in the utilization category (Moderate Use Class - 41% to 60%) for grasses and shrubs. When cattle are on the allotment from 03/01 to 03/31, both the shrubs and grasses are in the growing stage. The general allotment use is from 11/01 to 03/31. These grass plants can sustain utilization of 50% use on the current year's growth without damage to the plant. Livestock removal by 03/31 will provide time for regrowth before autumn dormancy. The level of utilization would be checked during the grazing season and cattle would have to move out of the area when 45% is reached. This proposed action should increase the amount of winterfat and budsage plants on those areas. This lower utilization (45%) would provide better livestock distribution over most of the allotment and over time should improve the condition of the vegetation in the areas currently grazed. The length of time on areas of the allotment would be shorten when the maximum utilization levels are reached, allowing more of the allotment to be used during the grazing season. The desirable shrub vegetation that is grazed would have no more than the maximum proposed utilization level (45%) and would have more rest and should produce larger plants because of better plant reserves.

5. Threatened, Endangered, and Sensitive Species:

Effects of this alternative could have some negative effects because livestock would be grazing the allotment in the month of March. This grazing period is the beginning of the sensitive species

growing season. If there were excessive numbers of livestock or wild horses within the Churchill Narrows buckwheat habitat, or if livestock were trailed through the habitat, there would be negative impacts to the plant with trampling and compaction of the fragile diatomaceous soils.

6. Invasive, Nonnative Species:

At this time, there is only one known site of noxious weeds (Musk Thistle & White Top plants) at the Churchill Station Spring area. In the future, noxious weed seed can be spread by animals, wind and machinery. A continuous inventory will be maintained at the same time utilization is assessed, and any infestations found will be treated using Integrated Weed Management Techniques.

7. Visual Resources:

Effects of this alternative would be the same as the proposed action on page 15. The difference between the Proposed Action and the Winter Grazing Alternative from a visual resources standpoint is indistinguishable.

8. Land Use/Access:

No grazing impacts to the private or State lands in the vicinity of the allotment are anticipated due to the presence of boundary fences. Livestock grazing is compatible with existing land use authorizations. The potential exists for collisions between livestock and vehicles traveling or being tested in the area. Collisions in the past have been rare and impacts are anticipated to be insignificant.

9. Wetlands/Riparian:

Significant impacts to Churchill Station Spring are not expected under any of the alternatives. The enclosure built in 2002 is affording adequate protection of the riparian area, and continued improvement is expected until the entire enclosure site is in a properly functioning condition.

4. **Alternatives (No Grazing):**

B. **Environmental Impacts :**

1. **Livestock:**

Implementation of the No Grazing Alternative would result in no cattle grazing on the allotment.

Implementation of the No Grazing Alternative would result in no maintenance of range improvements. The water development sites would have no water because the permittee would not be hauling water during the grazing season.

Removal of livestock would also mean removal of the permittee. Loss of this presence on the allotment would be detrimental to maintenance of the vegetation found on the allotment. The permittee has alerted the BLM to a number of abuses, by recreationists, on the allotment, and this has prompted action by the BLM to protect various areas. Maintenance of range improvements by the permittee also serves to protect the vegetation found on the allotment from uncontrolled use by trespass livestock.

2. **Wildlife:**

Implementation of the No Grazing Alternative would eliminate utilization by livestock. This alternative would probably have the greatest effect on wildlife in the allotment. Initially, it would provide less competition for forage. It would improve both forage and cover for wildlife by reducing livestock utilization during primary growing season of grasses, forbs, and shrubs. Effects of this alternative should improve the abundance and cover of forbs, perennial grasses, and shrubs on the allotment. This community response would serve to protect and increase wildlife habitat on the allotment. Greater forb, grass, and shrub cover would mean an increase in the quality and quantity of habitat for migratory birds and common wildlife species. The larger and more abundant shrub plants would provide greater cover for general wildlife and more habitat for shrub-nesting and grass-nesting migratory birds. Wildlife may utilize the allotment for a longer period of time, due to the greater availability of forage and cover. In particular, an increase in forbs indicates good spring time forage for mule deer and pronghorn antelope, allowing for potential expansion of utilization and animal abundance in this area.

Implementation of the No Grazing Alternative would result in no maintenance of range improvements. The water development sites would have no water because the permittee would not be hauling water during the grazing season. Wildlife and migratory birds use on the allotment may decrease due to lack of available water.

3. Soils:

The No Grazing Alternative would have positive impacts. Since some of the soils within the Fort Churchill Allotment have moderate to severe water erosion hazard ratings, the No Grazing Alternative would have a slight potential to positively impact this resource due to the lack of grazing. There would be fewer animals (no cattle) on the allotment. Over time, there would be no cattle trails. Most of these erosive soils are located on very steep slopes which are not normally utilized by livestock, and so this alternative should result in very little change in impacts to the soil resource compared with the present situation. Due to the lower utilization levels proposed in this alternative, there is a very slight potential to have a net positive impact, but this would probably be undetectable.

4. Vegetation:

The No Grazing Alternative proposed would have a number of effects. The vegetation across the allotment would continue to improve. Eventually, the forage species on some areas of the allotment would reach an over mature stage of growth, and the vigor of the plants would suffer. Grass plants may become wolfy with dead crown centers. This alternative would also not allow for the proper use of a renewable resource (range forage) as allowed for in the Carson City Field Office Consolidated Resource Management Plan 2001.

5. Threatened, Endangered, and Sensitive Species:

The No Grazing Alternative could have positive impacts for these plant species because the possibility of livestock impacts on these species would be removed. If wild horse numbers were to increase and congregate within the habitat there could be impacts to the Churchill Narrows buckwheat from trampling and compaction of the fragile diatomaceous soils.

6. Invasive, Nonnative Species:

At this time, there is only one known site of noxious weeds (Musk Thistle & White Top plants) at the Churchill Station Spring area. In the future, noxious weed seed can be spread by animals, wind and machinery. A continuous inventory will be maintained, and any infestations found will be treated using Integrated Weed Management Techniques.

7. Visual Resources:

The No Grazing Alternative would be the same as the proposed action on page 15. The difference between the Proposed Action and the No Grazing Alternative from a visual resources standpoint is indistinguishable.

8. Land Use/Access:

No grazing impacts to the private or State lands in the vicinity of the allotment are anticipated due to the presence of boundary fences. There would be no potential that exists for collisions between livestock and vehicles traveling or being tested in the area.

9. Wetlands/Riparian:

Significant impacts to Churchill Station Spring are not expected under any of the alternatives. The enclosure built in 2002 is affording adequate protection of the riparian area, and continued improvement is expected until the entire enclosure site is in a properly functioning condition.

4. Mitigation Measures:

A. Proposed Action:

1. Range improvement sites would be maintained in a sanitary condition at all times, waste materials at those sites would be disposed of promptly at an appropriate waste disposal site. Waste means all discarded matter including, but not limited to, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
2. Bird ramps are required to be included at all water haul sites.

3. The Carson City Field Office (CCFO) would send an inspector to all the new project sites to ensure conformance with BLM standards.
4. Possible negative impacts to the Churchill Narrows buckwheat such as trampling and soil compaction can be avoided by locating any water haul sites 1 mile away from the habitat and by not allowing any herding of livestock through the habitat. Wild horses are not frequently seen in the habitat areas. If wild horse numbers were to increase in the area and associated negative impacts occur, it would be necessary to fence the habitat areas. Fencing of the habitat areas would not have a significant effect on livestock grazing as the habitat is sparsely vegetated and composed mostly of species which are non-palatable or even poisonous to livestock.

B. No Action:

The mitigation measures are the same for both the Proposed Action and No Action Alternative.

C. Winter Grazing:

The mitigation measures are the same for both the Proposed Action and Winter Grazing Alternative.

D. No Grazing Alternative:

No mitigation is needed.

5. Residual Impacts:

A. Proposed Action:

The proposed action, with the mitigation listed above, would have some vegetation impacts around lower density shrub population areas and the water sources. The winterfat and budsage plants numbers would increase because of the maximum limit of utilization established. More areas would be impacted because of the number of recent water haul sites added on the Fort Churchill Allotment. The distribution of livestock and wildlife over the whole allotment would improve which is a positive effect.

B. No Action:

The no action alternative would be the same as the proposed action.

C. **Winter Grazing:**

The perennial plants would have more grazing occurring during the dormant stage and less grazing pressure during the growing season (March). This type of grazing use should increase the amount of perennial grasses and forb species in the spring and summer. The distribution and abundance of wildlife over the whole allotment would improve.

D. **No Grazing Alternative:**

The No Grazing alternative would have improved vegetation impacts around the water sources. Most areas on the Fort Churchill Allotment would be impacted because most of the water sources would not be used. There would be no distribution of cattle and wild horses over the whole allotment which would improve the vegetation cover for a few years. This would be a positive impact on the vegetation. As a result, the distribution and abundance of wildlife over the whole allotment would improve.

6. **Cumulative Impacts:**

All resource values have been evaluated for cumulative impacts. It has been determined that cumulative impacts would be negligible as a result of the proposed action or alternatives.

The issuance of a term grazing permit for the Fort Churchill Allotment is a discrete action, and would cause no known cumulative impacts to the environment when considered in combination with any known or anticipated actions on these or adjacent lands in the past, present, or foreseeable future. Any effects of the moderate grazing levels proposed would be limited to the project area.

The grazing levels considered under these alternatives are either no grazing or grazing at moderate levels. Grazing at these levels has not been shown to be injurious to plant or animal species in the area. The effects of grazing at moderate levels, along with associated activities in the management of this allotment such as maintenance or construction of range improvements, would be limited to the immediate area of the allotment. They would not combine with any known, or reasonably foreseen, activities on these or adjacent lands to produce any detrimental cumulative impacts in the area.

7. **Monitoring:**

Range Monitoring would continue for the Fort Churchill Allotment. The types of monitoring could include (1) Quadratic Frequency, (2) Photo Points, (3) Utilization, (4) Use Pattern Maps, (5) Rangeland Health Assessments, (6)

Riparian Functionality, (7) Actual Use Reports, and (8) Weather Data. Actual methods used would depend on monitoring needs, conditions, and resources available.

V. CONSULTATION & COORDINATION

1. List of Preparers:

- | | | |
|-----|--------------------|--|
| 1. | Peter A. Raffetto | Rangeland Management Specialist |
| 2. | Russell Suminski | Senior Rangeland Management Specialist |
| 3. | Susan McCabe | Archaeologist |
| 4. | Jo Ann Hufnagle | Realty Specialist |
| 5. | James T. DeLaureal | Soil Scientist |
| 6. | Dean Tonenna | Plant Ecologist |
| 7. | Terry F. Knight | Recreation Planner |
| 8. | Jim Schroeder | Hydrologist |
| 9. | Claudia Funari | Wildlife Biologist |
| 10. | Desna Young | Environmental Coordinator |

2. Persons, Groups or Agencies Consulted:

1. Robert Depaoli
2. Western Watersheds Project
3. Nevada State Clearing House
4. U.S. Fish and Wildlife Service
5. Hodges Transportation Inc.
6. Yerington Paiute Tribe
7. Pyramid Lake Paiute Tribe

VI. APPENDICES OR ATTACHMENTS:

Attached is the 2004 Fort Churchill Allotment Standards & Guidelines Analysis.

**FINDING OF NO SIGNIFICANT IMPACT
TERM GRAZING PERMIT RENEWAL
FORT CHURCHILL ALLOTMENT
EA-NV-030-05-19**

I have reviewed Environmental Assessment (EA) NV-030-05-19, dated January 2006. After consideration of the environmental effects as described in the EA, and incorporated herein, I have determined that the proposed action identified in the EA will not significantly affect the quality of the human environment and that an Environmental Impact Statement (EIS) is not required to be prepared.

I have determined the proposed action is in conformance with the approved Consolidated Resource Management Plan, dated May 2001 for the Carson City Field Office, and is consistent with the plans and policies of neighboring local, county, state, tribal and federal agencies and governments. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and intensity of impacts described in the EA.

Context: The Fort Churchill Grazing Allotment is located 10 miles south of Silver Springs, NV and is within the jurisdictional boundary of the Carson City Field Office of the Bureau of Land Management (BLM). Churchill Butte is on the north end of the allotment and the Churchill narrows are on the southern end. The allotment is partially fenced. The Fort Churchill Allotment is 14,722 acres in size with 14,722 of public land. The BLM is currently considering the renewal of the term livestock grazing permit for this allotment and the addition of range improvement projects (plant exclosures).

Intensity:

1) *Impacts that may be both beneficial and adverse.*

The environmental assessment has considered both beneficial and adverse impacts of grazing and the addition of range improvements (plant exclosures) on public lands. On the whole, the proposed action would result in improved vegetative condition and wildlife habitat. Improving ecological conditions is an improvement in the quality of the human environment through the management of rangeland resources, and is not considered a significant effect in either the short or long term.

2) *The degree to which the proposed action affects public health or safety.*

The proposed action would have no affect on public health and safety.

3) *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

There are no park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas. As a standard operating practice, activities which result in the congregation of livestock are not authorized in areas with known historic and cultural values.

4) *The degree to which the possible effects on the quality of the human environment are likely to be highly controversial.*

The effects of livestock grazing and range improvement projects are well known and documented and are not highly controversial. Livestock management techniques are scientifically accepted methods of achieving both domestic livestock grazing and natural resource management goals. These practices are not considered highly controversial.

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

There are no known effects of the proposed action identified in the EA which are considered uncertain or involve unique or unknown risks. The proposed action is comprised of accepted standard practices of livestock grazing and range improvement projects.

6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

The proposed action does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. All future grazing systems and range improvements, if they occur would be subject to the same environmental assessment standards and independent decision making.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

No significant cumulative impacts have been identified in the EA. Other grazing and range improvement projects may be proposed within the grazing allotment in the future and other land uses are ongoing within the same geographic area. These projects seen together with other land uses would not result in cumulatively significant impacts at the local or watershed scale.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources.*

No districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP would be affected by the proposed action. Nor would the proposed action result in the loss or destruction of significant scientific, cultural or historical resources.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat has been determined to be critical under the ESA of 1973.*

No threatened or endangered species or their habitats were identified in the project area.

10) *Whether the action threatens a violation of Federal, State, or local law requirements imposed for the protection of the environment.*

The proposed action will not violate or threaten to violate any Federal, State, or local law or requirement imposed for the protection of the environment.



Daniel L. Jacquet
Assistant Manager, Renewable Resources

1/27/06
Date