

**U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-196-EA

PROJECT NAME: Grazing Permit Renewal for Cross Mountain Ranch (0501485) on the Spooky Mountain (06316) and Upper Coal Creek (06330) allotments.

LEGAL DESCRIPTION:

Legal Description					
Allotment		BLM Acres	Twp.	Range	Section(s)/Lots or Portions Of
Name	No.				
Spooky Mountain	06316	27464	3N	102W	8-17, 20-29, 32-36
			2N	102W	1-5, 9-11
			3N	101W	7, 8, 16-22, 26-36
			2N	101W	1-5, 8-11, 15, 16
Upper Coal Creek	06330	5663	4N	99W	23, 24, 25, 26, 35, 36
			3N	99W	1, 2
			4N	98W	19, 20, 29, 30, 31, 32, 33
			3N	98W	4, 5, 6
Total:		33127			

APPLICANT: Cross Mountain Ranch (0501485)

ISSUES AND CONCERNS: The Deserado Coal Mine is located within the Spooky Mountain allotment. Infrastructure associated with the coal mine in the allotment are the mine portal, haul road, conveyor belts, railroad coal loading facilities, exploratory wells, railroad, etc. that influence grazing patterns in the Staley Mine pasture of the Spooky Mountain allotment.

The northern portion of the Coal Rim Area of Environmental Concern (ACEC) is partially located within the Spooky Mountain allotment. This area has been designated as an ACEC due to the unusual presence of aspen trees (*Populus tremuloides*) located within the shaded alcoves of Coal Rim. These aspen stands are atypical because they are outside their normal range of existence as the area is a salt-desert/sagebrush community that receives low moisture (9.81 annual rainfall at Rangeley Colorado) and is lower in elevation (~5700 feet). Therefore, aspen trees typically would not be expected to grow and thrive under these conditions found in this desert environment.

Cheatgrass (*Bromus tectorum*) is an invasive, annual plant species that is heavily established within the sagebrush canopy and open areas of the Spooky Mountain allotment.

The allocated Skyline and Victory sheep trails cross the Spooky Mountain allotment with overnight corrals at the Deserado haul road intersection.

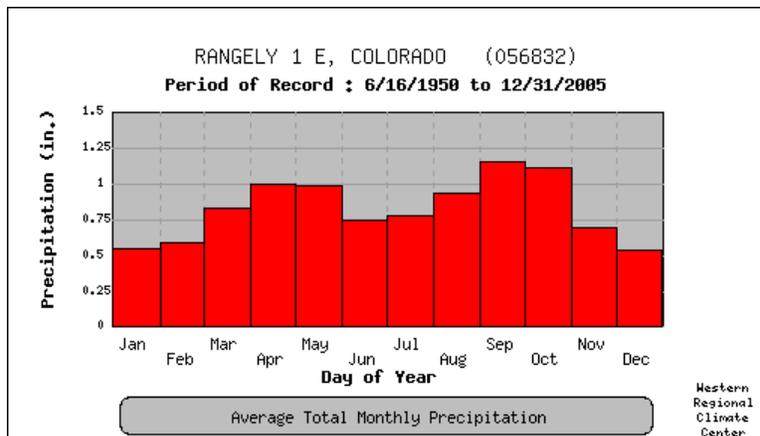
The Spooky Mountain allotment was completely rested during the 2005-2006 grazing season for plant maintenance and due to limited water in the form of early snow accumulation.

Cross Mountain Ranch has leased the grazing preference for the Upper Coal Creek allotment to Hal Tuttle for the past several years. This lease is currently expired (04/15/06), but it is anticipated to be renewed for a 3 year period (2007-2010). Mr. Tuttle holds the grazing permit on the Elk Springs allotment (06326), which adjoins the Upper Coal Creek allotment.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The Spooky Mountain allotment is located approximately 5 mile north of Rangely, Colorado in western Rio Blanco and Moffat Counties. Within the Spooky Mountain allotment, Stinking Water Creek and Coal Rim form the western boundary, Kenney Reservoir and natural topographic barriers create the southern boundary, a fenceline along the Skyline trail forms the northern boundary, and other fences create the eastern allotment border (see attached allotment map).

Major drainages on the Spooky Mountain allotment include Scullion Gulch, Nate Spring Draw, and Stinking Water Creek. Scullion Gulch drains directly into the White River above Kenny Reservoir, Stinking Water Creek drains into the White River below Rangely, and Nate Springs draw is a tributary of Stinking Water Creek. The elevation on the Spooky Mountain allotment ranges from approximately 5300 feet near the White River to 6314 feet at Spooky Mountain. Three general vegetation communities are located within the allotment: 1) big sagebrush, 2) pinyon-juniper, and 3) salt-desert shrub. Cheatgrass, an invasive and non-native plant species, is prevalent throughout the allotment.

For the Spooky Mountain allotment annual precipitation in nearby Rangely, Colorado is 9.81 inches, with the wettest months being September and October (see table below).



Precipitation in the White River field Office (WRFO) area has been below average in the years 2000, 2002, 2003, 2004, and 2006, therefore creating a drought situation of lowered vegetative growth. In 2005, the area received favorable moisture levels and timing that bolstered plant production.

The Upper Coal Creek allotment is located approximately 3 miles south of Elk Springs, Colorado in western Moffat County. Within the Upper Coal Creek allotment, the East Fork of Wolf Creek forms the western boundary, a fenceline on Pinyon Ridge creates the eastern boundary, and fencelines form the northern and southern allotment boundaries (see attached allotment map).

Major drainages on the Upper Coal Creek allotment include Coal Creek and the East Fork of Wolf Creek, both ephemeral drainages. These drainages flow in a southern direction into Wolf Creek (ephemeral), which drains into the White River approximately 4 miles south of the Upper Coal Creek allotment. The elevation on the Upper Coal Creek allotment ranges from approximately 6800 feet along Pinyon Ridge to 5600 at the southern end of Coal Creek. Three general vegetation communities are located within the allotment: 1) big sagebrush, 2) pinyon-juniper, 3) salt desert shrub.

An established BLM rain gauge located near the Upper Coal Creek allotment has an annual rainfall of 15.51 inches, with the wettest months being April then October.

Cross Mountain Ranch acquired the Spooky Mountain allotment in 2000 from Gus Halandras. The ranch obtained the grazing preference on the Upper Coal Creek allotment in 1992 from Bogle Farms.

Grazing allotments within the White River Field Office (WRFO) have been placed in one of three management categories that define the intensity of management: (1) Improve, (2) Custodial and (3) Maintain. These categories broadly define rangeland management objectives in response to an analysis of an allotment’s resource characteristics, potential, opportunities, and needs.

Allotment Categorization for allotments analyzed in this permit renewal:

- Spooky Mountain – Improve
- Upper Coal Creek – Improve

The table below is an acre breakdown by land status within Cross Mountain Ranch’s BLM grazing allotments.

Breakdown of Acres Controlled by Cross Mountain Ranch					
Allotment		BLM Acres	State Acres	Private Acres	Total Acres
Name	No.				
Spooky Mountain	06316	27464	1278	0	28742
Upper Coal Creek	06330	5663	672	1291	7626
Totals:		33127	1950	1291	36368

A. Proposed Action: Renewal of Cross Mountain Ranch’s grazing permit (0501485) for a 10 year period as outlined in the proposed grazing permit table below. Active Animal Unit Months (AUMs), which is the amount of forage necessary for the sustenance of 5 sheep (1 cow) for a period of 1 month, have been adjusted to reflect the carrying capacity of the rangelands as developed in conjunction with the BLM and grazing permittee and submitted by the ranch’s *Application for Grazing Permit Renewal* signed on 06/15/06.

Proposed Grazing Permit for Cross Mountain Ranch (0501485)										
Allotment		Livestock		Date		% PL	Scheduled AUMs	Active AUMs	Susp. AUMs	Total AUMs
Name	No.	Number	Kind	On	Off					
Spooky Mountain	06316	2500	S	11/20	02/28	96%	1594	2241	0	2241
		2500	S	03/01	04/10	96%	647			
Upper Coal Creek	06330	2000	S	01/22	02/28	71%	355	644	0	644
		2000	S	03/01	03/31	71%	289			

The percent public land (% PL), which is the percentage of BLM (active) AUMs in relation to total AUMs (BLM, private, and state AUMs), was recalculated for both allotments. The % PL calculation remained the same on the Spooky Mountain allotment (96%) and was adjusted on the Upper Coal Creek allotment from 81% to 71%.

Rangeland Improvements Necessary to Implement the Grazing System: No rangeland improvements (RI) are proposed to implement the grazing system. Future evaluations of allotment conditions may identify improvements that would aid in achieving objectives. In which case, a separate Environmental Assessment (EA) would be compiled to approve any such new RI on a site specific basis.

Monitoring and Evaluation: There are 7 trend sites located in the Spooky Mountain allotment that were established in 1965 and last read in 2006. Two trend locations are located in the Upper Coal Creek allotment that were established in 1965 and last read in 2006. These trend sites include a permanent, repeatable photo plot and a permanent, repeatable Daubenmire transect line to measure ground cover and frequency. The study sites were established in key areas to monitor livestock grazing use, and were established under protocol developed in the *Grazing Allotment Monitoring Plan for the White River Resource Area*. The next cycle for reading the trend study will be in 4-5 years (2010, 2011) and then read again in 9-10 years from now (2015, 2016). Future readings of trend studies by BLM staff are partially dependent upon future workload capabilities and priorities.

Grazing Permit Terms and Conditions: The following terms and conditions as required by 43 CFR 4130.3 would be included in the grazing permit issued under this alternative:

1. The permittee or lessee must provide reasonable administrative access across private and leased lands to the BLM for the orderly management and protection of the public lands, as outlined 43 CFR 4130.3-2(h).

2. It is unlawful for the permittee, agents or employees to knowingly disturb or collect cultural, historical or paleontological materials on public lands. If cultural, historical or paleontological materials are found, including human remains, funerary items or objects of cultural patrimony. The permittee is to stop activities that might disturb such materials, and notify the authorized officer immediately.
3. No grazing use can be authorized under this grazing permit/lease during any period of delinquency in the payment of amounts due in settlement for unauthorized grazing use.
4. Grazing use authorized under this grazing permit/lessee may be suspended, in whole or in part, for violation by the permittee/lessee of any of the provisions of the rules or regulations now or hereafter approved by the Secretary of the Interior.
5. This grazing permit/lease is subject to cancellation, in whole or in part, at any time because of:
 - a. Noncompliance by the permittee/lessee with rules and regulations now or hereafter approved by the Secretary of the Interior.
 - b. Loss of control by the permittee/lessee of all or a part of the property upon which it is based.
 - c. A transfer of grazing preference by the permittee/lessee to another party.
 - d. A decrease in the lands administered by the Bureau of Land Management within the allotment(s) described herein.
 - e. Repeated willful unauthorized grazing use
6. This grazing permit/lease is subject to the provisions of executive Order NO. 11246 of September 24, 1965, as amended, which sets forth nondiscrimination clauses. A copy of this order may be obtained from the authorized officer.
7. The permittee/lessee must own or control and be responsible for the management of the livestock authorized to graze under this grazing permit/lease.
8. The authorized officer may require counting and/or additional/special marking or tagging of the livestock authorized to graze under this grazing permit/lease.
9. The permittee's/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.
10. In order to improve livestock distribution on the public lands, all salt blocks and/or mineral supplements will not be placed within a 1/4 mile of any riparian area, wet meadow, or watering facility (either permanent or temporary) unless stipulated though a written agreement or decision in accordance with 43 CFR 4130.3-2(c).
11. In accordance with 43 CFR 4130.8-1(F): Failure to pay grazing bills within 15 days of the due date specified in the bill shall result in a late fee assessment. Payment made later than 15 days after the due date, shall include the appropriate late fee assessment. Failure to make payment within 30 days may be a violation of 43 CFR Sec. 4140.1(b) (1) and

shall result in action by the authorized officer under 43 CFR Secs. 4150.1 and 4160.1-2 (Trespass).

B. Continuation of Current Management Alternative: Re-issuance of Cross Mountain Ranch’s grazing permit with no changes for a 10 year period as outlined below.

Current Grazing Permit for Cross Mountain Ranch (0501485)										
Allotment		Livestock		Date		% PL	Scheduled AUMs	Active AUMs	Susp. AUMs	Total AUMs
Name	No.	Number	Kind	On	Off					
Spooky Mountain	06316	2000	S	11/20	02/28	96%	1275	2800	582	3382
		672	S	12/01	02/28	96%	382			
		2000	S	03/01	05/09	96%	884			
		672	S	03/01	04/30	96%	259			
Upper Coal Creek	06330	2000	S	01/22	02/28	81%	405	880	321	1201
		2000	S	03/01	04/14	81%	479			

C. No Grazing Alternative: No livestock will be authorized on the current permitted Spooky Mountain and Upper Coal Creek allotments. Therefore, the grazing permit held by Cross Mountain Ranch (0501485) will not be renewed.

NEED FOR THE ACTION: Cross Mountain Ranch’s grazing permit (0501485) for the Spooky Mountain (06316) and Upper Coal Creek (06330) allotments will expire on 02/28/07. This permit is subject to renewal or transfer at the discretion of the Secretary of the Interior for a period of up to 10 years. The BLM has the authority to renew the livestock grazing permit/lease consistent with the provision of the *Taylor Grazing Act, Public Rangelands Improvement Act, Federal Land Policy and Management Act, and the White River Resource Area Resource Management Plan (RMP)*. This Plan has been amended by the *Standards for Public Land Health in Colorado*.

In order to graze livestock on public land, the livestock permittee must hold a valid grazing permit. The grazing permittee has a preference right to receive the permit, if grazing is to continue. The RMP allows for grazing to continue on these allotments.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: 2-10, 2-22 through 2-26

Decision Language: “Sustain a landscape composed of plant community mosaics that represent successional stages and distribution patterns that are consistent with natural and regeneration regimes, and compatible with the goals identified in Standard Three of the Standards for Public Land Health” (2-10). Also, as stated on page 2-10, the objective of the livestock management program is to improve the rangeland forage resources by managing toward or at a desired plant community (potential natural plant community).

“Maintain or enhance a healthy rangeland vegetative composition and species diversity, capable of supplying forage at a sustained yield to meet the demand for livestock grazing. Provide for adequate forage plant growth and/or regrowth opportunity necessary to : 1) replenish the plants food reserves; and 2) produce sufficient seed to meet the reproduction needs necessary to maintain an ecological presence in the plant community ” (2-22 through 2-23).

COMPLIANCE WITH SECTION 302 OF FLPMA RELATIVE TO THE COMB WASH GRAZING DECISION: A review of applicable planning documents and a thoughtful consideration of the new issues and new demands for the use of the public lands involved with these allotments have been made. This analysis concludes that the current multiple use allocation of resources is appropriate.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

STANDARDS FOR PUBLIC LAND HEALTH							
Standard	Current Situation			With Proposed Action		With No Grazing	
	Acres Achieving or Moving Towards Achieving	Acres Not Achieving	Causative Factors	Acres Achieving or Moving Towards Achieving	Acres Not Achieving	Acres Achieving or Moving Towards Achieving	Acres Not Achieving
#1-Upland Soils							
Spooky Mtn	16,324	11,140	Historical grazing practices, wildlife use, wildfire, and drought	16,624	10,840	16,824	10,640

STANDARDS FOR PUBLIC LAND HEALTH							
	Current Situation			With Proposed Action		With No Grazing	
Standard	Acres Achieving or Moving Towards Achieving	Acres Not Achieving	Causative Factors	Acres Achieving or Moving Towards Achieving	Acres Not Achieving	Acres Achieving or Moving Towards Achieving	Acres Not Achieving
Upper Coal	4732	931	Historical grazing practices, wildlife use, and drought	4832	831	4907	756
#2-Riparian Systems							
Spooky Mtn	1.5	3.1	Degraded uplands, wildlife use, noxious weeds, and drought.	1.7	2.9	1.9	2.7
Upper Coal	0	0	No riparian systems	0	0	0	0
#3-Plant Communities							
Spooky Mtn	16,324	11,140	Historical grazing practices, wildlife use, wildfire, and drought	16,624	10,840	16,824	10,640
Upper Coal	4732	931	Historical grazing practices, wildlife use, and drought	4832	831	4907	756
#3-Animal Communities							
Spooky Mtn	16,324	11,140	Historical grazing practices, wildlife use, wildfire, and drought	4832	831	4907	756
Upper Coal	4732	931	Historical grazing practices, wildlife use, and drought	4832	831	4907	756
#4-Special Status, T&E Species							
Spooky Mtn	16,324	11,140	Historical grazing practices, wildlife use, wildfire, and drought	4832	831	4907	756
Upper Coal	4732	931	Historical grazing practices, wildlife use, and drought	4832	831	4907	756
#5-Water Quality (stream miles)							
Spooky Mtn	70	45	Historical grazing, vegetation composition, drought	70	45	70	45
Upper Coal	22	13	Historical grazing, vegetation composition, drought	22	13	22	13

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The Spooky Mountain allotment not located within a ten mile radius of any special designation air sheds or non-attainment areas. However, the Upper Coal Creek allotment is situated approximately 9 miles south east of Dinosaur National Monument (DNM) which is a PSD Class II airshed with special designations regarding visibility. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM₁₀) associated with fugitive dust. Unfortunately, no air quality monitoring data is available for the survey area. However, it is apparent that current air quality near the proposed location is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM₁₀. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM₁₀ levels (24-hour average) in rural portions of western Colorado to be near 50 micrograms per cubic meter (µg/m³). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM₁₀ (24-hour average) of 150 µg/m³.

Environmental Consequences of the Proposed Action: Potential environmental consequences of the proposed action would be similar to potential consequences of the current grazing operation (Alternative B). However, under the proposed action, active AUMs will decrease from 2800 to 2241 in the Spooky Mountain allotment and be reduced from 880 to 644 in the Upper Coal Creek allotment. Theoretically, reducing AUMs would leave more ground cover to protect soils from eolian processes minimizing potential production of fugitive dust. However, local climatic conditions will have the strongest hand in determining vegetative health and effective ground cover within the allotment. The proposed grazing management plan should have minimal impacts to air quality.

Environmental Consequences of the Continuation of Current Management Alternative: Under the current grazing system active AUMs will remain the same (2800 in the Spooky Mountain allotment and 880 in the Upper Coal Creek allotment). Continuation of the current grazing plan combined with recent drought conditions may result in decreased ground cover. Reductions in effective ground cover would leave soils exposed to eolian processes and potentially elevate fugitive dust production.

Environmental Consequences of the No Grazing Alternative: Impacts from the no grazing alternative are not anticipated.

Mitigation: Continued monitoring and evaluation of rangeland health conditions will be necessary to modify the carrying capacity of the allotment due to drought conditions.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: The northern portion of the Coal Rim Area of Environmental Concern (ACEC) is partially located within the Spooky Mountain allotment. This area has been designated as an ACEC under the 1997 Resource Management Plan to recognize unusual and unique presence of aspen trees (*Populus tremuloides*) located within the shaded alcoves of Coal Rim. These aspen stands are atypical because they are outside their normal range of existence as the area is a salt desert/sagebrush community that receives low moisture (9.81 annual rainfall at Rangeley Colorado) and is lower in elevation (~5700 feet). Therefore, aspen trees typically would not be expected to grow and thrive under these conditions found in this desert environment. These aspen because of their unique location and separation from other aspens may also have unique genetics. These aspen stands were designated in an effort to provide protection from disturbance and allow special consideration in management activities that may affect them. Livestock grazing with sheep has been occurring in the area for at least 60 years with no known impacts to these communities. This may be the result of the rim-rocks which exclude grazing use or the productivity of the site which allows rapid recovery following grazing.

Environmental Consequences of the Proposed Action: Under the proposed action there would be a reduction in grazing use from 2800 to 2241 AUMs and also a decrease in the Spring period of use of 20 days. This change would if livestock are herded in a similar manner to the past, decrease forage utilization rates and allow for greater recovery during the critical spring growth period. Although, on most of the aspen sites terrain creates natural barriers to livestock the changes in grazing use is of no consequence. If impacts from livestock grazing were found to be negatively impacting these unique sites the mitigation described below would be implemented and the aspen sites would be allowed to recover.

Environmental Consequences of the Continuation of Current Management Alternative: The current grazing management program has not been shown to adversely impact the aspen sites. If impacts from livestock grazing were found to be negatively impacting these unique sites the mitigation described below would be implemented and the aspen sites would be allowed to recover.

Environmental Consequences of the No Grazing Alternative: Under this alternative there would not be any opportunity for livestock impacts within the ACAC.

Mitigation: If livestock grazing is shown to be altering the ground cover to less desirable species, or direct physical damage or suppressed capability for reproduction to aspen is found, livestock grazing of the individual sites would be prevented by either constructing barriers or avoidance (herding).

Water sources would not be developed within aspen habitat.

CULTURAL RESOURCES

Affected Environment: The 1998 BLM/Colorado SHPO Protocol agreement requires the BLM to identify all historic properties, prehistoric sites and sacred sites on all lands within Colorado that are within the APE of a BLM undertaking. A cultural resource assessment was completed for this allotment following the procedures outlined in IM-WO-99-039, IM-CO-99-007 and IM-CO-99-019. Copies of the cultural resource assessment are available in the White River Field Office archaeology files and the summary report is attached to the range allotment lease file. Class III cultural resource inventories have been started within the allotment pastures. These initial inventories, along with sites already recorded, indicate a high cultural resource density. Sites were found in all ecozones with concentrations characterized by availability of water, location of suitable agricultural land and availability of game. Sites represent a range from Paleo-Indian (8,000-10,000 years ago) to historic Ute occupation (to 1880). National Register or otherwise eligible cultural properties are known to be situated in this allotment. Subsequent cultural resource inventories and evaluations will be conducted in areas where livestock concentrations coincide with high potential for vulnerable sites.

Environmental Consequences of the Proposed Action: Direct impacts that may occur where livestock concentrate include trampling, chiseling and churning of site soils, cultural features and artifacts, artifact breakage and impacts from standing, leaning and rubbing against above ground features and rock art. Indirect impacts may include soil erosion, gullying and increased potential for unlawful collection and vandalism. In areas where cultural site presence coincides with areas of livestock concentration, continued grazing may contribute to substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to sites. Alteration of grazing patterns by rotating pastures should have the effect of decreasing any potential damage to existing cultural resources by decreasing the time frame for impacts on any given site.

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Environmental Consequences of the No Grazing Alternative: Under this alternative, the grazing permit would not be renewed. This alternative would result in no impacts to cultural resource sites.

Mitigation: 1. Appropriate mitigation measures may be identified in consultation with Colorado SHPO within the ten-year period of this permit. It is recommended that a renewal be issued for this permit subject to the allotment pasture specific stipulations.

2. The following mitigation measures will be followed during operation, and maintenance of the grazing permit renewal:
- All persons in the area who are associated with this permit must be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons will be subject to prosecution.
 - The BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the authorized officer.
 - If in connection with operations under this contract the project proponent, his contractors, subcontractors, or the employees of any of them, discovers, encounters or becomes aware of any objects or sites of cultural or paleontological value or scientific interest such as historic or prehistoric ruins, graves or grave markers, fossils, or artifacts, the proponent shall immediately suspend all operations in the vicinity of the cultural or paleontological resource and shall notify the BLM authorized officer of the findings. Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Within the Spooky Mountain allotment, tamarisks (salt cedar), 1 patch of perennial pepperweed (tall whitetop), and Canada thistle are located in the Stinking Water Creek drainage, which is the western boundary of the allotment. Tamarisks are also located within Nate Springs Draw and scattered across the allotment to a slight degree in areas with increase water saturation, such as seeps and earthen reservoirs. All species are designated in Colorado as list B noxious weeds species for the reduction of their spread.

Canada thistle is a creeping perennial with numerous sharp spines that infest cultivated fields, riparian areas, rangelands, and waste areas. It forms a robust community that dominates approximately ½ mile delineated over several stretches within the upper portion of Stinking Water.

Tamarisks is capable of exuding excess salt, thus it tolerates an array of rangeland environments. Also, tamarisks can out-compete many native species and is successful at reaching and exploiting the water table. Tamarisks are heavily populated within the lower reaches of Stinking water that forms dense thickets. These dense populations of tamarisks are providing a high degree of soil stabilization as no other riparian species are located in these areas. Thus, tamarisks are aiding in bank stabilization, sediment trapment, water diffusement, and flow reductions. Incised channelization of Stinking Water at approximately 1-2' is occurring in areas without adequate vegetative cover as found below these tamarisks thickets.

Within the Upper Coal Creek allotment, perennial pepperweed and tamarisks are located within the East Fork of Wolf Creek. Both species are considered undesirable, invasive, and non-native

species. Perennial pepperweed is an erect perennial whose roots are deep seated, creeping, and aggressive. The extent and position (ephemeral drainage bottom) of perennial pepperweed limits the scope of treatment methods in a cost effective manner.

Cheatgrass is an invasive, non-native, annual, and highly competitive plant species that is the dominant understory within much of the Spooky Mountain allotment and portions of Upper Coal Creek allotment. Cheatgrass can account for approximately 75-80% of the species composition or 30-35% of the canopy cover in these areas. Ecological site acres not meeting Public Land Health Standards can mostly be attributed to the prevalence of cheatgrass within the natural plant community (Spooky Mountain – 11,140 acres, Upper Coal Gulch – 931 acres). Thus, these plant communities have sufficient cheatgrass in the plant composition and inadequate desirable perennial species to maintain a healthy, viable plant community that meets Public Land Health Standards (see vegetation section for greater analysis).

The White River Field Office (WRFO) policy is to actively control initial outbreaks of noxious weeds, thus preventing spread and lowering long-term cost. In areas with a greater infestation of noxious weeds, policy is to control these plants into a maintenance phase. Overall, noxious weeds are minimal with limited treatment opportunities in both allotments on BLM administered lands.

Environmental Consequences of the Proposed Action: The proposed action will enable native plant communities a greater competitive interaction with invasive plants through reduced use by livestock and shortened season of use. Thereby, the proposal will provide a greater opportunity for the replenishment of root reserves, biomass accumulation, and plant propagation of native species; which will aid in the rangeland's ability to naturally compete with invasive, non-native species. This affect would be slight in nature due to the threshold that has been crossed by cheatgrass domination and lack of known noxious weeds (for further analysis, refer to the Vegetation section).

The greatest net benefit would occur in mid and late seral ecological areas that have native vegetation mixed with cheatgrass and/or halogeton.

On early seral ecological sites, such as the mono-culture of cheatgrass with non-measurable native populations, the majority of areas are not expected to change in perennial cover because they have crossed a threshold of annual plant domination. A human induced disturbance (seeding, mechanical, chemical, etc) would be required to reverse this situation and enable perennial vegetation to become established.

The proposal will have little to no influence on the perennial pepperweed, tamarisks and/or Canada thistle populations, as these weed communities are generally not related to current livestock grazing. The establishment and dominance of Canada thistle, tamarisks, and/or perennial pepperweed are related to moisture availability and abundant upstream seed sources. Also, it appears that the robust Canada thistle populations in Stinking water are related drought conditions which have lowered the available water table, thus reducing the vigor and competitive ability of native riparian plants.

Grazing permittees are important to the discovery and control of noxious weeds due the permittees on the ground affiliation and knowledge on assigned allotments.

Environmental Consequences of the Continuation of Current Management Alternative: Mid and late seral ecological sites potentially affected by grazing would be relatively less resistant to the invasion and proliferation of noxious weeds and/or invasive plants. Cheatgrass communities on mid seral sites would continue in their current state with a potential for a slight decline of desired vegetation towards early seral conditions. Grazing use at a higher level during the critical growing season will reduce the ability of native vegetation to compete effectively with invasive, non-native species through reduced propagation and lessened re-growth (refer to vegetation section for greater analysis).

On the majority of early seral ecological sites, such as the mono-culture of cheatgrass lacking perennial understory cover, the majority of areas are not expected to change in perennial ground cover because they have crossed a threshold of annual plant domination.

Continuation of current grazing will have little to no influence on the perennial pepperweed, tamarisks, and/or Canada thistle populations, as these populations are generally not related to current livestock grazing. The establishment and dominance of these weedy plants are related to moisture availability and abundant upstream seed sources.

Grazing permittees are important to the discovery and control of noxious weeds due the permittees on the ground affiliation and knowledge on assigned allotments.

Environmental Consequences of the No Grazing Alternative: The impact of adopting this alternative would generally be similar to that of the proposed action with respect to the occurrence and proliferation of noxious weeds. The causal factor for the occurrence of noxious weeds is related to the seed source, with grazing by sheep having little discernable influence on the community of noxious weeds within these allotments.

The proliferation of cheatgrass would be lessened as the interspersed native grass community would have a greater chance of completing a full growth cycle without being grazed by livestock. Therefore, the native community would have a greater ability to compete with cheatgrass. Such an effect would occur principally within the mid seral plant communities that have not fully crossed a threshold of annual plant domination (see vegetation section). However, this effect would be limited in nature due to the current cheatgrass domination of early seral plant communities that have crossed a threshold.

Mitigation: If noxious weeds are identified within the Upper Coal Creek and/or Spooky Mountain allotments and occur on BLM administrated lands, they will be treated by a certified pesticide applicator either by the BLM or permittee. If livestock grazing practices have resulted in the establishment and/or expanded presence of noxious weeds, the permittee will be responsible for the control of these weeds as directed by the BLM.

MIGRATORY BIRDS

Affected Environment: Much of the Upper Coal Creek allotment is represented by Wyoming (~ 4000 acres) and basin (~ 1200 acres, particularly within the drainages) big sagebrush communities. Salt desert communities (e.g., shadscale, mat and gardner saltbush) make up approximately 20% of the allotment. A wide array of migratory birds including meadowlark, sage thrasher, rock wren and vesper sparrow fulfill nesting functions within these big sagebrush-salt desert communities during the breeding season (May – July). Birds of higher conservation interest (i.e., Partners in Flight program) associated with these habitats and well represented in the permit area include: Brewer’s sparrow, sage sparrow, horned lark, and loggerhead shrike. Loggerhead shrike are regular, but low density breeding species that nest in greasewood and basin big sagebrush stands, especially in the broad incised drainages. The sparrows are widely distributed and abundant throughout the arid sagebrush and saltbush communities, whereas the lark is common and found on barren annual bottomlands or mat saltbush ridges. Although several of these birds arrive very early in the spring (i.e., early March: sage sparrow, sage thrasher), most birds do not appear until early April and delay actual nesting functions until late April to mid May. Juniper dominated woodlands, confined to the western edge, make up approximately 2% of the allotment. Due to site characteristics, these woodlands are generally stunted, possess poorly developed understories, and typically do not support the full complement or abundance of woodland associates found south of the White River. Higher conservation species represented in the permit area include: gray flycatcher, juniper titmouse, and black-throated gray warbler.

Wyoming and basin big sagebrush (~ 14,300 and 1250 acres, respectively), pinyon-juniper woodlands (~ 10,000 acres) and hillside bunchgrass communities (~6500 acres) are the dominant vegetation types within the Spooky Mountain allotment. Those bird species found within the Upper Coal Creek allotment are also represented in like habitats within the Spooky Mountain allotment. Similarly, all species are well represented in this allotment.

Environmental Consequences of the Proposed Action: Proposed grazing periods would not coincide with and would have no potential to directly influence (e.g., mortality, disruption/displacement of birds) migratory bird nesting activities on either the Spooky Mountain or Upper Coal Creek allotment. Reductions in livestock numbers and days of use on the Upper Coal Creek allotment will result in a 31% decrease during the early portions of the growing season. Similar reductions on the Spooky Mountain allotment will result in a 33% decrease during the dormant season and a 43% decrease during the early portions of the growing season. These reductions, particularly during the initial growing season, would likely, in the long-term, improve herbaceous vigor and ultimately, the density and diversity of perennial grasses and forbs available for nesting birds and their broods. It would be expected that more generalized species such as western meadowlark and vesper sparrow would benefit under these circumstances.

Livestock do make use of the 10,000 acres of pinyon-juniper woodlands, although not to any substantial extent. Incremental increases in the amount of herbaceous forage and enhanced groundcover may benefit those species associated with pinyon-juniper woodlands in the long-

term, though species associated with these communities typically do not respond positively to relatively minor increases in herbaceous expression.

Vegetative responses to these reductions will be most evident in those mid and late seral communities. Reductions are likely to have little to no effect on Upper Coal Creek's 931 acres and Spooky Mountain's 11,140 acres of early seral communities that are dominated by cheatgrass, at least during the life of the permit.

Environmental Consequences of the Continuation of Current Management Alternative: Current grazing use within the Upper Coal Creek and Spooky Mountain allotments does not coincide with and would have no potential to directly impact migratory bird nesting activities. Continuation of current grazing practices would likely suppress herbaceous groundcover and reduce the availability and variety of nesting and forage or forage substrate for migratory birds particularly during the early portions of the breeding season and may be expected to reduce, albeit minor, the nutritional status of nestlings or fledglings in the long-term.

Vegetative response to current grazing practices would be most evident in those mid to late seral communities where there would be a higher potential for these sites to convert to early seral communities. In general, annual dominated communities do not provide adequate forage or nesting substrate for migratory birds.

Environmental Consequences of the No Grazing Alternative: The relative effect of livestock grazing would not differ markedly from no livestock grazing in either allotment as livestock grazing is generally asynchronous with the migratory bird nesting season or growing season. These grazing regimens would not have any substantive influence on live ground cover expression nor would they be expected to have considerable influence on nest site selection or the density of nesting pairs. Any grazing-related effects would be confined to those more generalized species that use residual herbaceous cover during the earlier portion of the breeding season (e.g., western meadowlark, vesper sparrow).

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: White-tailed prairie dogs and associated special status species: White-tailed prairie dogs, a BLM sensitive species, are distributed widely across lower elevation salt desert ranges that make up much of the Upper Coal Creek allotment. Although prairie dogs historically inhabited valleys and basins within the Spooky Mountain allotment, populations have since declined and while prairie dogs may still persist, it is at extremely low densities.

Prairie dogs occupy valleys and basins with low or sparse woody cover in greatest abundance, and are typically associated with vegetation types and range sites that are heavily represented by annual grasses (e.g., cheatgrass) and forbs. Prairie dog abundance is strongly influenced by disease (e.g., sylvatic plague, tularemia) and populations tend to fluctuate dramatically. Prairie

dogs occupy nearly all of the allotments low elevation shrubland types. The heaviest concentrations of prairie dogs tend to coincide with range sites rated in early seral condition. Virtually all these prairie dog populations are monitored annually as part of black-footed ferret recovery efforts. Prairie dog population indices in this area remained relatively constant in 2003 and 2004, and nearly doubled in 2005. Current populations are about 70% of the highest recorded populations of 1993/94. Although prairie dogs can appear above ground sparingly during the winter months, most begin to emerge from hibernation by early March, with young appearing above ground by late May. Although intuitive that availability of higher quality and increased quantities of vegetation as forage would figure prominently in the ultimate survival and/or reproductive ability of white-tailed prairie dogs, there is little to suggest that the current forage base or the prevailing use of that forage by potential competitors is suppressing prairie dog abundance or reproductive capacity in the lower Wolf Creek basin.

Prairie dogs and their burrow systems are important habitat components of burrowing owl (a State threatened species), ferruginous hawks (BLM sensitive species) and reintroduced populations of black-footed ferret. Herbaceous growth and residuals (that herbaceous material remaining after the grazing period) serve as forage and/or a cover base for all breeding nongame and small game animals, non-hibernating small mammals (e.g., voles) and ground nesting birds (e.g., horned larks), all of which may serve as prey to special status populations of raptors and ferrets.

Under the auspices of a non-essential, experimental population rule, black-footed ferret recovery was initiated in northwest Colorado and northeast Utah in 1999. Since 2001, ferrets have been released annually in the designated Wolf Creek Ferret Management Area (WCMA) that straddles the US 40 corridor in lower Wolf Creek basin. The Upper Coal Creek allotment is integral with the WCMA, as nearly all of the ferret observations since 2001 have been within this allotment. Ferrets breed in February and March with parturition in mid- to late-May. Kits emerge from natal burrows in mid-July.

Burrowing owls are uncommon in this Resource Area. These birds return to occupy a prairie dog burrow system in early April and begin nesting soon afterward. Young birds are normally fledged by late July with family groups remaining together through September, when the birds leave for southern wintering grounds. BLM has a number of observations within both allotments.

Ferruginous hawks are uncommon breeding species and are closely associated with prairie dog distribution in this Resource Area. Nest sites are well distributed across the lower elevation shrublands north of the White River. Nearly 30 historical ferruginous hawk territories are encompassed by this permit. These hawks return to these ranges in late February and begin nesting (egg-laying) by early to mid April. Incubation continues through late May with fledging of young by late July. Breeding populations of these hawks vary in direct relation to the prairie dog, cottontail, and jackrabbit prey base.

Greater sage-grouse: A small number of greater sage-grouse nest and raise broods in the lower Wolf Creek basin, of which the Upper Coal Creek allotment is part. Although these arid sagebrush and salt-desert shrublands are not normally considered ideal sage-grouse summer habitat, a population of several 10's of birds persists nonetheless. These birds tend to congregate

in the deep incised drainages of Wolf Creek later in the summer where, presumably, shade and succulent broadleaf vegetation and invertebrates are more easily procured. The closest lek, which typically holds less than 6 roosters, lies just off the northwest corner of the allotment. In contrast, several hundred sage-grouse winter in the Wolf Creek basin's Wyoming big sagebrush habitats, the birds tending to concentrate from the mainstem of Wolf Creek east to Pinyon Ridge (encompassing the Upper Coal Creek allotment). These birds are thought to originate from the upper elevations of Wolf Creek on Blue Mountain, 10 and more miles upstream.

The lower Red Wash drainage, which involves the eastern half of the Spooky Mountain allotment, supported a small breeding population of sage-grouse through the mid-1980s. No birds have been seen here since and the population is considered extirpated. There have been no reasons advanced that would explain the collapse of this small isolated population, but the widespread dominance of cheatgrass in the understory and consequent suppression of desirable perennial ground cover is likely complicit. It is likely that a small number of birds continue to winter along the U.S. 40 corridor, dispersing west from Wolf Creek during the winter months. Although there are no recent indications that sage-grouse use this allotment for reproductive activities, these former nest and brood-rearing ranges, especially those that continue to support winter season use, have important implications in future population recovery.

Herbaceous ground cover, available as new spring growth or residual material remaining after the grazing period, serves as an important source of both supplemental cover (i.e., nest concealment and hiding/escape cover for young sage grouse broods) and forage (i.e., forbs) for sage-grouse from early April through late August, although the potential contribution of herbaceous cover on these arid ranges is somewhat limited.

Sage-grouse are entirely reliant on sagebrush as forage and cover during the winter season. There are no indications that cumulative big game and livestock browsing use is having any influence on the condition or continued availability of sagebrush in either allotment.

Environmental Consequences of the Proposed Action: White-tailed prairie dogs and associates: The proposed grazing plan would be expected to benefit understory conditions (i.e., increased availability and diversity of perennial herbaceous forage) in the valleys and basins inhabited by prairie dogs and their associates. Livestock grazing use of the Upper Coal Creek allotment would be reduced by about 30% during the early portions of the growing season. The proposal would also shorten the use period, allowing 2 additional weeks of herbaceous recovery and confining use to the earliest and least consistent 2 weeks of the growing season. (sheep removal 31 March versus 14 April), allowing essentially full growing season expression. Similarly, proposed use of the Spooky Mountain allotment involves minor reductions in early spring use intensity (about 6% declines through 10 April), but livestock removal by 10 April would reduce the use period by 1 month and would effectively reduce current growing season by another 40%. Dormant season use (winter) in the Spooky Mountain allotment would remain relatively static (about 4% decline in use intensity, same use period).

The proposed grazing system is increasingly compatible with the development of perennial ground cover which would be beneficial in ensuring that long-term gains in habitat utility and quality for herbivores and those relying on them as a prey and cover source are established.

Long-term incremental improvements in the availability and diversity of herbaceous foodstuffs would enhance the nutrition base for white-tailed prairie dogs and other herbivores (e.g., cottontail rabbit, small mammals), which would translate to a more consistent and abundant prey source for species reliant on prairie dogs and their burrow systems (i.e., ferret, burrowing owl, and ferruginous hawk). The proposed action would have no physically disruptive influence on the reproductive activities of ferret, prairie dog, burrowing owl, or ferruginous hawk in the permit area, as livestock are removed prior to the breeding season

Greater sage-grouse: The proposed grazing plan would be expected to benefit understory conditions on both allotments in the short and long term. Although the potential contribution of perennial grasses as residual cover on these arid ranges is likely limited, proposed reductions in grazing-use intensity and increasing growing season rest would be expected to establish an improving trend in the vigor and, ultimately, the diversity and density of native bunchgrasses and forbs on 95% and 50% of sage-grouse habitats within the Upper Coal Creek and Spooky Mountain allotments, respectively. Stronger herbaceous expression would promote the development of more effective vertical and horizontal ground cover and increase the variety and availability of favored forb and insect forages that should incrementally bolster sage-grouse nest success and early brood survival. Although adjustments in grazing use would probably not alter the preponderance of annuals in early seral upland sagebrush communities within the allotments (representing 5% and 50% of sage-grouse habitats in Upper Coal and Spooky Mountain allotments, respectively), having a grazing system in place that is increasingly compatible with the development of perennial ground cover would ensure that any efforts to suppress cheatgrass and promote perennial expression would not be thwarted by incompatible livestock grazing practices.

Prevailing sheep use of big sagebrush stands within either allotment has no apparent influence on the availability and continued development of big sagebrush as a winter forage and cover base. The proposed action would have no direct influence on sage-grouse nesting activities in the Upper Coal Creek allotment since spring grazing use would terminate at the end of March and prior to all but the earliest of nesting attempts. This effect would be similar to any future nesting activity in the Spooky Mountain allotment.

Environmental Consequences of the Continuation of Current Management Alternative:
White-tailed prairie dogs and associates: There are no indications that current management has any deleterious effect on white-tailed prairie dogs populations, (including their associates) or the utility or suitability of their habitats. Light to moderate annual use in March and April of each year in the Upper Coal Creek allotment is not thought to have any substantive influence on the availability or composition of herbaceous forage for prairie dog use. Herbaceous regrowth opportunities are ample once young prairie dogs emerge in late May.

Greater sage-grouse: As currently practiced, grazing use of these allotments results in moderate levels of cumulative utilization (40-60%) during the early portions of the growing season. In combination with authorized livestock use, locally heavy winter elk use, and the inherent constraints on these arid habitats, it is unlikely that sufficient residual herbaceous ground cover remains to significantly supplement early nesting and brood-rearing cover for sage-grouse.

Although little nest and brood-rearing use is attributable to the 1,758 acres of Public Land sagebrush habitats encompassed by the Upper Coal Creek allotment, current livestock use is thought to be largely compatible with the short term maintenance of sage-grouse reproductive functions. Current livestock grazing use allows 3-4 weeks of plant recovery throughout the allotment and should be consistent with the maintenance of present plant community composition (about 5% of Wyoming big sagebrush community not meeting vegetation land health standards). Livestock removal is nearly coincident with nest initiation (~second week of April) and although herbaceous cover attributable to new growth is likely limited during early portions of the nest season, the redevelopment of ground cover density and height would proceed through the remainder of the nest and brood periods without livestock grazing influence (elk continue to make use through early May).

The grazing use period currently authorized for the Spooky Mountain allotment spans much of the reliable growing season and plant recovery/groundcover redevelopment would generally be incomplete and contingent on livestock distribution in any given year. Historic exercise of later growing season use, as authorized in the current permit (i.e., 10 April through 9 May), may have been partially responsible for aggravating declining trends in understory composition and promoting cheatgrass proliferation on those early seral sites within the allotment (nearly 50% of 6,200 acres of Wyoming big sagebrush habitats in the allotment). Although there are no recent indications that sage-grouse use this allotment for reproductive activities, these former nest and brood-rearing ranges continue to have important implications in population recovery. Grazing use intensity and timing as currently authorized allows only limited potential for substantive redevelopment of the herbaceous cover or forage base through the nest or brood periods. Maintenance and/or slow expansion of impoverished site conditions across these sagebrush communities will not only disallow redevelopment of summer use functions for sage-grouse, but increase the risk of fire-induced disclimaxes that would be devoid of sagebrush and purely dominated by cheatgrass (i.e., loss of winter season utility).

Environmental Consequences of the No Grazing Alternative: White-tailed prairie dog and associated species: Because there is no clear indication that livestock grazing as practiced or proposed would cause direct or indirect competition for the prairie dog forage base, it is difficult to forecast how removing livestock would influence populations of prairie dogs and other special status species that depend on them. However, it is likely that livestock removal would not differ markedly from the proposed action.

Greater sage-grouse: It is suspected that the influence of the no-grazing alternative on sage-grouse would differ little from the proposed action. Due to arid site conditions, limited growing season involvement, and the small number of sage-grouse using the Upper Coal Creek allotment as nest and brood habitat, the differences between the two alternatives would likely be subtle over the course of the grazing permit and decades beyond. Although residual herbaceous cover might be expected to undergo marked increase, it is likely that elk would continue to make substantive winter use such that functional enhancement of nest habitat utility would be minor on these marginal ranges.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species:
White-tailed prairie dogs and associates: Public Land Health Standards for those special status species associated with white-tailed prairie dogs in the permit area, including black-footed ferret, ferruginous hawk, and burrowing owl, are currently being met. There is no evidence to suggest that proposed or current grazing practices would or are having an adverse influence on populations, available extent of suitable habitat, or the reproductive activities of these four species and would, therefore, have no influence on continued meeting of the land health standard. Small incremental gains in perennial grass cover and forage associated with the proposed and no action alternatives would be expected to bolster (on a diminutive scale) local populations of prairie dogs and cottontail rabbit and potentially benefit (directly or indirectly) individual burrowing owl, ferruginous hawk, and black-footed ferret.

Greater sage-grouse: Both allotments represent marginal sage-grouse nest and brood-rearing habitat, but fulfill important winter range functions. Recognizing the limited potential of the site, Upper Coal Creek currently meets the standard for sage-grouse. Expected improvements in understory conditions under the proposed and no-action alternatives would further fulfillment of the standard for sage-grouse summer habitats.

It is more difficult to assign status to the Spooky Mountain allotment. The question of whether the collapse of this population was ultimately tied to habitat conditions on public lands is open to speculation. Regardless, the proposed action would tend to enhance herbaceous conditions as sage-grouse cover and forage on ranges in mid to late seral condition (59% of allotment) and halt the potential for further declines in rangeland condition--therefore contributing toward long term meeting of the standard. Sites where cheatgrass is entrenched would likely remain in that state (not meeting the standard for nesting and brood-rearing use) until substantive intervention (e.g., chemical control) is applied.

Because winter use is not contingent on herbaceous ground cover and current big sagebrush cover is adequate to meet the birds' needs at this time of year, both allotments currently meet the standard in this regard. However, and particularly in the Spooky Mountain allotment, continuation of current management runs the risk of increasing the acreage impoverished by cheatgrass domination and reducing the sagebrush component by increasing the susceptibility of these ranges to more frequent and extensive wildfire events.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: The Spooky Mountain allotment is located approximately 5 mile north of Rangely, Colorado in western Rio Blanco and Moffat Counties. Within the Spooky Mountain allotment, Stinking Water Creek and Coal Rim form the western boundary, Kenney Reservoir and natural topographic barriers create the southern boundary, a fenceline along the Skyline trail forms the northern boundary, and other fences create the eastern allotment border. In the northwestern part of this allotment a population of *Gilia Stenothyrsa* (narrow-stem gilia) has been mapped. This is a BLM sensitive plant species. The schedule of grazing should not have any influence on the critical growing season.

Environmental Consequences of the Proposed Action: Under the proposed action there would be a reduction in grazing use from 2800 to 2241 AUMs and also a decrease in the Spring period of use of 20 days. This change would if livestock are herded in a similar manner to the past, decrease forage utilization rates and allow for greater recovery during the critical spring growth period. If impacts from livestock grazing were found to be negatively impacting these sensitive plant sites the mitigation described below would be implemented and the sites would be allowed to recover.

Environmental Consequences of the Continuation of Current Management Alternative: If impacts from livestock grazing were found to be negatively impacting these unique sites the mitigation described below would be implemented and the sites where the *Gilia stenothyrsa* (narrow-stem gilia) are located would be allowed to recover.

Environmental Consequences of the No Grazing Alternative: None

Mitigation: If livestock grazing is shown to be altering the ground cover to less desirable species, or direct physical damage or suppressed capability for reproduction to *Gilia stenothyrsa* (narrow-stem gilia) is found, livestock grazing of the individual sites would be prevented by either constructing barriers or avoidance (herding). Water sources would not be developed within the habitat.

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or no action alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive plant species provided that the mitigation is followed. Thus there would be no effect on achieving the land health standard.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of Continuation of Current Management Alternative: Same as in the Proposed Action.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed action.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed grazing permit renewal is situated in three separate stream segments (12, 13a, and 22) within the White River Basin. The following table (Table 1) outlines the affected stream segments, basic water quality information, and the number of structures impacting the segment.

Table 1:								
Watershed	Stream segment	Drainage Basin	Use Protected	Identified Beneficial Uses	303(d) listed	M&E listed	Impairment	Severity
White River	12	White River	N/A	Aquatic life warm 1, Recreation 1a, Water Supply, Agriculture	No	No	N/A	N/A
Red Wash	13a	White River	UP	Aquatic life warm 2, Recreation 2, Agriculture	No	No	N/A	N/A
Scullion Gulch								
Wolf Creek								
E. F. Wolf Creek	22	White River	UP	Aquatic life warm 2, Recreation 1b, Agriculture	Yes	Yes	Sediment (specific watersheds identified in this table are NOT listed)	Low
Stinking Water Creek								

(CDPHE 2006b)

The “Status of Water Quality in Colorado –2006” (CDPHE 2006b) and Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a) were reviewed for information relating to drainages within the project area. Stream segment 12 of the White River Basin is defined as the mainstem of the White River from a point immediately above the confluence with Piceance Creek to a point immediately above the confluence with Douglas Creek including Taylor Draw Reservoir. Segment 12 has not been designated use-protected. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review. The state has classified segment 12 as being beneficial for the following uses: Warm aquatic life 1, Recreation 1a, Water supply, and Agriculture (CDPHE 2005a).

Stream segment 13a includes all tributaries to the White River, including all wetlands, lakes and reservoirs from a point immediately above the confluence with Piceance Creek to a point immediately above the confluence with Douglas Creek. The State has classified stream segment 13a of the White River Basin as “Use Protected” and further designated as beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegradation

review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. Numeric standards for inorganic compounds and metals can be found within Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a).

Stream segment 22 is defined as all tributaries to the White River, including all wetlands, lakes and reservoirs, from a point immediately above the confluence with Douglas Creek to the Colorado/Utah border, except for specific listing in segment 23. The State has classified stream segment 22 of the White River Basin as “Use Protected” and further designated as beneficial for the following uses: Warm Aquatic Life 2, Recreation 1b, and Agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. Numeric standards for inorganic compounds and metals can be found within Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a).

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE 2006c and 2006d, respectively) were reviewed for information related to the proposed project area drainages. Regulation No. 93 is the State’s Section 303(d) list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2006 303(d) list of segments needing development of TMDLs includes two segments within the White River - segment 9b, White River tributaries North and South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development) and segment 22, tributaries to the White River, Douglas Creek to the Colorado/Utah boarder, specifically West Evacuation Wash, and Douglas Creek (sediment impairments). Regulation 94 is the State’s list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes two White River segments that are potentially impaired – 9b (Flag Creek) and 22 (Soldier Creek). The affected portions of stream segment 22 will not be impacted by the proposed actions. Stream segments 12 and 13a are not listed.

Approximately 150 stream miles are situated within the allotment boundaries. Of these 150 stream miles, approximately 115 are situated in the Spooking Mountain allotment while the remaining miles are in the Upper Coal Creek allotment. Of the approximate 150 miles of stream, most are ephemeral in nature as only 4.6 miles of stream (portions of Stinking Water Creek specified in the riparian section of this document) retain enough perennial soil moisture to support riparian communities. With the exception of the White River, all of the affected streams are ephemeral tributaries to the White River, which is a major sub-basin of the Colorado River System. High runoff generally occurs from mid-March through mid-June and is caused primarily by melting of the higher elevation snowpack. Transitional months are usually March and July. Early season runoff is generally from lower elevation snowmelt and may provide a separate and lower discharge peak than the main peak in the hydrograph, which usually occurs in late May and early June.

Water from the higher mountain runoff contains lower concentrations of salts with calcium bicarbonate predominating. As water moves through the lower reaches of the system, the major constituents typically change from calcium bicarbonate to calcium sulfate, sodium sulfate, and sodium chloride. This shift is influenced by factors such as (a) a change in the salinity of the

alluvial material that water contacts, (b) the chemical makeup of soils and geologic formations contributing surface runoff and groundwater, and (c) the relative cation-anion exchange activity between salt producing ions. Sodium and chloride are the most active ions and tend to replace or exchange with other elements in solution.

Ground Water: A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources within the allotment boundaries. Information presented in Topper et al. (2003) indicates the extent of the Mesaverde aquifer encompasses the area north of Rangely, CO. Surface geologic formation is Cretaceous in age (Mancos Shale). The Mancos Shale (confining unit) has an approximate thickness of 7,000' feet. This unit is comprised primarily of shale however within the unit, the Frontier Sandstone may occur as a local aquifer which is of poor water quality (highly saline). For obvious reasons, no development of any ground water resources will occur under the proposed action. Local ground water situated in floodplains adjacent to stream banks in limited riparian areas would be the most likely sources for development in the future and are the most vulnerable ground water sources within the allotment likely to be impacted by livestock grazing.

Environmental Consequences of the Proposed Action: Under the proposed action alternative A, active AUMs will decrease from 2800 to 2241 in the Spooky Mountain allotment and be reduced from 880 to 644 in the Upper Coal Creek allotment. This reduction in active AUMs should slightly increase potential litter accumulation and vegetal cover. As a result, soils should become slightly less vulnerable to erosional processes reducing sediment/salt production to lower reaches of the affected watersheds. In addition, reducing livestock numbers in riparian areas (Stinking Water Creek) would likely have a positive impact to the health and vigor of riparian communities. Healthy riparian communities help anchor stream banks, and maintain/move towards functional channel morphologic conditions in which sediment supply is in balance with flow characteristics. The proposed grazing permit renewal will have no direct impact to ground water resources.

Environmental Consequences of the Continuation of Current Management Alternative: Under the current grazing alternative, active AUMs will remain at 2800 in the Spooky Mountain allotment and 880 in the Upper Coal Creek allotment. Continuation of the current grazing management plan in combination with continued drought conditions would likely contribute to reductions in litter accumulation and vegetal cover. As a result, soils may become increasingly vulnerable to erosional processes elevating sediment/salt loads to lower reaches of the affected watersheds. In addition, dry conditions combined with the continuation of the current grazing management plan may deteriorate the health of riparian communities (Stinking Water Creek). Deteriorating riparian communities will reduce the ability of the system to anchor stream banks, and maintain functional channel morphologic conditions in which sediment supply is in balance with flow characteristics.

Environmental Consequences of the No Grazing Alternative: No grazing will be permitted. Preferred upland and riparian vegetative communities would have greater potential for recovery. The effective ground cover would likely increase providing greater soil stabilization, increased stream bank protection, and reduced sediment/salt loading to the White River.

Mitigation: Compliance monitoring for vegetation improvement would help identify if additional actions were needed to comply with the *Clean Water Act*. In addition, continued monitoring of stream channel morphology (Rosgen survey data) will be essential to evaluate the impacts of increased livestock numbers on the White River and its affected tributaries.

Finding on the Public Land Health Standard for water quality: Stream segments 12 and 13a of the White River Basin currently meet water quality standards set by the state. However, many of the upper tributaries are ephemeral, flow only in direct response to storm events/snowmelt and do not meet the standards during periods of flow. Specified portions of stream segment 22 of the White River Basin have been listed on the states 303(d) and M&E Lists for sediment impairments. None of the watersheds affected by the proposed action are currently listed. Many of the upper tributaries in segment 22 also are ephemeral, flow only in direct response to storm events/snowmelt and do not meet the standards during periods of flow. By following all suggested mitigation measures, water quality in all affected stream segments should remain unchanged from current conditions.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no known wetlands and/or riparian zones on BLM administered lands within the Upper Coal Creek allotment. All drainages on the allotment are ephemeral and do not have adequate water availability to support a riparian system. Livestock reservoirs on BLM administrated lands do not have sufficient water holding capabilities to support a lentic riparian system (many reservoirs breached).

Within the Spooky Mountain allotment are several earthen reservoirs that collect overland flow of water, thus creating areas for limited riparian establishment. These reservoirs/livestock ponds with lentic riparian zones include Rock Shell Reservoir (#0159), Powerline Reservoir #1 (#4756), Spooky Mountain Pit #2 (#1971), and Scullion Pit #1 (#3003). Riparian plants in these ponds typically include cattails and tamarisks (invasive, non-native). These riparian systems are artificial (i.e. man made), limited in extent, and the dependent reservoirs were originally constructed for livestock watering. Therefore, no further analysis of riparian impacts of these artificial riparian systems associated with livestock ponds will be conducted.

The southeastern boundary of the Spooky Mountain allotment is the Red Wash drainage for approximately 1.1 miles. This portion of the allotment is the southern extent of Red Wash before entering the White River. The Red Wash drainage is ephemeral in nature with water typically related to overland flow from rainfall and/or snowmelt. A riparian assessment of the entire Red Wash Drainage south of Coal Ridge was conducted on 11/05/87 and the portion within the Spooky Mountain allotment was further surveyed on 08/08/06. No significant / measurable riparian habitat within the Spooky Mountain allotment was delineated during either observation. Noted riparian species included one frail Fremont cottonwood and tamarisks (invasive, non-native) with very limited herbaceous riparian species (e.g. rushes). The bank and floodplain plant composition consist of basin/Wyoming big sagebrush, rubber rabbitbrush, greasewood, tamarisks, slender wheatgrass, and cheatgrass (invasive, non-native). A riparian community is

located where Red Wash intersects the White River, however this area is located on private lands off the allotment. As no measurable riparian zones and/or wetlands exist within this portion of Red Wash on the Spooky Mountain allotment, no further analysis of impacts will be conducted.

Stinking Water Creek forms a portion of the western boundary of the Spooky Mountain allotment and the drainage is perennial within the upper portion and supports an intermittent riparian community. This portion of Stinking Water within the Spooky Mountain allotment extends for approximately 4.6 miles and is located in western Moffat and Rio Blanco counties immediately south of Blue Mountain, Colorado. Stinking Water drains directly into the White River approximately 7.9 miles south of the allotment. A paved county highway (Rio Blanco County #1 and Moffat County #1) parallels the Stinking Water drainage and accesses Blue Mountain via Rangely, Colorado.

The 4.6 miles along Stinking Water associated with the Spooky Mountain allotment were inventoried for Proper Functioning Condition (PFC) on 10/17/97 and 11/06/97 and re-accessed on 07/31/06 and 08/01/06. The system was delineated into 9 segments in 1997 and 8 segments in 2006 (see figure 7: Proper Functioning Condition Assessment Map). This drainage is contained within the confines of a wash that has approximately 20-50' incised banks. Therefore, the channel is attempting to define its extent within the boundaries of the wash banks.

Dominant riparian species along Stinking Water include several Fremont cottonwoods, a few boxelder trees, scattered coyote willows, abundant rushes, a couple patches of Nebraska sedges, miscellaneous sedges, cattails, common reeds, abundant tamarisks (invasive, non-native), and 1 Russian olive tree (invasive, non-native). Most riparian communities (rushes, cattails, sedges, etc.) within Stinking Water currently have low vigor and various degrees of decadence because of apparent drought conditions which has lowered the water table.

Immediate vegetation outside of the channel along the floodplains and terraces include rabbitbrush, Wyoming big sagebrush, miscellaneous wheatgrasses, cheatgrass, foxtail barley, and inland saltgrass. The lower reaches (6, 8) have mature tamarisks communities, while the upper reaches (1-5, 7) have tamarisks on a limited and scattered scale. The uplands outside of the drainage are an early seral plant community that consists mainly of greasewood, Wyoming big sagebrush, rabbitbrush, and cheatgrass (invasive, non-native).

During the 2006 PFC assessment, segment 8 was rated in a properly functioning condition, segments 1, 2, 4, and 6 were rated as functional at risk, and segments 3, 5, and 7 were rated as non-functional. Livestock grazing was determined to have no measurable influence on the riparian system as indicated from a lack of use. However, it was shown that elk make use of the riparian zone during winter and spring with a small resident population throughout the year, as indicated from pellets, tracks, and use levels on sedges and willows. All accessible willow communities were heavily browsed, thus limiting reproduction and growth potential. Also, cottontail rabbits have utilized much of the rush and wheatgrass communities, as indicated from pellets and use patterns, with abundant live and dead rabbits throughout the drainage.

Overall, Stinking Water can be considered functioning at risk with an static to upward trend due to the current drought which has significantly lowered the vigor of riparian plants, various

headcuts (1-2'), overly straight channel, degraded uplands, incised channels, and dominant patches of Canada thistles (noxious weed). The vigorous Canada thistle patches were located in segments 2 and 3. Segment 8 was highly functioning and supports a robust riparian community that greatly aids in sediment retention, flow reductions, and general soil stability. This segment essentially functions as a lentic system with saturated soils and limited surface flowing water. The upland vegetative community adjacent to Stinking Water is degraded (early seral) with a greasewood and sagebrush community whose understory primarily consists of cheatgrass (see Vegetation section).

Environmental Consequences of the Proposed Action: No impacts to riparian and/or wetlands will occur within the Upper Coal Creek allotment as this area contains no riparian habitat. All drainages are ephemeral in nature with limited water availability, thus it is not able to support riparian species.

The proposed action for the Spooky Mountain allotment will reduce sheep numbers (2672 vs. 2500) and shorten the grazing season during the critical growing season (11/20-05/09 vs. 11/20-04/10). The proposed season of use is majority winter with available upland water sources (snow, reservoirs, etc.) for livestock that aid in distribution. During this period sheep are dependent upon upland vegetation (Wyoming sagebrush) for foraging and then bed at night within the steeper topographical areas away from any riparian zones. No significant utilization by livestock occurs within the riparian zone due to active herding practices, upland water availability (snow, reservoirs, etc.), a nearby highway (disruption of livestock), and limited forage. If livestock made concerted use of this drainage, the proposed livestock reduction and reduced season of use will greatly benefit the riparian system through less concentrated utilization levels that occur during the winter period.

The current functionality of the Stinking Water drainage is in part due to degraded uplands that consist of greasewood/sagebrush with an understory of annual plant species (e.g. cheatgrass) that provides little soil protection. Thus, excessive overland flow and sediment movement can occur within these uplands that have a negative contribution to the riparian system of Stinking Water. The proposal will slightly aid in the establishment of perennial upland vegetation through reduced numbers and less utilization during the plant growing season. However, many of these uplands are early seral that have crossed a threshold of annual plant domination because of cheatgrass proliferation and historic overgrazing by livestock, particularly during the plant growing season (see Vegetation section).

Overall, the proposed action will have a slight benefit on riparian vegetation. This system is experiencing a greater influence from degraded uplands, wildlife use (i.e. elk, rabbits), and current drought conditions have lessened available water required for the establishment and maintenance of riparian vegetation. The proposal will aid in the upward trend of this riparian system to further meet Public Land Health Standards.

Environmental Consequences of the Continuation of Current Management Alternative: No impacts to riparian and/or wetlands will occur within the Upper Coal Creek allotment as this area contains no riparian habitat. All drainages are ephemeral in nature with limited water availability, thus it is not able to support riparian species.

Within the Spooky Mountain allotment the current alternative allows for 2672 sheep from 11/20-05/09. This additional number of sheep over and longer use period versus the proposal will enable a greater concentrated use level by sheep within the riparian and upland plant communities. Grazing until 05/09 would further denude the upland perennial vegetation (see Vegetation section) and allow for riparian use by livestock while plants are actively growing.

Overall, the current management alternative would have a negative influence on upland vegetation that is influencing the functionality of the riparian system through excessive overland flow and reduced sediment trapment. Thus, the system would continue in their current state of Functioning at Risk with a possible downward trend that would forgo the potential improvement under the proposal.

Environmental Consequences of the No Grazing Alternative: Without grazing, the riparian system and particularly the upland vegetation communities would experience a slight improvement growth and littler accumulation. This additional plant growth would aid in further bank stabilization and upland sediment trapment. However, as shown from the PFC assessments in 1997 and 2006, current livestock are having a minimal influence on the functionality of the direct riparian system. The current ratings are related to drought conditions, wildlife use, and historic use levels by livestock that influenced the early seral upland vegetation communities

Overall, no grazing by livestock would further aid in achieving Public Land Health Standards for upland plant communities that would benefit riparian systems. Thus, the riparian system would continue in a Functioning at Risk condition class with an upward trend.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: There are 4.6 miles of riparian systems within the Spooky Mountain allotment that are delineated into 8 segments and 0 miles in the Upper Coal Creek allotment. Of these 4.6 (24,431') miles riparian systems on the Spooky Mountain allotment, 1.5 miles (5032', segments 1, 2, and 8) are meeting are moving towards meeting Public Land Health Standards for riparian systems and 3.1 miles (16399', segments 3-7) are not meeting these standards. It was determined that livestock is not the contributing factor to the condition of the riparian zone (see above), thus the proposal will slightly aid in the upward trend of this riparian system to further meet Public Land Health Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The table below is a breakdown of soil units and associated ecological sites for the Upper Coal Creek allotment. Soils analyzed in this document have been covered in the Moffat County Soil Survey. Common soils on BLM lands in the Upper Coal Creek allotment include Deaver-Chipeta Silty Clay Loam, 3-35% Slopes (1216.6 BLM acres) and Massadona-Youngston Loams, Moist, 1-8% Slopes (1004.0 BLM acres).

Soils on the Upper Coal Creek Allotment (06330)			
Unit #	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam	79.6
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes	377.4
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltdesert/Clayey Saltdesert	1216.6
28D	Forelle loam,3-12%slopes	Rolling Loam	52.8
RG	Gullied land	None	215.2
X110	Kemmerer-Yamo Complex,5-30%slopes	Clayey Slopes/Clayey Foothills	269.6
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	852.1
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	1004.0
201	Pavillion-Degater Complex,3-20%slopes	Semidesert Loam/Clayey Slopes	392.4
11E	Rentsac-Moyerson-Complex,25-65%slope	PJ woodlands/PJ woodlands	36.6
122	Schooner-Rock outcrop Complex,5-45%slopes	PJ woodlands/None	74.7
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	650.3
133	Torriorthents-Rock Outcrop, Shale, Complex, Steep	Stoney Foothills	296.7
123	Typic Natrargids, 0-5%slopes	None	36.4
93	Wallson-Tricera Complex,3-15%slopes	Semidesert SL/Semidesert SL	93.0
32D	Yamo Loam, 3-5%slopes	Clayey Foothills	15.8
Totals:			5663.2

The table below is a breakdown of soil units and associated ecological sites for the Spooky Mountain allotment. Soils analyzed in this document have been covered in the Rio Blanco and/or Moffat County Soil Surveys. Common soils on BLM lands in the Spooky Mountain allotment include Rentsac-Moyerson-Rock Outcrop, complex, 5-65% Slopes (7801.2 BLM acres) and Moyerson Stony Clay Loam, 15-65% Slopes (6214.2 BLM Acres).

Soils on the Spooky Mountain Allotment (06316)			
Unit	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Saltdesert	87.2
225	Avalon-Persayo-Degater complex,3-30%slopes	Semidesert Loam/Semidesert Loam/ Clayey Slopes	2705.2
5	Badland	None	1084.5
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	218.0
8	Billings-Torrifluents complex,gullied,0-5%slopes	Alkaline Slopes/None	357.9

Soils on the Spooky Mountain Allotment (06316)			
Unit	Soil Unit	Ecological Site	BLM Acres
15	Castner channery loam, 5-50%slopes	Pinyon-Juniper woodlands	7.8
16	Chipeta silty clay loam,3-25%slopes	Clayey Salteddesert	194.1
18	Chipeta-Killpack silty clay loam,3-15%slopes	Clayey Salteddesert	742.0
25	Colorow sandy loam	Sandy Salteddesert	1.4
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Salteddesert/Clayey Salteddesert	76.9
33	Forelle loam, 3-8%slopes	Rolling Loam	627.7
41	Havre loam,0-4%slopes	Foothill Swale	303.6
46	Kinnear fine sandy loam,1-5%slopes	Loamy Salteddesert	95.5
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	34.0
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	938.8
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	6214.2
9E	Moyerson-Rentsac Complex,15-45%slopes	Clayey Slopes/PJ woodlands	0.5
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	877.4
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	910.2
73	Rentsac channery loam,5-50%slopes	Pinyon Juniper woodlands	298.7
11E	Rentsac-Moyerson-Complex,25-65%slope	PJ woodlands/PJ woodlands	2.1
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	7801.2
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	1078.8
78	Rock Outcrop	None	254.0
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	170.3
X122	Schooner-Tricera loamy sands,5-25%slopes	PJ woodlands/Semidesert SL	4.5
90	Torrifluvents, gullied	None	300.4
91	Torriorthents-Rock Outcrop, complex,15-90%slopes	Stoney Foothills	67.4
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	347.1
93	Turley fine sandy loam,0-3%slopes	Alkaline Slopes	143.7
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	926.6
1C	Turley loam,Saline,1-8%slopes	Alkaline Slopes	192.2
123	Typic Natrargids, 0-5%slopes	None	11.3
95	Uffens loam,0-5%slopes	Alkaline Slopes	21.6
W	Water	None	0.6
104	Yamac Loam,2-15%slope	Rolling Loam	366.5
Total:			27463.8

Soils that are occupied with plant communities rated as mid seral, late seral, or Potential Natural Community (PNC) have sufficient cover of desirable plant species to produce adequate litter and ground cover to minimize runoff and provide for soil protection (refer to the Vegetation Section). There soils are meeting Colorado Public Land Health Standards for upland soils. The Upper Coal Creek allotment has 4732 BLM acres (84%) and the Spooky Mountain allotment has 27,437 BLM acres (59%) achieving or moving to towards achieving the Standards for Public Land Health (Refer to Vegetation section). Soils that have sites rated as early seral plant communities do not have sufficient diversity and/or cover of native plant species to provide effective ground cover to prevent excessive overland flow, runoff, and general soil degradation. These soils are experiencing a certain degree of pedestaling, minor expression of rills, and some areas have active gully erosion.

As shown in the table below and Figure 3 (BLM Acres not Meeting Public Land Health Standards), the Upper Coal Creek allotment has 931 BLM acres (14%) not achieving Standards for Public Land Health (refer to the Vegetation section). Early seral sites have soils that are typically within drainage bottoms and tow slopes that are found on soil units such as Gullied Land, Massadona Silty Clay Loam, 0-12% Slopes, and Massadona-Youngston Loams, Moist, 1-8% Slopes. These areas previously were Gardner saltbrush, shadscale, and Wyoming sagebrush communities that have converted from a perennial plant understory to an annual vegetative understory. Annual plants lack sufficient rooting ability to adequately provide soil stability as compared to a perennial plant cover.

Upper Coal Creek Allotment Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Saltedert	39
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes/Semidesert Loam	48
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltedert/Clayey Saltedert	49
RG	Gullied land	None	252
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	231
200	Massadona-Youngston loams, Moist, 1-8% slopes	Foothill Swale	241
201	Pavillion-Degater Complex,3-20%slopes	Semidesert Loam/Clayey Slopes	13
123	Typic Natrargids, 0-5%slopes	None	29
93	Wallson-Tricera Complex,3-15%slopes	Semidesert SL/Semidesert SL	29
Total:			931

Reductions in perennial vegetative cover in the Upper Coal Creek allotment along East Fork of Wolf Creek and portions of Coal Creek have reduced the ability of the soil surface to resist erosion. Past evidence of gully erosion forming incised washes is common throughout both allotments. Incised drainages/washes on the Upper Coal Creek allotment includes the East Fork of Wolf Creek and the southern portion of Coal Creek which have been rated as Gullied Land by the Moffat County Soil Survey. Many BLM range improvements on the Upper Coal Creek allotment have breached dams (e.g. #0677) that facilitate additional headcutting within the drainages.

As shown in the table below and Figure 6 (BLM Acres not Meeting Public Land Health Standards), the Spooky Mountain allotment has 11,140 BLM acres (41%) not achieving Standards for Public Land Health (refer to the Vegetation section). Early seral sites have soils that are typically within sagebrush communities lacking a perennial understory such as found in drainage bottoms, tow slopes, and ridge tops that are found on soil units like Avalon-Persay-Degater Complex, 3-30% Slopes and Moyerson Stoney Clay Loam, 15-65% Slopes.

Spooky Mountain Allotment Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Saltedert	81

Spooky Mountain Allotment Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
225	Avalon-Persayo-Degater complex,3-30%slopes	Semidesert Loam/Semidesert Loam/Clayey Slopes	2263
5	Badland	None	35
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	209
8	Billings-Torrifluvents complex,gullied,0-5%slopes	Alkaline Slopes/None	299
15	Castner channery loam, 5-50%slopes	Pinyon-Juniper woodlands	0
16	Chipeta silty clay loam,3-25%slopes	Clayey Salteddesert	166
18	Chipeta-Killpack silty clay loam,3-15%slopes	Clayey Salteddesert	583
33	Forelle loam, 3-8%slopes	Rolling Loam	189
41	Havre loam,0-4%slopes	Foothill Swale	181
46	Kinnear fine sandy loam,1-5%slopes	Loamy Salteddesert	73
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	22
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	897
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	2518
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	503
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	28
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	1022
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	416
78	Rock Outcrop	None	100
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	10
X122	Schooner-Tricera loamy sands,5-25%slopes	PJ woodlands/Semidesert SL	1
90	Torrifluvents, gullied	None	179
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	196
93	Turley fine sandy loam,0-3%slopes	Alkaline Slopes	144
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	629
1C	Turley loam,Saline,1-8%slopes	Alkaline Slopes	165
95	Uffens loam,0-5%slopes	Alkaline Slopes	21
104	Yamac Loam,2-15%slope	Rolling Loam	211
Total:			11,140

Early seral soils in the Spooky Mountain allotment have incised drainages/washes such Stinking Water (20-50'), unnamed easterly draining basins in the Skyline pasture (Red Wash Reservoir No. 1), and the Upper portion of Scullion Gulch. Past watershed stability work occurred in the late 1960's within the Skyline pasture to impede erosion rates (e.g. So Spooky Mtn Check Dams (3519-3523)). These large earthen reservoirs where placed in drainages experiencing headcutting (5-20') and are often partially filled with sediment today. These projects have aided in soil stability of the allotment below the dam structures through decreased water flows, sediment accumulation, reduced headcut advancement, and water retention.

Environmental Consequences of the Proposed Action: The proposed action reduces grazing use during the growing season on the Upper Coal Creek (01/22-04/14 to 01/22-03/31)

and Spooky Mountain (11/20-05/09 to 11/20-04/10) allotments (see Vegetation section). Also, the proposal lessens the number of sheep on the Spooky Mountain allotment (2672 to 2500 sheep). These changes will aid in the vigor of current vegetation communities that provides ground cover of native perennial plant species and litter, which is central in the protection and stabilization of soils.

On most mid seral sites, and some limited early seral rangelands, there would be an increase in surface litter accumulation, canopy cover, and ground cover due to the reduced grazing intensity (AUMs) and shortened season of use provided by livestock management under the proposed action.

Within the Upper Coal Creek allotment, these positive impacts would be greatest in portions of Coal Creek, unnamed drainage in the central portion of the allotment (pipeline), western ridgelines, and various salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

Within the Spooky Mountain allotment, the above mentioned positive impacts of the proposal would be greatest in the western ridges of pinyon/juniper and sagebrush, the southern portion of Scullion Gulch Coal Rim, and Coal Rim's salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

Soils with early seral plant communities will mostly continue at their current state because they have crossed a threshold of annual plant domination (cheatgrass) that provides little soil protection. This situation is nearly irreversible regardless of the livestock management without some form of disturbing agent such as fire, chemical, or mechanical means. Historical grazing practices (spring use, over utilization, etc.) and current continued drought created the situation in which most of the early seral plant communities are not meeting the rangeland health standards for soils (see figures BLM Acres not Meeting Public Land Health Standards).

Early seral sites in the Upper Coal Creek allotment include the immediate uplands of the East Fork of Wolf Creek, southern end of unnamed drainage (pipeline), and the mid and northern portion of Coal Creek. These areas have cheatgrass dominant within the plant community that provides little soil stability that promotes excessive erosion.

Early seral sites in the Spooky Mountain allotment include the northern part of Scullion Gulch, Nate Springs Draw, and unnamed drainages in the Skyline Pasture. These areas have cheatgrass dominant within the plant community that provides little soil stability that promote excessive erosion.

For both allotments, it is anticipated that soils with late seral or PNC plant communities will experience little change from the current status in regards to plant cover that provides soil protection. These sites are already at full potential, meeting health standards, and will not be appreciably influenced by the proposal (see Vegetation section).

Environmental Consequences of the Continuation of Current Management Alternative:
The current management alternative allows for greater livestock numbers on the Spooky

Mountain allotment (2672 sheep vs. 2500 sheep) over a longer period on the Upper Coal Creek (01/22-04/14 to 01/22-03/31) and Spooky Mountain (11/20-05/09 to 11/20-04/10) allotments (see Vegetation section).

This situation of greater livestock use (i.e. AUMs) would have a negative effect on the vegetative ground cover that provides soil protection, particularly within the mid seral ecological sites that have potential for improvement.

Within the Upper Coal Creek allotment, these negative impacts would affect areas that have potential for improvement under the proposal. These areas for potential downward trend under the current management alternative include Coal Creek, unnamed drainage in the central portion of the allotment (pipeline), western ridgelines, and various salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

Within the Spooky Mountain allotment, these negative impacts would affect areas that have potential for improvement under the proposal. These areas for potential downward trend under the current management alternative include the western ridges of pinyon/juniper and sagebrush, the southern portion of Scullion Gulch Coal Rim, and Coal Rim's salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

Under the current alternative, a negative impact would occur in regards for achieving rangeland health standards. Such impacts to soils may include a slightly/moderately downward change in species composition, diversity, desired plant cover, and/or reduced production for some rangelands, which would mostly occur within mid seral sites and to a lesser degree within the late seral communities. The PNC communities would continue to meet health standards and the early seral communities would not (see Vegetation section).

Environmental Consequences of the No Grazing Alternative: Under a no grazing by livestock alternative, most localities that are being grazed by sheep would experience a short-term increase in both perennial plant cover and soil surface litter accumulation. Mid seral ecological sites would likely experience the greatest benefit of increased perennial plant cover and would continue to meet Public Land Health Standards.

Within the Upper Coal Creek allotment, these positive impacts would be greatest in portions of Coal Creek, unnamed drainage in the central portion of the allotment (pipeline), western ridgelines, and various salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

Within the Spooky Mountain allotment, the above mentioned positive impacts of the proposal would be greatest in the western ridges of pinyon/juniper and sagebrush, the southern portion of Scullion Gulch Coal Rim, and Coal Rim's salt-desert shrub communities. These areas still have an understory component of perennial vegetation that receives livestock use.

On early seral ecological sites such as areas of salt desert rangelands dominated by cheatgrass, the majority of areas are not expected to change in perennial plant cover that provides greater soil protection because they have crossed a threshold of annual plant domination.

Soils associated with late and PNC ecological sites would continue to meet standards and experience minimal changes in plant species composition and diversity (see Vegetation section).

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Soils that occupy early seral plant communities are mostly not meeting the Standards due to the lack of soil protection caused from a composition of cheatgrass, an invasive annual grass, and due to the mono-cultures in some greasewood communities. The Upper Coal Creek allotment has 931 acres and the Spooky Mountain has 11,140 acres rated as early seral. All other communities are currently meeting standards and make up the bulk of acres on all the Upper Coal Creek (4734 acres) and Spooky Mountain (16,324 acres) allotments. Implementation of the proposed action will enhance the ability of the rangelands to meet and continue to meet Public Land Health Standards on both allotments.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The following tables list the plant community appearance for the ecological sites or woodland types on allotments associated with the proposed action, along with the predominant plant species comprising the composition of each community. Forb species, though important to the diversity of a community and making up to 25 to 30% of the composition of several of the plant communities listed, are not presented in the following table because they generally are not contributors to the appearance nor the dominance of the community. Dominant ecological sites on BLM lands within the Upper Coal Creek allotment are Clayey Saltdesert and Badlands/Rock Outcrop and Spooky Mountain.

Upper Coal Creek Allotment		
Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Clayey Foothills	Grass / Open Shrub Shrubland	Western wheatgrass, mutton grass, Indian rice grass, squirreltail, June grass, Wyoming big sagebrush, black sagebrush
Clayey Saltdesert	Salt Desert Shrubland	Gardner saltbush, shadscale, mat saltbush, galleta, Salina wildrye, squirreltail, Indian rice grass
Clayey Slopes	Grassland	Salina wildrye, mutton grass, western wheatgrass, June grass, squirreltail, shadscale
Foothill Swale	Grass / Open Shrub Shrubland	Basin wildrye, western wheatgrass, slender wheatgrass, streambank wheatgrass, Indian rice grass, Nevada bluegrass, basin big sagebrush, fourwing saltbush, rubber rabbitbrush
Rolling Loam	Sagebrush / Grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, horsebrush, bitterbrush, western wheat grass, Indian rice grass, squirreltail, June grass, Nevada and Sandberg bluegrass

Upper Coal Creek Allotment		
Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Semidesert Clay Loam	Grass/Sagebrush Shrubland	Western wheatgrass, squirreltail, galleta, Salina wildrye, Indian rice grass, Wyoming big sagebrush, fourwing saltbush, shadscale
Semidesert Loam	Grass / Sagebrush Shrubland	Needle-and-thread, western wheatgrass, galleta, Sandberg bluegrass, squirreltail, Indian rice grass, sand dropseed, Wyoming big sagebrush, fourwing saltbush, winterfat
Stony Foothills	Grass / Open Shrub Shrubland	Beardless bluebunch wheatgrass, western wheatgrass, needle-and-thread, June grass, Indian rice grass, fringed sage, Wyoming big sagebrush, black sage, serviceberry, pinyon and juniper
Pinyon/Juniper	Pinyon/Juniper Woodland	Pinyon pine, Utah juniper, mountain mahogany, bitterbrush, serviceberry, Wyoming big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass, mutton grass

Spooky Mountain Allotment		
Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Alkaline Slopes	Sagebrush / Grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, wheat grasses, Indian rice grass, squirreltail
Clayey Foothills	Grass / Open Shrub Shrubland	Western wheatgrass, mutton grass, Indian rice grass, squirreltail, June grass, Wyoming big sagebrush, black sagebrush
Clayey Saltdesert	Salt Desert Shrubland	Gardner saltbush, shadscale, mat saltbush, galleta, Salina wildrye, squirreltail, Indian rice grass
Clayey Slopes	Grassland	Salina wildrye, mutton grass, western wheatgrass, June grass, squirreltail, shadscale
Foothill Swale	Grass / Open Shrub Shrubland	Basin wildrye, western wheatgrass, slender wheatgrass, streambank wheatgrass, Indian rice grass, Nevada bluegrass, basin big sagebrush, fourwing saltbush, rubber rabbitbrush
Loamy Saltdesert	Grass / Salt Desert Shrubland	Needle-and-thread, galleta, Sandberg bluegrass, squirreltail, Indian rice grass, Gardner saltbush, shadscale, winterfat, horsebrush
Sandy Saltdesert	Grass / Salt Desert Shrubland	Needle-and-thread, Indian rice grass, sand dropseed, Sandberg bluegrass, squirreltail, galleta, shadscale, winterfat, horsebrush
Semidesert Clay Loam	Grass/Sagebrush Shrubland	Western wheatgrass, squirreltail, galleta, Salina wildrye, Indian rice grass, Wyoming big sagebrush, fourwing saltbush, shadscale
Semidesert Loam	Grass / Sagebrush Shrubland	Needle-and-thread, western wheatgrass, galleta, Sandberg bluegrass, squirreltail, Indian rice grass, sand dropseed, Wyoming big sagebrush, fourwing saltbush, winterfat
Stony Foothills	Grass / Open Shrub Shrubland	Beardless bluebunch wheatgrass, western wheatgrass, needle-and-thread, June grass, Indian rice grass, fringed sage, Wyoming big sagebrush, black sage, serviceberry, pinyon and juniper
Stoney Loam	Grass/Shrubland	Bluebunch wheatgrass, Indian ricegrass, needle grasses, mutton grass, western wheatgrass, serviceberry, bitterbrush, bog sagebrush, snowberry

Spooky Mountain Allotment		
Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Pinyon/Juniper	Pinyon/Juniper Woodland	Pinyon pine, Utah juniper, mountain mahogany, bitterbrush, serviceberry, Wyoming big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass, mutton grass

The tables below are a breakdown of ecological sites within both allotments for public lands managed by the BLM. See tables above for plant communities associated with ecological sites listed below.

Ecological Sites on the Spooky Mountain Allotment	
Ecological Site	BLM ACRES
Alkaline Slopes	1502
Alkaline Slopes/None	358
Clayey Saltedert	936
Clayey Saltedert/Clayey Saltedert	77
Clayey Slopes	6248
Clayey Slopes/PJ woodlands	0
Foothill Swale	1242
Loamy Saltedert	95
(None) Badland	1084
(None) Rock Outcrop	254
(None) Rock Outcrop-Torriorthents Complex, Very Steep	170
(None) Torrifluvents, gullied	300
(None) Typic Natrargids, 0-5% slopes	11
(None) Water	1
Pinyon Juniper woodlands	1219
PJ woodland/Rolling Loam	1079
PJ Woodlands/Clayey Slopes	7801
PJ woodlands/Semidesert SL	4
Rolling Loam	1872
Sandy Saltedert	1
Semidesert Loam/Loamy Saltedert	87
Semidesert Loam/Semidesert Loam/Clayey Slopes	2705
Stoney Foothills	415
Total	27464

Ecological Sites on the Upper Coal Creek Allotment	
Ecological Site	BLM ACRES
Clayey Foothills	16
Clayey Saltedert/Clayey Saltedert	1217
Clayey Slopes	852
Clayey Slopes/Clayey Foothills	270
Clayey Slopes/Semidesert Loam	377

Ecological Sites on the Upper Coal Creek Allotment	
Ecological Site	BLM ACRES
Foothill Swale	1004
None (Gullied Land)	252
PJ woodlands/None	75
PJ woodlands/PJ woodlands	37
Rolling Loam	53
Semidesert Loam/Clayey Slopes	392
Semidesert Loam/Loamy Saltedest	80
Semidesert SL/Semidesert SL	93
Stoney Foothills	947
Total	5663

The following table shows the seral rating used by the BLM to rate rangeland vegetation communities in comparison to the Potential Natural Plant Community (PNC) for a particular ecological site.

Ecological Site Similarity Ratings	
Seral Rating	% Similarity to the Potential Natural Plant Community
PNC	76-100% composition of species in the PNC
Late Seral	51-75% composition of species in the PNC
Mid Seral	26-50% composition of species in the PNC
Early Seral	0-25% composition of species in the PNC

The table below shows an estimate of public land acreage classified within one of the seral ratings for each ecological site for the Upper Coal Creek allotment. These estimates are based upon professional judgments of the Rangeland management Specialist. All major ecological sites were visited during the 2006 field season for a plant community assessment of the Colorado Public Land Health Standards.

Upper Coal Creek Allotment Ecological Site Similarity Rating						
Ecological Site	BLM ACRES	PNC	Late Seral	Mid Seral	Early Seral	BLM Acres Classified
Clayey Foothills	16	16	0	0	0	16
Clayey Saltedest/Clayey Saltedest	1215	843	208	115	49	1215
Clayey Slopes	852	100	169	352	231	852
Clayey Slopes/Clayey Foothills	270	270	0	0	0	270
Clayey Slopes/Semidesert Loam	377	66	188	75	48	377
Foothill Swale	1004	143	300	320	241	1004
None (Gullied Land)	252	0	0	0	252	252
PJ woodlands/None	75	35	5	6	29	75
PJ woodlands/PJ woodlands	37	37	0	0	0	37
Rolling Loam	53	45	8	0	0	53
Semidesert Loam/Clayey Slopes	392	246	110	23	13	392
Semidesert Loam	80	20	11	10	39	80
Semidesert SL/Semidesert SL	93	11	21	32	29	93

Upper Coal Creek Allotment Ecological Site Similarity Rating						
Ecological Site	BLM ACRES	PNC	Late Seral	Mid Seral	Early Seral	BLM Acres Classified
Stoney Foothills	947	845	75	27	0	947
Total:	5663	2679	1095	960	931	5663
% BLM Acres Classified:		47%	20%	17%	16%	100%

As shown in Upper Coal Creek allotment, 84% (4734 BLM Acres) of the ecological sites represent plant communities within acceptable thresholds for healthy communities and within acceptable levels of desired plant communities (mid seral to PNC) as defined in the White River ROD/RMP. Vegetation production and species composition on these sites provide adequate cover for soil protection and forage production to meet livestock and ecological demands.

The remaining 16% (931 BLM acres) of ecological sites are considered early seral and not meeting Colorado Public Land Health Standards due to a lack of appreciable perennial vegetative cover and erosion levels (See Figure 6: BLM Acres Not Meeting Public Land Health Standards). Associated within a significant portion of these early seral sites are active whitetail prairie dog colonies along the terraces of Coal Creek and other drainage bottoms.

See table below for a breakdown of BLM acres delineated by ecological sites that are not meeting Public Land Health Standards.

Upper Coal Creek Allotment Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Saltdesert	39
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes/Semidesert Loam	48
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltdesert/Clayey Saltdesert	49
RG	Gullied land	None	252
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	231
200	Massadona-Youngston loams, Moist, 1-8% slopes	Foothill Swale	241
201	Pavillion-Degater Complex,3-20%slopes	Semidesert Loam/Clayey Slopes	13
123	Typic Natrargids, 0-5%slopes	None	29
93	Wallson-Tricera Complex,3-15%slopes	Semidesert SL/Semidesert SL	29
Total:			931

The 931 early seral acres in the Upper Coal Creek allotment generally have a plant understory dominated by cheatgrass (*Bromus tectorum*), an invasive, non-native, and annual plant species that is highly competitive with native vegetation. Little resource value and limited foraging worth is provide by cheatgrass due to its annual growth habits such as producing a shallow root system, protruding awns, and aggressive growth/reproduction capabilities. Cheatgrass is the dominant understory within a portion of Coal Creek, the benches of East Fork of Wolf Creek, and along a ridgeline west of Coal Creek where past livestock feeding operations occurred.

Cheatgrass is particularly prevalent within the ecological sites Gullied Land, Clayey Slope, and Foothill Swale on the Upper Coal Creek allotment. In these areas, cheatgrass consists of approximately 55% of the species composition or 30% of the total canopy cover. These early seral sites have typically converted the Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) understory from western wheatgrass (*Agropyron smithii*), bottlebrush squirrel tail (*Sitanion hystrix*), and needle-and-thread grass (*Stipa comata*) to cheatgrass communities. Early seral sites are typically valley bottoms, valley toe-slopes, and/or areas of gentle terrain which have been degraded from drought and historical influences of livestock grazing (i.e. spring use, over utilization, livestock feeding, bedding of sheep, etc.). These early seral communities do not meet the Colorado Public Land Health Standards for species diversity and/or soil protection. Many of these early seral areas have crossed an ecological threshold into a transitional state of cheatgrass domination.

The table below shows an estimate of public land acreage classified within one of the seral ratings for each ecological site for the Spooky Mountain allotment. These estimates are based upon professional judgments of the Rangeland management Specialist. All major ecological sites were visited during the 2006 field season for a plant community assessment of the Colorado Public Land Health Standards.

Spooky Mountain Allotment (06316)						
Ecological Site Similarity Rating						
Ecological Site	BLM ACRES	PNC	Late Seral	Mid Seral	Early Seral	BLM Acres Classified
Alkaline Slopes	1502	0	0	335	1167	1502
Alkaline Slopes/None	358	0	0	59	299	358
Clayey Saltdesert	963	0	67	120	749	936
Clayey Saltdesert/Clayey Saltdesert	77	53	24	0	0	77
Clayey Slopes	6248	157	651	2900	2540	6248
Clayey Slopes/PJ woodlands	1	1	0	0	0	1
Foothill Swale	1242	0	0	164	1078	1242
Loamy Saltdesert	95	2	7	13	73	95
(None) Badland	1084	705	223	121	35	1084
(None) Rock Outcrop	254	124	18	12	100	254
(None) Rock Outcrop-Torriorthents Complex, Very Steep	170	133	14	13	10	170
(None) Torrifluvents, gullied	300	0	0	121	179	300
(None) Typic Natrargids, 0-5% slopes	11	11	0	0	0	11
(None) Water	1	1	0	0	0	1
Pinyon Juniper woodlands	1219	1006	150	35	28	1219
PJ woodland/Rolling Loam	1079	93	142	428	416	1079
PJ Woodlands/Clayey Slopes	7776	5228	1199	327	1022	7776
PJ woodlands/Semidesert SL	4	3	0	0	1	4
Rolling Loam	1872	131	203	635	903	1872
Sandy Saltdesert	1	1	0	0	0	1
Semidesert Loam/Loamy Saltdesert	87	0	0	6	81	87
Semidesert Loam/Semidesert Loam/Clayey Slopes	2705	0	102	340	2263	2705

Spooky Mountain Allotment (06316)						
Ecological Site Similarity Rating						
Ecological Site	BLM ACRES	PNC	Late Seral	Mid Seral	Early Seral	BLM Acres Classified
Stoney Foothills	415	5	10	204	196	415
Total:	27464	7654	2810	5833	11140	27437
% BLM Acres Classified:		28%	10%	21%	41%	100%

As shown in Spooky Mountain allotment, 59% (16,324 BLM Acres) of the ecological sites represent plant communities within acceptable thresholds for healthy communities and within acceptable levels of desired plant communities (mid seral to PNC) as defined in the White River ROD/RMP. Vegetation production and species composition on these sites provide adequate cover for soil protection and forage production to meet livestock and ecological demands.

The remaining 41% (11,140 BLM acres) of ecological sites are considered early seral and not meeting Colorado Public Land Health Standards due to a lack of appreciable perennial vegetative cover and erosion levels (See Figure 6: BLM Acres Not Meeting Public Land Health Standards).

See table below for a breakdown of BLM acres delineated by ecological sites that are not meeting Public Land Health Standards on the Spooky Mountain allotment.

Spooky Mountain Allotment			
Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Salt desert	81
225	Avalon-Persayo-Degater complex,3-30%slopes	Semidesert Loam/Semidesert Loam/Clayey Slopes	2263
5	Badland	None	35
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	209
8	Billings-Torrifluents complex,gullied,0-5%slopes	Alkaline Slopes/None	299
15	Castner channery loam, 5-50%slopes	Pinyon-Juniper woodlands	0
16	Chipeta silty clay loam,3-25%slopes	Clayey Salt desert	166
18	Chipeta-Killpack silty clay loam,3-15%slopes	Clayey Salt desert	583
33	Forelle loam, 3-8%slopes	Rolling Loam	189
41	Havre loam,0-4%slopes	Foothill Swale	181
46	Kinnear fine sandy loam,1-5%slopes	Loamy Salt desert	73
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	22
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	897
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	2518
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	503
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	28
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	1022
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	416
78	Rock Outcrop	None	100

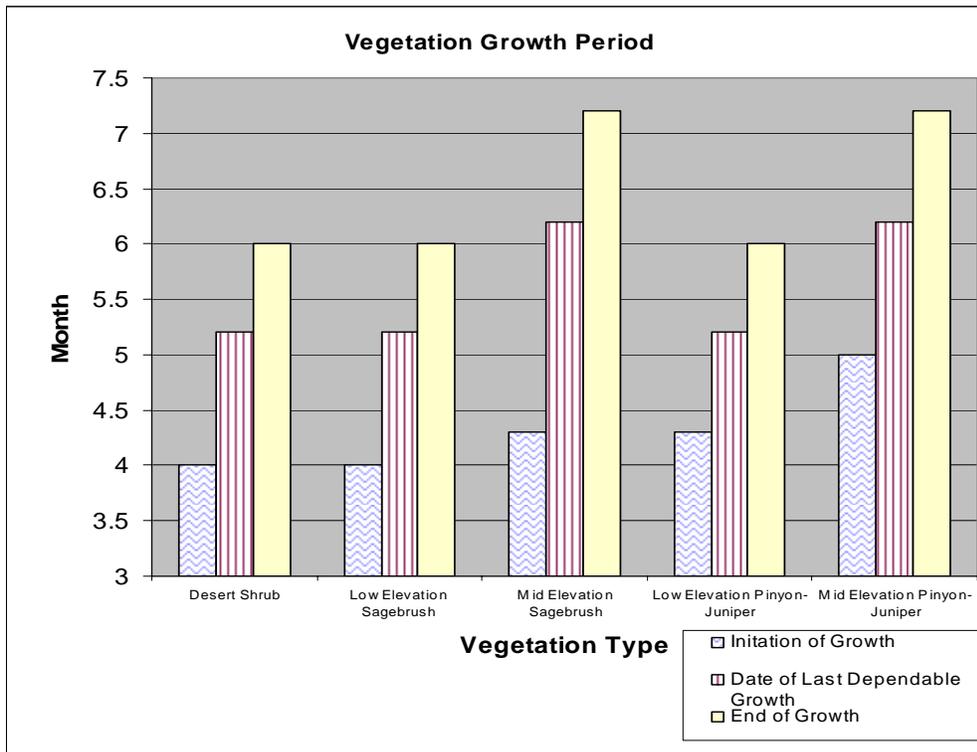
Spooky Mountain Allotment			
Acres Not Meeting Public Land Health Standards			
Unit	Soil Unit	Ecological Site	BLM Acres
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	10
X122	Schooner-Tricera loamy sands,5-25%slopes	PJ woodlands/Semidesert SL	1
90	Torrifluvents, gullied	None	179
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	196
93	Turley fine sandy loam,0-3%slopes	Alkaline Slopes	144
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	629
1C	Turley loam,Saline,1-8%slopes	Alkaline Slopes	165
95	Uffens loam,0-5%slopes	Alkaline Slopes	21
104	Yamac Loam,2-15%slope	Rolling Loam	211
Total:			11,140

The 11,140 early seral acres in the Spooky Mountain allotment generally have a plant understory dominated by cheatgrass, an invasive, non-native, and annual plant species that is highly competitive with native vegetation. Little resource value and limited foraging worth is provided by cheatgrass due to its annual growth habits such as producing a shallow root system, protruding awns, and aggressive growth/reproduction capabilities. Cheatgrass is the dominant understory within a significant portion of the Skyline pasture, uplands of Stinking Water Creek, and the majority of drainage bottoms.

Cheatgrass is particularly prevalent on the Spooky Mountain allotment within the ecological sites Alkaline Slopes, Clayey Slopes, Foothill Swale, PJ Woodlands/Clayey Slopes, Rolling Loam, and Semidesert Loam/Clayey Slopes. In these areas, cheatgrass consists of approximately 45-75% of the species composition or 40-75% of the total canopy cover.

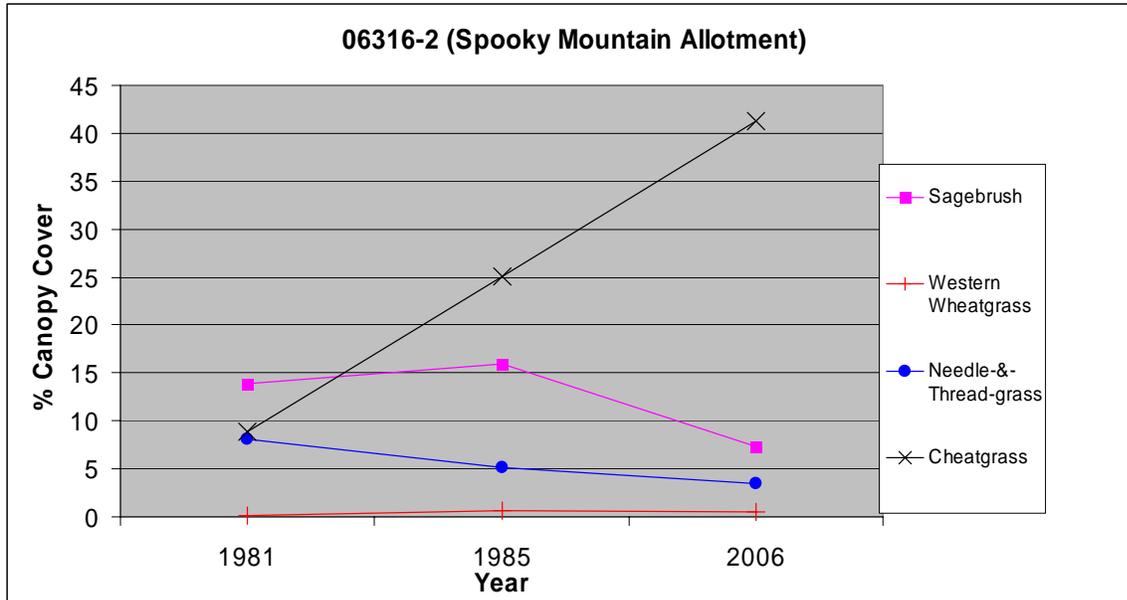
These 11,140 BLM acres rated as early seral in the Spooky Mountain allotment have typically converted the Wyoming big sagebrush understory from western wheatgrass, bottlebrush squirrel tail, Indian ricegrass, and needle-and-thread grass to a cheatgrass dominated community. Early seral sites are typically valley bottoms, valley toe-slopes, and/or areas of gentle terrain which have been degraded from drought and historical influences of livestock grazing (i.e. spring use, past lambing operations, over utilization, livestock feeding, bedding of sheep, etc.). A portion of these early seral sites are related to past wildfire localities that have a limited desired plant response with cheatgrass dominating. Overall, these early seral communities do not meet the Colorado Public Land Health Standards for species diversity and/or soil protection. Many of these early seral areas have crossed an ecological threshold into a transitional state of cheatgrass domination.

Growing Season: The following table depicts vegetation growth periods of various vegetation types within the Spooky Mountain and Upper Coal Creek allotments. These growth periods are considered an average growing season, however this season may vary year to year dependant upon climatic conditions. The date of initial growth to the last date of dependable growth is considered the growing season, which averages April 1 – May 15. This growing season is dependant upon yearly precipitation levels that can vary year to year.



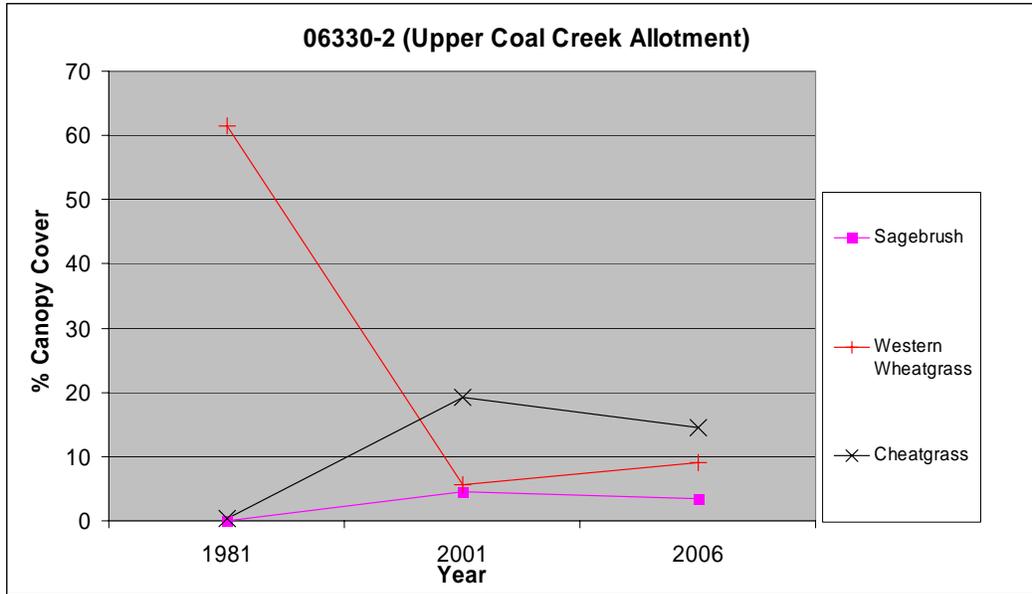
Both allotments have been particularly impacted by current and past drought conditions which have caused low vigor within the Wyoming big sagebrush and winterfat (*Ceratoides lanata*) communities, with these shrubs experiencing various degrees of decadence with intermixed mortality. Precipitation during the 2006 growing season (April-June) was exceptionally low that limited vegetative growth and re-growth opportunities. Within portions of the Spooky Mountain allotment the entire sagebrush community lacks vigor, has a dull appearance, and plant decadence is throughout the community. This situation of low sagebrush vigor is most apparent in the Skyline pasture.

Vegetation Trend: On the Spooky Mountain allotment it is demonstrated through the various permanent Daubenmire canopy cover transects located in key ecological areas that cheatgrass (non-native, invasive) is overly dominant within the vegetative understory and has increased in canopy cover over time. For example desired cool season perennial plant species have declined in overall ground cover of the rangelands (e.g. needle-and-thread grass, 1981-8.1% to 2006-3.5%). Also, the overstories of various shrubs have also declined in percent canopy cover within the landscape (e.g. Wyoming big sagebrush, 1981-13.9% to 2006-7.3%). These situations are also demonstrated through historic trend photographs at various transects. Refer to the graph below, which displays the percent canopy cover at transect 06316-2 (T3N, R101W, Sec. 32, SESE), for a representation of general trend on the Spooky Mountain allotment.



Overall, on the Spooky Mountain allotment from 1981-2006 there has been a decrease in canopy coverage of desired plant overstories and understories with cheatgrass (undesirable) increasing in occurrence. This situation is apparent throughout much of the early seral acres not meeting Public Land Health Standards. The downward trend can be attributed to current drought that has reduced the vigor of native vegetation and past livestock use before Cross Mountain acquired the allotment in 2000. The previous grazing permittee typically lambed sheep on the Spooky Mountain allotment during the critical vegetative growing period.

On the Upper Coal Creek allotment it is demonstrated through the various permanent Daubenmire canopy cover transects located in key ecological areas that cheatgrass (non-native, invasive) is overly dominant within the vegetative understory and has increased in canopy cover over time. For example, along Coal Creek at trend site 06330-2 (T4N, R98W, Sec. 30, NWSE) western wheatgrass (desirable, perennial) made up 61.5% of the canopy cover in 1981, however by 2006 it consisted only 9.1% of the canopy cover, which was an increase over 2001 at 5.6%. Also, at trend site 06330-3 (T3N, R99W, Sec. 1, SENE) located in a southern valley bottom gardner saltbush (*Atriplex gardneri*) has been completely removed from the plant community (1981-33.8% to 2006-0%) and replaced with purple mustard plants and cheatgrass (undesirables). These situations are also demonstrated through historic trend photographs at various transects. Refer to the graph below; which displays the percent canopy cover at transect 06330-2 for a representation of general trend on the Upper Coal Creek allotment.



Overall, on the Upper Coal Creek allotment from 1981-2006 there has been a decrease in canopy coverage of desired plant overstories and understories with cheatgrass (undesirable) increasing in occurrence. This situation is apparent throughout much of the early seral acres not meeting Public Land Health Standards. The downward trend can be attributed to current drought that has reduced the vigor of native vegetation, livestock grazing during drought conditions, active prairie dog colonies, and a significant increase in elk use within the last 10 years during the winter and spring periods.

Environmental Consequences of the Proposed Action: The proposal outlines a reduction in sheep use on the Spooky Mountain allotment from 2672 to 2500 sheep and a shortened grazing season from 11/20-05/09 to 11/20-04/10 versus the current management alternative. The proposal also outlines a change in the season of use on the Upper Coal Creek allotment from 01/22-04/14 to 01/22-03/31 with sheep numbers remaining at 2000.

Animal Unit Months (AUMs), which is the amount of forage necessary for the sustenance of 5 sheep (1 cow) for a period of 1 month, associated with the proposed action are within the rangeland's current carrying capacity to meet resource objectives for sustainable vegetative maintenance on both allotments (refer to Rangeland Management section).

As shown in the table below, a minimal amount of livestock use (7%) can be authorized during the plant growing season on the Spooky Mountain allotment with no use (0%) during the growing season on the Upper Coal Creek allotment. The growing season use by livestock has been reduced by 75% (620 AUMs vs. 158) on the Spooky Mountain allotment and reduced 100% (131 AUMs vs. 0 AUMs) on the Upper Coal Creek allotment. This proposed reduction during the vegetative growing season will reduce grazing pressure while plants are actively engaged in plant maintenance and reproduction efforts. Thereby, the proposal will enable grazing pressure to meet the rangeland's carrying capacity by giving plant communities a greater opportunity for replenishment of root reserves, biomass accumulation, and plant propagation. This net benefit will be greatest within the mid and late seral ecological sites as they still have a

perennial understory (e.g. western wheatgrass, needle-and-thread grass, etc.) component within the plant community.

Proposed Grazing Permit		
Allotment	AUMs Authorized in the Growing Season	% of Authorized AUMs used in the Plant Growing Season
Spooky Mountain	158	7%
Upper Coal Creek	0	0%

Overall for both allotments, the proposal will have the greatest positive impact on the mid and late seral ecological sites, such as an increase in perennial plant cover. On PNC ecological sites, a neutral to slightly positive impact will occur as these sites are already meeting or exceeding the standards for public land health. On most early seral sites, the present situation will typically continue at their current state unless some influencing agent was implemented such as fire/seeding because most of these sites have cross a threshold of cheatgrass domination. It is apparent that current early seral ecological sites within the Upper Coal Creek allotment are a result of past livestock feeding operations; prolong drought conditions, and historic overuse. Apparent causal factors for early seral sites within the Spooky Mountain allotment are historic overuse, past lambing of sheep during the vegetative growing season, and prolong drought conditions. Therefore, these situations have created an opportunity for cheatgrass establishment and dominance within the early seral communities.

Environmental Consequences of the Continuation of Current Management Alternative:
 The Current Management alternative outlines a grazing permit on the Upper Coal Creek allotment for 2000 sheep from 01/22-04/14 (880 AUMs), and the Spooky Mountain allotment authorizes 2000 sheep from 11/20-05/09 and 672 sheep from 12/01-04/30 (2800 AUMs). This level of use is above the livestock carrying capacity for the both allotments (see Rangeland Management section).

As shown in the table below, 22% of the authorized livestock use on the Spooky Mountain allotment and 15% on the Upper Coal Creek allotment can occur during the growing season under current management. This current level of livestock use during the plant growth period is 75% (620 AUMs vs. 158 AUMs) greater on the Spooky Mountain allotment and 100% greater on the Upper Coal Creek allotment (131 AUMs vs. 0 AUMs).

Current Grazing Permit		
Allotment	AUMs Authorized in the Growing Season	% of Authorized AUMs used in the Plant Growing Season
Spooky Mountain	620	22%
Upper Coal Creek	131	15%

Increase use during the vegetation growing period lessens the ability of plant communities to accumulate energy reserves, produce seed, and hampers re-growth potential of grazed plants. This situation is particularly prevalent on the Spooky Mountain allotment which has a grazing period end date of 05/09. Thus, if sheep grazed until 05/09 on a year to year basis it would

impede the full growth potential of native vegetation and further increase opportunities for cheatgrass establishment and further dominance. Therefore, grazing at the current management alternative could lower the canopy coverage of desired plants, hamper Public Land Health Standards, and change plant successional stages towards an undesired direction (e.g. early seral). However, Cross Mountain Ranch typically leaves the Spooky Mountain allotment late March to early April, thus potential growing season impacts have not been occurring since their acquisition of the allotment in 2000.

The greatest impacts of authoring livestock use beyond the landscapes ability to support them would mostly occur within the mid seral sites and to a lesser degree within the late seral sites. There would be potential to convert the mid seral areas to early seral by lessening the competitive ability of native, perennial vegetation against non-native plants. The greatest concern would be within the western wheatgrass and/or needle-and-thread grass communities being converted to a sole understory of cheatgrass. This potential impact would be greatest along drainages such as portions of Coal Creek (Upper Coal Creek) and lower Scullion Gulch (Spooky Mountain).

Cross Mountain Ranch has typically operated below their full active AUM level within the Upper Coal Creek and Spooky Mountain allotments (refer to Rangeland Management section). Thereby, the ranch has grazed at an appropriate level that aids in plant maintenance and Public Land Health Standards.

Environmental Consequences of the No Grazing Alternative: Under a no grazing by livestock alternative, most localities that are being grazed by sheep would experience a short-term increase in both perennial plant cover and soil surface litter accumulation. Mid and late seral ecological sites would likely experience the greatest benefit of increased perennial plant cover such as western wheatgrass. On early seral ecological sites such as salt-desert rangelands dominated by cheatgrass, the majority of areas are not expected to change significantly in perennial plant cover because they have crossed a threshold of brush and/or annual plant domination. The PNC ecological sites would continue to meet standards and experience minimal changes in plant species composition and diversity.

Elk use would continue during the winter and early spring (typically mid May) and graze desired plant communities such as western wheatgrass. Elk heavily trail off pinyon ridge into the general Wolf Creek basin (Upper Coal Creek allotment) and utilize these rangelands for cover and foraging. These salt-desert environments such as found on the Spooky Mountain and Upper Coal Creek allotments have experienced an increase in elk use within the last 10 years that is likely to continue. Prairie dog colonies would also continue to exist within many of the drainages on both allotments and utilize the native vegetation communities for habitat and feed.

Overall, the proliferation of cheatgrass would be lessened as the interspersed native grass community would have a greater chance of completing a full growth cycle without being grazed by livestock. Therefore, the native community would have a greater ability to compete with cheatgrass. Such an effect would occur principally within the mid seral plant communities that have not crossed a threshold of annual plant domination. However, this effect would be limited

in nature due to the current cheatgrass domination of early seral plant communities that have crossed a threshold and due to other grazers within the area.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The 931 acres (16%) on the Upper Coal Creek allotment and 11,140 acres (41 %) on the Spooky Mountain allotment rated as early seral plant communities are mostly not meeting the Standards due to a high composition of cheatgrass, an invasive annual grass. On the Upper Coal Creek allotment, 4734 acres of all other seral communities (Mid – PNC) are currently meeting standards and make up the majority of acres (84%) on the allotment. 16,324 acres on the Spooky Mountain allotment are classified as Mid to PNC seral communities and consist of the majority of acres (59 %) on the allotment. Implementation of the proposed action will maintain and improve the ability of the rangelands to meet the Standards in the future.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There are no known aquatic systems on BLM-administered lands within the Upper Coal Creek allotment. Drainages within the allotment are ephemeral and incapable of supporting higher order aquatic wildlife.

Stinking Water Creek, an intermittent system, forms approximately 4.6 miles of the western boundary of the Spooky Mountain allotment. Due to low flow volumes, this system is capable of sustaining only simple and seasonal invertebrate-based aquatic habitats. No higher order aquatic habitats with fisheries are involved. In general, livestock make little use of the drainage, mainly due to lack of available forage and active herding practices.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on aquatic habitat within the Upper Coal Creek allotment.

While proposed reductions in livestock numbers and days of use will likely improve conditions in the uplands surrounding Stinking Water Creek, the condition of aquatic habitats would not be subject to substantive change under the proposed action. The capability of the aquatic system is limited by the characteristics of the site (e.g., low flows, isolated system) which does not have the potential to support anything higher than a simple invertebrate-based community.

Environmental Consequences of the Continuation of Current Management Alternative: Continuation of the current management plan would have no conceivable influence on aquatic wildlife or habitat within the Upper Coal Creek allotment.

Continuation of current management in the Spooky Mountain allotment (Stinking Water Creek) would be similar to the Proposed Action as livestock currently make little to no use of the drainage.

Environmental Consequences of the No Grazing Alternative: Removal of livestock would have no conceivable influence on aquatic wildlife or habitat within the Upper Coal Creek allotment.

While removal of livestock would likely improve vegetation conditions in the uplands surrounding Stinking Water Creek, this alternative would have no potential to alter aquatic wildlife within the allotment.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The aquatic system within the Spooky Mountain allotment currently meets and, under the proposed action, will continue to meet the Public Land Health standards for aquatic wildlife communities

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The permit area spans ranges used year-round by deer, elk and pronghorn. The project area's lower elevation salt-desert, big sagebrush, and juniper woodland ranges are used by deer and elk during the winter and early spring months (November through early May). With the exception of the western boundary, all of the Spooky Mountain allotment is categorized by the Colorado Division of Wildlife as severe winter range - a specialized component of winter range that periodically supports virtually all an area's deer under the most severe winter conditions (i.e., extreme cold and heavy snowpack). These ranges typically sustain big game use from December through April. Deer use is light and is associated primarily with seasonal movements in the salt desert components of Upper Coal Creek.

Elk populations are considerably above the State's desired herd objective and are the most conspicuous big game species in the project area. Based on CDOW modeling, deer populations are thought to approximate herd objectives, but observations by field staff indicate populations are substantially lower. This situation has likely been aggravated by years of serious drought, but is not convincingly attributable to forage conditions. Competitive use of the area's cover and forage resources by large numbers of elk may be adversely affecting deer's ability to make efficient use of mutually preferred cover and forage resources. Heavy elk use, beginning in mid-December is common within the Upper Coal Creek allotment. There is limited use within the Spooky allotment, with the exception of the northern most boundary.

Pronghorn use these ranges throughout the year, but lacking reliable water sources; summer use on these allotments is generally limited and dispersed. Although up to 150 pronghorn wintered in the lower Wolf Creek basin in the early 1990s, northwest Colorado has undergone unexplained declines in pronghorn populations, and today the area winters no more than half this number.

Breeding raptor use of project area is represented largely by cliff-nesting golden eagle and red-tailed hawk. Ferruginous hawk and burrowing owl are relegated to the salt-desert community in

the project area's lower elevation saltbush associations (see discussion in Status Species above). Juniper woodlands throughout both allotments likely support a small number of breeding Cooper's hawk and long-eared owl. The abundance and variety of raptor use remains high during the winter, with opportunistic foraging by golden and bald eagle, rough-legged and red-tailed hawk, and prairie falcon.

Nongame bird and small mammal populations associated with the project area are typically common and broadly distributed in extensive shrubland and woodland communities found throughout the Resource Area (as well as the Great Basin). The abundance and distribution of non-game bird populations, in particular, are believed to be appropriate with no notable lapses or inconsistencies in potential expression. Although 16% of the Upper Coal Creek allotment is dominated by introduced annual weeds, the generally patchy and discontinuous distribution of these sites does not detract appreciably from habitat extent and continuity at local landscape scales. Many of these early seral sites are inhabited by white-tailed prairie dogs, whose burrow systems appear to successfully fulfill the habitat requirements for a number of small, fossorial mammals.

Environmental Consequences of the Proposed Action: Proposed reductions in livestock numbers and days of use on the Upper Coal Creek allotment will result in a 31% decrease during the early portions of the growing season. Similar reductions on the Spooky Mountain allotment will result in a 33% decrease during the dormant season and a 43% decrease during the early portions of the growing season. These reductions, particularly during the initial growing season, would likely, in the long-term, improve herbaceous vigor and ultimately, the density and diversity of perennial grasses and forbs available for big game species, particularly in early spring.

While there is likely direct competition between big game and livestock during the winter months, availability of woody forage appears to be abundant throughout the permit area. Current livestock use has no apparent influence on the availability or production of woody forage for big game winter use. Based on ground cover conditions throughout the allotments, the timing and intensity of livestock use in conjunction with ongoing big game use have no adverse influence on the composition, vigor, or regeneration of herbaceous vegetation. It is suspected that big game, along with livestock make use of the abundant annuals (e.g., cheatgrass) which provide an abundant but short duration forage source in spring.

The proposed action would continue to be compatible with non-game wildlife populations and habitat, including raptors (see also Migratory Bird and Threatened and Endangered Species sections above). Reductions in days of use on both allotments would likely incrementally increase the availability of herbaceous forage and enhance groundcover for migratory birds and small mammals.

Vegetative responses to these reductions will be most evident in those mid and late seral communities. Reductions are likely to have little to no effect on Upper Coal Creek's 931 acres and Spooky Mountain's 11,140 acres of early seral communities that are dominated by cheatgrass, at least during the life of the permit.

Environmental Consequences of the Continuation of Current Management Alternative:

There are no extensive or chronic big game-livestock forage competition issues known to occur on the permit area in spite of big game populations being near or above desired population targets. Although continuation of the current grazing system would likely result in incremental decreases in availability and diversity of perennial groundcover in the long-term, particularly in those mid to late seral communities, there is no evidence to suggest that current levels of cumulative use by livestock and big game are causing inappropriate or potentially damaging levels of use on plant vigor or shifts in composition in either allotment. Livestock use ceases by April and likely acts to precondition bunchgrass growth such that early green growth is more readily accessible to deer in the spring.

Current livestock management appears to be largely compatible with non-game wildlife populations and habitat, including raptors (see also Migratory Bird and Threatened and Endangered Species sections above). Current livestock use does not coincide with the migratory bird breeding season. However it is likely that current grazing practices may contribute to slight decreases in availability of forage and cover for non-game wildlife species, particularly in those mid to late seral communities.

Environmental Consequences of the No Grazing Alternative: Removing livestock grazing from the permit area would have no effective influence on the continued support of elk, which presently exceed population objectives. Although elk grazing would continue to reduce previous-year accumulations of bunchgrass growth, the effect in terms of availing spring growth for deer and pronghorn would be significantly reduced, especially as elk populations are reduced to objective levels through hunting. Through the term of the permit, it is unlikely that livestock removal would have marked influence on understory expression in the permit area's more xeric woodland and lower elevation sagebrush and salt-desert communities. It is suspected that vegetative response to livestock removal would be most evident on those mid to late seral communities, with little noticeable changes in the early seral sites.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The Public Land Health standard for terrestrial wildlife communities in the permit area is currently being met at the landscape scale. None of the alternative grazing schemes would be expected to significantly influence big game or non-game bird populations through the term of the permit.

Consistent with the intent of the standards, proposed reductions in early growing season use (as well as the no grazing alternative) would promote incremental gains in perennial ground cover within the permit area, and would be expected to bolster (on a local scale) the nutritional planes and reproductive performance of local populations of big game and nongame wildlife in the long-term. Reductions in days of use and livestock numbers would improve habitat function, especially for non-game mammal and bird populations.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management		X	
Forest Management			X
Geology and Minerals	X		
Hydrology/Water Rights			X
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation	X		
Socio-Economics		X	
Visual Resources		X	
Wild Horses	X		

FOREST MANAGEMENT

Affected Environment: Both the Upper Coal Creek and Spooky Mountain allotments contain Pinyon/Juniper woodlands composed primarily of Utah Juniper. Spooky Mountain contains 10,103 acres of PJ and Upper Coal Creek contains 112 acres of PJ. These woodlands are classified in the current land use plan as non-commercial based on the low productivity of the sites. These woodlands do provide minor amounts of woodland product including firewood and fence posts to the local population. Because of the low productivity of these stands there is no opportunity to increase forage production by mechanical treatment of these stands.

Environmental Consequences of the Proposed Action: The proposed would have no impact on the condition or extent of PJ communities in these allotments. There are no proposed projects which would impact woodland communities through clearing as would be the case in the construction of ponds, or corrals, and there are no projects that would use woodland resources as would be the case of a new fence using juniper posts for construction.

Environmental Consequences of the Continuation of Current Management Alternative: The No Action alternative would not impact the condition or extent of PJ communities in these allotments through either clearing or use of materials.

Environmental Consequences of the No Grazing Alternative: Woodland communities would not be impacted by the No Grazing Alternative.

Mitigation: None

HYDROLOGY AND WATER RIGHTS

Affected Environment: The Spooky Mountain allotment is situated in the Red Wash and White River near Rangely, CO 5th level watershed. The Upper Coal Creek allotment sits within the Wolf Creek and Crooked Wash 5th level watershed. 6th and 7th level watersheds directly affected by land management decisions within the allotment boundaries are Red Wash, Scullion Gulch, E. Fk. Wolf Creek, Wolf Creek, Stinking Water Creek, and the White River below Rangely, CO.

Approximately 150 stream miles are situated within the allotment boundaries. Of these 150 stream miles, approximately 115 are situated in the Spooking Mountain allotment while the remaining miles are in the Upper Coal Creek allotment. Of the approximate 150 miles of stream, most are ephemeral in nature as only 4.6 miles of stream (portions of Stinking Water Creek specified in the riparian section of this document) retain enough perennial soil moisture to support riparian communities. With the exception of the White River, all of the affected streams are ephemeral tributaries to the White River, which is a major sub-basin of the Colorado River System. High runoff generally occurs from mid-March through mid-June and is caused primarily by melting of the higher elevation snowpack. Transitional months are usually March and July. Early season runoff is generally from lower elevation snowmelt and may provide a separate and lower discharge peak than the main peak in the hydrograph, which usually occurs in late May and early June.

Level I Rosgen stream classification (Geomorphic characterization) was done on the drainages within the allotment boundaries. Results indicate that most of the ephemeral drainages are “G” and “F” type channels. “G” channels are characterized as being unstable with grade control problems (e.g. frequent head-cutting) and high bank erosion rates. “G” type stream channels are entrenched, narrow, and deep, step/pool channels with low to moderate sinuosity. Channel slopes are generally steeper than 2% (Rosgen 1996, pp. 4-10). “F” channels are deeply incised in valleys of relatively low elevation relief, containing highly weathered rock and/or erodible materials. The “F” stream systems are characterized by very high channel width/depth ratios at the bankfull state, and bedform features occurring as a moderated riffle/pool sequence. “F” stream channels can develop very high bank erosion rates, lateral extension rates, significant bar deposition and accelerated channel aggradation and/or degradation while providing for very high sediment supply and storage capacities (Rosgen 1996, pp. 4-10).

The White River near the southern edge of the Spooky Mountain allotment has been identified as a “C” channel. “C” channels are located in narrow to wide valleys, constructed from alluvial deposition. The “C” type channels have well a developed floodplain (slightly entrenched), are relatively sinuous with a channel slope of 2% or less and a riffle/pool bedform configuration. The primary morphologic features of “C” channels are the sinuous, low relief channel, the well developed floodplains built by the river, and characteristic “point bars” within the active channel. “C” type channels can be significantly altered and rapidly de-stabilized when the effects of

imposed changes in bank stability, watershed condition, or flow regime are combined to cause an exceedance of a channel stability threshold (Rosgen 1996, pp. 4-6, 4-7).

A search of the WRFO-BLM water rights database identified no springs or water wells within the allotment boundaries. Numerous livestock watering ponds are located on public lands within the allotment boundaries, the ponds are situated adjacent to ephemeral channels and collect water from spring runoff and winter/spring precipitation.

It should be noted that much of the allotment is dominated by cheat grass which lacks sufficient rooting depth and density needed to stabilize soils and protect functional stream channel morphologic conditions in downstream stream reaches.

Environmental Consequences of the Proposed Action: Post-holing limited floodplains in riparian areas could deteriorate the storage capacity increasing runoff potential and result in further deterioration of stream channel/bank morphologic conditions in lower reaches. All of the affected stream types within the allotment boundaries (C, F, G-stream types) can be rapidly destabilized and highly erosive with even slight changes in watershed conditions. However, with the proposed grazing plan active AUMs will be reduced from 2800 to 2241 and the season of use will be modified to limiting livestock use during the spring. Reducing the number of active AUMs on the allotment should slightly aid in re-establishment of preferred vegetative communities necessary for retaining sediment in the uplands and stabilizing stream banks.

Environmental Consequences of the Continuation of Current Management Alternative: Post-holing limited floodplains in riparian areas could deteriorate the storage capacity. Because of the unstable nature of “F” and “G” type channels, the current grazing alternative in combination with continued drought conditions would likely result in reductions in desired vegetative communities (upland and riparian vegetation) necessary to retain soils and stabilize stream banks. Decreased stability in “F” and “G” tributary channels to the White River (“C” channel type) will elevate sediment/salt loads and further alter morphologic conditions within the White River. In addition, increased erosion rates will likely silt-in existing livestock watering ponds on public and private lands rendering them non-functional and concentrating more livestock at fewer watering locations.

Environmental Consequences of the No Grazing Alternative: No grazing will be permitted. Preferred upland and riparian vegetative communities would have greater potential for recovery. The effective ground cover would likely increase providing greater soil stabilization and increasing stream bank protection.

Mitigation: Continued monitoring of stream channel morphology (Rosgen survey data) will be essential to evaluate the impacts of increased livestock numbers on the White River and its affected tributaries.

PALEONTOLOGY

Affected Environment: The majority of Cross Mountain Ranch Spooky Mountain allotment pastures are in Condition I geological formations, specifically the Upper Mesa Verde formation. Condition I formations are areas that are known to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. The southern portions of pastures 1 and 2 and the very northern most margin of pasture 2 are in the Sejo Sandstone/Buck Tongue of the Mancos which is currently classified as a Condition II formation, meaning the fossil potential is poorly understood at this time.

The upper Coal Creek allotment of the Cross Mountain Ranch is located primarily on Mancos Shale which the BLM, WRFO has classified as a Condition II formation. This formation is currently known to produce marine invertebrates locally but, there is a potential for marine vertebrates. Little work has been done in the formation so the potential for vertebrates is currently poorly understood. The eastern margins of the allotment are in the Iles Formation which in some areas is considered a component of the Mesa Verde Group. Recent research has resulted in the reporting of dinosaur remains from the Iles formation. The Iles Formation should be classified as a Condition I formation.

Environmental Consequences of the Proposed Action: Generally, for all pastures in the Spooky Mountain allotment and the Upper Coal Creek allotment any horizontal outcrops of the Condition I formations, Upper Mesa Verde and Iles Formation has the potential to have scientifically important vertebrate and possibly invertebrate fossils impacted by trampling. Trampling may occur where livestock trail to water or thermal cover or in areas where livestock concentrate for shade of water or other reasons. In areas where the formations are covered by soils there is no direct threat to fossil resources.

In areas where Condition I formations are in vertical exposures or overhangs impacts could occur to fossil resources where livestock congregate and rub and scratch against the formation. Rubbing and scratching has the potential to dislodge specimens or cause fracturing and crushing of remains.

On both allotments where the Condition II formations are present in horizontal exposures there is an unknown potential to impact important fossil resource. Areas of livestock concentration could be areas of highest potential impacts.

Where Condition II formations are exposed vertically or in overhangs there is a currently unknown potential to impact fossil resources as animals rub and scratch against the formations. Any fossil that may be present could be dislodged from the formation and crushed under foot or fractured and crushed by the rubbing and scratching then scattered.

Environmental Consequences of the No Grazing Alternative: there would be no new or continuing impacts to fossil resources from grazing under this alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate

area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

RANGELAND MANAGEMENT

Affected Environment: Cross Mountain Ranch (0501485) is the BLM authorized grazing permit holder on the Spooky Mountain and Upper Coal Creek allotments through ownership of the attached base property. Therefore, the ranch has preference to the grazing permit for these allotments. Cross Mountain Ranch acquired the Upper Coal Creek allotment in 1992 from Bogle Farms and obtained the Spooky Mountain allotment in 2000 from Gus Halandras.

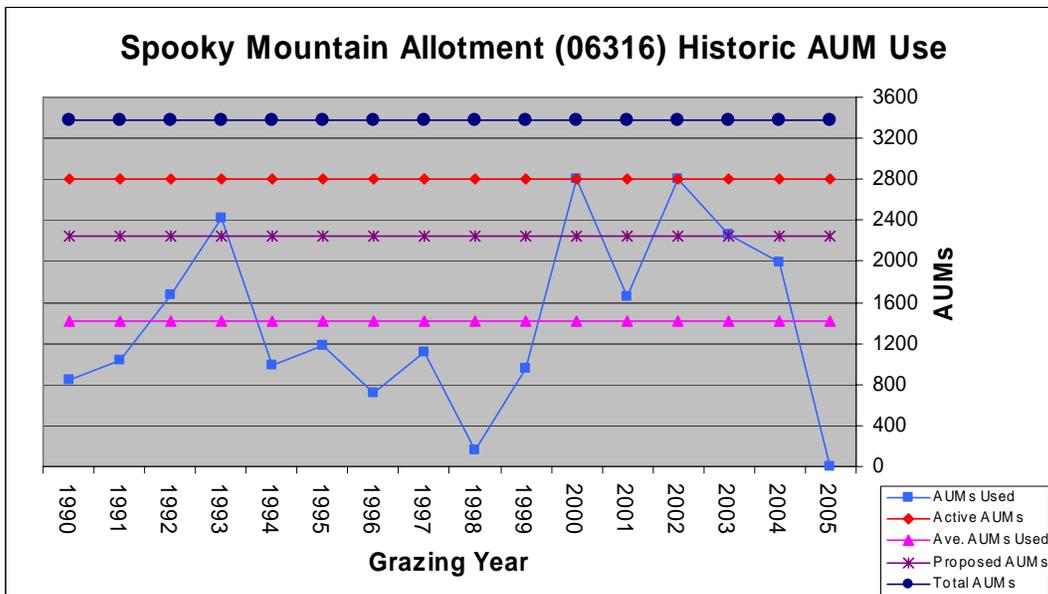
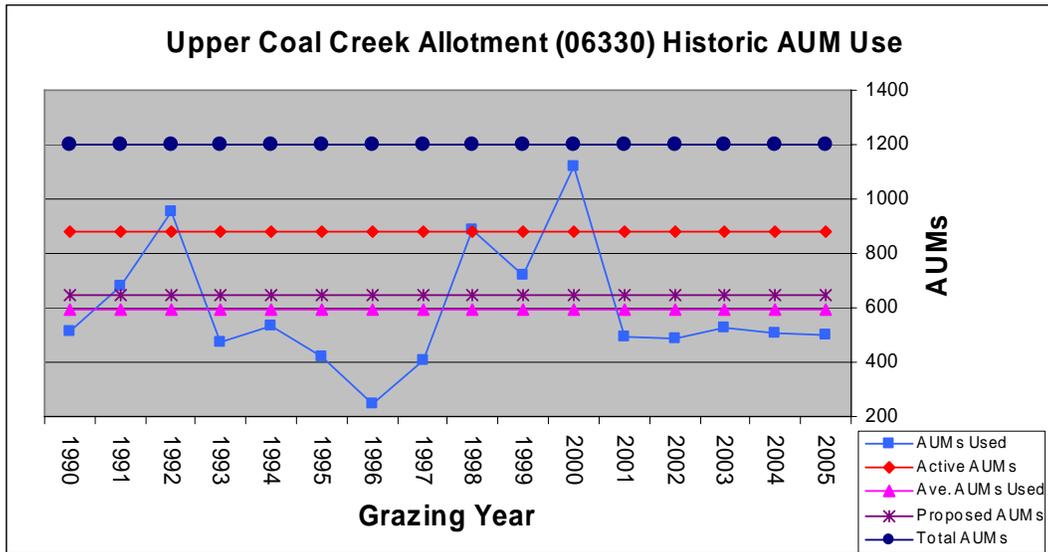
The tables below reflect the billed AUMs (Historic AUM Use) for the Spooky Mountain and Upper Coal Creek allotments by grazing year (03/01-02/28). AUMs authorized are based upon billing from a submitted grazing application before the grazing season begins.

Spooky Mountain Allotment - Historic AUM Use	
Grazing Year (03/01-02/28)	AUMs Authorized
2005	0
2004	1994
2003	2262
2002	2798
2001	1656
2000	2798
1999	963
1998	167
1997	1122
1996	716
1995	1177
1994	992
1993	2419
1992	1669
1991	1041
1990	841
Average AUM Use	1413
Active AUMs	2800
% of Active AUMs Used.	50%

Upper Coal Creek Allotment - Historic AUM Use	
Grazing Year (03/01-02/28)	AUMs Authorized
2005	499
2004	506
2003	528
2002	489
2001	491
2000	713
1999	1118
1998	884
1997	405
1996	248
1995	423
1994	534
1993	471
1992	955
1991	677
1990	511
Average AUM Use	591
Active AUMs	880
% of Active AUMs Used.	67%

Environmental Consequences of the Proposed Action: Refer to the Vegetation section of this document for greater analysis of rangeland vegetation impacts associated with the proposed action.

The following tables display the historic AUM use on the Upper Coal Creek and Spooky Mountain allotments in relation to current active AUMs, average AUMs utilized, and proposed AUMs.



Upper Coal Creek allotment: The following tables show the carrying capacity (Animal Unit Months, AUMs) of livestock for the Upper Coal Creek allotment. An AUM is the amount of forage necessary for the sustenance of 5 sheep (1 cow) for a period of 1 month. The table is broken down by acres within an ecological site and acres per AUM, which determines AUMs for those acres when divided. Cross Mountain Ranch’s submitted *Grazing Application for Permit*

Renewal was developed with the BLM using the Livestock Grazing Capacity (see table below) analysis of forage production to determine the rangeland's available forage contribution (e.g. AUMs). Also, the tables below are based upon a moderate stocking level that is generally less than the stocking rates recommended by the Natural Resources Conservation Service (NRCS) for the specific ecological sites. The reason for this is in consideration of a moderate stoking level that meets Public Land Health Standards in relation to the rangeland's carrying capacity and current rangeland conditions.

Upper Coal Creek Allotment (06330), Livestock Grazing Capacity for BLM Lands					
Unit	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam	79.6	8	10
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes	377.4	7	54
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltedert/Clayey Saltedert	1216.6	8	152
28D	Forelle loam,3-12%slopes	Rolling Loam	52.8	7	8
RG	Gullied land	None	215.2	35	6
X110	Kemmerer-Yamo Complex,5-30%slopes	Clayey Slopes/Clayey Foothills	269.6	8	34
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	852.1	8	107
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	1004.0	6	167
201	Pavillion-Degater Complex,3-20%slopes	Semidesert Loam/Clayey Slopes	392.4	7	56
11E	Rentsac-Moyerson-Complex,25-65%slope	PJ woodlands/PJ woodlands	36.6	20	2
122	Schooner-Rock outcrop Complex,5-45%slopes	PJ woodlands/None	74.7	25	3
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	650.3	30	22
133	Torriorthents-Rock Outcrop, Shale, Complex, Steep	Stoney Foothills	296.7	12	25
123	Typic Natrargids, 0-5%slopes	None	36.4	10	4
93	Wallson-Tricera Complex,3-15%slopes	Semidesert SL/Semidesert SL	93.0	7	13
32D	Yamo Loam, 3-5%slopes	Clayey Foothills	15.8	8	2
Totals:			5663.2		663
				Acres/AUM:	8.5

Upper Coal Creek Allotment (06330), Livestock Grazing Capacity for Private Lands					
Data	Soil Unit	Ecological Site	Pvt Acres	Acres / AUM	Pvt AUMs
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Saltedert	133.8	8	17
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes/Semidesert Loam	34.0	7	5
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltedert/Clayey Saltedert	314.8	7	45
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	127.4	8	16
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	531.3	6	89
201	Pavillion-Degater Complex,3-20%slopes	Semidesert Loam/Clayey	122.0	7	17

Upper Coal Creek Allotment (06330), Livestock Grazing Capacity for Private Lands					
Data	Soil Unit	Ecological Site	Pvt Acres	Acres / AUM	Pvt AUMs
		Slopes			
122	Schooner-Rock outcrop Complex,5-45%slopes	PJ woodlands/None	2.8	25	0
133	Torriorthents-Rock Outcrop, Shale, Complex, Steep	Stoney Foothills	24.6	12	2
Totals:			1290.7		191
				Acres/AUM:	6.8

Upper Coal Creek Allotment (06330), Livestock Grazing Capacity for State Lands					
Data	Soil Unit	Ecological Site	State Acres	Acres / AUM	State AUMs
202	Deaver-Avalon complex,5-45%slopes	Clayey Slopes/Semidesert Loam	20.5	9	2
X121	Deaver-Chipeta silty clay loam, 3-35% slopes	Clayey Salt desert/Clayey Salt desert	219.3	8	27
RG	Gullied land	None	23.5	35	1
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	236.0	8	30
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	149.8	6	25
133	Torriorthents-Rock Outcrop ,Shale, Complex, Steep	Stoney Foothills	22.9	12	2
Totals:			672.1		87
				Acres/AUM	7.8

The following table (Acres & AUM Breakdown) is a summarization of the individual Livestock Grazing Capacity tables above for the Upper Coal Creek allotment. The Percent Public Land (% PL), which is the percentage of BLM AUMs in relation to total AUMs, was determined for the allotment at 71% PL.

Acres & AUM Breakdown for the Upper Coal Creek Allotment (06330): Proposed Livestock Grazing Capacity											
BLM AUMs	BLM Acres/AUM	State AUMs	State Acres/AUM	Pvt AUMs	Pvt Acres/AUM	Tot AUMs: (BLM, St, Pvt)	% PL	BLM Acres	State Acres	Pvt Acres	Total Acres
663	9	87	8	191	7	941	71	5663	672	1291	7626

Spooky Mountain allotment: The following tables show the carrying capacity (Animal Unit Months, AUMs) of livestock for pastures of the Spooky Mountain allotment. Cross Mountain Ranch's submitted *Grazing Application for Permit Renewal* was developed with the BLM using the Livestock Grazing Capacity (see table below) analysis of forage production to determine the rangeland's available forage contribution (e.g. AUMs). Also, the tables below are based upon a moderate stocking level that is generally less than the stocking rates recommended by the Natural Resources Conservation Service (NRCS) for the specific ecological sites. The reason for this is in consideration of a moderate stoking level that meets Public Land Health Standards in relation to the rangeland's carrying capacity and current rangeland conditions.

Spooky Mountain Allotment (06316), Staley Mine Pasture, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	3.2	10	0
15	Castner channery loam, 5-50%slopes	Pinyon-Juniper woodlands	7.8	20	0
25	Colorow sandy loam	Sandy Saltdesert	1.4	10	0
33	Forelle loam, 3-8%slopes	Rolling Loam	130.1	8	16
41	Havre loam,0-4%slopes	Foothill Swale	22.3	7	3
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	1649.3	9	183
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	43.1	8	5
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	374.7	20	19
73	Rentsac channery loam,5-50%slopes	Pinyon Juniper woodlands	294.6	20	15
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	1712.0	20	86
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	592.8	20	30
78	Rock Outcrop	None	80.3	40	2
90	Torrifluvents, gullied	None	147.9	25	6
91	Torriorthents-Rock Outcrop, complex,15-90%slopes	Stoney Foothills	67.4	12	6
95	Uffens loam,0-5%slopes	Alkaline Slopes	21.6	10	2
W	Water	None	0.6	0	0
104	Yamac Loam,2-15%slope	Rolling Loam	104.5	8	13
Totals:			5253.6		386
			Acres/AUM		13.6

Spooky Mountain Allotment (06316), Scullion Gulch Pasture, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
225	Avalon-Persayo-Degater complex,3-30%slopes	Semi desert Loam/ Clayey Slopes	88.7	9	10
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Saltdesert	22.6	12	2
33	Forelle loam, 3-8%slopes	Rolling Loam	449.7	8	56
41	Havre loam,0-4%slopes	Foothill Swale	281.3	7	40
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	16.8	7	2
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	1532.0	9	170
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	550.5	8	69
73	Rentsac channery loam,5-50%slopes	Pinyon Juniper woodlands	4.1	20	0
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	2294.0	20	115
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	451.8	20	23
78	Rock Outcrop	None	7.9	40	0

Spooky Mountain Allotment (06316), Scullion Gulch Pasture, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	72.0	35	2
90	Torrifluents, gullied	None	152.5	25	6
93	Turley fine sandy loam,0-3%slopes	Alkaline Slopes	89.3	8	11
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	667.3	10	67
1C	Turley loam,Saline,1-8%slopes	Alkaline Slopes	135.8	10	14
104	Yamac Loam,2-15%slope	Rolling Loam	262.0	8	33
Totals:			7078.3		620
				Acres/AUM	11.4

Spooky Mountain Allotment (06316), Scullion Gulch Pasture, Livestock Grazing Capacity for State Lands					
Data	Soil Unit	Ecological Site	State Acres	Acres / AUM	State AUMs
225	Avalon-Persayo-Degater complex,3-30%slopes	Semi desert Loam/Clayey Slopes	21.1	9	2
X121	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Salteddesert	162.2	12	14
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	32.1	9	4
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	179.8	7	26
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	0.2	9	0
9E	Moyerson-Rentsac Complex,15-45%slopes	Clayey Slopes/PJ woodlands	33.0	9	4
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	1.5	20	0
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	119.6	35	3
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	3.9	10	0
1C	Turley loam,Saline,1-8%slopes	Alkaline Slopes	84.4	10	8
Totals:			637.6		61
				Acres/AUM	10.5

Spooky Mountain Allotment (06316), Upper Raven Pasture, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
5	Badland	None	709.0	35	20
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	67.8	10	7
8	Billings-Torrifluents complex,gullied,0-5%slopes	Alkaline Slopes/None	106.8	10	11
16	Chipeta silty clay loam,3-25%slopes	Clayey Salteddesert	138.8	12	12
18	Chipeta-Killpack silty clay loam,3-15%slopes	Clayey Salteddesert	507.8	12	42
46	Kinnear fine landy loam,1-5%slopes	Loamy Salteddesert	95.5	12	8
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	862.3	9	96
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	151.2	8	19
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	522.0	20	26

Spooky Mountain Allotment (06316), Upper Raven Pasture, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	2166.6	20	108
78	Rock Outcrop	None	103.1	35	3
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	37.7	10	4
Totals:			5468.6		356
				Acres/AUM	15.4

Spooky Mountain Allotment (06316), Skyline Reservoir, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
12D	Avalon-Mack complex,1-12%slopes	Semidesert Loam/Loamy Salt desert	87.2	9	10
225	Avalon-Persayo-Degater complex,3-30%slopes	Semi desert Loam//Clayey Slopes	2616.5	9	291
5	Badland	None	375.5	40	9
7	Billings silty clay loam,0-5%slopes	Alkaline Slopes	147.1	10	15
8	Billings-Torrifluents complex,gullied,0-5%slopes	Alkaline Slopes/None	251.2	10	25
16	Chipeta silty clay loam,3-25%slopes	Clayey Salt desert	55.2	12	5
18	Chipeta-Killpack silty clay loam,3-15%slopes	Clayey Salt desert	234.2	12	20
X12 1	Deaver-Chipeta silty clay loam,3-35%slopes	Clayey Salt desert	54.3	12	5
33	Forelle loam, 3-8%slopes	Rolling Loam	48.0	8	6
138	Massadona Silty Clay Loam,0-12%slopes	Clayey Slopes	34.1	9	4
200	Massadona-Youngston loams,Moist,1-8%slopes	Foothill Swale	922.0	7	132
53	Moyerson stony clay loam,15-65%slopes	Clayey Slopes	2170.7	9	241
9E	Moyerson-Rentsac Complex,15-45%slopes	Clayey Slopes/PJ woodlands	0.5	9	0
64	Piceance fine sandy loam,5-15%slopes	Rolling Loam	132.5	8	17
70	Redcreek-Rentsac complex,5-30%slopes	PJ woodlands/PJ woodlands	13.5	20	1
11E	Rentsac-Moyerson-Complex,25-65%slope	PJ woodlands/PJ woodlands	2.1	20	0
74	Rentsac-Moyerson-RockOutcrop,complex,5-65%slps	PJ Woodlands/Clayey Slopes	1628.5	20	81
75	Rentsac-Piceance complex,2-30%slopes	PJ woodland/Rolling Loam	34.3	20	2
78	Rock Outcrop	None	62.6	40	2
RL	Rock Outcrop-Torriorthents Complex, Very Steep	None	98.3	35	3
X12 2	Schooner-Tricera loamy sands,5-25%slopes	PJ woodlands/Semidesert SL	4.5	20	0
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	347.1	12	29
93	Turley fine sandy loam,0-3%slopes	Alkaline Slopes	54.4	10	
94	Turley fine sandy loam,3-8%slopes	Alkaline Slopes	221.5	10	

Spooky Mountain Allotment (06316), Skyline Reservoir, Livestock Grazing Capacity for BLM Lands					
Data	Soil Unit	Ecological Site	BLM Acres	Acres / AUM	BLM AUMs
1C	Turley loam, Saline, 1-8% slopes	Alkaline Slopes	56.4	10	6
123	Typic Natrargids, 0-5% slopes	None	11.3	35	0
Totals:			9663.3		904
Acres/AUM					10.7

Spooky Mountain Allotment (066316), Skyline Reservoir, Livestock Grazing Capacity for State Lands					
Data	Soil Unit	Ecological Site	State Acres	Acres / AUM	State AUMs
225	Avalon-Persayo-Degater complex, 3-30% slopes	Semi desert Loam/Clayey Slopes	350.4	9	39
100	Badland	None	1.4	40	0
200	Massadona-Youngston loams, Moist, 1-8% slopes	Foothill Swale	93.7	7	13
9E	Moyerson-Rentsac Complex, 15-45% slopes	Clayey Slopes/PJ woodlands	9.1	9	1
11E	Rentsac-Moyerson-Complex, 25-65% slope	PJ woodlands/PJ woodlands	47.4	20	2
X122	Schooner-Tricera loamy sands, 5-25% slopes	PJ woodlands/Semidesert SL	1.9	20	0
101	Torriorthents-Rock Outcrop, Sandstone Complex, VS	Stoney Foothills	136.8	12	
123	Typic Natrargids, 0-5% slopes	None	0.1	35	0
Totals:			640.6		55
Acres/AUM					11.7

The following table (Acres & AUM Breakdown) is a summarization of the individual Livestock Grazing Capacity tables above for the Spooky Mountain allotment.

Acres & AUM Breakdown for the Spooky Mountain Allotment (06316): Proposed Livestock Grazing Capacity										
Pastures of the Spooky Mtn Allotment	BLM AUMs	BLM Acres/AUM	State AUMs	State Acres/AUM	Tot AUMs: (BLM, Pvt)	% PL	BLM Acres	State Acres	Total Acres	% BLM Acres
Staley Mine	386	14	0	-	386	100%	5254	0	5254	100%
Scullion Gulch	620	11	61	10	681	91%	7078	638	7716	92%
Upper Raven Park	356	15	0	-	356	100%	5469	0	5469	100%
Skyline Reservoir	904	11	55	12	959	94%	9663	641	10304	94%
Totals:	2,266	12	116	11	2,382	95%	27464	1278	28742	96%

As shown in the table below of the proposed grazing permit, the proposed active AUMs (2241-Spooky Mountain, 644-Upper Coal Creek) are within the livestock grazing capacity for the

Spooky Mountain (2266 AUMs) and Upper Coal Creek (663 AUMs) allotments. Therefore, the proposed grazing permit will aid in achieving plant maintenance through a reduction in livestock numbers and shortened growing season use (refer to Vegetation section).

Proposed Grazing Permit for Cross Mountain Ranch (0501485)										
Allotment		Livestock		Date		% PL	Scheduled AUMs	Active AUMs	Susp. AUMs	Total AUMs
Name	No.	Number	Kind	On	Off					
Spooky Mountain	06316	2500	S	11/20	02/28	96%	1594	2241	0	2241
		2500	S	03/01	04/10	96%	647			
Upper Coal Creek	06330	2000	S	01/22	02/28	71%	355	644	0	644
		2000	S	03/01	03/31	71%	289			

As shown in the Vegetation Section, the proposed action is expected to improve livestock grazing use in respects to a reduced grazing intensity (AUMs), a shorter grazing season, and a reduction of AUMs used during the plant growing season. These situations will provide an opportunity for plants to receive less defoliation in relation to the Current Management Alternative, thereby giving the vegetation a greater opportunity for replenishment of root reserves, biomass accumulation, and plant propagation. Therefore, the proposal will aid in the long-term sustainability of the rangelands to produce forage for livestock.

The proposed grazing permit’s active AUMs are based upon the above Livestock Carrying Capacity tables. Therefore, the proposal alters active AUMs to a level that is in accordance with the ability of the rangelands to produce forage, be grazed, and still meet Public Land Health Standards over time.

Early seral ecological sites (Upper Coal Creek- 931 acres, Spooky Mountain-11,140 acres) dominated by cheatgrass provide limited forage and lowered yearly production for livestock in comparison to healthy, robust rangelands. Mid seral sites (Upper Coal Creek- 960 acres, Spooky Mountain-5,833 acres) provide favorable forage and still has a cheatgrass component, yet late seral (Upper Coal Creek-1095 acres, Spooky Mountain- 2,810 acres) and PNC (Upper Coal Creek-2679 acres, Spooky Mountain- 7,654 acres) provide the greatest amount of forage in a sustainable, long-term manner within nominal cheatgrass populations.

It is anticipated that the management of the rangelands by Cross Mountain Ranch will not be impaired by the implementation of the proposed action. The ranch was instrumental in the development of the proposal and has applied for this use with their submitted *Grazing Application of Permit Renewal*.

Implementation of the proposed action will further enhance the ability of the rangelands to meet the various Public Land Health Standards in the future.

Environmental Consequences of the Continuation of Current Management Alternative:
The table below is the current grazing permit authorized by Cross Mountain Ranch.

Current Grazing Permit for Cross Mountain Ranch (0501485)

Allotment		Livestock		Date		% PL	Scheduled AUMs	Active AUMs	Susp. AUMs	Total AUMs
Name	No.	Number	Kind	On	Off					
Spooky Mountain	06316	2000	S	11/20	02/28	96%	1275	2800	582	3382
		672	S	12/01	02/28	96%	382			
		2000	S	03/01	05/09	96%	884			
		672	S	03/01	04/30	96%	259			
Upper Coal Creek	06330	2000	S	01/22	02/28	81%	405	880	321	1201
		2000	S	03/01	04/14	81%	479			

The tables below are the livestock grazing capacity as allocated on the current grazing permit for the Upper Coal Creek and Spooky Mountain allotments.

Acres & AUM Breakdown for the Upper Coal Creek Allotment (06330): Current Livestock Grazing Capacity											
BLM AUMs	BLM Acres/AUM	State AUMs	State Acres/AUM	Pvt AUMs	Pvt Acres/AUM	Tot AUMs: (BLM, St, Pvt)	% PL	BLM Acres	State Acres	Pvt Acres	Total Acres
880	6	75	9	131	10	1,086	81	5663	672	1291	7626

Acres & AUM Breakdown for the Spooky Mountain Allotment (06316): Current Livestock Grazing Capacity										
	BLM AUMs	BLM Acres/AUM	State AUMs	State Acres/AUM	Tot AUMs: (BLM, Pvt)	% PL	BLM Acres	State Acres	Total Acres	% BLM Acres
Totals:	2,800	10	117	11	2,917	96%	27464	1278	28742	96%

The current grazing permit (Upper Coal Creek-880 AUMs, Spooky Mountain-2800 AUMs) exceeds the Proposed Livestock Grazing Capacity for BLM lands (Upper Coal Creek- 663 AUMs, Spooky Mountain-2266 AUMs).

Over-allocated AUMs results in an excess of 559 permitted AUMs (2800 current active AUMs versus 2241 proposed active AUMs) over the grazing capacity on the Spooky Mountain allotment. For the Upper Coal Creek allotment, the combination of over-allocated AUMs results in an excess of 236 permitted AUMs (880 current active AUMs versus 644 proposed active AUMs) over the grazing capacity on the Upper Coal Creek allotment. This creates an opportunity for excessive livestock use beyond the rangelands capacity to sustain grazing in a long-term manner consistent with vegetation production.

As shown from the Historic AUMs Use table above, the permittees have typically operated below (Spooky Mountain-1413 AUMs, Upper Coal Creek-594 AUMs) their full active AUM level (Spooky Mountain-2800 AUMs, Upper Coal Creek-880 AUMs) for both allotments. A prolong drought that still persist has accounted for part of this lower historical AUM level. Also, Cross Mountain Ranch has typically left the Spooky Mountain allotment in late March or early April since their acquisition of the allotment in 2000. The season of use on the Upper Coal Creek allotment has typically been as outlined on the grazing permit.

Environmental Consequences of the No Grazing Alternative: Under this alternative, Cross Mountain Ranch would not have the ability to authorize their existing grazing permit (0501485) for the Spooky Mountain and/or Upper Coal Creek allotment. Nor would the ranch have the option of leasing the grazing preference to another livestock operator.

Within the Spooky Mountain allotment non-federally controlled acreage (1279 acres of Colorado State Lands) accounts for 4% (93 AUMs) of the total forage production (2916 AUMs). On the Upper Coal Creek allotment non-federally controlled acreage (672 acres of Colorado State Lands, 1291 Acres of private) accounts for 29% (263 AUMs) of the total forage production (907 AUMs). Without the adjoining BLM grazing permits on these allotments, Cross Mountain Ranch would not be able to effectively utilize this private and Colorado State held forage as it is open to BLM lands and would not be economically or environmentally feasible to fence separate

Therefore, without the BLM allocated forage and/or private forage, it would place an economical burden on the ranch and it likely would not be able to continue in its current state as a sheep operation.

Mitigation: None

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from the proposed action would not exceed those discussed in the White River Resource Area RMP and/or White River Resource Area Grazing Management Environmental Impact Statement (EIS).

REFERENCES CITED:

Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC), 2005a. Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin. Amended December 12, 2005 and Effective March 2, 2006.

CDPHE-WQCC, 2006b. "Status of Water Quality in Colorado – 2006, The Update to the 2002 and 2004 305(b) Report," April 2006.

CDPHE-WQCC, 2006c. "Regulation No. 93, 2006 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs," effective April 30.

CDPHE-WQCC, 2006d. "Regulation No. 94, Colorado's Monitoring and Evaluation List," effective April 30.

Rosgen, Dave. 1996. Applied River Morphology. Wildland Hydrology, Pagosa Springs, Colorado: 4-6, 4-7, 4-10 pp.

Topper, R., K.L. Spray, W. H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Ground Water Atlas of Colorado. Colo. Geol. Surv. Special Pub. 53.

PERSONS / AGENCIES CONSULTED: A Public Notice of the NEPA action is posted on the White River Field Office Internet website at the Colorado BLM Home Page asking for public input on Grazing Permit renewals and the assessment of public land health standards within the White River Field Office area. Local notification is published in the Rio Blanco Herald Times newspaper located here in Meeker, Colorado on a monthly basis. The Grazing Advisory Board was notified of impending Grazing Permit renewals. Also, individual letters are sent to the lessees/permittees informing them that their grazing permit is up for renewal and request any information they want included in or taken into consideration during the renewal process.

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Gabrielle Elliott	Archaeologist	Cultural Resources
Michael Selle	Archaeologist	Paleontological Resources
Jed Carling	Rangeland Specialist	Invasive, Non-Native Species
Lisa Belmonte	Wildlife Biologist	Migratory Birds
Lisa Belmonte	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Melissa J. Kindall	Hazmat Collateral; Range Technician	Wastes, Hazardous or Solid; Wild Horses
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Jed Carling	Rangeland Specialist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Jed Carling	Rangeland Specialist	Soils
Jed Carling	Rangeland Specialist	Vegetation
Lisa Belmonte	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Jed Carling	Rangeland Specialist	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Chris Ham	Outdoor Recreation Planner	Visual Resources

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2006-196-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to renew the grazing permit for the Spooky Mountain allotment for a period of 10 years as described in the proposed action with the addition of the mitigation listed below.

MITIGATION MEASURES:

- Continued monitoring and evaluation of rangeland health conditions will be necessary to modify the carrying capacity of the allotment due to drought conditions.
- If livestock grazing is shown to be altering the ground cover to less desirable species, or direct physical damage or suppressed capability for reproduction to aspen is found, livestock grazing of the individual sites would be prevented by either constructing barriers or avoidance (herding).
- Water sources would not be developed within aspen habitat.
- 1] Appropriate mitigation measures may be identified in consultation with Colorado SHPO within the ten-year period of this permit. It is recommended that a renewal be issued for this permit subject to the allotment pasture specific stipulations.
- 2] The following mitigation measures will be followed during operation, and maintenance of the grazing permit renewal:
 - All persons in the area who are associated with this permit must be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons will be subject to prosecution.
 - The BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the authorized officer.
 - If in connection with operations under this contract the project proponent, his contractors, subcontractors, or the employees of any of them, discovers, encounters or becomes aware of any objects or sites of cultural or paleontological value or scientific interest such as historic or prehistoric ruins, graves or grave markers, fossils, or artifacts, the proponent shall immediately suspend all operations in the vicinity of the

cultural or paleontological resource and shall notify the BLM authorized officer of the findings. Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer.

- If noxious weeds are identified within the Upper Coal Creek and/or Spooky Mountain allotments and occur on BLM administrated lands, they will be treated by a certified pesticide applicator either by the BLM or permittee. If livestock grazing practices have resulted in the establishment and/or expanded presence of noxious weeds, the permittee will be responsible for the control of these weeds as directed by the BLM.
- If noxious weeds are identified within the Upper Coal Creek and/or Spooky Mountain allotments and occur on BLM administrated lands, they will be treated by a certified pesticide applicator either by the BLM or permittee. If livestock grazing practices have resulted in the establishment and/or expanded presence of noxious weeds, the permittee will be responsible for the control of these weeds as directed by the BLM.
- If livestock grazing is shown to be altering the ground cover to less desirable species, or direct physical damage or suppressed capability for reproduction to *Gilia stenothyrsa* (narrow-stem gilia) is found, livestock grazing of the individual sites would be prevented by either constructing barriers or avoidance (herding). Water sources would not be developed within the habitat.
- The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed action.
- Compliance monitoring for vegetation improvement would help identify if additional actions were needed to comply with the *Clean Water Act*. In addition, continued monitoring of stream channel morphology (Rosgen survey data) will be essential to evaluate the impacts of increased livestock numbers on the White River and its affected tributaries.
- Continued monitoring of stream channel morphology (Rosgen survey data) will be essential to evaluate the impacts of increased livestock numbers on the White River and its affected tributaries.
- The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
 - whether the materials appear to be of noteworthy scientific interest
 - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)
- If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

COMPLIANCE/MONITORING: Refer to the Monitoring and Evaluation section within the proposed action of this document.

NAME OF PREPARER: Jed Carling

NAME OF ENVIRONMENTAL COORDINATOR:

SIGNATURE OF AUTHORIZED OFFICIAL:



Field Manager

DATE SIGNED:

09/20/06

ATTACHMENTS:

- Figure 1: Map of the Upper Coal Creek Allotment
- Figure 2: Soils on the Upper Coal Creek Allotment
- Figure 3: BLM Acres not Meeting Public Land Health Standards on the Upper Coal Creek Allotment.
- Figure 4 Map of the Spooky Mountain Allotment
- Figure 5: Soils on the Spooky Mountain Allotment
- Figure 6: BLM Acres Not Meeting Public Land Health Standards on the Spooky Mountain Allotment.
- Figure 7: Proper Functioning Conditions Assessment of the Stinking Water Creek Drainage.