

**U.S. Department of the Interior
Bureau of Land Management
Glenwood Springs Field Office
50629 US Highway 6 & 24
Glenwood Springs, CO 81601**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2008-045 EA

CASEFILE/PROJECT NUMBER: 0507621

PROJECT NAME: Grazing Permit Renewal Clough Alber and East Fork allotments

LEGAL DESCRIPTION: T 5 & 6 S, R 95, 96, and 97 W. Roan Plateau; See Attached Maps, Clough Alber allotment No. 18909 and East Fork allotment No. 18910.

APPLICANT: Jason & Susan Lynch

INTRODUCTION AND BACKGROUND: An Allotment Management Plan (AMP) is currently being developed due to concerns with the condition of the riparian areas on the Clough Alber allotment. The AMP will address those issues and involve management prescriptions that will be used to improve distribution and reduce the amount of use by livestock in the riparian areas. The Clough Alber allotment is currently the only allotment on the Roan Plateau without an AMP. It is expected that the specific resource objectives, management prescriptions, and range improvements needed to implement the plan will be identified by the resources staff and be completed this year. The AMP will be implemented upon completion and a revised permit issued.

PROPOSED ACTION: The Proposed Action is to renew a term grazing permit for Jason and Susan Lynch on the Clough Alber and East Fork allotments. The scheduled grazing use and grazing preference animal unit months (AUMs) will remain unchanged from the previous permit. Due to the timing of the base property lease, the permit would be issued for a 2-year period. The proposed action also involves analysis of the following interim grazing system until an AMP can be implemented. In the interim the livestock will be moved onto the southern portion of the allotment. They will spend a couple of days in the Yellow Jacket and Raspberry Creek area. Then they will be pushed north to the Trapper Creek area where they will spend about 40 days. Then they would be moved to the Northwater Creek area where they would spend about 40 days. And finally they would be moved into the Yellow Jacket and Raspberry Creek area where they would spend the remaining 40 days before moving off the allotment. During the interim management an electric fence will be placed in Section 5 around the willow plantings in Northwater Creek to protect and enhance the area. The proposed action is in accordance with 43 CFR 4130.2. The tables below summarize the level of scheduled grazing use and grazing preference for the proposed permit renewal and transfer.

Scheduled Grazing Use (mandatory terms and conditions):

Permittee	Allotment Name & No.	Livestock Kind & No.	Period of use	%PL	AUMs
Jason and Susan Lynch	Clough-Alber No. 18909	134 Cattle	06/16 – 10/15	100	537
	East Fork No. 18910	112 Cattle	06/16 – 10/15	100	449

Grazing Preference (AUMs):

Permittee	Allotment Name & No.	Active AUMs	Suspended AUMs	Permitted AUMs
Jason and Susan Lynch	Clough-Alber No. 18909	540	414	954
	East Fork No. 18910	448	252	700

Until the completion of the Clough-Alber AMP the following terms and conditions will be included on the permit as interim management:

- Grazing use in the East Fork Common allotment will be in accordance with the East Fork AMP.
- Maintenance of range improvements is required and shall be in accordance with all approved cooperative agreements and range improvement permits. Maintenance shall be completed prior to turnout.
- An electric fence will be installed around the willow planting project area in upper North Water Creek. The permittee will be responsible for maintenance during interim management.
- Grazing in the riparian areas by livestock should leave an average minimum 4-inch stubble height of herbaceous vegetation and should not exceed an average utilization of 40% of the current year's growth for browse species. Within the uplands, average livestock utilization levels will be limited to 50% by weight on key grass species. Livestock will be moved at least a half mile away or removed from the allotment immediately when the above utilization levels occur.
- If streambank damage reaches or exceeds 10% of the key stream reaches (the occupied fishery portion) of Northwater Creek, Trapper Creek, or the livestock assessable portions of Raspberry Creek and Yellow Jacket Creek and livestock are identified as being a significant contributing factor, livestock will be moved at least a half mile away or removed from the allotment immediately.
- The permittee must identify either by phone or in writing the ear tag numbers of the livestock associated with the Clough Alber allotment prior to turn out. Special ear tags may be required if ear tag numbers are not sufficient.
- A rider shall be provided at least one day a week for the purpose of promoting optimum distribution of livestock.

- The permittee and all persons specifically associated with grazing operations must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with allotment operations under this authorization any of the above resources are encountered, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36CFR800.110 & 112, 43CFR 0.4).

ALTERNATIVES CONSIDERED BUT ELIMINATED:

The No Grazing alternative has been eliminated from further consideration. No unresolved conflicts involving alternative use of available resources have been identified. For this reason, discontinuance of grazing use (No Grazing) will not be considered or assessed.

The No Action alternative has also been eliminated from further consideration. The No Action alternative would involve reissuing the permit/lease with current terms and conditions and no additional stipulations would be added to the permit/lease. Reissuing the permit/lease without the new stipulations would be unrealistic due to current Washington Office and Colorado State Office policies.

Combining the East Fork allotment with the Clough-Alber allotment. This would allow for high intensity-short duration use on the allotment. It is assumed that this use would be beneficial to the riparian areas allowing more time to recover. The proposal was not favorable to the East Fork permittees because they felt that there was a lack of water on the Clough-Alber, there would be too many cattle in one pasture at any given time and they would need to use two pastures at a time, and they felt that riparian issues on the Clough-Alber allotment would spread to the East Fork allotment. Therefore, this alternative was not further analyzed.

NEED FOR PROPOSED ACTION:

These permits/leases are subject to renewal or transfer at the discretion of the Secretary of the Interior for a period of up to ten years. The U.S. Bureau of Land Management has the authority to renew the livestock grazing permits/leases consistent with the provisions of the Taylor Grazing Act, Public Rangelands Improvement Act, Federal Land Policy and Management Act, and Glenwood Springs Field Office's Resource Management Plan/Environmental Impact Statement. This Plan/EIS has been amended by Standards for Public Land Health in Colorado.

The action is needed for the following reasons: (1) to meet the livestock grazing management objective of the Resource Management Plan of providing 56,885 animal unit months of livestock forage commensurate with meeting public land health standards, (2) to continue to allow livestock grazing on the specified allotment, (3) to meet the forage demands of local livestock operations, (4) to provide stability to these operations and help preserve their rural

agricultural lands for open space and wildlife habitat, and (5) to allow use of native rangeland resource for conversion into protein suitable for human consumption.

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: Glenwood Springs Resource Management Plan.

Date Approved: Jan. 1984, revised 1988, amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement; amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance.

Decision Number/Page: The action is in conformance with Administrative Actions (pg. 5) and Livestock Grazing Management (pg. 20).

Decision Language: Administrative actions states, “Various types of actions will require special attention beyond the scope of this plan. Administrative actions are the day-to-day transactions required to serve the public and to provide optimal use of the resources. These actions are in conformance with the plan”. The livestock grazing management objective as amended states, “To provide 56,885 animal unit months of livestock forage commensurate with meeting public land health standards.”

STANDARDS FOR PUBLIC LAND HEALTH:

The Colorado Standards for Public Land Health consist of 5 standards: upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands.

The BLM is in the process of completing land health assessments on a landscape basis. A formal land health assessment was completed on the Clough Alber and East Fork allotments in 1999. The inventory team found that all riparian areas were either properly functioning or functioning at risk with an upward trend. Standards 3 and 4 were not being achieved do to the decline of populations of the BLM sensitive species, Colorado River cutthroat trout. The primary cause was competition with non-native brook trout in East Fork Parachute Creek and its tributaries. At the time of the assessment, existing livestock grazing was not determined to be a significant factor in failing to achieve the standards.

The environmental analysis herein must address whether the proposed action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions relative to these resources. These are discussed in the appropriate sections below.

COMPLIANCE WITH SECTION 302 OF FLPMA RELATIVE TO THE COMB WASH DECISION

A review of applicable planning documents and a thoughtful consideration of new issues and new demands for the use of the public lands involved in this allotment have been made. This analysis concludes that the current land and resource uses are appropriate.

Reasons for the conclusion are: No new issues or new demands for the use of public lands involved in this grazing allotment have been identified since approval of the land use plan and amendments.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and no action alternative. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions.

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the proposed action and alternative (Table 2). Only those mandatory critical elements that are present and affected are described in the following narrative.

NON-CRITICAL ELEMENTS

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

In addition to the mandatory critical elements, there are additional resources that would be impacted by the proposed action and alternative. These are presented under Other Affected Resources.

Table 2. Critical Elements of the Human Environment									
<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>		<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality	X			X	Prime or Unique Farmlands		X		X
ACECs	X		X		Special Status Species*	X		X	
Cultural Resources	X			X	Wastes, Hazardous or Solid		X		X
Environmental Justice	X			X	Water Quality, Surface and Ground*	X		X	
Floodplains		X		X	Wetlands and Riparian Zones*	X		X	
Invasive, Non-native Species	X			X	Wild and Scenic Rivers	X		X	
Migratory Birds	X		X		Wilderness/ WSAs		X		X
Native American Religious Concerns	X			X					

CRITICAL ELEMENTS

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: The Clough-Alber allotment falls within the boundaries of the Trapper Creek ACEC and the East Fork allotments falls within the boundaries of the Trapper Creek ACEC and the East Fork Parachute Creek ACEC. The Trapper Creek ACEC was designated to protect populations of and habitat for the Colorado River cutthroat trout as well as several hanging gardens communities. East Fork Parachute Creek ACEC was designated to protect the Colorado River cutthroat trout, scenic values, and several significant riparian plant communities.

Environmental Consequences/Mitigation: Current livestock grazing on the Clough-Alber allotment is resulting in impacts to riparian and stream habitats which support the cutthroat trout. Grazing impacts include localized bank trampling, widening of the stream, and loss of vegetative cover and shading along the stream channel. These impacts result in increased sedimentation and increased water temperatures which negatively impact the trout.

Improperly managed livestock grazing may also impact significant riparian plant communities by changing the structure, cover and species composition of riparian vegetation. Overgrazing which results in a reduction in vegetative cover also provides a niche for the invasion of noxious weeds and other exotic species.

Scenic values within the ACEC are unlikely to be affected by the proposed grazing management.

Implementation of the Terms and Conditions included in this two-year permit, along with adequate compliance and monitoring, should help to maintain or improve the resource values for which the ACECs were designated.

CULTURAL RESOURCES and NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: Range permit renewals are undertakings under Section 106 of the National Historic Preservation Act. Additional range improvements (e.g., fences, spring improvements) are subject to compliance requirements under Section 106 and will undergo standard cultural resources inventory and evaluation procedures. During Section 106 review, a cultural resource assessment (GSFO #1008-8) was completed for the Clough-Alber and East Fork Common (#18909 & 18910) on March 18, 2008 following the procedures and guidance outlined in the 1980 National Programmatic Agreement Regarding the Livestock Grazing and Range Improvement Program, IM-WO-99-039, IM-CO-99-007, IM-CO-99-019, CO-2001-026, and CO-2002-029. The results of the assessment are summarized in the table below. A copy of the cultural resource assessment is available at the GSFO office.

Allotment Number	Acres Inventoried at a Class III level	Acres NOT Inventoried at a Class III Level	Percent (%) Allotment Inventory data Class III level	Number of Cultural Resources known in allotment	High Potential of Historic Properties (yes/no)	Management Recommendations (Additional inventory required and historic properties to be visited)
Clough-Alber 18909	4148	1818	70	37	Yes	No additional acres need to be inventoried. 47% of the allotment has 30%+ slopes.
East Fork Common 18910	5002	3460	59	18	Yes	No additional acres need to be inventoried. 55% of the allotment has 30%+ slopes.
Total	9150	5278	129	55		

Fifteen Class III cultural resource inventories have been conducted within these allotments. Eleven historic properties mostly prehistoric open camps are considered eligible or potentially eligible for listing on the National Register of Historic Places have been identified within these allotments. Unidentified historic era sites within this allotment could represent a time frame from the late 1800's through the 1950's; Native American sites could represent a time range from 200 to 10,000 years before present. Based on available data, there is a high potential for historic properties within both allotments.

Subsequent site field visits, inventory, and periodic monitoring may have to be done to identify adverse grazing impacts for the historic properties identified within the term of the permit and as funds are made available. If the BLM determines that grazing activities will adversely impact the properties, mitigation will be identified and implemented in consultation with the Colorado SHPO.

At present, there are no known areas of Native American concern within these allotments. On November 15, 2007 the Glenwood Springs Field Office mailed an informational letter and maps to the Ute Tribe (Northern Ute Tribe), Southern Ute Tribe, and the Ute Mountain Ute Tribes, identifying the proposed 2008 grazing permit renewals. No response has been received. In the past the Tribes have not had any concerns with grazing permit renewals. If new data is disclosed, new terms and conditions may have to be added to the permit to accommodate their concerns. The BLM will take no action that would adversely affect these areas or location without consultation with the appropriate Native Americans.

Environmental Consequences: The direct impacts that occur where livestock concentrate include trampling, chiseling, and churning of site soils, cultural features, and cultural artifacts, artifact breakage, and impacts from standing, leaning, and rubbing against historic structures, above-ground cultural features, and rock art. Indirect impacts include

soil erosion, gullyng, and increased potential for unlawful collection and vandalism. Continued grazing may cause substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to historic properties.

If additional historic properties are located during the subsequent range developments these properties will also be assessed for livestock grazing impacts within the term of the permit.

Mitigation: Maintenance of range improvements or new improvements will be subject the Roan Plateau Planning Area Cultural Resource Management Plan which could include cultural resource inventories, monitoring, and/or data recovery if historic properties or areas of Native American concern can not be avoided. These allotments may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM may require modification to development proposals to protect such properties, or disapprove any activity that is likely to result in damage to historic properties or areas of Native American concern.

Education/Discovery stipulation needs to be added to the lease renewal. The permittee and all persons specifically associated with grazing operations must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with allotment operations under this authorization any of the above resources are encountered, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36CFR800.110 & 112, 43CFR 0.4).

ENVIRONMENTAL JUSTICE

Affected Environment: Review of 2004 data from US Census Bureau indicates the median annual income of Garfield County averages \$50,119 and is neither an impoverished or wealthy county. Median annual income of Eagle County averages \$59,037 and is not impoverished but is considered a wealthy county. U.S. Census Bureau data from 2006 shows the minority population of Garfield and Eagle County comprises less than 0.3 % of the total population of Colorado^a.

Garfield County
Median Household Income (2004)

^a Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, Census of Population and Housing, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report
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Estimate
\$50,119

Environmental Consequences/Mitigation: The proposed action and alternatives are not expected to create a disproportionately high and adverse human health impact or environmental effect on minority or low-income populations within the area.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: A complete landscape wide survey for the present of noxious weeds and non-native species has not been conducted on the Clough Alber and East Fork Allotments. However, reports of large infestations of houndstonge and some small isolated infestations of musk thistle have been noted on both allotments. These reports represent only a small fraction of the landscape within these allotments and given the widespread nature of noxious weed infestations throughout the resource area, it is assumed that some level of infestation does exist for the remainder of land within these allotments.

Environmental Consequences/Mitigation: Wind, water, vehicles, animals, and people transport weeds. Weeds generally germinate and become established in areas of surface disturbing activities such as road construction and maintenance, vehicular traffic, big game and livestock grazing. Livestock grazing can contribute to the establishment and expansion of noxious weeds through various mechanisms. Improperly managed grazing, (over-grazing), can cause a decline in desirable native plant species and ground cover which provides a niche for noxious weed invasion. In addition, noxious weed seed can be transported and introduced to new areas by fecal deposition or by seed that clings to the animal's coat. Conversely, properly managed livestock grazing which does not create areas of bare ground and which maintains the vigor and health of native plant species, particularly herbaceous species, is not expected to cause a substantial increase in noxious weeds.

MIGRATORY BIRDS:

Affected Environment: Vegetative communities in the Clough Alber and East Fork Allotments consist primarily of mixed mountain shrub including sagebrush, oakbrush and snowberry, aspen and coniferous forest. Given the mix and diversity of vegetation present, these allotments provide cover, forage and nesting habitat for a variety of migratory bird species. Priority species on the USFWS Birds of Conservation Concern List that may nest in the area include: sage sparrow, Williamson's sapsucker, Lewis's Woodpecker, Virginia's warbler and flammulated owl. Golden eagles, red tailed hawks and other raptors likely nest and forage on the allotments.

Environmental Consequences/Mitigation: Although the proposed grazing schedules for the two allotments coincide with the breeding season, it is unlikely that livestock grazing would reduce the extent or quality of habitat available for migratory bird breeding functions. Under the proposed action, both allotments would be grazed from 6/16 to

10/15. Livestock would be moved through pastures so no area would receive season long grazing by livestock. This would allow for growing season rest and adequate plant recovery periods. Data from land health assessments showed the vegetative community to be in good condition, providing suitable and productive habitat for migratory bird species. Some problems were noted in the Clough Alber Allotment, mainly in riparian areas. The proposed action would ensure proper rotation and would protect new willow plantings with an electric fence. This should help improve riparian conditions until the allotment management plan is finalized. The continuation of grazing under the Proposed Action would not be expected to degrade migratory bird habitat. Both allotments would continue to provide suitable habitat for a variety of bird species.

No intentional take of native bird species is anticipated under the proposed action. Grazing by cattle could result in the accidental destruction of ground nests through trampling. This impact is expected to be minimal and isolated and would not influence populations of migratory birds on a landscape level.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes an analysis on Standard 4)

Affected Environment:

According to the current species list available online from the U. S. Fish and Wildlife Service (USFWS) (<http://mountain-prairie.fws.gov/endspp/CountyLists/COLORADO.htm>), the following Federally listed, proposed, or candidate plant and animal species may occur within or be impacted by actions occurring in Garfield County: Uinta Basin hookless cactus (*Sclerocactus glaucus*), Parachute beardtongue (*Penstemon debilis*), DeBeque phacelia (*Phacelia submutica*), Canada lynx (*Lynx canadensis*), Mexican spotted owl (*Strix occidentalis*), yellow-billed cuckoo (*Coccyzus americanus*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and humpback chub (*Gila cypha*). The bald eagle (*Haliaeetus leucocephalus*) was removed from the list of threatened or endangered species in August 2007. The BLM now considers the bald eagle a sensitive species.

The allotment contains pure populations of Colorado River cutthroat trout a BLM Sensitive Species. Specifically, these fish reside in Northwater, Trapper, East Fork Parachute, and East Middle Fork Parachute Creeks.

There are no federally listed, candidate or BLM sensitive plant species with known occurrences or potential habitat within the Clough-Alber or East Fork allotments..

Environmental Consequences/Mitigation:

Colorado River cutthroat trout:

Current livestock grazing on this allotment is resulting in impacts to riparian and stream habitats. Specific impacts include localized bank trampling, sloughing, and widening of the stream channel, increased sediment, excessive utilization of riparian vegetation, and increases in weedy species adjacent to the streams. If properly implemented, the terms and conditions to be placed on this two year permit should help to improve riparian and stream habitats.

In the event these measures are not implemented, stream and riparian conditions could decline should cattle grazing occur continuously on riparian areas for the four-month grazing period. The potential for severe utilization and trampling of streambanks and riparian vegetation could result. In addition, the 4-month period of grazing use in the creek bottoms offers very little growing season rest and recovery time for streamside riparian plants. The result would be a reduction in streamside vegetation coverage which would result in larger stream temperature extremes in the summer and winter, a reduction in insect productivity important for food sources for trout, and increased sediment which can smother eggs, fill in limited pool habitats, and reduce fish and aquatic insect productivity.

As a long-term solution to livestock grazing impacts, the completion and implementation of the pending Allotment Management Plan will result in the creation of pastures and improve livestock distribution and utilization across the allotment.

The East Fork Allotment would remain under a three pasture deferred rotation grazing system. This will allow ample time for grazing rest and recovery during the growing season for riparian plant species. In consideration of this and the conditions of stream and riparian habitats described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to stream or riparian habitats. The condition of streams in the East Fork Parachute Creek drainage would be maintained or improved.

Due to a lack of suitable habitat and no species occurrence records, the proposed action would have “No Effect” to any other federal or state listed wildlife or plant species or any BLM sensitive wildlife or plant species.

Analysis on the Public Land Health Standard for Threatened, Endangered, and Sensitive Species:

A formal Land Health Assessment was completed for the area in 1999. At that time the majority of the watershed was meeting for Standard 4 with respect to fish. Portions of the landscape were not meeting Standard 4 due to the decline in the Colorado River cutthroat trout populations. Since that time habitat conditions have deteriorated. The permit renewal with the terms and conditions proposed should help to improve stream habitats and move the area towards meeting of this standard.

WATER QUALITY, SURFACE AND GROUND (includes an analysis on Standard 5)

Affected Environment: Proposed activities would occur on the Roan Plateau within two major 6th field watersheds. In the northern portion of the proposed action area, the Clough-Alber Allotment is located entirely within an unnamed 21,862 acre 6th field watershed and to the south the northern portion of the East Fork Allotment is located in the 21,682 acre 6th field watershed and the southern portion of the East Fork Allotment is located in a 26,345 acre 6th field watershed. The perennial Northwater Creek runs through the Clough-Alber Allotment and the perennial Trapper Creek runs along the

northern boundary of this allotment. Within the East Fork Allotment, Northwater Creek runs along the northern boundary, the perennial Ben Good Creek runs through the allotment, and the perennial East Fork of Parachute Creek runs along the southern boundary.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37)) that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters. The drainages mentioned above have been classified aquatic life cold 1, recreation 2, water supply, and agriculture. These classifications indicate that this segment is capable of sustaining a wide variety of cold water biota, not suitable or intended for primary contact recreation, and suitable or intended to become suitable for potable water supplies and agricultural purposes that include irrigation and livestock use.

The State of Colorado has also developed a *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone and a *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) that identifies waterbodies suspected to have water quality problems. At this time, the drainages mentioned in the Affected Environment section above are not on either of these lists.

Limited water quality data are available for drainages within the proposed action area. The USGS operated several gauging stations on the Roan Plateau in which discharge and water quality data were collected until 1983. This data is available on the USGS website. In 1981, the Department of Energy collected discharge, temperature, conductivity, and pH data on all of the streams mentioned in the Affected Environment section above. The most recent known water quality data available were collected by the BLM Glenwood Springs Field Office in 1999 as part of the Roan Cliffs Land Health Assessment. The following table presents the results of those sampling events.

Stream Name	Date	Discharge (cfs)	Temp. (°C)	Cond. (µS/cm)	pH	Salinity 0/00
Ben Good Creek	8/25/1999	0.15	14.7	504	8.8	0
Bull Gulch	7/12/1999	0.01	19.0	169	8.9	0
Camp Gulch	7/12/1999	0.01	17.0	189	8.7	0
East Fork Parachute Creek	7/12/1999	1.50	15.0	382	9	0
East Forked Gulch	8/24/1999	0.14	22.0	520	8.5	0
Golden Castle Gulch	8/24/1999	0.02	12.5	389	8.5	0
JQS Gulch	8/24/1999	0.03	12.5	518	8	0
Northwater Creek	7/6/1999	1.20	22.6	445		0
Raspberry Creek	7/13/1999	0.06	18.5	369	8.2	0.1
Second Anvil Creek	8/24/1999	0.02	24.5	567	7.6	0
Sheep Trail Hollow	8/24/1999	0.02	21.0	410	8.2	0
Third Water Gulch	8/25/1999	0.05	14.7	416	8.8	0
Trapper Creek	7/6/1999	0.41	20.2	451		0
West Forked Gulch	8/24/1999	0.15	17.5	507	8.4	0

Environmental Consequences/Mitigation: Grazing activities would result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steep slopes and areas devoid of vegetation. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. These processes could result in rilling, rutting, and sediment deposition. Due to the close proximity of the proposed activities to Trapper Creek, Northwater Creek, Ben Good Creek, and the East Fork of Parachute Creek; there is potential for additional sediment generation associated with stream bank trampling and resulting bank failures.

Trampling and bank failures in these drainages would result in sediment deposition and the ponding of stream segments. In addition, livestock defecation in these drainages would result in increased fecal coliform levels, possible algal blooms in ponded sections, increases in temperature, and decreases in dissolved oxygen. These negative impacts to water quality would have significant effects on aquatic organisms. To minimize these potential negative impacts to water quality, it is recommended that grazing standards and guidelines be closely followed and that periodic monitoring be performed to ensure that these drainages are protected from grazing induced degradation.

Analysis on the Public Land Health Standard 5 for Water Quality: The proposed action and no action alternative would not likely prevent Standard 5 for Water Quality from being achieved. In 1999, the BLM Glenwood Springs Field Office conducted the Roan Cliffs Land Health Assessment. During that time limited water quality data was collected. However, it was determined that all waterbodies evaluated were meeting Standard 5.

WETLANDS and RIPARIAN ZONES (includes an analysis on Standard 2)

Affected Environment: Riparian zones along a number of streams in the Clough-Alber Allotment were accessed using BLM's proper functioning condition (PFC) evaluation method. The last evaluation occurred in 1999 as part of a land health assessment. Northwater Creek, Raspberry Creek, and Yellowjacket Creek were all rated as functioning at risk with an upward trend. Trapper Creek, within the lower enclosure, was rated as proper functioning condition. The 1999 Land Health Assessment Report concluded that standard #2 for riparian systems was being achieved or moving towards being achieved along the above streams. Monitoring photo points also showed that riparian vegetation conditions had improved during the 1990s. A subsequent BLM document entitled *Report of the Current Conditions of Stream and Riparian Habitats on the Roan Plateau* indicated that riparian conditions along Trapper Creek, Northwater Creek, Yellowjacket Creek, and Raspberry Creek were in a declining trend based on observations during the field seasons of 2000, 2001, and 2002. The two causal factors listed were livestock grazing and drought. It was noted that livestock appeared to be concentrating on the stream bottoms. Impacts to the riparian zone included bank trampling, widening of the stream channel, excessive utilization of riparian vegetation,

and increase of weedy species adjacent to the streams. Photos taken in 2002 provided visual evidence of the impacts above. Other monitoring, field observations and photos since that time suggest the problems still persist.

Riparian zones along a number of streams in the East Fork Allotment were also assessed in 1999 as part of a land health assessment. Ben Good Creek, Camp Gulch, and Northwater Creek were all rated as functioning at risk with an upward trend. Bull Gulch and East Fork of Parachute Creek were rated as proper functioning condition. The 1999 Land Health Assessment Report concluded that standard #2 for riparian systems was being achieved or moving towards being achieved along the above streams. Monitoring photo points also showed that riparian vegetation conditions had improved during the 1990s.

Environmental Consequences/Mitigation: Under the proposed action, interim grazing management on the Clough-Alber Allotment would provide rotational grazing, temporary electric fencing along Northwater Creek, and utilization limits along riparian areas. These measures would allow ample time for grazing rest and recovery during the growing season for riparian plant species. Assuming these measures are implemented, along with adequate compliance and monitoring, renewal of the grazing permit is not expected to cause adverse impacts to riparian zones. The condition of riparian areas would be improved. In the event these measures are not implemented, riparian conditions could decline should cattle grazing occur continuously on riparian areas for the four-month grazing period. The potential for severe utilization and trampling of the riparian vegetation could result. In addition, the 4-month period of grazing use in riparian areas during the growing season offers little rest and recovery time for riparian plant species. The result would be a reduction in riparian plant species coverage and diversity/composition which would compromise the functional condition of the riparian zone.

The East Fork Allotment would remain under a three pasture deferred rotation grazing system. This will allow ample time for grazing rest and recovery during the growing season for riparian plant species. In consideration of this and the conditions of riparian zones described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to riparian zones. The condition of riparian areas would be maintained or improved.

Analysis on the Public Land Health Standard for riparian systems: The proposed action would not result in failure to achieve this standard and should maintain and/or improve land health conditions for riparian systems.

WILD AND SCENIC RIVERS

Affected Environment: The proposed action involves 3 streams (Trapper, Northwater and East Fork of Parachute Creek) that were found to be eligible under the Roan Plateau Eligibility Report for the National Wild and Scenic Rivers System, May 2002.

Environmental Consequences/Mitigation: Scenic values within the ACEC are unlikely to be affected by the proposed grazing management.

Implementation of the Terms and Conditions included in this two-year permit, along with adequate compliance and monitoring, should help to maintain or improve the resource values for which the ACECs were designated.

WILDERNESS

Affected Environment: There are no designated Wilderness areas, Wilderness Study Areas or citizens' wilderness proposal areas within the proposed project area.

Environmental Consequences/Mitigation: N/A

NON-CRITICAL ELEMENTS

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

SOILS (includes a analysis on Standard 1)

Affected Environment: According to the *Soil Survey of Rifle Area, Colorado: Parts of Garfield and Mesa Counties* (USDA 1985), the two allotments contain six primary soil map units that can be identified by the numerical code assigned by the soil survey. These soil map units are scattered throughout the two allotments and many of them have been identified as having slight to moderate erosion hazards. In addition, portions of the two allotments are designated as having a No Surface Occupancy (NSO 15) stipulation for slopes greater than 50%. Following is a brief description of the six primary soil map units found within the two allotments.

- Irigul channery loam (36) – This shallow, well drained, rolling to steep soil is found on upland ridges and mountainsides at elevations ranging from 7,800 to 8,700 feet and on slopes of 9 to 50 percent. It is derived from sandstone and marlstone. Surface runoff for this soil is medium and the erosion hazard is slight. Primary uses for this soil include wildlife habitat and grazing.
- Northwater loam (48) – This deep, well drained soil is found on mountainsides at elevations ranging from 7,600 to 8,400 feet and on slopes of 15 to 65 percent. The Northwater loam is derived from sedimentary rocks. Surface runoff for this soil is slow and the erosion hazard is slight. Primary uses for this soil include grazing, wildlife habitat, and recreation.
- Parachute loam (52) – This moderately deep, well drained soil is found on mountainsides at elevations ranging from 7,500 to 8,700 feet and on slopes of 25 to 65 percent. Parent material for this soil is sandstone. Surface runoff for this soil is medium and erosion hazard is moderate. Primary uses for this soil include wildlife habitat and limited grazing.
- Parachute-Rhone loams (53) – These gently sloping to steep soils are found on

ridges and mountainsides at elevations ranging from 7,600 to 8,600 feet and on slopes of 5 to 30 percent. The Parachute soil is derived from sandstone and or marlstone while the Rhone soil is derived from fine-grained sandstone. Approximately 55 percent of this unit consists of the Parachute soil while approximately 30 percent is the Rhone soil. The Parachute soil is moderately deep, well drained, and has a moderate erosion hazard with medium surface runoff. The Rhone soil is deep, well drained, and has a slight erosion hazard with slow surface runoff. Primary uses for these soils include grazing and wildlife habitat.

- Rhone loam (60) – This deep, well drained, gently sloping to steep soil is found on ridges and mountainsides at elevations ranging from 7,600 to 8,600 feet and on slopes of 5 to 30 percent. This soil is derived from sandstone and marlstone. Surface runoff for this soil is slow and the erosion hazard is slight. Primary uses for this soil include wildlife habitat and limited grazing.
- Rock outcrop-Torriorthents complex (62) – This soil map unit consists of bedrock and soils of variable depth occurring on slopes of 50 to 80 percent. The majority of the complex is rock outcrop which consists primarily of Green River shale. The remainder of the complex is Torriorthents which are shallow to moderately deep, clayey to loamy soils containing gravel, cobbles, and stones. Surface runoff is rapid to very rapid and erosion hazard is moderate to severe. This complex is used primarily for limited grazing.

Environmental Consequences/Mitigation: As mentioned in the affected environment section above, the proposed activities would occur on slopes greater than 50% (27°). Grazing activities would result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steep slopes and areas devoid of vegetation. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. These processes could result in rilling, rutting, and sediment deposition.

Due to the close proximity of the proposed activities to Trapper Creek, Northwater Creek, Ben Good Creek, and the East Fork of Parachute Creek; there is potential for additional sediment generation associated with stream bank trampling and resulting bank failures. With the implementation of grazing standards and guidelines, it is expected that the potential negative impacts described above would be minimal. Periodic monitoring should be performed to ensure that these drainages are protected from grazing induced degradation.

Analysis on Public Land Health Standard 1 for Upland Soils: The proposed action and the no action alternative would not likely prevent Standard 1 for Upland Soils from being met. In 1999, the BLM Glenwood Springs Field Office conducted the Roan Cliffs Land Health Assessment. During that time, it was determined that Standard 1 was being met at all upland sites evaluated.

VEGETATION (includes an analysis on Standard 3)

Affected Environment: Vegetation within the subject allotments consists of a mixture of sagebrush/snowberry and oakbrush/serviceberry shrublands, aspen, and spruce-fir forests, and grass-dominated shale barrens. There are also three significant riparian plant communities that occur within one or both of these allotments. They are: Boxelder-Narrowleaf cottonwood/red-osier dogwood; Colorado blue spruce/red-osier dogwood; and the Hanging garden sullivania.

At the time of the land health assessment, the plant communities within these two allotments were in good to excellent condition. Shrublands were healthy, diverse and productive. Noxious weeds, primarily houndstongue and Canada thistle, were present at many of the assessment sites, but were minimal in the overall landscape.

Many aspen stands were beyond late-seral stage and some elevated mortality was noted. However, at most sites, numerous aspen sprouts and saplings were noted and livestock grazing did not appear to be inhibiting aspen regeneration. Conifer stands were also healthy.

The hanging garden sullivania communities are found in seeps along the steep canyon walls. These communities are inaccessible to livestock and were in excellent condition. The other two riparian communities were also in good condition when the land health assessment was conducted. Some houndstongue and Canada thistle were present within the vicinity of these communities but were causing only minor changes in riparian plant composition.

However, since the time of the land health assessment, noxious weeds have increased in the landscape and are causing a decline in the health of the plant communities. BLM plans to implement more aggressive weed management within this landscape beginning in 2008.

Environmental Consequences/Mitigation:

Under the proposed action, interim grazing management on the Clough-Alber Allotment would provide rotational grazing, temporary electric fencing along Northwater Creek, and utilization limits for both riparian and upland vegetation. These measures should allow ample time for grazing rest and recovery during the growing season for maintaining vegetative health. With proper implementation of these Terms and Conditions, renewal of the grazing permit is not expected to cause adverse impacts to plant communities.

The East Fork Allotment would remain under a three-pasture deferred rotation grazing system. This would allow ample time for grazing rest and recovery during the growing season for maintaining vegetative health. Given that vegetative communities in the East Fork allotment are currently in good condition, renewal of the grazing permit under the same management system is not expected to cause adverse impacts to plant communities.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): In 1999, a formal Land Health Assessment was completed on the Roan Cliffs watershed which includes the two allotments in this proposed action. The plant communities within these two allotments were generally in good condition at that time. Increases in noxious weeds since the completion of the land health assessment are causing degradation in the health of plant communities in the watershed. Implementation of an aggressive weed management plan will be needed to prevent the eventual failure of the watershed to meet the Standard for healthy plant communities. Renewal of the grazing permits with the Terms and Conditions described above should not, by itself, result in a failure to achieve the Standard.

WILDLIFE AQUATIC (includes an analysis on Standard 3)

Affected Environment:

The subject allotment contains pure populations of Colorado River cutthroat trout in East Fork Parachute, East Middle Fork Parachute, Northwater, and Trapper Creeks. In addition, East Fork Parachute Creek contains brook trout. All of these streams contain an abundance of aquatic insects.

Environmental Consequences/Mitigation:

Colorado River cutthroat trout:

This species is addressed in the THREATENED, ENDANGERED, AND SENSITIVE SPECIES section above.

Brook trout:

The East Fork Allotment would remain under a three pasture deferred rotation grazing system. This will allow ample time for grazing rest and recovery during the growing season for riparian plant species. In consideration of this and the conditions of stream and riparian habitats described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to stream or riparian habitats. The condition of streams in the East Fork Parachute Creek drainage would be maintained or improved. No impacts to brook trout are anticipated.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial):

A formal Land Health Assessment was completed in 1999. At that time the majority of the streams were meeting Standard 3 for aquatic wildlife. Since that time, conditions have declined along site specific portions of these streams. The permit renewal with the attached terms and conditions should help to improve stream and riparian habitats across the allotment and move the area towards attainment of Standard 3 for aquatic wildlife.

WILDLIFE TERRESTRIAL (includes an analysis on Standard 3)

Affected Environment: Vegetative communities in the Clough Alber and East Fork Allotments consist primarily of mixed mountain shrub including sagebrush, oakbrush and

snowberry, aspen and coniferous forest. These communities typically provide habitat for big game species as well as small mammals, reptiles and birds.

Environmental Consequences/Mitigation: It is unlikely that the proposed action would have long term negative impacts to terrestrial wildlife or their habitat. Under the proposed action, both allotments would be grazed from 6/16 to 10/15. Livestock would be moved through pastures so no area would receive season long grazing. This would allow for growing season rest and adequate plant recovery periods. Data from land health assessments showed the vegetative community to be in good condition, providing suitable and productive habitat for a variety of wildlife species. Some problems were noted in the Clough Alber Allotment, mainly in riparian areas. The proposed action would ensure proper rotation and would protect new willow plantings with an electric fence. This should help improve riparian conditions until the allotment management plan is finalized. The proposed action would not be expected to degrade wildlife habitat on the allotments.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Formal Land Health Assessments have been completed for both allotments. Both allotments were found to be meeting this standard.

OTHER NON-CRITICAL ELEMENTS: For the following elements, those present and affected by the proposed action will be brought forward for analysis.

Table 2. Other Resources Considered in the Analysis.			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation		X	
Cadastral Survey	X		
Fire/Fuels Management		X	
Forest Management	X		
Geology and Minerals	X		
Law Enforcement		X	
Paleontology	X		
Noise	X		
Range Management			X
Realty Authorizations	X		
Recreation		X	
Socio-Economics		X	
Visual Resources		X	
Water Rights	X		

CUMULATIVE IMPACTS SUMMARY:

PERSONS/AGENCIES CONSULTED:

SIGNATURE OF PREPARER:

Handwritten signature

DATE SIGNED:

5/8/2008

ATTACHMENTS:

Allotment Maps





