



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Colorado River Valley Field Office
2300 River Frontage Road
Silt, Colorado 81652
www.co.blm.gov

ENVIRONMENTAL ASSESSMENT

1. Introduction

NUMBER: DOI-BLM-CO-040-2012-0017 EA

CASEFILE NUMBER: 500227

PROJECT NAME: N Thompson Crk Com (08348) and Crown (08335) Allotment Grazing Permit Renewal

LOCATION: Garfield and Eagle County

LEGAL DESCRIPTIONS: T8S R87W Sec 5, 6, 7, 8, 17 and 18; T8S R88W 1, 2 and 31; T7S 89W Sec 34, 35 and 36; T8S 89W Sec 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35 and 36

APPLICANT: Grazing Permittee

SCOPING AND PUBLIC INVOLVEMENT AND ISSUES:

A notice of public scoping was posted on the Colorado BLM's Internet web page on September 1, 2011 regarding grazing permits and associated allotments scheduled for renewal in 2011-2012. The public was provided an opportunity to offer any information or concerns, or to be considered as an interested public on a permit or allotment scheduled for renewal. There have been no responses received specific to the permit renewal or allotments addressed in this NEPA document. The Colorado River Valley Field Office Internet NEPA Register also lists grazing permit renewal NEPA documents that have been initiated. They are generally posted approximately one month prior to the estimated completion date.

This action was scoped internally with the NEPA Interdisciplinary Team. Issues raised during the internal scoping are itemized in table 3-1 and analyzed in Section 3 Affected Environment and Environmental Consequences.

PURPOSE AND NEED FOR 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 renewal of the grazing permit 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.

2. Proposed Action and Alternatives Analyzed in Detail

DESCRIPTION OF PROPOSED ACTION

The Proposed Action is to renew a term grazing permit. The period of use, percent public land and Animal Unit Months (AUMS) will remain the same as the previous permit. The timing and duration of grazing will remain the same. The permit would be issued for a 10-year period unless the base property is leased for less, but for purposes of the EA, we are assuming 10 years of grazing by this or another applicant (in case of transfer). The proposed action is in accordance with 43 CFR 4130.2. Scheduled grazing use and grazing preference for the permit are summarized below.

Mandatory Terms and Conditions

Scheduled Grazing Use:

Allotment Name & No.	Livestock No. & Kind	Period of use	Percent Public Land	AUMs
N Thompson Crk Com #08348	92 Cattle	6/1 – 6/15	50	23
N Thompson Crk Com #08348	92 Cattle	10/10 – 10/16	50	11
Crown #8335	94 Cattle	6/16 – 9/18	100	294

Grazing Preference AUMS:

Allotment Name & No.	Active	Suspended	Total
N Thompson Crk Com #08348	42	0	42
Crown #8335	294	296	590

The following Other Terms and Conditions will be included on the renewed permit:

- Adaptive management will be employed on these allotments. The BLM will allow up to 14 days of flexibility in the start and end dates on this permit depending on range readiness.

The range will be considered ready when there is a minimum of 4 inches of new growth on grasses. Use different than that shown above must be applied for in advance.

- 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. Maintenance activities shall be restricted to the footprint (previously disturbed area) of the project as it existed when it was initially constructed. The Bureau of Land Management shall be given 48 hours advance notice of any maintenance work that will involve heavy equipment. Disturbed areas will be reseeded with a certified weed-free seed mixture of native species adapted to the site.
- The permittee and all persons associated with grazing operations must be informed that any person who injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law. 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 further notified in writing to proceed by the authorized officer.

Additional Background Information:

Other grazing use is authorized on the North Thompson Creek Com allotment and is represented in the table below.

Authorization Number	Livestock No. & Kind	Period of use	Active	Suspended	Total
0503986	113 Cattle	10/10 – 10/16	13	0	13
0503987	104 Cattle	10/10 – 10/16	12	0	12
0507592	268 Cattle	6/1 – 6/15	66	0	66
		10/10-10/15	26	0	26
0507611	155 Cattle	6/1 – 6/15	38	0	38
		10/10-10/15	15		15
0507658	90 Cattle	6/1 – 6/15	22	12	34
		10/10-10/15	10	12	22
0507715	120 Cattle	10/10 – 10/16	14	0	14
		Total	216	24	240

No other grazing use is authorized on the Crown allotment. A review of recent billings indicates that this allotment is being fully utilized.

NO GRAZING ALTERNATIVE:

Under this alternative the grazing permit described in the Proposed Action would not be reissued. As a result, no grazing would be authorized on the North Thompson Creek Common and Crown allotments. This alternative would initiate the process in accordance with 43 CFR

parts 4100 and 1600 to eliminate grazing on the allotments and devote the land to some other purpose. This alternative would result in amendments to the resource management plan.

ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL:

The “**No Action alternative**” has 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. This action would essentially be the same action as the proposed action and therefore is not further analyzed.

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; amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance; amended in June 2007 – Record of Decision for the Approval of Portions of the Roan Plateau Resource Management Plan Amendment; and amended in March 2009 - Record of Decision for the Designation of Areas of Critical Environmental Concern for the Roan Plateau Resource Management Plan.

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.”

RELATIONSHIP TO STATUTES, REGULATIONS, OTHER PLANS

- Taylor Grazing Act of 1934 as amended;
- Federal Land Policy and Management Act of 1976;
- Public Rangelands Improvement Act of 1978;
- Title 43 of the Code of Federal Regulations Subpart 4100 – Grazing Administration;
- Noxious Weed Act of 1974;

- Endangered Species Act of 1973;
- National Environmental Policy Act of 1969;
- Migratory Bird Treaty Act of 1918;
- National Historic Preservation Act (16 USC 470f);
- Archeological Resources Protection Act;
- Native American Graves Protection and Repatriation Act;
- Indian Sacred Sites – EO 13007; and
- Consultation and Coordination with Indian Tribal Governments – EO 13175
- Colorado Public Health Standards and Livestock Grazing Management Guidelines -March 1997

STANDARDS FOR PUBLIC LAND HEALTH

In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. The five 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.

The North Thompson Creek Common and Crown allotments were included in the Roaring Fork Land Health Assessment of 2010. Overall, both allotments were meeting all the standards. Some site-specific concerns were noted, specifically related to the abundance of Kentucky bluegrass and a resulting poor diversity of bunchgrasses on most sites. Rocky Mountain juniper and Pinyon pine were encroaching in the lower sagebrush parks in North Thompson Creek Common allotment. Cheatgrass had invaded some areas of the Crown allotment following fire or other disturbances.

The impact analysis addresses whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for each of the five standards. These analyses are located in the program-specific analysis in this document.

3. Affected Environment & Environmental Consequences

DIRECT AND INDIRECT EFFECTS, MITIGATION MEASURES

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and alternatives. 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 environmental elements. Not all programs, resources or uses are present in the area, or if they are present, may not be affected by the proposed action and alternatives (Table 3-1). Only those elements that are present and potentially affected are described and brought forth for detailed analysis.

<i>Table 3-1. Component of the Environment, Supplemental Authorities</i>	<i>Potentially Affected?</i>	
	Yes	No
Access and Transportation		X
Air Quality		X
Areas of Critical Environmental Concern	X	
Cadastral Survey		X
Cultural Resources	X	
Native American Religious Concerns	X	
Environmental Justice		X
Farmlands, Prime or Unique		X
Fire/Fuels Management		X
Floodplains		X
Forests		X
Geology and Minerals		X
Law Enforcement		X
Livestock Grazing Management	X	
Noise		X
Paleontology		X
Plants: Invasive, Non-native Species (Noxious Weeds)	X	
Plants: Sensitive, Threatened, or Endangered	X	
Plants: Vegetation	X	
Realty Authorizations		X
Recreation		X
Social and/or Economics	X	
Soils	X	
Visual Resources		X

Wastes, Hazardous or Solid		X
Water Quality, Surface and Ground	X	
Water Rights		X
Wetlands and Riparian Zones	X	
Wild and Scenic Rivers		X
Wilderness/WSAs/Wilderness Characteristics		X
Wildlife: Aquatic / Fisheries		X
Wildlife: Migratory Birds		X
Wildlife: Sensitive, Threatened, and Endangered Species		X
Wildlife: Terrestrial		X

Areas of Critical Environmental Concern

Affected Environment

No ACECs have been designated in the Crown allotment. The North Thompson Creek Common allotment encompasses approximately one-third of the Thompson Creek ACEC.

Thompson Creek ACEC

Located five miles southwest of Carbondale, the Thompson Creek ACEC straddles North Thompson Creek and a small portion of Middle Thompson Creek. Lying at the southern terminus of the Grand Hogback, the ACEC features tilted beds of the Maroon Formation. Erosion of less resistant conglomerate layers has exposed 12 vertical fins of more resistant sandstone. The resource values found within the North Thompson Creek Common allotment include several of the scenic sandstone fins and high quality examples of the Foothill, Montane and Subalpine life zones.

Environmental Effects

Proposed Action

The objectives for management of the affected relevant and important values within the Thompson Creek ACEC include preserving the natural scenic landscape by restricting any surface-disturbing activities to very minimal changes in the landscape that do not attract attention and preserving the high quality ecological communities.

Livestock grazing could have potential negative impacts on the relevant and important values, especially the condition of the ecological communities. Limiting utilization of plant species is important for maintaining the health and condition of these resource values. Average utilization levels for the past 10 years are generally in the slight to light range, although utilization of Kentucky bluegrass exceeded 50% in 2008. The short, two-week grazing period in the late spring and two weeks of grazing in the fall should allow plenty of opportunity for regrowth, seed formation and seedling establishment.

Continuation of livestock grazing under the existing terms and conditions should not degrade the values for which the Thompson Creek ACEC was designated.

No Grazing Alternative

Under this alternative, no livestock grazing would occur on the North Thompson Creek Common or Crown allotments. There would be no direct or indirect impacts to the resource values in the Thompson Creek ACEC from livestock use. There would be an increase in vegetative biomass without the presence of livestock to remove vegetative material. Dead and dried stems and seed stalks may build up over time, reducing photosynthetic activity and resulting in less vegetative vigor and biomass in the long-term. The condition of the ecological communities would be maintained.

Cultural Resources

Affected Environment

Grazing authorization renewals are undertakings under Section 106 of the National Historic Preservation Act. During Section 106 review, a cultural resource assessment (CRVFO#1012-14) was completed for the Crown and North Thompson Creek allotments on January 30, 2012 by Erin Leifeld, Colorado River Valley Field Office Archaeologist. The assessment followed 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, and IM-CO-01-026. The results of the assessment are summarized in the table below. Copies of the cultural resource assessments are available at the Colorado River Valley Field Office archaeology files.

Data developed here was taken from the cultural program project report files, site report files, and GIS data located at the Colorado River Valley Field Office as well as information from General Land Office (GLO) maps, BLM land patent records, and the State Historic Preservation Office (SHPO) site records, report records, and GIS data.

The table below is based on the allotment specific analysis for the two allotments in this EA. The table shows known cultural resources, the potential of Historic Properties, and Management recommendations.

Allotment Name and Number	Acres Inventoried at a Class III level	Acres NOT Inventoried at a Class III Level	Percent Allotment Inventoried at a 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)
Crown #08335	144	2412.9	5.6%	2	No	Recommend additional survey of 17 acres; no properties to be visited

N Thompson Creek Com #08348	149.8	6362.5	2%	13	No	Recommend survey a portion of 124.4 acres; Revisit 3 sites (5GF.469, 5GF.1497 and 5GF.1499)
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Within the Crown allotment, eight cultural resource inventories have been conducted totaling 144 acres at a Class III level. Two cultural resources were identified within the allotment during these inventories. Both cultural resources are prehistoric isolated finds that are not eligible for the National Register of Historic Places (NRHP).

A total of 149.8 acres have been inventoried for cultural resources at a Class III level within the North Thompson Creek Common allotment. Inventory resulted in the identification and recording of thirteen cultural resources. Two of the cultural resources are paleontological sites (5PT.697 and 5PT.690) one of which is not eligible and one was not evaluated for the NRHP. Furthermore, six prehistoric isolated finds were recorded as not eligible for the NRHP. Finally, four historic sites (5GF.469, 5GF.1499, 5GF.1497, and 5GF.375) and one prehistoric site (5PT.103) were recorded during these efforts. Of these five sites, three are eligible for the NRHP (5GF.469, 5GF.1499, and 5GF.1497).

Environmental Consequences

Proposed Action Alternative

The direct impacts that occur where livestock concentrate, during normal livestock grazing activity, can include trampling, chiseling, artifact breakage, and churning of site soils, cultural features, and cultural artifacts. Impacts from livestock standing, leaning, and rubbing against historic structures, above-ground cultural features, and rock art can also have direct impacts to cultural resources. Indirect impacts include soil erosion and gullying, which can lead to increased ground visibility which has the potential to increase unlawful collection and vandalism. Continued livestock use in these concentration areas has the potential to cause substantial ground disturbance and in turn, irreversible adverse effects to historic properties.

The use of adaptive management will have little change on cultural resource impacts. The use of this management technique might in fact be beneficial to lessen ground disturbance because it requires four inches of new growth on grasses and therefore livestock will not be grazing when soils are more exposed or when the area is more susceptible to erosion.

An additional 141.4 acres (Crown=17 acres, N Thompson Creek Com=124.4 acres) are recommended to be inventoried within the term of the permit. All of the acreage in Crown and a portion of North Thompson Creek Commons are recommended to be inventoried. Additionally, three sites (5GF.469, 5GF.1497 and 5GF.1499) within the North Thompson Creek Commons are recommended to be revisited and monitored for potential or existing impacts during the term of the permit.

No Grazing Alternative

Under this alternative, direct and indirect impacts to cultural resources from grazing would be reduced based on the absence of livestock and no related surface disturbing activities.

Mitigation Measures

New range improvements, maintenance of existing range improvements, or additional feeding areas may require cultural resource inventories, monitoring, and/or data recovery.

These allotments may contain undiscovered 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. If the BLM determines that grazing activities will adversely impact the properties, mitigation will be identified and implemented in consultation with the Colorado SHPO. The BLM may also 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.

Native American Religious Concerns

Affected Environment

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Environmental Assessment Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007 (1996; Indian Sacred Sites). These require, in concert with other provisions such as those found in the NHPA and ARPA, that the federal government carefully and proactively take into consideration traditional and religious Native American culture and life. This ensures, to the degree possible, that access to sacred sites, the treatment of human remains, the possession of sacred items, the conduct of traditional religious practices, and the preservation of important cultural properties are considered and not unduly infringed upon. In some cases, these concerns are directly related to “historic properties” and “archaeological resources”. In other cases, elements of the landscape without archaeological or other human material remains may be involved. Identification of these concerns is normally completed during the land use planning efforts, reference to existing studies, or via direct consultation.

The Ute have a generalized concept of spiritual significance that is not easily transferred to Euro-American models or definitions. As such the BLM recognizes that the Ute have identified sites that are of concern because of their association with Ute occupation of the area as part of their traditional lands. The cultural resource evaluation of these allotments describing known cultural resources and their condition was sent to the Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and the Uinta and Ouray Agency Ute Indian Tribe. The letter, sent on March 2, 2012, requested the tribes to identify issues and areas of concern within the allotments. No comments were received.

Environmental Consequences

Proposed Action Alternative

No traditional cultural properties, unique natural resources, or properties of a type previously identified as being of interest to local tribes, were identified during the overview of the cultural resources inventory of the project area. Therefore, areas of concern to Native American tribes will not be affected.

No Grazing Alternative

Under this alternative, direct and indirect impacts to cultural resources from grazing would be reduced based on the absence of livestock and no related surface disturbing activities. Therefore, areas of concern to Native American tribes would not be affected.

Mitigation Measures

Following the *Mitigation Measures* in the **Cultural Resources** section will help to ensure direct and indirect impacts are not occurring in areas where concern is unknown.

Livestock Grazing Management

Affected Environment

Crown Allotment

The Crown allotment lies on the northwest flanks of the Crown east of Carbondale. Vegetation at the lowest elevations of the allotment are dominated by basin and Wyoming big sagebrush communities. South-facing slopes are dominated by pinyon pine and Utah juniper woodlands. P/J encroachment into the sagebrush parks is at an intermediate stage. The upper elevations of the allotment and north-facing slopes are dominated by Gambel oak/mesic mountain shrubs communities. Mountain big sagebrush is found as part of the mesic mountain shrub complex and also on shallow, exposed ridges.

North Thompson Creek Common Allotment

The North Thompson Creek Common allotment is located southwest of Carbondale. The allotment includes both public and private lands. The public lands within the allotment lie on the north, south, and east sides of Jerome Park. Mountain big sagebrush occupies the lower, flatter portions of the allotment. The north and west-facing slopes above Jerome Park are dominated by Gambel oak/mesic mountain shrubs with patches of Douglas-fir and Pinyon pine/Utah juniper woodlands. The high mesa on the north end of the allotment between Freeman and Edgerton Creeks is dominated by the tree-like form of Gambel oak with a robust understory of mountain sagebrush/mixed mountain shrubs and various grasses and forbs.

Environmental Effects

Proposed Action

Under this action, grazing would continue to be authorized at the same levels as previous permits. Grazing utilization would continue to be light. Impacts from grazing would be minimal. No fencing would be needed to prevent unauthorized use on the public lands.

No Grazing Alternative

Under this alternative, this grazing permit would not be renewed. Other permittee would also be affected that currently have authorized use on N. Thompson Crk Com. Cancelling grazing use on these allotments would likely result in economic harm to the permittees. The permittees or adjacent land owner, to protect themselves from trespass proceedings, may need to fence any unfenced portions of their private property where livestock would tend to cross onto public lands. The BLM would likely need to respond to more frequent trespass reports. This alternative would initiate the process in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on these allotments and would amend the resource management plan.

Plants: Invasive Non-Native Species (Noxious Weeds)

Affected Environment

A landscape-wide inventory has not been completed on this grazing allotment. However, given the widespread nature of noxious weed infestations throughout the area, it is assumed that some level of infestation does exist in this area.

Environmental Effects

Proposed Action

Weeds generally germinate and become established in areas of surface disturbing activities. 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. However, this effect is minimal as compared to other weed seed dispersal vectors such as vehicle routes and ground disturbing activities. 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. Since the proposed action was designed to sustain and/or improve land health, no significant impacts to non-native, invasive species are expected. Noxious and invasive plant species are not expected to radically increase as a result of the continuation of livestock grazing practices and most infestations will be isolated to watering facilities, salting areas, and other livestock high concentration locations.

No Grazing Alternative

Under this alternative, no livestock grazing would occur on these allotments and there would be no direct or indirect impacts to weeds from livestock use. Trampling or removal of plant material may still occur from wildlife grazing and noxious weeds may still become established from adjacent areas disturbed for oil and gas development.

Plants: Sensitive, Threatened or Endangered

Affected Environment

Table 3-3 summarizes the latest species list (USFWS 2011) from the U.S. Fish and Wildlife Service for federally listed, proposed, or candidate plant species and the Colorado BLM State Director's 2009 Sensitive Species List (BLM 2009) for plant species that may occur in Garfield or Pitkin County and be impacted by the proposed action.

Table 3-3. Federally Listed, Proposed or Candidate Plant Species		
Species	Habitat/Range	Occupied/Potential Habitat Present /Absent
Colorado hookless cactus (<i>Sclerocactus glaucus</i>)	Listed as threatened. Typically found on rocky hills and alluvial benches in xeric fine-textured soils overlain with cobbles and pebbles. It grows in salt desert shrub and open pinyon-juniper communities at elevations ranging from approximately 4,500 to 6,600 feet.	Absent: No potential habitat found in either allotment.

Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)	Listed as threatened. Habitat for this threatened species is found below 6,500 feet along streams, lakes or in wetland areas with seasonally saturated or subirrigated soils.	Absent: The only stream or wetland area in the subject allotments is North Thompson Creek. The elevation of the creek is well above the elevation for potential habitat for Ute ladies'-tresses.
Parachute penstemon (<i>Penstemon debilis</i>)	Listed as threatened. Endemic to steep, talus slopes on the southern escarpment of the Roan Plateau in Garfield County, Colorado. The plants are found only on the oil-shale rich Parachute Creek Member of the Green River Formation between 8,000 to 9,000 feet in elevation.	Absent: No exposures of the Green River Formation in either allotment.
DeBeque phacelia (<i>Phacelia submutica</i>)	Listed as threatened. A rare annual plant restricted to barren patches of shrink-swell clay of the Wasatch Formation between 5,000 to 6,200 feet in elevation in Mesa and Garfield Counties, Colorado.	Absent: No exposures of the Wasatch formation in either allotment.

Colorado BLM Sensitive Plant Species		
Species	Habitat	Occupied/Potential Habitat Present/Absent
DeBeque milkvetch (<i>Astragalus debequaeus</i>)	Found only on the Wasatch Formation in the vicinity of DeBeque and Rulison, Colorado. Plants are common on the Atwell Gulch Member of the Wasatch Formation but are rare elsewhere. Elevations of known populations are between 5,100 and 6,400 feet.	Absent: No Wasatch Formation soils exposed in either allotment.
Naturita milkvetch (<i>Astragalus naturitensis</i>)	Occurs on sandstone mesas, ledges, crevices, and slopes in pinyon-juniper woodlands at elevations from 5,000 to 7,000 feet. It grows in areas of shallow soils over exposed bedrock. Naturita milkvetch has been found in several locations on the western end of the CRVFO.	Absent: Sandstone rimrock present in the N Thompson Crk Comm allotment, however the ledges are above the known elevation range for the species.
Cathedral Bluffs meadowrue (<i>Thalictrum heliophilum</i>)	Known from 18 occurrences in Garfield, Mesa and Rio Blanco Counties. The meadowrue is a narrowly endemic plant found in dry, shale barren communities between 6,200 and 8,800 feet in elevation.	Absent: No dry, shale barren communities present on either allotment.
Piceance bladderpod (<i>Lesquerella parviflora</i>)	A Colorado endemic known only in Garfield, Mesa, and Rio Blanco Counties. It occurs on shale outcrops of the Green River Formation, on ledges and slopes of canyons in open areas at elevations ranging from 6,200 to 8,600 feet.	Absent: No exposures of Green River Formation on either allotment.
Roan Cliffs blazing star (<i>Mentzelia rhizomata</i>)	Found only on steep talus slopes of the Green River Formation in Garfield County. The species occurs on eroding oil shale at elevations from 5,800 to 9,000 feet. In the GSFO, the Roan Cliffs blazing star is known to occur on the cliffs of the Roan Plateau, along Parachute Creek drainage and in Main Elk Creek, near New Castle, Colorado.	Absent: No Green River Formation exposed in either allotment.

Harrington's penstemon (<i>Penstemon harringtonii</i>)	Open sagebrush communities on rocky loam or rocky clay loam soils between the elevations of 6,200 to 10,000 feet.	Present: Occupied habitat for Harrington's penstemon is found on the Crown allotment.
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There are no known occurrences or potential habitat for any special status plant species other than Harrington's penstemon which is known to occur on the shallow, rocky soils on wind-swept ridges in the Crown allotment.

Environmental Effects

Proposed Action

Direct impacts of livestock grazing on special status plants may include trampling or removal of flowers or other vegetative parts. Grazing may result in direct mortality or reduction of reproductive potential. Indirect effects may include increased surface disturbance in concentrated livestock use areas that serve as a niche for the invasion of noxious weeds, may increase sedimentation, and may destroy habitat for pollinator species.

The flowering stalks of Harrington's penstemon are highly palatable to livestock and wildlife and reductions in Harrington's penstemon populations could result if excessive grazing removes a high percentage of the flower stalks annually thereby inhibiting seed dissemination and reproduction. The existing and proposed grazing schedule for the Crown allotment is from 6/16 to 9/18 which encompasses the entire flowering season for Harrington's penstemon.

Utilization data for the Crown allotment is extremely limited. For the previous 10 years, utilization has been measured only in 2010 and 2011. In 2010, average utilization was between 20 and 30%. In 2011, average utilization of needlegrass was 41% and Kentucky bluegrass was 66%. Data gathered during the Land Health Assessment in 2010 showed that the allotment was meeting the standards, however, the diversity and abundance of grasses was less than expected. Big game use was also moderate to heavy.

Habitat for Harrington's penstemon may be slightly suppressed by the combination of season-long livestock use and moderate big game use. However, the currently known populations of Harrington's penstemon occur on the rocky ridges away from water sources and where vegetative growth is naturally suppressed. Livestock grazing on these ridges is generally lighter than in the deeper-soiled basins and in areas closer to water sources. Consequently, livestock grazing would not be expected to remove a substantial portion of flowering stalks and would not likely reduce the long-term viability of the local Harrington's penstemon populations. Grazing under the proposed action would not have long-term adverse impacts on Harrington's penstemon populations.

No Grazing

Under this alternative, no livestock grazing would occur on these allotments and there would be no direct or indirect impacts to special status plants from livestock use. Without livestock grazing, there would be less surface disturbance due to trampling and removal of vegetation and therefore, less risk of noxious weed invasion. Wind, wildlife and vehicular traffic would continue to distribute weed seeds and contribute to weed expansion.

Land Health Standards 4 for Threatened, Endangered and Sensitive Plant Species

The North Thompson Creek allotment contains no known special status plant species and therefore, Standard 4 does not apply to this allotment.

The Crown allotment was included in the Roaring Fork Land Health Assessment of 2010. The allotment supports several known populations of the BLM sensitive plant, Harrington's penstemon. Habitat for this plant occurs on rocky ridges where utilization is generally slight to light and impacts to the species would generally be minor. The allotment was meeting Standard 4 for special status plants at the time of the assessment.

The proposed grazing permit renewal would have "No Effect" on ESA-listed plant species and no long-term adverse impacts on BLM sensitive species. The Proposed Action would not result in a failure to meet Standard 4 for special status plants.

Plants: Vegetation

Affected Environment

Crown Allotment

The Crown allotment lies on the northwest flanks of the Crown east of Carbondale. Vegetation at the lowest elevations of the allotment are dominated by basin and Wyoming big sagebrush communities. South-facing slopes are dominated by pinyon pine and Utah juniper woodlands. P/J encroachment into the sagebrush parks is at an intermediate stage. The upper elevations of the allotment and north-facing slopes are dominated by Gambel oak/mesic mountain shrubs communities. Mountain big sagebrush is found as part of the mesic mountain shrub complex and also on shallow, exposed ridges.

North Thompson Creek Common Allotment

The North Thompson Creek Common allotment is located southwest of Carbondale. The allotment includes both public and private lands. The public lands within the allotment lie on the north, south, and east sides of Jerome Park. Mountain big sagebrush occupies the lower, flatter portions of the allotment. The north and west-facing slopes above Jerome Park are dominated by Gambel oak/mesic mountain shrubs with patches of Douglas-fir and Pinyon pine/Utah juniper woodlands. The high mesa on the north end of the allotment between Freeman and Edgerton Creeks is dominated by the tree-like form of Gambel oak with a robust understory of mountain sagebrush/mixed mountain shrubs and various grasses and forbs.

Environmental Effects

Proposed Action

Livestock grazing results in the direct removal of vegetation, both green shoots from the current year and old, dried growth from the previous year. Improper livestock grazing may reduce total vegetative cover, change species composition in favor of shrubs and less palatable grasses and forbs, and may contribute to the establishment of noxious weeds and other invasive plants. Grazing management that allows for adequate rest prior to grazing or recovery time following grazing so that plants can replenish root reserves, disseminate seed and establish seedlings maintains individual plant health and plant community composition and vegetative cover. Grazing that does not exceed roughly 40-50% of the current year's growth and does not repeatedly defoliate the same plants or species will generally maintain plant health.

Crown Allotment

The existing and proposed grazing schedule for the Crown allotment is from 6/16 to 9/18 which encompasses nearly the entire growing season. Utilization data for the Crown allotment is extremely limited. For the previous 10 years, utilization has been measured only in 2010 and 2011. In 2010, average utilization was between 20 and 30%. In 2011, average utilization of needlegrass was 41% and Kentucky bluegrass was 66%. The Land Health evaluation determined that the allotment was meeting Standard 3 for plant communities, however, the diversity and abundance of grasses was less than expected. Big game use was also moderate to heavy.

Continuation of grazing at the current levels should continue to maintain plant health.

Mitigation

Periodic monitoring should be conducted on the Crown allotment to ensure good livestock distribution is occurring and livestock are not regrazing the same areas throughout the growing season.

North Thompson Creek Common Allotment

Average utilization levels for the past 10 years are generally in the slight to light range, although utilization of Kentucky bluegrass exceeded 50% in 2008. The short, two-week grazing period in the late spring and two weeks of grazing in the fall should allow plenty of opportunity for regrowth, seed formation and seedling establishment.

Continuation of livestock grazing under the existing terms and conditions should not degrade the values for which the Thompson Creek ACEC was designated.

No Grazing Alternative

Under this alternative, no livestock grazing would occur on these allotments and there would be no direct or indirect impacts to vegetation from livestock use. There would be a short-term increase in vegetative biomass without the presence of livestock to remove vegetative material. Over time, without grazing by livestock, dead and dried stems and seed stalks may accumulate, resulting in less vegetative vigor and biomass in the long-term. Without livestock grazing, there would be less surface disturbance due to trampling and removal of vegetation and therefore, less risk of noxious weed invasion. Wind, wildlife and vehicular traffic would continue to distribute weed seeds and contribute to weed expansion.

Land Health Standard 3 for Plant Communities

North Thompson Creek Common and the Crown allotment were both included in a formal land health assessment of the Roaring Fork Landscape in 2010. Overall, both allotments were meeting Standard 3 for healthy plant communities at the time of the assessment, but several areas of concern were noted. These included areas where the diversity of herbaceous vegetation was lacking. These sites were either dominated by non-native grasses, such as Kentucky bluegrass or smooth brome, or by cheatgrass, a noxious weed. Other sagebrush sites were heavily hedged and decadent or were being invaded by P/J trees. These conditions are likely caused by a combination of historic heavy grazing of herbaceous plants, current heavy browsing of shrubs by wintering big game, and advanced ecological succession without disturbance.

Current livestock grazing was not considered to be a significant factor contributing to these conditions. Continuation of livestock grazing at the current levels should not result in a failure to meet Standard 3 for plant communities.

Social and Economics

Affected Environment

The majority of CRVFO grazing permits are issued to individuals and businesses within the following counties of Colorado. The median household income within those counties is identified in the following table.

Table 3-4

Local Counties	Median Household Income (2010 US Census)
Garfield	\$62,716
Pitkin	\$69,352
Eagle	\$74,220
Routt	\$64,892

Local communities throughout rural areas in the western United States are often integrally tied to ranching and agriculture. Livestock grazing has been a significant part of the Colorado River valley and surrounding area for more than 100 years. Cattle companies began moving into western Colorado in the early 1870s, using the open range as winter feeding grounds for their herds (Church et al. 2007: 113). By the late 1880s, a more sedentary life of livestock raising became prevalent as ranchers established access to leased lands and irrigated pastures and were able to establish more permanent ranches (Church et al. 2007: 113-114). Many of these ranches, cattle companies, and homesteading families retain their long-standing social and economic ties to the area.

Benefits that local ranches and livestock companies bring to the surrounding communities include jobs, local business revenue, and locally produced meat (Huntsinger and Hopkinson 1996: 167-168). Additionally, reserving tracts of land for livestock grazing can preserve large expanses of contiguous property which are not open to development and segmentation. In combination, these large tracts of ranch land and public land can be beneficial to wildlife, recreation, watersheds, and aesthetics (Huntsinger and Hopkinson 1996: 168). In the West, “49.6% of all public land ranchers” are greatly dependent on ranching as a primary source of their income (Gentner and Tanak 2002: 11). Maintaining historic ties to the land through livestock grazing also preserves traditional family and community land uses. Studies show that ranchers are not only in the livestock business to make a profit, but place great value in the quality of life that comes with the ranching lifestyle (Bartlett et al. 2002).

Challenges to livestock grazing can include financial hardship, over-utilization, limitations from land development, and conflicts with other land users. Encroachment by land developers can raise property taxes and values which can create economic incentive for ranchers to fragment or sell off their lands (Huntsinger and Hopkinson 1996: 167). Livestock price fluctuations can increase the challenge for ranchers to maintain a profit (Smith and Martin 1972: 224). Livestock owners who use public lands feel pressures from other land users, such as recreationists or oil and gas development, for access and use of land. For example, tension can occur when livestock

are startled by mountain bikers or pasture gates are left open. Some public land users, such as hunters, can be affected by poor grazing practices and the resulting impacts to local wildlife and environmental quality. However, the multiple use mission of the Bureau of Land Management requires that the traditional land uses, such as grazing, are managed in a way that accommodates other public land users.

Social and economic impacts of ranching and agriculture can bring both benefits and challenges to the local community. Sustainably managed grazing supports a way of life that has been established since the early twentieth century and can be an opportunity to preserve community tradition, identity, and land use patterns while accommodating other land uses and environmental protections.

Environmental Effects

Proposed Action

Under this alternative grazing would continue at past levels on the allotments. The ranching livelihood, local economic benefit, and cultural settings of the area would continue to be supported and no net increase or loss to the permittee or county would be expected.

No Grazing Alternative

This alternative disproportionately impacts ranches with greater forage needs, higher public forage dependency, and no cost effective forage substitutes. Public forage losses could be replaced with other private leases or hay. Leasing private land can be the least-cost alternative but in many areas is unrealistic due to lack of available agricultural land to lease. Buying hay to compensate for lost forage is a far more expensive option than reducing livestock numbers. (Rowe, 2001) This alternative may also require fencing along the private-BLM boundary to prevent unauthorized use on public lands. These additional costs may result in the conversion of traditional agricultural property to some other use.

The desired social outcomes of the Community Assessment Report identified the importance of rural or western lifestyles and livelihoods in this area. This alternative would hinder the ability of local ranches to maintain economies, but even more importantly, to maintain the rural/western character integral to the larger community identity. (BLM, 2007)

Soils

Affected Environment

A review of the soil survey by NRCS in the *Aspen-Gypsum Area, Colorado, Parts of Eagle, Garfield and Pitkin Counties* indicate 41 affected soil map units across the proposed allotments, of which 32 soil types are found on BLM lands (NRCS 1992). The NRCS soil map unit descriptions (NRCS 2011) are provided below for the dominant soils found on the BLM portion of the allotments:

Ipson cobbly loam (56, 57) – This deep, well-drained soil is derived from sandstone and basalt rocks and formed in alluvium and outwash. It is found on terraces, terrace side slopes, and fans at elevations ranging from 6,700 to 8,300 feet and on slopes of 3 to 50 percent. Surface runoff for this soil is medium and the erosion hazard is classified as moderate.

Jerry loam (63, 64) – This deep, well-drained soil is found on alluvial fans and hills at elevations

ranging from 7,500 to 9,500 and on slopes of 12 to 65 percent. This soil is derived from sandstone and shale alluvium. Surface runoff is rapid and the water erosion hazard is moderate.

Torriorthents-Camborthids-Rock outcrop complex (104) – This soil map unit occurs on south-facing mountainsides, hills, and ridges with slopes ranging from 6 to 65 percent. Approximately 45 percent of this unit is Torriorthents, 20 percent Camborthids, and 15 percent Rock outcrop. The Torriorthents are shallow to moderately deep, well drained, and are derived from sedimentary rock. Surface runoff is rapid and the water erosion hazard is severe. The Camborthids are shallow to deep, well drained, and are derived from sandstone, shale, and basalt. Surface runoff is rapid and the water erosion hazard is severe. The Rock outcrop component of this unit consists of exposed sandstone, shale, and basalt.

Tridell-Brownsto stony sandy loams (106) – This soil map unit is found on terraces and mountainsides at elevations ranging from 6,400 to 7,700 feet and on slopes of 12 to 50 percent. Approximately 45 percent of this unit is Tridell soil and 35 percent Brownsto soil with the other 20 percent being a mixture of several soil types. The Tridell soil is deep, well drained and is derived from sandstone and basalt alluvium and colluvium. Surface runoff is rapid and the water erosion hazard is moderate. The Brownsto soil is deep, well drained and is derived from calcareous sandstone and basalt alluvium. Surface runoff is rapid and the water erosion hazard is moderate.

Soil health was evaluated in 2010 during the Roaring Fork Land Health Assessment. BLM staff concluded that soils were meeting land health standards throughout the proposed allotments, with only slight departures from expected conditions (BLM 2010).

Environmental Effects

Proposed Action

Grazing activities could result in direct 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. Indirect impacts include soil erosion and gullyng. Improper livestock grazing may cause substantial ground disturbance. Based on existing soil conditions and generally good vegetative cover; the likelihood of livestock grazing contributing to excessive soil degradation and transport to nearby drainages is not expected. Small-scale and localized disturbances would likely be limited to trails and watering areas. Adaptive management will provide better soil protection, by allowing range readiness to determine livestock turnout.

No Grazing Alternative

Under this alternative, no livestock grazing would occur and there would be no direct or indirect impacts to soils from livestock use. Trampling or removal of plant material may still occur from wildlife grazing. In addition, soil disturbance and erosion may persist due to other surface disturbing activities, such as roads and trails that exist throughout the allotment.

Land Health Standard 1 for Soils

Based on the Roaring Fork Land Health Assessment, BLM staff concluded that soils are meeting Standard 1 (BLM 2010). Implementation of the proposed action is not anticipated to degrade soil health from current conditions.

Water Quality

Affected Environment

The majority of the Crown allotment lies within two 6th level watersheds - Prince Creek and an unnamed watershed, both which are tributary to the Crystal River. The extreme eastern portion of the allotment drains to the Roaring Fork River. The allotment is drained by unnamed ephemeral streams, which flow in response to snowmelt and convective storms. No water quality data are available for this area because it is usually dry. Several ditches exist down gradient of the allotment on private property, including the East Mesa and Rockford Ditches and Highway 133 borrow ditch.

North Thompson Creek Common allotment lies within the North Thompson Creek, South Branch Edgerton Creek, Freeman Creek 6th level watersheds. North Thompson Creek and South Branch Edgerton Creek are tributary to the Crystal River, while Freeman Creek feeds the Roaring Fork River. With the exception of the perennially flowing North Thompson Creek in the southern portion of the allotment, and Freedom Creek in the extreme northwest, the allotment is drained by intermittent and ephemeral systems. The USGS operated a gaging station (#09082800) on North Thompson Creek from 1963-1979 just a couple of miles upstream of this allotment. Data collected at that station indicated high flows occurred in May at 365 cfs, and baseflows of less than 2 cfs occurred in the fall and winter. Some miscellaneous water quality data were collected. Specific conductance less than 200 micromhos were commonly measured and indicate excellent quality. No data are available for South Branch Edgerton Creek or Freeman Creek.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters (CDPHE 2010a). Drainages in the proposed allotments are listed under the Upper Colorado River Basin (Region 12) and have water use classifications described below:

Stream Segment Description	Classifications	Numeric Standards
8. Mainstem of the Crystal River, including all tributaries and wetlands, from the source to the confluence with the Roaring Fork River, except for specific listings in Segments 1, 9 and 10.	Aquatic Life Cold 1 Recreation E Water Supply Agriculture	D.O.=6.0 mg/l pH=6.5-9.0 E.Coli=630/100ml
10. Mainstem of Thompson Creek including all tributaries and wetlands from the source to the confluence with the Crystal River.	Aquatic Life Cold 1 Recreation E Water Supply Agriculture	D.O.=6.0 mg/l pH=6.5-9.0 E.Coli=126/100ml
3b. Mainstem of Red Canyon and all tributaries and wetlands from the source to the confluence with the Roaring Fork River, except for Landis Creek from its source to the Hopkins Ditch Diversion.	Aq Life Cold 2 Recreation N Water Supply Agriculture	D.O.=6.0 mg/l pH=6.5-9.0 E.Coli=126/100ml

Aquatic life cold 1 indicates that a stream segment is capable of sustaining a wide variety of cold water biota. Aquatic life cold 2 are waters that are not capable of sustaining a wide variety of cold water biota, including sensitive species, due to physical habitat, water flows, or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species. Recreation E refers to stream segments in which surface waters are used for primary contact recreation. Recreation N refers to stream segments with surface waters that are not suitable or intended to become suitable for primary contact recreation uses. Water supply and agriculture refer to stream segments that are suitable or intended to become suitable for potable water supplies and suitable for irrigation or livestock use.

The State of Colorado has developed a *303(d) List of Water Quality Limited Segments Requiring TMDLS and Monitoring and Evaluation List* (CDPHE 2010b) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. No water quality data was collected by BLM during the 2010 Roaring Fork Land Health Assessment. However, since no streams in the proposed allotments are on the state lists for impaired water quality, it is assumed that water quality standards are currently being met.

Environmental Effects

Proposed Action

Direct impacts to water quality resulting from grazing could be elevated nutrient levels (i.e. fecal coliform) if cattle begin to congregate near water sources for extended periods of time. Hoof action can cause surface compaction, stream bank shearing, elevated erosion rates and subsequent deterioration of water quality. Indirect impacts may result from excessive utilization in upland watershed areas reducing effective vegetative cover, elevating erosion potential and increasing sediment delivery to streams, which could negatively impact water quality. However, the timing and intensity of grazing is not anticipated to generate impacts to water quality. Any sediment that is produced in areas where livestock may congregate or trail and would likely be captured by the existing vegetative ground cover. Allowing for adaptive management will provide for better protection of soils, upland and riparian vegetation and subsequently maintain water quality conditions.

No Grazing Alternative

Under this alternative, no livestock grazing would occur and there would be no direct or indirect impacts to water quality from livestock use. Trampling or removal of plant material may still occur from wildlife grazing, and soil disturbance and erosion may persist due to other surface disturbing activities, such as roads and trails that exists throughout the allotment, which could potentially affect water quality.

Land Health Standard 5 for Water Quality

Based on the Roaring Fork Land Health Assessment, BLM staff concluded that water quality is meeting Standard 5 (BLM 2010). Implementation of the proposed action is not anticipated to degrade water quality from current conditions.

Wetlands and Riparian Zones

Affected Environment

The table below lists known riparian areas and their Proper Functioning Condition (PFC) assessment for North Thompson Creek and Crown allotments.

Allotment	Riparian Area	Miles/Acres	Year	Condition Rating
North Thompson Creek Common	North Thompson Creek, lower	0.6/2.2	1994	Proper Functioning Condition
	North Thompson Creek, upper	2.3/27.9	1994	Proper Functioning Condition
	North Thompson Creek, lower	0.6/2.2	2010	Proper Functioning Condition
	North Thompson Creek, upper	1.7/20.6	2010	Proper Functioning Condition
Crown	No known riparian areas within this allotment			

North Thompson Creek:

The two reaches on North Thompson Creek that were assessed in 1994 and 2010. Locations for the 1994 assessment differed from locations for the 2010 assessment; however, all locations rated as being PFC. Additional riparian areas may be present in conjunction with springs/seeps that may be found throughout both allotments. Ephemeral and intermittent overland water flows are found throughout the allotments. A complete inventory of all springs/seeps has not been conducted.

The ID team observed no livestock use of the lower riparian area, however there was use in upper elevations. The riparian zone reached its maximum width and vegetated with a diverse suite of riparian plant species. The setting is a montane level stream flowing through slickrock. The lower riparian area was categorized as being an “A” channel with no flood plain. Along most of the creek there was very little bank erosion. Even with the lack of large amounts of vegetation, fish were observed. There is a lack of beaver activity possible because of frequent human activity.

Land Health Standard 2 for Riparian Systems:

During the Roaring Fork Land Health Assessment of 2010, BLM staff determined that both riparian assessment areas in the North Thompson Creek Allotment were meeting standard 2. Implementation of the proposed action is not anticipated to degrade riparian systems from current conditions. The Crown Allotment is not known to support riparian habitat that would be impacted by livestock grazing.

Proposed Action:

Under the proposed grazing schedule, the terms and conditions would remain the same as the expiring permit. Livestock generally move to higher elevations of the allotment as the grazing period progresses, so grazing along riparian zones may not occur during the entire season of use. The 14-day grazing period in June would allow riparian plant species to begin spring growth, replenish root reserves and set seed prior to grazing. In consideration of the above, and the conditions of riparian zones described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to the riparian zones. The condition of riparian areas would be maintained or improved. There would be no cumulative impacts.

No Grazing Alternative:

Under this alternative, no livestock grazing would occur on these allotments and there would be no direct or indirect impacts to riparian habitat from livestock use. Without livestock grazing, riparian plant communities would be allowed to proliferate and expand to their maximum extent

on the available resources present in riparian areas. Livestock caused bank shearing would not occur allowing riparian zones to widen and deepen which leads to riparian succession.

Crown Allotment:

Because the Crown Allotment is not known to support riparian habitat there would be no environmental consequences from the proposed action or the no grazing alternative.

Wildlife: Aquatic / Fisheries

Affected Environment

Aquatic wildlife includes animals, either vertebrate or invertebrate, which live in water for most or all of their life. Aquatic habitats include: lakes, ponds, springs, seeps, rivers and streams. Aquatic wildlife species are vulnerable to grazing and other authorized land use activities due to the fragility of their aquatic environments.

Amphibians possibly present in wetlands would include various species of frogs (e.g., western chorus frog (*Pseudacris triseriata*)), and toads (e.g., Great Basin spadefoot (*Spea intermontana*)), which are adapted to seasonal flow regimes in arid environments. Aquatic macroinvertebrates most likely to occur in the allotment include water striders, water boatmen, predaceous diving beetles, and the aquatic larvae of caddis flies and true flies.

Table 3-5 summarizes the latest: 1) species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate aquatic wildlife species and 2) Colorado BLM State Director's Sensitive Species List for aquatic species; that may occur within the CRVFO and be impacted by the proposed action.

Table 3-5. Special Status Aquatic Wildlife Species Potentially Present within the Allotments.

Federally Listed, Proposed or Candidate Aquatic Wildlife Species	
None	
Colorado BLM Sensitive Aquatic Species	
Species	Habitat/Range
Colorado River cutthroat trout (CRCT) (<i>Oncorhynchus clarkii pleuriticus</i>)	CRCT are one of three subspecies of native trout found in Colorado. CRCT prefer clear, cool headwaters streams with coarse substrates, well-distributed pools, stable streambanks, and abundant stream cover. CRCT have been documented as occurring in Parachute Creek, Abrams Creek, Battlement Creek, Mitchell Creek, North Thompson Creek and Red Dirt Creek. It is likely that all of the perennial waters capable of harboring fish historically contained this native trout species. CRCT have hybridized with non-native salmonids in many areas, reducing the genetic integrity of this subspecies. Rainbow trout hybridize with cutthroat trout. Brook and brown trout tend to replace them in streams and rivers.

There is only one fish-bearing stream in these allotments – North Thompson Creek. The 2010 Roaring Fork LHA noted that North Thompson Creek contains cutthroat, rainbow, and brown trout as well as mottled sculpin. Stream habitat is in fair to good condition. Roads, mining activity and grazing in the upper watershed on USFS lands are contributing to some increased sediment input and deposition of fine sediments is apparent. Riparian vegetation is fairly diverse and lush on BLM lands. The stream contains adequate year round flow to sustain resident fish species. Colorado River cutthroat trout in this stream have hybridized with rainbow trout and Yellowstone cutthroat trout and are not pure enough to be considered a conservation population.

Environmental Effects

Proposed Action

Maintaining the current number of animal unit months and similar periods of use, along with application of proposed terms/conditions; should continue to maintain the current aquatic habitat conditions. Current aquatic habitat conditions are adequate in both suitability and connectivity to ensure aquatic species are maintained at viable population levels commensurate with the species potential and habitat potential.

No Grazing Alternative

In the absence of livestock grazing, any competition for forage between livestock and wildlife would be eliminated, and the public land within the allotment would be available for exclusive use by wildlife, without disturbance by the presence of livestock. However other land uses or authorizations affecting aquatic wildlife, waters and riparian vegetation would continue to occur. Since the proposed action only affects public lands, fenced private lands could see an increase in use to make up for the loss cattle forage.

Land Health Standard (LHS) 3 and 4 for Aquatic Wildlife Communities

The 2010 Roaring Fork LHA noted that given the stream's potential, known constraints, and stream and riparian habitat condition; Standard 3 is being met for aquatic wildlife in North Thompson Creek. Renewal of the same number/kind of livestock, similar periods of use, percent public land and AUMs as the current livestock grazing permit would likely result in maintaining the current ecological condition of the allotments. The current habitat trends lead to a conclusion that the proposed action (continuation of current management) should have little bearing on the area's ability to continue to meet the LHS for aquatic species.

Wildlife: Terrestrial –(inc. Migratory Birds; Endangered, Threatened, and Sensitive Species)

Affected Environment

The allotment supports terrestrial wildlife species that summer, winter, or migrate through the region. The current condition of wildlife habitats varies across the landscape. Some habitat is altered by power lines, pipelines, fences, public recreation use, residential and commercial development, vegetative treatments, livestock and wild ungulate grazing, oil and gas development, and roads/trails. These factors have contributed to some degradation/fragmentation of habitat as well as causing disturbance to some species.

Mammals. Numerous small mammals may reside within allotment or the surrounding area including ground squirrels (*Spermophilus* spp.), chipmunks (*Neotamias* spp.), rabbits (*Sylvilagus* spp.), skunks (*Mephitis mephitis*), and raccoons (*Procyon lotor*). Many of these small mammals provide the main prey for raptors and larger carnivores. These species are most likely to occur along the drainages, near the margins of dense oakbrush, in pinyon-juniper woodland, or in the small area of aspen and spruce/fir. Larger carnivores expected to occur include the bobcat (*Lynx rufus*) and the coyote (*Canis latrans*). Black bears (*Ursus americanus*) make use of oaks and the associated chokecherries and serviceberries for cover and food, while mountain lions (*Felis concolor*) are likely to occur during seasons when mule deer (*Odocoileus hemionus*) are present.

Big Game. The mule deer (*Odocoileus hemionus*) is a recreationally important species that is common throughout suitable habitats in the region. Another recreationally important big game ungulate (hoofed animal), the Rocky Mountain elk (*Cervus elaphus nelsonii*), is also present. Mule deer and elk usually occupy higher elevations, forested habitat, during the summer and then migrate to sagebrush-dominant ridges and south-facing slopes at lower elevation in the winter. BLM lands provide a large portion of the undeveloped winter range available to deer and elk. The CRVFO's RMP allocated existing forage proportionately to livestock and big game, the criterion being active preference for livestock and 5-year average demand for big game.

Reptiles and Amphibians. Reptile species possible in the area include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) along creeks/riparian areas. Other reptiles potentially present along creeks, although more commonly found at lower elevations than the site, are the milk snake (*Lampropeltis triangulum*) and smooth green snake (*Opheodrys vernalis*). The allotment does not contain any fish-bearing streams however springs and stock ponds could provide habitat for species such as the Tiger Salamander (*Ambystoma tigrinum*), Great Basin Spadefoot Toad (*Spea intermontana*) or the Western Toad (*Bufo boreas*).

Resident Raptors and Other Birds: Birds of prey (eagles, falcons, hawks, and owls) may migrate through the area or nest in cottonwoods, conifers, or very tall oaks, while the numerous songbirds and small mammal populations provide the primary prey base. Common raptor species in the CRVFO include the: red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*) American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), Cooper's hawk (*Accipiter cooperii*), and sharp-shinned hawk (*A. striatus*).

Passerine (perching) birds commonly found in the area include the: American robin (*Turdus migratorius*), pinyon jay (*Gymnorhinus cyanocephalus*) western scrub-jay (*Aphelocoma californica*), and black-billed magpie (*Pica pica*). Two gallinaceous species, the wild turkey (*Meleagris gallopavo*) and the Dusky grouse (*Dendragapus obscurus*), are found throughout the CRVFO.

Numerous streams, rivers, reservoirs, ponds, and associated riparian vegetation provide habitat for a wide variety of waterfowl and shorebirds. Common species include: great blue herons (*Ardea Herodias*), Canada geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), pintails (*A. acuta*), gadwalls (*A. strepera*), and American wigeon (*A. americana*) are common.

Migratory Birds. BLM lands within the CRVFO provide both foraging and nesting habitat for a variety of migratory birds that summer, winter, or migrate through the area. BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the Bureau of Land Management's (BLM) responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance directs Field Offices to promote the maintenance and improvement of habitat quantity and quality. To avoid, reduce or mitigate adverse impacts on the habitats of migratory bird species of conservation concern to the extent feasible, and in a manner consistent with regional or statewide bird conservation priorities.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without

additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.” The “*Birds of Conservation Concern 2008*” (USFWS 2008) is the most recent effort to carry out this mandate. The CRVFO is within the Southern Rockies/Colorado Plateau Bird Conservation Region (BCR). The 2008 list of Birds of Conservation Concern potentially present, and not discussed above, are described in Table 3-6.

The conservation concerns are the result of population declines - naturally or human-caused, small ranges or population sizes, threats to habitat, or other factors. Although there are general patterns that can be inferred, there is no single reason why any species was on the list. Habitat loss is believed to be the major reason for the declines of many species. When considering potential impacts to migratory birds the impact on habitat, including: 1) the degree of fragmentation/connectivity expected from the proposed project relative to before the proposed project; and 2) the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats. Continued private land development, surface disturbing actions in key habitats (e.g. riparian areas) and the proliferation of roads, pipelines, powerlines and trails are local factors that reduce habitat quality and quantity for many species.

Table 3-6: 2008 List of Birds of Conservation Concern within the CRVFO.

Species	Habitat Description Summaries	Occurrence / Potential Impacted
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Bald eagles were removed from the federal threatened and endangered species list in 2007 but are still protected under the MBTA. Bald eagles occasionally summer in this region but usually winter (mid-Nov. to mid-April) along portions of the Colorado, Eagle and Roaring Fork Rivers and their major tributaries. Large mature cottonwood trees along the rivers and their major tributaries are used as roosting and perching sites, and these waterways provide the main food sources of fish and waterfowl. Upland habitats adjacent to these waterways are used as scavenging areas.	Irregular / No
Ferruginous Hawk (<i>Buteo regalis</i>)	Open, rolling and/or rugged terrain in grasslands and shrubsteppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops. Fall/winter resident, non-breeding.	Unlikely / No
Golden Eagle (<i>Aquila chrysaetos</i>)	Open country, grasslands, woodlands, and barren areas in hilly or mountainous terrain; nests on rocky outcrops or large trees. Year-round resident, breeding.	Present / No
Peregrine Falcon (<i>Falco peregrines</i>)	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags. Spring/summer resident, breeding.	Unlikely / No
Lewis's Woodpecker (<i>Melanerpes lewis</i>)	Open woodland, often logged or burned, including oak, coniferous forest (often ponderosa), riparian woodland, and orchards, less often in pinyon-juniper.	Possible / No
Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>)	Common to abundant resident of pinyon-juniper woodlands. Year-round resident that travels broadly in flocks.	Present / No
Juniper Titmouse (<i>Baeolophus ridgwayi</i>)	Pinyon-juniper woodlands, especially juniper; nests in tree cavities. Year-round resident, breeding.	Present / No
Cassin's Finch (<i>Carpodacus cassinii</i>).	Open montane coniferous forests; breeds/ nests in coniferous forests. Year-round resident, breeding.	Present / No
Willow Flycatcher (<i>Empidonax traillii</i>)	Riparian and moist, shrubby areas; winters in shrubby openings with short vegetation. Summer resident, breeding.	Present / No

Special Status Terrestrial Wildlife Species. Table 3-7 summarizes the latest: 1) species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate terrestrial wildlife species and 2) Colorado BLM State Director's Sensitive Species List (BLM 2009a) for terrestrial species; that may occur within the CRVFO and be impacted by the proposed action.

Table 3-7: Special Status Terrestrial Wildlife Species.

Federally Listed, Proposed or Candidate Terrestrial Wildlife Species		
No Federally listed terrestrial species potentially impacted.		
Colorado BLM Sensitive Terrestrial Wildlife Species		
Species	Habitat/Range Summaries	Occurrence/ Potentially Impacted
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>) and Fringed myotis (<i>Myotis thysanodes</i>)	Occur as scattered populations at moderate elevations on the western slope of Colorado. Habitat associations are not well defined. Both bats will forage over water and along the edge of vegetation for aerial insects. These bats commonly roost in caves, rock crevices, mines, buildings or tree cavities. Both species are widely distributed and usually occur in small groups. Townsend's big-eared bat is not very abundant anywhere in its range. This is attributed to patchy distribution and limited availability of suitable roosting habitat (Gruver, J.C. and D.A. Keinath 2006).	Possible / No
Brewer's sparrow (<i>Spizella berweri</i>)	Neotropical migrant that summers in western Colorado mountain parks and spring/fall migrant at lower elevations. A sagebrush shrubland obligate with an apparently secure conservation status in Colorado.	Possible / Yes
American Peregrine Falcon (<i>Falco peregrines anatum</i>)	Rare spring and fall migrant in western valleys. Peregrine falcons inhabit open spaces associated with high cliffs and bluffs overlooking rivers. The falcon nests on high cliffs and forages over nearby woodlands.	Possible / No

Environmental Effects

Proposed Action

Livestock grazing can alter vegetation structure, composition, and function. On the other hand, livestock grazing can have a beneficial effect on forage quality by removing the rough or dried seedheads and stems, while leaving or creating the more palatable leaves for deer or elk to graze later in the season. Effects on terrestrial wildlife are dependent on the species of interest and may be adverse or beneficial depending on grazing: numbers, timing, frequency, and intensity.

Since the livestock AUMs authorized are estimated to remove 50% or less of the annual vegetative component - thereby leaving no less than 50% of the vegetative resource for use by wildlife - the proposed action would provide for adequate amounts of upland herbaceous vegetation necessary to continue to meet the needs of the various terrestrial wildlife species. Grazing at up to 50% of current year's growth would be expected to maintain vertical and horizontal vegetative structure and complexity where it presently exists. The size of the allotment along with the proposed periods of use would allow for upland herbaceous and woody plant recovery and regrowth following defoliation. Also see the vegetation and riparian sections.

Routine maintenance of fences, waters and other livestock operations should not negatively impact terrestrial wildlife or their habitats over the ten-year term of the permits. Such activities

would be short term in duration and localized and would not result in new surface disturbances or loss of habitat.

No Grazing Alternative

In the absence of livestock grazing, any competition for forage between livestock and terrestrial wildlife would be eliminated, and the public land within the allotment would be available for exclusive use by wildlife, without disturbance by the presence of livestock. However other land uses or authorizations affecting wildlife would continue to occur. Since the proposed action only affects public lands, fenced private lands could see an increase in livestock use to make up for the loss cattle forage.

Land Health Standard 3 and 4 for Terrestrial Wildlife Communities

The allotments were included in a formal land health assessment of the Roaring Fork Landscape in 2010. The assessment determined that the allotments were meeting Standard 3 for terrestrial wildlife and livestock grazing was not considered to be a causal factor in the failure to achieve the standard.

Renewal of the same number/kind of livestock, similar period of use, percent public land and AUMs as the current livestock grazing permit should result in maintaining comparable ecological condition on the allotment. The current habitat trends lead to a conclusion that the proposed action should have little bearing on the area's ability to continue to meet LHSs for terrestrial wildlife species. It is unlikely that the proposed action or any alternative would influence terrestrial wildlife populations on a landscape level.

CUMULATIVE EFFECTS SUMMARY

Soil and Water. Cumulative impacts to soil and water resources can occur from existing roads and trails throughout the allotment. Roads and trails can contribute to increased surface runoff and accelerated erosion, especially where proper drainage is lacking. Other impacts such as vegetation treatments or weed treatments may also change water infiltration or runoff rates and affect soil and water resources. Based on limited land management activities occurring across the allotment, it is assumed that cumulative effects to soil and water are minor if proper best management practices are implemented.

Wildlife (including Special Status Species). The area covered by the proposed action only comprises a small portion of the watershed. Many other land use activities (e.g., recreation, gas development, road construction/maintenance) occur within the allotment boundaries and the watershed. All of these activities have altered the amount of suitable and potentially suitable habitats for terrestrial wildlife species. Cumulatively, many of the future actions planned on private and other lands may have some undetermined effect on wildlife including special status species habitat. The proposed action would create negligible landscape-level cumulative impacts to wildlife when viewed in comparison with those activities currently occurring and reasonably certain to occur on adjacent private/other lands.

RESIDUAL EFFECTS

None

4. Tribes, Individuals, Organizations, or Agencies Consulted

Erin Leifeld consulted with the Southern Ute Tribe, Ute Tribe of the Uinta and Ouray Bands, and Ute Mountain Ute Tribe regarding this proposal.

5. List of Preparers

Members of the CRVFO Interdisciplinary Team who participated in the impact analysis of the Proposed Action, development of appropriate mitigation measures, and preparation of this EA are listed in Table 5-1, along with their areas of responsibility.

<i>Name</i>	<i>Title</i>	<i>Areas of Participation</i>
Monte Senor	Rangeland Management Specialist	NEPA Lead, Range Management, Invasive, Non-native Species
Pauline Adams	Hydrologist	Air Quality, Water Quality, Soils
Carla DeYoung	Ecologist	ACEC, Vegetation, T/E/S Plants, Land Health Standards
Greg Wolfgang	Outdoor Recreation Planner	VRM, Recreation, Travel Management
Kimberly Miller	Outdoor Recreation Planner	Wild and Scenic Rivers, Wilderness, Recreation
Erin Leifeld	Archaeologist	Cultural Resources and Native American Concerns
Brian Hopkins	Wildlife Biologist	Migratory Birds, Terrestrial Wildlife and T/E/S Terrestrial Wildlife, Aquatic Wildlife and T/E/S Aquatic Wildlife
Everett Bartz	Rangeland Management Specialist	Wetlands & Riparian Zones

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FINDING OF NO SIGNIFICANT IMPACT

Grazing Permit Renewal on the N Thompson Crk Com and Crown Allotments

DOI-BLM-N040-2012-0017-EA

Finding of No Significant Impact

I have reviewed the direct, indirect and cumulative effects of the proposed action documented in the EA for the grazing permit renewal on the N Thompson Crk Com, and Crown Allotments. The effects of the proposed action are disclosed in the Alternatives and Environmental Impacts sections of the EA. Implementing regulations for NEPA (40 CFR 1508.27) provide criteria for determining the significance of the effects. Significant, as used in NEPA, requires consideration of both *context* and *intensity* as follows:

(a) Context. This requirement means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short and long-term effects are relevant (40 CFR 1508.27):

The disclosure of effects in the EA found the actions limited in context. The planning area is limited in size and activities limited in potential. Effects are local in nature and are not likely to significantly affect regional or national resources.

(b) Intensity. This requirement refers to the severity of the impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following are considered in evaluating intensity (40 CFR 1508.27).

1. Impacts that may be both beneficial and/or adverse.

Impacts associated with this livestock grazing permit renewal are identified and discussed in the Affected Environment and Environmental Consequences section of the EA. The proposed action will not have any significant beneficial or adverse impacts on the resources identified and described in the EA.

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

The proposed activities will not significantly affect public health or safety. The purpose of the proposed action is to allow for multiple uses while maintaining or improving resource conditions to meet standards for rangeland health in the allotment. Similar actions have not significantly affected public health or safety.

3. Unique characteristics of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, wilderness study areas, or ACECs.

A portion of The North Thompson Creek Common allotment lies within an Area of Critical Environmental Concern.

4. The degree to which the effects are likely to be highly controversial.

The possible effects of continued livestock grazing are not likely to be highly controversial.

5. The degree to which the effects are highly uncertain or involve unique or unknown risks.

The possible effects on the human environment are not highly uncertain nor do they involve unique or uncertain risks. The technical analyses conducted for the determination of the impacts to the resources are supportable with use of accepted techniques, reliable data, and professional judgment. Therefore, I conclude that there are no highly uncertain, unique, or unknown risks.

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

This EA is specific to N Thompson Crk Com, and Crown Allotments. It is not expected to set a precedent for future actions with significant effects or represent a decision in principle about a future management considerations in or outside of this allotment.

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

The area covered by the proposed action only comprises a small portion of the watershed. Cumulatively, many of the future actions planned on private and other lands may have some undetermined effect on plants and wildlife including special status species habitat. The proposed action would create negligible landscape-level cumulative impacts to plants and wildlife when viewed in conjunction with those activities currently occurring and reasonably certain to occur on adjacent private/other lands.

8. The degree to which the action may adversely affect scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places.

Of the 2 cultural resources identified, no Historic Property was identified. Subsequent site field visits, inventory, and periodic monitoring may have to be done to identify if other historic properties are present as well as determine if there are impacts to these properties within the term of the permit and as funds are made available. If the BLM determines that grazing activities adversely impact the properties, mitigation will be identified and implemented in consultation with the Colorado SHPO. The EA discloses the adverse impacts that could occur to cultural resources from livestock grazing. A determination of a Conditional No Adverse Effect has been made for historic properties that may occur in the allotment.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

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

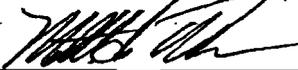
There are no endangered or threatened species or their habitats included within the assessment area.

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

The proposed action does not violate or threaten to violate any Federal, State or local laws or requirements imposed for the protection of the environment.

Based upon the review of the test for significance and the environmental analyses conducted, I have determined that the actions analyzed in the EA will not significantly affect the quality of the human environment. Accordingly, I have determined that the preparation of an Environmental Impact Statement is not necessary for this proposal.

SIGNATURE OF AUTHORIZED OFFICIAL



Matthew Thorburn
Supervisory Natural Resource Specialist

DATE: 4-11-2012

