

# ENVIRONMENTAL ASSESSMENT

## Livestock Grazing Permit Transfer and Renewal for the Blue Creek Allotment (00516) DOI-BLM-WY-R010-2013-0024-EA

**BLM**

Worland Field Office, Wind River/Bighorn Basin District, Wyoming

2013



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# **Livestock Grazing Permit Transfer and Renewal for the Blue Creek Allotment (00516)**

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*Type of Project: Grazing Permit Transfer and Renewal*

*General Location of Proposed Action: T45N R101W and T46N R101W*

**Name and Location of Preparing Office:**

*Worland Field Office  
101 S. 23<sup>rd</sup> St.  
Worland, WY 82401*

**Grazing Authorization Number:** 4915199

**Applicant Name:** Legend Rock Resources Inc.

## **1 INTRODUCTION AND NEED FOR THE PROPOSED ACTION**

### **1.1 Background Information**

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of renewing/transferring the grazing permits on the Blue Creek Allotment. This EA is a site-specific analysis of potential impacts that could result with the implementation of the analyzed alternatives. The EA assists the BLM in planning and ensuring determination as to whether any “significant” impacts could result from the analyzed actions. An EA provides evidence for determining whether an Environmental Impact Statement (EIS) or a “Finding of No Significant Impact” (FONSI) statement should be prepared. If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a “Finding of No Significant Impact” (FONSI) and Decision Record (DR) may be signed for the EA approving the selected alternative.

### **1.2 Purpose and Need for the Proposed Action**

**NEED:** This action is needed to transfer the grazing permit and to address grazing management/terms and conditions on the Blue Creek Allotment.

**PURPOSE:** This action focuses on the environmental issues specific to livestock grazing management and transferring the term grazing permit associated with this allotment. The purpose of this action is to continue, modify, or cancel the current grazing management to promote healthy, sustainable rangeland ecosystems and to meet/continue to meet rangeland health standards.

The grazing permit is subject to renewal in accordance with the provisions of the Taylor Grazing Act, Federal Land Policy and Management Act, Public Rangelands Improvement Act, Administrative Procedures Act, Grass Creek Resource Management Plan, and the grazing regulations 43 CFR Part 4100.

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In order for livestock grazing to occur on public land, the livestock permittee's must hold a valid grazing permit. The Code of Federal Regulations, 43 CFR 4130.2(a), states that "Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans." The Grass Creek RMP has designated the allotment as available for livestock grazing. The above mentioned applicants control base property associated with a grazing preference on the allotment and have been determined to be qualified applicants.

### **1.3 Decision to be Made**

The Authorized Officer (AO) must determine whether or not to issue a grazing permit to the applicant(s). The applicant for the renewal or issuance of a new grazing permit or lease, and any affiliate, shall have a satisfactory record of performance and be in substantial compliance with the terms and conditions of the existing Federal grazing permit or lease for which a new permit is sought. The AO could decide not to issue a permit, or to remove the grazing preference from the RMP grazing base, if it would cause unnecessary or undue degradation to the public lands, if it would threaten to violate another Federal law, or if the applicant has an unsatisfactory record of performance or is not in compliance with the existing permit or lease. If the AO decides to remove the grazing preference from the RMP grazing base through an RMP revision, the potential effects of removal of the grazing preference would be analyzed during the RMP revision process.

The AO must identify specific terms and conditions that apply to the permit. Livestock grazing permits and leases shall contain terms and conditions appropriate to achieve management and resource condition objectives for the public lands. These grazing permits and leases shall specify the kind and number of livestock, the period(s) of use, the allotment(s) to be used, and the amount of use, in animal unit months, for every grazing permit or lease. The authorized use shall not exceed the livestock carrying capacity of the allotment. All permits and leases shall be made subject to cancellation, suspension, or modification for any violation of these regulations or any term or condition of the permit or lease (43 CFR 4130.3). The environmental assessment will be used to identify the appropriate terms and conditions that should be included with the renewed permit.

Finally, the AO must determine whether or not implementation of the selected alternative could result in significant impact to the human environment. If not, this determination would be documented in a Finding of No Significant Impact (FONSI). If the impacts could be significant, an environmental impact statement would be necessary.

### **1.4 Conformance**

This action is subject to the following land use plan:

Name of Plan: Grass Creek Resource Management Plan (RMP)

Date Approved: September, 1998

Remarks: The Grass Creek RMP established the following Management Objective for Livestock Grazing Management:

"Improve forage production and range condition to provide a sustainable resource base for livestock grazing while improving wildlife habitat, watershed protection, and forage for wild horses." [Page 13]

Specific livestock grazing management actions from the Grass Creek RMP, which apply to this proposed action include,

“The amounts, kinds, and seasons of livestock grazing use will continue to be authorized until monitoring indicates a grazing use adjustment is necessary, or an environmental assessment indicates that a permittee’s application to change grazing use is appropriate.” [Page 13]

And,

“Grazing strategies (including the timing of grazing) will be designed to accommodate the growth requirements of “desired” species within plant communities.” [Page 14]

“Livestock grazing strategies, including periodic rest of pastures in elk crucial winter ranges, will be applied as necessary.” [Page 14]

“In other plant communities that are grazed during the growing season, grazing strategies will be designed to allow a combined forage utilization of 30 to 50 percent of the current year’s growth.” [Page 14]

“In elk crucial winter ranges, grazing strategies will be designed so that combined utilization levels are kept near the lower end of the utilization objectives described above.” [Page 14]

The RMP has been reviewed and it is determined that the proposed action conforms to the land use plan terms and conditions as required by Title 43 Code of Federal Regulations, part 1610.5.

## **1.5 Relationship to Statutes, Regulations, Plans or Other Environmental Analyses**

This and other grazing related Environmental Assessments are being prepared in accordance with Washington Office (WO) Instruction Memoranda WO-IM-99-039 and 2000-022 as well as WY-IM-2000-20, which instruct all Bureau of Land Management (BLM) Field Offices to conduct National Environmental Policy Act (NEPA) review on grazing permit renewals. The primary regulations governing the analysis are 40 CFR 1500 (RE: The President’s Council on Environmental Quality implementing regulations for procedural provisions of NEPA). The principal Bureau permitting regulations for livestock grazing are found in 43 CFR 4100. The principal statutes governing livestock grazing on public land are the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act of 1976, and the Public Rangelands Improvement Act of 1978.

## **1.6 Scoping, Public Involvement and Issues**

### **1.6.1 Scoping**

The proposed action was reviewed by an interdisciplinary team. The applicant for the transfer of the grazing permit was also consulted. Based on the size and routine nature of the proposed project, it was determined that further external scoping was not necessary.

### 1.6.2 Issues Identified

- How will the proposed action or other alternatives impact vegetation and plant community conditions within the Blue Creek Allotment?
- How will the proposed action or other alternatives impact rangeland health and grazing management within the Blue Creek Allotment?
- How will the proposed action or other alternatives impact water quality of Cottonwood Creek and its tributaries?
- How will the proposed action or other alternatives impact wetland/riparian areas that have historically been used in the allotment?
- How will the proposed livestock grazing affect wildlife use/habitat, particularly big game crucial winter range?
- How will the proposed domestic livestock grazing impact Grizzly bears and potential Lynx habitat?
- How will the proposed domestic livestock grazing impact these Wyoming BLM Sensitive Species: Gray Wolf and Northern Goshawk?
- How will the proposed action or other alternatives reduce fuel loads, especially loss of herbaceous understory species?
- How will the renewal of the grazing permit impact the Rangeland Health Attributes of Soil/Site Stability and Hydrologic Function (Indicators 1-11 &14)?
- How will the proposed action or other alternatives impact cultural resources in the Blue Creek Allotment?

### 1.6.3 Issues/Resources Dismissed from Analysis

The Worland Field Office Interdisciplinary (ID) Team determined the following resources are not present or affected by the proposed action or alternatives; therefore, they are not analyzed further in this EA.

Air Quality/Climate Change  
Areas of Critical Environmental Concern  
BLM Natural Areas  
Class I Visual Management Areas  
Class I Airsheds  
Environmental Justice  
Geology/Mineral Resources/Energy Production  
Greenhouse Gas Emissions  
Hazardous or Solid Waste  
Lands use/Access  
Native American Religious Concerns  
Prime or Unique Farmlands  
Socio-Economics  
Threatened, Endangered or Candidate BLM Sensitive Plant Species  
Wild and Scenic Rivers  
Wilderness or Wilderness Study Areas  
Wild Horses and Burros

The following resources were identified by the ID Team as present, but not impacted by the proposed action or alternatives; therefore, they are not analyzed further in this EA.

Flood Plains - There is no construction or disturbances that will occur within a designated floodplain of the South Fork of Cottonwood Creek and Cottonwood Creek.

Hydrologic Conditions - There are no changes in water diversions, structures, or any impoundments that would alter the surface and ground water hydrologic conditions as a result.

Invasive Species/Noxious Weeds – The Blue Creek Allotment lies within the Grass Creek Weed Management Area. Monitoring and treatment for noxious weeds and other invasive plants are conducted through a cooperative agreement between BLM, Hot Springs County Weed and Pest District, and landowners.

Paleontology - Surface paleontological resources are primarily found on bare, non-vegetated outcrops which are created as the result of active erosion processes. These are not locations livestock congregate.

Recreation (SRMA) - The allotment is located in areas where legal public access is difficult, and where the public land pattern is broken which impacts dispersed recreational activities. Livestock use has been a historic land use in the area, and will not displace recreational use that may occur in this allotment.

Visual Resources - Nearly all BLM- administered public lands within the allotment is managed under VRM Class III objectives, with approximately 9 acres (0.16%) managed under Class II objectives. The project will not introduce new contrasting element, nor compromise the scenic qualities or contradict with VRM management objectives.

Wilderness Values or Inventoried Lands with Wilderness Characteristics - Lands with wilderness characteristics were inventoried as required in section 201 of the Federal Land Policy and Management Act (FLPMA). Some lands within the Blue Creek Allotment were determined to contain wilderness characteristics. Section 201 provides that the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of the lands. Transferring of an existing allotment will not affect current LWC and is an existing use of these lands.

Wildlife - The following is a list of species provided by the U.S. Fish and Wildlife Service to the BLM Worland Field Office (WFO), representing all federally listed animal species that will be evaluated within the WFO. All of the following species were considered, however not all species on this list necessarily occur within the project area or will be affected by the project. Grizzly Bear and Canada Lynx will be analyzed in this EA; however, those species outside of any effects of the proposed project (geographically or biologically) will be eliminated from further review.

- Black-footed ferret (*Mustela nigripes*): Federally listed as Endangered

- Canada Lynx (*Lynx Canadensis*): Federally listed as Threatened

- Grizzly Bear (*Ursus arctos horribilis*): Federally listed as Threatened

- North American Wolverine (*Gulo gulo luscus*): Federally listed as Threatened

Woodlands/Forestry - This permit transfer is not expected to affect forest and woodland management. Forest and woodlands are present in the allotment, but no tree planting has been completed recently, or is planned, that could be affected by trampling.

## 2 PROPOSED ACTION AND ALTERNATIVES

### 2.1 Alternatives Considered

The alternatives were developed based upon the current grazing permit, a proposal of the applicant, and BLM Policy Instruction Memorandum No. WY-2000-020. The alternatives were developed to address the grazing impacts on public lands within the allotment, to consider the permittee's ranching resource goals and operations as well as provide the opportunity for specific comparisons on which the decision maker could base a decision.

#### 2.1.1 Alternative 1: No Action

Under Alternative 1 the permits would be issued just as they were previously issued. There would not be changes made. The previous permits to Cottonwood Acres Joint Ventures and John Leroux are outlined below:

Cottonwood Acres Joint Ventures Permit			
Number/Kind	Season of Use	Public Land %	AUMs
124 Cattle	7/15-9/15	21	54
6 Horses	5/1-12/1	21	9
53 Active AUMs	150 Suspended AUMS	203 Grazing Preference AUMs	

Other terms and conditions:

Certified Actual Use must be submitted following annual grazing use.

The following measures apply to grizzly bear management in the Blue Creek Allotment No. 00516, as specified in EA No. WY-010-EA9-113. The permittee/lessee, his/her agents, and employees are responsible for notifying the BLM immediately of any grizzly encounters, suspected predation by grizzlies, or potential or existing grizzly conflict situations.

All livestock carcasses, or parts of carcasses discovered, must be either packed, dragged, or otherwise transported to a location a minimum of ½ mile from any inhabited dwelling, sleeping area, or tent unless otherwise directed by a BLM Range/Wildlife specialist. Carcasses must be moved at least 100 yards from live water. Other options for carcass disposal may include using explosives or burning the carcass at the discretion of a BLM Range/Wildlife Specialist. In cases of uncertainty on carcass disposition, the permittee should contact the BLM Worland field office. All human and prepared livestock and pet food, beverages, garbage, cooking grease, and other odorous substances must be stored, handled, and disposed of in such a manner as to make totally unavailable to bears at night and during the day when unattended. Unavailable means stored in a bear-resistant container, stored in a closed vehicle constructed of solid non-pliable material, or suspended at least ten feet clear of the ground at all points and four feet horizontally from any supporting tree or pole. Uneaten horse feed may not be left on the ground after feeding livestock. It must be gathered and properly stored unavailable to bears and garbage shall be packed out on a regular basis and not be allowed to accumulate. Burning food garbage, refuse, or grease is prohibited.

Leroux Grazing Permit

Number/Kind	Season of Use	Public Land %	AUMs
26 Cattle	7/15-9/15	58	31
31 Active AUMs	86 Suspended AUMS	117 Grazing Preference AUMs	

Other terms and conditions:

Same as the above terms and conditions for Cottonwood Acres Joint Ventures

**2.1.2 Alternative 2: Proposed Action**

Proposed Action Alternative –Issue one grazing permit with modifications

The two grazing permits of Alternative 1 would be combined into one grazing permit. The permit would be issued for a term of ten years. The active AUMs would be reduced to 84 AUMs, from 94 AUMs, thereby matching the Active AUMs permitted for use on the allotment. The percent public land would change as a result of combining the two permits.

The proposed action incorporates the following Grazing Prescription: All of the AUMs would be used by cattle; therefore, all horse use would be eliminated. Defunct fencing within the allotment would be removed from public land during 2013 with livestock distribution managed through herding and placing of minerals/supplements. The allotment would be placed in Conservation non-use (rest) once in every three years and would be implemented as a term and condition of the grazing permit. Grazing season would be the same as previous permitted cattle use to allow for grazing use after peak plant growth.

The grazing permit would authorize the following livestock grazing use:

Legend Rock Resources Inc.

Number/Kind	Season of Use	Public Land %	AUMs
144 Cattle	7/15-9/15	28	84
84 Active AUMs	236 Suspended AUMS	320 Grazing Preference AUMs	

Other Terms and Conditions:

Grazing shall not occur in more than two consecutive years with rest of entire allotment the third year (i.e. Grazing 2013 and 2014, Rest 2015, Grazing 2016 and 2017, Rest 2018, Grazing 2019 and 2020, Rest 2021, Grazing 2022).

Livestock numbers shall not exceed the permitted 144 cattle.

The following measures apply to grizzly bear management in the Blue Creek Allotment No. 00516, as specified in EA No. WY-010-EA09-113:

The permittee/lessee, his/her agents, and employees are responsible for notifying the BLM immediately of any grizzly encounters, suspected predation by grizzlies, or potential or existing grizzly conflict situations.

All livestock carcasses, or parts of carcasses discovered, must be either packed, dragged, or otherwise transported to a location a minimum of ½ mile from any inhabited dwelling, sleeping area, or tent unless otherwise directed by a BLM Range/Wildlife specialist.

Carcasses must be moved at least 100 yards from live water. Other options for carcass disposal may include using explosives or burning the carcass at the discretion of a BLM Range/Wildlife Specialist. In cases of uncertainty on carcass disposition, the permittee should contact the BLM Worland field office. All human and prepared livestock and pet food, beverages, garbage, cooking grease, and other odorous substances must be stored, handled, and disposed of in such a manner as to make totally unavailable to bears at night and during the day when unattended. Unavailable means stored in a bear-resistant container, stored in a closed vehicle constructed of solid non-pliable material, or suspended at least ten feet clear of the ground at all points and four feet horizontally from any supporting tree or pole. Uneaten horse feed may not be left on the ground after feeding livestock. It must be gathered and properly stored unavailable to bears and garbage shall be packed out on a regular basis and not be allowed to accumulate. Burning food garbage, refuse, or grease is prohibited.

#### Standard Cultural Stipulations:

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
- a timeframe for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

#### **2.1.3 Alternative 3: No Grazing**

Under Alternative 3, no livestock grazing would be permitted on the Blue Creek Allotment. The previous grazing permits would be cancelled. The grazing preference for the allotment would be removed from the Grass Creek RMP grazing base. Under this alternative grazing may still occur on private lands within the allotment boundaries.

#### **2.2 Design Features (of the Proposed Action or Other Alternative)**

The BLM can set forth design features that are necessary for the protection of the surface resources, uses and the environment; and for the reclamation of the disturbed lands. Design features are those specific means, measures, or practices that make up the proposed action and alternatives. Additional design features are added as needed to the proposed action or alternatives. Regulations, standard operating procedures, stipulations, and operator committed measures, and best management practices are usually considered design features. Design features are incorporated into the Proposed Action or alternatives to reduce or avoid adverse effects.

For the purpose of this analysis, the following design features are considered part of Alternative 2:

- Resting allotment every three years to allow recovery of forage/herbaceous species and provide protection for soil, wildlife, and water/riparian resources.
- Removal of defunct pasture fencing to allow wildlife to freely use the area and be unobstructed by range improvements.
- Grazing after peak plant production to aide in plants completing life cycle prior to being disturbed.

### **2.3 Alternatives Considered but not Analyzed in Detail**

- Transfer/renew permit with a four pasture rest rotation grazing system.

### **3 AFFECTED ENVIRONMENT and Environmental Effects**

This chapter characterizes the resources and uses that have the potential to be affected by the proposed action, followed by a comparative analysis of the direct, indirect and cumulative impacts of the alternatives. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

#### **3.1 Introduction**

##### **3.1.1 General Setting and Geographic Scope of the project area**

The Blue Creek Allotment is located in Hot Springs County approximately 22 miles south of Meeteetse, Wyoming. The allotment is comprised of approximately 1,888 public acres and 2,261 controlled private acres (see Map 1). Elevation in the allotment varies from 7,400 feet to 8,800 feet above sea level. The topography varies from steep ridges to gentle slopes dissected by small ephemeral, perennial or intermittent stream segments.

##### **3.1.2 Past, Present, Ongoing, and Foreseeable Future Actions**

Livestock grazing has been a historic permitted use in the Blue Creek Allotment. Prescribed fires have also been used in the past to manage and improve vegetative resources and fuels in the allotment. Currently a prescribed fire is planned for 2013 and/or 2014 in Gamble's Basin of the Blue Creek Allotment depending on snow pack. At this time there are no additional ongoing or foreseeable future actions.

#### **3.2 Resources Carried Forward for Analysis**

##### **3.2.1 Vegetation**

###### **3.2.1.1 Issue(s) Identified**

- How will the proposed action or other alternatives impact vegetation and plant community conditions within the Blue Creek Allotment?

###### **3.2.1.2 Affected Environment**

The Blue Creek Allotment is classified by the Grass Creek Resource Management Plan (1998) as a class "I", Improve allotment. The objective is to improve resource conditions and productivity to enhance multiple use opportunities.

Vegetation on the allotment is quite variable and dependent upon the range site. Historically the ecological sites within the allotment evolved with grazing from large ungulates and low frequency wildfires (NRCS 2008). Vegetation on the allotment generally begins growing between May 1 and May 15 continuing growth until about October 10. Most growth occurs in June and early July.

The uplands are comprised primarily of grasses such as bluebunch wheatgrass (*Pseudoroegneria spicata* (Pursh) A. Löve ssp. *spicata*), Columbia needlegrass (*Achnatherum nelsonii* (Scribn.) Barkworth ssp. *nelsonii*), prairie Junegrass (*Koeleria macrantha* (Ledeb.) J.A. Schultes), western wheatgrass (*Pascopyrum smithii* (Rydb.) A. Löve), Sandberg bluegrass (*Poa secunda* J. Presl.), Idaho fescue (*Festuca idahoensis* Elmer), spike fescue (*Leucopoa kingii* (S. Wats.) W.A. Weber), mutton grass (*Poa fendleriana* (Steud.) Vasey), and sedges (*Carex* spp). Other vegetation found includes sagebrush, junipers, cottonwoods, willows, limber pine, quaking aspen and forbs such as

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bluebell bellflower (*Campanula rotundifolia* L.), lupine (*Lupinus* spp.), and taxa in the Asteraceae and Fabaceae. This list is not all inclusive and the vegetation noted are those that are evident and readily available.

Two ecological sites were assessed in August of 2009 to aid in the determination of Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management (S&G) within the Blue Creek Allotment. Each of these sites is associated with an established key area. Data from Ground Cover Transects and Line Intercept of *Artemisia tridentata* (Big Sagebrush) was also collected during this time and is summarized below in Table 1.

Table 1. Summary of Monitoring Data by Key Area

Cottonwood (Key Area #1)		Blue Creek (Key Area #2)	
Ecological Site	Shallow Loamy	Ecological Site	Loamy
Ecol. Site ID	R043BY362WY	Ecol. Site ID	R043BY322WY
Ground Cover Transect Data Summary			
	% Cover		% Cover
Bare Ground	0	Bare Ground	1
Litter	2	Litter	5
Gravel	0	Gravel	0
Rock	0	Rock	1
Vegetation	98	Vegetation	93
	% Composition		% Composition
ACNE9	28	ACNE9	4
ARTR2	4	ARTR2	8
Carex	9	Carex	8
FEID	20	FEID	32
Forb	20	Forbs	11
KOMA	4	KOMA	1
LEKI2	5	LEKI2	8
PASM	4	POFE	3
POFE	5	Sporoboulus spp.	1
		Wheatgrass spp.	25
Line Intercept Data Summary			
Feet of ARTR2 in 600 ft.	17.7	Feet of ARTR2 in 600 ft.	24.9
% canopy cover	3	% canopy cover	4

Based on the state and transition models in the Ecological Site Descriptions (NRCS, 2008) and the data collected in 2009 it is expected that the Cottonwood Key Area is in the Bluebunch Wheatgrass/Mixed Shrub state. The Historic Climax Plant Community (HCPC) is a Columbia needlegrass/Spike fescue state in which Idaho fescue is also very dominant. This Key Area would fall into the HCPC state if Spike fescue was more dominant. It is important to note that the current state has not exceeded an ecological threshold and all key plant species are present.

The Blue Creek Key Area is expected to be in the Idaho Fescue/Big Sagebrush state. The HCPC is mostly dominated by Columbia needlegrass, Spike fescue, and Idaho fescue. The Blue Creek Key Area is close to the HCPC for the ecological site, but lacks the dominance by Spike fescue and Columbia needlegrass noted in the Ecological Site Description. Like the Cottonwood Key Area, this site has not exceeded any ecological thresholds such as rhizomatous grasses, shrubs, or annual grasses becoming the dominate species.

### **3.2.1.3 Direct and Indirect Effects**

#### **Alternative 1: No Action**

Under this alternative vegetation would be impacted as it has been for the previous term grazing permit. The allotment is currently near its HCPC. It is expected that continuation of previous grazing management will maintain the vegetative state, but will not promote improvement towards HCPC.

#### **Alternative 2: Proposed Action**

Under the proposed action vegetation would be removed by livestock. Historically the ecological sites and vegetation within the allotment evolved with grazing by large ungulates (NRCS 2008). Grazing can promote plant vigor, remove old decadent plant material, and help to incorporate plant seeds into the soil. Removal of plant material may also lead to erosion and less resilience of plant communities. Under the previous grazing management vegetation was found to be meeting Standards for Healthy Rangelands 1, 2, 3, and 4. It is reasonable to expect that a reduction in AUMs, as proposed, would not hinder the allotment from meeting Standards for Healthy Rangelands based on vegetation characteristics or indicators.

To further allow recovery of foraged species and to promote and maintain vegetation the allotment would be rested every three years under the proposed action. This rest will allow plants a period of time with no grazing in which stores can be built up, litter can accumulate, and plant community health to be maintained. Also, under the proposed action grazing will be prescribed so as to occur for only two months of the year and to follow the peak growing period. It is expected with the reduction in AUMs to the preference Active AUMs (carrying capacity) and following the grazing prescription that the vegetation will improve.

Prescribed grazing will allow the vegetation to reach the HCPC state from its current state according to the Ecological Site Descriptions for both sites evaluated. Due to these and the above mentioned reasons it is expected that the proposed action will affect the removal of vegetation, but the vegetation communities will be maintained in a healthy, productive state and potentially be improved through the grazing prescription when compared to past grazing management.

#### **Alternative 3: No Grazing**

Under this alternative range upland conditions may improve at a faster rate than under the other alternatives. The most rapid rate of improvement in ecological condition may occur, and domestic livestock grazing would no longer affect the vegetative resource conditions of the public rangelands. In the absence of livestock grazing, no herbaceous material would be removed by livestock. Plant growth would be optimized, and more plant material

would accumulate as litter. Surface litter would provide for raindrop interception, slowing runoff and thereby increasing infiltration, reducing surface temperatures and evaporation.

#### **3.2.1.4 Cumulative Effects**

The effects to vegetation and plant communities from the Gamble's Basin Rx Treatment were analyzed in DOI-BLM-WY-R010-2012-0040-EA. This EA incorporates by reference that analysis. The burn is expected to reset successional stages, but not degrade or damage vegetation or the plant communities. The burn is targeting about 143 acres of the 1,888 public land acres in the allotment with emphasis on reducing fuel loads (junipers and dead limber pine), increasing aspen regeneration and growth, increasing herbaceous forage production, and improving vegetation diversity. Because the key areas are near the HCPC with current livestock management it is expected that no negative cumulative effect will be seen to vegetation within the allotment due to the implementation of any of the alternatives.

### **3.2.2 Rangelands**

#### **3.2.2.1 Issue(s) Identified**

- How will the proposed action or other alternatives impact rangeland health and grazing management within the Blue Creek Allotment?

#### **3.2.2.2 Affected Environment**

In 1989 a four pasture rotational grazing system was implemented on the allotment but the rotation has not been accurately followed. In 1998, the first S&G Assessment was completed for the allotment at which time it was determined that all 6 of the standards for healthy rangelands were met. In 2009, another S&G Assessment was completed and it was found that all standards are being met, with the exception of Standard 5, Water Quality and Standard 6, Air Quality, which are determined to be UNKNOWN.

In 2009 a rangeland health assessment was also performed using the 17 Indicators of Rangeland Health (Pellant et. al. 2005). This assessment uses the ecological site description and reference sheet to compare on-the-ground conditions with the expected reference state by using 17 indicators to rate the attributes of rangeland health. All of the indicators and attributes, for both the Cottonwood and Blue Creek Sites mentioned above, were rated at none to slight departure from expected conditions using this assessment method.

Prior to the 2009 assessment the number of AUMs utilized (2001-2008) was 298 or 99 percent of preference AUMs. For the period of 2001 to 2011, according to actual use reports, an average of 217 AUMs has been utilized (72% of AUMs). During that timeframe the use has varied from 0 to 500 AUMs.

Currently there are two grazing permits for grazing on the allotment – one held by John Leroux and one held by Cottonwood Acres Joint Venture (CJV). As a whole the public land is stocked at approximately 20 acres per AUM (1888 federal Acres/94 federal AUMs).

### 3.2.2.3 Direct and Indirect Effects

#### **Alternative 1: No Action**

The current stocking level of 94 permitted federal AUMs on the two grazing permits exceeds the 84 Active AUMs determined to be available. Authorizing grazing use that exceeds the active AUMs of the allotment(s) would be a violation of 43 CFR 4130.3-1(c). It is not likely that continuing to permit 94 AUMs would have a drastic effect on rangeland health due to the fact that past permitting and management has allowed the allotment to meet S&Gs and Rangeland Health was found to be satisfactory.

#### **Alternative 2: Proposed Action**

Past S&G assessments have found that the permitted livestock grazing has not hindered the allotment from meeting Standards for Healthy Rangelands. Under the proposed action the permitted AUMs would be reduced by 10 AUMs to equal the active AUMs for the grazing preference. Rest, of the entire allotment, would also be incorporated into the management schedule every three years. Because previous permitted grazing has allowed for the achievement of standards it is not expected that the slight reduction or rest will change rangeland health. It is expected that rangeland health and standards will continue to be satisfactory by implementing the grazing management of the proposed action.

#### **Alternative 3: No Grazing**

Under Alternative 3, the livestock grazing permit on the Blue Creek Allotment would not be renewed and grazing on public lands would be unauthorized. It is likely that the removal of grazing will not hinder or help achievement of S&Gs because the past two assessments, that have been performed while grazing use has occurred, have found the allotment is meeting Standards for Healthy Rangelands.

Denying the renewal of this grazing permit also would not be in conformance with the RMP and would require an RMP revision to remove the grazing preference from the RMP grazing base. There are no fences or natural barriers separating BLM and non-BLM lands. It would not be practical or cost effective to fence out the public lands at this time. This alternative would affect how the adjacent private lands are grazed since the operator would have to keep livestock off of public lands either through herding or fencing, or be in violation of federal grazing regulations. Herding would be unpractical and difficult, due to the mixed ownership pattern and still would not assure public lands would not be grazed.

### 3.2.2.4 Cumulative Effects

Because the allotment is already meeting S&Gs it is expected that the effects of the prescribed burn coupled with the any of the alternatives will not impact rangeland health within the Blue Creek Allotment.

## 3.2.3 Soils

### 3.2.3.1 Issue(s) Identified

- How will the renewal of the grazing permit impact the Rangeland Health Attributes of Soil/Site Stability and Hydrologic Function (Indicators 1-11 &14)?

### 3.2.3.2 Affected Environment

The soils in this allotment reflect the mountain environment in which they formed. These well drained soils are typified by a thick, dark mollic epipedon that is often over 20 inches thick (referred to as a pachic epipedon). Surface textures are loams and clay loams modified with cobble and channery rock fragments. Subsoil textures reflect an increase in clay content, usually expressed as an argillic horizon with heavy clay loam textures. Soil depth ranges from very shallow (<10 inches) to very deep (>60 inches). Slopes range from 0 to 60 percent.

The ecological sites found in the in the allotment are listed below:

Loamy 15 – 19 in. pz.	R043BY322WY
Shallow Loamy 15 – 19 in. pz.	R043BY362WY
Clayey 15 – 19 in. pz.	R043BY304WY
Shallow Clayey 15 – 19 in. pz.	R043BY358WY
Woodlands	None*

*\*Soil survey data combined all forested lands into a woodland vegetation type without any further differentiation.*

Soil survey data utilizes the ecological sites from the Foothills and Mountain East (15-19 inch) ecological zone. NRCS precipitation data, on the other hand, places the Blue Creek Allotment in the upper end of the 10 to 14 inch precipitation zone. Based on the soil properties at the assessment locations, primarily a thick, dark and deep mollic epipedon, the Blue Creek allotment is well within the 15 to 19 inch precipitation zone. This was further confirmed through the Rock:Clime climate generator that is available on the US Forest Service web based Water Erosion Prediction Project (WEPP) web site whereby Rock:Clime estimates Mean Annual Precipitation to be 17.62 inches.

Two rangeland health assessments were conducted in 2009 using the 17 Indicators of Rangeland Health as described in BLM Technical Reference 1734-6. Based on the 12 indicators of rangeland health (Indicators of Rangeland Health 1 through 11 and 14) used to evaluate the attributes of *Soil & Site Stability* and *Hydrologic Function*, the soil resource meets Standard 1 for Healthy Rangelands.

The soils are stable with few indicators of active erosion. Transect data determined bare ground to be less than 1 percent. Ground cover is fully capable of protecting the soil surface from the erosive forces of raindrop impact and overland flow, and from the erosive forces of wind. Waterflow patterns, runoff and erosion indicators are not apparent. The presence of a thick (>20 inches) mollic epipedon indicates little historic erosion and highlights the natural productivity of the soils. The soil is rich in organic matter and has strong soil structure capable of holding the soil together when wetted. The plant composition adds further to the stability of the soil resource by maximizing infiltration and minimalizing runoff.

### 3.2.3.3 Direct and Indirect Effects

#### **Alternative 1: No Action**

Under this grazing system, the soil and watershed conditions as reflected in the rangeland health attributes *Soil & Site Stability* and *Hydrologic Function* would continue to be maintained at the current steady state level. Grazing by horses would continue through the entirety of the growing season with few impacts to the already stable soil and

watershed conditions. Over time there could be an incremental increase in standing vegetation and litter that would further protect the soil surface from the erosive forces of overland flow and rain drop impact. Water would continue to be adequately retained on the surface with minimal runoff.

#### **Alternative 2: Proposed Action**

Anticipated changes to the vegetation resource resulting from the elimination of early spring grazing by horses and the third year of rest would further encourage an increase in standing vegetation and litter. Rainfall and snow melt would be better intercepted with a slight increase in infiltration and a slight decrease of runoff. Soil and watershed condition as reflected in the rangeland health attributes *Soil & Site Stability* and *Hydrologic Function* would show continued improvement beyond the already stable conditions. Overall no significant changes are anticipated at the watershed level.

#### **Alternative 3: No Grazing**

With the cessation of grazing on the public lands portions of the allotment, forage would not be removed by domestic livestock. This would result in more standing vegetation starting the first year without livestock. This would complement the already stable conditions of the soil and watershed resources as reflected in rangeland health attributes of *Soil & Site Stability* and *Hydrologic Function*. The incremental trend toward greater stability would continue but at a more rapid rate. Potential improvements include a reduction in the size and distribution of the bare areas, further stabilization of waterflow patterns and an increased amount of surface litter. Increased surface litter would further protect the soil surface from the erosive forces of overland flow and rain drop impact. More water would be retained on the surface with an equivalent reduction in runoff. Given the limited acres that would be affected by this alternative, and assuming continued grazing on the private lands, no significant changes are anticipated at the watershed level.

#### **3.2.3.4 Cumulative Effects**

For the purposes of this analysis the geographic scope is at the allotment level. Changes to herbaceous cover resulting from the Gamble's Basin Prescribed Burn would complement the already stable watershed conditions with no changes anticipated at the watershed level.

### **3.2.4 Water Resources (Water Quality, Ground Water, and Wetland/Riparian Zones)**

#### **3.2.4.1 Issue(s) Identified**

- How will the proposed action or other alternatives impact water quality of Cottonwood Creek and its tributaries?
- How will the proposed action or other alternatives impact wetland/riparian areas that have historically been used in the allotment?

#### **3.2.4.2 Affected Environment**

Surface Water Hydrology/ Water Quality:

The Blue Creek Allotment is located in the Upper Bighorn River sub-basin. Within the allotment there is one #6 sub-watershed that is identified by the United States Geological Survey (USGS) by name and Hydrologic Units Codes or (HUC). The sub-watershed in the allotment is the South Fork of Cottonwood Creek (HUC# 100800070601). There is a small watershed divide on the north boundary of the allotment that separates Grass Creek to the north. The South Fork of Cottonwood Creek and Blue Creek flow into Cottonwood

Creek in the allotment (Map 2). Cottonwood Creek then flows in an eastern direction through the Absaroka Foothills toward the center of the Bighorn Basin. The main perennial water source is from various springs and ground water base flow into Cottonwood Creek, South Fork of Cottonwood Creek and tributaries such as Blue Creek. These creeks have sufficient flow to support riparian areas that are located on state and private lands and BLM lands. The elevation and precipitation zone suggest that the South Fork of Cottonwood Creek and Cottonwood Creek receive perennial flow and Blue Creek has an intermittent flow regime due to smaller watershed size. The gradient of the drainages in the allotment varies from 2-4 percent along the South Fork of Cottonwood Creek and 4-10 percent on adjacent tributaries with steeper slopes. There are two historic BLM established water quality monitoring stations located at the bottom of the allotment in section 2 and at a road crossing in section 34. Both samples were grab samples taken in 1985 had low very low amounts of coliforms and PH level of 6.5. According to the Wyoming Department of Environmental Quality (DEQ) the supported beneficial uses from the waters in the allotment is a class 2AB. The current designated beneficial uses are being met for the waters in the allotment.

Table 2. Water Quality Use Classification

<b>Surface Water Classes</b>	<b>Drinking Water</b>	<b>Game Fish</b>	<b>Non-Game Fish</b>	<b>Fish Consumption</b>	<b>Other Aquatic Life</b>	<b>Recreation</b>	<b>Wildlife</b>	<b>Agriculture</b>	<b>Industry</b>	<b>Scenic Value</b>
2AB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2C	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3B	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

**Riparian:**

There are 3.4 miles inventoried riparian or wetlands on public land within the allotment. The riparian segments in the allotment are found in table 2. All of the segments were evaluated for the proper functioning condition of lotic riparian areas methodology (BLM, 1997). Segment (P0409X) which is a section of the main reach of Cottonwood Creek, located lower in the allotment, was monitored using the Multiple Indicator Methods (MIM) according the BLM technical reference guide 1737-23 (USDI, 2011). This segment is the most representative for grazing management in the riparian areas in the allotment due to the low slopes, perennial flow regime, and easy access for grazing ungulates. Other riparian segments had steeper channel slopes and adjacent side hill slopes, armored stream banks, forested, and are less susceptible to grazing impacts. P0409X was monitored with established photo points from 1982-1992 and revisited in 2012 (Photos 1-3). In 1982 the channel was a braided Rosgen D type channel that has since stabilized to a single thread Rosgen C channel with willow over story of multiple age classes (Rosgen,1996) (Photos 1-6). It was also monitored using short term and long term indicators as a baseline for future reference.

Table 3. Riparian Segments Evaluated for PFC (BLM,1997)

Blue Creek Allotment Riparian Segments										
BLM ID#	Riparian Area	(mi)	Water Type	Date Evaluated	Gradient (%)	Rosgen Class	Function	Trend	Rating Scale	
P0005X	S FK Cottonwood Ck Tr	0.2	Perennial	8/18/2009	3		PFC	NA	15	
I0173X	S FK Cottonwood Ck Tr	0.23	Intermittent	8/18/2009	9		NF	NA	0	
I0109X	Blue Ck	1.39	Intermittent	8/4/2004	9		PFC	NA		
I0113X	S Fk Cottonwood Ck Tr	0.47	Perennial	8/12/2009	6		FAR	DN	5	
P0217X	Cottonwood Ck Tr	0.22	Perennial	8/18/2009	9		PFC	NA		
P0221X	S Fk Cottonwood Ck	0.13	Perennial	7/27/2004	3		FAR	UP	2	
P0409X	Cottonwood Ck	0.28	Perennial	7/24/2012	1		PFC	NA	15	
P0410X	S Fk Cottonwood Ck	0.27	Perennial	8/18/2009	4		FAR	UP	1	
P0414X	Cottonwood Ck Tr	0.21	Perennial	8/24/2012	9		PFC	NA		
Total:		3.4		PFC/ FAR/ NF						
PFC=Proper Functioning Condition FAR=Functioning at Risk N/A= Not Apparent U=Unknown Rating Scale= 0- Non Functioning, 1-9 Functioning at Risk, 10-19-PFC, 20=Potential Natural Community.										

Table 4. Multiple Indicator Monitoring Data Summary (USDI,2011)

Stubble Height				Woody Use	Streambanks			Woody Species Age Class		
Median SH all key species (inches)	Average SH for all key species (inches)	Dom key species for SH	Avg Ht of dom key species	Woody Species Use - all woody species (%)	Streambank Alteration (%)	Streambank stability(%)	Streambank cover (%)	Percent seedlings	Percent Young	Percent Mature
8.00	8.3	CAAQ	9.86	6.9%	5%	70%	100%	1%	76%	23%
n=	117	29		109	81	80	80	1	82	22
95% conf Int	0.6		1	1%	0%	*	*			
95% CI <sup>2</sup>	0.96			5%	6%	5%	5%	7%	7%	7%

Vegetation Ratings				Width and Shade		
	Greenline Ecological Status Rating	Site Wetland Rating	Winward greenline stability rating	Greenline-greenline width (m)	Average Woody Plant Height (m)	Shade Index
	73	89	5.53	4.27	1.0	0.07
Rating	Late	Very good	Mid			

Photos 1-3. P0409X(Cottonwood Creek) looking north



Photos 3-6. P0409X (Cottonwood Creek) looking east



### 3.2.4.3 Direct and Indirect Effects

#### **Alternative 1: No Action**

##### Hydrology-Water Quality

The issue to be analyzed is whether the change in permit would have any impact to water quality or water resources in the allotment. Under the current conditions of the permit the number of grazing animals would remain unchanged and the current impacts to water resources would remain the same. The amount of animals consuming water and the amount of water consumed would remain the same. The number of animals in proximity to water and their associated impacts to water quality would remain unchanged. The watershed health would improve in relation to the vegetation and cover provided in upland areas as discussed in other sections. The currently observed amount stream alterations would be from wildlife and permitted cattle each year. The disturbance levels along channels and banks would remain the same as current conditions. The resulting water quality from the allotment would be static. Currently the waters in the allotment are meeting their designated class 2AB beneficial uses and the trend would likely continue to improve as evidenced by the positive trend in riparian health.

##### Riparian

The current grazing management and grazing levels have been at acceptable levels that have provided for improvement in the riparian areas in the allotment. The Wetland Site rating is rated as a very good and the Winward Greenline Stability rating is a middle range rating (Table 3). The renewal of the grazing permit would allow the riparian areas to improve in functionality at the current levels. Indicators such as Greenline stability, stream bank stability, and stubble height would remain with the same statistically significant intervals. Currently the use levels are acceptable and the riparian areas have been determined to be in proper functioning condition as a result of previous grazing changes that have improved the riparian areas.

#### **Alternative 2: Proposed Action**

##### Hydrology-Water Quality

The Hydrologic function of the upland area would continue to improve beyond the current conditions. There would be sufficient vegetative cover present to provide for decreased amounts of runoff in the watershed. The base flow conditions would be unchanged and there would be a slight reduction of water consumption in correlation with the reduction of the AUM's in the allotment. The proximity of cattle to riparian areas and the time residing in riparian areas would be reduced. The one in three year rest for the pasture would also reduce the grazing pressure in the riparian areas of the allotment. The currently observed amount stream alterations would be slightly reduced and the only alterations would be from wildlife during the rest year of the rotation. With reduced disturbances along channels and banks, the resulting water quality from the allotment would be improved. The water quality of surface waters in the allotment would continue to support the class 2AB beneficial uses as designated by the State of Wyoming.

##### Riparian

The riparian areas in the allotment would improve at a slightly accelerated rate compared to Alternative 1. The reduction in grazing pressure and the rotational grazing system will relieve stress and use of livestock in the riparian areas. Indicators such as the Greenline Ecological Status, Wetland Rating, and Greenline Stability Ratings would trend toward high and very good ratings. There has been and will continue to have observable improvement in the amount of woody riparian species age class and height classes in the

allotment. The riparian areas would eventually increase in biological diversity and trend toward a seral or late seral stage. Other assessment areas using PFC methodology would trend from a functioning at risk or non-functioning status to Proper Functioning Condition with the prescribed management in this alternative.

### **Alternative 3: No Grazing**

#### **Hydrology-Water Quality**

Although water quality impacts under current management conditions are currently meeting rangeland health water quality standards, there would also not be livestock use associated impacts to surface water quality from the allotment under the no action alternative. There would be no statistically significant change from current conditions of the water quality of waters within the allotment. The currently observed amount stream alterations would be slightly reduced and the only alterations would be from wildlife. With reduced disturbances along channels and banks, the resulting water quality from the allotment would be improved.

#### **Riparian**

Under this alternative, watershed, and riparian conditions may improve at a faster rate than alternatives 1 and 2. The riparian segments would likely change from a current conditions to a climax Potential Native Community (PNC) state. The risk of riparian degradation from livestock activity would cease and conditions may improve or remain the same. The stream bank alterations would only occur from wildlife use. While the estimated timeframe to achieving maximum ecological status and condition would undoubtedly be shorter in the absence of livestock grazing, it would still require several decades, and perhaps longer.

In the absence of livestock grazing, plant growth would be optimized and plant material would accumulate as litter. Surface litter provides for raindrop interception, slows runoff and thereby increases infiltration, reducing surface temperatures and evaporation. Additionally, litter helps to maintain nutrient cycling and energy flows to support healthy biotic and abiotic systems.

#### **3.2.4.4 Cumulative Effects**

The cumulative effects to the riparian areas and water quality as a result of this action would be for improvement in their functionality and health. The overall hydrologic function of the watershed would improve as a result of the action. Other actions in the foreseeable future that could potentially impact the watershed in the area are from wildfires and prescribed fires that could cause a change in the water quality of runoff and functioning of the riparian areas. The effects to water quality and riparian areas from the Gamble's Basin Rx Treatment were analyzed in DOI-BLM-WY-R010-2012-0040-EA. The prescribed burn will result in a temporary loss of upland vegetation and expose some areas of bare ground which could potentially increase runoff from burned areas. These temporary and short term effects culminated with the impacts described above for this grazing transfer will not result with any additional cumulative impacts to water quality primarily because additional impacts to the watershed are not expected.

### **3.2.5 Fish/Wildlife (Including Threatened, Endangered, Candidate and BLM Sensitive Animal Species)**

#### **3.2.5.1 Issue(s) Identified**

- How will the proposed livestock grazing affect wildlife use/habitat, particularly big game crucial winter range?

- How will the proposed domestic livestock grazing impact Grizzly bears and potential Lynx habitat?
- How will the proposed domestic livestock grazing impact these Wyoming BLM Sensitive Species: Gray Wolf and Northern Goshawk?

### **3.2.5.2 Affected Environment**

This allotment provides habitat, specifically forage and cover needs, for several big game species, as well as many other migratory birds, none game species, and special status wildlife species during various seasons of the year. The allotment is in the Absaroka Mountains and is a mix of mountain sagebrush grasslands with patches of Douglas fir and scattered juniper and limber pine. Limber pine and aspen generally on the southern aspects, and mixed conifer stands with a minor component of conifer encroached aspen communities on the northern aspects. Riparian habitats primarily along Cottonwood Creek and associated tributaries are primarily Engelmann spruce dominated with small conifer encroached communities of narrow leaf cottonwood, aspen and willow. Throughout the year smaller numbers of resident elk, moose and mule deer use the allotment, from late fall through early spring the majority of this allotment provides winter range for larger concentrations of elk and some moose. The eastern 2/3rds of the allotment is mapped as crucial winter range for elk, and the riparian corridors and larger mixed conifer stands provide crucial winter range for moose, approximately 50 percent of the allotment. Muledeer will use the area primarily as transition range in the late spring, early summer and again in early fall, moving between summer and winter ranges, (see Map 2 Wildlife Map).

There is seasonal Grizzly bear and wolf occurrence in this allotment. Grizzly bear occurrence is primarily in spring and early summer when bears leave den sites and move to lower elevations in search of winter kill carcasses and green vegetation. Usually by mid-June most Grizzly bears have moved up in elevation, following green-up as it progresses to higher elevations, and then return in the fall when the higher elevation vegetation starts receiving killing frosts. Wolf occurrence could be yearlong but would most likely occur during winter when larger numbers of elk or moose are present. The Douglas fir and mixed conifer stands within this allotment likely provides foraging and nesting habitat for the Northern Goshawk. These conifer stands also provide habitat for snowshoe hare and therefore have the potential to provide habitat for the Canada lynx. Mixed conifer stands in the west central portion of this allotment are part of a larger Lynx Analysis Unit (LAU) that has been delineated as potential habitat for the lynx. This LAU is primarily composed of Shoshone Forest Service land in the Wood River and Gooseberry Creek drainages and is approximately 168,000 acres. Lynx inventories were conducted by the Wyoming Natural Diversity Database within this allotment and surrounding area during the winter of 2000/2001, and subsequent winter inventories have been done by the BLM periodically in upper portions of Cottonwood drainage, all with no lynx and no lynx sign observed. No documented occurrences, travel corridors, or den sites for lynx have been identified in this portion of the southern Absaroka Front.

### **3.2.5.3 Direct and Indirect Effects**

#### **Alternative 1: No Action**

The livestock grazing in this alternative prescribes cattle grazing that occur every year from 7/15-9/15, and horse use from 5/1-12/1 throughout the entire allotment. The majority of this grazing does occur during the dormant season which allows for most of the perennial bunchgrasses adequate regrowth time to replenish root reserves needed for

growth and reproduction. Under average conditions this prescribed grazing provides for herbaceous production and adequate levels of litter and residue, particularly important to wintering elk. As stated above in section 3.2.1.3 for Alternative 1, this allotment is currently near its HCPC. It is expected that continuation of previous grazing management will maintain this vegetative state, but will not promote improvement towards HCPC. The maintenance of these vegetative communities will continue to provide the forage and cover values necessary for viable populations of those wildlife species mentioned above in the Affected Environment.

With the proposed livestock grazing in this alternative, and the grazing permit terms and conditions dealing with food storage and carcass removal, this proposed alternative may affect, but is not likely to adversely affect Grizzly bears, Gray wolves, Northern Goshawk, or the local population, and will have no measurable effect on potential lynx habitat.

### **Alternative 2: Proposed Action**

Since the proposed livestock grazing for this alternative; prescribes predominantly dormant season grazing (7/15-9/15), removes the 5/1-12/1 horse use as well as 33 cattle AUMs, provides complete rest from grazing one out of three years, and livestock distribution managed through herding and placement of mineral/ supplements, the herbaceous and woody vegetation communities important to wildlife will likely be further enhanced over what is proposed in the no action alternative. With the predominantly dormant season use on the grazing years and the total rest from grazing every third year, herbaceous plants are better able to replenish root reserves needed for growth and reproduction. The reduction in AUMs, along with livestock distribution management, will decrease livestock utilization levels throughout the allotment resulting in enhanced composition, production, and woody regeneration, as well as enhanced litter and residue important to wintering moose, elk and the long term maintenance of these plant communities and the watershed. As stated above in section 3.2.1.3 for Alternative 2, the vegetation communities will be maintained in a healthy, productive state and potentially be improved through the grazing prescription when compared to past grazing management. This maintenance and anticipated enhancement of these vegetative communities will at a minimum maintain, and likely enhance necessary wildlife forage and cover values and therefore population viability for those wildlife species mentioned above in the Affected Environment. Additionally this alternative, unlike that of Alternative 1, will include the removal of approximately 3.5 miles of defunct pasture fencing which will facilitate and enhance wildlife movement throughout the allotment.

Given the proposed livestock grazing in this alternative, and the grazing permit terms and conditions dealing with food storage and carcass removal, this proposed alternative may affect, but is not likely to adversely affect Grizzly bears, Gray wolves, Northern Goshawk, or the local population, and will have no measurable effect on potential lynx habitat.

### **Alternative 3: No Grazing**

Livestock grazing generally occurs with some variable influence to wildlife populations, so the elimination of livestock grazing could benefit these species. In the absence of livestock grazing, any competition for forage or cover between livestock and wildlife would be eliminated, and the public land within the allotments would be available for exclusive use by wildlife. Without the presence of livestock or livestock management activities the potential risk of livestock or human encounters with Grizzly bears would be all but eliminated. Therefore this proposed No Grazing Alternative will have no effect on Grizzly bears, Gray wolves, Northern Goshawk, or the Canada lynx.

### 3.2.5.4 Cumulative Effects

The effects to wildlife from the Gamble's Basin Rx Treatment were analyzed in DOI-BLM-WY-R010-2012-0040-EA. This EA incorporates by reference that analysis where the following impacts to wildlife were identified. The prescribed burn will result in a temporary loss of big game hiding cover, and avian nesting/foraging habitat within some woodland and aspen sites. And there is the potential for short term disturbances and subsequent wildlife displacement caused by actual project implementation. These temporary and short term effects culminated with the impacts described above for this grazing transfer will not result with any additional cumulative impacts to wildlife primarily because additional losses in habitat are not anticipated, and no additional wildlife disturbance or displacement was identified, in any of the grazing transfer alternatives.

### 3.2.6 Fuels

#### 3.2.6.1 Issue(s) Identified

- How will the proposed action or other alternatives affect loss of herbaceous understory and/or reduce fuel loads?

#### 3.2.6.2 Affected Environment

Analysis for this EA has the geographic scope of the Blue Creek Allotment. The fuel types of the Blue Creek Allotment are TU5, very high load dry climate timber-shrub, associated with the juniper and limber pine woodland and GS2, Moderate load, dry climate grass-shrub associated with the sub-alpine meadow. The present landscape Fire Regime Condition Class (FRCC) of the Blue Creek Allotment is 147 acres in FRCC 3, mostly composed of dead and downed conifers and aspen; 218 acres are in FRCC 1; and 87 acres are in FRCC 2.

Fuel load in portions of the juniper and limber pine woodland is estimated to be 7 to 12 tons per acre with ladder fuels present. The fuel load is dead and downed timber with ladder fuel of both shrub and herbaceous components growing under and up through them.



Other portions of this fuel type have a lower fuel load with multiple standing dead conifer stems from infestation and consequent death of limber pine by the Mountain pine beetle (*Dendroctonus ponderosae*) and blister rust (*Cronartium ribicola*).



Three wildfires are recorded within the boundaries of the Blue Creek Allotment: Sugarloaf wildfire occurred on 8/20/2012 burning 3 acres, Dipper wildfire burned 12 acres in 1988, and Blue Creek wildfire blackened 60 acres in 1981.



Because of historical precipitation regimes, burned acres reverted to an earlier seral stage then recovered their herbaceous vegetation within a decade.



There are limber pine, juniper, and aspen skeletons in portions of the allotment from prescribed fire treatments done there between April 1984 and October 1985.





### 3.2.6.3 Direct and Indirect Effects

#### **Alternative 1: No Action**

If there are no changes in the present grazing management there would be no change in the present herbaceous fuel load and potential fire behavior. Grazing would not affect the down and dead standing timber fuel load.

#### **Alternative 2: Proposed Action**

This alternative would be a reduction in the number of livestock AUMs coupled with a rotational rest every 3 years and livestock use only 2 months of the year following the peak growing period. Under this alternative there would be a rest of livestock to avoid overuse in the sub-alpine meadow with utilization of herbaceous fuel in the juniper and limber pine woodlands. The proposed two consecutive years of grazing would reduce fuel

load in areas of livestock use during the traditional fire season. The third year of non-use would allow for unrestricted herbaceous growth that might result in increased flame lengths and rates of spread in the herbaceous understory if a wildfire should ignite. Grazing and third year non-use would not affect the down and dead standing timber fuel load.

### **Alternative 3: No Grazing**

No grazing on the Blue Creek Allotment could result in an increase in herbaceous fuel load in both the juniper limber pine woodland and the sub-alpine meadow. The fuel load increase would increase wildfire rate of spread and flame lengths would be longer during a wildfire. An absence of livestock grazing would not affect the down and dead standing timber fuel load.

#### **3.2.6.4 Cumulative Effects**

Past wildfires and prescription fire treatments have impacted the fuel load of the allotment as described and shown above. A 143 acre prescription fire treatment will be done on the Blue Creek Allotment (see DOI-BLM-WY-R010-2012-0040-EA) in the spring season in 2013 or 2014, depending upon snow pack. The treatment will be a low intensity ground fire to reduce dead woody and ladder fuels. The prescribed burn will be conducted with strip head firing using narrow strips, to lessen fire intensity, or low intensity backing fires. If needed the proposed burn unit will be hand lined followed by black lining prior to ignition of the burn treatment. Fires will be ignited using hand held drip torches. The fire will be contained within the proposed contingency area in the Upper Cottonwood Creek drainage, and will occur on a combination of private and BLM lands. The effects to fuel load from the Gamble's Basin Rx Treatment are analyzed in DOI-BLM-WY-R010-2012-0040-EA. No other fuels treatment reductions are planned for the Blue Creek Allotment.

#### **3.2.7 Cultural Resources**

##### **3.2.7.1 Issue(s) Identified**

- How will the proposed action or other alternatives impact cultural resources in the Blue Creek Allotment?

##### **3.2.7.2 Affected Environment**

Following policy provided in Instruction Memorandum (IM) WO-99-039, IM WY-99-020 and BLM Manual 8100 series a literature review was conducted using State Historic Preservation Officer (SHPO) and BLM records (BLM Cultural Project 010-2012-039). Results of the file search indicate that the Blue Creek Allotment contains one known cultural resource sites. Seven class III inventory have been completed within the allotment covering approximately 103 acres. In addition, one class II inventory has been completed within the allotment covering approximately 450 acres. Per the Wyoming State Protocol Agreement between the BLM and the SHPO (State Protocol) at Appendix B.2, issuing permits that do not authorize or promote surface disturbance are exempt from class III inventory.

##### **3.2.7.3 Direct and Indirect Effects**

###### **Alternative 1: No Action**

Per the Wyoming State Protocol Agreement between the BLM and the SHPO (State Protocol) at Appendix B.27, renewal of grazing permits with no change in season of use or type of livestock is exempt from class III inventory. A files search conducted of the Blue

Creek Allotment identified no historic properties within known livestock concentration areas.

### **Alternative 2: Proposed Action**

Under the current policy (IM WO-99-039, IM WY-99-020, and Wyoming State Protocol) when there will be changes in the grazing permit a review of cultural records can be used to identify affects to known historic or unevaluated properties. Results of the file search indicate that Blue Creek Allotment contains one known historic properties. No properties are located within known livestock concentration areas. Consultation was conducted with the State Historic Preservation Officer (SHPO) under the State Protocol (BLM Cultural Project 010-2012-039). Under current policy no additional analysis of known cultural resource sites is required.

In regards to unidentified cultural resources, there is a direct relationship between the rangeland health and potential effects to cultural resources. Provided rangelands remain in satisfactory condition and are not overgrazed, the potential effects to cultural resources from grazing lease renewals are expected to be minimal. Rangeland deterioration could constitute a viable threat to cultural properties. Alternative 2 is not expected to affect cultural resources given the fact given the fact that the 2009 rangeland health standards were met and the recent rangeland monitoring results are acceptable.

Affects to cultural resources are most probable in high use areas such as around water wells or bottlenecks where livestock congregate. Those facilities that were in place prior to the initial Resource Management Plan (RMP) are considered an existing disturbance. Per Section IV-D Identification d. Existing Disturbance of the Wyoming State Protocol, after a determination by a cultural resource specialists, undertakings within previously disturbed areas are generally authorized to proceed without additional class III inventory. Those facilities installed after the RMP were previously subject to consideration under the NHPA. Away from livestock focal points, surface disturbance is minimal and impacts to cultural resources are negligible. Any and all future range development projects within the allotment will comply with the Wyoming State Protocol process, are subject to relevant cultural investigations prior to permit issuance, and will be analyzed under a separate and site specific EA.

Because livestock grazing is a dynamic ongoing process, cultural resource specialists, in conjunction with BLM range management and the permittee, will periodically monitor and inspect heavy use areas and cultural resource sites following current policy (Grass Creek RMP and BLM Manual 8100 series). Any adverse effects discovered will be mitigated in accordance with the State Protocol. Standard cultural stipulations apply.

### **Alternative 3: No Grazing**

Under the No Grazing Alternative, the proposed grazing allotment renewal would not occur. A review of the historical records on file in the Worland Field Office indicates that Blue Creek Allotment, is not eligible for the National Register of Historic Places (36CFR§60.4(a) and (b)). No historic properties will be affected by this alternative.

#### **3.2.7.4 Cumulative Effects**

No cumulative effects are expected to cultural resources.

## 4 TRIBES, INDIVIDUALS, ORGANIZATIONS, or AGENCIES CONSULTED

Person Consulted	Agency/Tribe/Organization
<i>Legend Rock Resources Inc.</i>	<i>Grazing Permit Applicant</i>

## 5 LIST OF PREPARERS

The following Worland Field Office personnel reviewed or have been contacted with regard to this EA.

### List of Reviewers

Resource	Name	Title
Cultural Resources	Marit Bovee	Archaeologist
Fish/Wildlife (including T&E)	Tim Stephens	Wildlife Biologist
Recreation/VRM/Travel Management/Special Designations	Brian Smith	Recreation/Visual Specialist
Rangeland/Vegetation	Derek Trauntvein	Range Management Specialist
T&E Plants	Karen Hepp	Range Management Specialist (T&E/Sensitive Plants)
Engineering	Monica Goepferd	Civil Engineer
Soils/Haz. Mat.	Steve Kiracofe	Soils Scientist
Invasive Species	CJ Grimes	NRS/Weeds
Water resources	Jared Dalebout	Hydrologist
Paleontology	Marit Bovee	Archaeologist
Geology & Minerals	Pam French	Geologist
Land Use/Access	Carol Sheaff	Realty Specialist
Fuels	Yvonne Warren	NRS
Forestry	Jim Gates	Forester
Public Health and Safety	Holly Elliott	Planning & Environmental Specialist
Socioeconomics	Holly Elliott	Planning & Environmental Specialist
Air Quality	Holly Elliott	Planning & Environmental Specialist

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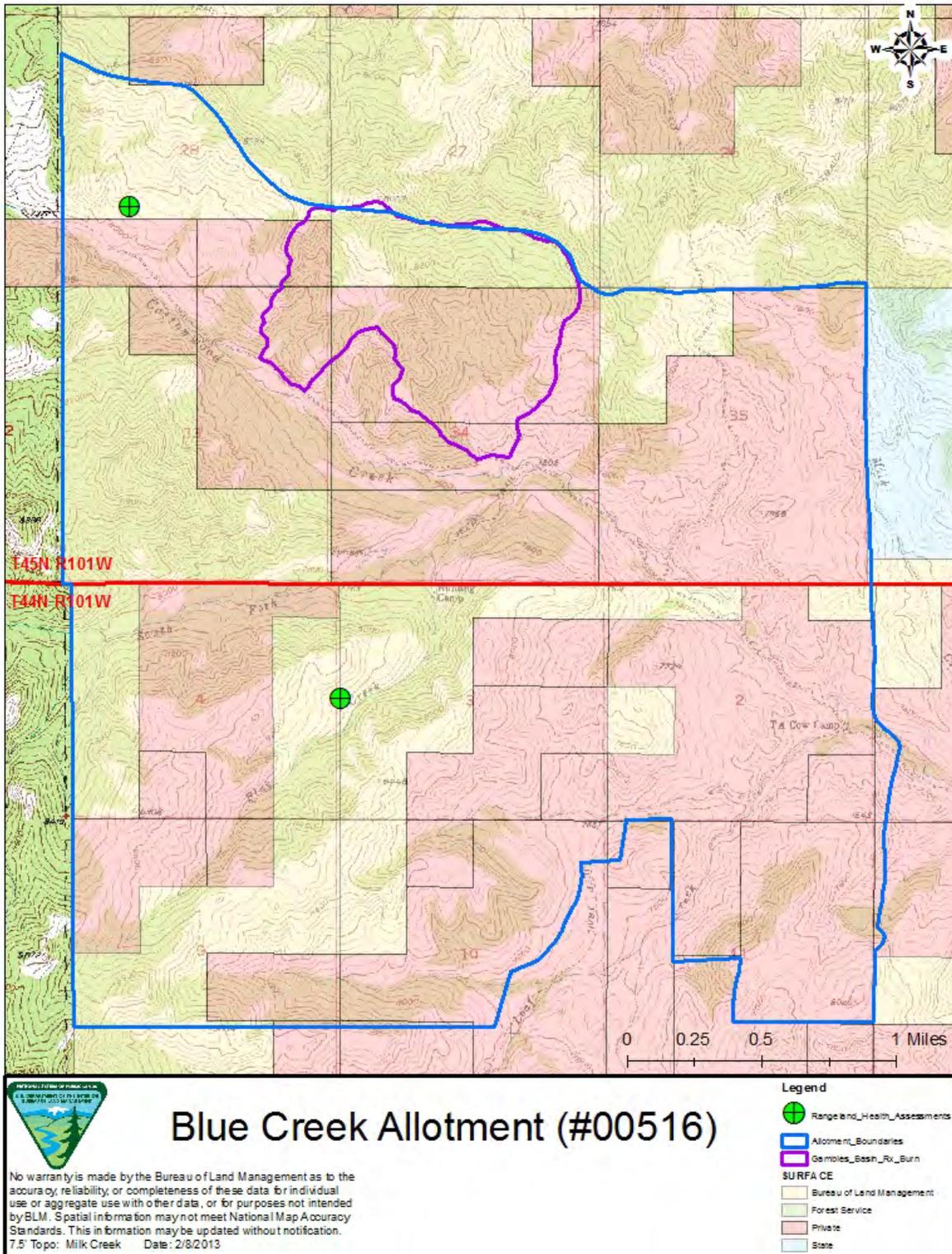
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Map 1. Blue Creek Allotment



Map 2. Wildlife Map

