

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

## **ENVIRONMENTAL ASSESSMENT**

**NUMBER:** DOI-BLM-CO-N040-2009-0048-EA

**CASEFILE NUMBER:** 0502886

**PROJECT NAME:** Grazing Permit Renewals on the East Hardscrabble, Salt Creek Bellyache, Falk, and Salt Creek Forest Allotments

**LOCATION:** T5S R83W, T5S R84W – East Hardscrabble N0. 08502, Salt Creek Bellyache No. 08721, Falk No. 08723, and Salt Creek Forest No. 08722 Allotments. Refer to attached allotment maps.

**APPLICANT:** Grazing Permittee

### **DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

**Proposed Action:** The Proposed Action is to renew term grazing permit for the above applicant. The number/kind of livestock, period of use, percent public land and Animal Unit Months (AUMS) will remain the same as the previous permit. The permit would be issued for a 10-year period. The proposed action is in accordance with 43 CFR 4130.2. The tables below summarize the scheduled grazing use and grazing preference for the permits.

**Scheduled Grazing Use:**

<b>Allotment Name &amp; No.</b>	<b>Livestock No. &amp; Kind</b>	<b>Period of use</b>	<b>Percent Public Land</b>	<b>AUMs</b>
East Hardscrabble No. 08502	581 Cattle	05/06 – 06/20	100	879
Salt Creek-Bellyache No. 08721	456 Cattle	06/01 – 06/16	100	240
	50 Cattle	10/16 – 10/22	100	12
Salt Creek Forest No. 08722	23 Cattle	06/16 – 07/23	100	29
Falk No. 08723	16 Cattle	05/15 – 05/31	100	9

**Grazing Preference AUMS:**

<b>Allotment Name &amp; No.</b>	<b>Active</b>	<b>Suspended</b>	<b>Total</b>
East Hardscrabble No. 08502	879	0	879
Salt Creek-Bellyache No. 08721	252	116	368
Salt Creek Forest No. 08722	29	89	118
Falk No. 08723	9	0	9

The following terms and conditions were included on the previous (expiring) permits and will be carried forward on the renewed permit:

- 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.

**Additional Background Information:** The East Hardscrabble Allotment does not contain pasture fencing; however, livestock grazing generally occurs first in the lower elevation areas of the allotment and cattle move to higher elevation areas later in the grazing period.

**ALTERNATIVES CONSIDERED BUT ELIMINATED:**

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

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

**PURPOSE AND NEED FOR THE 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.

**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.”

#### **STANDARDS FOR PUBLIC LAND HEALTH:**

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

The Glenwood Springs Field Office conducted a land health assessment on the above allotments in 2002 as part of the Eagle River South Watershed. The Report and Determination Document were signed on December 9, 2003. At that time, the Falk and Salt Creek Forest Allotments were rated as achieving or moving towards achieving all the standards while the Salt Creek-Bellyache Allotment was meeting the standards with problem areas. The East Hardscrabble Allotment was determined not to be meeting Standard 3 for healthy plant communities.

The upper elevations of East Hardscrabble Allotment were determined to be in good condition and were meeting all the Standards. The riparian area in lower Third Gulch was not meeting Standard 2 and the lower elevation uplands were not meeting Standard 3. Lower Third Gulch had intermittent stands of cottonwood and aspen, but the herbaceous cover was dominated by noxious weeds and invasive plants with shallow root systems incapable of protecting the banks from major storm events. Young woody vegetation was being heavily browsed, resulting in poor vigor and even some mortality. Livestock was considered a contributing factor in the failure to meet Standard 2, because a fence running parallel to the stream concentrated livestock use in the riparian zone.

Sagebrush in the lower elevations was overly dense and vigor was poor. There was more bare ground and fewer perennial grasses and forbs than should occur on these range sites. Juniper encroachment was a substantial problem. The amount of litter was also less than expected relative to the total vegetative cover. Biological soil crusts remain only in protected areas under the cover of shrubs. Soils were not adequately protected from erosion and pedestalling and water flow patterns were readily apparent. Houndstongue and Canada thistle were found on several sites throughout the allotment.

The lower elevations of the allotment experience heavy winter use by big game and disproportionately greater use by livestock. Fire suppression or a long interval since the last fire has contributed to the juniper encroachment problem. Roads, trails, housing developments, and other human disturbances contribute to poor habitat connectivity on a landscape scale. These were all factors contributing to the failure to meet Standard 3.

The impact analysis must address whether the proposed action would result in impacts which would improve, maintain or deteriorate land health conditions for each of the parameters found in the Standards for Public Land Health.

**AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and no action alternative. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions. A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the proposed action and alternative (Table 1). Only those mandatory critical elements that are present and affected are described in the following narrative.

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

**Critical Elements**

<b>Table 1. Critical Elements of the Human Environment</b>									
<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>		<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality		X		X	Prime or Unique Farmlands		X		X
ACECs		X		X	Special Status Species*	X		X	
Cultural Resources	X			X	Wastes, Hazardous or Solid		X		X
Environmental Justice	X			X	Water Quality, Surface and Ground*	X		X	
Floodplains		X		X	Wetlands and Riparian Zones*	X		X	
Invasive, Non-native Species	X			X	Wild and Scenic Rivers	X			X
Migratory Birds	X		X		Wilderness/ WSAs		X		X
Native American Religious Concerns		X		X					

\* Public Land Health Standard

## Cultural Resources and Native American Religious Concerns

Affected Environment: Range permit renewals are undertakings under Section 106 of the National Historic Preservation Act. Additional range improvements (e.g., fences, spring improvements) are subject to compliance requirements under Section 106 and will undergo standard cultural resources inventory and evaluation procedures. During Section 106 review, a cultural resource assessment (GSFO #1009-22) was completed for the East Hardscrabble, Salt Creek Bellyache, Salt Creek Forest, and Falk Allotments on February 20, 2009 following the procedures and guidance outlined in the 1980 National Programmatic Agreement Regarding the Livestock Grazing and Range Improvement Program, IM-WO-99-039, IM-CO-99-007, IM-CO-99-019, CO-2001-026, and CO-2002-029. The results of the assessment are summarized in the table below. A copy of the cultural resource assessment is available at the GSFO office.

Allotment Number	Acres Inventoried at a Class III level	Acres NOT Inventoried at a Class III Level	Percent (%) Allotment Inventory data Class III level	Number of Cultural Resources known in allotment	High Potential of Historic Properties (yes/no)	Management Recommendations (Additional inventory required and historic properties to be visited)
East Hardscrabble	2850	5168	36	43	No	No additional acres need to be inventoried to meet the 10% sampling threshold. 39% of the allotment has 30%+ slopes.
Salt Creek Bellyache	975	3394	22	10	Yes	No additional acres need to be inventoried to meet the 10% sampling threshold. 39% of the allotment has 30%+ slopes.
Salt Creek Forest	42	699	6	0	No	No additional acres need to be inventoried to meet the 10% sampling threshold. 62% of the allotment has 30%+ slopes.
Falk	50	21	70	1	No	No additional acres need to be inventoried to meet the 10% sampling threshold. 62% of the allotment has 30%+ slopes.
Total	3917	9282	134	54		

Thirty-four Class III cultural resource inventories have been conducted within these allotments resulting in the identification of three historic properties. Historic properties are cultural resources that are considered eligible or potentially eligible for listing on the National Register of Historic Places and should be preserved by avoidance and/or require that adverse impacts be mitigate. Undiscovered historic era sites within these allotments could represent a time frame from the late 1800's through the 1950's; Native American sites could represent a time range from 200 to 10,000 years before present. Based on available data, there is a low to moderate potential for historic properties within these allotments.

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

At present, there are is no known areas of Native American concern within these allotments. On November 7, 2008 the Glenwood Springs Field Office mailed an informational letter and maps to the Ute Tribe (Northern Ute Tribe), Southern Ute Tribe, and the Ute Mountain Ute Tribes, identifying the proposed 2009 grazing permit renewals. No response has been received. If new data is disclosed, new terms and conditions may have to be added to the permit to accommodate their concerns. The BLM will take no action that would adversely affect these areas or locations without consultation with the appropriate Native Americans.

Environmental Consequences: The direct impacts that occur where livestock concentrate include trampling, chiseling, and churning of site soils, cultural features, and cultural artifacts, artifact breakage, and impacts from standing, leaning, and rubbing against historic structures, above-ground cultural features, and rock art. Indirect impacts include soil erosion, gullyng, and increased potential for unlawful collection and vandalism. Continued grazing may cause substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to historic properties.

Three historic properties were identified during the inventories for these allotments. A determination of “**Conditional No Adverse Affect**” has been made for this renewal. In order to mitigate this potential affect all ground disturbing activity and the placement of supplemental feed, etc, must be at least 100m from the areas of concern. The cultural resource specialist should be involved in discussions for improvements, maintenance, supplemental feeding areas, etc to ensure that the historic properties and areas of concern are avoided.

Mitigation: New improvements or maintenance of existing range improvements, additional feeding areas, etc may require cultural resource inventories, monitoring, and/or data recovery. These allotments may also 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. The BLM may require modification to development proposals to protect such properties, or disapprove any activity that is likely to result in damage to historic properties or areas of Native American concern.

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

### **Invasive, Non-native Species**

Affected Environment: Noxious weed infestation reports identify Canada thistle, musk thistle (*Carduus nutans* L.) and whitetop (*Cardaria draba* L.) occur within the East Hardscrabble Allotment and Russian knapweed (*Acroptilon repens* L.) and whitetop (*Cardaria draba* L.) occur in the Salt Creek Bellyache Allotment. A complete area wide survey for the presence of noxious weeds has not been completed on the four allotments, therefore actual population levels and species richness are not known at this time.

Rangeland health assessments, conducted in 2002, rated the Falk, Salt Creek Forest, and Salt Creek-Bellyache allotments as achieving all standards. The East Hardscrabble allotment was determined not to be meeting standard 3 for healthy plant communities because of decedent sagebrush communities and pinyon-juniper encroachment. Third Gulch in East Hardscrabble received a rating of “functioning at risk” due to livestock over-use and trampling of the stream bank. However, recent monitoring data reveals conditions in Third Gulch are improving.

Environmental Consequences/Mitigation: As livestock come in contact with noxious and invasive weed species they will continue to transport seed via coat and feces to other areas of the allotments. Since vegetative communities remain functioning at a healthy state within the four allotments or are moving to a properly functioning condition as in the case of Third Gulch, 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.

### **Migratory Birds**

#### Affected Environment:

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (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.” *Birds of Conservation Concern 2008* (<http://www.fws.gov/migratorybirds/reports/BCC2008/BCC2008m.pdf>) is the most recent effort to carry out this mandate. The conservation concerns may be the result of population declines, naturally or human-caused small ranges or population sizes, threats to habitat, or other factors. The primary statutory authority for *Birds of Conservation Concern 2008* (BCC 2008) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Although there are general

patterns that can be inferred, there is no single reason why any species was is on the list. The Glenwood Springs Field Office is within the Southern Rockies/Colorado Plateau Bird Conservation Region (BCR). The 2008 list include the following birds: Gunnison Sage Grouse, American Bittern, Bald Eagle, Ferruginous Hawk, Golden Eagle, Peregrine Falcon, Prairie Falcon, Snowy Plover, Mountain Plover, Long-billed Curlew, Yellow-billed Cuckoo, Burrowing Owl, Lewis's Woodpecker, Willow Flycatcher, Gray Vireo, Pinyon Jay, Juniper Titmouse, Veery, Bendire's Thrasher, Grace's Warbler, Brewer's Sparrow, Grasshopper Sparrow, Chestnut-collared Longspur, Black Rosy-Finch, Brown-capped Rosy-Finch, and Cassin's Finch.

Habitat loss due to alteration or destruction continues to be the major reason for the declines of many species (<http://www.fws.gov/migratorybirds/reports/BCC2008/BCC2008m.pdf>). 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.

The GSFO planning area provides both foraging and nesting habitat for a variety of migratory birds that summer, winter, or migrate through the area. The habitat diversity provided by the broad expanses of sagebrush, mixed mountain shrub, aspen, pinyon-juniper woodlands, other types of coniferous forests, and riparian and wetland areas support many bird species. The pinyon jay is characteristically found in pinyon/juniper woodlands and the Brewer's sparrow (*Spizella breweri*) is found within sagebrush habitats. Other Birds of Conservation Concern 2008 may also occur locally. Many species of raptors (red-tailed hawks, golden eagles, northern goshawks, Cooper's hawks, kestrels and owls) not on the Fish & Wildlife Service's Birds of Conservation Concern list also could occur in the area.

Bald eagle (*Haliaeetus leucocephalus*). Bald eagles are known to winter along portions of the Colorado, Eagle and Roaring Fork Rivers and its major tributaries. Wintering bald eagles are generally present from mid-November to mid-April. 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 primarily for winter killed mule deer and elk. Major threats include habitat loss, human disturbance and illegal shooting. Bald eagles are increasing in numbers throughout their range and were removed from the federal threatened and endangered species list in 2007 however bald eagles are still protected under the Migratory Bird Treaty Act. The allotments overlaps with bald eagle winter range and winter foraging areas along the Eagle River and mapped Bald Eagle roost sites are located along Brush Creek and the Eagle River. Roost sites are defined as groups of or individual trees that provide diurnal and/or nocturnal perches for less than 15 wintering bald eagles; these trees are usually the tallest available trees in the wintering area and are primarily located in riparian habitats.

#### Environmental Consequences/Mitigation:

Limited bird count or species data exists for the area, however the greater concern is the continued fragmentation of habitat and losses of large blocks of contiguous habitat required by

many bird species. No intentional take of native bird species is anticipated under the proposed action. Grazing by cattle could result in the accidental destruction of ground nests through trampling. This impact is expected to be minimal and isolated and would not influence populations of migratory birds on a landscape level. Given current overall existing habitat condition, livestock grazing, as proposed, will not negatively affect the degree of fragmentation/connectivity expected relative to the existing condition of the allotment and the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats would also likely not change. Overall it is unlikely that, livestock grazing in both numbers and duration, as proposed would not reduce the extent or quality of habitat available for migratory bird breeding functions.

### **Special Status Species (includes an analysis of Public Land Health Standard 4)**

#### Affected Environment:

##### *Federally Listed, Proposed or Candidate Fish, Wildlife, and Plant Species:*

According to the latest species list from the U. S. Fish and Wildlife Service (<http://mountain-prairie.fws.gov/endspp/CountyLists/COLORADO.pdf>), the following Federally listed and candidate species may reside, have habitat, and/or be impacted by actions occurring in Eagle County: Canada lynx, black-footed ferret, Mexican spotted owl, western yellow-billed cuckoo, Greenback cutthroat trout, razorback sucker, Colorado pikeminnow, bonytail chub, humpback chub, Uncompahgre fritillary butterfly, and Ute ladies'-tresses orchid.

#### Plants:

There is no known occupied or potential habitat for the Ute ladies'-tresses orchid in any of the four allotments in this permit renewal.

#### Aquatic Wildlife:

The Colorado pikeminnow, bonytail, humpback chub, and razorback sucker are all located far (>50 miles) downstream in the Colorado River below Rifle, Colorado. The Eagle River does not provide habitat for any of these endangered fishes.

#### Terrestrial Wildlife:

*Canada lynx.* Canada lynx are a federally threatened and Colorado endangered species. In 2000, the Canada lynx was listed under the ESA as a threatened species throughout its range in the contiguous United States. In February 2008 the USFWS proposed to revise the amount of critical habitat designated under the ESA for the federally threatened Canada lynx. None of the existing or proposed critical habitat is within the scope of this EA. Colorado Division of Wildlife (CDOW) mapped potential Canada lynx habitat does exist within higher elevation portions of the area with conifers. Potential habitat for lynx in Colorado is defined as those areas having the highest potential of lynx occurrences in the state.

#### *BLM Sensitive Species:*

#### Plants:

The BLM sensitive plant, Harrington's penstemon, occurs in open sagebrush habitat on rocky loam or rocky clay loam soils between the elevations of 6,100 to 10,000 feet. Harrington's

penstemon is known to occur in both the East Hardscrabble and Salt Creek-Bellyache Allotments. During the land health assessment process, general habitat conditions on these allotments were evaluated to determine if they were suitable for supporting sustainable populations of this species. Off-highway vehicle activity was creating some loss of Harrington's penstemon plants and habitat on East Hardscrabble, however; in general, soil and vegetative conditions within Harrington's penstemon habitat appeared suitable for sustaining viable populations of the species. On Salt Creek-Bellyache, juniper encroachment into the sagebrush parks posed a long-term threat to the continued survival and recruitment of this species.

#### Aquatic Wildlife:

The Eagle River, located between 1-7 miles north these allotments, contains bluehead and flannelmouth suckers. Both if these fish are BLM sensitive species. Abrams Creek located along the border of the East Hardscrabble allotment contains a core conservation population of pure Colorado River cutthroat trout another BLM sensitive species.

#### Terrestrial Wildlife:

*Greater Sage Grouse.* Two areas of sagebrush habitat, east and west of Brush Creek, within the landscape covered by these allotments are mapped as historic habitat, as no birds have been seen in these areas for years likely due to a variety of factors. The CDOW does not intensively manage the watershed for sage grouse and the area is not part of the *Northern Eagle/Southern Routt Greater Sage-Grouse Conservation Plan*. Habitat fragmentation and loss of habitat resulting from roads, residential and commercial development, off highway vehicle use, public recreation, powerlines and pipelines has reduced connectivity of sagebrush vegetation vital to this species. In addition, fire suppression, drought, and livestock and wild ungulate grazing have all impacted habitat quality for sage grouse. Sagebrush habitats are being invaded by juniper trees, and drought and historic grazing have reduced vegetative productivity and diversity.

#### Environmental Consequences/Mitigation:

##### *Federally Listed, Proposed or Candidate Fish, Wildlife, and Plant Species:*

#### Plants:

Due to the absence of any occupied or potential habitat for the Ute ladies'-tresses orchid in these allotments, continued livestock grazing, as proposed, would have **"No Effect"** to this threatened plant species.

#### Aquatic Wildlife:

*Endangered Colorado River Fishes.* These fish are all native to the Colorado River basin. These species are adapted to the historic natural conditions related to high sediment loads periodically carried by the Colorado River. These allotments provide adequate growing season rest and plant rest and recovery periods. Given the condition of habitats and the distance to occupied habitat from these allotments, continued livestock grazing as proposed would have **"No Effect"** to these fish or their habitat.

#### Terrestrial Wildlife:

*Canada lynx*. The proposed action would not result in direct mortality of individual lynx. Excessive losses of forage on a large scale could result in a reduction in hiding and movement cover and directly affect lynx's ability to effectively move through the landscape. This is unlikely from grazing and is more consistent with actions such as a severe wildfire. Indirect impacts associated with grazing are mainly associated with competition between livestock and lynx prey species for available forage. The Canada Lynx Conservation Assessment and Strategy identified that "grazing, in conjunction with increasing elk populations, may have resulted in increased competition for forage resources with lynx prey". In summary, livestock compete with lynx prey species (snowshoe hare, jack rabbits, cottontails, blue grouse, voles, squirrels) for available forage. In addition, livestock can remove hiding cover important to the survival of prey species, which could ultimately result in lower prey species productivity and density.

Appendix A contains a habitat assessment specific to Canada lynx and land health standard 4 for the two allotments (East Hardscrabble and Salt Creek Forest) containing mapped habitat. In summary, the lynx habitat portions of the allotments provided suitable habitat for lynx and their prey species and grazing management does not appear to be impacting the usability of lynx habitat. The proposed action will not result in the destruction or adverse modification of U.S. Fish & Wildlife Service designated critical habitat. Based on the proposed management, the proposed renewal of these two livestock grazing permits "**May Affect, but is not likely to Adversely Affect**" the Threatened - Canada lynx. Furthermore, the proposed action is in conformance with the recently completed programmatic consultation for lynx regarding the GSFO livestock grazing program. Programmatic consultation for Canada lynx was completed on the entire grazing program as administered by the GSFO. A "May Affect, Not Likely to Adversely Affect" determination was made and concurrence was obtained from the FWS (ES/GJ-6-CO-03-F-013).

#### *BLM Sensitive Species:*

##### Plants:

The flowering stalks of Harrington's penstemon are palatable to both livestock and wildlife. The grazing period on the East Hardscrabble allotment is from 5/6 to 6/20, which encompasses most of the flowering period for this plant. Impacts to the population could result if excessive grazing removes a high percentage of the flower stalks annually, thereby inhibiting seed dissemination and reproduction. Light grazing within Harrington's penstemon habitat should result in few flower stalks being removed and would not affect the long-term reproductive capability of the population.

Although the East Hardscrabble allotment does not contain pasture fencing, livestock generally graze in the lower elevations of the allotment first, and then move to higher elevations as the grazing period progresses. Assuming livestock continue to move through the allotment in this fashion, the level of grazing on penstemon flower stalks should remain low and reproduction of the species should be adequate to maintain the population. In consideration of the above and given the existing condition of East Hardscrabble allotment, renewal of the grazing permit is not expected to cause adverse impacts to the Harrington's penstemon population.

Livestock graze the Salt Creek-Bellyache allotment for two weeks in June and for another 7 days in October. The June grazing timeframe overlaps the flowering period for Harrington's penstemon. During the land health assessment, no concerns were raised regarding impacts of livestock grazing on Harrington's penstemon in the Salt Creek-Bellyache allotment. However, penstemon habitat on the Salt Creek-Bellyache allotment is at risk due to the advanced encroachment of pinyon pine and juniper trees which may eventually outcompete the penstemon for light, moisture and nutrients. Given the existing conditions and the proposed grazing schedule, livestock grazing, is not expected to cause adverse impacts to the Harrington's penstemon population.

#### Aquatic Wildlife:

*Colorado River Cutthroat Trout.* The Colorado River cutthroat trout population located in Abrams Creek is small and somewhat isolated due to an irrigation water diversion that takes large amounts of the stream's natural flow. As such, the fish population primarily resides above this diversion. Stream and riparian habitats are generally in good shape. Livestock grazing is not occurring along the majority of the stream as dense riparian cover and steep topography limits access to cows. Some grazing is occurring in a few areas along the creek, but use is limited to when cows are being moved up onto and back down from adjacent USFS grazing allotments. Limited bank trampling is occurring in a few site specific areas and some increased soil compaction and sedimentation is likely resulting.

Sediment can impact cutthroat trout by silting in important spawning substrates and in the event eggs are present, by smothering eggs which leads to loss of productivity. Excessive sediment can also fill in important and limited pool habitats reducing their depth and usability during critical summer and winter periods when they are needed for thermal refuge and survival. Aquatic insect productivity can be impaired as sediment covers clean gravels and cobbles and fills in the interstitial spaces used by these insects. This can reduce food sources for cutthroat and terrestrial bird and bat species. The reauthorization of grazing as proposed provides for growing season rest and adequate plant rest and recovery periods which should maintain good vegetative cover and help to limit offsite soil movement. In addition, the areas where grazing is occurring along the stream are small and downstream of the large water diversion and population center of fish. Based on water quality data and current stream and riparian habitat condition, continued livestock grazing as proposed should have little impact to these fish.

*Flannelmouth & Bluehead Sucker.* The bluehead and flannelmouth sucker are both native to the Colorado River basin. These species are adapted to the historic natural conditions related to high sediment loads periodically carried by the Eagle River. These allotments provide adequate growing season rest and plant rest and recovery periods. Given the condition of habitats and the distance to occupied habitat from these allotments, continued livestock grazing as proposed should have no negative impacts to either of these fishes.

#### Terrestrial Wildlife:

The East Hardscrabble and Salt Creek Bellyache allotment historically supplied habitat for sage grouse, however, none have been observed here for many years. This is attributed largely to habitat fragmentation due to extensive roads and trails and development of adjacent private lands. Primary issues related to sage grouse habitat involve habitat fragmentation and pinyon-

juniper encroachment. Private lands, which border these allotments, have housing developments, roads, powerlines, and other disturbances which contribute to poor habitat connectivity on a landscape scale. Overall, ground cover was adequate to protect soils and vegetation was in fair to good condition. These land health issues can be largely attributed to: private land development, fire suppression, heavy big game winter use, heavy historic livestock grazing. The proposed action would not be expected to degrade wildlife habitat and would still provide for the forage and cover needs of resident wildlife.

Analysis on the Public Land Health Standard 4 for Special Status Species:

In 2002 the Glenwood Springs Field Office evaluated the above allotments as part of the Eagle River South Watershed Land Health Assessment. At that time, all four allotments were meeting Standard 4 for special status species. Based on the period of use and existing habitat conditions for special status species, the proposed activities would not likely prevent Standard 4 from continuing to be met.

**Water Quality, Surface & Ground (includes an analysis of Public Land Health Standard 5)**

Affected Environment: The four allotments are located roughly south to southeast of the Town of Eagle and Interstate 70. More specifically, the East Hardscrabble Allotment is located south and west of Brush Creek within the 9,748 acre Abrams Creek 6<sup>th</sup> field watershed to the west and the 5,870 acre Third Gulch 6<sup>th</sup> field watershed to the east. From west to east within the allotment are the perennial Abrams Creek, the perennials Hernage and its tributary Sawmill Creek, the perennial Third Creek, and the ephemerals Second and Mayer Creeks; all of which are tributary to Brush Creek to the north. The Salt Creek Bellyache Allotment is located within the 10,073 acre Brush Creek above Eagle 6<sup>th</sup> field watershed and contains several unnamed ephemeral tributaries to Brush Creek to the west.

The Falk Allotment is located within the 4,516 acre Brush Creek around Skim Milk Creek 6<sup>th</sup> field watershed and contains one mapped unnamed ephemeral tributary to Brush Creek to the west. The Salt Creek Forest Allotment is located within the 13,698 acre Salt Creek 6<sup>th</sup> field watershed and contains several unnamed ephemeral tributaries to the perennial Salt Creek to the south.

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 33) list, both Abrams Creek and Brush Creek are within the Eagle River Basin and have been classified aquatic life cold 1, recreation E, water supply, and agriculture. Aquatic life cold 1 indicates that this water course is capable of sustaining a wide variety of cold water biota. Recreation class E refers to waters in which primary contact recreation is presumed to be present. In addition, these waters are suitable or intended to become suitable for potable water supplies and agricultural purposes that include irrigation and livestock use.

The drainages mentioned above are not currently listed on the State of Colorado's *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93) or the *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) as waterbodies suspected to have water quality

problems. In addition, very limited current water quality data is available for Abrams and Brush Creek.

Environmental Consequences/Mitigation: Grazing activities would result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steep slopes and areas devoid of vegetation. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. In addition, the number of livestock in the area would increase the amount of feces present in close proximity to nearby drainages and could lead to stream bank trampling. The introduction of livestock feces to waterbodies often leads to water quality degradation by increasing fecal coliform bacteria levels and often leads to algal blooms which increase water temperatures. Due to the close proximity of the proposed activities to area drainages, there is potential that additional sediment associated with grazing practices as well as fecal coliform bacteria from livestock feces could reach the ephemeral drainages mentioned above. However, given the period of use and the distance from major perennial drainages the potential for measureable water quality degradation is minimal.

Analysis on the Public Land Health Standard for Water Quality: In 2002 the Glenwood Springs Field Office evaluated area drainages as part of the Eagle River South Watershed Land Health Assessment. At that time, the very limited water quality data collected did not show any violations of water quality standards established by the State to protect classified uses. Based on the period of use and the distance of the allotments from major perennial drainages, the proposed activities would not likely prevent Standard 5 for Water Quality from being met.

**Wetlands and Riparian Zones (includes an analysis on Standard 2)**

Affected Environment: The table below lists known riparian areas and their Proper Functioning Condition (PFC) assessment for each allotment:

Allotment	Riparian Area Name	Miles	Year Assessed	Condition Rating
East Hardscrabble	Abrams Creek	2.9	2002	Proper Functioning Condition
	Hernage Creek	3.5	2002	Proper Functioning Condition
	Sawmill Creek	3.8	2002	Proper Functioning Condition
	Third Gulch	2.2	2002	Functioning at Risk-Not Apparent Trend
	Frost Creek	0.6	2002	Proper Functioning Condition
Salt Creek-Bellyache	Trail Gulch	0.9	2002	Proper Functioning Condition
Salt Creek Forest	Salt Creek	0.5	2002	Proper Functioning Condition
Falk	No known riparian resources			

The causal factor for the functioning at risk rating for Third Gulch was trailing and trampling damage from livestock. There were no issues or concerns identified with livestock grazing on assessments for the other riparian areas. Two riparian photo points/plots were established along Third Gulch in 2003 and the photos were retaken in 2007. A comparison of these photos shows that there has been an increase in riparian vegetation cover and production, raw banks have become re-vegetated and are more stable. Trend is considered upward. Field notes in 2006

stated the Third Gulch riparian zone was recovering nicely since the 2002 PFC assessment and that past trampling/trailing damage by livestock was not very noticeable.

#### Environmental Consequences/Mitigation:

##### East Hardscrabble Allotment:

Under the proposed grazing schedule, the allotment would be grazed for a 46 day period in the late spring. Livestock generally move to higher elevations of the allotment as the grazing period progresses so grazing use along riparian zones may not occur during the entire 46 days. The duration and period of use would still allow for ample grazing rest and recovery time for riparian plant species. The original PFC for Third Gulch noted some issues with livestock trailing and trampling. This may be indicative of a grazing distribution problem in the past. In the event cattle congregate along the creek for an extended period, the potential for severe utilization and trampling of the riparian vegetation could result. This can cause a decline in condition (i.e. a reduction in coverage and a decrease in species composition) of the riparian zone. Measures have been taken to address the distribution problem (e.g., construction of additional watering sources). Assuming proper livestock distribution is maintained, condition of the riparian zone would continue to improve. 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.

##### Salt Creek Bellyache Allotment:

Under the proposed grazing schedule, the allotment would be grazed for a 16 day period in the late spring and a 7 day period in the fall. There would be four months of grazing rest between these two grazing periods. The duration and period of use would still allow for ample grazing rest and recovery time for riparian plant species. In consideration of this and the condition of riparian zone described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to riparian zones. The condition of the riparian area would be maintained or improved. There would be no cumulative impacts.

##### Salt Creek Forest Allotment:

Under the proposed grazing schedule, the allotment would be grazed for a 38 day period in the late spring and early summer. The duration and period of use would still allow for ample grazing rest and recovery time for riparian plant species. In consideration of this and the condition of riparian zone described in the Affected Environment, renewal of the grazing permit is not expected to cause adverse impacts to riparian zones. The condition of the riparian area would be maintained or improved. There would be no cumulative impacts.

##### Falk Allotment:

There would be no impacts to riparian resources since they are not present within the allotment.

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

#### **Wild and Scenic Rivers**

Affected Environment: The East Hardscrabble allotment encompasses Abrams Creek that was found to be eligible under a Wild and Scenic Eligibility Study in 2007. Abrams Creek will be managed to preserve the identified Outstanding Remarkable Values (ORV's) until such a time as a suitability study is completed. The ORV's identified for Abrams Creek was a core conservation population of Colorado River cutthroat trout. The overall objective is to not allow surface disturbing activities that might impair the identified ORV's or its preliminary classification, which was classified as recreational. (*see Threatened, Endangered and Sensitive section; Fish*).

Environmental Consequences/Mitigation: The proposed action is not likely to negatively impact the identified ORV's (*see TES section*) due to the provision for growing season rest and adequate plant rest and recovery periods which should maintain good vegetative cover and help to limit offsite soil movement adjacent to Abrams Creek. Monitoring data, current stream and riparian habitat condition, and the continued livestock grazing as proposed should have little impact to these fish and thus would have no impacts to the streams identified ORV's or preliminary classification.

**Other Affected Resources**

In addition to the critical elements, the resources presented in Table 2 were considered for impact analysis relative to the proposed action and no action alternative. Resources that would be affected by the proposed action and no action alternative are discussed below.

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

\*Public Land Health Standard

## Soils (includes an analysis of Public Land Health Standard 1)

Affected Environment: According to the *Soil Survey of Aspen-Gypsum Area, Colorado: Parts of Eagle, Garfield, and Pitkin Counties* (USDA 1992), the East Hardscrabble (soils: 3, 4, 5, 14, 55, 64, 89, 100, 104, 106, 114, 115, 117), Salt Creek Bellyache (7, 25, 40, 55, 95, 104, 105, 106, 115, 116), Falk (20, 55), and Salt Creek Forest (10, 11, 19, 46, 47, 64, 66, 67, 88, 104, 105) Allotments contain 28 different soil map units that can be identified by the numerical code assigned by the soil survey. The respective soil map units are scattered throughout the allotments and some of them have been identified as having severe water erosion hazards. In addition, many areas within the allotments are mapped as CSU 4 (Controlled Surface Use) for erosive soils on slopes greater than 30% and NSO 15 (No Surface Occupancy) for slopes greater than 50% regardless of soil type. Following is a brief description of the 28 different soil map units found within the East Hardscrabble, Salt Creek Bellyache, Falk, and Salt Creek Forest Allotments.

- Acree loam (3) – This deep, well drained soil is found on alluvial fans and valley side slopes at elevations ranging from 6,500 to 8,200 feet and on slopes of 3 to 6 percent. This soil is derived primarily from redbed sandstone and shale alluvium. Surface runoff for this soil is slow and the water erosion hazard is moderate. Primary uses for this soil include irrigated crops, hayland, pasture, and homesites.
- Acree loam (4) – This deep, well drained soil is found on alluvial fans and valley side slopes at elevations ranging from 6,500 to 8,200 feet and on slopes of 6 to 12 percent. This soil is derived primarily from redbed sandstone and shale alluvium. Surface runoff for this soil is medium and the water erosion hazard is moderate. Primary uses for this soil include irrigated hay and pasture, irrigated crops, rangeland, and homesite development.
- Acree loam (5) – This deep, well drained soil is found on alluvial fans and valley side slopes at elevations ranging from 6,500 to 8,200 feet and on slopes of 12 to 25 percent. This soil is derived primarily from redbed sandstone and shale alluvium. Surface runoff for this soil is rapid and the water erosion hazard is moderate. Primary uses for this soil include rangeland and wildlife habitat.
- Almy loam (7) – This deep, well drained soil is found on fans and uplands at elevations ranging from 6,000 to 7,800 feet and on slopes of 12 to 25 percent. This soil was formed in alluvium derived from calcareous redbed sandstone and shale. Surface runoff for this soil is medium and the water erosion hazard is moderate.
- Anvik-Skylick-Sligting association (10) – This soil map unit is found on fans and mountainsides at elevations ranging from 7,500 to 9,500 feet and on slopes of 10 to 25 percent. Approximately 30 percent of this unit is Anvik soil, 30 percent Skylick soil, and 30 percent Sligting soil. The other 10 percent of this soil map unit is made up of Cochetopa, Antrobus, Forsey, Coulterg, and Ansel soils. The Anvik soil is deep, well drained and is derived from alluvium and colluvium of mixed mineralogy. The surface runoff for this soil is medium and the water erosion hazard is moderate. The Skylick soil is deep, well drained and is derived from sandstone colluvium. The surface runoff for this soil is medium and the water erosion hazard is moderate. The Sligting soil is deep, well drained and is derived from sandstone and basalt colluvium. The surface runoff for this soil is medium and the water

erosion hazard is moderate. Primary uses for this soil map unit include woodland, wildlife habitat, and rangeland.

- Anvik-Skylick-Sligting association (11) – This soil map unit is found on fans and mountainsides at elevations ranging from 7,500 to 9,500 feet and slopes of 25 to 50 percent. Approximately 30 percent of the unit is Anvik soil, 30 percent Skylick soil, and 30 percent Sligting soil. The Anvik soil is deep, well drained and is derived from alluvium and colluvium of mixed mineralogy. The surface runoff for this soil is rapid and the water erosion hazard is moderate to severe. The Skylick soil is deep, well drained and is derived from sandstone colluvium. The surface runoff for this soil is rapid and the water erosion hazard is moderate to severe. The Sligting soil is deep, well drained and is derived from sandstone and basalt colluvium. The surface runoff for this soil is rapid and the water erosion hazard is moderate to severe. Primary uses for this soil map unit include woodland, wildlife habitat, and rangeland.
- Callings-Yeljack complex (14) – This soil map unit is found on ridgetops, benches, and mountainsides at elevations ranging from 7,500 to 9,500 feet and on slopes of 25 to 65 percent. Approximately 50 percent of this unit is Callings soil and 40 percent Yeljack soil with 10 percent being composed of other soil types. The Callings soil is deep, well drained and formed in alluvium and colluviums derived from sandstone parent material. Runoff for this soil is rapid and the water erosion hazard is slight to moderate. The Yeljack soil is deep, well drained and formed in alluvium derived from sandstone and loess. Runoff for this soil is rapid and the water erosion hazard is moderate to severe. Primary uses for this soil map unit include rangeland and wildlife habitat.
- Cochetopa-Antrobus association (19) – This soil map unit is found on mountainsides at elevations from 8,500 to 10,500 feet and on slopes of 25 to 50 percent. Approximately 45 percent of this unit is Cochetopa loam and 40 percent of this unit is Antrobus very stony loam. The other 15 percent of this unit is composed of other soil types. The Cochetopa soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion hazard is moderate to severe. The Antrobus soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland and homesite development.
- Coulterg loam (20) – This deep, well drained soil is found on mountainsides and fans at elevations ranging from 7,500 to 9,500 feet and on slopes of 12 to 50 percent. This soil is derived from alluvium and colluvium composed of siltstone, shale, and limestone rock. Surface runoff for this soil is medium to rapid and the water erosion hazard is moderate to severe. Primary uses for this soil include woodland and wildlife habitat.
- Cushool-Rentsac complex (25) – This soil map unit is found on mountains and mesa side slopes at elevations ranging from 6,200 to 7,600 feet and on slopes of 15 to 65 percent. Approximately 45 percent of this soil map unit is Cushool soil and 40 percent Rentsac soil. The Cushool soil is moderately deep, well drained, derived from sandstone and shale, and is found on slopes of 15 to 50 percent. Surface runoff for this soil is rapid and the erosion hazard is classified as severe. The Rentsac soil is shallow, well drained, derived from sandstone, and is found on slopes of 25 to 65 percent. Surface runoff for this soil is rapid and

the erosion hazard is classified as severe. Primary uses for this soil map unit include rangeland, wildlife habitat, Christmas trees, firewood, and fence posts.

- Evanston loam (40) - This deep, well drained soil formed in mixed alluvium and is found on alluvial fans, terraces, and valley sides at elevations ranging from 6,500 to 8,000 feet and on slopes of 25 to 45 percent. Surface runoff for this soil is rapid and the erosion hazard is classified as moderate to severe. Primary uses for this soil include rangeland and wildlife habitat.
- Forsey cobbly loam (46) – This deep, well drained soil is found on alluvial fans, mountainsides, and ridges at elevations ranging from 7,500 to 9,500 feet and on slopes of 12 to 25 percent. This soil is derived from alluvium and colluvium of mixed mineralogy. Surface runoff for this soil is medium and the water erosion hazard is moderate. This soil is used primarily for rangeland purposes.
- Forsey cobbly loam (47) – This deep, well drained soil is found on alluvial fans, mountainsides, and ridges at elevations ranging from 7,500 to 9,500 feet and on slopes of 25 to 65 percent. This soil is derived from alluvium and colluvium of mixed mineralogy. The surface runoff for this soil is medium and the water erosion hazard is moderate. Primary uses for this soil include rangeland and wildlife habitat.
- Gypsum land-Gypsiorthids complex (55) – This soil map unit is found on mountainsides, hills, and in drainageways on slopes of 12 to 65 percent. Approximately 65 percent of the unit is Gypsum land and 20 percent Gypsiorthids. The remaining 15 percent of the unit is composed of a mix of map units. The Gypsum land is primarily exposed gypsum material while the Gypsiorthids are moderately deep, well drained and derived from colluvium with high gypsum content. Surface runoff for this unit is very rapid and the water erosion hazard is slight to severe. This unit is used primarily for wildlife habitat.
- Jerry loam (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 25 to 65 percent. This soil is derived from sandstone and shale alluvium. Surface runoff is very rapid and the water erosion hazard is moderate. This soil is used primarily for rangeland purposes.
- Jerry-Millerlake loams (66) – This soil map unit is found on alluvial fans and valley sides at elevations ranging from 7,500 to 9,500 feet and on slopes of 6 to 25 percent. Approximately 50 percent of this unit is Jerry soil and 40 percent Millerlake soil, with the other 10 percent being a mix of soil types. The Jerry soil is deep, well drained and is derived from sandstone and shale alluvium. Surface runoff is rapid and the water erosion hazard is severe. The Millerlake soil is deep, well drained and is derived from sedimentary rock alluvium. Surface runoff is medium and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland, pasture, and wildlife habitat.
- Jerry-Millerlake loams (67) – This soil map unit is found on alluvial fans and valley sides at elevations ranging from 7,500 to 9,500 feet and on slopes of 25 to 45 percent. Approximately 50 percent of this unit is Jerry soil and 40 percent Millerlake soil, with the other 10 percent being a mix of soil types. The Jerry soil is deep, well drained and is derived from sandstone and shale alluvium. Surface runoff is rapid and the water erosion hazard is severe. The Millerlake soil is deep, well drained and is derived from sedimentary rock

alluvium. Surface runoff is rapid and the water erosion hazard is severe. Primary uses for this soil map unit include rangeland, and wildlife habitat.

- Moyerson-Rock outcrop complex (88) – This soil map unit is found on mountainsides and ridges at elevations ranging from 7,500 to 8,500 feet and on slopes of 15 to 60 percent. Approximately 60 percent of this unit is Moyerson silty clay loam, 25 percent shale Rock outcrop, and the remaining 15 percent composed of other soil types. The Moyerson soil is shallow, well drained and derived from sandstone and shale alluvium and colluvium. Surface runoff is medium and the water erosion hazard is high. Primary uses for this soil map unit include rangeland and wildlife habitat.
- Mussel loam (89) – This deep, well drained soil is found on terraces and slopes at elevations ranging from 6,500 to 7,500 feet and on slopes of 1 to 6 percent. This alluvium derived soil has slow runoff and slight water erosion hazard. Primary uses for this soil include hayland and homesite development.
- Showalter-Morval complex (95) – This soil map unit is found on alluvial fans, high terraces, and valley sides at elevations ranging from 7,000 to 8,500 feet and on slopes of 15 to 25 percent. Approximately 45 percent of this unit is Showalter very stony loam, 35 percent Morval loam, and the other 20 percent a mixture of soil types. The Showalter soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is moderate. The Morval soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is slight. Primary uses for this soil map unit include rangeland, hayland, and homesite development.
- Starley-Starman very channery loams (100) – This soil map unit is found on rolling uplands, ridgetops, and mountainsides at elevations ranging from 7,800 to 9,000 feet and on slopes of 3 to 25 percent. Approximately 50 percent of this unit is Starley soil, 30 percent Starman soil, and 20 percent other soil types. The Starley soil is shallow, well drained and is derived from calcareous sandstone. Runoff for this soil is medium to rapid and the water erosion hazard is moderate to severe. The Starman soil is shallow, well drained and is derived from sandstone. Runoff for this soil is medium to rapid and the water erosion hazard is moderate to severe. Primary uses for this soil map unit include livestock grazing and wildlife habitat.
- 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. This soil map unit is used primarily for wildlife habitat.
- Torriorthents-Camborthids-Rock outcrop complex (105) – This soil map unit occurs on south-facing mountainsides, hills, and ridges with slopes ranging from 45 to 95 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. This soil map unit is used primarily for wildlife habitat.

- 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. Primary uses for this soil map unit include livestock grazing and wildlife habitat.
- Yamo loam (114) – This deep, well drained soil is found on fans and toe slopes at elevations ranging from 6,200 to 7,500 feet and on slopes of 1 to 6 percent. This soil is derived primarily from sandstone, shale, and gypsum colluvium. Surface runoff for this soil is slow and the water erosion hazard is slight. Primary uses for this soil include rangeland, hay, pasture, and irrigated crops.
- Yamo loam (115) – This deep, well drained soil is found on fans and toe slopes at elevations ranging from 6,200 to 7,500 feet and on slopes of 6 to 12 percent. This soil is derived primarily from sandstone, shale, and gypsum colluviums. Surface runoff for this soil is medium and the water erosion hazard is slight. Primary uses for this soil include rangeland, hayland, pasture, and homesite development.
- Yamo loam (116) – This deep, well drained soil is found on fans and toe slopes at elevations ranging from 6,200 to 7,500 feet and on slopes of 12 to 25 percent. This soil formed in colluviums derived from sandstone, shale, and gypsum. Surface runoff for this soil is rapid and the water erosion hazard is severe. This soil map unit is used primarily for rangeland.
- Yeljack-Callings complex (117) – This soil map unit is found on ridgetops, benches, and mountainsides at elevations ranging from 7,500 to 9,500 feet and on slopes of 12 to 25 percent. Approximately 50 percent of this unit is Yeljack soil and 40 percent Callings soil with 10 percent consisting of other soil types. The Yeljack soil is deep, well drained and formed in alluvium derived from sandstone and loess. Surface runoff for this soil type is rapid and the water erosion hazard is moderate. The Callings soil is deep, well drained and formed in alluvium and colluviums derived from sandstone. Surface runoff for this soil is rapid and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland and wildlife habitat.

Environmental Consequences/Mitigation: As mentioned above, areas within the four allotments occur on soils with severe erosion hazards and on slopes greater than 30% (17°). Grazing activities would result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steep slopes and areas devoid of vegetation. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. Due to the close proximity of the proposed activities to area drainages, there is potential that additional sediment associated with grazing

practices could reach the drainages mentioned in the water section above. However, given the period of use and the distance from major perennial drainages the potential for measureable sediment transport and negative soil impacts is minimal.

Analysis on the Public Land Health Standard 1 for Upland Soils: In 2002 the Glenwood Springs Field Office evaluated the above allotments as part of the Eagle River South Watershed Land Health Assessment. At that time, the Falk and Salt Creek Forest Allotments were rated as achieving or moving towards achieving Standard 1 while the East Hardscrabble and Salt Creek Bellyache Allotments were rated as achieving Standard 1 standards with problem areas. During the assessment, pedastalling and water flow patterns were noted as problematic in both the East Hardscrabble and Salt Creek Bellyache Allotments. Based on the period of use and existing conditions, the proposed activities would not likely contribute to degrading conditions and prevent Standard 1 for Upland Soils from being met.

### **Vegetation (includes an analysis of Public Land Health Standard 3)**

#### Affected Environment:

##### East Hardscrabble Allotment

This grazing allotment encompasses a number of perennial and intermittent drainages. In the lower elevations, vegetation consists of pinyon-juniper woodlands on the ridges, big sagebrush in the intermittent drainages, and cottonwoods and other riparian vegetation along the perennial drainages. The middle elevations are dominated by oakbrush and mixed mountain shrublands. The upper elevations of the allotment support aspen with some mixed conifers.

##### Salt Creek-Bellyache Allotment

Most of the Salt Creek-Bellyache allotment consists of lower elevation, west or south-facing ephemeral drainages. The drainages support big sagebrush, 4-wing saltbush, black greasewood, and winterfat. Most of Road Gulch drainage was treated to remove the brush species and seeded to crested wheatgrass. The relatively steep south-facing hillsides support pinyon-juniper woodlands. The higher elevations and more gentle slopes are covered in big sagebrush and mixed mountain shrub vegetation. A one-mile stretch of Trail Gulch traverses the allotment. This perennial stream supports cottonwoods, willows and other riparian species.

##### Salt Creek Forest Allotment

The Salt Creek Forest allotment includes 740 acres of BLM land used in conjunction with 1,980 acres of adjacent National Forest lands. Most of the BLM land consists of steep, south-facing slopes of pinyon-juniper and steep, north-facing slopes of mixed mountain shrublands. The few acres of grazeable land on the BLM consist of sagebrush/grasslands in the bottom of White Draw, a flat sagebrush mesa, and one-half mile of riparian vegetation along Salt Creek.

##### Falk Allotment

The Falk allotment consists of 71 acres of public land and 302 acres of private land. The public land consists of steep, arid, west-facing slopes of pinyon-juniper. The private land is primarily flat or gently rolling terrain and includes a woody riparian area along Brush Creek, adjacent irrigated pastures and relatively flat sagebrush habitat.

## Environmental Consequences/Mitigation:

### East Hardscrabble Allotment

The proposed grazing period on the East Hardscrabble allotment is from 5/6 to 6/20. Although the allotment is not divided into any pastures, livestock generally begin grazing at the lower elevations and move to higher elevations of the allotment as the herbaceous vegetation begins growing. Assuming livestock continue to move through the allotment in this fashion, the level of grazing in any one area should not be excessive and should allow for ample grazing rest and recovery time following grazing. With adequate rest during the growing season, root reserves would recover and plants would have opportunity to set seed and establish seedlings.

In 2002, moderate livestock use and signs of trailing damage were noted in and adjacent to the riparian area in Third Gulch but this was prior to the installation of additional upland water sources and fence removal. More recent allotment visits and limited utilization data collected indicate that most of the allotment receives none to light use. Given the existing condition of East Hardscrabble allotment and the above grazing strategy, renewal of the grazing permit is not expected to cause adverse impacts to upland vegetation.

### Salt Creek-Bellyache Allotment

The majority of this allotment is in good condition, however, during the land health assessment, concerns were raised regarding vegetative conditions in portions of the allotment. The crested wheatgrass seeding in Road Gulch had poor vigor and the drainage was a deeply downcut gully. Pinyon-juniper encroachment into the sagebrush/mixed mountain shrub community in the southern end of the allotment is already at an advanced stage. Some of the sagebrush communities were old-aged class with a higher than expected proportion of dead or decadent plants.

The lower elevations of the allotment receive moderate big game winter use. Recent monitoring data is limited; however there are no indications of excessive livestock utilization. The crested wheatgrass seeding showed improved cover and vigor since the land health assessment in 2002. Under the proposed grazing schedule, the allotment would be grazed for a 16 day period in the late spring and a 7 day period in the fall. There would be four months of grazing rest between these two grazing periods. The duration and period of use would still allow for ample grazing rest and recovery time during the growing season to maintain plant health. Renewal of the grazing permit is not expected to cause adverse impacts to vegetative health.

### Salt Creek Forest Allotment

The current and proposed grazing schedule for the Salt Creek Forest allotment is from 6/16 to 7/23. No livestock utilization has been noted in the few years when utilization or trend data has been collected on this allotment. Given the lack of utilization it is difficult to evaluate the effect of livestock grazing at the levels proposed. The grazing schedule does provide for some growing season rest which should allow adequate time to restore root reserves and provide for seed dissemination and seedling establishment. Renewal of the grazing permit is not expected to cause adverse impacts to vegetative health.

### Falk Allotment

There is no utilization or trend data to evaluate livestock grazing impacts on the Falk allotment. Given that the BLM land constitutes only a small portion of the entire allotment and is steep and arid, the private lands provide the majority of the forage production on this allotment. Most of the grazing utilization would occur on the private land. Continuation of livestock grazing, as proposed, is not expected to cause any adverse impacts to vegetative health.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): In 2002, a formal land health assessment was conducted on the landscape which encompasses this proposed action. At that time, the Falk and Salt Creek Forest Allotments were rated as achieving or moving towards achieving all the standards while the Salt Creek-Bellyache Allotment was meeting the standards with problem areas. The East Hardscrabble Allotment was determined not to be meeting Standard 3 for healthy plant communities.

Problems on the East Hardscrabble Allotment were all in the lower elevation sagebrush sites. The upper elevation, mixed mountain shrub and aspen communities were determined to be in good condition and were meeting all the Standards. The lower elevation uplands were not meeting Standard 3. Sagebrush in the lower elevations was overly dense and vigor was poor. There was more bare ground and fewer perennial grasses and forbs than should occur on these range sites. Juniper encroachment was a substantial problem. The amount of litter was also less than expected relative to the total vegetative cover. Biological soil crusts remain only in protected areas under the cover of shrubs. Soils were not adequately protected from erosion and pedestalling and water flow patterns were readily apparent. Houndstongue and Canada thistle were found on several sites throughout the allotment.

The lower elevations of the allotment receive heavy winter use by big game and disproportionately greater use by livestock. Livestock were concentrating along Third Gulch and adjacent uplands due to lack of alternate water sources. Fire suppression or a long interval since the last fire has contributed to the juniper encroachment problem. Roads, trails, housing developments, and other human disturbances contribute to poor habitat connectivity on a landscape scale. These were all factors contributing to the failure to meet Standard 3.

Since the assessment was completed, additional water sources have been constructed in the uplands and a fence along Third Gulch has been removed. Assuming proper livestock distribution is maintained, the condition of the lower elevation vegetative communities should continue to improve. The allotment should make progress towards meeting Standard 3; however, the other factors indicated above may ultimately prevent the Standard from being met.

### **Wildlife, Aquatic (includes an analysis of Public Land Health Standard 3):**

#### Affected Environment:

The East Hardscrabble allotment contains four perennial streams Abrams Creek, Frost Creek, Hernage Creek, and Third Gulch. Abrams Creek contains a Core Conservation population of Colorado River cutthroat trout addressed in the TES Section above. None of the other streams support fish due primarily to low seasonal flows but all of the streams contain aquatic insects. The Salt Creek Bellyache allotment contains one perennial stream, Trail Gulch. This stream

does not support fish due to low seasonal flows but does contain some aquatic insects. The Salt Creek Forest allotment contains one perennial stream Salt Creek. Salt Creek contains brook trout and aquatic insects. The Falk allotment contains one perennial stream, Brush Creek. Brush Creek contains brown, rainbow, and brook trout and aquatic insects.

Environmental Consequences/Mitigation:

Continued grazing activities would result in some soil compaction and displacement and increase the likelihood of erosional processes, especially on steep slopes, areas devoid of vegetation, and at livestock concentration areas such as stock waters, salting sites, and drainage bottoms. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. Due to the close proximity of the proposed activities to area drainages, there is a high potential that additional sediment associated with grazing practices could reach the perennial drainages mentioned above.

Sediment can impact trout species by silting in important spawning substrates and in the event eggs are present, by smothering eggs which leads to loss of productivity. Excessive sediment can also fill in important pool habitats reducing their depth and usability during critical summer and winter periods when they are needed for thermal refuge and survival. Aquatic insect productivity can be impaired as sediment covers clean gravels and cobbles and fills in the interstitial spaces used by these insects. This can reduce food sources for fish and terrestrial bird and bat species. The reauthorization of grazing as proposed provides for growing season rest and adequate plant rest and recovery periods which should maintain good vegetative cover and help to limit offsite soil movement. Stream and riparian habitats are in good condition, grazing should have minimal impact to fish or fish habitats.

Analysis on the Public Land Health Standard 3 for Aquatic Wildlife Communities (partial, see also Vegetation and Wildlife, Terrestrial): A Land Health Assessment was completed for these lands in 2002. At that time area streams were meeting Standard 3 for aquatic wildlife. The proposed action should have little bearing on the areas ability to continue to meet this standard.

**Wildlife, Terrestrial (includes an analysis of Public Land Health Standard 3)**

Affected Environment:

Terrestrial Habitat. The latest assessment of habitat condition occurred in the 2002 Eagle River South Watershed Landscape Health Assessment. Habitats in this landscape range from predominantly sagebrush flats in the lower elevations to pinyon/juniper woodlands, mixed mountain shrub, oak, aspen, aspen/mixed conifer, and some mixed conifer in the highest elevations. Riparian habitat consisting of a variety of vegetative species is also present and is mainly associated with the major perennial streams of the area. Riparian habitat is extremely important to a variety of fish and wildlife species many of which depend on riparian habitats for all or a portion of their life requirements.

Sagebrush stands provide important habitat for a variety of obligate species of birds, and are particularly important as food and cover for wintering big game within the Eagle South landscape. Pinyon-juniper woodlands provide important foraging and nesting habitat for some raptor species and many migratory song birds, and provide security, foraging, and thermal cover

for a variety of small game, big game, and nongame wildlife. Mixed mountain shrub and oak habitats are important to turkey, black bear, mule deer and elk among others.

Aspen are important habitats for a variety of species including big game, turkeys, blue grouse, black bears, and rabbits, among others. Aspen provide forage, and thermal and hiding cover, as well as birthing and nursing habitat for big game, and nesting habitat for some species of raptors and cavity nesting birds. Lodgepole pine and spruce-fir stands provide thermal, security, and bedding cover for big game and are important for cavity nesting birds, some raptors, and many owl species. Snowshoe hare, red squirrels, and many other species of small mammals.

The current condition of fish and wildlife habitats varies across the landscape. Upland habitats have been altered by disturbances (powerlines, pipelines, fences, public recreation use, residential and commercial development, vegetative treatments and livestock and wild ungulate grazing). The human uses have helped contribute to degradation of habitat quality, fragmentation of habitat for several species and the expansion of areas supporting noxious and exotic vegetative species.

*Species of High Public Interest.* 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 bulk of the landscape, except the Seven Hermits portion of the East Hardscrabble allotment overlap with severe winter range for both elk and deer. Severe winter range is considered that part of the overall range where 90% of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.

The Lower Colorado River Habitat Management Plan 2008-2012 indicates the 2006 post hunt elk population to be an estimated 5,950 within data analysis unit (DAU) E-16 (game management units 44,444, 45 and 47). The CDOW recommended population objective for elk is 6,000. As indicated the elk population is stable and meeting the population objectives set by the CDOW. CDOW recommended population objective for deer is 7,000. The 2006 post hunt population estimate was 10,160 deer in game management DAU D-14 (GMU 44). Currently the deer numbers are likely near the 7,000 deer population objective due to the locally severe winter of 2007-08.

Environmental Consequences/Mitigation: Given the diversity of vegetation found on these allotments, it can be presumed that these allotments provides cover, forage, breeding, and nesting habitat for a variety of big game, small game, and non-game mammals, reptiles, and birds. There is no indication that native terrestrial wildlife populations are not spatially distributed across the landscape with a density, composition, and frequency of species suitable to ensure reproductive capability and sustainability. It is unlikely that the proposed action would have any large scale negative impacts to density, composition, and frequency of terrestrial species or terrestrial wildlife habitat. These allotments receive adequate growing season rest and plant rest and recovery periods. The proposed grazing management should maintain habitat condition and provide for the forage and cover needs of resident wildlife.

*Species of High Public Interest.* The magnitude of competitive interactions between big game and livestock is poorly understood. Livestock and wild ungulate carrying capacities should be evaluated holistically and be used to guide stocking rate decisions and wild ungulate population objectives. Qualitatively viewing the big game population trends and objectives in relationship to the proposed stable level of livestock AUMs, it can be assumed that the current stocking rates will continue to be compatible with CDOW big game objectives.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Based on the grazing management in place, the LHA and the existing allotment data, the proposed action should have little bearing on the areas ability to meet, maintain, or move towards meeting Standard 3 for terrestrial wildlife.

**SUMMARY OF CUMULATIVE IMPACTS:**

Cumulatively, many of the future actions (e.g. human development, farming, ranching, and recreation) planned on private and state lands may have some undetermined effect on lynx and lynx habitat.

**PERSONS AND AGENCIES CONSULTED:**

A notice of public scoping was posted on the Colorado BLM’s Internet web page and a news release was issued on November 13, 2008 regarding grazing permits and associated allotments scheduled for renewal in 2009. 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 Glenwood Springs 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.

The following individuals, groups, organizations and/or local governments were also consulted:

- Grazing permittees associated with the permit renewals
- Southern Ute Tribe, Chairman
- Northern Ute Tribe, Chairman
- Ute Mtn. Ute Tribe, Chairman
- U.S. Fish & Wildlife Service

**INTERDISCIPLINARY REVIEW:**

<i>Name</i>	<i>Title</i>	<i>Responsibility</i>
Michael Kinser	Rangeland Management Specialist	NEPA Lead, Wetlands and Riparian Zones, Range Management
Jeff O’Connell	Hydrologist/Geologist	Soil, Air, Water, Geology
Kay Hopkins	Outdoor Recreation Planner	WSR, Wilderness, VRM, Recreation, Transportation

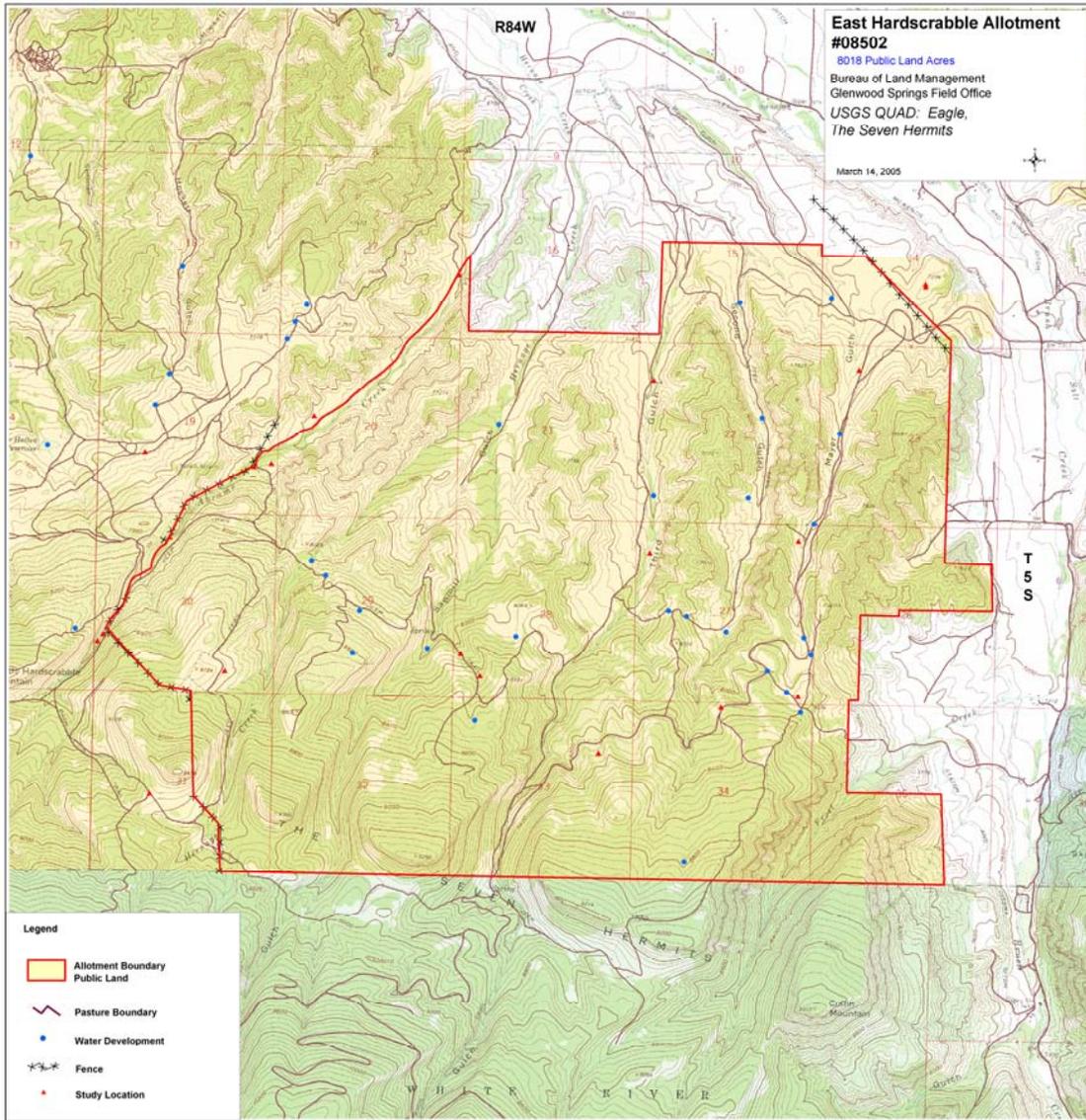
Cheryl Harrison	Archaeologist	Cultural Resources and Native American Concerns
Brian Hopkins	Wildlife Biologist	Migratory Birds, Terrestrial Wildlife, T/E/S Terrestrial Wildlife
Carla DeYoung	Ecologist	ACEC, Vegetation, T/E/S Plants, Land Health Stds
Tom Fresques	Fisheries Biologist	Aquatic Wildlife and T/E/S Aquatic Wildlife
Dereck Wilson	Rangeland Management Specialist	Invasive, Non-native Species

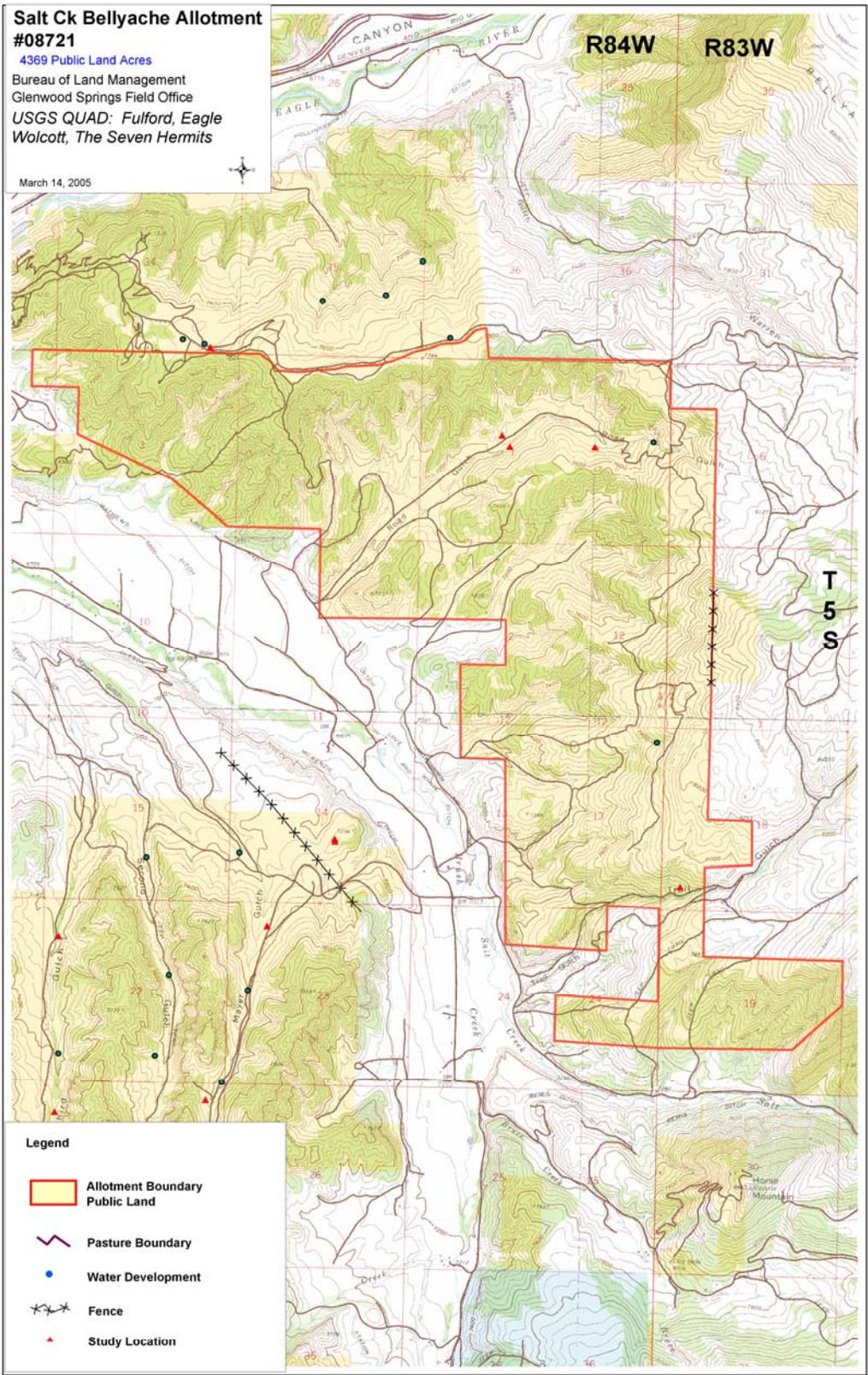
**ATTACHMENTS:** Allotment Maps

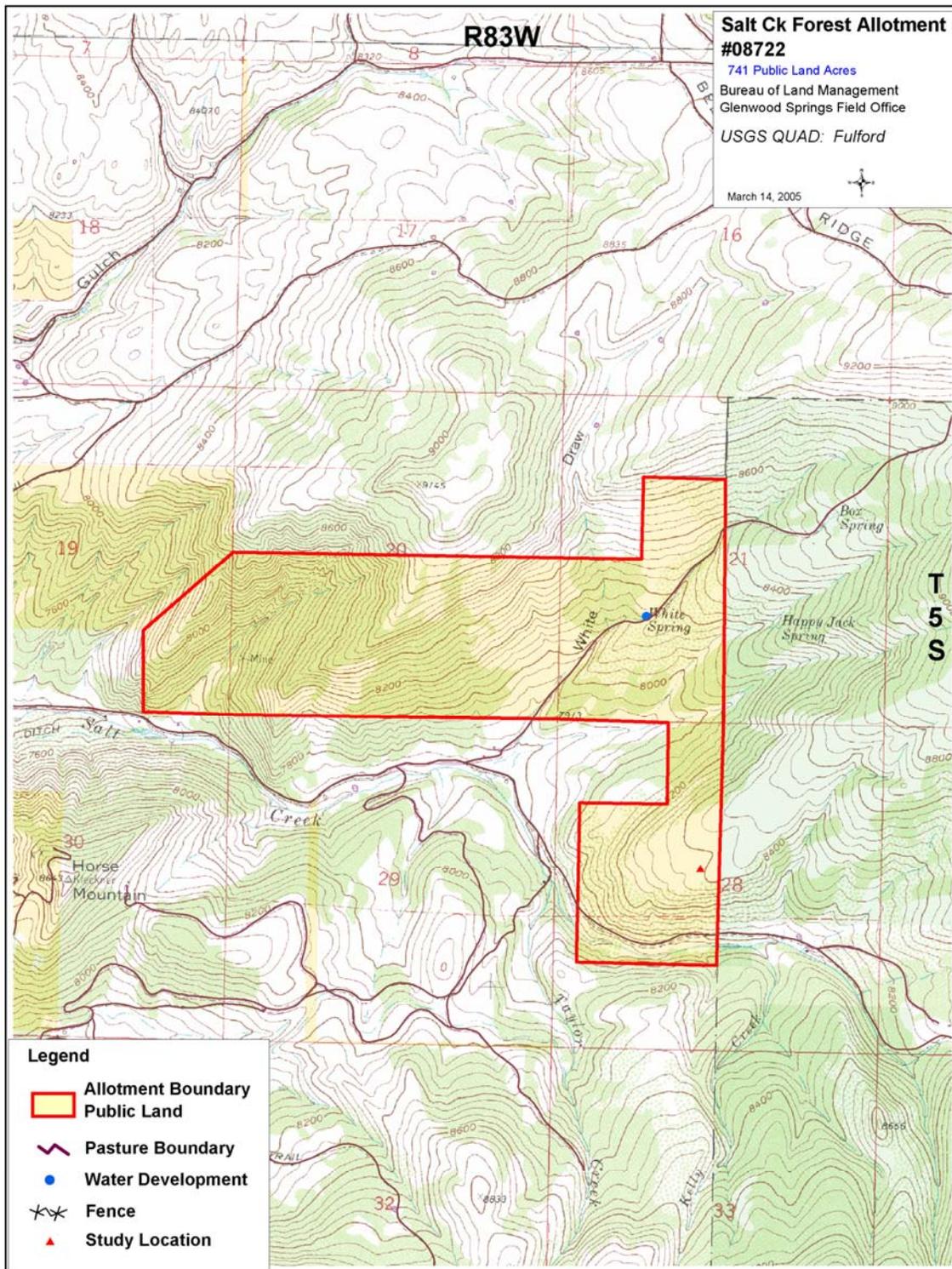
**APPENDICES:**

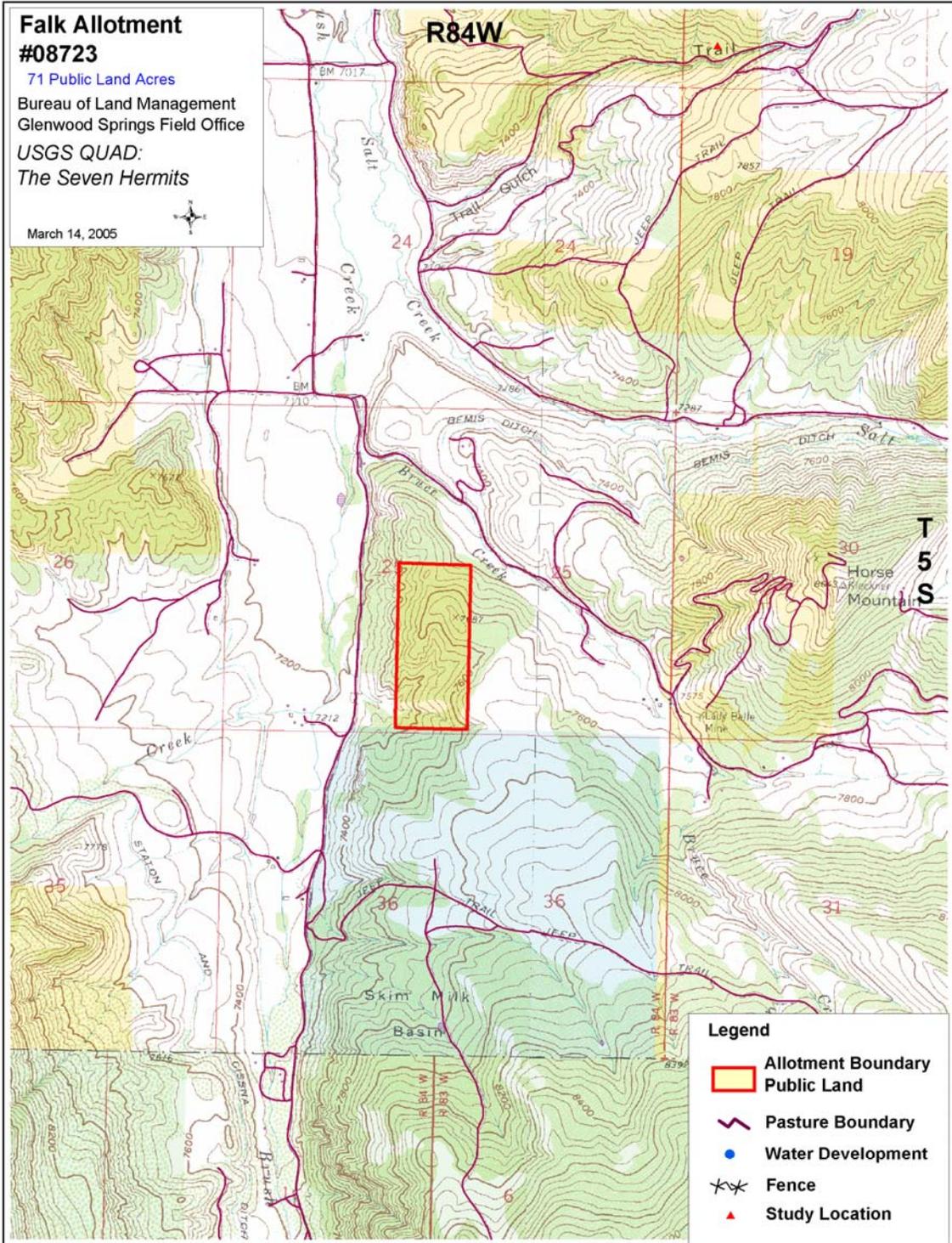
A - Biological Assessment for the Glenwood Springs Field Office Regarding Grazing Permit Renewals and Canada Lynx – FY 2009

B – Biological Opinion ES/GJ-6-CO-03-F-013









APPENDIX A

**Biological Assessment for the  
Glenwood Springs Field Office  
Regarding Grazing Permit Renewals and  
Canada Lynx – FY 2009**

**Garfield, Routt, Eagle and Pitkin Counties, Colorado**

February 12, 2009

**Submitted by:**

**Bureau of Land Management  
Glenwood Springs Field Office  
Glenwood Springs, CO**

Prepared by:

Desa Ausmus, Wildlife Biologist  
Bureau of Land Management  
Little Snake Field Office  
Craig, CO

## **I. Introduction**

The Canada lynx was listed as a threatened species under the Endangered Species Act (Federal Register, Volume 65, No. 58, March 24, 2000) effective April 24, 2000. In the proposed rule, the U.S. Fish and Wildlife Service concluded that the population in the United States is threatened by human alteration of forests, low numbers as a result of past overexploitation, expansion of the range of competitors and elevated levels of human access into lynx habitat. The final rule designating critical habitat was published in the Federal Register on November 9, 2006. There is no critical habitat designated in Colorado.

Threatened and endangered species are managed under the authority of the Endangered Species Act of 1973 (PL 93-205, as amended). The Endangered Species Act requires Federal agencies to ensure that all actions which they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of their critical habitat. This Biological Assessment regarding the renewal of 12 livestock grazing permits was prepared in accordance with the above provisions.

## **II. Project Description and Location**

The proposed action consists of the renewal of term grazing permits on twelve allotments that either contain mapped lynx habitat, are located within a mapped landscape linkage or both. Each permit will be issued for a 10-year period, unless the base property is leased for less, but for purposes of the BA, we are assuming 10 years of grazing by the current applicant, or another applicant, in the case of a transfer. These allotments are all located within the Glenwood Springs Field Office (GSFO). Table 1 identifies the twelve allotments and lists allotment name, allotment type, acres of public land and predominant habitat type.

All 12 allotments were included in the Glenwood Springs Field Office's programmatic biological assessment. Site-specific consultation has not been completed for four of the allotments. Eight of the allotments have already had site-specific consultations and these permits are being re-issued for another 10 year period. Each consultation made a "May Affect, Not Likely to Adversely Affect" determination and a concurrence letter was received from FWS. Additional data, supporting this determination for these eight allotments, is included in this BA.

**Table 1. Allotment Type, Size and Dominant Habitat Type in Lynx Habitat**

<b>ALLOTMENT NAME</b>	<b>LIVESTOCK TYPE</b>	<b>ACRES OF PUBLIC (BLM) LAND</b>	<b>PREDOMINANT HABITAT TYPE</b>
Antelope Creek	cattle	3,820	pinyon-juniper/ sagebrush/aspens/ lodgepole
Cantley Homestead	cattle	331	aspens/oakbrush/fir
Jackson	cattle	322	oakbrush/spruce- fir/aspens
W. Hardscrabble Common	cattle	16,300	oakbrush/sage/aspens/ conifer
Spruce Gulch Common	cattle	1,715	oakbrush/aspens/Douglas- fir/ ponderosa pine
Red Hill Common	cattle	11,936	pinyon-juniper/sage
Porcupine Common	cattle	1,927	oak brush /juniper /mountain shrub
E. Hardscrabble	cattle	7,614	pinyon-juniper /mountain shrub
Salt Creek Forest	cattle	780	pinyon-juniper /mountain shrub/ sage
E. Divide Common	cattle	13,777	oakbrush/aspens/spruce- fir
N. Thompson Creek Common	cattle	3,415	oakbrush /pinyon-juniper
Harris Gulch	sheep	2,238	conifer/aspens/oakbrush

**Total = 12****Total Acres = 64,175**

### III. Consultation History

To date, the GSFO has completed 8 project level consultations regarding livestock grazing and Canada lynx. These were all specific to individual permits up for renewal for a given year for permits/leases on grazing allotments that contained mapped lynx habitat. Each consultation made a “May Affect, Not Likely to Adversely Affect” determination and a concurrence letter was received from FWS.

In addition, programmatic consultation (ES/GJ-6-CO-03-F-013) for Canada lynx was completed on the entire grazing program as administered by the GSFO. A “May Affect, Not Likely to Adversely Affect” determination was made and concurrence was obtained via a Biological Opinion from the FWS. A Biological Opinion was required at the time due to the Kessler Court Decision. Since that time, that decision has been remanded and a BO is no longer required for NLAA determinations. Copies of all of these Biological Assessments, concurrence letters, and the Biological Opinion are available for review at the Glenwood Springs Field Office.

This Biological Assessment is for Canada lynx, and is at the site-specific project level and tiers to the programmatic grazing consultation noted above.

#### IV. Species Considered & Species Evaluated

Table 2 below, contains a list of Threatened, Endangered, Proposed, and Candidate species located or with potential to be located on lands administered by the Bureau of Land Management’s Glenwood Springs Field Office. Although all of the below listed species are found on the GSFO species list, the only species addressed under this consultation is Canada lynx. Other species would be consulted on in the event of any “May Effect” determination through NEPA analysis.

**Table 2. List of Threatened, Endangered and Candidate Species**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>
Bony-tailed chub	<i>Gila elegans</i>	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Endangered
Humpback chub	<i>Gila cypha</i>	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered
Black-footed ferret	<i>Mustela nigripes</i>	Endangered
Uncompahgre fritillary butterfly	<i>Boloria acrocneuma</i>	Endangered
Canada lynx	<i>Lynx canadensis</i>	Threatened
Ute ladies’-tresses orchid	<i>Spiranthes diluvialis</i>	Threatened
Uinta Basin hookless cactus	<i>Sclerocactus glaucus</i>	Threatened
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened
Parachute penstemon	<i>Penstemon debilis</i>	Candidate
DeBeque phacelia	<i>Phacelia scopulina var. submutica</i>	Candidate
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate

#### V. Description of the Species (Canada Lynx) and their Habitat

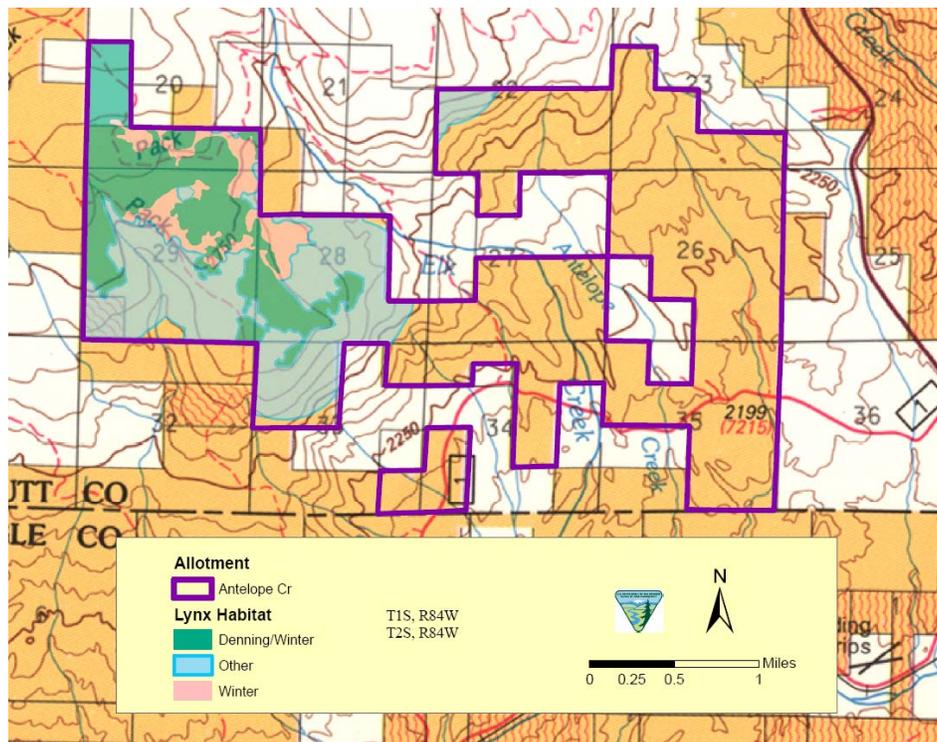
The general summary of lynx habitat was discussed in the Programmatic Consultation ES/GJ-6-CO-03-F-013, which this BA is tiered to. Below is site specific information on local habitat conditions within the 12 livestock grazing allotments being addressed in this BA. Information includes proposed management, allotment habitat characteristics, existing range data, and data collection associated with Land Health Assessments (LHA) regarding Standard 4 for lynx that was conducted on the allotments.

#### Allotments without site specific consultations

# 1. Antelope Creek

## *Background*

The Antelope Creek Allotment contains 3820 acres of BLM managed lands. Lynx habitat is mapped in the north-west portion of the allotment and is comprised of 559 acres of winter/denning habitat, 162 acres of winter foraging habitat and 736 acres of other habitat. Lynx habitat in this allotment is not currently located within an LAU, but lies within the Egeria Landscape Linkage. Vegetation within lynx habitat is comprised primarily of lodgepole pine, ponderosa pine, spruce and aspen.



Map displaying lynx habitat on the Antelope Creek allotment

The Antelope Creek Allotment is located in the Colorado River - Burns to State Bridge watershed. A formal LHA was completed for this landscape in 2006/2007. All of the sites visited in lynx habitat were found to be meeting Standard 3 for healthy plant and animal communities. All areas containing lynx habitat were found to be in good condition, providing healthy and productive habitat for lynx and their prey. Based on the overall condition of upland and riparian habitats located on public lands, Standard 4 for Canada lynx was being met within the Colorado River – Burns to State Bridge watershed. Movement is not being impeded and vegetation capable of providing alternative prey for lynx is abundant.

Habitat assessments specific to Canada lynx were completed for this allotment in 2008. Sites in both winter foraging and other habitat were evaluated. Overall, the allotment was in good condition. Utilization ranged from none to slight, with only wild ungulate sign noted. Abundant grasses and forbs were present with good diversity and productivity in aspen stands. Areas dominated by lodgepole pine forest had a sparse, but appropriate understory. The Antelope

Creek Allotment was meeting Standard 4 and current grazing management does not appear to be impacting the usability of lynx habitat.



Photos of lynx habitat on the Antelope Creek Allotment

The main riparian areas within this allotment are Antelope Creek, Elk Creek, Stifel Creek and Tepee Creek. A riparian condition assessment (PFC) was done in 2006 and all sections of the above creeks within the Antelope Creek Allotment were rated as Proper Functioning. Riparian vegetation was in good condition and was providing suitable cover for wildlife movement.

***Proposed Action***

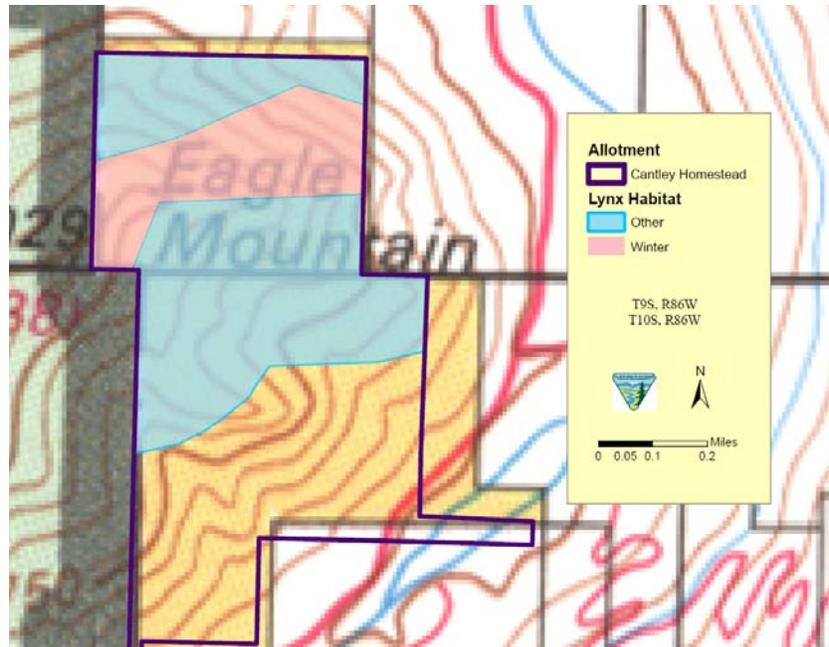
<b>Public Land Acres</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
3820	107 Cattle	05/01 – 07/31	100	324

Grazing in this allotment is permitted from the beginning of May through the end of July. Cattle are moved through the allotment during the three month grazing period, ensuring that no area receives season long grazing. This grazing system allows for sufficient growing season rest and adequate plant recovery periods. Seed production, dissemination, and seedling establishment are not hindered from livestock grazing.

**2. Cantley Homestead**

***Background***

The Cantley Homestead Allotment contains 331 acres of BLM managed lands. Lynx habitat is comprised of 55 acres of winter foraging habitat and 145 acres of other habitat. Lynx habitat in this allotment is not currently located within an LAU, but lies adjacent to the White River National Forest’s Snowmass LAU. Vegetation within lynx habitat is comprised primarily of aspen, spruce/fir and oakbrush.



Map displaying lynx habitat on the Cantley Homestead Allotment.

No formal LHA has been completed for this allotment. The allotment was visited in 2008 to assess lynx habitat. Lynx habitat within this allotment is very steep and probably receives little, if any, grazing from domestic livestock. Wild ungulate sign was noted just below mapped winter habitat. Although 145 acres of other lynx habitat is mapped within this allotment, most of the vegetation is oakbrush and is not considered to have high value to lynx or their prey species.

***Proposed Action***

<b>Public Land Acres</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
331	50 cattle	6/21 – 6/30	100	17

Livestock grazing is permitted on the Cantley Homestead Allotment for 10 days each June. Cattle are basically trailed through the lower elevations of the allotment on their way to the White River National Forest. This allotment receives adequate growing season rest which allows for plant rest and recovery. Seed production, dissemination, and seedling establishment is not being hindered. It is unlikely that grazing is impacting lynx habitat on the Cantley Homestead Allotment.

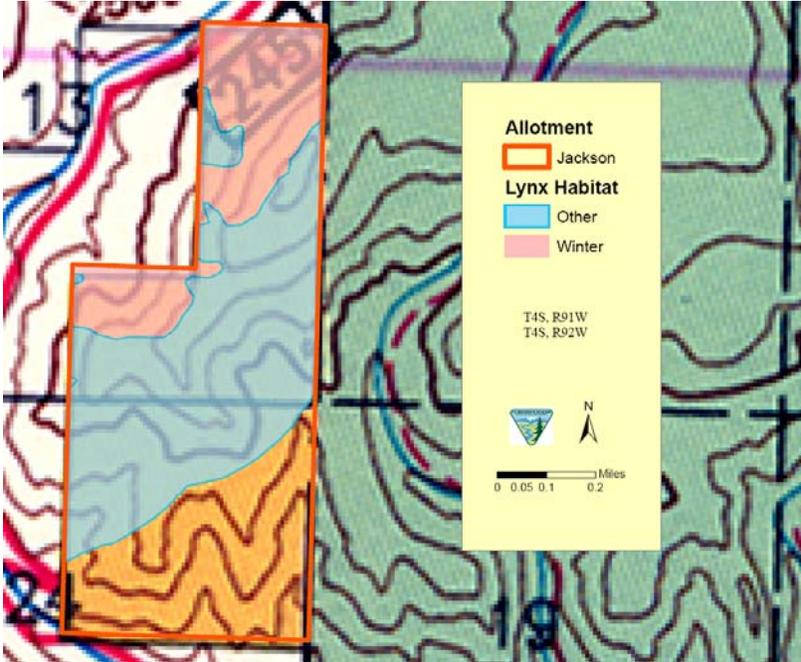


Photos of lynx habitat on the Cantley Homestead Allotment

### 3. Jackson

#### *Background*

The Jackson Allotment contains 322 acres of BLM managed lands. Lynx habitat is mapped in the northern two thirds of the allotment and is comprised of 70 acres of winter habitat and 159 acres of other habitat. Lynx habitat in the allotment is not within a LAU, but is adjacent to the White River National Forest BarHL LAU. Vegetation in mapped lynx habitat is comprised of aspen/spruce-fir and oakbrush.



Map displaying lynx habitat on the Jackson Allotment.



Photo of lynx habitat on the Jackson allotment

A formal LHA was completed for this allotment in 2007/2008. Due to the steep topography, the allotment was assessed from the base of the hill. No evidence of livestock grazing or any land health issues were noted. Since much of the lynx habitat within this allotment is very steep, it probably receives little, if any, grazing from domestic livestock. Although 145 acres of other lynx habitat is mapped within this allotment, most of the vegetation is oakbrush and is not considered to have high value to lynx or their prey species.

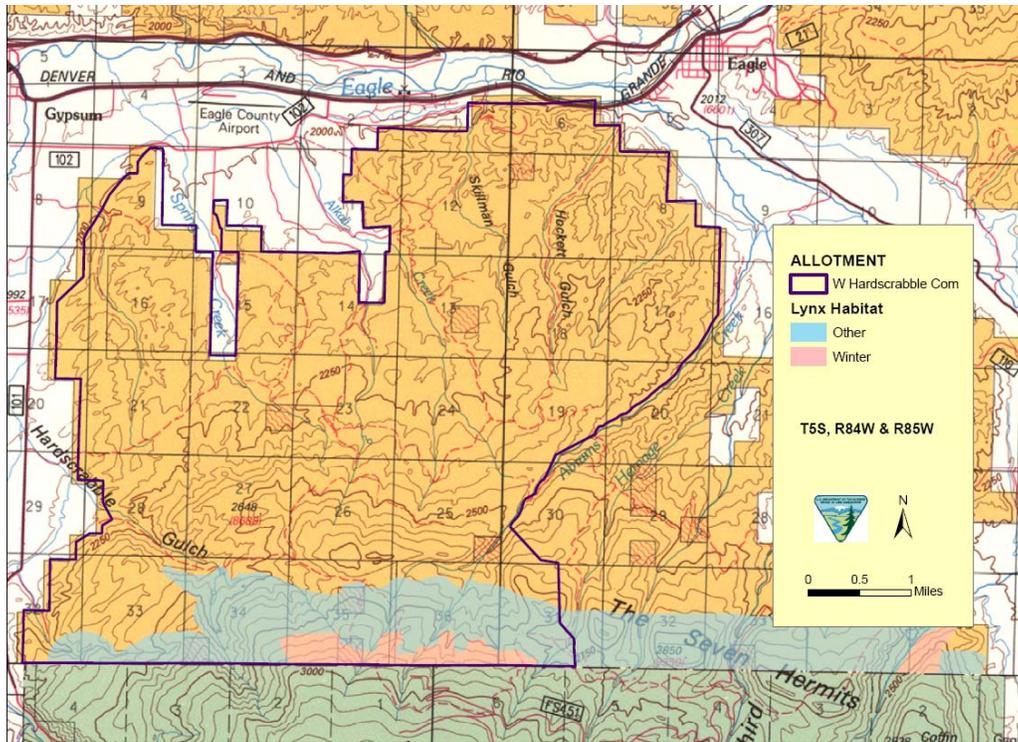
***Proposed Action***

<b>Public Land Acres</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
322	20 Cattle	06/16 – 07/31	100	30

Grazing is permitted on the allotment for about six weeks during the summer. Only the flatter portion of the allotment, at the top of the slope is likely utilized by livestock. The allotment is being managed within BLM’s guidelines and receives adequate rest for plant recovery.

**4. W. Hardscrabble Common**

The W. Hardscrabble Common Allotment contains 16,300 acres of BLM managed lands. Lynx habitat is mapped in the extreme southern portion of the allotment and consists of 325 acres of winter habitat and 1765 acres of other habitat. Lynx habitat in the allotment is not within a LAU, but is adjacent to the White River National Forest’s Battlement LAU. Vegetation in mapped lynx habitat includes lodgepole pine, aspen stands, sagebrush and oakbrush.



Map displaying lynx habitat on the W. Hardscrabble Allotment.

The W. Hardscrabble Common Allotment is located in the Eagle River South watershed. A formal LHA was completed for this landscape in 2002/2003. The allotment as a whole was considered to be meeting Standard 3 for healthy plant and animal communities, with some problem areas. The main problems were found on the lower elevation sagebrush sites. On these sites, sagebrush was in poor condition with pinyon-juniper encroachment. Many sites had low vigor and productivity, possible due to drought conditions that year. Higher elevation areas containing lynx habitat were found to be in good condition, providing healthy and productive habitat for lynx and their prey. The allotment was determined to be meeting Standard 4 for Canada lynx.

Habitat assessments specific to Canada lynx were completed for this allotment in 2003. Sites in both winter foraging and other habitat were evaluated. Overall, lynx habitat in the allotment was in good condition. Grazing in areas dominated by aspen and lodgepole pine was low. Some weeds, such as Canada thistle, musk thistle and houndstongue were noted. The W. Hardscrabble Common Allotment was meeting Standard 4 and current grazing management does not appear to be impacting the usability of lynx habitat.



Photo of lynx habitat on the W. Hardscrabble allotment

***Proposed Action***

<b>Public Land Acres</b>	<b>Operator number</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
16,300	1	395 cattle	5/01 – 6/30	100	597
		10 cattle	10/16 – 10/31	100	5
	2	128 cattle	5/01 – 6/30	100	194
		10 cattle	10/16 – 10/31	100	5
	3	100 cattle	5/01 – 6/30	100	151
		10 cattle	10/16 – 10/31	100	5

The West Hardscrabble Allotment is under an Allotment Management Plan (AMP). The AMP specifies a grazing system in which cattle are rotated amongst five different “areas” of the allotment during the spring use period. Period of use in each grazing area varies from 10 to 15 days. The AMP acknowledged that pastures could not be designated due to the lack of fencing and water availability. Given the lack of pasture fencing and lack of water in some areas of the allotment, cattle are actually rotated amongst three to four areas of the allotment. Lower elevation areas of the allotment are used first then cattle are moved to higher elevation areas prior to moving onto the adjacent National Forest allotment. Period of use varies from two to three weeks in each area of the allotment; however, due to lack of pasture fencing there is always some livestock drift between the grazing areas.

Grazing in this allotment is permitted from the beginning of May through the end of June. Grazing also occurs for about two weeks in the fall. Cattle are moved through the allotment during both grazing periods, ensuring that no area receives season long grazing. This grazing

system allows for sufficient growing season rest and adequate plant recovery periods. Seed production, dissemination, and seedling establishment are not hindered from livestock grazing.

**Allotments with completed site-specific consultations**

Allotment specific consultations have been completed for the following eight allotments. One allotment, Harris Gulch, is proposed to have a change in livestock class. The other seven allotments will have no change or very minor changes to the grazing permits. The proposed action is to re-issue the grazing permit for another 10 years. Since the grazing schedules have already been consulted on, they will not be re-stated in this BA. New information collected since the initial consultation, supporting the NLAA determination is presented below.

**1. Harris Gulch**

A site specific consultation was completed for grazing within the Harris Gulch Allotment in 2008. The permittee would like to change the class of livestock from cattle to sheep.

A formal LHA was completed for this allotment. Four sites throughout the allotment were visited, three outside of lynx habitat and one in lynx habitat. Overall, the allotment was in good condition and was meeting the standard for healthy and productive plant and wildlife communities. One site visited in the allotment did not meet standard 3 for healthy vegetative communities due to weeds. This was a small livestock concentration area which represents less than 10% of the allotment. The most recent range monitoring was completed in the summer of 2005, outside of lynx habitat. This allotment is meeting Standard 4 and livestock grazing is not degrading lynx habitat.

***Proposed Action***

**Previous Grazing Schedule:**

<b>Public Land Acres</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
3316 acres	78 cattle	6/15 to 8/31	90%	180

**Proposed Grazing Schedule:**

<b>Public Land Acres</b>	<b>Livestock Kind &amp; No.</b>	<b>Period of use</b>	<b>% Public Land</b>	<b>AUMs</b>
3316 acres	800 sheep	06/15 – 07/15	90%	147
	800 sheep	10/19 – 10/25	90%	33

The Harris Gulch Allotment would be grazed for four weeks in the early summer and again in the fall for six days. This would provide adequate growing season rest which allows for plant rest and recovery. Seed production, dissemination, and seedling establishment would not be hindered. The allotment is currently in good condition, and the proposed changes to the permit are not expected to change the condition of lynx habitat on the allotment.

## **2. E. Hardscrabble**

A site specific consultation was completed for grazing within the E. Hardscrabble Allotment in July of 2000. Since this time, a formal land health assessment (2002/2003) and a lynx habitat evaluation (2000) have been completed.

The E. Hardscrabble Allotment is located in the Eagle River South watershed. A formal LHA was completed for this watershed in 2002/2003. Some sites within the allotment were found to not be meeting Standard 3 for health plant and animal communities. The main problems were found on the lower elevation sagebrush sites. On these sites, sagebrush was in poor condition with pinyon-juniper encroachment. Many sites had low vigor and productivity, possible due to drought conditions that year. Weeds were also found on several of these sites. Vegetative communities in upper elevations were in much better condition. Aspen and conifer stands had better vigor and productivity than lower elevation sites. All sites within mapped lynx habitat were found to be meeting Standard 3 and provided suitable habitat for lynx and their prey.

Habitat assessments specific to Canada lynx were completed for this allotment in 2000, after the initial consultation was complete. Nine sites were visited within the allotment. Overall, lynx habitat in the allotment was in good condition. Utilization ranged from none to slight and livestock sign was noted at five of the sites. Milk thistle and hounds tongue were found at one site. The East Hardscrabble Common Allotment was meeting Standard 4 and current grazing management does not appear to be impacting the usability of lynx habitat.

## **3. Salt Creek Forest**

A site specific consultation was completed for grazing within the Salt Creek Forest Allotment in July of 2000. Since this time, a formal LHA and a lynx habitat evaluation have been completed.

The Salt Creek Forest Allotment is located in the Eagle River South watershed. A formal LHA was completed for this watershed in 2002/2003. The allotment was found to be meeting Standard 3 for healthy plant and animal communities. The allotment is in good condition and provides productive habitat for Canada lynx. The Salt Creek Forest Allotment was meeting Standard 4 and current grazing management does not appear to be impacting the usability of lynx habitat.

Habitat assessments specific to Canada lynx were completed for this allotment in 2000, after the initial consultation was complete. Two sites were visited within lynx habitat. Utilization was none to slight with no evidence of livestock use. The vegetative community was in good condition and aspen regeneration was abundant at one site. At least 4 different age classes of aspen were noted with many small saplings present. Understory grasses, shrubs, and forbs were diverse and abundant and in good condition. The allotment was meeting Standard 4.

## **4. Porcupine**

A site specific consultation was completed for grazing within the Porcupine Allotment in July of 2000. Since this time, a formal LHA and a lynx habitat evaluation have been completed.

The Porcupine Allotment is located in the Rifle-West watershed. A formal LHA was completed for this watershed in 2004/2005. One site within lynx habitat was visited. Mapped habitat in the allotment is located on steep side hills or within steep drainages that are not being accessed by livestock. Lynx habitat in the allotment was in good condition. Understory vegetation was in good condition and aspen and conifer trees were healthy. Based on the overall condition of habitat, Standard 4 for Canada lynx was being met.

Habitat assessments specific to Canada lynx were completed for this allotment in 2000, after the initial consultation was complete. One site was assessed but a larger portion was hiked through. This allotment is mostly mixed mountain shrub with some Doug-fir and aspen in the southeast corner. Evidence of livestock use was apparent. Utilization was light except for along the main cattle trail through the heavy oakbrush where in small openings use was moderate to heavy. Understory grasses were productive and vigorous. Canada thistle and broader areas of houndstongue were noted. Livestock sign was far less evident farther up the steep slope to the east. This is where the best lynx habitat was located with a denser stand of Doug-fir and a couple of aspen stringers. Several small seeps and springs with cottontails were noted. Lynx habitat within the Porcupine Allotment is in good condition and the allotment was meeting Standard 4.

## **5. North Thompson Creek**

A site specific consultation was completed for grazing within the North Thompson Creek Allotment in July of 2000. Since this time a lynx habitat evaluation (2001) has been completed. No formal LHA has been completed for this allotment.

Lynx habitat in this allotment is located on a steep northeast facing slope. The habitat was diverse with good vegetative structure and diversity. Vegetation was healthy with good production. Aspen at the site were healthy with at least 3 different age classes noted. Some recruitment was evident in the area. Some elk sign was noted as was bear sign. Livestock grazing is not occurring on this portion of the allotment due to the steep terrain and is not an issue. The site appears to be in late seral stage or nearing climax. The allotment was determined to be meeting Standard 4 for Canada lynx.

## **6. Spruce Gulch Common**

A site specific consultation was completed for grazing within the Spruce Gulch Common Allotment in November of 2000. Since this time, a formal LHA has been completed. A wildfire burned some of the lynx habitat within this allotment in 2008.

The Spruce Gulch Common Allotment is located in the Rifle-West watershed. A formal LHA was completed for this watershed in 2004/2005. One site within lynx habitat was visited. Mapped habitat in the allotment is located on steep side hills or within steep drainages that are not being accessed by livestock. Lynx habitat in the allotment was in good condition.

Understory vegetation was in good condition and aspen and conifer trees were healthy. Based on the overall condition of habitat, Standard 4 for Canada lynx was being met.

## **7. Red Hill Common**

A site specific consultation was completed for grazing within the Red Hill Common Allotment in November of 2000. Since this time, a formal LHA and a lynx habitat evaluation have been completed.

The Red Hill Common Allotment is located in the Eagle River South watershed. A formal LHA was completed for this watershed in 2002/2003. For the most part, the Red Hill Common Allotment was meeting land health standards. Overall, ground cover was adequate to protect soils and vegetation was in fair to good condition. Some issues were found on the lower elevation sagebrush sites. Vegetative communities in upper elevations were in much better condition. All sites within mapped lynx habitat were found to be meeting Standard 3 and provided suitable habitat for lynx and their prey.

Habitat assessments specific to Canada lynx were completed for this allotment in 2001. One site was visited within the allotment. The habitat was diverse with good vegetative structure. Vegetation was healthy with good production. Aspen at the site were healthy with 3 different age classes noted. Some recruitment was evident. Mountain mahogany was moderately browsed and elk and some deer sign was evident. No livestock sign was noted and use was obviously slight. The allotment was meeting Standard 4 and was providing productive habitat for Canada lynx.

## **8. East Divide Common**

A site specific consultation was completed for grazing within the East Divide Common Allotment in December of 2001. Since this time, a lynx habitat evaluation has been completed.

Habitat assessments specific to Canada lynx were completed for this allotment in 2002. Three sites were assessed in lynx habitat on this allotment. Aspen were very healthy and large but age class diversity was somewhat lacking. At least 3 age classes were noted and some regeneration was occurring across the area but small saplings were being stripped of their leaves. This was likely from elk and possibly cattle. It appeared that aspen regeneration may be being hindered across large portions of the allotment. Conifers were in good condition with smaller and larger trees present. Understory was diverse with good structure and good productivity. Livestock sign was present but use was light in the forested, heavy canopied areas. Small openings showed slightly higher use on grasses. Overall, the allotment was found to be meeting Standard 4 and providing suitable and productive habitat for Canada lynx.

## **VI. Effects of Proposed Action on Canada Lynx**

The general effects of livestock grazing were disclosed and discussed in the Programmatic Consultation ES/GJ-6-CO-03-F-013, which this BA is tiered to. Site specific effects related to the renewal of these twelve grazing permits are discussed below.

## **VI.1. Proposed Action(s) Relative Effects to Lynx Productivity Risk Factors**

The biggest potential effect to lynx is livestock competition with lynx prey species for forage resources. Any reductions in forage that would lead to a reduction in prey or prey density could result in lower lynx productivity over time. However, based on existing range data for these allotments, utilization levels within lynx habitat are generally in the slight to light category with occasional areas of moderate use. Given the grazing management strategies in place, it is unlikely that any allotment will receive heavy or severe grazing pressure. Livestock are distributed across the allotments primarily within the rangeland habitats (sagebrush, p/j) outside of forested lynx habitats, and generally do not concentrate in any one area too long.

All of the allotments containing lynx habitat and addressed in this BA are being managed to meet one or more of the following guidelines:

- Periodic rest or deferment from grazing during the critical [plant] growth periods
- Adequate [plant] recovery and regrowth periods
- Opportunity for seed dissemination and seedling establishment

Each of the allotments incorporates at least some rest during the growing season and adequate plant recovery and regrowth periods via the implementation of rotation, deferral, or season of use. As such, it is likely that opportunities for seed dissemination and seedling establishment are occurring, given localized climate conditions related to moisture capture and drought. Managing these allotments within the above guidelines should ensure that these allotments continue to meet the Public Land Health Standards. Water developments for livestock are generally located within the sagebrush – grassland habitats away from mapped lynx habitat. This helps to distribute livestock use away from the more densely forested habitats, and limits use within riparian areas.

## **VI.2. Proposed Action(s) Relative Effects to Lynx Movement Risk Factors**

### ***General Movement and Dispersal***

The LCAS identified several risk factors that could affect lynx movements, including the alteration of shrub-steppe habitat which could contribute to reduced incidence and success of lynx dispersal across shrub-steppe habitats. It is plausible that over grazing by livestock could be a factor contributing to the decline of the shrub-steppe plant community, thus reducing forage availability to the point that it limits leoprid population density. The LCAS states that livestock grazing within shrub-steppe within the elevational ranges of forested lynx habitat should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability.

### ***Identified Habitat Linkages***

Four habitat linkages have been identified and mapped within the GSFO. These linkages are comprised of public, private, state and USFS lands and serves as likely corridors in which lynx

might travel during dispersal movements. These corridors link larger forested landscapes located on adjacent White River and Routt National Forest lands. Small portions of the each linkage provide the vegetative components (summer forage, winter forage, and possibly some denning habitat) necessary to support and possibly sustain lynx. However, the majority of vegetation located within these linkages does not provide lynx habitat. These vegetative communities provide habitat for alternative prey species and cover for movement and dispersal. The Antelope Creek Allotment is located within the Egeria Landscape Linkage.

It is plausible that over-grazing by livestock could be a factor contributing to the decline of the functionality of landscape linkages. A reduction in forage availability could limit prey population density. In addition, a reduction in vegetative cover could impair lynx's ability to successfully move through the landscape.

However, based on how the Antelope Creek Allotment would be managed, impacts to lynx and lynx habitat should be insignificant. The permit calls for growing season rest and ample opportunity for plant regrowth and recovery. Seed production, dissemination and seedling establishment should not be hindered under the proposed management schemes. Continued livestock grazing should create no barrier to potential lynx movement.

## **VII. Inter-related and Inter-dependant Effects**

Wild ungulates also play a role in the overall condition of vegetation across the 568,000-acre GSFO. The GSFO serves as primary mule deer and elk winter range for several CDOW Data Analysis Units (DAU's). Most elk move to high elevations and other landownership (National Forest Service Lands) as snow melts in the spring. Deer disperse more than elk across all elevations in the summer. Thus, grazing ungulates are relatively constant on many portions of all allotments throughout the year. The conditions of all allotments change annually with varying weather patterns (e.g. drought) and varying ungulate utilization and distribution. Elk in particular may be having some localized impacts to aspen stands, due to high utilization levels on young saplings. Deer concentrate more heavily on browse and may be partially to blame for poor sagebrush condition in some heavily used winter ranges.

## **VIII. Cumulative Effects**

As it pertains to ESA, cumulative effects are defined as: *those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation.* [50 CFR 402.02]

Cumulative effects do not include any past or ongoing action, but “involve only future non-Federal actions”. Future Federal actions requiring separate consultation (unrelated to the proposed action) are not considered in the cumulative effects section.

In addition to public lands, the GSFO planning area contains a large amount of private land, and some scattered parcels of state land and state wildlife area lands. An undetermined amount, and diverse variety of land management activities are ongoing on private and state lands adjacent to BLM administered lands within the GSFO. Future actions reasonably certain to occur are

numerous and varied on these lands. Human development is occurring at an ever-increasing rate as native rangelands and ranches are being converted to residential and commercial properties. This trend is reasonably certain to continue to some degree. In addition, farming, ranching, and various recreational activities are ongoing and are reasonably certain to continue on other private and state lands. Livestock grazing is also occurring on some private and state lands within the area, and is reasonably certain to continue in some areas despite an overall reduction in grazing and other agricultural activities due to the selling of ranches and resulting residential and commercial developments.

Cumulatively, many of the future actions planned on private and state lands may have some undetermined effect on lynx and lynx habitat. The proposed action is not anticipated to result in negative cumulative impacts to lynx when viewed in conjunction with those activities currently occurring and reasonably certain to occur on adjacent private and state lands.

## **IX. Determination of Effects**

Based on the proposed management, the proposed renewal of these twelve livestock grazing permits “MAY AFFECT, BUT IS NOT LIKELY TO ADVERSELY AFFECT” the Threatened - Canada lynx. Furthermore, the proposed action is in conformance with the recently completed programmatic consultation for lynx regarding the GSFO livestock grazing program. None of the actions will result in the destruction or adverse modification of Fish & Wildlife Service designated critical habitat.

Due to this determination, Formal Consultation is not determined to be necessary. This Biological Assessment is being submitted in order to obtain concurrence with our determination that management of these twelve grazing allotments is within the guidance outlined in the Programmatic Biological Opinion. In addition we seek to have this BA appended to the Programmatic Biological Opinion.

### Rationale:

1. Permit standards and guidelines that result in acceptable residual herbivore forage and acceptable riparian conditions are design features of all BLM livestock grazing permits/allotment management plans as directed in the *Glenwood Springs Resource Management Plan* (1984, revised 1988), and *Colorado Public Land Standards for Public Land Health and Guidelines for Livestock Grazing* (1997).
2. Range and Land Health Assessment data shows that lynx habitat within these twelve allotments are in good condition. Where livestock grazing is occurring utilization has generally been light with some areas of moderate use. Light to moderate use should leave sufficient forage for lynx prey species and provide adequate cover for movement and dispersal.

## APPENDIX B

Biological Opinion ES/GJ-6-CO-03-F-013



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946



IN REPLY REFER TO:
ES/GJ-6-CO-03-F-013
TAILS 65413-2009-I-0066

April 2, 2009

Memorandum

To: Field Manager, Bureau of Land Management, Glenwood Springs Field Office, Glenwood Springs, Colorado
From: Acting Western Colorado Supervisor, Fish and Wildlife Service, Ecological Services, Grand Junction, Colorado
Subject: Comments on Storm King Allotment Livestock Grazing Permit issuance under Programmatic Biological Opinion ES/GJ-6-CO-03-F-013

Your letter dated February 13, 2009, included the project level Biological Assessment (BA) for the effects of renewing 10-year grazing permits on 12 allotments. Your letter was received in our office on February 17, 2009. Your project level BA tiers to programmatic biological opinion ES/GJ-6-CO-03-F-013, and provides information which updates our programmatic consultation. The programmatic opinion analyzed the effects of your grazing program on Canada lynx.

Project Description

The proposed action consists of the renewal of 10-year grazing permits on 12 allotments that are within a lynx landscape linkage or contain mapped lynx habitat. These allotments are located within the Glenwood Springs Field Office (GSFO). All 12 allotments up for renewal were previously addressed during the programmatic consultation. Eight of the allotments were issued 10-year permit renewals in the past and are now up for renewal again. The remaining four allotments have not been analyzed at the site-specific level and are addressed herein.

Allotments with prior section 7 consultation

Harris Gulch

Section 7 consultation was completed for the Harris Gulch allotment in 2008. However, the permittee has proposed to change the class of livestock from cattle to sheep. The proposal will allow sheep grazing on the 3,316 acre allotment as follows:

- 800 sheep/ grazing period from June 15 - July 15/ 147 animal unit months (AUMs)
800 sheep/ grazing period from October 19 - October 25/ 33 AUMs

Section 7 consultation has been completed on seven additional allotments (see following list) in the past to address the effects of grazing on lynx. With the exception of the Harris Gulch allotment (above), no proposed changes in livestock class, timing restrictions or requirements are proposed in the following allotments. Specifics regarding livestock class, timing restrictions or requirements within these allotments are documented in the programmatic biological opinion.

- East Hardscrabble
Salt Creek Forest
Porcupine
North Thompson Creek
Spruce Gulch Common
Red Hill Common
East Divide Common

Allotments without prior site specific section 7 consultation

The following allotments were identified in the programmatic BO ES/GJ-6-CO-03-F-013. However, site specific information was not provided and project level analysis under section 7 was never completed.

Antelope Creek

The Antelope Creek allotment consists of 3,820 acres, grazes 107 cattle during a period spanning May 1 - July 31 and yielding 324 AUMs. Livestock are moved throughout the allotment during the three month grazing period to ensure that no area receives season long grazing pressure.

Cantley Homestead

The Cantley Homestead allotment contains 331 acres, grazes 50 cattle during a period spanning June 21 - June 30 yielding 17 AUMs. Livestock are trailed through the lower elevation of the allotment on the way to grazing allotments on the White River National Forest.

Jackson

The Jackson allotment contains 322 acres, grazes 20 cattle, during a period spanning June 16-July 31.

West Hardscrabble Common

The West Hardscrabble Common allotment contains 16,300 acres and is used by three separate operators. The grazing season within this allotment is split with the first rotation occurring between May 1 - June 30 and the second rotation occurring October 16 - October 31. All three operators graze during the same time period, grazing 623 cattle in the first rotation yielding 942 AUMs. The second rotation allows a total of 30 cattle (10 per operator), yielding a total of 15 AUMs (5 per operator). The West Hardscrabble allotment is under an allotment management plan (AMP), which specifies that cattle will be rotated amongst five different "area" of the allotment during the first rotation. Each "area" is grazed for a period of 10-15 days.

Status of the Species and Environmental Baseline

The status of the species tiers to the extensive description of the status of the species in biological opinion ES/GJ-6-CO-03-F-013 and is updated with the following information.

2

Lynx in Colorado are considered a portion of the lower 48 distinct population segment currently listed under the Act. The Colorado Division of Wildlife (CDOW) is currently tracking approximately 43 adult lynx. Two hundred eighteen lynx have been released during the reintroduction program. There are 114 known mortalities and 61 missing animals (Shenk, CDOW, pers. comm., 2009). The CDOW continues to monitor the population to the extent possible. It has become nearly impossible to determine the extent of the lynx population in Colorado due to failed collars, unknown mortalities, etc. Highway mortality ranks as one of the highest human caused mortalities factors for the Colorado lynx reintroduction overall, only exceeded by animals that have been shot. Three release protocols were used during the initial releases of lynx. By adjusting the release protocol, CDOW observed a reduction in the number of starvation deaths (Shenk 2004). Shenk (pers. comm. 2008) observed that 3 lynx have died of starvation under their current release protocol, one each in years 2000, 2001, and 2008. One hundred sixteen kittens have been born in Colorado (Shenk 2006), but survival of kittens is currently unknown. The CDOW reported zero reproduction in 2007 and 2009.

Table 2. Kittens born in Colorado

Table with 2 columns: Year, Number of Kittens. Rows: 2003 (16), 2004 (36), 2005 (46), 2006 (11), 2007 (0), 2008 (0)

In addition, on August 20, 2008, the Service issued biological opinion ES/LK-6-CO-08-F-024, to the U.S. Forest Service for a proposal to amend seven Forest Plans within the Southern Rocky Mountain Geographic area (i.e. Colorado and southeastern Wyoming). Biological opinion number ES/LK-6-CO-08-F-024 contains the latest range-wide status of the Canada lynx and is incorporated here by reference.

Environmental Baseline

The environmental baseline for the proposed action is generally described in programmatic biological opinion ES/GJ-6-CO-03-F-013. Standards and guidelines that direct livestock grazing for the Glenwood Field Office are designed to allow grazing at a sustainable level. However, conditions within individual allotments may be influenced by other things, including wild ungulate populations, drought, etc.

The BA reported that all of the 12 grazing allotments are in good condition within the lynx habitat areas and are meeting standard 4 of the Colorado Standards for Public Land Health. The BA reported that aspen regeneration may be hindered across large portions of the East Divide Common allotment but reported that standard four was still being met. In addition, the BA reported that a fire occurred within the Spruce Gulch Common Allotment.

3

Effects Analysis

The general effects of livestock grazing are contained in the programmatic biological opinion ES/GJ-6-CO-03-F-013.

The biggest potential effect to lynx is livestock competition with lynx prey species for forage resources. Any reductions in forage that would lead to a reduction in prey or prey density could result in lower lynx productivity over time. Given the existing and proposed grazing management strategies, BLM believes that reauthorization of grazing permits for the allotments discussed herein will continue to meet the Public Land Health Standards. As stated in the programmatic opinion, we have concluded that the Standards for public land health are adequate to support lynx conservation. The existence of these standards alone does not necessarily ensure compliance with the standards.

Two of the allotments were reported to have somewhat degraded condition. A fire was reported to have occurred within the Spruce Gulch Common allotment. However, the fire occurred in very steep terrain and livestock grazing is not anticipated to occur within the burned area and will not effect regeneration of the vegetation. Regeneration of aspen clones have been hindered within the East Divide Common allotment. Based on information documented in the programmatic biological opinion ES/GJ-6-CO-03-F-013, the current conditions within the East Divide Common allotment represent degraded conditions compared to past evaluations of habitat conditions. However, the BA concluded that the allotment was meeting standard 4 of the Colorado Standards for Public Land Health.

The lynx habitat components contained within the allotments considered herein make up only a portion of the lynx habitat within their respective landscapes including lynx analysis units and landscape linkages. The majority of lynx habitat lies within the U.S. Forest Service boundary. Therefore, lynx habitat contained within the allotments described herein function as part of a larger landscape and management of the larger landscape for lynx requires a coordinated effort between land management agencies. Several of the allotments considered herein fall within one or more of the landscape linkages, and compliance to the standards for public land health will ensure that the appropriate habitat conditions exist within each linkage to facilitate movement of lynx across the landscape.

Updated Cumulative Effects Analysis

In addition to public lands, the Glenwood Springs Field Office planning area contains a large amount of private land, and some scattered parcels of State land and State wildlife area lands. An undetermined amount, and diverse variety of land management activities are ongoing on private and State lands adjacent to Bureau of Land Management administered lands within the Glenwood Springs Field Office area. Future actions reasonably certain to occur are numerous and varied on these lands. Human development is occurring at an ever-increasing rate as native rangelands and ranches are being converted to residential and commercial properties. This trend is reasonably certain to continue to some degree. In addition, farming, ranching, and various recreational activities are ongoing and are reasonably certain to continue on other private and

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State lands. Livestock grazing is also occurring on some private and State lands within the area, and is reasonably certain to continue in some areas despite an overall reduction in grazing and other agricultural activities due to the selling of ranches and resulting residential and commercial developments.

Cumulatively, many of the future actions planned on private and State lands may have some undetermined effect on lynx and lynx habitat. The proposed action is not anticipated to result in negative cumulative impacts to lynx when viewed in conjunction with those activities currently occurring and reasonably certain to occur on adjacent private and state lands.

#### **Conclusion**

After reviewing the current status of the Canada lynx, the environmental baseline for the action area, the effects of the action, and the cumulative effects, it is the Service's opinion that the proposed renewal of grazing permits on the subject allotments, is not likely to jeopardize the continued existence of the Canada lynx. Furthermore, the Service concurs with the "may affect, not likely to adversely affect" determination of the BA.

On November 9, 2006, the Service published its final rule designating critical habitat for lynx. Habitats within Colorado were not included in the final rule. Therefore, no adverse modification of critical habitat will result from the proposed action.

#### **Rationale**

Permit standards and guidelines that result in acceptable residual herbivore forage and acceptable riparian conditions are design features of all BLM livestock grazing permits/allotment management plans as directed in the *Glenwood Springs Resource Management Plan* (1984, revised 1988), and *Colorado Public Land Standards for Public Land Health and Guidelines for Livestock Grazing*. These same standards and guidelines are consistent with Lynx Conservation Assessment and Strategy (LCAS) standards and guidelines. Therefore, grazing as proposed is predicted to only result in insignificant and/or discountable effects to lynx and their habitat. Although regeneration of aspen trees within the East Divide Common Allotment may be inhibited by livestock grazing, other factors may be contributing to this condition, including impacts from wild ungulates. In addition, lynx habitat within the allotment is a minor contributor to larger blocks of habitat on the White River National Forest.

#### **Incidental Take Statement**

Take is to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct (Endangered Species Act, 16 U.S.C. 1531 et seq.). Harm is an act which actually kills or injures wildlife. Such acts may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3).

Harass is an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3). Incidental take is a taking that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR § 402.02).

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be a prohibited taking under the Act, provided that such taking is in compliance with the terms and conditions of an Incidental Take Statement.

#### **Amount or extent of take anticipated**

In issuing an incidental take statement, the Service provides a statement of anticipated incidental take. Generally, incidental take is expressed as the number of individuals reasonably likely to be taken or the extent of habitat likely to be destroyed or disturbed, and over what time period the anticipated take will occur. We do not anticipate that the proposed action will result in take of lynx.

#### **Comment/Recommendations**

We will attach this project level analysis to biological opinion number ES/GJ-6-CO-03-F-013. It may be necessary to reinitiate consultation at the programmatic level if an individual project generated by the BLM's grazing program results in jeopardy or adverse modification determination, or an adverse effect determination is made for any allotment permit renewal.

K:\Roderdep\BLM\GFS\OstomKingAllotment.livestockGrazingPermit\CL.doc\040209

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- Shenk, T.M. 2004. Colorado Division of Wildlife Job Progress Report. Post Release Monitoring of Lynx Reintroduced to Colorado. 9 pp.
- Shenk, T.M. 2006. Colorado Division of Wildlife Research Report. Post Release Monitoring of Lynx Reintroduced to Colorado. 46 pp.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
GLENWOOD SPRINGS FIELD OFFICE  
**FINDING OF NO SIGNIFICANT IMPACT**

**Grazing Permit Renewal on the East Hardscrabble, Falk, Salt Creek Bellyache, and Salt  
Creek Forest Allotments**

**DOI-BLM-CO140-2009-0048-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 Brush Creek Allotment. 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 the 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 proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

Unique characteristics for the allotments have been identified and addressed in the EA. These include wetlands/riparian zones and cultural resources. Application of mitigation measures for cultural resources results in a determination of “Conditional No Adverse Affect” for historic properties that occur in the allotments. The proposed action is not expected to cause adverse impacts to riparian zones. No other unique characteristics are known to occur in the allotments.

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

The analysis did not identify any effects that are 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 the East Hardscrabble, Falk, Salt Creek Bellyache, and Salt Creek Forest Allotments. It is not expected to set precedent for future actions with significant effects or represent a decision in principle about a future management consideration in or outside of this allotment.

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

The analysis in the EA did not identify any related actions with cumulative significant effects.

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

The proposed action is not considered to adversely affect districts, sites, highways or structures. A determination of “Conditional No Adverse Affect” has been made for historic properties that occur in the allotments.

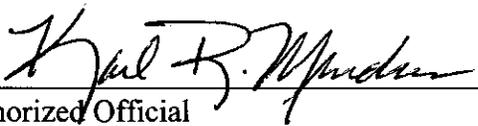
*9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

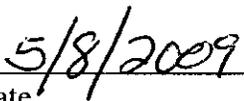
There is no designated critical habitat for any listed Threatened or Endangered species within the project area. The EA discloses that the proposed action may affect, but is not likely to adversely affect" the Threatened - Canada lynx. The proposed action would have no adverse impacts to any other species listed as threatened or endangered.

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.

  
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Authorized Official  
Glenwood Springs Field Office

  
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Date