

U.S. Department of the Interior
 Bureau of Land Management
 Colorado River Valley Field Office
 2300 River Frontage Road
 Silt, CO 81652

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-N040-2010-0011-EA

CASEFILE NUMBER: 0507716

PROJECT NAME: Grazing Permit Renewals on the Greenhorn and Upper Cottonwood Allotments

LOCATION: T4S R84W, T4S R85W. Refer to attached allotment map.

APPLICANT: Grazing Permittee

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action: The Proposed Action is to renew the 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 unless the base property is leased for less, but for purposes of the EA, we are assuming 10 years of grazing by this or another applicant (in case of transfer). The proposed action is in accordance with 43 CFR 4130.2. The tables below summarize the scheduled grazing use and grazing preference for the permits.

Mandatory Terms and Conditions

Scheduled Grazing Use:

Allotment Name & No.	Livestock No. & Kind	Period of use	Percent Public Land	AUMs
Upper Cottonwood 08639	28 Yearling	05/08-06/23	100	43
	28 Cattle	05/08-06/23	100	43
Greenhorn 08641	95 Yearling	05/08-06/23	100	147
	95 Cattle	05/08-06/23	100	147

Grazing Preference AUMs:

Allotment Name & No.	Active	Suspended	Total
Upper Cottonwood 08639	75	0	75
Greenhorn 08641	250	0	250

The following Other 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.
- Travel restrictions within the Castle Peak Travel Management Area: In areas closed to motorized travel, or during seasonal closures to motorized travel, normal grazing administration, facilities maintenance, or facilities operation will be accessed by non-motorized methods only unless authorized by an approved administrative access agreement. In areas closed to motorized travel, or during seasonal closures to motorized travel, the permittee will be required to get pre-approval from a BLM authorizing officer for reconstruction of existing permitted facilities or other operations requiring motorized equipment. In case of an emergency, the permittee will be allowed access by motorized vehicle but must notify a BLM authorizing officer within 72 hours of the emergency. The permittee will not be allowed to use motorized equipment in an area closed to motorized travel for activities other than those authorized by the BLM.
- Temporary nonrenewable grazing use (AUMS in excess of active grazing preference) is the result of yearling conversion and establishes no additional grazing preference.
- The permittee and all persons 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 further notified in writing to proceed by the authorized officer (36CFR 800.110 & 112, 43CFR 0.4).

Additional Background Information: Another grazing permit exists on both the Greenhorn and Upper Cottonwood Allotments that is not scheduled for renewal at this time. The table below summarizes the scheduled grazing use for that permit.

Operator No.	Allotment Name & No.	Livestock No. & Kind	Period of use	Percent Public Land	AUMs
0507716	Upper Cottonwood 08639	38 Cattle	5/8 – 6/25	100	61
	Greenhorn 08641	140 Cattle	5/8 – 6/25	100	226
	Upper Cottonwood 08639	5 Cattle	6/26 – 9/15	100	13
	Greenhorn 08641	9 Cattle	6/26 – 9/15	100	24

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 Colorado River Valley Field Office is in the ongoing process of completing Land Health Assessments on a landscape basis.

The Upper Cottonwood and Greenhorn allotments were assessed in 2003 as part of the North Eagle Land Health Assessment. The Determination Document signed on April 9, 2004 indicated that the Upper Cottonwood allotment was meeting all the standards. The Greenhorn allotment was not meeting Standard 4 for threatened and endangered species because of declining sage grouse numbers throughout the landscape. Various factors contributed to this trend including fragmentation, recreation and human uses, and fire suppression. Livestock grazing was not considered a substantial contributing factor in failing to meet the standard.

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

Table 1. Critical Elements of the Human Environment									
<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>		<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality		X		X	Prime or Unique Farmlands		X		X
ACECs		X		X	Special Status Species*	X		X	
Cultural Resources	X			X	Wastes, Hazardous or Solid		X		X
Environmental Justice	X			X	Water Quality, Surface and Ground*	X		X	

Floodplains		X		X	Wetlands and Riparian Zones*		X		X
Invasive, Non-native Species	X		X		Wild and Scenic Rivers		X		X
Migratory Birds	X		X		Wilderness/ WSAs	X			X
Native American Religious Concerns		X		X					

* 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 #1010-3) was completed for the Greenhorn and Upper Cottonwood Allotments on November 30, 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)
Greenhorn	1434	10123	12	67	Yes	No additional acres need to be inventoried for the renewal. 29% of the allotment has 30%+ slopes.
Upper Cottonwood	249	876	22	1	No	No additional acres need to be inventoried for the renewal. 25% of the allotment has 30%+ slopes.
Total	1683	10999		68	Yes	

A combined total of 21 Class III cultural resource inventories have been conducted in these allotments. Fifteen historic properties have been identified, all within the Greenhorn allotment. Historic properties are cultural resources that are considered eligible or potentially eligible for listing on the National Register of Historic Places. No areas of Native American concern were identified. Undiscovered historic era sites within this allotment could represent a time frame from the late 1800's through the 1950's; Native American sites could represent a time range from 200 to 10,000 years before present. Based on available data, there is a low 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 no known areas of Native American concern within these allotments. On October 26, 2009 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 2010 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 location without consultation with the appropriate Native Americans.

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

Fifteen historic properties were identified during the inventories for these allotments; none are currently adjacent to known range improvement such as pond or springs. Additional historic properties may be found which would require mitigation, therefore the BLM has made a determination of Conditional No Adverse Affect has been made for this renewal. The cultural resource specialist should be involved in discussions about 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. In order to mitigate this potential affect to historic properties all ground disturbing activity, salt blocks, and the placement of supplemental feed, etc, must be at least 100 m 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 area of concern is avoided. This allotment may also contain other 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.

Invasive, Non-native Species

Affected Environment:

The proposed action is to renew a term grazing permit on the Greenhorn and Upper Cottonwood Allotments. The season of use and livestock numbers will remain the same from the previous permit.

A landscape wide inventory for the presence of noxious and invasive species has not been completed on the above said allotments. However, noxious weeds have been documented on Greenhorn allotment and the likelihood of infestations to occur on the Upper Cottonwood allotment is very high. The following lists of noxious weeds are common in Eagle County. As such, the likelihood of at least some of these weed species to occur on the above said allotments is relatively high.

Canada thistle	Musk thistle	Whitetop	Plumeless thistle
Houndstonge	Cheatgrass	Bull thistle	Russian knapweed

Cheatgrass, Russian knapweed, and plumeless thistle have been documented within or adjacent to the Greenhorn Allotment. Specific locations of documented weeds are stored in a CRVFO geodatabase.

Environmental Consequences/Mitigation:

Livestock grazing can facilitate the spread and establishment of noxious and invasive species in two major ways.

First, overgrazing can reduce native vegetation thereby providing a niche for noxious weeds to become establish and spread. Conversely, properly managed grazing at low to moderate levels does not significantly increase the establishment and spread of noxious weeds and as some recent studies have shown can reduce the ability of some weeds, such as cheatgrass, to invade range sites. Land health studies conducted in 2003 and monitoring information collected indicate current stocking levels and management are sufficient enough to maintain the current native plant communities in the discussed allotments and therefore the proposed action is not expected to increase noxious and invasive plant species levels.

Second, livestock can act as a vector to spread reproductive vegetative plant parts and weed seed by means of either attaching to the hair or wool of the animal or being transported through fecal matter. The ability of livestock to transport weed seed and plant parts is directly related to the physiology of the weed species. However, this affect is minimal as compared to other weed seed dispersal vectors such as vehicle routes and ground disturbing activities. The current weed management plan for the CRVFO is able to mitigate the expected effects of livestock grazing on noxious and invasive weed management. Furthermore, some of the funding from collected grazing fees can be used for weed treatments, thereby offsetting some of the effects that livestock might incur on the above said allotments.

Migratory Birds

Affected Environment:

BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the Bureau of Land Management's (BLM) responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance directs Field Offices to promote the

maintenance and improvement of habitat quantity and quality. To avoid, reduce or mitigate adverse impacts on the habitats of migratory bird species of conservation concern to the extent feasible, and in a manner consistent with regional or statewide bird conservation priorities. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the 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.” The “*BIRDS OF CONSERVATION CONCERN 2008*” (U.S. Fish and Wildlife Service 2008) 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. Although there are general patterns that can be inferred, there is no single reason why any species was is on the list. Habitat loss is believed to be the major reason for the declines of many species. When considering potential impacts to migratory birds the impact on habitat, including: 1) the degree of fragmentation/connectivity expected from the proposed project relative to before the proposed project; and 2) the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats. Continued private land development, surface disturbing actions in key habitats (e.g. riparian areas) and the proliferation of roads, pipelines, powerlines and trails are local factors that reduce habitat quality and quantity for many species.

The Colorado River Valley Field Office is within the Southern Rockies/Colorado Plateau Bird Conservation Region (BCR). The 2008 list of Birds of Conservation include the following: Gunnison Sage-Grouse (*Centrocercus minimus*), American Bittern (*Botaurus lentiginosus*), Bald Eagle (*Haliaeetus leucocephalus*), Ferruginous Hawk (*Buteo regalis*), Golden Eagle (*Aquila chrysaetos*), Peregrine Falcon (*Falco peregrines*), Prairie Falcon (*Falco mexicanus*), Snowy Plover (*Charadrius alexandrinus nivosus/tenuirostris*), Mountain Plover (*Charadrius montanus*), Long-billed Curlew (*Numenius americanus*), Yellow-billed Cuckoo (*Coccyzus americanus*), Burrowing Owl (*Athene cunicularia*), Lewis's Woodpecker (*Melanerpes lewis*), Willow Flycatcher (*Empidonax traillii*), Gray Vireo (*Vireo vicinior*), Pinyon Jay (*Gymnorhinus cyanocephalus*), Juniper Titmouse (*Baeolophus ridgwayi*), Veery (*Catharus fuscescens*), Bendire's Thrasher (*Toxostoma bendirei*), Grace's Warbler (*Dendroica graciae*), Brewer's Sparrow (*Spizella breweri*), Grasshopper Sparrow (*Ammodramus savannarum*), Chestnut-collared Longspur (*Calcarius ornatus*), Black Rosy-Finch (*Leucosticte atrata*), Brown-capped Rosy-Finch (*Leucosticte australis*), and Cassin's Finch (*Carpodacus cassinii*).

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, oakbrush, aspen, pinyon-juniper woodlands, other types of coniferous forests and riparian and wetland areas support many bird species. The Gray Vireo, Pinyon Jay, Juniper Titmouse, Lewis's Woodpecker and Grace's Warbler are characteristically found in pinyon/juniper woodlands and the Brewer's sparrow (*Spizella breweri*) is found within sagebrush habitats. Many species of raptors (red-tailed hawks, 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. Raptor surveys have not been conducted in the area.

Bald eagle (*Haliaeetus leucocephalus*). 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. 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 animals. Major threats include habitat loss, human disturbance and illegal shooting.

The southern perimeter of the Greenhorn allotment is mapped winter/winter foraging areas for Bald Eagles. Winter foraging areas are defined as areas frequented by wintering bald eagles between November 15 and March 15. These generally are large mapped areas radiating from preferred roosting sites.

Environmental Consequences/Mitigation:

Birds generally do not respond to the presence of livestock but are impacted by the impacts of improper grazing. Livestock grazing has the potential to: reduce ground cover and forage, degrade riparian areas, the spread of exotic species, accidentally destroy ground nests through trampling, and alter natural fire regimes. Grazing can also affect riparian habitats which are vitally important to most migratory bird species. The abundance of food, water, and shade which attracts migratory birds to these areas also attracts livestock. On a landscape scale the greater concern is its cumulative impact on the fragmentation of habitats.

Limited specific bird count or species data exists for the area. Generally responses of individual bird species to land management activities are often habitat and species specific. No intentional take of native bird species is anticipated under the proposed action. The effects of the proposed action on migratory bird species is expected to be minimal and isolated, but not enough to influence populations of migratory birds on a landscape level or cause clear direct or indirect impacts. Given current overall existing habitat conditions/trends (see riparian and vegetation sections), it is unlikely that livestock grazing as proposed (i.e. numbers, duration, terms/conditions attached), would reduce the extent or quality of habitat available for migratory bird breeding functions or movement.

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

Affected Environment:

Federally Listed, Proposed or Candidate 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 only Federally listed, proposed or candidate plant species that may reside, have habitat, and/or be impacted by actions occurring in Eagle County is Ute ladies'-tresses orchid (*Spiranthes diluvialis*). Habitat for the Ute ladies'-tresses orchid is found below 6,500 feet along streams, lakes or in wetland areas with saturated or subirrigated soils. The Ute ladies'-tresses orchid has not been found within or adjacent to the Greenhorn or Upper Cottonwood Allotments and no suitable or potential habitat has been identified within these allotments.

BLM Sensitive Plant Species

The only BLM sensitive plant species with habitat and/or occurrence records in Eagle County is Harrington’s penstemon (*Penstemon harringtonii*). Harrington’s penstemon is found in open sagebrush communities or sagebrush/mixed mountain shrub communities between 6,400 and 10,000 feet. Both the Upper Cottonwood and Greenhorn allotments support several moderately large populations (>5,000 plants) of Harrington’s penstemon.

Federally Listed, Proposed or Candidate Terrestrial Wildlife Species

According to the latest species list from the U. S. Fish and Wildlife Service (U.S. Fish and Wildlife Service. 2008), the following Federally listed, proposed, or candidate terrestrial wildlife species may occur within or be impacted by actions occurring within the GSFO (Table - Special Status Species – Terrestrial Wildlife):

Table - Special Status Species – Terrestrial Wildlife

Terrestrial Wildlife Species	Habitat/Range	Eagle County	Garfield County	Mesa County	Pitkin County	Routt County
Black-footed Ferret (<i>Mustela nigripes</i>)	In Colorado habitat includes the eastern plains, the mountain parks and the western valleys. Specifically grasslands or shrublands that supported some species of prairie dog, the ferret’s primary prey.	X				
Canada lynx (<i>Lynx Canadensis</i>)	Mesic forests of lodgepole pine, subalpine fir, Engelmann spruce, and quaking aspen in the upper montane and subalpine zones, generally between 8,000 and 12,000 feet in elevation.	X	X	X	X	X
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	Mature montane forests, shady canyons, and steep canyons. The key components in montane forests are common to old-growth forests: uneven-age stands with high canopy closure and tree density, fallen logs and snags.	X	X		X	
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Mature riparian forests of cottonwoods and other large deciduous trees with a well-developed understory of tall riparian shrubs. Uncommon summer resident of Colorado.	X	X	X	X	X
Uncompahgre fritillary butterfly (<i>Boloria acrocneuma</i>)	Patches of snow willow (<i>Salix spp.</i>) at high elevations.	X			X	

These species: their status, their distributions, habitat associations, and as appropriate their association to the project area is summarized below.

Black-footed Ferret (*Mustela nigripes*). Federally listed as endangered. Black-footed ferrets have ranged statewide but never have been abundant in Colorado. Their habitat included the eastern plains, the mountain parks and the western valleys – grasslands or shrub lands that supported some species of prairie dog, the ferret’s primary prey. Little is known about their natural history. They mate in early spring and give birth to a litter of three or four mouse-sized pups after a seven-week gestation period. Black-footed

ferrets are reported to be killed. They are susceptible to distemper, predators like owls and coyotes, and vehicles. It is assumed that plowing for agriculture and programs to eradicate prairie dogs have driven the black-footed ferret to the verge of extinction. State and federal biologists have established two major black-footed ferret colonies: one at Coyote Basin (Colorado-Utah border west of Rangely) and another at the BLM's Wolf Creek Management Area southeast of Dinosaur National Monument (CDOW 2009). Because no known occurrences have been documented and the occurrence of the species in this area is unlikely due to range and habitat conditions, this species is not considered further.

Canada Lynx (*Lynx canadensis*). Federally listed as threatened. Canada lynx (*Lynx canadensis*) was listed as a federally threatened species, effective April 24, 2000 (Federal Register Volume 65, No. 58). Canada lynx occupy high-latitude or high-elevation coniferous forests characterized by cold, snowy winters and an adequate prey base (Ruggiero et al. 1999). The preferred prey of Canada lynx throughout their range is the snowshoe hare (*Lepus americanus*). In the western United States, lynx are associated with mesic forests of lodgepole pine, subalpine fir, Engelmann spruce, and quaking aspen in the upper montane and subalpine zones, generally between 8,000 and 12,000 feet in elevation. Although snowshoe hares are the preferred prey in Colorado, lynx also feed on other species such as the mountain cottontail (*Sylvilagus nuttallii*), pine squirrel (*Tamiasciurus hudsonicus*), and blue grouse (*Dendragapus obscurus*).

The U.S. Forest Service (USFS) has mapped suitable denning, winter, and other habitat for lynx within the White River National Forest (WRNF). The mapped suitable habitat in the WRNF comprises several areas known as Lynx Analysis Units (LAUs). Lynx analysis units (LAUs) are management areas that contain suitable lynx habitat and approximate the size of a female home range. Several LAUs border BLM lands however no areas large enough to be considered LAUs occur within the GSFO. BLM lands within the GSFO area generally support the movement of lynx dispersing to a new area or, potentially, moving to lower elevations during severe winter weather in search of prey. No mapped habitat or mapped linkage occurs within the area of the proposed action so this species is not considered further.

Mexican Spotted Owl (*Strix occidentalis*). Federally listed as endangered. This owl nests, roosts, and hunts in mature coniferous forests in canyons and foothills. The only extant populations in Colorado are in the Pikes Peak and Wet Mountain areas of south-central Colorado and the Mesa Verde area of southwestern Colorado. Because no known occurrences have been documented and the occurrence of the species in this area is unlikely due to range and habitat conditions, this species is not considered further.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*). Candidate for Federal listing. This secretive species occurs in mature riparian forests of cottonwoods and other large deciduous trees with a well-developed understory of tall riparian shrubs. Western cuckoos breed in large blocks of riparian habitats, particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). A few sightings of yellow-billed cuckoo have occurred in western Colorado along the Colorado River near Grand Junction (USFWS 2009b). Riparian areas in the project area do not provide suitable habitat for this species due to the patchy nature of the stands and the general lack of a tall-shrub understory. Because no known occurrences have been documented and the occurrence of the species in this area is unlikely due to range and habitat conditions, this species is not considered further.

Uncompahgre fritillary butterfly (*Boloria acrocne*). Federally listed as endangered. The butterfly has been verified at only two areas in the San Juan Mountains in Colorado. There is anecdotal evidence of other colonies in the San Juans and southern Sawatch ranges in Colorado. Documented populations were estimated at 1,400 individuals in 1992 and 3,284. The butterfly

exists above treeline in patches of its larval host plant, snow willow. The butterfly is most often found on north and east facing slopes, which provide a moist, cool, microclimate. The greatest known controllable threat is butterfly collecting. Climatological patterns, disease, parasitism, predation, and trampling of larvae by humans and livestock might pose additional threats. Because no known occurrences have been documented and the occurrence of the species in this area is unlikely due to range, elevation and habitat conditions, this species is not considered further.

BLM Sensitive Terrestrial Wildlife Species

According to the latest *Colorado BLM State Director's Sensitive Species List (Animals and Plants) June, 2000*, the following terrestrial wildlife species may occur within or be impacted by actions occurring within the GSFO (Table – Colorado BLM Sensitive Species – Terrestrial Wildlife):

Table – Colorado BLM Sensitive Species – Terrestrial Wildlife

Name	Habitat/Range	Habitat Potential Present / Absent
Townsend’s big-eared bat (<i>Corynorhinus townsendii</i>) and Fringed myotis (<i>Myotis thysanodes</i>)	Occur as scattered populations at moderate elevations on the Western Slope, along the foothills of the Front Range and the mesas of southeastern Colorado. Maximum elevation is 7,500 feet. Breeds and roosts in caves, trees, mines, and buildings; hunts over pinyon-juniper, montane conifer, and semi-desert shrubland habitats. Known occurrences - Potential in caves, mines or trees	Present
Northern goshawk (<i>Accipter gentilis</i>)	Resident in foothills and mountains and occasional in migration and winter at lower elevations. Predominantly uses mature stands of aspen, and pines (ponderosa and lodgepole). Uncommon - seasonal	Present
Goldeneye, Barrow's (<i>Bucephala islandica</i>)	Rare winter resident and spring/fall migrant in lowlands and mountains; a few breed in the northern mountains. Uncommon - seasonal	Absent
Ibis, white-faced (<i>Plegadis chihi</i>)	Inhabits wet meadows, marsh edges and reservoir shorelines. Very rare, non-breeding, summer migrant to western Colorado valleys and mountain lakes. Main breeding area is in the San Luis valley.	Absent
Greater sage grouse (<i>Centrocercus urophasianus</i>)	Resident of relatively large, open sagebrush flats or rolling sagebrush hills. Uncommon and unlikely in this part of the GSFO or associated habitats	Present

The following paragraphs address species with a habitat potential to be present in the project area.

Fringed Myotis (*Myotis thysanodes*) and Townsend’s Big-eared Bat (*Plecotus townsendii*).

Occur as scattered populations at moderate elevations on the Western Slope of Colorado. Habitat associations are not well defined. Both of these bats will forage over water and along the edge of vegetation (pinyon-juniper woodlands, montane conifer woodlands, semi-desert shrublands) for aerial insects. Although they commonly roost in caves, rock crevices, mines, or buildings, they also may roost in tree cavities. Both species are widely distributed and usually occur in small groups. The animals roost in rock crevices, caves, mines, buildings and trees. Townsend’s big-eared bat is not very abundant anywhere in its range and this is attributed to

patchy distribution and limited availability of suitable roosting habitat (Gruver, J.C. and D.A. Keinath 2006).

Northern Goshawk (*Accipiter gentilis*). The Northern Goshawk is the largest North American accipiter. The goshawk is a forest habitat generalist that uses a variety of forest type, forest ages, structural conditions and successional stages. Goshawks prey on small-medium sized birds and mammals. It breeds in coniferous deciduous and mixed forests. The nest is typically located on a northerly aspect in a drainage or canyon and is often near a stream. Nest areas contain one or more stands of large, old trees with a dense canopy cover. A goshawk pair occupies its nest area from March until late September. The nest area is the center of all movements and behaviors associated with breeding from courtship through fledging.

Greater sage grouse (*Centrocercus urophasianus*). Sage grouse, as the name implies, are found only in areas where sagebrush is abundant, providing both food and cover. Although these birds are found at altitudes of 6000-8500 feet, they are not forest grouse and prefer relatively open sagebrush flats or rolling sagebrush hills. In winter, sagebrush accounts for 100% of the diet for these birds. In addition, it provides important escape cover and protection from the elements. In late winter, males begin to concentrate on traditional strutting grounds or leks. Females arrive at the leks 1-2 weeks later. Leks can occur on a variety of land types or formations (windswept ridges, knolls, areas of flat sagebrush, flat bare openings in the sagebrush. Breeding occurs on the leks and in the adjacent sagebrush, typically from March through May. Females and their chicks remain largely dependent on forbs and insects for food well into early fall. Cultivated herbaceous broad-leaved plants (alfalfa, clover) are important early fall food sources when available (CDOW 2009a). The Northern Eagle/Southern Routt population, while small (<500 birds), probably has, or had, a relationship with the larger population in Moffat, Rio Blanco and western Routt counties, and probably with the Middle Park population to the east. Sage-grouse are still present in the Radium area between State Bridge and Kremmling (Northern Eagle/Southern Routt Greater Sage-Grouse Work Group 2004) and likely to occur in the Gypsum Hills area and the area north of Wolcott.

Federally Listed, Proposed or Candidate Aquatic Wildlife Species

According to the latest species list from the U. S. Fish and Wildlife Service (U.S. Fish and Wildlife Service. 2008), the following Federally listed, proposed, or candidate aquatic wildlife species may occur within or be impacted by actions occurring within the GSFO (Table - Special Status Species – Aquatic Wildlife):

Table - Special Status Species – Aquatic Wildlife

Aquatic Wildlife Species	Habitat/Range	Eagle County	Garfield County	Mesa County	Pitkin County	Routt County
Greenback cutthroat trout (<i>Oncorhynchus clarki stomias</i>)	Cold, clear, gravely headwater streams and mountain lakes. Originally found in the mountain and foothill areas of the Arkansas and South Platte river systems in Colorado and part of Wyoming.	X	X	X	X	X
Bonytail (<i>Gila elegans</i>)	Large, fast-flowing waterways of the Colorado River system.	X	X	X	X	X
Colorado pikeminnow	Swift flowing muddy rivers with quiet, warm backwaters of the Green, Yampa,	X	X	X	X	X

Aquatic Wildlife Species	Habitat/Range	Eagle County	Garfield County	Mesa County	Pitkin County	Routt County
<i>(Ptychocheilus lucius)</i>	White, Colorado, Gunnison, San Juan, and Dolores rivers.					
Humpback chub <i>(Gila cypha)</i>	Deep, fast-moving, turbid waters often associated with large boulders and steep cliffs such as canyon-bound portions of the Colorado River system such as Black Rocks and Westwater canyons.	X	X	X		X
Razorback sucker <i>(Xyrauchen texanus)</i>	Deep, clear to turbid waters of large rivers and reservoirs over mud, sand or gravel. Currently low numbers in the Yampa, Colorado and Gunnison rivers. Reproducing populations remain only in the Colorado River near Grand Junction.	X	X	X	X	X

These species: their status, their distributions, habitat associations, and as appropriate their association to the project area is summarized below.

Greenback Cutthroat Trout (*Oncorhynchus clarki stomias*). Federally listed as threatened. The greenback cutthroat trout was not identified on the USFWS list for Garfield County; however, recent surveys have identified a population in Cache Creek, located several drainages east of the project area. The greenback is the subspecies of cutthroat trout native to the Platte River drainage on the Eastern Slope of Colorado, while the Colorado River cutthroat trout is the subspecies native to Garfield County and throughout the Western Slope of Colorado. Although the occurrence of greenbacks in Cache Creek and potentially elsewhere in the GSFO and WRNF areas is apparently the result of human intervention (e.g., sanctioned or *ad hoc* translocation of fish from the Eastern Slope), its status as threatened applies to Western Slope populations. However, because drainages within the project area do not support this species, it is not considered further.

These four species of Federally listed big-river fishes occur within the Colorado River drainage basin downstream from the project area.

Bonytail (*G. elegans*). Federally listed as endangered. This large chub is a member of the minnow family. Their current distribution and habitat status are largely unknown due to its rapid decline prior to research into its natural history. Historically, bonytails were present in the Colorado River system, which includes the Yampa, Green, Colorado and Gunnison rivers. The bonytail is extremely rare in Colorado and no self-sustaining population exist throughout the Colorado River basin. Only one has been captured in the state since 1980. Restoration stocking of bonytail in the wild to develop adult populations is the priority recovery action in Colorado.

Colorado Pikeminnow (*Ptychocheilus lucius*). Federally listed as endangered. The Colorado pikeminnow (formerly Colorado squawfish) Colorado pikeminnow were once abundant in the main stem of the Colorado River and most of its major tributaries in Colorado, Wyoming, Utah, New Mexico, Arizona, Nevada, California and Mexico. Now, they exist primarily in the Green River below the confluence with the Yampa River, the lower Duchesne River in Utah, the Yampa River below Craig, Colo., the White River from Taylor Draw Dam near Rangely downstream to the confluence with the Green River, the Gunnison River in Colorado, and the

Colorado River from Palisade, Colo., downstream to Lake Powell. Biologists believe Colorado pikeminnow populations in the upper Colorado River basin are now relatively stable and in some areas may even be growing. Designated Critical Habitat for the Colorado pikeminnow includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.

Humpback Chub (*Gila cypha*). Federally listed as endangered. The nearest known habitat for the humpback chub and bonytail is within the Colorado River approximately 70 miles downstream from the project area. Only one population of humpback chub, at Black Rocks west of Grand Junction, is known to exist in Colorado.

Razorback Sucker (*Xyrauchen texanus*). Federally listed as endangered. The razorback sucker was once widespread throughout most of the Colorado River Basin from Wyoming to Mexico. In the upper Colorado River Basin, they are now found only in the upper Green River in Utah, the lower Yampa River in Colorado and occasionally in the Colorado River near Grand Junction. Because so few of these fish remain in the wild, biologists have been actively raising them in hatcheries in Utah and Colorado and stocking them in the Colorado River. Designated Critical Habitat for the razorback sucker includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.

BLM Sensitive Aquatic Wildlife Species

According to the latest *Colorado BLM State Director's Sensitive Species List (Animals and Plants) June, 2000*, the following aquatic wildlife species may occur within or be impacted by actions occurring within the GSFO (Table - Colorado BLM Sensitive Species - Aquatic):

Table - Colorado BLM Sensitive Species - Aquatic

Name	Habitat	Habitat Potential Present / Absent
Northern leopard frog (<i>Rana pipiens</i>)	Wet meadows and the banks and shallows of marshes, ponds, glacial kettle ponds, beaver ponds, lakes, reservoirs, streams, and irrigation ditches.	Present
Flannelmouth sucker (<i>Catostomas latipinnis</i>)	Generally restricted to rivers and major tributaries.	Absent
Roundtail chub (<i>Gila robusta</i>)	Generally restricted to rivers and major tributaries.	Absent
Colorado River cutthroat trout (<i>Oncorhynchus clarki pleuriticus</i>)	Occurs in clear, cool headwaters streams with coarse substrates, well-distributed pools, stable streambanks, and abundant stream cover.	Absent

The following paragraphs address species with a habitat potential to be present in the project area.

Leopard Frog (*Rana pipiens*). Northern leopard frogs are generally found between 3,500 to 11,000 feet in Colorado, in wet meadows and in shallow lentic habitats. Northern leopard frogs require year 'round water sources, deep enough to provide ice free refugia in the winter. The presence of northern leopard frogs has been associated with sites with more herbaceous cover as opposed to sites with earlier successional stages of emergent vegetation. Leopard frogs feed

primarily on emergent adults of aquatic insects or on terrestrial insects attracted to the water. Within the GSFO, this species has been documented in various locales. Suitable habitat is abundant within the GSFO, and is located where quality riparian vegetation exists in conjunction with reliable perennial water sources. Larger populations of this species have been documented northwest of King Mountain within the small drainage that feeds and exits King Mountain (Ligon) Reservoir, June Creek and East Divide Creek south of Silt, Colorado, and in portions of the Rifle Creek watershed north of Rifle, Colorado. Population declines have been attributed to habitat alteration and loss, the effects of introduced bullfrogs and gamefish, aerial pesticide applications, and droughts that limit the availability of year 'round water

Environmental Consequences/Mitigation:

Federally Listed, Proposed or Candidate Plant Species

Due to the absence of any known occurrences or suitable habitat for any listed, proposed or candidate plant species, the proposed action should have “No Effect” on these species.

BLM Sensitive Plant Species

The flowering stalks of Harrington’s penstemon are highly palatable to livestock and wildlife. The grazing period for this permit on both Greenhorn and Upper Cottonwood allotments is from May 8th through June 25th, which overlaps the flowering period for Harrington’s penstemon (early to late June). Reduction in Harrington’s penstemon populations could result if excessive grazing removes a high percentage of the flower stalks annually thereby inhibiting seed dissemination and reproduction.

Utilization levels throughout the Upper Cottonwood and Greenhorn allotments have varied from slight to heavy in the past few years, with grazing distribution sometimes a problem in the Greenhorn allotment. However, several Harrington’s penstemon sites within these allotments were visited during the Land Health Assessment in 2003 and during subsequent monitoring in 2007 and most of the populations appeared to be in stable to vigorous condition. Given this information, continuation of livestock grazing as proposed should not result in any loss of long-term viability of the Harrington’s penstemon populations.

Federally Listed, Proposed or Candidate - Terrestrial Wildlife Species.

No U.S. Fish & Wildlife Service designated critical habitat for any of the above terrestrial wildlife species is found within the GSFO. No occupied habitat is present within the vicinity that could be directly or indirectly impacted by the proposed action. The areas where livestock grazing is being renewed, the allowable number of animal unit months and periods of use, along with the land health standards and terms/conditions are compatible with continuing to maintain adequate habitat conditions (suitability and connectivity) for Federally Listed, Proposed or Candidate terrestrial wildlife species that may pass through the allotments. Due to the absence of any known occurrences, suitable habitat or landscape linkage for any listed, proposed or candidate terrestrial wildlife species, the proposed action should have “No Effect” on these species.

BLM Sensitive Terrestrial Wildlife Species.

Fringed Myotis (*Myotis thysanodes*) and Townsend’s Big-eared Bat (*Plecotus townsendii*).

Distribution seems is likely to be locally determined by availability of roosts, such as caves, mines, tunnels, crevices and masonry structures with suitable temperatures. No bat roosts or hibernaculum have been documented within the area of the proposed action.

The greatest threats in order of priority to Townsend's Big-eared Bat (and likely Fringed Myotis) are the: (a) loss/modification/disturbance of roosting habitat resulting from uninformed closure of abandoned mines, recreation and renewed mining at historical sites; (b) loss/modification/disturbance of foraging habitat resulting from elimination of forest canopy, elimination or alteration of wetland habitat and conversion of native shrub and grasslands to urban or agricultural uses; and (c) exposure to environmental toxins (Gruver, J.C. and D.A. Keinath 2006). It is plausible that over-grazing by livestock could contribute to the decline of the functionality of foraging habitat for bats. The allowable number of animal unit months and periods of use, along with land health standards and terms/conditions; should continue to maintain adequate habitat conditions (suitability and connectivity) for bats.

Northern Goshawk (*Accipiter gentilis*).

It is plausible that over-grazing by livestock could contribute to the decline of the functionality of the habitat. A reduction in forage availability could limit prey population density. However no nest sites are known to occur within the area of the proposed action and nesting birds are unlikely in the predominant habitat types. The allowable number of animal unit months and periods of use, along with land health standards and terms/conditions; should continue to maintain adequate habitat conditions (suitability and connectivity) for Northern goshawks.

Greater sage grouse (*Centrocercus urophasianus*).

The north-northeastern portion of the allotments overlap with CDOW mapped winter range data derived from field personnel. Two leks sites have been documented in the Upper Cottonwood allotment. However, no grouse have observed on the leks sites for many years. The allotments dot not overlap with 2008 CDOW mapped production areas or brood areas.

Proper livestock grazing and wildlife management can maintain and perhaps enhance desirable plant communities by: improving vegetation palatability, promoting residual cover, increasing plant diversity and improving riparian areas. Improper grazing has the potential to reduce the availability of food and cover for sage-grouse by affecting the composition and structure of grasses, forbs and shrubs. Two key issues relate to grazing (livestock & wild ungulate) and sage-grouse: 1) the potential impact of herbivores on grouse nesting and hiding cover depending on the timing of grazing; (grazing in grouse nesting areas from late summer through early spring can remove grasses that could provide nesting cover in the spring) and 2) the potential for wild herbivores to negate the benefits of a domestic livestock grazing plan intended to leave cover for grouse (Northern Eagle/Southern Routt Greater Sage-Grouse Work Group 2004).

The period of use in the proposed action would be from 05/08 to 06/23 thus eliminating the impact of grazing in grouse nesting areas from late summer through early spring that could remove grasses that could provide nesting cover. The allowable number of animal unit months and periods of use, along with land health standards and terms/conditions ; should continue to maintain adequate habitat conditions (suitability and connectivity) to ensure sage-grouse are maintained at viable population levels commensurate with the species and habitat's potential.

Leopard Frog (*Rana pipiens*).

Livestock could possibly trample adults and eggs at wetland margins and remove riparian vegetation. Water quality and siltation could affect insect and frog reproduction. However no frogs are known to occur within the area of the proposed action and their presence is unlikely due to the distance from known populations. If the area is used in the future the allowable number of animal unit months and periods of use, along with the land health standards and terms/conditions are compatible with continuing to maintain adequate wetland/riparian habitat conditions (suitability and connectivity) for to ensure Leopard frogs are maintained at viable population levels commensurate with the species and habitat's potential..

Federally Listed, Proposed or Candidate Aquatic Wildlife Species.

The greenback cutthroat trout is not found within the area or the vicinity of the proposed action. The four species of Federally listed big-river fishes are endemic to the Colorado River basin and reside almost exclusively within the mainstem Colorado River and its periodically flooded sidechannel impoundments and backwater habitats. All of these fish are all well adapted to the high sediment loads traditionally carried by the Colorado River and its larger tributaries. In general, periodic to frequent influxes of sediment are important in the creation and maintenance of important microhabitats for these species. Movement and redistribution of sediments helps to create and maintain backwater habitats important to many life stages of these fish. Periodic inundation of floodplain areas with water/sediment provides optimal seedbed areas for native cottonwood regeneration to occur. Any increased sediment loading into ephemeral drainages and eventually the Colorado River resulting from continued livestock grazing as proposed would have “No Effect” to these fishes or their habitat.

BLM Sensitive Aquatic Wildlife Species.

The Bluehead sucker, Flannelmouth sucker, and Roundtail chub are endemic to the Colorado River basin and reside within the mainstem Colorado River and its major tributary rivers/streams. These fish are all well adapted to the high sediment loads traditionally carried by the Colorado River and its larger tributaries. In general, periodic to frequent influxes of sediment are important in the creation and maintenance of important microhabitats for these species. Movement and redistribution of sediments helps to create and maintain backwater habitats important to many life stages of these fish. Periodic inundation of floodplain areas with water/sediment provides optimal seedbed areas for native cottonwood regeneration to occur. Any increased sediment loading resulting from the continued livestock grazing as proposed should have minimal negative impact to these species or their habitats.

Analysis on the Public Land Health Standard 4 for Terrestrial and Aquatic Wildlife Special Status Species: (partial, see also Plants):

Terrestrial Wildlife. This analysis concurs with the 2004 land health assessment which noted “Although the majority of individual sites assessed within mapped sage grouse habitats were meeting Standard 4, a combination of habitat condition, fragmentation, recreation and human use issues, loss of habitat, fire suppression etc. are negatively affecting sage grouse on a landscape scale” (BLM 2004). Livestock grazing was not a contributing factor. Based on the available data, the proposed action would not likely prevent Standard 4 (threatened and endangered/special

status species) from being met however the other factors negatively affecting the standard for terrestrial wildlife are unchanged by this action.

Aquatic Wildlife. A Land Health Assessment was completed for these lands in 2004. At that time habitat/riparian management are not a concern for any of the perennial streams assessed. Geological factors outside of BLM management are limiting the majority of the streams as fisheries. At that time area streams were meeting Standard 4 for aquatic wildlife. The current habitat trends lead to a conclusion that the proposed action (continuation of current management) should have little bearing on the areas ability to continue to meet this standard.

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

Affected Environment: The Upper Cottonwood and Greenhorn Allotments are located between the towns of Gypsum in the west and Eagle in the east, and are north of the Eagle River and I-70, and east of the perennial Eby Creek. The Upper Cottonwood Allotment and western portion of the Greenhorn Allotment is within the 11,219 acre Cottonwood Creek 6th field watershed that contains the perennial Cottonwood Creek which is directly tributary to the Eagle River to the south. The eastern portion of the Greenhorn Allotment is within the 20,198 acre Eagle River above Gypsum 6th field watershed that contains the ephemeral Neilson Creek which is directly tributary to the Eagle River to the south.

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 33) list, the drainages mentioned above are within the Eagle River Basin segment 10a that includes all tributaries to the Eagle River from a point immediately below the confluence with Lake Creek to the confluence with the Colorado River. This segment has been classified aquatic life cold 1, recreation E, water supply, and agriculture. The aquatic life cold 1 classification indicates that a 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, the water supply designation refers to waters that are suitable or intended to become suitable for potable water supplies and the agriculture designation refers to waters used for 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. At this time, very limited current water quality data is available for the drainages mentioned above.

Environmental Consequences/Mitigation: Grazing activities could 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. However, based on the lack of perennial drainages of concern in the allotment and good vegetative cover, the potential for measureable water quality degradation in nearby perennial drainages of concern (i.e. Eagle River) associated with the proposed activities is minimal.

Analysis on the Public Land Health Standard 5 for Water Quality: In 2003 the BLM Glenwood Springs Field Office assessed water quality conditions in the area as part of the North Eagle Land Health Assessment. During the assessment, limited water quality parameters were collected but suggested overall good water quality. Some drainages within the assessment area often transport considerable amounts of sediment and the conductivity can be relatively high. These occurrences can be attributed to natural geologic conditions and in direct response to runoff events. Based on the period of use, good vegetative cover and the lack of perennial drainages of concern within these allotments, the proposed activities would not likely prevent Standard 5 for Water Quality from being met.

Wilderness/WSAs

Affected Environment: A portion of the Upper Cottonwood allotment is within the Bull Gulch Wilderness Study Area and an area identified as a citizens proposed wilderness. The Greenhorn allotment is not within any designated Wilderness areas, Wilderness Study Areas, or citizens proposed wilderness areas.

Environmental Consequences/Mitigation: The proposed action is considered a grandfather use and would operate in the same manner and degree. With no proposed changes within the Upper Cottonwood allotment to number of livestock, class, period of use, or AUMs, there will be no effects to wilderness characteristics nor would it preclude the WSA from suitability.

All actions related to the permit will be managed under BLM’s, Interim Management Policy (IMP) for Lands under Wilderness Review, H-8550-1. The proposed action will conform with the non-impairment criteria. No new projects or surface disturbing activities can be authorized without prior notification to the BLM.

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.

Table 2. Other Resources Considered in the Analysis.			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation		X	
Cadastral Survey	X		
Fire/Fuels Management	X		
Forest Management	X		
Geology and Minerals	X		

Law Enforcement	X		
Paleontology	X		
Noise	X		
Range Management		X	
Realty Authorizations		X	
Recreation		X	
Socio-Economics		X	
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 Upper Cottonwood and Greenhorn Allotments contain 15 different soil map units that can be identified by the numerical code assigned by the soil survey. Some of these soil map units are identified as having severe erosion hazard potential. In addition, a small percentage of the allotment is 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 15 soil map units found within the Upper Cottonwood and Greenhorn Allotments.

- Almy loam (6) – 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 1 to 12 percent. This soil is derived from calcareous 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 rangeland and hayland.
- Cushool fine sandy loam (24) – This moderately deep, well drained soil is found on upland hills and side slopes at elevations ranging from 6,200 to 7,600 feet and on slopes of 25 to 50 percent. This soil is derived from sandstone and shale alluvium. Surface runoff is medium and the water erosion hazard is slight to severe. Primary uses for this soil include wildlife habitat and rangeland.
- 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.
- Dotsero sandy loam (32) – This deep, well drained soil is found on terraces, side slopes, and benches at elevations from 6,300 to 7,200 feet and on slopes of 1 to 12 percent. It 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, and livestock grazing.

- Earsman-Rock outcrop complex (33) – This soil map unit is found on mountainsides and ridges at elevations ranging from 6,000 to 8,500 feet and on slopes of 12 to 65 percent. Approximately 45 percent of this unit is Earsman very stony sandy loam and 35 percent Rock outcrop. The Earsman soil is shallow, excessively drained, and derived from calcareous redbed sandstone. Surface runoff for this soil map unit is rapid and the water erosion hazard is classified as slight to severe depending on slope. Primary uses for this soil map unit include rangeland, wildlife habitat, fence posts, and firewood.
- Evanston loam (39) – 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 6 to 25 percent. Surface runoff for this soil is medium and the erosion hazard is classified as moderate. Primary uses for this soil include rangeland, wildlife habitat, and homesites.
- Forelle-Brownsto complex (43) – This soil map unit is found on mountains and benches at elevations ranging from 6,500 to 7,500 feet and on slopes of 6 to 12 percent. Approximately 55 percent of this unit is Forelle soil, 30 percent Brownsto soil, and the other 15 percent a mixture of several soil types. The Forelle soil is deep, well drained and is derived from sedimentary rock alluvium. Surface runoff is medium 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 medium and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland and wildlife habitat.
- Forelle-Brownsto complex (44) – This soil map unit is found on mountains and benches at elevations ranging from 6,500 to 7,500 feet and on slopes of 12 to 25 percent. Approximately 55 percent of this unit is Forelle soil, 30 percent Brownsto soil, and the other 15 percent a mixture of several soil types. The Forelle soil is deep, well drained and is derived from sedimentary rock alluvium. Surface runoff is rapid and the water erosion hazard is moderate to severe. 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 rangeland and wildlife habitat.
- 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.
- Millerlake loam (75) – This deep, well drained soil is found on alluvial fans and valley sides at elevations ranging from 8,500 to 10,500 feet and on slopes of 15 to 30 percent. It

is derived from sandstone alluvium. Surface runoff is medium and the water erosion hazard is moderate. Primary uses for this soil include rangeland and wildlife habitat.

- Mussel loam (90) – This deep, well drained soil is found on terraces, fans, and foot slopes at elevations ranging from 6,500 to 7,500 feet and on slopes of 6 to 12 percent. It is derived from alluvium and is used primarily for hayland, rangeland, and urban development. Surface runoff for this soil is slow and the water erosion hazard is moderate.
- Torriorthents-Camborthids-Rock outcrop complex (104) – This soil map unit occurs on south-facing mountainsides, hills, and ridges with slopes ranging from 6 to 65 percent. Approximately 45 percent of this unit is Torriorthents, 20 percent Camborthids, and 15 percent Rock outcrop. The Torriorthents are shallow to moderately deep, well drained, and are derived from sedimentary rock. Surface runoff is rapid and the water erosion hazard is severe. The Camborthids are shallow to deep, well drained, and are derived from sandstone, shale, and basalt. Surface runoff is rapid and the water erosion hazard is severe. The Rock outcrop component of this unit consists of exposed sandstone, shale, and basalt. 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 (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.

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. Based on the scheduled period of use, good vegetative cover, and the lack of perennial drainages of concern within these allotments, the potential for measureable sediment transport and negative soil impacts is minimal.

Analysis on the Public Land Health Standard 1 for Upland Soils: In 2003 the BLM Glenwood Springs Field Office assessed area conditions as part of the North Eagle Land Health Assessment. During that time, the Upper Cottonwood Allotment was rated as achieving or moving towards achieving standards while the Greenhorn Allotment was rated as achieving standards with problems. Among the problems noted were water flow patterns, pedestalling, and more bare ground than expected. At the time, these problems did not appear to be a cause for alarm and conditions may have likely improved over the years. Based on the period of use in the

proposed action and good vegetative cover, the proposed activities would not likely prevent Standard 1 from being met.

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

Affected Environment:

Vegetation on the two allotments in this permit renewal action is diverse and varied. Greenhorn allotment, with elevations ranging from 6600' to 9200' and a generally south-facing aspect, is composed of pinyon-juniper woodlands and sagebrush parks with small pockets of aspen in the drainages. Upper Cottonwood allotment ranges from 8000' to 9000'. Vegetation is primarily sagebrush and mixed mountain shrublands. Small stands of cottonwood and willows are found in some drainages.

The 2003 land health assessment found vegetation on the Upper Cottonwood allotment to be in good condition. Vegetation on the Greenhorn allotment was generally in good condition, with the exception of a few small areas of concentrated grazing and/or browsing which had less diversity and cover of desirable species than expected.

Environmental Consequences/Mitigation:

Both the Greenhorn and Upper Cottonwood allotments would be grazed by yearling and adult cattle for a 7-week period from May 8th through June 25th. Cattle grazing in the spring and early summer tend to utilize primarily grasses and some forbs. Utilization data on key grasses shows slight to moderate utilization, overall. Small portions of the Greenhorn allotment have heavier utilization where livestock tend to concentrate around water sources and fence lines.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial):

A formal Land Health Assessment conducted on the Greenhorn and Upper Cottonwood allotments in 2003 found both allotments were meeting Standard 3 for healthy plant communities. Good vegetative cover exists on these allotments, particularly at the upper elevations. However, cheatgrass is common along the roads in the lower elevations of the Greenhorn allotment and appears to be expanding into the surrounding rangeland. Ecological conditions may be trending away from meeting the standards.

The proposed grazing schedule should allow for sufficient growing season rest and plant recovery periods to maintain vegetative health. Seed production and dissemination and seedling establishment should be adequate to ensure recruitment and sustainability. With good livestock distribution throughout the Greenhorn allotment, the proposed grazing system should not result in a trend away from meeting Standard 3 for healthy plant communities.

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

Affected Environment:

Fish

Fisheries potential is limited for all waters except the Eagle River to the south. Eby Creek along the eastern boundary of the Greenhorn allotment is a trout-bearing stream. No fish are known to exist

in the other perennial waters within the area of the proposed action primarily due to low seasonal flows, irrigation diversions, and heavy sedimentation caused by flashy runoff and local geologic conditions.

Amphibians

Several amphibians of interest are found within the GSFO, the Boreal Toad (*Bufo boreas boreas*) and the Great Basin spadefoot toad (*Spea intermontana*). The distribution of the boreal toad is restricted to areas with suitable breeding habitat in spruce-fir forests and alpine meadows generally between 7,500 and 12,000 feet elevation. Breeding habitat includes lakes, marshes, ponds, and bogs with sunny exposures and quiet shallow water. Great Basin spadefoot toads occupy arid grasslands and high sagebrush, desert shrub, and pinion-juniper woodlands. Great Basin spadefoot toad has been documented in the western third of the field office from the town of Rifle west to the boundary with the Grand Junction Field Office. This represents the eastern extent (fringe) of the species overall range and populations are believed to be small and sporadic.

Environmental Consequences/Mitigation:

Fish

Continued grazing activities could 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.

Sediment can impact fish 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 plenty of 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, and continued livestock grazing as proposed should have minimal impact to nearby streams, fish, or their habitats.

Amphibians

It is plausible that over-grazing by livestock could contribute to the decline of the functionality of the habitat for amphibians. Overgrazing impacts on wetlands and riparian vegetation could impact individual animals and prey populations. Primary, the project area is outside the range (overall, elevation, and habitat) of most amphibian species of interest and known to occur in the GSFO. Secondly, land health standard 2 for riparian systems is being achieved (BLM 2004). Thus maintaining the current number of animal unit months and periods of use, along with land health standards and terms/conditions; should continue to maintain adequate habitat conditions (suitability and connectivity) to ensure amphibians are maintained at viable population levels commensurate with the species and habitat's potential.

Analysis on the Public Land Health Standard 3 for Aquatic Animal Communities (partial, see also Vegetation and Wildlife, Terrestrial): BLM utilizes *standards* (conditions needed to sustain public land health) and *guidelines* (management tools, methods, strategies, and techniques designed to

maintain or achieve healthy public lands as defined by the standards) to assess and manage livestock grazing (BLM 1997). A land health assessment was completed for these lands in 2004. At that time habitat/riparian management are not a concern for any of the perennial streams assessed. Geological factors outside of BLM management were limiting the majority of the streams as fisheries. At that time area streams were meeting Standard 4 for aquatic wildlife. The current habitat trends lead to a conclusion that the proposed action (continuation of current management) 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:

The GSFO planning area supports a wide variety of terrestrial wildlife species 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/wetland areas support many species. The current condition of wildlife habitats varies across the landscape. Some habitat is altered by power lines, pipelines, fences, public recreation use, residential and commercial development, vegetative treatments, livestock and wild ungulate grazing, oil and gas development, and roads/trails. These factors have contributed to some degradation/fragmentation of habitat as well as causing disturbance to some species.

Reptiles

Reptile species most likely to occur include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) along creeks. Other reptiles potentially present along creeks, although more commonly found at lower elevations than the site, are the milk snake (*Lampropeltis triangulum*) and smooth green snake (*Ophiodrys vernalis*).

Birds

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

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

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

Mammals

Numerous small mammals reside within the planning area, including ground squirrels (*Spermophilus* spp.), chipmunks (*Neotamias* spp.), rabbits (*Sylvilagus* spp.), skunks (*Mephitis mephitis*), and raccoons (*Procyon lotor*). Many of these small mammals provide the main prey for raptors and larger carnivores. These species are most likely to occur along the drainages, near the margins of dense oakbrush, in

pinyon-juniper woodland, or in the small area of aspen and spruce/fir. Larger carnivores expected to occur include the bobcat (*Lynx rufus*) and the coyote (*Canis latrans*). Black bears (*Ursus americanus*) make use of oaks and the associated chokecherries and serviceberries for cover and food, while mountain lions (*Felis concolor*) are likely to occur during seasons when mule deer (*Odocoileus hemionus*) are present.

Big Game.

The mule deer (*Odocoileus hemionus*) is a recreationally important species that are common throughout suitable habitats in the region. Another recreationally important big game ungulate (hoofed animal), the Rocky Mountain elk (*Cervus elaphus nelsonii*), is also present. Mule deer and elk usually occupy higher elevations, forested habitat, during the summer and then migrate to sagebrush-dominant ridges and south-facing slopes at lower elevation in the winter.

Mule Deer. The proposed action lies within CDOW game management unit (GMU) 35. The D-8 State Bridge Deer Data Analysis Unit (DAU) Plan (CDOW 2009b) indicates the 2008 post hunt deer population to be an estimated at 13,850 deer within GMUs: 15, 35, 36, and 45. The CDOW recommended population objective for deer is 13,500-16,500. During most of the 1980's the population objective was 26,000 deer. In 1988, the CDOW lowered the population objective to 21,000 deer. Since that time, however, loss of habitat, particularly winter range, has resulted in a deer population objective that likely exceeds the available habitat carrying capacity. CDOW now recommends lowering the population objective to 13,500-16,500 deer. Maintaining the population at a lower density may result in less competition among deer and between deer and elk, improved habitat condition, better body condition, higher recruitment of fawns, increased population growth rate, and thus more opportunity for hunter harvest (CDOWb).

BLM lands provide a large portion of the undeveloped winter range available to deer and elk. The GSFO's Resource Management Plan (RMP) allocated existing forage proportionately to livestock and big game, the criterion being active preference for livestock and 5-year average demand for big game. The RMP allocated all available forage on allotments in big game winter range -unavailable to livestock because of stocking rate limitations or slope restrictions - to big game. Summer range was not limiting to big game; therefore, allocating forage beyond CDOW population goals in summer range was deemed to be unnecessary since winter range is what limits herd size. In addition , the RMP allocated additional forage produced through vegetation manipulation on wildlife winter range first to big game and then to livestock up to active preference. On summer range, allocate additional forage was allocated to livestock first.

Environmental Consequences/Mitigation:

Reptiles

It is plausible that over-grazing by livestock could contribute to the decline of the functionality of the habitat for reptiles. A impacts on upland and riparian vegetation could impact individual animals and prey populations. Primary, the project area is outside the range (overall, elevation, habitat) of most reptile species of interest and known to occur in the GSFO. Secondly, land health standard 2 for riparian systems and standard 3 for productive plant communities are being achieved (BLM 2004). Thus the allowable number of animal unit months and periods of use, along with land health standards and terms/conditions; should continue to maintain adequate habitat conditions (suitability and connectivity) to ensure reptiles are maintained at viable population levels commensurate with the species and habitat's potential.

Birds and Mammals

Overgrazing affects bird and mammals by altering habitat structure and food availability. Grazing invariably reduces the height and ground cover of plants, at least temporarily, thus reducing the cover they need for protection, feeding, roosting and nesting. There is no indication or data to support that the proposed action would have any large scale negative impacts to density, composition, or frequency of terrestrial species or the quality or connectivity of terrestrial wildlife habitat. This area receives adequate growing season plant rest and recovery periods. The land health assessment data along with range compliance data indicates that current livestock grazing consistent with achieving land health standards for bird and mammal species.

Big Game

Mule Deer. In entire area is CDOW mapped mule deer summer range defined as that part of the overall range where 90% of the individuals are located between spring green-up and the first heavy snowfall. Summer range is not necessarily exclusive of winter range; in some areas winter range and summer range may overlap. This is true in this area. The bulk of the landscape is also CDOW mapped Mule Deer Critical Winter Range. This dataset was created by combining Deer DAUs, mule deer winter concentration areas, and "high density" mule deer severe winter range data. Several significant issues were identified in the D-8 State Bridge Deer DAU Plan. The most significant issues were mule deer habitat (loss of habitat due to urban growth and rural subdivision development; habitat senescence due to fire suppression; changes in habitat due to fragmentation, historic overgrazing by livestock, and inconsistent land management practices); Interstate 70 as a source of roadkills and as a barrier to migration; weather (severe winters and drought) and the potential for starvation of deer; and competition between deer and elk for remaining habitat (CDOW 2009b).

Elk. In entire area is CDOW mapped elk summer range defined as that part of the overall range where 90% of the individuals are located between spring green-up and the first heavy snowfall. The entire area is also elk winter range is that part of the overall range of elk where 90% of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site specific period of winter as defined for each Data Analysis Unit. The southeast portion of the Greenhorn allotment is also CDOW mapped elk severe winter range defined as that part of the overall range of elk 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. Elk populations since the late 1970s to present have been increasing while livestock numbers and periods of use have decreased.

Most issues between domestic livestock and big game concerns forage allocation and land health.

Forage Allocation. Managing the timing and intensity of livestock grazing is critical to maintaining habitat conditions preferable to big game. For example, cattle grazing during the early season could improve the quality of winter forage for elk but cattle must be removed early enough to allow plants to re-grow. However, 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. The GSFO's RMP allocated existing forage proportionately (50/50) to livestock and big game. Qualitatively viewing the big game population trends and CDOW objectives in relationship to the proposed action (maintaining the existing level of livestock AUMs and periods of use, along with land health standards and terms/conditions), it can be assumed that the proposed action (based on the cumulative annual use of forage by big game and domestic livestock) remains compatible with the lower CDOW big game objectives while achieving public land health standards.

Analysis on the Public Land Health Standard for Terrestrial Animal Communities (partial, see also Vegetation and Wildlife, Aquatic):

BLM utilizes *standards* (conditions needed to sustain public land health) and *guidelines* (management tools, methods, strategies, and techniques designed to maintain or achieve healthy public lands as defined by the standards) to assess and manage livestock grazing (BLM 1997). The 2004 land health assessment noted the Greenhorn allotment was achieving Standard 3, but problem areas were identified during the land health assessment. The main problems with this allotment were encroaching junipers, old growth pinyon-juniper stands with little herbaceous or shrub understory, and overly dense sagebrush stands with little age class diversity and limited regeneration. Some minor livestock distribution problems existed on the extreme northern and southern boundaries of the allotment in small areas where livestock appear to be concentrating. This resulted in some higher use levels and poor plant vigor at these sites” (BLM 2004). Overall the proposed action (continuation of current management) should maintain the areas ability to continue to achieve this standard.

SUMMARY OF CUMULATIVE IMPACTS

No cumulative impacts associated with the proposed action have been identified.

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 October 20, 2009 regarding grazing permits and associated allotments scheduled for renewal in 2010. 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 permittee associated with the permit renewal
 Southern Ute Tribe
 Northern Ute Tribe
 Ute Mtn. Ute Tribe

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
Greg Wolfgang	Outdoor Recreation Planner	WSR, Wilderness, VRM, Recreation

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

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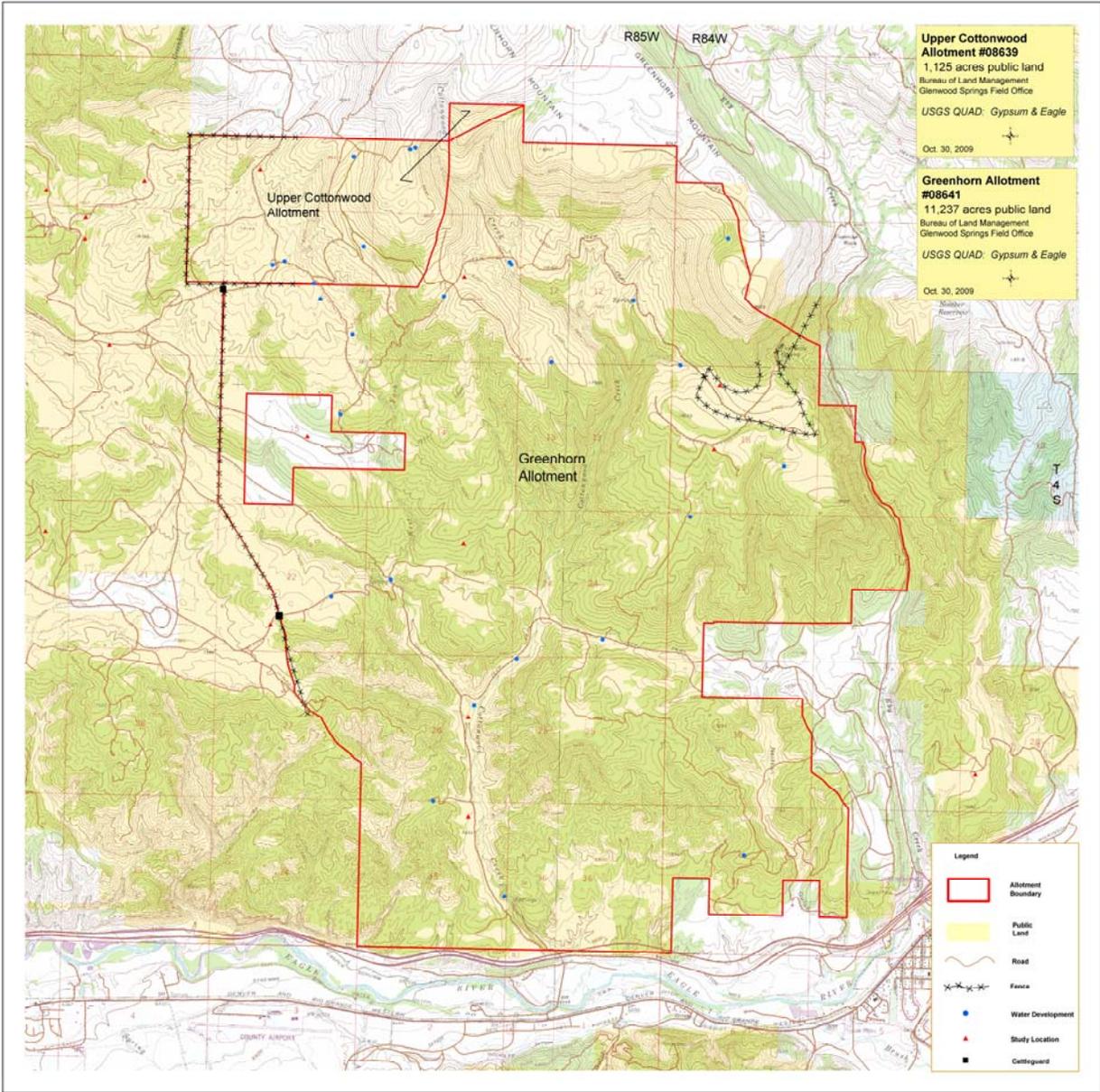
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APPENDDICES: None

ATTACHMENTS: Allotment Map

PREPARER: Michael R. Kinser

DATE: May 4, 2010



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Colorado River Valley FIELD OFFICE

FINDING OF NO SIGNIFICANT IMPACT

Grazing Permit Renewal on the Greenhorn and Upper Cottonwood Allotments

DOI-BLM-N040-2010-0011-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 Greenhorn and Upper Cottonwood Allotments. The effects of the proposed action are disclosed in the Alternatives and Environmental Impacts sections of the EA. Implementing regulations for NEPA (40 CFR 1508.27) provide criteria for determining the significance of the effects. Significant, as used in NEPA, requires consideration of both *context* and *intensity* as follows:

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

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

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

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

Impacts associated with 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 prime and unique farmlands, caves, wild and scenic rivers, wilderness study areas, or ACECs.

No 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 Greenhorn and Upper Cottonwood 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 scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places.

General impacts from livestock grazing that may occur to cultural resources have been disclosed in the EA; however, no specific adverse impacts were identified associated with livestock grazing on the allotments addressed in the EA.

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 would have no effect to 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.



Authorized Official
Colorado River Valley Field Office



Date