Final

ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION

EA Number WY 090-EA09-129

Allotment Number	Grazing Authorization Number	Allotment Name
21510	4904273	Haystack Draw
21509	4904273	Spring Hollow
21506	4904245	Valley Creek
21504	4904243	Crompton Reservoir
01464	4904277	Whitney Canyon
01463	4904004	Fowkes

Bureau of Land Management
Kemmerer Field Office Planning Area
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Chapter 1: Introduction

1.1 Background

The area which now comprises the Bureau of Land Management's (BLM) Kemmerer Field Office (KFO) was first settled in the 1860's. Although some farming likely occurred, pioneer settlers found the area to be more suited for the grazing of livestock than for subsistence farming based on the primitive and harsh conditions of the area. There is no documented intensive grazing management on what are now the public lands administered by the KFO and there were no established livestock numbers or seasons of use during this early settlement period.

After the enactment of the Taylor Grazing Act in 1934, grazing allotments were created. The number and kind of livestock and the seasons of use were established for the area. To comply with provisions of the Taylor Grazing Act, grazing has traditionally been authorized through 10-year term grazing permits. In 1946, the BLM was established, and in the 1950's and 1960's range surveys were completed on the public lands to determine the amount of forage being produced. Following these surveys, grazing capacity for the allotments was adjudicated. The number of livestock authorized on most of the allotments was decreased to facilitate meeting critical management objectives (e.g., healthy rangelands and sustainable forage production). The BLM has determined that as applications for the renewal of these grazing permits are received; National Environmental Policy Act (NEPA) documentation would be required prior to renewal. The BLM KFO authorized officer has determined that an Environmental Assessment (EA) is the appropriate document for grazing permit renewal.

These six allotments, Crompton Reservoir (21504), Fowkes (01463), Haystack Draw (21510), Spring Hollow (21509), Valley Creek (21506) and Whitney Canyon (01464) are combined in this EA because they share a common landscape in Uinta County. In addition, all six allotments were established according to provisions of Section 15 of the Taylor Grazing Act of 1934.

1.2 Purpose and Need for the Proposed Action

If authorized, grazing would be in accordance with 43 CFR § 4100 and consistent with all applicable federal laws and BLM policies. Expiration dates for the six grazing permits analyzed in this EA are summarized in Table 1. The purpose of the proposed action is to renew the 10-year grazing permits with appropriate terms and conditions. BLM also intends to apply appropriate terms and conditions to permits that authorize livestock grazing. These terms and conditions include number of livestock, type of livestock, season of use, and other terms and conditions appropriate to manage livestock grazing according to the principles of multiple use and sustained yield. The Taylor Grazing Act (1934), the Federal Land Policy and Management Act (1976), and the Public Rangelands Improvement Act (1978) requires the BLM to manage grazing on public land according to the principles of multiple use and sustained yield. This action is also needed to ensure that all grazing authorizations implement provisions of and are in conformation with the existing Land Use Plan (LUP).

Table 1. Grazing permit expiration dates

Grazing Authorization Numbers	Allotment Name	Expiration Date
4904273	Haystack Draw	2-28-2016
4904273	Spring Hollow	2-28-2016
4904245	Valley Creek	2-28-2018
4904243	Crompton Reservoir	2-28-2019
4904277	Whitney Canyon	2-28-2016
4904004	Fowkes	2-28-2017

1.3 Conformance with Land Use Plan

The Proposed Action is in conformance with the Kemmerer Resource Management Plan/Final Environmental Impact Statement approved on April 29, 1986. This EA is tiered to the FINAL Environmental Impact Statement (*1986*) prepared during adoption of the LUP. This EA is also tiered to the PROPOSED Final Environmental Impact Statement for Kemmerer Resource Management Plan (*2009*) Section 3.6.4 on pages 3-121 through 3-125. The proposed action would occur in an area identified as available for livestock grazing and on BLM owned lands where grazing is authorized. Livestock grazing is also consistent with the LUP decision and resource management goals and objectives. The general key goals of BLM LUP include:

- The improvement of the ecological condition of public lands by preventing destructive uses and by providing orderly use and improvement.
- Special consideration and authority for the protection and management of areas with special environmental concern.
- Stabilizing the social and economic environment of the local community with special consideration for the family owned and operated ranch business and lifestyle.
- Improve range conditions on I category allotments and maintain range conditions on other allotments.

1.4 Relationship to Statutes, Regulations, and Associated Land Use Plans

In conformance with the Secretary of Interior's Policy, alternatives would be in compliance with 43 CFR § 4100 which states, in part, "The authorized officer shall manage livestock grazing on public lands under the principal of multiple use and sustained yield." The alternatives also consider 43 CFR § 4130.2(a) which states, in part, "Grazing permits or leases shall be issued to qualified applicants to authorize use on public lands and other lands under the administration of the BLM that are designated as available for livestock grazing though land use plans."

The alternatives are consistent with the Fundamentals of Rangeland Health (43 CFR § 4180) and Wyoming's Standards and Guidelines for Rangeland Health, which address watersheds, ecological condition, water quality and habitat for special status species. The alternatives are also consistent with the Wyoming Riparian Management Policy which states, in part, that riparian areas will be maintained in or improved to "Proper Functioning Condition." In addition, the alternatives would comply with the following laws and/or regulations, other plans, and are consistent with Federal, State, and local laws, regulations:

- Taylor Grazing Act of June 30, 1934, as amended
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.)
- Public Rangelands Improvement Act of 1978
- Endangered Species Act of 1973 as amended
- 43 CFR § 4100 Grazing Administration-Exclusive of Alaska
- Clean Water Act Section 303d
- Section 106 of the National Historic Preservation Act of 1966 as amended
- National Environmental Policy Act of 1969
- Sikes Act of 1969, as amended (Habitat Improvement on Public Land)
- Fish and Wildlife Improvement Act of 1978
- Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds
- Kemmerer Resource Management Plan/Final Environmental Impact Statement approved on April 29, 1986
- Grazing Regulations as codified in 43 CFR § 4100 as amended in 2005
- State of Wyoming Executive Order 2008-2, Greater Sage Grouse Core Area Protection

1.5 Scoping

The BLM decision making process is conducted in accordance with the requirements of the Council on Environmental Quality (CEQ) regulation implementing NEPA, and the U.S. Department of Interior and BLM policies and procedures implementing NEPA. Interested publics, State Agencies, other federal agencies and individual permit holders are involved, by NEPA and the associated regulatory and policy framework, in the selection of reasonable alternatives to proposed actions and the preparation of environmental documents that disclose the potential impacts of the proposed actions and the alternatives.

BLM accomplished public involvement, consultation, and coordination with a written scoping notice to permittees and affected interests on September 30, 2008. The scoping notice advised those on the mailing list of BLM's intent to consider renewal of the 10-year grazing permits on the allotments addressed in this EA. A response to scoping was received from the Wyoming Game and Fish Department in a letter dated October 30, 2008 in which the agency did not identify any wildlife issues related to renewal of the subject livestock grazing permits.

A second response received from the Western Watersheds Project in a letter dated November 3, 2008 raised some of the comments in relation to the Draft RMP and are beyond the scope of this EA. Pertinent issues such as water quality, BLM sensitive species, soils, vegetation, and socio-economics, are addressed in this EA. Additional comments from Western Watersheds related to purpose and need, alternatives, and cumulative impacts are also addressed in this EA. The Western Watersheds Project did not offer any site-specific information regarding the allotments considered in this EA.

CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES

This chapter describes the alternative development process and the alternatives carried forward and fully analyzed. The two alternatives that will be fully analyzed are the No Action (continuation of current leases and current management) and one action alternative (Preferred Alternative) which considers grazing management with modified Permit Terms and Conditions.

The development of management alternatives for these six allotments that share a common landscape was guided by provisions of FLPMA and NEPA, as well as planning criteria listed and enumerated in the Kemmerer RMP. Other laws, as well as BLM planning regulations and policy, also directed alternative considerations and focused the alternatives on appropriate landscape and allotment specific decisions.

Alternative 1 - No Action Re-offer the current permit/lease with existing terms and conditions

This alternative re-authorizes livestock grazing permits/leases for the Crompton Reservior, Fowkes, Haystack Draw, Spring Hollow, Valley Creek and Whitney Canyon allotments with the same terms and conditions as the existing authorizations. The grazing permits/leases, which were issued under Public Law 106-113, would be renewed without modification to the terms and conditions. These allotments would be managed in accordance with the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the BLM in the State of Wyoming. Any area in the allotments not in compliance with the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the BLM in the State of Wyoming may either have a permit withheld or grazing modified.

These permits will be renewed under the authority of Section 426, Public Law 111-8 and contains the same mandatory terms and conditions as the expired permit. These permits may be cancelled, suspended, or modified, in whole or in part to meet the requirements of applicable laws and regulations.

A. Mandatory Terms and Conditions

Other Administrative Terms and Conditions contained in BLM grazing permits are incorporated by reference. The complete grazing permits can be viewed at the KFO. The following is a summary of mandatory terms and conditions and allotment specific terms and conditions.

1. The authorized officer for the BLM will specify the kind and number of livestock, the period(s) of use for the designated allotment (Table 2). The authorized livestock grazing use shall not exceed the livestock carrying capacity of the allotment

Table 2. Mandatory terms and conditions for livestock use

Allotment Name	Grazing Authorization Number	Number of Livestock	Kind	From	To	AUM's
Haystack Draw	4904273	75 197	Sheep Sheep	3/01 3/01	2/28 2/28	180 474
Spring Hollow	4904273	4 75	Cattle Sheep	3/01 3/01	2/28 2/28	48 180
Valley Creek	4904245	85	Cattle	6/01	8/31	257
Crompton Reservoir	4904243	33 33	Cattle Cattle	5/01 10/15	6/15 11/15	50 35
Whitney Canyon	4904277	4	Cattle	5/01	10/15	23
Fowkes	4904004	1	Cattle	5/01	10/15	5

2. Terms and Conditions of this grazing permit or lease may be modified if additional information indicates that revision is necessary to conform with 43 CFR § 4180
3. Permittee must maintain all assigned range improvements in good working order and in an aesthetic state. BLM encourages the permittee to participate in rangeland monitoring activities. All grazing use within the six allotments analyzed in this EA will be in accordance 43 CFR § 4000 to end
4. Permittee is required to obtain a trailing permit prior to trailing sheep across allotments other than those he is licensed on

B. Allotment Specific Terms and Conditions

Crompton Reservoir (Authorization Number 4904243):

Use in the Crompton Reservoir Allotment allows AUMS to the extent shown, with numbers and season of use not restrictive, as long as abuse to the federal range does not occur.

Haystack Draw and Spring Hollow (Authorization Number 4904273):

Use in the Haystack Draw and Spring Hollow Allotments allows AUMS to the extent shown, with numbers and season of use not restrictive, as long as abuse to the federal range does not occur. The permittee is required to obtain a trailing permit prior to trailing across allotments other than those he is licensed on.

Whitney Canyon (Authorization Number 4904277):

Use in the Whitney Canyon Allotments is authorized to the extent shown above, season-of-use and number of livestock not restricted as long as abuse to the federal range does not occur.

C. Monitoring

The BLM and the Permittee will participate in rangeland monitoring according to guidelines in the Wyoming Rangeland Monitoring Guide: A cooperative and voluntary approach to monitoring rangelands (USDI 2001).

Alternative 2 - Proposed Action
This proposed action is to issue a new 10-year grazing permit for each of the six allotments analyzed in this EA with the same terms and conditions described in Alternative 1, plus the addition of the following modifications. This alternative would require that salt and mineral supplements be placed at least ¼ mile away from any riparian areas. A number of studies have shown that strategic supplement placement can be used to manipulate livestock distribution, and provide an incentive for livestock to utilize more upland vegetation, thereby reducing use and stress on riparian systems (Bailey & Welling 1999, Bailey *et al* 2001, Bailey *et al* 2008, McDougald *et al* 1989, McInnis & McIver 2001). This would likely lead to an improvement in the condition of riparian systems within these allotments.

A. Modifications to Existing Terms and Conditions
For Haystack Draw, Valley Creek, and Spring Hollow:

- Salt and/or mineral supplement placement will be at least 1/4 mile away from water troughs, riparian areas, aspen stands, sensitive plant species, and historic trails and monuments on BLM administered lands. BLM will encourage permittees to follow this practice on their private land.
- Upland utilization shall be limited to no more than 50% of vegetative height.
- Riparian utilization shall be limited to an average 5-inch stubble height on sedges at the end of the growing season.
- No more that 10% bank shearing will be allowed by livestock at the end of the growing season.
- All monitoring data, from the permittee/leasee, is due 45 days after the end of the grazing season.

For Whitney Canyon, Fowkes, and Crompton Reservoir:

- Salt and/or mineral supplement placement will be at least 1/4 mile away from water troughs, riparian areas, aspen stands, sensitive plant species, and historic trails and monuments.
- Upland utilization shall be limited to no more than 50% of vegetative height.
- All monitoring data, from the permittee/leasee, is due 45 days after the end of the grazing season.

B. Livestock Numbers and Season of Use
Livestock numbers and season of use would remain the same as described in Alternative 1.

C. Monitoring
The level of monitoring would be the responsibility of the permittee.

Alternative 3 - No Grazing by Allowing the Existing Permit to Expire
Under this alternative, the existing grazing permit would be allowed to expire and BLM would require the permittee to remove livestock from the allotment. Under this alternative, livestock grazing would not be authorized by the BLM for these allotments and none of the available forage on BLM lands would be allocated to livestock. BLM would not collect fees associated with the grazing permit. BLM would have limited regulatory and land management authority on

allotments if the grazing permits were not renewed. Implementation of this alternative would not allow BLM to meet its legislative mandates under the following federal laws.

1) The TGA of 1934 provides the basic legislative authority for livestock grazing on public lands, with provisions for protection of the lands from degradation and for orderly use and improvement of public rangelands. The TGA established a system for the allotment of grazing privileges to livestock operators based on grazing capacity and use priority, and for the delineation of allotment boundaries. It also established standards for rangeland improvements and implemented grazing fees.

2) FLPMA and PRIA mandate the management of public land for multiple use and Sustained yield. Specifically, the regulations implementing these acts call for rangeland management strategies that provide forage for economic use as well as for the maintenance or restoration of watershed function, nutrient cycling, water quality, and habitat quality.

3) The Kemmerer Resource Management Plan/Final Environmental Impact Statement has been finalized and the Record of Decision is pending. The Final EIS can be reviewed on the BLM web site. BLM's analysis in the FEIS supports livestock grazing as an appropriate use on identified lands in the KFO.

Chapter 3: Affected Environment

BLM determined the following issues were not relevant to renewal of these grazing permits and were excluded from further analysis in this document: air quality, mineral resources, fire and fuel management, areas of critical environmental concern, recreation, wild and scenic rivers, wilderness and wilderness study areas, and environmental justice. The following issues are analyzed in detail due to their relevance to renewal of grazing authorizations on BLM lands.

3.1 Livestock Grazing Management

In 1985, BLM established three categories for allotments to identify areas where management was potentially needed, as well as to prioritize workloads and the use of range improvement funds. Allotments were classified as Improve Existing Resource Conditions (I), Maintain Existing Resource Conditions (M), or Custodial Management (C) (USDI 2008). Of the six allotments analyzed in this EA, Crompton Reservoir, Haystack Draw, Spring Hollow, and Valley Creek are rated in the M category and Fowkes and Whitney Canyon are rated in the C category.

I category allotments are defined as:

- Present range condition is unsatisfactory or in declining trend
- Allotments have moderate to high resource production potential and are producing at low to moderate levels
- Present management is considered unsatisfactory
- Riparian areas are presently in a declining trend and management is unsatisfactory
- Serious resource use conflicts may exist and controversy is at a high level
- Potential for high return on public investment exists

M category allotments are defined as:

- Present range condition is satisfactory
- Allotments have moderate or high resource production potential and are producing near their potential (or trend is moving in that direction)
- Present management is considered satisfactory
- Riparian areas are under satisfactory management and are not in declining trend.
- No serious conflicts exist with regard to current use of resource
- Potential may exist for positive economic returns on public investments

C category allotments are defined as:

- Present range condition is variable
- Allotments have relatively low resource production potential and are presently producing at or near their potential
- Present management appears satisfactory or is the only logical practice under existing resource conditions

BLM strives to manage livestock grazing according to provisions of the grazing regulations and the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the BLM in the State of Wyoming. BLM is in the process of completing the Wyoming Rangeland Standards Conformance Review Summaries for the six allotments analyzed in this EA.

Field observations conducted by BLM range management specialist's identified two significant grazing management challenges in the six allotments analyzed in this EA. First is the preponderance of private land in the allotments, Table 3 summarized land ownership in the six allotments analyzed in this EA.

Table 3. Land ownership by allotment

Allotment	Public Acres	Percent	Private Acres	Percent
Haystack Draw	4784	49%	4899	51%
Spring Hollow	2074	27%	5577	73%
Valley Creek	1821	35%	3313	65%
Crompton Reservoir	721	35%	1317	65%
Whitney Canyon	220	9%	1924	91%
Fowkes	43	14%	260	86%

Private lands within these six allotments are critical not only to maintaining the region's ranching community, culture, or tradition but also provide connectivity between private and public lands and between rural and urban communities. In many cases private lands are disproportionately important to the maintenance of a region's natural heritage because they are disproportionately more productive (Knight 2007). This situation is manifest in these six allotments where most of the springs and waters are on private lands.

The second management challenge is livestock distribution. Much of the available water in these six allotments is located on private lands, as a result, livestock tend to congregate in these privately owned riparian areas and in the publicly owned uplands close to the creeks. These two

factors prevent uniform livestock distribution throughout the allotments and result in extensive forage utilization around water developments and in riparian areas.

3.2 Soils

The general soil group within the Haystack Draw, Spring Hollow, Valley Creek, Crompton Reservoir, Whitney Canyon, and Fowkes allotments is the Overthrust Belt (BLM, 2009). This soil group is characterized by steep, sloping ridges with narrow valleys. Dominant parent materials include residuum formed over sediments; colluviums, including landslide and earth-flow deposits; and alluvium on footslopes and drainages. Variable soil textures occur due to geological overthrusting and complex soil/geomorphic relationships. In the narrow valleys and drainages, very deep and well-drained soils are common. The upland ridges are characterized by soils of varying depths, both red and brown in color.

According to data contained in the BLM GIS system (Table 4), there are six known soil subgroups in the Haystack Draw Allotment (Appendix, Figure A-1), five in Spring Hollow (Appendix, Figure B-1), three in Valley Creek (Appendix, Figure C-1), five in Crompton Reservoir (Appendix, Figure D-1), four in Whitney Canyon (Appendix, Figure E-1), and three in Fowkes (Appendix, Figure F-1).

Table 4. Soil Order and soil subgroups in the six allotments analyzed in this EA.

Soil Order	Soil Subgroup	Haystack	Spring Hollow	Valley Creek	Crompton Reservoir	Whitney Canyon	Fowkes
Mollisol	Aridic Haplustolls	X	X	X	X	X	
Aridisol	Ustic Haplargids	X					X
Aridisol	Ustic Haplocambids	X	X	X	X	X	X
Aridisol	Typic Natragrids	X					
Entisol	Rock Outcrop; Typic Torriothents	X	X	X	X	X	
Entisol	Ustic Torriothents	X	X		X		
Entisol	Typic Torrifluvents		X		X	X	X

Of the 12 Soil Orders in soil taxonomy, three occur on the six allotments analyzed in this EA, Mollisols, Aridisols and Entisols.

Mollisols are the soils of grassland ecosystems. They are characterized by a thick, dark surface horizon. The fertile surface horizon results from the long-term addition of organic materials derived from plant roots. Mollisols are among some of the most important and productive agricultural soils in the world and are extensively used for this purpose. However, Mollisols in

this region of Wyoming are in the suborder Ustolls, which are located in semiarid climates and are less likely to be used for farmland.

Aridisols are $CaCO_3$-containing soils of arid regions that exhibit at least some subsurface horizon development. They are characterized by being dry most of the year and have limited leaching. Aridisols in these allotments are Argids, Aridisols with clay accumulation, and Cambids, Aridisols with a weakly developed B horizon. Range, wildlife, and recreation are common uses on this soil order.

Entisols are soils of recent origin with usually no genetic horizons except an A horizon. All soils that do not fit into one of the other 11 orders are Entisols. They are characterized by great diversity, both in environmental setting and land use. Many Entisols are found in steep, rocky settings, especially in these six allotments.

All soils in these allotments, regardless of Soil Order, would be considered fragile (easily broken or destroyed without protection) (USDA/NRCS, 1996). Steep topography in the Spring Hollow and Valley Creek Allotments prevents uniform livestock distribution resulting in congregations along the riparian areas in canyon bottoms. When livestock do venture up onto the steep slopes, these fragile soils are susceptible to erosion produced by livestock trampling and trailing. Hydrologic cover is critical to keeping these fragile soils from eroding. As a result of livestock congregation in riparian areas, soils along Spring Hollow Creek and Pleasant Valley Creek do exhibit signs of compaction and erosion.

3.3 Biological Resources

3.3a Riparian and Wetland Vegetation

Condition of riparian areas is evaluated using a Proper Functioning Condition Assessment (PFC). PFC condition assessments are summarized in Table 5 for two allotments, PFC assessments for the Spring Hollow and Whitney Canyon Allotments have not been completed, and the other two allotments analyzed in this EA do not have flowing streams present on BLM lands.

Table 5. Proper functioning condition assessments

Allotment	Completion Date	Stream	Rating	Trend
Haystack Draw	6/24/98	Albert Creek	Functional-At Risk	Not Apparent
Valley Creek	9/2/99	Pleasant Valley Creek	Functional-At Risk	Downward

The Haystack Draw Allotment contains one lotic (flowing) system, Albert Creek (Figure A-2). A PFC assessment conducted in 1998 showed portions of Albert Creek on BLM lands within the Haystack Draw Allotment were functioning at risk with trend not apparent. The PFC assessment noted heavy sediment loads in the stream. Riparian vegetation appeared to have a diverse age class distribution and species composition.

The Valley Creek Allotment contains one lotic (flowing) system, Pleasant Valley Creek (Figure C-2). A PFC assessment conducted in 1999 showed portions of Pleasant Valley Creek on

BLM lands within the Valley Creek Allotment were functioning at risk with a downward trend. Pleasant Valley Creek exhibited signs of headcutting produced by livestock trampling. In the Valley Creek Allotment extensive utilization of sedges was noted along Pleasant Valley Creek. Some old sign of beaver was noted in the southern end of the allotment but the animals appeared to have moved downstream off the allotment.

Spring Hollow Creek in the Spring Hollow Allotment (Figure B-2) and the Bear River on the eastern edge of the Whitney Canyon Allotment (Figure E-2) are lotic (flowing) systems, however, PFC assessments have not been completed. Crompton Reservoir (Figure D-2) and Fowkes (Figure F-2) do not contain lotic or lentic systems on BLM lands therefore PFC assessments are not required.

Through the Standards and Guidelines Implementation Plan, BLM strives for 4-6 inch residual stubble height, for highly palatable forbs, sedges, and grasses, along stream banks and other mesic sites at the end of the growing season or at the time livestock are removed from allotments.

3.3b Upland Vegetation

According to data contained in the BLM GIS system (Table 6), there are four known vegetation types in the Haystack Draw Allotment (Figure A-3), three in Spring Hollow (Figure B-3), three in Valley Creek (Figure C-3), two in Crompton Reservoir (Figure D-3), two in Whitney Canyon (Figure E-3), and two in Fowkes (Figure F-3).

Table 6. Vegetation types in the six allotments analyzed in this EA

Vegetation Type	Haystack	Spring Hollow	Valley Creek	Crompton Reservoir	Whitney Canyon	Fowkes
Desert Shrub	X					
Irrigated Crop		X		X	X	X
Juniper Woodland	X	X	X			
Mountain Big Sagebrush	X		X			
Wyoming Big Sagebrush	X	X		X	X	X
Aspen Forest			X			

Vegetation monitoring and forage utilization data has not been collected on these allotments, but field observations suggest heavy forage utilization in riparian areas and light utilization in upland areas. Allotments set aside for winter use showed excellent vegetation production from the spring and summer growing season, suggesting adequate forage availability for the upcoming grazing season.

3.3c Wildlife, Viable Populations of Native Plants and Animals

Field observations suggest the plant communities within the six allotments analyzed in this EA are capable of sustaining viable populations and diversity of native plant and animal species appropriate to the area. Based on data contained in the BLM GIS database, there are no federally listed T&E species known to inhabit any of the six allotments analyzed in this EA. None of the six allotments analyzed in this EA have any issues related to sage grouse core areas as identified in the Wyoming Governor's Sage Grouse Core Area Executive Order 2008-2.

Wildlife Resources in the Haystack Draw Allotment

Based on data contained in the BLM GIS database for the Haystack Draw Allotment (Figure A 4) and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form completed on February 25, 2009 there are 10 raptor nests with associated buffers, and crucial big game winter range. There are six sage grouse leks with associated buffers, nesting, and early brood-rearing habitat. Three of the six sage grouse leks are occupied. Monitoring data on the three occupied leks is sporadic at best. All three leks were surveyed in 1980 and 1981 showing a slight downward trend. The same three leks were again surveyed in 2002 and again in 2007 and all were inactive.

Black-footed ferret habitat consists of prairie dog colonies. Though this allotment has prairie dog habitat, this area has been block-cleared by the U.S. Fish & Wildlife Service. Range management practices that promote wide-scale eradication programs for prairie dogs and ground squirrels will result in the eventual loss of prairie dog towns, thus loss of potential black-footed ferret habitat. BLM made a determination livestock grazing "May affect Not Likely to Adversely Affect" the Black-footed ferret because the allotment had been block cleared and during Section 7 consultation, FWS concurred. There are no plans for any eradication programs for these allotments.

The Haystack Draw Allotment contains potential habitat for sage obligate birds including the Sage Thrasher, Sage Sparrow, Brewer's Sparrow, and Loggerhead Shrike. There is also suitable habitat for the Mountain plover and Pygmy rabbit.

Wildlife Resources in the Spring Hollow Allotment

Based on data contained in the BLM GIS database for the Spring Hollow Allotment (Figure B 4), and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form completed on January 9, 2009 there are two known sage grouse leks adjacent to the allotment and the associated buffers overlap onto the NW corner of the allotment. The Spring Hollow Allotment contains potential habitat for sage obligate birds, pygmy rabbit, endangered fish, and BLM sensitive amphibians.

Wildlife Resources in the Valley Creek Allotment

Based on data contained in the BLM GIS database for the Valley Creek Allotment (Figure C-4), and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form on completed January 9, 2009, there are no known sage grouse leks occur in the Valley Creek Allotment. The Valley Creek Allotment contains potential habitat for sage obligate birds, pygmy rabbit, endangered fish, and BLM sensitive amphibians.

Wildlife Resources in the Crompton Reservoir Allotment

Based on data contained in the BLM GIS database for the Crompton Reservoir Allotment (Figure D-4), and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form completed on February 24, 2009, there are two known sage grouse leks adjacent to the allotment and the associated buffers overlap most of the allotment. One lek was surveyed from 2000 through 2006 and showed a slight downward trend. The Crompton Reservoir Allotment contains potential habitat for sage obligate birds, pygmy rabbit, endangered fish, and BLM sensitive amphibians.

Wildlife Resources in the Whitney Canyon Allotment

Based on data contained in the BLM GIS database for the Whitney Canyon Allotment (Figure E 4) and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form completed on December 11, 2008, crucial big game winter range overlaps approximately 25% of the eastern section of the allotment.

There are no known sage grouse leks in the Whitney Canyon Allotment. The Whitney Canyon Allotment contains potential habitat for sage obligate birds, pygmy rabbit, and BLM sensitive amphibians.

Wildlife Resources in the Fowkes Allotment

Based on data contained in the BLM GIS database for the Fowkes Allotment (Figure F-4) and BLM's Wildlife Clearance, Determination, and Evaluation for consultation form completed on April 21, 2008, there are no known sage grouse leks in the Fowkes Allotment. The Fowkes Allotment also contains potential habitat for sage obligate birds.

Big Game

The Wyoming Game and Fish Department sets big game herd unit population objectives. These herd unit boundaries do not correspond with BLM allotment boundaries, but are discussed here to give the reader a better understanding of population and habitat parameters for each species.

All six of the allotments analyzed in this EA occur within the boundaries of the West Green River Elk Herd Unit number E428. The elk population is currently 12% above the population objective for this unit and the 10 year trend has been above the population objective (WGFD 2007). Crucial big game winter range and winter yearlong habitat occurs in both the Whitney Canyon and Haystack Draw allotments. This winter range is characterized by the sagebrush steppe ecotone. Elk prefer conifer aspen ecotone for security and thermal needs, but this preferred habitat does not exist in the six allotments analyzed in this EA. Due to the limited amount of preferred elk habitat and competition with mule deer, WGFD is currently striving to reduce the elk herd in these allotments.

All six of the allotments analyzed in this EA occur within the boundaries of the Carter Pronghorn Herd Unit number PH419. The pronghorn population is currently 43% above the population objective for this unit and the 10 year trend has been above the population objective (WGFD 2007). Crucial big game winter range occurs in both the Whitney Canyon and Haystack Draw allotments. Winter yearlong habitat occurs in all six of the allotments. Additionally Haystack Draw and Spring Hollow Allotments contain spring/summer/fall habitat for pronghorns. These allotments are characterized by the sagebrush steppe ecotone. Pronghorn habitat consists of water and low-growth sagebrush in combination with rabbitbrush and bitterbrush. Due to the size of the pronghorn herd, WGFD is currently striving to reduce the pronghorn herd in these allotments

All six of the allotments analyzed in this EA occur within the boundaries of the Uinta Mule Deer Herd Unit number MD423. The mule deer population is currently at the population objective for this unit and the 10 year trend is at or slightly below the population objective (WGFD 2007).

Crucial big game winter range occurs in both the Whitney Canyon and Haystack Draw allotments. Winter yearlong habitat occurs in all six of the allotments. Additionally Haystack Draw and Spring Hollow Allotments, Crompton Reservoir, and Fowkes contain spring/summer/fall habitat for mule deer. These allotments are characterized by the sagebrush steppe ecotone. Mule deer habitat consists of water and low-growth sagebrush in combination with rabbitbrush and bitterbrush. WGFD is striving to increase the mule deer population in these allotments.

Based on information contained in the Wildlife Clearance form, BLM biologists have concluded that renewal of the six grazing permits analyzed in this EA, with modified terms and conditions, will not contribute to the listing of any BLM Sensitive Species. The BLM does not apply timing stipulations to grazing permits, because adhering to the Standards and Guidelines should maintain the range for multiple uses. Additionally, in a letter from the Wyoming Game and Fish Department, dated October 30, 2008, the agency did not identify any terrestrial or aquatic wildlife concerns associated with the renewal of the grazing permits on the six allotments analyzed in this EA.

3.4 Water Quality

The water quality standard for the six allotments analyzed in this EA is unknown. Streams in five of the six allotments analyzed in this EA are not listed on the Wyoming Department of Environmental Quality impaired waterbody list or monitoring list. Also, none of the streams in these five allotments are listed on the August 17, 1998 State of Wyoming Approved Clean Water Act Section 303(d) list of waterbodies with credible impairment data.

However, the Bear River in Whitney Canyon Allotment is listed on the Section 303(d) list. The Bear River was placed on the list because sedimentation loads, total dissolved solids, and TMDL levels exceed state and EPA standards.

3.5 Cultural Resources

For the Haystack Draw Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on December 2, 2008. The literature review revealed that 31 inventories have been conducted in the allotment vicinity. Linear survey coverage within the Haystack Draw Allotment identified the following cultural properties and their NRHP eligibility recommendation: Hams Fork Archeological Lithic Conglomerate Landscape and the Blacks Fork Archeological Conglomerate Landscape, neither are eligible for listing on the NRHP. Fifteen prehistoric sites listed as eligible, 11 whose eligibility status is unknown, and 55 sites listed as not eligible. There are four historic sites documented within the allotment area and are listed as not eligible. Additionally four prehistoric sites with an overlying historic component are also listed as not eligible. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

For the Spring Hollow Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on December 2, 2008. The literature review revealed that 27 inventories have been conducted in the allotment vicinity. Linear survey coverage within the Spring Hollow Allotment identified the

following cultural properties and their NRHP eligibility recommendation: Hams Fork Archeological Lithic Conglomerate Landscape listed as not eligible for listing on the NRHP. Sixteen prehistoric sites and six historic sites documented within or adjacent to the allotment area. Of these sites, three were listed as eligible for NRHP nomination, 13 were not eligible, and four whose status is unknown. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

For the Valley Creek Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on January 28, 2008. The literature review revealed that 34 inventories have been conducted in the allotment vicinity. Linear survey coverage within the Valley Creek Allotment identified three cultural properties, none of which were evaluated as eligible for listing on the National Register of Historic Places. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

For the Crompton Reservoir Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on January 31, 2008. The literature review revealed that 10 inventories have been conducted in the allotment vicinity. Linear survey coverage within the Crompton Reservoir Allotment identified one cultural property that was evaluated as not eligible for listing on the National Register of Historic Places. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

For the Whitney Canyon Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on February 6, 2008. The literature review revealed that 14 inventories have been conducted in the allotment vicinity. Linear survey coverage within the Whitney Canyon Allotment identified seven cultural properties, one of which was evaluated as eligible for listing on the National Register of Historic Places and the other six were determined to be ineligible. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

For the Fowkes Allotment, BLM Archaeologists conducted a literature review and completed the National Historic Preservation Act compliance review required under Section 106 on December 4, 2006. The literature review revealed that three inventories have been conducted in the allotment vicinity. Linear survey coverage within the Fowkes Allotment identified one cultural property, that was evaluated as not eligible for listing on the National Register of Historic Places. These surveys concluded that no effects on any cultural resources had been documented as attributable to authorized grazing use.

The compliance reviews concluded that pursuant to the Revised Wyoming State Protocol IV A.1, the undertaking has no potential to affect historic properties because issuing these leases does not authorize or promote surface disturbance and renewal of grazing leases/permits where type of animals and seasons of use do not change are exempt from further cultural review.

The compliance reviews contained the following standard stipulations for continued grazing on the six allotments analyzed in this EA:

1) Authorization is for standard livestock grazing only. Any related projects (e.g. fence lines, water pipelines and troughs, spring developments, reservoirs, etc.) and locations for feed supplements (e.g. crystalyx and other mineral feed supplements etc.) within the allotment boundaries require separate authorizations.

2) If future grazing activity within the allotment boundaries should expose previously undetected cultural resources or if BLM determines that significant historic properties are being damaged by grazing activities within the allotment boundaries, the terms and conditions of the permit will be amended to protect any such historic properties until such time as protective barriers and/or mitigation of these adverse impacts can be conducted.

3.6 Lands and Realty

Uinta County adopted a Comprehensive Plan in 2002-2003, which establishes guidelines for industrial, commercial, and residential developments. This plan emphasizes the value and need to conserve natural resources such as open space, wildlife, natural vegetation, soil, water, and cultural resources. The plan also establishes County Policy for balancing the preservation of natural resources with developments and establishes goals for encouraging conservation of natural resources. According to information provided in an e-mail dated October 23, 2008, the Uinta County Planner indicated there are no industrial, commercial, or residential developments planned in or adjacent to the six allotments analyzed in this EA (K. Williams personal communication 2008).

3.7 Social and Economic Conditions

According to statistics published by the USDA National Agricultural Statistics Service in the 2007 Census of Agriculture, Uinta County had 344 active farms and ranches with a total acreage of 742,809. Ranches contained approximately 44,000 cattle and 41,000 sheep valued at approximately $50 million. These data clearly show the economy of Uinta County benefits from livestock grazing operations, the related capital spent to establish and maintain ranching operations, and contributions to the labor force. Additionally, all six of the allotments analyzed in this EA are in a largely undeveloped and rural area. Tourism is an important industry, attracting visitors who enjoy the rural isolated nature of the area. Livestock grazing, for some people, compliments the frontier setting they seek in their visits to this area.

The BLM in conjunction with the permittees using the six allotments analyzed in this EA, established a balance of livestock numbers and season of use such that any substantial change in grazing would negatively affect the overall ranching operation. A 1991 study by economists at the University of Wyoming revealed that agriculture is an important source of export income for the state's economy. The study also showed that the great majority of inputs to agricultural production come from within the state, and that profits and other income from agricultural production tend to stay within the state. Taken together, these findings indicate that agricultural production is an important contributor to the state's economy (Moline et.al 1991). In a 2000 study, economists at the University of Wyoming compared the income provided to county governments and public schools to the financial demands on community services by agricultural and residential developments. The study shows that on average in Wyoming, ranching activity generates nearly twice as much income for the community services as it requires in expenditures

on community services, whereas residential development generates about half as much income as it requires in expenditures (Taylor and Coupal 2000). These findings underscore the importance of agricultural production in terms of contributions to local economies. Ranching in the six allotments analyzed in this EA contributes to this local and statewide trend.

Public lands in these six allotments are integral to small family ranching businesses. The grazing permit allows access to public lands thereby consolidating the livestock operation and contributing to livestock production, which is the main source of income for these ranching families. The grazing permit also contributes the rancher's lifestyle and the cultural image of Wyoming as the "Cowboy State."

Public Lands contribute to the receipts of the county in which they are located through "Payment of In Lieu of Taxes" by the federal government. All six of the allotments analyzed in this EA were established according to provision of Section 15 of the Taylor Grazing Act. For Section 15 allotments, 50% of the fees collected from the grazing permit are distributed to the County where collected. The remaining 50% is allocated to the BLM Rangeland Improvement Fund. Counties also collect taxes on the ranches livestock and real property based on the assessed taxable values.

Chapter 4 Environmental Consequences

4.1 Livestock Grazing Management

The scarcity and sporadic distribution of water developments on BLM lands results in livestock congregations in private riparian areas. These livestock congregations and the resulting extensive utilization of riparian areas and adjoining upland areas present the greatest challenge to livestock grazing management in the six allotments analyzed in this EA. The checkerboard land use pattern in these allotments produces a high percentage of privately owned lands and coupled with the state of Wyoming's "fence out" law, places inherent limitations on the BLM's ability to manage livestock grazing

Impacts of the No Action Alternative

Under the No Action Alternative, existing grazing management practices would continue. Renewal of the existing grazing permit with the same terms and conditions would likely allow the continuation of the livestock congregation in riparian areas. Extensive utilization of forage in riparian areas and soil compaction would likely continue. Steep topography in the Valley Creek and Spring Hollow Allotments further limits uniform livestock distribution forcing livestock to congregate in riparian areas. With continuation of the existing grazing management practices, the riparian areas in Haystack Draw and Valley Creek Allotments would be expected to continue to be in proper functioning condition as defined by the PFC assessment. Under the No Action alternative, livestock grazing under existing terms and conditions and according to provisions of the KFO Land Use Plan would continue.

Impacts of the Proposed Action

The proposed action could produce positive benefits to the environment compared to the No Action Alternative, but would be a minor inconvenience to permit holders. The limiting of stubble height on green lines has proven to be an effective tool in limiting the negative impacts of livestock and wildlife grazing on riparian areas (Hall and Bryant, 1995; U of Idaho, 2004), and the proposed action requires permit holders to accomplish those monitoring tasks and report to

the BLM. Uplands are also required to be monitored, and actual use reports completed. This may cause some time burden, but should not hinder the permittees individual operation and BLM would assist with proper training and use of appropriate monitoring techniques. By imposing limitations to utilization in the uplands, coupled with stubble height limitations and stream bank stability on riparian areas, the BLM would expect season of use to be less than that stated on the permits for the Spring Hollow and Valley Creek allotments. The Whitney Canyon and Fowkes Allotments are used in a rest-rotation management plan, are predominantly uplands, and current grazing practices would continue. The Crompton Reservoir Allotment contains a lentic riparian area, Crompton Reservoir, located on private lands within the allotment. Current grazing management would emphasize proper use in the uplands. Grazing management under the revised terms and conditions would be in conformance with the KFO Land Use Plan and the Wyoming Standards for Healthy Rangelands. Implementation of the proposed action could produce incremental beneficial improvements to the range by facilitating uniform livestock grazing distribution. Improvements in the range condition of riparian areas would produce beneficial impacts to wildlife by increasing nesting, foraging, and roosting habitats.

Impacts of the No Grazing Alternative

Removal of livestock from BLM owned lands in the six allotments analyzed in this EA would contribute to reducing livestock congregations. However, livestock grazing on private and state owned lands in the checkerboard areas of these allotments would continue to produce direct effects equivalent to those observed under the No Action Alternative. With the lack of boundary fences in some allotments in the checkerboard areas, BLM lands could be utilized at the same levels as private lands. BLM would have little to no regulatory authority over livestock grazing in these allotments thereby severely reducing the agency's management flexibility.

Ranching operations and lifestyle would be curtailed dramatically for the permittees on these allotment. Loss of the grazing permit may force permittees to sell private lands associated with these allotments resulting in landscape level fragmentation produced by development. Implementation of this alternative would not allow BLM to meet its congressional mandates for multiple use and sustained yield and would not allow implementation of compatible land use decisions specified in the KFO Land Use Plan. Range management practices would focus on large ungulates such as deer and elk. As an indirect affect resulting from livestock removal, BLM would not collect grazing fees thereby reducing the agencies ability to build range improvements that are also used by wildlife.

4.2 Soils

Impacts of the No Action Alternative

Renewal of the existing grazing permit with the same terms and conditions would allow continuation of the livestock congregation in riparian areas. Livestock congregations result in extensive hoof action, bank trampling, and forage utilization which produces less standing biomass and litter, both of which are needed for surface cover to protect soils from wind and water erosion. Steep topography in the Valley Creek and Spring Hollow Allotments further increases soil erosion when livestock graze on the fragile soil types on these steep hillsides. Field observations by BLM range management staff have documented soil compaction due to livestock congregations, a trend that would likely continue with implementation of the No Action

Alternative. Grazing under the No Action Alternative would be expected to maintain and continue the current level of soil compaction and erosion conditions.

Direct impacts to soils could result from Livestock's inherent tendency to develop trails to and from water, mineral supplements, and along fences. Impacts from stock trails could include erosion which can be visible from a distance. Soil along some portions of fences, waterways and trails can be compacted due to concentrated livestock use. Soil compaction can result in greater exposure to wind and water erosion, could reduce soil crusts and lower forage production. Overgrazing on privately owned riparian areas resulting from livestock congregations can impair the integrity of the soils and add to sediment load in waterways.

The uneven livestock grazing distribution occurring under the No Action Alternative indirectly impacts soil conditions in the watershed. Naturally occurring sediment normally gets trapped by vegetation near streams as it is carried downstream from the uplands by rain or snow melt. However in heavily grazed riparian areas, resulting from livestock congregations, heavy forage utilization allows some of the sediment to get past the vegetation trap.

Impacts of Proposed Action

The proposed action could produce positive benefits to the environment compared to the No Action Alternative because movement of mineral supplements would facilitate redistribution of livestock in the six allotments analyzed in this EA. Utilization of forage and soil compaction in riparian areas could be reduced. The reduction of livestock congregations and dispersion of forage utilization could produce less intensive forage utilization levels which could lead to increases in plant biomass production resulting in adequate soil protection. Implementation of the proposed action could produce incremental beneficial improvements to soil conditions by facilitating uniform livestock grazing distribution. Management and uniform distribution of livestock grazing could produce appropriate use of vegetation and avoid excessive amounts of downstream sediment runoff.

Impacts of the No Grazing Alternative

Removal of livestock from BLM owned lands in the six allotments analyzed in this EA would contribute to reducing livestock congregations leading to an improvement in soil conditions and reduced utilization of riparian areas. However, livestock grazing on private and state owned lands in the checkerboard areas of these allotments would continue to produce direct effects on soils equivalent to those observed under the No Action Alternative.

Removal of livestock from public lands on the six allotments analyzed in this EA should lead to decreased hoof compaction, especially in riparian areas where livestock tend to congregate. Over time, the lack of renewed compaction, combined with the annual freeze-thaw cycle, may lead to a decrease in surface soil density and improved soil condition. However, livestock grazing, and its attendant impacts, would probably continue on adjacent private and state-owned lands in the checkerboard areas.

If livestock were removed from the six allotments analyzed in this EA, 1252 AUM's of harvestable forage would be excluded from livestock use. The resulting increase in available plant biomass would produce an increase in ground cover providing more protection from wind

and water erosion. Livestock trails and the resulting erosion would heal over time. Complete healing would not be expected because wildlife and people would continue to follow some trails established by livestock.

Removal of livestock grazing from the federally-owned sections within the six allotments analyzed in this EA may produce an indirect benefit to the watershed through the potential increased vigor of cool-season grasses and sedges within the riparian zones. Improved health and vigor of these plants may help stabilize the stream banks and increase filtration of sediment from runoff. Improved plant cover and re-colonization by bunchgrasses is likely to be slower in the uplands, where plant-available water supplies are more limited. Increased ground cover should reduce rain-induced erosion as well as increase infiltration, leading to reduced runoff. However, this expected recovery would be limited in areas where grazing-tolerant plants have become so dominant as to limit availability of light, space and water.

If grazing were to continue on privately-owned lands in these allotments, fences would have to be built by the landowner(s) to prevent trespass onto federally owned lands. Given the natural tendency of cattle to congregate and trail along fence lines, it is likely that paths and forage depletion would occur along the fences. The resultant decrease in canopy cover would fail to decrease the impact of raindrops on the soil surface, while the expected increase in compaction would increase runoff from both rain and snowmelt. These factors would combine to increase the likelihood of both wind and water erosion in the areas adjacent to fences. This may result in blowouts and gullies which could impact the federal lands in these allotments through deposition or by the eroded area actually spreading into the federal lands.

4.3 Biological Resources

4.3a Riparian and Wetland Vegetation

Impacts of the No Action Alternative

Renewal of the existing grazing permit with the same terms and conditions would allow continuation of the livestock congregation in riparian areas. Field observations by BLM range management staff have documented livestock congregations which result in extensive utilization of forage in riparian areas, both privately and publicly owned. The PFC assessment conducted showing portions of Albert Creek and Pleasant Valley Creek on BLM lands were functioning at risk would continue. The livestock congregations that produce lower stubble heights, trampling, compaction, erosion, sedimentation, and fecal contamination would continue.

Impacts of Proposed Action

The proposed action could produce positive benefits to the environment compared to the No Action Alternative because movement of mineral supplements would facilitate redistribution of livestock in the six allotments analyzed in this EA. Utilization of forage and soil compaction in riparian areas could be reduced. The reduction of livestock congregations and dispersion of forage utilization could improve stream channel characteristics and functioning ability. Implementation of the proposed action could produce incremental beneficial improvements to forge conditions in riparian areas by facilitating uniform livestock grazing distribution. Uniform livestock grazing distribution and the resulting uniform vegetation utilization could reduce over grazing on privately owned riparian areas and could be considered a beneficial indirect effect.

The Proposed Action would also require permittees to participate in range monitoring to ensure stubble height of 4-6 inches for highly palatable forbs, sedges, and grasses. This modification to the terms and conditions in the Proposed Action could prevent stubble height from getting below 3 inches, a point at which livestock grazing preference shifts to riparian shrubs and young trees causing unacceptable impacts to riparian areas (Hall and Bryant 1995). Livestock sometimes concentrate around certain springs and streams in allotments, resulting in lower stubble heights, trampling, compaction, erosion, sedimentation, and fecal contamination. BLM has a very limited ability to regulate stubble height usage on privately owned riparian areas, resulting in many of these privately owned riparian areas in the six allotments analyzed in this EA showing signs of over utilization.

Impacts of the No Grazing Alternative

Removal of livestock from BLM owned lands in the six allotments analyzed in this EA would contribute to reducing livestock congregations leading to an improvement in the PFC assessments and reduced utilization of riparian areas. However, livestock grazing on private and state owned lands in the checkerboard areas of these allotments would continue to produce direct effects in riparian areas equivalent to those observed under the No Action Alternative.

On BLM owned riparian areas, plant populations within the communities that are commonly grazed would have an opportunity to complete all phenological stages. Riparian vegetation would be available for wintering big game. Indirect impacts to the ecological function of these plant communities would continue to be associated with the environmental perturbations associated with fire, insect, and invasive species.

On most streams, removal of livestock would likely decrease channel width, promote more stable banks, decrease water temperature, promote woody vegetation growth and development, raise the water table, promote more continuous waterflow, and reduce sediment loads (Kauffman & Krueger 1984, Dobkin *et al* 1998, Myers & Swanson 1995). In many cases, total removal of livestock provides the greatest protection for riparian and wetland systems (Belsky et al 1999, Fleischner 1994).

In addition, depleted or denuded areas are very vulnerable to invasion by poisonous or noxious weeds which could then invade the federally owned lands. Vegetation near streams would only be grazed by wildlife, leaving more biomass to filter the natural sediment carried into the waterways by precipitation.

4.3b Upland Vegetation

Impacts of the No Action Alternative

The checkerboard land ownership pattern limits BLM's ability to manage large tracts of land. Management of the small tracts is not sufficient to produce changes in the successional stages of the landscape. Therefore the allotments would continue to be dominated by the late seral stages of plant succession. The allotments would continue to be characterized by older mature stands of upland vegetation that have limited capability to produce the diverse composition and age classes needed to stabilize soils, reduce water infiltration rates, and minimize erosion, which are three primary factors that produce high quality upland vegetation. Recolonization by perennial grasses would be limited resulting in large areas of bare ground.

Indirect impacts to vegetation occur in areas of moderate to severe utilization and include shifts in the vegetative community toward species less palatable to livestock or more resistant to grazing pressure. The livestock grazing congregations produced by the No Action Alternative can produce a downward trend in ecological conditions, where cool season bunch grasses and native riparian species decrease, while sagebrush and short-grasses increase on the uplands, and non-native mesic species increase near the riparian areas.

Impacts of the Proposed Action

The proposed action could produce positive benefits to the environment compared to the No Action Alternative because movement of mineral supplements would facilitate redistribution of livestock in the six allotments contributing to uniform utilization of forage. The checkerboard land use pattern would continue to limit BLM's ability to manage upland vegetation on a landscape basis.

Impacts of the No Grazing Alternative

Removal of livestock from BLM owned lands in these allotments would contribute to reducing livestock congregations leading to an improvement in the PFC assessments and reduced utilization of upland areas adjacent to riparian areas. However, livestock grazing on private and state owned lands in the checkerboard areas of these allotments would continue to produce direct effects on upland vegetation equivalent to those observed under the No Action Alternative.

An indirect effect from removal of cattle from public lands could be an increase in the risk of catastrophic wildfire. The removal of cattle would be expected to increase the quantity of vegetation in the upland areas, which would dry out during the growing season thereby producing an increased fuel load.

4.3c Wildlife, Viable Populations of Native Plants and Animals

Impacts of the No Action Alternative

Renewal of the existing grazing permit with the same terms and conditions would maintain conditions of plant communities within the six allotments analyzed in this EA that are capable of sustaining viable populations and diversity of native plant and animal species appropriate to the area. Renewal of the existing grazing permit would produce no additional negative impacts to the sage grouse utilizing the fringes of the allotments or to active raptor nests. The extensive forage utilization observed in privately owned riparian areas resulting from livestock congregations, has also produced an abundance of forage in the more rugged publicly owned upland areas that are the crucial big game winter range. Therefore, continuation of the existing grazing permit would not produce any additional negative impacts to wintering big game.

Impacts of Proposed Action

The proposed action could produce positive benefits to the environment compared to the No Action Alternative because movement of mineral supplements would facilitate redistribution of livestock in the six allotments analyzed in this EA thereby reducing the extensive forage utilization observed in privately and publicly owned riparian areas. BLM would implement the stipulations contained in the BLM National Sage Grouse Conservation Strategy (USDI 2004) and the Wyoming Game and Fish Greater Sage Grouse Conservation Plan (WGFD 2003) when

warranted. Potential negative affects to BLM sensitive species were addressed in the PROPOSED FEIS for the Kemmerer Resource Management Plan (*2009*) Section 3.4.8, to which this document is tiered. Grazing management under these revised terms and conditions would be in conformance with the KFO LUP.

Grazing has the potential to degrade sage grouse nesting habitat, or improve it under some circumstances (late brood rearing and fall) by changing the composition, quantity, or quality of vegetation and litter. The Proposed Action will likely assist in uniform distribution of livestock thereby reducing the likelihood of over utilization of brood rearing habitat. Uniform livestock distribution could also provide a potential benefit to sage grouse in late brood rearing and fall habitats if cattle are allowed to remove rank vegetation from riparian areas and then be removed before damage to riparian areas occurs.

The effects of livestock grazing under the Proposed Action on wildlife could be minimal because actions undertaken to improve rangeland and riparian habitat (livestock water developments, exclosures, fencing, and conversions) must meet the Wyoming Standards for Healthy Rangelands. Forage utilization levels would be evaluated on a case-by-case basis and would consider habitat conditions and forage for livestock and wildlife. Water developments could benefit wildlife by providing additional sources of water but could also adversely impact wildlife habitat, particularly in sensitive habitats, through possible reductions in forage and cover due to increased distribution of animals. However, implementation of the Wyoming Standards for Healthy Rangelands would ensure that impacts were not significant. Adverse impacts of fences on wildlife could be minimal because of location requirements that will not impede wildlife movement and that fences be removed, modified, or reconstructed where documented conflicts with wildlife occurred. Future livestock conversions (sheep to cattle or vice versa) would be carefully analyzed.

Impacts of the No Grazing Alternative

Removal of livestock from the allotments analyzed in this EA would contribute to reducing livestock congregations leading to an improvement in wildlife habitat conditions. However, livestock grazing on private and state owned lands in the checkerboard areas of these allotments would continue to produce direct effects on wildlife habitat equivalent to those observed under the No Action Alternative. Removal of livestock from the public lands in these allotments could contribute to improving in the PFC assessments and reducing utilization of riparian areas. All stipulations and mitigations listed in State and Federal sage grouse conservation strategies could be fully implemented on the federal lands. Removal of livestock from BLM owned lands could increase the amount of undisturbed habitat available to BLM sensitive species especially ground nesting birds.

If the No Grazing Alternative were implemented, ranchers may be inclined to fence private lands to prevent livestock trespass onto public lands. Considering the importance of this allotment as big game crucial winter range, fencing would have an indirect effect by creating a serious impediment to seasonal migration of some big game animals, especially pronghorn antelope (Spillett, J.J. et.al. 1967, Yoakum J.D. 1979, and JHWF 2001).

4.4 Water Quality

Impacts of the No Action Alternative
None of the streams in five of the six allotments analyzed in this EA are listed in the State of Wyoming Department of Environmental Quality impaired waterbody list or in the 303(d) report. Because livestock have been grazing this allotment for decades, and the creeks are not on the impaired waterbody list, suggests continuation of grazing at current levels would not immediately produce stream degradation. Therefore implementation of this alternative would not be expected to cause any of these streams to be placed on the Section 303(d) list.

The Bear River has been placed on the 303(d) list because of increased sedimentation caused by land disturbing activities in the watershed upstream of the Whitney Canyon Allotment. The Bear River traverses through approximately one mile of the eastern side of the Whitney Canyon Allotment, all of that area is privately owned. The impacts from livestock grazing on this small section of the Bear River would not be expected to significantly contribute to the upstream sedimentation problems. Additionally, BLM has minimal management flexibility to implement actions on private lands that could contribute to reducing the sedimentation problems in the watershed. Grazing on the private lands adjacent to the Bear River could continue thereby reducing BLM's management flexibility and preventing the agency from contributing to reducing the sedimentation problem.

Impacts of the Proposed Action
Implementation of this alternative could contribute to improvements in water quality by reducing livestock congregations in riparian areas, which contributes to soil erosion. Reduction of soil erosion is a watershed management action that could provide benefits to wildlife by maintaining or restoring riparian habitat.

Impacts of the No Grazing Alternative
In the absence of livestock, slight improvements in water temperature, turbidity, and nutrient loads may occur. Therefore implementation of this alternative could have slight incremental beneficial impacts to water quality as compared to the No Action Alternative.

4.5 Cultural Resources
Impacts of the No Action Alternative
BLM Archaeologists concluded that standard grazing will have no effect on known cultural resources in the KFO provided recommended stipulations are implemented.

Impacts of the Proposed Action
No negative impacts to cultural resources would result from implementation of standard grazing. In addition, movement of mineral supplements ¼ mile away from known archaeological sites would produce incremental beneficial impacts to known sites by reducing ground disturbances caused by cattle using salt licks over an extended period of time.

Impacts of the No Grazing Alternative
Implementation of this alternative would have the same impacts as the No Action Alternative.

4.6 Lands and Realty

Impacts of the No Action Alternative
Renewal of the existing grazing permits in the six allotments analyzed in this EA, with the same terms and conditions, would not conflict with the goals and objectives of the Uinta County Comprehensive Plan. Although there currently are no planned industrial, commercial, or residential developments in or adjacent to the allotments, grazing as authorized under the existing permit probably would not affect any future developments.

Impacts of the Proposed Action
Implementation of this alternative would have the same impacts as the No Action Alternative.

Impacts of the No Grazing Alternative
Implementation of this alternative would have the same impacts as the No Action Alternative.

4.7 Social and Economic Conditions
Impacts of the No Action Alternative
Renewal of the existing grazing permits for the six allotments analyzed in this EA, with the same terms and conditions, would not reduce the economic benefits produced by ranching in the region. Under the No Action alternative, livestock grazing under existing terms and conditions and according to provisions of the KFO LUP would continue and there would be no impact to the ranching community, culture, or tradition.

Impacts of the Proposed Action
Implementation of this alternative would have the same impacts as the No Action Alternative.

Impacts of the No Grazing Alternative
Cancellation of the existing grazing permits for the six allotments analyzed in this EA, under the No Grazing Alternative, would have negative impacts on the regions Socio-Economic conditions because private ranchers would be unable to sustain an economically viable ranching operation resulting in the permittees sustaining adverse economic impacts. If grazing were to be prohibited on BLM lands, the private lands within these allotments could be sold for residential developments, which have less potential to generate income for community services. The grazing capacity of other federal permits or private leases may not accommodate the increased use or meet land management requirements.

The lack of fences would result in unauthorized grazing use onto BLM lands. Livestock trespass onto BLM lands would result in administrative costs to the agency. As an indirect effect of removing livestock from this allotment, ranchers may have to expend a considerable amount of funds to fence out livestock from publicly owned lands. Adjacent private landowners could prevent BLM from accessing public lands thereby reducing the agencies management flexibility.

Permittees on these allotments use public lands as an extension of their grazing operations on private and state lands. Because grazing on private and state land would continue if the grazing permits for these allotments were not renewed, the number of livestock in the area may not change. If the grazing permits for BLM owned lands were cancelled, permittees would be forced to make changes in their current livestock operations, which would vary in degree and effect. Changes could include possible increase in inputs such as fencing or herding to assure that cattle

remain on private or state land. This increase in inputs may make grazing on adjacent state and private lands untenable for ranchers. This in turn could result in the need for permittees to downsize or eliminate their grazing operations.

4.8 Cumulative Impacts

Current conditions in the project area result from a multitude of natural events and human actions that have taken place over many decades. Cumulative effects are defined as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). According to the 1994 BLM Handbook "Guidelines for Assessing and Documenting Cumulative Impacts," the analysis can be focused on those issues and resource values identified during scoping that are of major importance. After review of responses to scoping and available information, the following issues were identified as having the highest likelihood of generating potential cumulative impacts when added to activities associated with the Proposed Action. Major issues include wildlife, water quality, grazing management, and socio-economics.

The cumulative impact analysis contained in this EA evaluates the potential impacts associated with the Proposed Action in combination with the potential impacts associated with other relevant activities that have occurred, are occurring, or may occur in the project area. The geographic scope of the cumulative impact analysis for this environmental assessment encompasses the public and private lands in the southern portion of the Bear River watershed. Current oil and gas development is found in the Valley Creek Allotment, mostly on private lands within the allotment. No other allotment in this area has oil and gas development. Wind turbines are located on private lands in this southern portion of the Bear River watershed, with appropriate right-of-ways granted and analyzed accordingly (BLM, 2002). Major actions in the future are the proposed Gateway West Transmission Line which, depending on the route selected, will pass within approximately 25 miles north of the allotments analyzed in this EA. In addition, the proposed route for a 42" natural gas pipeline (Ruby Pipeline) will proceed about 8 miles north of the Haystack Draw Allotment, west to a point approximately 3 miles north of the Whitney Canyon Allotment. A discussion of past, present, and foreseeable future actions follows.

<u>Grazing Management</u>

Historically, the KFO permitted millions of sheep AUM's but that trend has decreased dramatically due to market conditions. Sheep prefer a diet composed of forbs whereas cattle feed predominantly on grasses. Sheep also use steep topography and plant communities that cattle do not such as saltbush flats, and desert shrub. Cattle generally move less than one mile from a water source whereas sheep herders can force these animals away from riparian areas after drinking. The change from sheep to cattle grazing, over time, has contributed to an increase in cumulative effects to riparian vegetation and wildlife habitat. Additional impacts to wildlife habitat occur from land disturbing activities such as road building, OHV activity, wildland fires, residential and commercial development.

Within the KFO, wildland fires and other natural events, changing landscape conditions are expected to continue in the future. Grazing permits would be adjusted to maintain rangeland health standards when fire, drought, and other uncontrollable natural events occur. Future

grazing authorizations with the revised terms and conditions assure that vegetative habitats maintain their range of phenological stages, composition, and vigor.

Season-long livestock use on some allotments could have a minor contribution to negative cumulative impacts by decreasing the abundance and vigor of riparian plant species. Season-long grazing combined with other past, present, and future land uses, such as fire, oil and gas development, and OHV traffic, could contribute to changes in vegetative composition toward more shallow rooted plants adapted to dryer sites. The combination of these land uses over time could leave stream banks without adequate vegetation protection from damage due to livestock trampling and high water events. The long-term affect on the landscape produced by a combination of these land uses over time could be decreased water storage capacity and forage production.

Uniform livestock grazing distribution resulting from implementation of the modified terms and conditions contained in the Proposed Action in conjunction with proper management of other past, present, and future land uses could be expected to improve wildlife habitat along with range and vegetation conditions. Both forage quality/quantity and plant physical structure for mule deer, antelope, and elk could be expected to improve over the current situation.

Socio-Economics

BLM works with the Uinta County Planning Department to reduce and control private subdivision proliferation and trespass onto adjoining public lands. The communities that occupy the KFO have generally been stable and small, although the residential development trend is increasing. Obviously, these permanent alterations have irreversibly committed land to housing development, resulting in fragmentation of plant/animal habitat, altered scenic vistas, etc. Overall, the greatest potential development impact to habitat would occur from housing development on remaining scattered private land tracts throughout the KFO. Increased property values have created a strong real estate market prompting landowners to pursue subdivision development, reducing small acreages of habitat in several locations.

If the No Grazing Alternative were chosen, the loss of federal grazing on BLM administered lands could negatively impact the economic viability of ranching in the area for the foreseeable future. As livestock ranches in the West become less economical, a trend towards subdivision and small rural home sites on the private land holdings has developed. The social impact is a change in lifestyle away from ranching and agriculture. Urban development throughout southwestern Wyoming could increase as a result of removing grazing from the public lands. However a trend toward subdivision is already in place on private lands in Uinta County. This occurs on lands traditionally used for agriculture as well as on non-agricultural lands. Some grazing lessees and other landowners have already begun to subdivide private property, leaving less private land available for agricultural use and putting more pressure on surrounding public lands for livestock grazing.

The loss of revenue produced by canceling these grazing permits would impact those businesses and industries that supply goods and services to livestock operators large and small. The high cost of hay and other feeds combined with the necessity to have pasture available for animals could force permittees to reduce livestock numbers beyond the simple adjustment needed to

subtract public AUMs. This could mean the end of the major source of income for these permittees for the foreseeable future.

Wildlife

Minor landscape level negative cumulative impacts to vegetation and wildlife could occur from the combined influences of grazing and other past, present, and future land uses in these six allotments. However, uniform livestock grazing produced by implementation of the Proposed Action, in combination with other past, present, and future land uses, is expected to maintain or improve the physical structure and ecological function of plant communities. For example, the allotment consists of a mixture of upland sage, grass-steppe, and mixed juniper. These plant communities provide habitat for a variety of small mammals such as ground squirrels, prairie dogs, shrews, bats, and various other rodents, rabbits, and burrowing species. In addition, a variety of small bird species, both migratory and year-round residents, may also occur in the area. These species are, in turn, preyed upon by larger carnivores such as fox, coyote, mountain lion, bear, badger, skunk, and by raptor species such as golden eagles and various hawks. Proper management of the multiple uses of BLM owned lands, including grazing, could improve the biodiversity of both plant and animal communities at the landscape level.

The majority of cumulative effects on wildlife habitat would result from surface disturbing and disruptive activities, such as mineral development and associated wells, roads, pipelines, and facilities; rangeland improvements; and other such activities (e.g., geophysical exploration). Effects would be in the form of habitat fragmentation and animal displacement. Vegetation treatments in the form of prescribed burns could also affect wildlife resources, particularly greater sage grouse.

Loss of vegetation due to residential or commercial development could result in a reduction in available habitat and quality of habitat and could result in increasing forage competition among grazing animals. Habitats could be made unavailable to wildlife because of human disturbance factors such as traffic, noise, or increases in livestock during sensitive time periods such as winter, parturition, nesting, and early rearing of young. Impacts on wildlife could be significant if activities were concentrated in areas of sensitive wildlife habitat and/or if increased development and surface disturbance altered existing migration corridors to the extent that access to important habitat areas was greatly reduced. Livestock water developments could be beneficial to wildlife by opening areas for forage consumption that are currently not available due to lack of water or distance from water. Effects from vegetation treatments, such as prescribed burns, could benefit most wildlife species through an increase in grass and forb species and vegetation production from conversion of high-density sagebrush to sagebrush/grass communities.

Habitat fragmentation occurs when a contiguous habitat is broken up (fragmented) by ground disturbing activities, causing a reduction in usable ranges and the isolation of smaller, less mobile species; a loss of genetic integrity within species or populations; and an increase in the abundance of habitat generalists that are characteristic of disturbed environments (i.e., competitors, predators, and parasites). The primary fragmentation factor affecting wildlife species (especially big game) is the reduction in usable habitat and the disruption of migration corridors. Transportation routes tend to fragment habitats and can act as barriers to some species,

especially in severe winter conditions. Fragmentation factors affecting wildlife in the six allotments analyzed in this EA include state highways, rural roads, mineral development infrastructure, and rivers.

Rocky Mountain Elk

Elk are susceptible to displacement by human activities because of the lack of hiding and escape cover in this herd management unit. Persistent disturbance can shift the areas of use and weakens the tendency to return to the disturbed area. Mineral development generally causes the greatest disturbance effects to elk through direct loss of habitat, animal displacement, and disruption of migration corridors. Dispersed grazing with the limited numbers of livestock in the six small allotments analyzed in this EA would likely have a very minor and insignificant contribution to disturbance and habitat fragmentation.

Pronghorn Antelope

Roads, fences, and pipelines can fragment pronghorn habitat and can impede or block movement. The density at which these factors occur could have a significant effect on antelope migration and use of habitat. Mineral development would have the greatest adverse effects on pronghorn antelope herds through habitat fragmentation resulting from the proliferation of roads, pipelines, and wells. Depending on the timing of activities and the location of surface disturbance, the potential exists for disruption of crucial winter range continuity and migration corridors between key habitats. Dispersed grazing with the limited numbers of livestock in the six small allotments analyzed in this EA would likely have a very minor and insignificant contribution to disturbance and habitat fragmentation. There is some potential for positive impacts to pronghorn from the reduced competition for preferred forage types with the reduction in historic numbers of sheep.

Mule Deer

Mule deer tend to avoid areas of disruptive activity and are more sensitive to activity in open versus forested habitat. Mineral development would have the greatest adverse effects on mule deer habitats through direct loss of habitat and animal displacement. Depending on the timing of activities and the location of surface disturbance, the potential exists for long-term disruption of migration corridors between key parturition habitats. Dispersed grazing with the limited numbers of livestock in the six small allotments analyzed in this EA would likely have a very minor and insignificant contribution to disturbance and habitat fragmentation.

Greater Sage Grouse

Greater sage grouse populations have been declining over the last half century due to habitat fragmentation, degradation, and loss. Mineral development has the greatest potential to impact greater sage-grouse populations through direct habitat loss from well, road, pipeline, and transmission line construction; increased human activity and associated pumping noise causing displacement; increased legal and illegal harvest; and direct mortality associated with evaporation ponds and increased exposure to predation (Holloran 2005). These activities would result in direct loss of habitat, habitat fragmentation, and animal displacement (short or long term), depending on the amount, location, and timing of activities. Vegetation treatments in the form of prescribed burns could also affect greater sage-grouse through removal of large areas of sagebrush, conversion of sagebrush habitats, and increases in invasive species. Provided that the

use of vegetation treatments is carefully evaluated before implementation, effects of treatments should not lead to long-term displacement of greater sage-grouse and could improve habitat for greater sage-grouse in some areas.

Greater sage-grouse nesting and wintering habitat requirements are quite specific. If this habitat were disturbed, it could require in excess of 20 years to restore affected habitat to predisturbance conditions. During this time, however, opportunities might exist to enhance remaining vegetation and habitat characteristics to provide more suitable habitat than currently exists. Dispersed grazing with the limited numbers of livestock in the six small allotments analyzed in this EA would likely have a very minor and insignificant contribution to disturbance and habitat fragmentation. Dispersed grazing also has the potential to improve sage grouse habitat (late brood-rearing and fall) by changing the composition, quantity, or quality of vegetation and litter in sage brush communities.

Water Quality

Cumulative impacts to soils and watersheds associated with livestock grazing congregations accrue over time and are additive on a landscape scale. The six allotments analyzed in this EA are all in the Bear River drainage, which is on the Section 303(d) impaired waters list. These six allotments are located in two watersheds which are contributing to the sedimentation problem in the Bear River. According to information contained in Wyoming's Integrated State Water Quality Assessment Report, habitat modifications are the major cause of the sedimentation problems in this stretch of the Bear River (Wyoming DEQ 2008). The major causes of habitat modifications are soil disturbances from the railroad, highways, OHV activity, construction of infrastructure for oil and gas developments, and residential or commercial developments in Evanston, WY. Dispersed grazing with the limited numbers of livestock in the six small allotments analyzed in this EA would likely have a very minor and insignificant contribution to sedimentation compared to the major habitat modifications occurring in the watershed. Additional habitat modification projects which could contribute to the sedimentation problem in the foreseeable future are the Gateway power transmission line and the Ruby natural gas pipeline. Appropriate mitigation and project design during site-specific analysis could minimize offsite sedimentation.

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