

# Final Summary of the Analysis of the Management Situation

## for the Wyoming Sage-grouse Resource Management Plan Amendments



### **Mission Statement**

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

**Final Summary**  
of the  
**Analysis of the Management  
Situation**  
for the  
**Wyoming Sage-Grouse Management  
Resource Management Plan  
Amendments**

for  
**Public Lands Administered  
by the**

**Bureau of Land Management  
Wyoming State Office**

**August 2011**

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# CHAPTER 1—INTRODUCTION

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## 1.1 INTRODUCTION

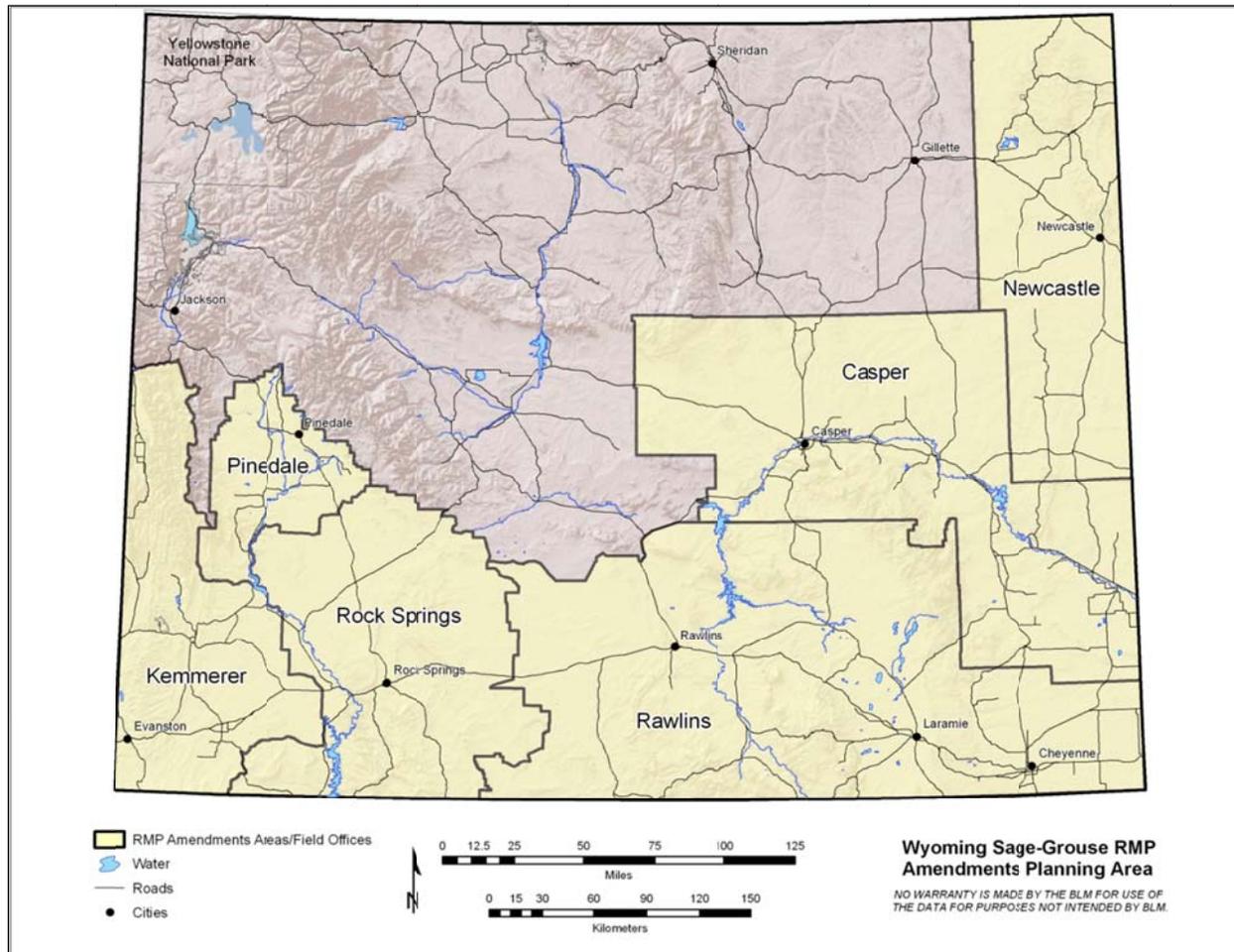
The Bureau of Land Management (BLM) Wyoming State Office has initiated a planning effort to prepare Resource Management Plan (RMP) amendments with an associated environmental impact statement (EIS) for the Casper, Green River, Kemmerer, Newcastle, Pinedale, and Rawlins RMPs. The purpose of the RMP amendments is to address needed changes in the management and conservation of greater sage-grouse habitats within the six BLM field offices to support sage-grouse population management objectives for the State of Wyoming. Amending the existing RMPs will provide consistency in managing sage-grouse habitat on BLM-administered lands in Wyoming.

The need for the RMP amendments is to address the recent “warranted, but precluded” Endangered Species Act listing decision from the United States Fish and Wildlife Service (USFWS) (75 FR 13909). The listing decision specifically discussed habitat loss and fragmentation concerns that have, along with other factors, caused continued decline in greater sage-grouse populations throughout their range. In accordance with BLM Sensitive Species Manual 6840 and responsibilities under Section 7(a)(1) of the Endangered Species Act, the BLM is mandated to utilize their authority in furtherance of the purposes of the Endangered Species Act.

The planning area for the Wyoming Sage-grouse RMP Amendments comprises the Wyoming BLM Casper, Kemmerer, Newcastle, Pinedale, Rawlins, and Rock Springs Field Offices, including all public lands and federal mineral estate managed by the BLM within these six field offices (Map 1). The planning area encompasses approximately 11 million acres of public land and 20 million acres of federal mineral estate in Albany, Carbon, Converse, Crook, Fremont, Goshen, Laramie, Lincoln, Natrona, Niobrara, Platte, Sublette, Sweetwater, Uinta, and Weston counties in Wyoming. Of the 20 million acres of federal mineral estate, approximately six million acres are split estate (BLM-administered minerals that underlie nonfederal lands). Surface ownership within the planning area is illustrated on Map 2.

Sage-grouse data collection and research efforts across Wyoming began to increase in the early 1990s due to growing concerns for sage-grouse populations and their habitats (Heath et al. 1996, 1997). Monitoring results suggest sage-grouse populations in Wyoming were at their lowest recorded levels in the mid-1990s. Between 1997 and 1999, sage-grouse numbers increased with some individual leks increasing three-fold in the number of males counted. This increase was synchronous with increased spring precipitation. Drought conditions returned in the early 2000’s, which may have led to decreases in chick production and survival, and therefore population declines. However, the population did not decline to mid-1990s levels. Improved habitat conditions, as a result of timely precipitation in 2004, are believed to have led to high chick production and survival; resulting in 2006 counts and surveys recording the highest average males per lek since 1978. A return to dry spring and summer conditions in 2006 and 2007 reduced recruitment, and the average males per lek declined in 2007 and 2008 (Wyoming Game and Fish Department [WGFD] 2008 JCR).

Map 1: Sage-grouse RMP Amendments Planning Area



## 1.2 OVERVIEW OF THE BLM PLANNING PROCESS

BLM is directed by the Federal Land Policy and Management Act of 1976 (FLPMA) to plan for and manage public lands. As defined by the Act, public lands are those federally owned lands, and any interest in lands (e.g., federally owned mineral estate), that are administered by the BLM.

The process for developing, approving, maintaining, and amending or revising RMPs was initiated under the authority of FLPMA Section 202(f). BLM's regulations under 43 Code of Federal Regulations (CFR) §1610 require BLM to use National Environmental Policy Act (NEPA) processes in preparing the plan, so the selected plan is based on informed decisionmaking and public involvement. The process is guided by BLM planning regulations in 43 CFR §1600 and the Council on Environmental Quality (CEQ) regulations in 40 CFR §1500.

The pre-planning phase of the BLM planning process consists of (1) compiling and reviewing the current laws, regulations, policies, executive orders (EO), and directives pertaining to the planning area and (2) developing State Director's guidance specific to the process and planning effort for the planning area.

The hierarchy of documents that BLM decisionmakers consider for planning and project implementation is—

- **Land Use Plans.** The highest level of decisionmaking specific to land use is the management plan. The RMP is BLM's management plan. RMPs generally make land allocations, and provide goals and objectives for managing specific areas of land. They provide the framework for managing all natural resources under BLM authority for the planning area. Plan decisions are based on a public NEPA disclosure process, usually an EIS.
- **Activity Plans.** For BLM, mid-level decisions are provided in activity plans. These plans contain more detailed management decisions than do RMPs. Activity plans address management of specific programs or areas. Examples include grazing allotment management plans (AMPs), recreation area management plans, and habitat management plans. An activity plan usually selects and applies best management practices (BMPs) to meet land use plan objectives. Decisions that cover major (often geographically widespread) proposals lead to coordinated activity plans that cover all programs in an integrated manner. Activity plans can be assessed through either an EIS or an environmental assessment (EA) level of NEPA analysis.
- **Project Plans.** BLM analyzes individual projects proposed in a specific location for localized or site-specific effects. For example, BLM would evaluate a range improvement proposal with a site-specific environmental analysis including NEPA, Endangered Species Act consultation, and National Historic Preservation Act (NHPA) consultation.

Once finalized, the Wyoming Sage-grouse RMP Amendments will prescribe land allocation and future management direction for BLM-administered land and resources within the planning area. Future BLM-permitted activities and/or projects must conform to land use plan decisions.

### 1.3 PURPOSE OF THE SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

As part of the RMP amendment process, the BLM prepares an Analysis of the Management Situation (AMS) to analyze available inventory data and other information to characterize a particular resource, portray its existing management situation, and identify management opportunities to respond to identified issues. The primary function of the AMS is to provide baseline information and data for all resource values and uses for use in developing management alternatives and other chapters of the RMP Amendment/EIS document. The AMS is part of the RMP planning process as described in 43 CFR 1600 and planning program guidance in the Land Use Planning Handbook (BLM Handbook H-1601-1).

The summary of the AMS is intended to condense data and information contained in the AMS into a user-friendly document. It is designed to give the reader an overview of the current management situation in the planning area. This Summary of the AMS provides important information regarding existing resource conditions, current management practices, and identified issues and concerns.

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## CHAPTER 2—AREA PROFILE AND CURRENT MANAGEMENT

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### 2.1 AIR QUALITY

#### 2.1.1 Overview

Regional air quality is influenced by the interaction of meteorology, climate, the magnitude and spatial distribution of local and regional air pollutant sources, and the chemical properties of emitted air pollutants, all of which can affect air quality, including visibility. Air quality and climate are the components of air resources, which include applications, activities, and management of the air resource. Therefore, the BLM must consider and analyze the potential effects of BLM-authorized activities on air resources as part of the planning and decision making process. Surface disturbing activities will be managed to prevent violation of air quality regulations.

The basic framework for controlling air pollutants in the United States (U.S.) is mandated by the 1970 Clean Air Act (CAA) and its amendments, and the 1999 Regional Haze Regulations. The CAA addresses criteria air pollutants, state and national ambient air quality standards for criteria air pollutants, and the Prevention of Significant Deterioration (PSD) program. The Regional Haze Regulations address visibility impairment in Class I national parks and wilderness areas.

The Wyoming Ambient Air Quality Standards (WAAQS) and National Ambient Air Quality Standards (NAAQS) are legally enforceable standards that set the absolute upper limits for criteria air pollutant concentrations. Concentrations above the WAAQS and NAAQS represent a risk to human health or welfare. State standards must be equally as strict as, or stricter than, federal standards. WAAQS/NAAQS have been established for the following criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>); and sulfur dioxide (SO<sub>2</sub>). PSD increments for Class I areas (wilderness areas with protected air quality status due to their pristine condition) and Class II areas (wilderness areas with protected air quality status due to their sensitive condition) have also been established. All NEPA analysis comparisons to the PSD increments are intended to evaluate a threshold of concern and do not represent a regulatory PSD Increment Consumption Analysis.

Air quality regulation in Wyoming is under the direct administration of Wyoming Department of Environmental Quality-Air Quality Division (WDEQ-AQD) and U.S. Environmental Protection Agency (EPA) Region 8. Therefore, the BLM will continue to coordinate with these agencies regarding air quality data and air quality pollution analysis within the planning area. The WDEQ-AQD determines background air quality levels. Because information collected from the nearest applicable monitoring station indicates that current concentrations comply with applicable standards, air quality in the planning area is considered good. However, current and complete data on the concentrations of criteria air pollutants for the planning area are not available. The State of Wyoming has used monitoring to determine that the region is in compliance with WAAQS and NAAQS.

#### 2.1.2 Management Issues and Concerns

Surface-disturbing activities and industrial development (particularly mineral and energy development, pipeline construction, recreation use, and off-highway vehicle [OHV] use) increase emission levels and directly, and/or indirectly, affect air quality within the planning area.

Although PSD Class I areas do not occur in the planning area, potential air quality impacts in other areas are of concern. The most important of these are wilderness areas, wilderness study areas (WSA), and non-attainment areas. Federal land managers have an affirmative duty to protect these areas from deterioration of air quality from human-caused sources.

### **2.1.3 Current Management Practices**

There are no current air quality management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## 2.2 CULTURAL RESOURCES

### 2.2.1 Overview

BLM is legally mandated to identify, evaluate, and manage cultural resources as part of its multiple-use management practices. Cultural resources include any prehistoric or historic district, site, structure, landscape and object considered important to a culture, subculture, or community for traditional, religious, scientific, or other purposes. Cultural resources include archeological resources, historic architectural and engineering resources, and traditional resources. Archeological resources are areas where prehistoric or historic activity measurably altered the earth or where deposits of physical remains (e.g., arrowheads, pottery) have been discovered. Architectural and engineering resources include standing buildings, districts, bridges, dams, and other structures of historic or aesthetic significance. Traditional resources can include archeological resources, structures, topographic features, habitats, plants, wildlife, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture. The locations of historic trails are included on Map 3.

Native American traditional resources include traditional cultural properties (TCPs) and sites of cultural concern that may not be eligible for the National Register of Historic Places (NRHP), but are identified as significant by Native American groups and may be protected under the American Indian Religious Freedom Act (AIRFA). In general, Native American traditional resources can include archeological sites; stone alignments; petroglyphs and pictographs; plant, wildlife, and lithic resource collection areas; spiritual sites; and locations that may have spiritual or cultural meanings to Native Americans. BLM communicates with Native American tribes associated with planning efforts and consults with potentially affected tribes to identify sites of cultural concern found on BLM-administered land. To protect traditional resources, the locations of such are confidential and not released to the public.

### 2.2.2 Casper Field Office

#### Overview

More than 3,500 cultural resource inventories have been conducted on BLM-administered lands in the Casper Field Office. These inventories examined less than 10 percent of the entire field office, mostly in areas where extensive oil and gas exploration and development have occurred during the past 30 years.

More than 8,000 cultural resources have been documented to date on BLM-administered lands within the Casper Field Office. Recorded cultural resources include prehistoric sites that represent human activities in the area for approximately 12,000 years prior to the beginning of the historic period in the 19<sup>th</sup> century; historic sites related to the fur trade, emigration, early settlement and ranching; communications and transportation networks; and natural resource extraction industries. Historic sites include trails that were associated with overland migration, frontier military activities, and early transportation and communications. BLM lands in the Casper Field Office contain about 22.5 miles of congressionally-designated National Historic Trails (Oregon, California, Mormon Pioneer, and Pony Express trails). The field office also includes segments of other historic trails, roads, and railroad lines. One TCP, the Cedar Ridge Site, has been identified in the field office.

#### Current Management Practices

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

There are no management issues or concerns identified for cultural resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.2.3 Kemmerer Field Office

#### Overview

More than 4,400 cultural resource surveys have been conducted on BLM-administered lands in the Kemmerer Field Office. These inventories examined only about 10 percent of the entire field office, predominantly in the central portion of the field office, where extensive oil and gas exploration and development have occurred during the past 30 years. Most cultural resource inventories and site evaluations within the Kemmerer Field Office are in direct response to a specific land use proposal.

More than 8,000 cultural resources have been documented to date on BLM-administered lands within the Kemmerer Field Office. Approximately 84 percent of the recorded cultural resources are prehistoric sites that represent human activities in the area for approximately 12,000 years prior to the beginning of the historic period in the 19<sup>th</sup> century. The remaining 16 percent of recorded cultural resources are historic sites related to the fur trade, emigration, early settlement and ranching, communications and transportation networks, and natural resource extraction industries. Historic sites include trails that were associated with overland emigration, frontier military activities, early transportation and communications, and early oil field industrial sites in Wyoming. More than 400 miles of designated National Historic Trails pass through the Kemmerer Field Office, and over 200 miles of these trails cross BLM lands including the primary route of the Oregon-California Trail, Mormon Trail, Pony Express Route, Slate Creek Cutoff, Dempsey-Hockaday Trail, Sublette Cutoff, and Lander Road. These trails are protected based on their physical condition and related viewshed. TCPs have not been identified on BLM lands within the Kemmerer Field Office.

#### Current Management Practices

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

Class III cultural surveys are required prior to authorizing any proposed surface disturbing activities. The potential exists for surveys that are conducted during sensitive timeframes for sage-grouse to disrupt birds during critical periods.

### 2.2.4 Newcastle Field Office

#### Overview

Cultural resources in the Newcastle Field Office span at least 12,000 years of prehistory, a short protohistoric period of about 200 years, and an even shorter historic period. Remains from all periods are found throughout the field office. Through December 1989, approximately 500 historic sites have been recorded in the Newcastle Field Office. Because a Class I overview of historic period resources has never been conducted in the Newcastle area, the number of cultural sites and their significance is not known.

A total of 1,656 prehistoric sites were on record for the field office at the end of 1989. The kinds of prehistoric sites known to occur in the field office include occupations and campsites, tipi rings, quarries, lithic workshops, rock art, kill and processing sites, rock shelters, hunting camps, overlooks, vegetable processing camps, and burials. Of the 1,656 prehistoric sites in the area, 866 (52%) lack evaluations, 230 (14%) are designated as eligible for the NRHP, and 560 (34%) are considered not eligible. The evaluations for many of these sites are based on inadequate data and may not be reliable. No prehistoric or historic sites on BLM-administered lands in the field office are listed on the NRHP. Two sites have been nominated for the NRHP, but the nominations were returned by the Keeper of the Register because inventory data were inadequate. During a seven-year period (fiscal years 1983 through 1989) for which data are available, a total of 32,541 acres were surveyed for BLM-administered projects. This area represents 1.5 percent of the combined BLM-administered surface and federal mineral estate in the field office.

## Current Management Practices

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

There are no management issues or concerns identified for cultural resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.2.5 Pinedale Field Office

#### Overview

The Pinedale Field Office contains a diverse range of cultural resources. Cultural resources are not distributed evenly across the field office. Different areas contain different densities, types, and sensitivities of sites as a function of the differences of geographic location, topographic and ecological context, and other factors. TRC Mariah Associates (2006) defined 15 cultural resource subregions to more adequately characterize the nature and sensitivity of the resource base within different portions of the field office. They are the Anticline South, Bench Corral, Deer Hills, Jonah, LaBarge Uplift, River-related, Ryegrass, South Desert, South LaBarge/Miller Mountain, Square Top, The Mesa, Trappers Point/Cora Butte, Upper Green/Beaver Ridge, Wind River Front, and Wyoming Range Front subregions.

A variety of classes of prehistoric archeological remains are represented in the field office. Locations containing one or more cultural features such as fire pits, remains of structures, stone alignments, and/or two or more artifacts, typically are classified as archeological sites, whereas individual artifacts scattered across the landscape typically are recorded as isolates. Different site types typically are defined by the types of remains that they contain and/or the topographic contexts in which they occur, both of which may be indicative of different prehistoric uses, different prehistoric time periods, or a variety of other factors. They range in size, complexity, and sensitivity from large complexes covering many acres and containing dense, diverse, and sensitive remains to a couple of individual surface artifacts.

Cultural resources within the field office that are considered sensitive and potentially sacred to modern Native American tribes include burials, rock art, rock features and alignments (such as stone circles, cairns, and medicine wheels), trails, and certain religiously significant natural landscapes and features. These resources may be formally designated as TCPs. Other sites may be considered sacred, sensitive, or of importance (e.g., collecting areas) to modern Native Americans. TCPs are recognized as places rooted in a tribe's history or are important in maintaining the continuing cultural identity of a tribe, and

therefore, they meet the criteria for NRHP eligibility. Ceremonial areas used by Native American practitioners are one class of locales that may qualify as a TCP. Native American groups consider several areas within the field office as qualifying as TCPs. At least 10 prehistoric/Native American burial sites, mostly of single individuals, are known in the Upper Green River Basin region. Both scaffold burials and shallow pit burials have been reported in the field office.

Prehistoric sites can have scientific, conservation, and traditional values and uses. The time period, location, integrity, and structure of a particular site influence the degree of its scientific value. For the same reasons that these sites have high scientific values, they can also have high conservation values. Conservation of prehistoric archeological sites also may result in better determination of areas of traditional cultural importance to affiliated tribes or TCPs. TCPs that manifest as prehistoric archeological sites may include petroglyphs, select rock alignment sites, vision quest sites, archeological ancestral sites, gathering and procurement areas, human burial areas, or places that hold sacred or religious importance to the affiliated tribe or tribes. Sacred significance is placed on or is derived from ideological beliefs about the residing of human spirits in given locations. EO 13007, *Indian Sacred Sites*, directs federal agencies to avoid adversely affecting the physical integrity of sacred sites to the extent practicable. As detailed below, BLM consults with all Native American tribes that have aboriginal territories within or cultural affiliation with the field office as part of the Sections 106 and 110 processes to identify places of traditional cultural and sacred significance and determine potential impacts that could adversely affect areas within a proposed project area.

Native American consultation has resulted in a tribal desire to preserve the physical integrity of TCPs as much as possible. Native Americans stress the interrelatedness of many of these locales and emphasize that BLM should consider them more holistically, as cultural landscapes. Frequently, the disturbances resulting from energy development, especially those associated with wildcat exploration in previously undeveloped areas, create direct conflict with the tribal position of preserving unspoiled cultural landscapes associated with TCPs and other sites and locales considered sensitive, sacred, or of concern to modern day traditional Native American practitioners.

Prehistoric rock art sites include petroglyphs, which are inscriptions incised, carved, or pecked onto a rock surface (usually sandstone), and pictographs, which are images painted onto a rock surface. The field office has both types of rock art. Rock art sites are extremely fragile and, unfortunately, highly susceptible to vandalism. To protect rock art sites, their locations are kept confidential. (Sites 48SU1863 and 48SU4112 are two such sites.) Because disturbance near rock art sites is also of concern to Native Americans, activities near such sites usually trigger Native American consultation.

Within the field office, congressionally designated historic trails include portions of the Sublette Cutoff and Lander Road/Trail, both components of the Oregon/California National Historic Trails system. Protection of the National Historic Trails in the field office involves coordination with the National Park Service (NPS), which operates in an oversight capacity for these trails under the National Trails System Act. Management of these trails is augmented by the Comprehensive Management and Use Plan for the California, Pony Express, Oregon, and Mormon Pioneer National Historic Trails prepared by the NPS in 1999. Although many protection measures are in place, development activities (e.g., roads, pipelines, and power lines) can cross trails in areas where the trail has lost its NRHP characteristics and would no longer be considered a contributing segment to the trail because previous disturbance has occurred.

Historic sites, which are defined as sites 50 years or older, include fur trade/rendezvous-related sites; historic trails and related campsites, river crossings, graves, and inscription sites; homestead remains, cabins, barns, other outbuildings and ranching materials, and stock maintenance camps; early oil- and gas-related sites and artifacts; mines; timber-industry-related sites; and artifacts, roads, and trails. Many historic sites are highly visible, such as cabins and historic inscriptions. As highly visible sites, they are

subject to vandalism, but several methods can be used to protect these sites. In addition, the architectural elements for some of these sites (walls, floors, etc.) are also subject to weathering and deterioration. When time and money allow, efforts are made to stabilize such sites. Efforts are made to balance development and preservation and to determine a means of protecting them from human and natural harm, except in the Scab Creek and Lake Mountain WSA. The known historic cabins in the Scab Creek WSA are decaying naturally. The cabins need to be evaluated for NRHP eligibility and can be further managed by BLM. BLM's Interim Management Policy (IMP) in WSAs indicates that such resources can be further rehabilitated, stabilized, or restored as long as BLM's non-impairment criteria are met.

### **Current Management Practices**

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

Existing cultural resource concerns in the Pinedale Field Office involve prehistoric archeological sites, TCPs, rock art, trails, and other places or properties considered sensitive to Native Americans.

## **2.2.6 Rawlins Field Office**

### **Overview**

Archeological investigations in the Rawlins Field Office indicate that prehistoric people have inhabited the field office for at least 12,000 years, from Paleoindian occupation to the present. Although prehistoric sites represent the largest percentage of cultural resource sites within the field office, historic-age sites including expansion-era trails, freight roads, and stage stations are common throughout the field office.

As of December 2005, approximately 18,839 cultural resource sites had been documented. These sites include prehistoric and protohistoric archeological sites, historic sites, linear historic sites, and properties that are sacred to Native American cultures (e.g., TCPs). The majority of cultural resource sites have been documented during compliance-related activities resulting from federal management actions. The largest number of federal management actions within the Rawlins Field Office is related to oil and gas development, which is centered in the western portion of the field office.

The entire field office is within the larger Northwestern Plains cultural area (Frison 1991). Prehistoric sites throughout the field office exhibit numerous similarities with respect to artifact assemblages, feature types, and function, but can also exhibit differences based on ecological setting and cultural influences from surrounding regions. The field office has been segmented geographically into 14 subregions. These subregions are identified by geographic features and allow for a better understanding of how prehistoric inhabitants used the greater region.

### **Current Management Practices**

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for cultural resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.2.7 Rock Springs Field Office

### Overview

The Rock Springs Field Office straddles a section of Wyoming with the demonstrably highest densities of archaeological sites and districts in the State. Known cultural resources number in the tens of thousands, despite the low percentage of lands inventoried to a Class III level. Historic sites, prehistoric sites, and TCPs are widespread throughout the field office. The areas managed by the field office also contain more linear miles of contributing National Historic Trails, National Historic Trail candidates, and historical wagon roads than any other field office in Wyoming. Tribes have identified a host of important cultural sites and landscapes important to the survival of their cultures and life ways. One of these sites, the White Mountain Petroglyphs, has become a major tourist attraction, attracting more people annually than the BLM Trail Interpretive Center in Casper. Important historic resources such as the South Pass National Historic Landmark draw thousands of visitors each season.

Conditions have remained stable for cultural resources identified through compliance activities associated with Section 106 of the NHPA and the State Protocol Agreement between the Wyoming BLM and the Wyoming State Historic Preservation Office (SHPO). The number of proposed, large-scale ground disturbing projects (i.e. renewable energy, oil and gas, coal) in the field office has increased greatly over the past decade. With increased development, an increase in the number of adverse impacts to cultural resources has occurred. While these adverse effects are being properly mitigated through compliance with the NHPA, the overall impact to cultural resources has resulted in a net loss of the numbers of intact significant resources for future generations, thereby making the surviving resources more valuable.

### Current Management Practices

There are no current cultural resource management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

Trails and their settings are being rapidly impacted due to development. Large scale renewable energy projects (i.e., wind energy development) that dominate the landscape have the potential to compromise the historic setting of important trails over a large area.

Cultural resources are suffering a downward trend in condition for those resources that are not associated with formal surface disturbing proposals. Illegal removal of artifacts, recreational activity (e.g., OHV use), limited available law enforcement, intensive grazing practices, time, weather, wildfires, and neglect all contribute to the downward trend.

Based on current management practices, the potential for illegal removal of, or damage to, cultural resources will likely increase. This is due to projected increases in recreational access to more remote areas, commercial activities throughout the field office, and limited law enforcement presence.

## **2.3 FORESTRY**

### **2.3.1 Overview**

The condition or health of forest stands varies by location. Some of the BLM field offices support forest and woodland ecosystems that provide multiple benefits and uses (personal and commercial). Woodland species include limber pine, Rocky Mountain juniper, and quaking aspen. Woodland species are occasionally used for firewood and decorative or hobby applications, but are not important commercially. Ponderosa pine and lodgepole pine are the major commercial timber species. Douglas fir and subalpine fir also occur, but are not commercially important.

The general absence of large fires over the past 80 years has made forests more susceptible to disease, such as dwarf mistletoe, mountain pine beetle infestations, and newly introduced diseases such as white pine blister rust. This has increased the mortality rate and the amount of dead standing timber in federal forests. In addition, species such as lodgepole pine have not experienced the natural regenerative properties of fire. Conifers are encroaching on aspen stands, limiting aspen regeneration. Along with conifer encroachment, disease and insect damage are also playing a major role in the increasing mortality rate of older mature aspen clones. There has also been a decline in timber harvesting over the past decade, allowing for additional buildup of overall biomass.

### **2.3.2 Casper Field Office**

#### **Overview**

The Casper Field Office administers approximately 61,000 acres of forest and woodland communities. Approximately 8,000 acres of the forestland is identified as commercial timberland, and the remaining 26,000 acres is identified as non-commercial timberland. Most of the commercial timberlands are located in Natrona and Converse counties. Ponderosa pine and lodgepole pine are the major commercial species. Douglas fir, subalpine fir, and quaking aspen also occur but are not commercially important. Woodland species include limber pine, Rocky Mountain juniper, and quaking aspen.

#### **Current Management Practices**

Woodland encroachment is treated in grassland, sagebrush, aspen, and other vegetative communities where it is determined to be detrimental to other resource values or uses.

#### **Management Issues and Concerns**

There are no management issues or concerns identified for forestry resources as part of the Sage-grouse RMP Amendments planning effort.

### **2.3.3 Kemmerer Field Office**

#### **Overview**

The Kemmerer Field Office administers 22,008 acres of forestland and approximately 15,000 acres of woodland. Forestlands are comprised of lodgepole pine, Douglas fir, and subalpine fir. Woodlands include quaking aspen, Rocky Mountain juniper, and Utah juniper. Sawtimber-sized trees are found on approximately 56 percent of the forestlands (BLM 1982). The 19,000 acres of forestland available for

forest management contain approximately 7,000 acres of mature sawtimber, with a full average annual allowable sale quantity of 600 thousand board feet (MBF).

Since 1984, about 8 million board feet (MMBF) of sawtimber has been harvested from 500 acres of lodgepole pine forestlands throughout the Kemmerer Field Office. All of these forestlands have successfully regenerated, and approximately 350 acres are ready for pre-commercial thinning to optimize growing conditions. Approximately 250 cords of fuelwood, 50 Christmas trees, and 1,000 post and poles are sold annually from forestland within the Kemmerer Field Office. Virtually no forest products are harvested from the aspen and juniper woodlands (Schiche 2003).

Mountain Pine Beetles are present and causing mortality throughout the entire range of forest lands with epidemic levels in various locations including the Commissary Ridge, Dempsey Ridge, and Uinta North Slope areas.

### **Current Management Practices**

There are no current forest management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

The following management issues and concerns have been identified for forest, grassland, and shrubland communities:

- Loss of historical wildlife habitat (particularly sage-grouse), may limit opportunities for future vegetation treatments
- Limit vegetation disturbance and treatments to protect habitat for special status species (such as sage-grouse)
- Improve livestock grazing management and implement rotational grazing systems to improve sage-grouse habitat
- Identify and implement appropriate mitigation strategies for sage-grouse when vegetation is disturbed for energy development or other significant activities
- Require successful reclamation of sites disturbed for energy development.

## **2.3.4 Newcastle Field Office**

### **Overview**

Commercial forestlands are defined as being capable of producing at least 20 cubic feet (CF) of growth per acre per year of a tree species suitable for commercial wood products. Noncommercial forestland is land that has less than 20 CF of growth per acre per year or is capable of growing only noncommercial tree species. An inventory of the forested land within the Newcastle Field Office was completed in 1980. From the analysis of this inventory, eight percent of the field office (25,300 acres) is classified as forestlands. Within the forestlands, 62 percent (15,800 acres) is classified as commercial, and the remaining 38 percent (8,693 acres) is classified as nonproductive. On the commercial forestlands, the seedlings/saplings class accounts for two percent (374 acres), the pole class accounts for 29 percent (4,686 acres), while the remaining 69 percent (10,747 acres) is sawtimber.

Forested public lands are concentrated along the Wyoming/South Dakota state line in Weston and Crook counties. Small, isolated, scattered tracts of public forestlands intermixed with private land are along the west and northwestern portion of the Black Hills in Crook County. In the Hat Creek Breaks and the German Hills areas in Niobrara County, small tracts of forested public lands occur. Ponderosa pine is the primary commercial sawtimber species found in the field office. Noncommercial species that may be found in association with ponderosa pine include Rocky Mountain juniper, paper birch, bur oak, plains cottonwood, and quaking aspen.

The 25,300 acres of forestland are classified to one of four forest management categories:

- **Lands available for intensive management of forest products** are areas where forest management is the primary use and where other resource uses or values occur but are not emphasized (0 acres).
- **Lands available for restricted management of forest products** are areas where multiple use or other resource values are emphasized, but timber harvest occurs (15,800 acres).
- **Lands where the forest management is for the enhancement of other uses** are areas where forest management activities are specifically for the benefit of other identified resource uses or values (9,083 acres).
- **Forestlands not available for management of forest products** are areas where no forest management is planned (417 acres).

During the past decade, approximately 600 acres (10%) of the commercial forest acres have been harvested using two- or three-cut shelterwood harvest, commercial, and precommercial thinning. This is the accepted silvicultural practice in harvesting ponderosa pine. The harvest of trees is done with rubber-tired skidders or whole tree mechanical harvesters. The major wood product users in the field office include sawmills located in Newcastle and Hulett, Wyoming and Spearfish, South Dakota. These mills receive most of their supply of timber from the Black Hills National Forest with the remaining supply coming from private, state, and BLM-administered public lands.

Minor forest products (fuelwood, post and poles, and Christmas trees) are sold on a public demand basis. The demand for these forest products in the past has been low to nonexistent and has been met by the Forest Service (USFS) or private landowners.

## Current Management Practices

There are no current forest management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

There are no management issues or concerns identified for forestry resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.3.5 Pinedale Field Office

### Overview

The planning area contains approximately 31,590 acres of forestland and an additional 15,280 acres of woodland for total forest acreage of 46,870. The forestlands have commercial conifer tree species that are in economic demand for milling into salable lumber and that could be managed for sustained yield. The commercial conifer species include lodgepole pine, Douglas fir, Engelmann spruce, and subalpine fir. Forestlands also include nonstocked areas that have supported or are capable of supporting one or more of the commercial conifer tree species. The primary woodland species are aspen and limber pine.

The average annual historical harvest of forest products within the planning area is as follows:

- Years 1995–1999
  - Timber sales: 495 MBF or 990 hundred CF (CCF), covering 105 acres
- Years 1998–2006
  - Christmas trees: 312
  - Wildings: 4
  - Firewood: 20 CCF
  - Posts and poles: 6 CCF
  - Personal Use saw timber: 400 board feet (BF) or 80 CF.

Much of the forest acreage is concentrated along the northern, eastern, and western boundaries of the planning area and occurs on north and east slopes as narrow, stringer-like stands that originate from larger blocks of timber at higher elevation on USFS lands. For analysis purposes, the area has been divided into four individual management units:

- The Deadline-Pinegrove Unit, which lies between South Piney Creek and LaBarge Creek, includes the Graphite elk winter range, Riley Ridge elk winter range, and Rock Creek Area of Critical Environmental Concern (ACEC). The unit contains an estimated 13,448 acres of forestland and 3,510 woodland acres, of which 1,322 acres of forestland and 180 woodland acres are in the Rock Creek drainage, 2,117 acres of forestland and 840 woodland acres are in the Graphite winter range, and 1,028 acres of forestland and 153 woodland acres are in the Riley Ridge winter range.
- The North Piney Unit, which lies between the Maki Creek drainage and South Piney Creek, includes two elk feed grounds: Finnegan and North Piney. The unit contains approximately 5,158 acres of forestland and 4,451 woodland acres, of which 708 acres of forestland and 354 woodland acres are in the feed grounds.
- The Miller Mountain Unit, which lies between LaBarge Creek and Fontenelle Creek, includes the Fort Hill-Fontenelle elk winter range. The unit contains 8,191 forested acres (4,241 acres of forestland and 3,950 acres of woodland), of which 277 acres of forestland and 145 woodland acres are in the elk winter range. In addition to the forest resource, the Miller Mountain Unit provides yearlong habitat for 200 to 400 elk.
- The Eastside-Hoback Unit consists of scattered parcels and blocks of forested land along the eastern and northern boundaries of the planning area. The unit contains the Scab Creek area and the Franz elk feed ground. The unit is composed of 8,743 acres of forestland and 3,369 woodland

acres. The Franz feeding ground has roughly 127 acres of trees (75 acres of forestland and 52 acres of woodland). The Scab Creek area has 184 acres of forestland and 271 woodland acres.

Conditions of the forestlands vary from young, healthy, relatively insect- and disease-free stands to those that are quite old with high levels of insect and disease activity and high mortality rates. Most forestland stands in the planning area are starting to exhibit a reduction in vigor and growth and increases in disease and insect susceptibility are resulting in mortality. Inventory data indicate that current mortality rates vary from zero volume loss in young seedling and sapling stands to 18.4 CF per acre per year in the spruce-fir saw timber stands. The average mortality rate for all stands is approximately 7.7 CF per acre per year or a total yearly loss level of nearly 1.64 MMBF. About 98 percent (1.61 MMBF) of the mortality is commercial conifers. Primary insects or diseases include bark beetles, dwarf mistletoe, root diseases, and several varieties of rusts.

Analyses of the Stage II inventory data in the 2005 Wyoming BLM Forest and Woodland Management Action Plan using the Fire Regime and Condition Class guidelines show that 7,900 acres of the forested lands are in Condition Class 1; 20,500 acres are in Condition Class 2; and 3,200 acres are in Condition Class 3. Condition Class 1 considers that the vegetation and fuel conditions are within the natural range of variability that occurred under the natural fire regime with all the ecological components intact. Condition Classes 2 and 3 are uncharacteristic moderate to high departures from the reference condition and components of the natural vegetation may be or are at risk for loss from the ecosystem in the event of a disturbance.

## Current Management Practices

Restoration of aspen stands will be emphasized through removing/reducing conifer and/or sagebrush invasion. Prescribed fire and overstory removal of dead and dying aspen will be used to rejuvenate and expand these stands so that watershed and wildlife habitat are improved and natural fire breaks are created within the landscape. Prescribed or wildland fire could be used to achieve vegetation alteration in WSAs. Mechanical surface disturbing activities are prohibited and no forest products will be removed from WSAs. In addition, up to 700 acres of woodlands could undergo vegetation treatment per year.

## Management Issues and Concerns

There are no management issues or concerns identified for forestry resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.3.6 Rawlins Field Office

#### Overview

Forested areas within the Rawlins Field Office are mainly located within several mountainous areas: Shirley Mountain, located in the north-central part of the field office; Elk Mountain, located in the south-central part of the field office; Ferris Mountains WSA, located in the north-central part of the field office; Seminoe Mountain; Bennett Mountain; Powder Rim; and the Laramie Peaks area. There are also a number of forested areas on the fringe of the national forest boundaries. The total acreage of forested land managed by BLM within the field office is 196,934 acres, or approximately one percent of the total land surface within the field office. The majority of commercial timber in the Rawlins Field Office is located within the Shirley Mountain and Elk Mountain areas.

The condition or health of forest stands varies by location. The general absence of large fires over the past 80 years has made forests more susceptible to disease such as dwarf mistletoe, mountain pine beetle

infestations, and newly introduced diseases, such as white pine blister rust, which has increased the mortality rate and the amount of dead standing timber in federal forests. In addition, species such as lodgepole pine have not experienced the natural regenerative properties of fire. Conifers are encroaching on aspen stands, limiting aspen regeneration. Along with conifer encroachment, disease and insect damage are also playing a major role in the increasing mortality rate of older mature aspen clones. There has also been a decline in timber harvesting over the past decade, allowing for additional buildup of overall biomass.

### **Current Management Practices**

There are no current forest management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for forestry resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.3.7 Rock Springs Field Office**

### **Overview**

The Rock Springs Field Office contains about 7,900 acres of commercial forest land. Total estimated standing volume is 13,972,439 CF or 62,875,974 BF of trees that are five inches diameter breast height or larger. Sawtimber accounts for 4,037 acres or 51 percent of the total commercial forest land. This timber type is mature to over mature. Many of these stands are decadent and exhibit considerable mortality. Lack of past management actions has resulted in unhealthy stand conditions. Pole timber accounts for 3,549 acres and many of these stands are as old as the sawtimber stands. However, these trees are smaller in size because of over stocking and resulting growth stagnation. The 357 acres of seedlings/saplings is a result of past harvest activities or previous burns.

### **Current Management Practices**

Approximately 1,436 acres of commercial timber within big game winter ranges are closed to logging activity, usually from November 15 to April 30. If the logging unit encompasses big game parturition habitats, the area is closed to timber harvest activities usually from May 1 through June 30. Logging activity within grouse nesting sites and raptor nesting sites is prohibited from February 1 to July 31.

Woodland forest acreage will be maintained. Treatments may be implemented that influence successional stages, but such treatments will not permanently convert the areas to another vegetation type.

### **Management Issues and Concerns**

Issues to be addressed for forest management include determining the current management levels that are to be maintained and enhanced to promote the health, productivity, and biological diversity of forest and woodland ecosystems. Future planning must also create a balance of forest resource benefits and uses (personal and commercial). Various levels of management practices and harvesting will need to be determined and monitored to assure sustainability while providing both commercial and personal opportunities.

## 2.4 LANDS AND REALTY

### 2.4.1 Overview

The BLM Lands and Realty Program includes rights-of-way (ROW) and corridor management, land acquisition and disposal, easement acquisition, withdrawals, land use authorizations, and trespass identification and abatement. ROW and corridor management includes a broad range of projects, such as pipelines, utilities, and roads. The land acquisition and disposal activities include exchanges, purchases, sales, donations, and condemnations. Withdrawals are formal actions that set aside, withhold, or reserve federal lands for specific public purposes. These public purposes may include military reservations, administrative sites, National Parks, National Forests, reclamation projects, recreation sites, and stock and power site reserves. The Recreation and Public Purposes Act allows for communities or others to obtain leases and patents for public land for such uses as parks or other recreation sites.

BLM-administered lands are used for a wide variety of purposes and conflict among competing uses is common. The FLPMA is the primary statute governing management of public lands and the primary authority for activities within the lands program. The Mineral Leasing Act is the authority for oil and gas pipeline projects. Generally, RMP decisions cover all BLM-managed federal surface lands and federal mineral estate.

Resources and uses of the land are diverse, ranging from oil and gas development to grazing, wildlife habitat, and recreation. The current land use environment is characterized by an increase in oil and gas development and private and urban development. The expected increase in oil and gas production, as well as the potential for development of alternative energy sources, such as wind energy, is likely to have a greater impact on land distribution and use in the near future. Changes in the ownership of surrounding private land also have an impact on the development of public lands. The most important characteristic of such ownership changes may be the resultant fragmentation and isolation of segregated parcels of public land.

### 2.4.2 Casper Field Office

#### Overview

Within the Casper Field Office, the lands and realty program objectives are to manage the public lands to support goals and objectives of other resource programs, respond to public requests for land use authorizations, and acquire administrative and public access where necessary.

Leases, permits, and easements under FLPMA are also issued to authorize uses of public land ranging from long-term (leases) to a few days (filming permits). Although the Casper Field Office currently has no leases or easements under this section of FLPMA, there have been permits in the past and there are likely to be permits in the future.

ROWs are granted on a case-by-case basis, and the majority of those granted over the past 20 years have been for oil and gas gathering systems, power lines, and roads. ROWs are authorized to meet public or commercial demands. The preferred method of land disposal is by exchange.

#### Current Management Practices

There are 224,834 acres of public lands identified as potentially suitable for disposal. At the implementation stage, site-specific analysis with public participation will be conducted. Based on the

analysis and public comments received, a determination will be made on whether disposal of the parcel is in the public's best interest. If it is not in the public's best interest, the parcel will be retained in public ownership.

Renewable wind energy development is allowed in areas identified as having outstanding/superb potential (power classes 6 and 7) or fair/good/excellent potential (power classes 3, 4, and 5). These areas are estimated to contain 1,145,597 acres of public surface. Solar energy development will be evaluated on a case-by-case basis.

Avoidance and exclusion areas include the areas identified as necessary for the protection of specific resource values or uses. Avoidance and exclusion areas for ROWs contain 539,799 and 442,040 acres of public land, respectively. Avoidance and exclusion areas for renewable wind energy development contain 458,006 and 363,578 acres of public surface, respectively.

## Management Issues and Concerns

Land disposals and acquisitions could provide improved access and manageability of public lands. Scattered small parcels are difficult to manage. Acquisitions of parcels that can provide access to large blocks of public land or to public land with unique resources are desirable. Land exchanges have been used to acquire and protect lands adjoining high-value public lands.

Increases in population and mineral development will result in the need for additional ROW for utilities to support community and industrial infrastructures. Telecommunications technology is resulting in expansion of telephone and fiber optic systems and wireless communication sites to provide optimum coverage.

### 2.4.3 Kemmerer Field Office

#### Overview

The Kemmerer Field Office contains approximately 1.5 million acres of private land, 840,000 acres of other federal (Bureau of Reclamation [BOR], USFWS, USFS, and NPS) land, 155,000 acres of state land, and 1.4 million acres of BLM-administered surface land.

ROW activities and access efforts include a broad range of projects, such as pipelines, utilities, and roads. The land acquisition and disposal activities include exchanges, purchases, donations, and land sales. Withdrawals are formal actions that set aside, withhold, or reserve federal lands for public purposes. These public purposes may include military reservations, administrative sites, national parks, national forests, reclamation projects, recreation sites, and stock and power site reserves.

ROWs are granted on a case-by-case basis and the majority of those granted over the past 20 years have been for oil and gas gathering systems, power lines, and roads. Historically, most pipeline ROWs within the field office are buried. The preferred method of land disposal is exchange.

#### Current Management Practices

The field office conducts reviews of withdrawals, and determines whether the withdrawal is still necessary. Only lands that will enhance multiple-use management and protection of nationally significant resource values and do not create a liability or burdensome management cost to the BLM will be considered for revocation. New withdrawals will be considered as the need arises. New requests will be

processed for protection of resources prior to lifting existing withdrawals when those withdrawals are in the same location. Areas that contain withdrawal conflicts will be handled on a case-by-case basis.

At the implementation stage, site-specific analysis with public participation would be conducted. Based on the analysis and public comments received, a determination will be made on whether disposal of the parcel is in the public's best interest. If it is not in the public's best interest, the parcel will be retained in public ownership.

Lands identified for potential disposal (35,500 acres) and additional parcels will be considered on a case-by-case basis. Lands identified for disposal under Sections 203 and 206 of the FLPMA and identified as such in this plan are hereby classified for disposal under Section 7 of the Taylor Grazing Act of 1934, as amended (43 USC 315f).

Designate utility corridors based on use (i.e., power lines, pipelines, and fiber optic lines).

Preferred utility corridors are two miles wide (width is determined based on resource values) and designated as follows, but variances are allowed based on application where conflicts with other resources are minimal or can be mitigated through resource-specific stipulations:

- New intrastate pipeline authorizations are established linking the Jonah Gas/Pinedale Anticline fields to existing plant sites in the field office. New interstate pipeline authorizations are to follow the existing California and Pacific Coast States pipelines (Kern River/Colorado Interstate Gas corridor and the Ignacius/Sumas pipelines west to Muddy Creek Compressor area).
- Gathering pipelines for individual wells, usually six inches or less in diameter, are to follow access roads associated with well pads.
- High-voltage power line corridors are established north of, and parallel to, I-80 and along Wyoming SH 89 from the junction of I-80 and the Wyoming state line.
- Fiber optic and low-voltage power line corridors are to be located along currently established road systems (e.g., interstate or state highways and paved county roads).

The federal lands within the boundary of the following archeological sites are exclusion areas to ROW placement:

- Emigrant Spring/Slate Creek (87 acres)
- Emigrant Spring/Dempsey (11 acres)
- Johnston Scout Rock (2 acres)
- Alfred Corum and Nancy Hill emigrant gravesites (0.5 acre)
- Pine Grove emigrant camp (14 acres)
- Rocky Gap trail landmark (15 acres)
- Bear River Divide trail landmark (3 acres).

Consider communication sites by type in the following designated areas: Aspen Mountain, Boulder Ridge, Carter Creek, Cokeville Ridge, Fontenelle, Granger, Kemmerer Site, Medicine Butte, Quealy Peak, Robertson, Thomas Fork, Waterfall, Big Hill, Butcher Knife, Church Buttes, Dempsey Ridge, Fossil Ridge, Hickey Mountain, Leroy, Pine Knoll, Road Hollow, Sage Junction, and Twin Butte/Nugget.

Renewable energy projects (other than wind energy) will be considered throughout the field office on a case-by-case basis.

The Kemmerer Field Office is available for consideration of wind energy projects where conflicts with other resource values are limited or can be mitigated. The following portions of the field office are unavailable for wind energy development projects:

- Raymond Mountain WSA (32,808)
- Emigrant Spring/Slate Creek (87 acres)
- Bear River Divide management area (74,954 acres)
- Emigrant Spring/Dempsey (11 acres)
- Rock Creek/Tunp management area (45,863 acres)
- Johnston Scout Rock (2 acres)
- Bridger Butte ACEC (727 acres)
- Rocky Gap trail landmark (15 acres)
- Bridger Antelope Trap (640 acres)
- Pine Grove emigrant camp (14 acres)
- Bear River Divide trail landmark (3 acres)
- Alfred Corum and Nancy Hill emigrant gravesites (0.5 acre)
- Within the restricted zones for surface disturbance around National Historic Trails.

Available portions of the field office are recommended for wind energy development due to reduced resource conflicts. Wind energy development is preferred in the following areas: the public lands west of U.S. Highway 30 to the Wyoming/Idaho state line (also known as Boundary Ridge); the public land south and east of U.S. Highway 189 (excluding Oyster Ridge) to the checkerboard land pattern; the checkerboard lands (excluding the federal section that contains the Bridger Antelope Trap, the federal sections within three miles of the Bridger Antelope Trap, and the federal sections in which the Class 1 National Historic Trail segments exist); the blocked BLM-administered lands north of I-80 and west of SH 412; the BLM-administered lands south of I-80 and east of SH 412/414 outside of the checkerboard; the blocked BLM-administered lands outside of a corridor extending approximately three miles southwest of SH 414 to a corridor extending three miles southeast of SH 410/County Road 283 (780,714 acres of BLM-administered surface).

## Management Issues and Concerns

Management issues and concerns include the following:

- Conflicts with land tenure adjustments (disposal) and sage-grouse key habitat areas
- Conflicts with overhead power line ROWs and sage-grouse key habitat areas
- Conflicts with wind energy development areas identified in the 2010 RMP and sage-grouse key habitat areas
- Potential acquisition of sage-grouse key habitat areas.

### 2.4.4 Newcastle Field Office

#### Overview

The Newcastle Field Office is comprised of approximately five million acres in Crook, Niobrara, and Weston counties. The BLM administers about 291,000 acres (60%) of federal surface underlain by federal minerals. The BLM also administers 1.4 million acres of split estate (nonfederal surface underlain by

federal minerals). The public lands in the field office consist primarily of small, isolated tracts. There are few areas of concentrated public lands. Of the public lands in the field office, 60 percent have legal access although only 38 percent have practical legal vehicle access.

Land disposals in the field office have been completed for both exchanges and sales. There were 13 land sales, totaling 616 acres, from 1985 through 1989. There were three land exchanges, totaling 2,016 acres, from 1985 through 1990. Local demand for land disposal actions has been low because of high market value, processing timeframes, lower workload priority, and lack of funding for processing small parcels (1 to 120 acres) of public land. If these current practices continue, the demand for disposal actions would not be expected to increase significantly.

All public lands, except some withdrawals and the Whoopup Canyon ACEC, have been available for ROWs and temporary use permits. There are 317 ROWs and two temporary use permits affecting approximately 4,000 acres of public lands in the field office. The majority of ROWs are granted for access roads, pipelines, and electrical distribution lines associated with oil and gas wells and production facilities. These ROWs may be temporary (six months to two years) for wells that are dry holes or used for an extended period (more than two years) when wells produce oil or gas.

The number of ROWs granted averages from 10 to 15 annually and may fluctuate depending on the level of oil and gas activities in the area. ROWs are located next to existing facilities whenever possible; common use is required whenever feasible. Utility corridors have not been designated because of the scattered public land pattern in the Newcastle Field Office. Only existing utility and transportation ROWs have the potential to decrease the need for new ROW routes; for example, power lines or buried telephone cables that use existing road ROWs.

### **Current Management Practices**

There are no current lands and realty management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for lands and realty as part of the Sage-grouse RMP Amendments planning effort.

## **2.4.5 Pinedale Field Office**

### **Overview**

The Pinedale Field Office includes only those lands within Sublette and Lincoln counties that are administered by the BLM (approximately 922,880 surface acres and 1,199,280 acres of federal mineral estate). Although BLM administers the leasing of the mineral estate underlying USFS and BOR withdrawn lands, mineral management decisions on these lands are made by the surface management agency. On many of the private lands, the mineral estate (either all of the minerals or portions of the minerals) is reserved to the U.S. Government. In these cases, the mineral estate is administered by BLM, although the private landowners administer the surface estate.

### **Current Management Practices**

Proposals for land tenure adjustments will be considered on a case-by-case basis. Before any land tenure adjustments are made, the appropriate level of environmental analysis will be conducted on the proposal.

Riparian, wetland, and aquatic resources are not available for sale but could be exchanged for lands of equal or greater monetary and/or resource value.

ROW activities that typically require an exception during seasonal closure periods are road construction or improvement and pipeline, power line, and communication site construction. Activities that are permissible during seasonal closure periods without requiring an exception include daily operations, emergencies, or nonstandard maintenance. These activities are permissible if operations are confined to an existing ROW, require no longer than 72 hours to complete, are conducted during daylight hours only, and involve no new surface disturbance.

Utility facilities will be restricted to existing routes and designated corridors where practicable, including environmental and socioeconomic considerations. Corridor routes include U.S. Highways 189 and 191 and State Highways 189, 191, 350, 351, 352, 353, and 354. New corridors could be established as oil and gas fields are developed.

New power lines will be buried to the extent practicable.

Exceptions to ROW avoidance areas will be considered if the activity is within the corridors identified above or if the activity meets the following criteria:

- Does not create substantial surface disturbance
- Is located in areas with a high potential for successful reclamation
- Has impacts that would be temporary
- Is compatible with other resource values being protected
- Is beneficial to the resources being managed.

ROWS for communication sites will be processed on a case-by-case basis with the following criteria:

- Emphasis will be on development on already-existing multiple use sites rather than on establishing new sites.
- Towers on all sites will be restricted to heights not requiring lighting.
- All new and replacement towers will be self-supporting and non-guyed.
- New users on all sites will be responsible for notifying existing users of frequencies and for resolving any interference problems with existing facilities.
- Proposals for alternative energy development will be considered on a case-by-case basis.
- Alternative energy development will be avoided in sensitive areas, including:
  - Raptor concentration areas
  - Neotropical bird migration routes, as determined by site-specific monitoring
  - Within three miles of occupied sage-grouse leks
  - Sage-grouse winter concentration areas
  - WSAs, Special Recreation Management Areas (SRMA), ACECs, and other Special Designations/Management Areas (SD/MA)
  - Lander Trail, Sublette Cutoff Trail, and sensitive Native American and cultural sites identified for No Surface Occupancy (NSO) stipulations or unavailable for oil and gas leasing
  - Crucial big game winter ranges.

No new centralized compression facilities will be permitted in the Wind River Front MA (approximately 201,240 acres). Wellhead compression for individual wells will be considered on a case-by-case basis.

## Management Issues and Concerns

There are no management issues or concerns identified for lands and realty as part of the Sage-grouse RMP Amendments planning effort.

### 2.4.6 Rawlins Field Office

#### Overview

The Rawlins Field Office manages approximately 3.5 million acres of public land. Resources and uses of the land are diverse, ranging from oil and gas development to grazing, wildlife habitat, and recreation. The current land use environment is characterized by an increase in development by the oil and gas industry and in private and urban development. The expected increase in oil and gas production, as well as the potential for development of alternative energy sources such as wind energy, is likely to have a greater impact on land distribution and use in the near future. Changes in the ownership of surrounding private land also have an impact on the development of public lands. The most important characteristic of such ownership changes may be the resultant fragmentation and isolation of segregated parcels of public land.

Over the past 20 years there has been a trend of selling private lands to realtors, who then sell 40 acre tracts to willing buyers seeking to “own a piece of the West.” As this ownership and land use changes in the future, there is potential for management of the public lands to become much more complicated, with potential conflicts and increased impacts to BLM-administered areas. Over the past 12 years, Carbon County has developed a land use plan and zoning regulations to guide land development for preserving values such as open space and crucial wildlife habitat, protecting private property rights, and maintaining efficient services by promoting rural expansion closer to existing communities and infrastructure. Where similar values exist, BLM management prescriptions and permitted action should facilitate the planning and zoning implemented by Carbon County. Values on adjacent public lands benefit from these policies but would be better protected while ensuring that private land values are maintained if further land surface exchanges were to occur.

#### Land Ownership Adjustment

Under the disposal criteria of the FLPMA, about 63,460 acres were identified for consideration of disposal. However, that acreage figure was reduced to 46,230 because parcels that contain legal access across them were eliminated from consideration for disposal. Lands identified for disposal under Sections 203 and 206 of FLPMA and identified as such in this plan are hereby classified for disposal under Section 7 of the Taylor Grazing Act of 1934 as amended (43 USC 315f) under EO 6910, and under 43 CFR 2400. Exchanges are subject to the procedures outlined in CFR 43, Chapter II, Part 2200, Sections 0–6.

The Rawlins Field Office staff considers land exchanges on a case-by-case basis, as they are proposed. All lands considered for disposal through FLPMA sale must meet one or more of the criteria outlined in Section 203(a) of FLPMA. These criteria characterize lands for potential disposal as lands that are difficult or uneconomical to manage; lands acquired for a specific purpose but no longer required for that or another federal purpose; or lands that will serve important public objectives, including but not limited to expansion of communities and economic development that outweigh other public objectives and values.

## Withdrawals/Classifications

Withdrawals and classifications are typically placed on land or minerals to protect resource values or existing facilities, although they can selectively prohibit some management actions that would otherwise protect additional resource values. Most of the withdrawals and classifications that have been implemented have prohibited mineral and agricultural entry and disposal, but some have also prohibited nonmetalliferous mineral entry and disposal of coal, limited rather than prohibited mineral entry, or protected water sources. Withdrawals and classifications are periodically reviewed to determine whether they are serving their intended purpose and may be revoked if they are not.

Current withdrawals of public land comprise approximately 935,530 acres within the field office (Valentine 2002). In the past, the largest withdrawals have been made for coal, oil shale, and stock driveways, with coal representing the largest withdrawal at over 600,000 acres. BOR lands and public water reserves constitute more than 120,000 acres. The remaining acres that have been withdrawn include wildlife refuges, air navigation sites, power sites, and administrative sites.

## Utility/Transportation System

Leases and ROW grants occur throughout the field office. The majority of leases and grants within the field office are for oil and gas development. Wind energy development ROWs on BLM-managed land comprise approximately 12,400 acres and 35 wind turbines (as of mid-2010) on public land. Additionally, there are 34 meteorological tower authorizations covering approximately 636,700 acres of public land and two wind energy development project proposals (currently under NEPA review/analyses) that comprise 124,000 acres and approximately 1,000 wind turbines.

## Transportation and Utility Right-of-Way Corridors

Existing major transportation and utility ROWs provide an adequate net (de facto corridor) for the placement and development of future ROWs. However, current ROW width may not be sufficient to meet the offset requirements for interstate transmission of telephone communication, electric power, fluid mineral resources, and interstate commercial and private travel. These facilities include—

- The state and interstate highway system (I-80 and I-25), Federal Highway 287, and State Routes 789 and 230.
- Major natural gas delivery systems (i.e., Sinclair pipeline system from Sinclair, Wyoming, to Billings, Montana; CIG pipeline from Greasewood, Colorado, to Wamsutter, Wyoming; Lost Creek pipeline from Crooks Gap to Wamsutter; Exxon/Frontier Pipeline in the northwest portion of the Rawlins Field Office; Pioneer/Conoco pipeline from Croydon, Utah, to Sinclair, Wyoming, along the I-80 corridor; and I-80 and I-25 highway routes utilized for major natural gas pipeline transportation routes).
- Electric transmission lines (i.e., Wyoming Area Power Administration [WAPA] electric power delivery system corridor from Seminoe Reservoir to Cheyenne; the power line located in the northwest portion of the Rawlins Field Office, from I-80 heading north-northeast to the Rawlins Field Office boundary; the Spence-Bairoil-Jim Bridger 230 kV transmission line; and the electric transmission line running northeast from Cheyenne, Wyoming, to Nebraska).

These corridors, with the exception of the WAPA line, Federal Highway 287, and State Route 789, satisfied future needs for energy transmission as identified by the 1993 Western Utility Group (WUG) Western Regional Corridor Study. Recent requests for new energy transmission facilities initiated

primarily by the need to meet the increasing demand for “green energy” in the West, and offset spacing requirements between existing and new high voltage lines (up to 500MW capacity lines) will need to be considered where new transmission lines proposed to cross greater-sage grouse key habitat areas.

### **Land Consolidations**

Land is consolidated through fee or easement acquisition, exchange, condemnation, and donation processes. Currently, there are no active efforts to consolidate land within the field office. However, proposals are currently being evaluated and field office staff members will consider any proposal in relation to land exchange criteria.

### **Current Management Practices**

The Rawlins Field Office is open to operation of the public land laws and/or to locatable mineral entry (Mining Law of 1872) except for 935,530 acres of existing withdrawals.

In compliance with Section 204(1) of FLPMA, reviews of withdrawn lands in the Rawlins Field Office will be completed to determine whether existing withdrawals are serving or are needed for their intended purposes. The existing withdrawals in the field office will remain in place unless or until it is determined they should be terminated and, if necessary, a plan amendment to the Rawlins RMP is made. Such determination or amendment will be based on full examination of the issues associated with withdrawal terminations including the land use, environmental, and other factors associated with opening public lands now closed to entry under the public land laws or to mineral location under the mining laws. Where appropriate and necessary to protect other resource values, new withdrawals will be pursued and implemented prior to terminating any existing withdrawals.

Coal classifications on 671,768 acres in the field office are no longer necessary because (1) the Federal Coal Leasing Amendments Act of 1976 requires competitive leasing on all, not just known, deposits of federal coal; and (2) the Multiple Mineral Development Act of 1954 established procedures to regulate conflicts between coal leases and mining claims. Existing withdrawals will be reviewed and terminated, as appropriate.

All BLM-administered public lands, except WSAs and some SD/MAs (including ACECs), are open to consideration for placement of transportation and utility ROW systems. Each transportation system and utility ROW will be located adjacent to existing facilities, when possible. Areas with important or sensitive resource values will be avoided. Existing major transportation and utility ROW routes will be designated corridors. However, major transportation routes within the Rawlins Field Office that are located east of the Carbon County-Albany County line will not be considered for ROW corridor designation because of the scattered public landownership pattern in the area. All corridors will be designated for power lines (above ground and buried), telephone lines, fiber optic lines, pipelines, and other linear type ROWs. Specific proposals will require site-specific environmental analysis and compliance with established permitting processes. Activities generally excluded from ROW corridors include mineral materials disposal, range and wildlife habitat improvements involving surface disturbance and facility construction, campgrounds, and public recreation facilities and other facilities that would attract public use. ROW facilities will not be placed adjacent to each other if issues with safety, incompatibility, or resource conflicts are identified. The designated width, allowable uses, and excluded uses for each corridor may be modified during implementation of the Approved RMP. All designated ROW corridors will avoid, to the extent possible, these areas. Mitigation requirements will be applied to activities related to utility/transportation systems to protect important resource values.

Certain lands withdrawn for Seminole Reservoir (2,000 acres) are currently managed by BOR. The BOR identified these lands for revocation—to date, this revocation is not finalized. Certain lands withdrawn for the Savery-Pot Hook Project (1,205 acres) were revoked by Public Land Order (PLO) 7680 (72 FR 52386) dated September 13, 2007 (these lands are now under BLM jurisdiction). The lands considered for revocation have been reviewed by BOR and a determination made that the lands are suitable for return to public domain status because they are no longer needed for the purpose for which they were withdrawn. Lands considered for revocation have been reviewed by BLM for management options and a determination made that these lands will be managed the same as adjacent public lands.

About 46,230 acres of BLM-administered public lands meet the FLPMA disposal criteria and are available for consideration for disposal. Before taking any disposal action, consideration will be given to each individual tract and will include public involvement. The preferred method of disposal, consolidation, or acquisition of lands by BLM is through exchange.

The area within one-quarter mile of the incorporated boundaries of all cities/towns (1,500 acres) is open to oil and gas leasing with an NSO stipulation. Existing oil and gas leases will be intensively managed.

Areas with important resource values will be avoided (569,500 acres) or excluded (98,440 acres) in planning for new wind energy facility placement. If it becomes necessary for facilities to be placed within avoidance areas, effects will be intensively managed.

Areas with important resource values will be avoided where possible in planning for new facility placement (600,290 acres). If it becomes necessary for facilities (i.e., linear ROWs) to be placed within avoidance areas, effects will be intensively managed. The location of new communication sites will be evaluated on a case-by-case basis.

## Management Issues and Concerns

There are no management issues or concerns identified for lands and realty as part of the Sage-grouse RMP Amendments planning effort.

### 2.4.7 Rock Springs Field Office

#### Overview

The majority of surface land and mineral estate within the Rock Springs Field Office is owned by the federal government. Principal non-federal landowners are the Anadarko Corporation, Rock Springs Grazing Association, and the State of Wyoming. The checkerboard land pattern that resulted from early railroad grants made by the federal government to the Union Pacific Railroad Company crosses the field office from east to west (now owned by Anadarko Company). Nearly every odd-numbered section within 20 miles each side of the railroad mainline ROW is under private ownership. This ownership pattern creates a major impact on resource management. Lands north and south of the checkerboard are predominantly solid blocked public lands. Two major cities (Green River and Rock Springs), one incorporated town (Superior), and several unincorporated populated areas (Reliance, Eden-Farson, Jamestown-Rio Vista, Point of Rocks, Table Rock, Bitter Creek, Burntfork, Lonetree, and McKinnon) are located within the field office.

#### Current Management Practices

Areas designated as utility windows, ROW concentration areas, and existing communication sites will be preferred locations for future grants. Five windows have been identified: two east-west, and three north-

south. Windows one-half mile in width have been identified for the placement of utilities. The northern east-west window will be for underground facilities only, and the southern east-west window will be for both above and below ground facilities. A one-half mile wide north-south window on the west side of Flaming Gorge, a window south along Highway 430, and a north-south window along the east side of Flaming Gorge have been identified for above and below ground utilities.

Easements will be pursued where practical, to provide access to public lands for recreational, wildlife, range, cultural/historical, mineral, special management area, and other resource management needs (about 300 acres).

The remainder of the field office will be open to geophysical exploration, with application of appropriate mitigation. ROW limitations in the field office apply to on- and off-road vehicle traffic used for geophysical activities. Exploration activities will be allowed in sensitive resource areas only if they can be performed with acceptable mitigation of impacts.

The field office, with the exception of defined exclusion and avoidance areas, will be open to considering grants for ROWs if area objectives can be met. Exclusion areas are closed to ROWs. Avoidance and special management areas not identified as exclusion areas will be open to consideration only after site-specific analysis demonstrates area objectives can be met. The extent of ROW exclusion and avoidance areas is based on the location of specific sensitive resources.

Development levels may be adjusted and/or additional mitigation may be applied to proposed activities as appropriate and necessary to protect resource values. Adjustments could be made to ensure that additional ROWs will not cause fragmentation and abandonment of wildlife habitat and will still meet stated management objectives, safeguard sensitive resources, and not result in significant or irreversible adverse effects. Proposals will be analyzed in subsequent NEPA or other documents (such as site-specific NEPA analysis for well sites) in accordance with law and policy. Changes will be based on consideration of several factors including:

- Data trends for indicators on the viability of potentially impacted wildlife and other sensitive resources, including impacts on indicators from other causes such as disease, drought, or hunting.
- Fragmentation of habitat and migration pathways due to surface disturbance.
- Net amount of surface disturbance, including approved development activities or ROWs that will be implemented in nearby areas, and planned reclamation of existing surface disturbances.
- Amount and location of actual land use activity.

The transportation plan also applies to the transport of gas, condensate, or water via pipelines and electric power transmission (buried power lines) within the field office. Pipelines and buried power lines generally will be located adjacent to roads to reduce new surface disturbance.

To the extent possible, utility and transportation ROWs will be located to coincide with existing roads, trails, and other ROW or easement concentration areas where they will not create safety hazards or conflict with other resource objectives. Linear ROWs will be considered as part of transportation planning and included as part of travel management plans.

## **Management Issues and Concerns**

There are no management issues or concerns identified for lands and realty as part of the Sage-grouse RMP Amendments planning effort.

## **2.5 MINERAL RESOURCES/RENEWABLE ENERGY**

### **2.5.1 Overview**

Mineral resources include the individual resources of leasable, locatable, and salable (common variety) minerals.

#### **Leasable Minerals**

Leasable minerals include energy and non-energy minerals regulated under the Mineral Leasing Act of 1920 as amended and the Geothermal Steam Act of 1970. Such minerals include, but are not limited to, oil and gas, coal, oil shale, phosphate, and sodium brine. Leasable minerals are available through a system of competitive and non-competitive leases.

#### **Oil and Gas**

Wyoming is the number one producer of federal onshore oil and the number two producer of federal onshore gas in the United States. The oil and gas program can be broadly categorized into the following four functional areas: (1) lease operations, (2) inspection and enforcement of lease operations, (3) planning and policy related to oil and gas actions, and (4) geophysical exploration. Federal mineral estate and existing oil and gas leases are included on Map 4 and major oil and gas field locations are shown on Map 5.

#### **Coal**

The BLM manages coal leasing and other administrative duties related to coal production on federal coal lands throughout the U.S. Wyoming has the largest federal coal program within the BLM, and is also the nation's largest producer of coal, producing about 34 percent of the nation's coal. The majority of Wyoming coal is used for steam generation in the electrical utility industry. Coal production in Wyoming has increased dramatically since the early 1970s.

#### **Locatable Minerals**

Locatable minerals include all minerals subject to exploration, development, and production under the provisions of the Mining Law of 1872. They include metallic and non-metallic minerals such as gold, silver, specialty clays, and zeolites. Locatability is determined by a case-by-case validity examination. Unlike leasable minerals (e.g., oil, gas, or coal) or salable minerals (e.g., sand and gravel) where issuance of a lease or permit is at the BLM's discretion, the discovery and location of a locatable mineral claim is at the discretion of the claimant.

#### **Salable (Common Variety) Minerals**

Disposal of common variety minerals is discretionary and is addressed under the Materials Act of 1947, as amended by the Acts of 1955 and 1962. These acts authorized that certain mineral materials be disposed of either through a contract of sale or a free use permit (FUP) (for state and local governments or eligible nonprofit organizations). Salable minerals include common variety materials such as sand, gravel, stone (e.g., decorative stone, limestone, and gypsum), clay (e.g., shale and bentonite), limestone aggregate, borrow material, clinker (scoria), leonardite (weathered coal), and petrified wood. These materials are typically used in various construction, agriculture, and decorative building or landscaping applications. Under the BLM mineral materials program (43 CFR 3600), the exploration, development, and disposal of salable minerals is managed either by sales contracts or FUPs. Recreational collecting of

this material is also allowed, but the removal of volumes exceeding a specified threshold requires a mineral materials sale. The BLM does not dispose of salable minerals at less than fair market value.

## Renewable Energy

Renewable energy is generally defined as energy derived from sources continuously replenished by natural processes. These sources include wind, solar, biomass, and geothermal. Wind energy refers to the kinetic energy generated from wind produced by power-generating turbines. Solar energy is the use of the sun's energy to produce electricity, often through the use of photovoltaic panels that convert sunlight directly into electricity using semiconductor materials. Biomass (also called bioenergy) is the process of converting forestry and agricultural crops, crop-processing wastes and residues, animal manures, and landfill methane gas into electricity. These waste products are either burned directly or converted into fuels that can be burned to produce energy. Geothermal energy is heat in the form of hot water, steam, or rocks near the surface of the Earth's crust used for direct heating and cooling, or for the generation of electricity (Energy Atlas 2004).

Wyoming represents one of the strongest potential wind resources in the country and presently is an exporter of wind power to several surrounding states. The state also has some potential for solar, biomass, and geothermal energy; however, the demand for these renewable energy sources is not as strong as demand for wind energy. Currently, the installed renewable energy capacity in Wyoming is 284.65 megawatts (MW) of wind energy, 0.05 MW of solar energy, and 0 MW of biomass and geothermal energy (Energy Atlas 2004). A recent study, "Assessing the Potential for Renewable Energy on Public Lands," presented a nationwide overview of renewable resources on BLM lands. In this study, Wyoming was determined to have a high potential for wind energy development and a low potential for solar, biomass, and geothermal energy development (BLM 2003a).

### 2.5.2 Casper Field Office

#### Overview

##### Leasable Minerals

##### *Oil and Gas*

Presently and historically, almost all of the oil and gas produced in the Casper Field Office comes from Natrona and Converse counties. Goshen and Platte counties have minimal oil and gas production. Based on production records from the State of Wyoming Oil and Gas Conservation Commission for 2002, 14 percent of the state's oil and five percent of the state's gas were produced from Natrona and Converse counties. This is significant because Wyoming is the number one producer of federal onshore oil and the number two producer of federal onshore gas in the United States (BLM 1992). The federal mineral estate in the Casper Field Office is about 4.7 million acres, and the federal government owns 79 percent of the mineral estate in Natrona County and 50 percent of the mineral estate in Converse County. The 2,978 federal oil and gas leases within the field office cover 1,956,236 acres. Within sage-grouse key habitat areas, 881 leases cover 696,482 acres.

##### *Other Leasable Minerals*

Currently, there are no federal leases for any other leasable minerals within the Casper Field Office. In some areas where the federal government has acquired the land, BLM may lease bentonite and uranium.

## Locatable Minerals

Potentially locatable metallic (gold, silver, lead, platinum, copper, uranium, and chromite), and nonmetallic (talc, mica, white marble, building stone, fluorspar, chemical-grade limestone, gypsum, and bentonite) minerals exist in the planning area. Precious and semiprecious stones that exist or potentially exist include jade, diamond, iolite, ruby, sapphire, heliodor beryl, and kyanite.

The 12 permitted mining operations on federal mineral estate include uranium (five mines in Natrona and Converse counties), chemical-grade limestone (Bass and Brush Creek quarries in Platte County), marble (White Marble and Silvergreen quarries in Platte County), bentonite (two mines in Natrona County), and jade (Lone Tree Mine in Natrona County). Converse County with 3,954 claims has most of the 5,766 active claims (as of February 2006). Natrona County has 1,972, Platte County has 45, and Goshen County has 16. In fiscal year 2004, claimants filed six notices and 18 plans of operation to work on their claims.

There are two active in-situ leaching operations (CAMECO's Highland/Morton Ranch and Smith Ranch Operations) in the planning area with a combined production of 1,323,530 pounds of uranium oxide (yellowcake) in 2004. Numerous mining claims for uranium recently have been staked due to the threefold increase in the price of yellowcake.

Bentonite, a sodium montmorillonite clay, is a major component of drilling mud. It has numerous other uses and can be found in foundry molds, pet litter, and geotextile liners for landfills and water impoundments. Most bentonite production in the planning area is from east central Natrona County. Reported production in 2002 was 653,738 tons of bentonite, almost 20 percent of the 3,454,582 tons produced in Wyoming that year (BLM 2004a).

Gold deposits have been identified in the Rattlesnake Hills portion of the planning area. Historically, copper deposits have been mined in the Hartville Uplift near Geurnsey, Casper Mountain, South Bighorn Mountains, and the Deer Creek Copper District and La Prele in Converse County. Chromite was mined in the northern Laramie Mountains and iron in the Hartville Uplift. All these operations are now abandoned. Additional information on these and other locatable minerals can be found in the Mineral Occurrence and Development Potential Report (BLM 2004a).

## Salable Minerals

The Casper Field Office conducts exclusive mineral material disposals when a party wants to use material from a specific location for exclusive use by the applicant. This can be conducted either as an FUP (given to non-profit organizations or city, county, and state government entities) or as a private party sale. There are currently 18 FUPs in effect totaling approximately 73 acres of disturbance. Much of the mineral material that is sold in the Casper Field Office is from established negotiable exclusive sale pits to private parties. There are currently twenty mineral material sales contracts in effect totaling approximately 217 acres of disturbance.

Two community pits are open to the public to obtain mineral materials at a reasonable price, which include a sand site and a moss rock site. These sites remain a convenient source of material but are infrequently used by the public. At the moss rock site, no mechanical equipment is allowed to harvest the rock and disturbance is minimal. The sand site totals approximately one acre of disturbance.

## Current Management Practices

### Leasable Minerals

The Casper Field Office reviews parcels nominated for potential oil and gas leasing. Any stipulations attached to these parcels will be the least restrictive needed to protect other resource values. Stipulations to protect important resource values will be based on interdisciplinary review in conformance with land use planning decisions.

The Casper Field Office is open to mineral leasing, including solid leasables and geothermal, unless specifically identified as administratively unavailable for the life of the plan for mineral leasing. These open areas are managed on a case-by-case basis. Acquired mineral estate administered by the BLM will be open to mineral leasing for other leasables including phosphate, sodium, potassium, sulfur, gilsonite, bentonite, and uranium, unless specifically closed to mineral leasing. Where possible, the routing of access roads will be made in conjunction with the surface owner.

BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open to leasing of other solid leasable minerals. Under the Casper RMP, 1,080,935 acres of federal oil and gas lease mineral estate are open to leasing consideration and subject only to the terms and conditions of the standard lease form; 2,506,530 acres of federal oil and gas lease mineral estate are open to leasing consideration and subject to the terms and conditions of the standard lease form, as well as moderate constraints; 843,139 acres of federal oil and gas lease mineral estate are open to leasing consideration and subject to the terms and conditions of the standard lease form, as well as major constraints; and 226,568 acres of federal oil and gas lease mineral estate are administratively unavailable for leasing for the life of the plan.

Those lands currently open to oil and gas leasing will continue to be open to geophysical operations. Those lands open to oil and gas leasing, but subject to an NSO restriction, may be open to geophysical operations if site specific NEPA analysis disclose a finding of no significant impact. No geophysical operations are allowed in areas administratively unavailable for oil and gas leasing.

### Locatable Minerals

BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open for prospecting for and development of locatable minerals. Under the Casper RMP, 458,661 acres are withdrawn from locatable mineral entry. Of these acres, 409,707 acres are BLM withdrawals and 48,954 acres are other federal agency withdrawals.

### Salable Minerals

BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open to the disposal of mineral materials. Under the Casper RMP, 257,017 acres are unavailable for disposal of mineral materials.

## Management Issues and Concerns

### Leasable Minerals

Management issues and concerns regarding leasable minerals include the following:

- What areas are suitable or not suitable, particularly NSO areas, for oil and gas development activity? Should these existing areas be changed?

- Are the current timing limitation stipulations effective in protecting resource values (i.e., wildlife, soil, and watershed)? Should they be changed? Are current decisions regarding those public lands that are currently available for leasing and development still appropriate?
- What special operating and reclamation requirements, if any, should be allowed?
- What areas should be open, closed, or unavailable to oil and gas leasing?
- What types of databases and mapping capabilities will be needed to properly manage the minerals programs in the future?

### **Locatable Minerals**

There are no management issues or concerns identified for locatable minerals as part of the Sage-grouse RMP Amendments planning effort. Changes in the management of locatable minerals are not anticipated as a result of the Sage-grouse RMP Amendments planning effort. Locatable minerals management is adequately addressed in the current Casper RMP.

### **Salable Minerals**

There are no management issues or concerns identified for salable minerals as part of the Sage-grouse RMP Amendments planning effort.

## **2.5.3 Kemmerer Field Office**

### **Overview**

#### **Leasable Minerals**

##### ***Coal***

The Kemmerer Field Office manages minerals on approximately 1.6 million acres of federal mineral estate. Coal has been mined in the Kemmerer Field Office since the late 1800s, primarily in the Evanston and Kemmerer areas. Coal was originally extracted in underground mines that eventually closed, largely because of reduced demand as a result of the conversion of railroad locomotives from coal to diesel fuel. Surface coal mining began around 1950 in the Kemmerer Field Office and has been active since that time.

The primary coal reserves include the Adaville, Evanston, Frontier, Cokeville, and Sage Junction formations. The reserves in the Adaville Formation are estimated at one billion tons, based on 13 of the formation's coal seams. One seam in the Adaville exceeds 100 feet in thickness, and another 17 seams appear to be greater than six feet thick. Frontier Formation coals, not presently being mined, have a higher British Thermal Unit (BTU) value than the Adaville coals and contain beds up to 20 feet thick (Glass 1976). Outcrops of coal-bearing formations in the Kemmerer Field Office are confined to the Overthrust portion of the area and occur mainly in three north-south-trending belts.

The major surface mining company in the Kemmerer Field Office is Chevron Mining, Inc., which operates a mine west of Kemmerer. Chevron has a total of 8,679 acres of federal coal leases and produced roughly 3,500,000 short tons of coal from these leases for the years 2005-2009 from multiple seams in the Adaville formation. Kiewit Mining Company has proposed a new surface coal mine and the project is currently in the surveying and permitting phase. Kiewit Mining Company has applied for a Federal coal lease in connection with the project.

### **Oil and Gas**

Oil and gas reserves in the Kemmerer Field Office have been the focus of industry attention since commercial discoveries began around the year 1900. Of the approximately 1.6 million acres of oil and gas mineral estate managed by the Kemmerer Field Office, approximately 1,070,000 acres are currently leased for oil and gas development. The largest active gas field in the Kemmerer Field Office is the Moxa Arch field. Some of the oil and gas fields in the Kemmerer Field Office overlap with the Pinedale Field Office and/or with the Rock Springs Field Office. The BLM predicts that there will be approximately 1,010 future oil and gas wells in the field office within the next 20 years (BLM 2008). Currently, the Wyoming Oil and Gas Commission does not anticipate any coal bed natural gas (CBNG) production in the field office.

### **Trona**

The world's largest known deposit of trona (sodium) is located in southwestern Wyoming and extends into the eastern portion of the Kemmerer Field Office. Identified trona reserves in the area total 114 billion tons (BLM 1985). Sites where trona is known to exceed four feet in thickness are part of the Known Sodium Leasing Area (KSLA), which in total covers about 1,100 square miles, half of which is in the Kemmerer Field Office.

### **Other Leasable Minerals**

Other leasable minerals in the Kemmerer Field Office include oil shale and geothermal resources. The Green River Basin contains an estimated 244 billion barrels of shale oil in the Tipton Shale Member, Wilkins Peak Member, and Laney Member of the Green River Formation. Hot springs (geothermal resources) occur at Auburn in the Star Valley portion of the Kemmerer Field Office. Auburn Hot Springs contains numerous vents producing carbon dioxide and hydrogen sulfide gas and saline water ranging from about 68 to 140 degrees Fahrenheit (°F).

### **Locatable Minerals**

Potential locatable mineral deposits in the Kemmerer Field Office include uranium, copper, titanium, vanadium, diamonds, bentonite, and fire clay. Exploration and mining of locatable mineral deposits in the field office have occurred periodically. A placer claim for building stone is currently being mined south of Kemmerer, and other building stone claims for diamonds and fire clay have also been staked in the last 10 years and have experienced some exploration activity.

### **Salable Minerals**

The Kemmerer Field Office contains various salable commodities including common sand and gravel, building stone (e.g., moss rock), limestone, shale, and decorative stone. An active market has developed for moss rock (lichen-covered sandstone) that is primarily found on hogback ridges in the Overthrust Belt portion of the Kemmerer Field Office. Moss rock is used for decorative stone, particularly in the Jackson, Wyoming area. Numerous BLM material sale permits are issued each year for moss rock.

Deposits of sand and gravel are generally found in the Kemmerer Field Office area in elevated terraces along streams and rivers. Currently, Lincoln and Uinta counties have permits for gravel pits in the Kemmerer Field Office for public road maintenance. Numerous older gravel pits occur throughout the area, many of which were originally issued to the Wyoming Department of Transportation (WYDOT). WYDOT also has current permits for gravel pits associated with Federal Aid Highway projects.

Some older geologic formations contain beds of conglomerate that are suitable for crushing and screening, such as the Hams Fork Conglomerate of the Evanston Formation. Building stone is found in

many of the more resistant ridges, especially in the Overthrust Belt. Local sandstone from the Frontier Formation was historically used for buildings in Kemmerer. BLM has two active community pits in the field office, which include the Giraffe Creek pit in Salt Creek Canyon north of Cokeville and the Dry Hollow pit west of Cokeville. Other talus deposits in the northwest portion of the Kemmerer Field Office, including Nugget Sandstone talus in Pine Creek, have been utilized for roadwork.

## **Current Management Practices**

### **Leasable Minerals**

The Kemmerer Field Office reviews parcels nominated for potential oil and gas leasing. Areas that contain known deposits of oil shale are available for oil shale lease consideration where it is not inconsistent with existing laws and regulations, EOs, and ACECs. Oil shale leasing will not be considered in areas where it would jeopardize the safe operation of existing trona mines.

In addition to existing withdrawals, the following areas are withdrawn from operation of the mining laws:

- Developed campgrounds (3 acres)
- The federal section that contains Bridger Antelope Trap (640 acres)
- Areas with special status plant species (886 acres of federal mineral estate)
- Cokeville Meadows National Wildlife Refuge (427 acres).

Among the areas available for leasing, approximately 95,722 acres of federal mineral estate are administratively available to oil and gas leasing subject only to the terms and conditions of the standard lease form; 967,635 acres of federal mineral estate are administratively available to oil and gas leasing subject to the terms and conditions of the standard lease form, as well as moderate constraints; 333,848 acres of federal mineral estate are administratively available to oil and gas leasing subject to the terms and conditions of the standard lease form, as well as major constraints; and the remaining 181,775 acres of federal mineral estate are administratively unavailable for oil and gas leasing.

Fluid mineral leasing is allowed on areas within potential habitats for federally listed species, areas containing National Historic Trail segments, and areas within large, contiguous blocks of federal land containing sagebrush, mountain shrub, and aspen habitat. Federal land within the proposed Haystack project area is determined acceptable for further consideration for coal leasing and development.

All public lands (outside of the Raymond Mountain WSA and exceptions identified below) within the field office are available for sodium leasing consideration. Exploration for sodium will be considered on a case-by-case basis. Limited surface occupancy criteria contained in the Sodium Mineral Development Environmental Assessment will be applied on a case-by-case basis. All public lands within the field office are available for phosphate leasing consideration. Exploration for phosphate will be considered on a case-by-case basis. The Kemmerer Field Office allows for geophysical exploration on lands throughout the field office subject to identified conditions of approval (COA).

### **Locatable Minerals**

The field office is available for locatable mineral entry, with the exception of some withdrawn areas.

### **Salable Minerals**

Collecting surface rock in commercial quantities requires a mineral material contract. Operations are evaluated on a case-by-case basis. Subject to the waiver requirements in 43 CFR 3601.14 on unpatented

mining claims, the field office is available for consideration of mineral materials sales and/or FUPs. The area within the viewshed of the Fossil Butte National Monument is available for consideration of mineral materials sales and/or FUPs. Mineral material sales and/or FUPs can be authorized in areas with special status plant or wildlife species on a case-by-case basis; except mineral materials sales and/or FUPs in actual special status plant species locations are not allowed.

## **Management Issues and Concerns**

### **Leasable Minerals**

Determining what conflicts exists between new coal lease areas and sage-grouse key habitat areas and what the potential and impact for no leasing in sage-grouse key habitat areas are the current management issues and concerns.

### **Locatable Minerals**

There are no management issues or concerns identified for locatable minerals as part of the Sage-grouse RMP Amendments planning effort. Changes in the management of locatable minerals are not anticipated as a result of the Sage-grouse RMP Amendments planning effort. Locatable minerals management is adequately addressed in the current Kemmerer RMP.

### **Salable Minerals**

The management issue and concern for salable minerals is determining what the potential and impact of no leasing in sage-grouse key habitat areas will be.

## **2.5.4 Newcastle Field Office**

### **Overview**

#### **Leasable Minerals**

The Newcastle Field Office covers the eastern Powder River Basin, which is the most prolific oil-producing basin in the Rocky Mountains. The United States owns 2.12 million acres of federal mineral estate within the field office. Within the field office, BLM administers approximately 290,000 acres of public land surface. Other federal agencies administer approximately 420,000 surface acres.

In May of 2010, the field office contained 4,445 oil and gas leases covering 839,491 acres. During 2000 through 2009 an average of 28 federal wells were drilled annually in the field office, with an annual abandonment of 15.4 federal wells. In 2009, oil production from the field office produced about 2.9 million barrels, which represented approximately 5.75 percent of the state's oil production.

#### **Locatable Minerals**

All public lands are open to exploration for locatable minerals except those withdrawn to protect other resource values and uses or those lands with acquired minerals status. Acquired minerals are subject to leasing under 43 CFR 3500. The only areas under BLM jurisdiction in Newcastle Field Office area which are currently closed to the operation of the mining laws are BOR lands at Keyhole Reservoir in Crook County.

There are approximately 1,800 active placer mining claims in the area with bentonite, uranium, and gypsum being the principal locatable minerals. Presently, only bentonite is being mined.

### **Bentonite**

There are two principle bentonite mining areas in the field office, the northern Black Hills, or Colony Mining District, and the Clay Spur Mining District. The northern Black Hills bentonite mining district comprises an irregularly shaped area of about 980 square miles extending about 60 miles along the north side of the Black Hills of Wyoming and South Dakota into Montana. Within this district, many beds of bentonite occur interspersed with sedimentary strata of Cretaceous age that have an average thickness of about 3,000 feet and consist chiefly of marine shale, marl, and argillaceous sandstone (Knechtel and Patterson 1962).

In the northern Black Hills mining district, the important commercial beds are the Clay Spur bed at the top of the Mowry Shale and the E and F beds in the lower part of the Belle Fourche Shale. These beds average two and one-half to three feet thick. The Clay Spur District is located in the south-central part of Crook County and the north-central part of Weston County extending from Keyhole Reservoir on the Belle Fourche River south to Osage, Wyoming. The mining area is a narrow sinuous belt approximately 30 miles long encompassing about 100 square miles, which is mostly confined to the outcrop area of the Upper Cretaceous Belle Fourche Shale. It is five miles across its widest point north of Upton, Wyoming. Outcropping Cretaceous formations dip gently southwestward at two to three degrees throughout the district. At the northern and southern ends of the district, they dip abruptly increases to 20 degrees or more, making mining unfeasible. Nearly all bentonite production in the Clay Spur District comes from the Clay Spur bed of the Mowry Shale. Another bentonite bed in the lower part of the Belle Fourche Shale (bed E) has produced a small quantity of bentonite. A very minor amount of bentonite has been mined from the Newcastle Formation, but none of the operations were commercially successful (Davis 1965). Some bentonite mining out of the Belle Fourche and Mowry shales has also occurred in the extreme southeast corner of Weston County and the extreme northeast corner of Niobrara County. The Black Hills region, which includes both of these districts, accounts for about 45 percent of total United States sodium bentonite production (Allison 1988).

Exploration for and development of new bentonite reserves is a continuing process in Crook and Weston counties. Exploration activities are scattered throughout Crook County with the exception of the southeastern quarter. In Weston County most exploration activity is primarily in the north-central part of the county, with a little occurring in the southeastern corner near the South Dakota border. Bentonite deposits in the planning area generally occur at depth, but often can crop out in the area.

Active claims for bentonite are spread throughout Crook, Weston, and Niobrara counties. A detailed listing of these claims with respect to location, type, and claimant name is contained on microfiche on the Geographic Index in the Newcastle Field Office and is updated quarterly. The primary bentonite claimants in the area are American Colloid Company and Bentonite Corporation (formerly NL Baroid Company). Active mining of bentonite is occurring mainly on private surface and private minerals in Crook and Weston counties. There is one mining operation (by American Colloid Company) near Upton, which is on public land with acquired mineral status administered under a mining lease by BLM, Casper Field Office. American Colloid Company and Bentonite Corporation both have bentonite mills at Upton and Colony.

Since about half of the bentonite produced in Wyoming is sold to the drilling mud industry, the bentonite industry has been in a slump in recent years due to the decrease in oil and gas exploration activity. Pelletizing and foundry sandbonding make up the bulk of the remainder of uses.

It is estimated that there is at least 100 million tons of bentonite reserves in the Black Hills region (Allison 1988). Total bentonite production out of Crook and Weston counties in 1989 was 1,123,151 tons. Under current management conditions, activity in the bentonite segment of the locatable minerals program can be expected to remain about the same in the foreseeable future (five to ten years). Lifting the withdrawal status of lands at the west end of Keyhole Reservoir in Crook County could result in some exploration and mining activity out of some 30-year-old pits, which may have some minable quantities of bentonite left. Another boom in the oil and gas industry in the future could cause a significant increase in activity.

### **Gypsum**

Gypsum beds 10 to 30 feet thick occur in the Spearfish Formation and crop out almost continually around the Black Hills. Gypsum in beds 25 to 40 feet thick occur in the Minnelusa Formation in eastern Crook County and have only been used for fabrication into objects. In the past, short-lived plaster mills have been operated in several Black Hills towns including Sundance, Wyoming. At present, production is only occurring near Rapid City, South Dakota (Gries 1974).

### **Uranium**

The only other known significant locatable mineral in the planning area is uranium, but there is no active mining of uranium taking place. Past commercial mining has occurred in Crook and Niobrara counties. The primary uranium mining district is the Black Hills mining district. Located in Crook County, it contains five sub-districts: Elkhorn Creek, Hulett Creek (New Haven), Barlow Canyon, Carlile, and Aladdin.

All uranium produced in Crook County has come from fluvial sandstones and conglomerates of the lower Cretaceous Lakota Formation and in marginal marine sandstones and siltstones of the overlying Fall River Formation. All of the major mining districts in Crook County are located near paleochannels, which may have acted as conduits for mineralizing solutions. Where the fine-grained materials have eroded, groundwater has migrated through fluvial sandstones into a reducing environment conducive to deposition of uranium minerals. Production from Niobrara County has been from stream-deposited, conglomeratic sandstone lenses of the Tertiary White River Group (BLM 1981).

In Weston County, minor amounts of uranium have been extracted from two prospect areas about 10 miles southeast of Newcastle from sandstones of the Fall River Sandstone. Surface outcrops of the Fall River and Lakota sandstones occur throughout the planning area, but little or no active exploration for uranium is occurring. Most, if not all, of the claims located for uranium are inactive at this time.

Exploration in the northern Black Hills during the uranium boom of the late 1970s identified additional ore deposits, which could be developed in the future (Chenoweth 1988). Although the potential for discovery and development of significant new uranium deposits in Crook and Weston counties is fairly high, the amount of activity in uranium exploration cannot be expected to increase in the foreseeable future (five to ten years).

### **Metallic Minerals**

Three metallic mineral districts, made up of Tertiary alkalic igneous complexes, are located in Crook County. Their names and types of deposits are as follows:

- Bear Lodge Mountains - low-grade gold and rare earth deposits
- Black Buttes complex - galena, silver, lead, zinc, and traces of gold

- Mineral Hill - anomalous amounts of gold, cassiterite, magnetite, and columbite-tantalite (Hausel and Sutherland 1988).

All of these districts are located on USFS lands, and no commercial production is known to be occurring. Stream sediment samples testing uranium potential of Cretaceous sandstones along the western margin of the Black Hills uplift compiled by Albert (1986) revealed anomalous gold values in western Crook County and northeastern Weston County. Gold content ranged between 0.20 to 0.41 parts per million (ppm). The original source of the gold is believed to be volcanic ash falls. It is not known whether any of this gold is present in commercial quantities.

### **Salable Minerals**

Historically, salable minerals have been used in the planning area for building materials, road surfaces, and tools. Today, mineral materials are used primarily for building and maintaining roads and activities associated with the oil and gas industry.

In the Newcastle area there are several different forms of stone aggregate materials, which are used for construction projects: sand and gravel, sandstone, shale, limestone and dolomite, and igneous and metamorphic rocks (granitic gneiss). Sources of mineral materials for aggregate are more readily available in Weston and Crook counties than in Niobrara County. Deposits of sand and gravel, limestone, and shale are scattered throughout Weston and Crook counties and are used primarily as aggregate materials for road surfacing by state and county agencies. A few gravel deposits are present in terraces along drainage and in some sandstone outcrops in the northern part of Niobrara County. In the southern part of the county a large amount of limestone is present, which could be quarried and crushed for aggregate use. A granite outcrop at Bald Butte in southern Niobrara County contains material which could be used as railroad ballast.

At the field office level, disposal of mineral materials is on a case-by-case basis. Applications for salable minerals are reviewed and processed on a case-by-case basis as they are received. Appropriate surface disturbance mitigation requirements are included in the permits. Regular field monitoring inspections of salable mineral permit areas are conducted biannually to ensure compliance and to check for unauthorized use. Material sites average between three and five acres, and sites may be active under various (or successive) permits for from one to ten years. Site reclamation is initiated after the mineral material is removed.

It is the field office's policy to provide sand, gravel, and stone from federal mineral deposits as necessary to meet the needs for construction and maintenance projects in the planning area (BLM 1981). Although demand for mineral material in Crook, Weston, and Niobrara counties is low, the maintenance and construction of roadways are necessary to create and maintain a viable economic base for the resource area.

Activity in the mineral material program in the Newcastle Field Office area has been limited in recent years due to the downswing in the economy, locally and statewide. The location of a good portion of the mineral deposits is on private surface.

The primary uses of federal minerals are in the form of FUPs issued to county road and bridge departments. The majority of the FUPs issued are in Crook and Weston counties. There are currently no community pits or common use areas in the resource area.

## Current Management Practices

### Leasable Minerals

The Newcastle Field Office reviews parcels nominated for potential oil and gas leasing. Federal oil and gas leases are issued with appropriate stipulations for protection of other resource values.

### Locatable Minerals

There are no current locatable mineral management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Salable Minerals

There are no current salable mineral management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

### Leasable Minerals

Under IM WY-2010-012 restrictions are placed on the density disturbance and well density. Some areas within the Newcastle Field Office sage-grouse key habitat areas are above existing surface disturbance well levels and well densities. The proposed IM may impact the ability of operators to develop leases not held by production and therefore interfere with existing lease rights. IM WY-2010-102 also states that areas need to be identified that will not be available for leasing. These areas have not been identified under the current Newcastle Field Office RMP. Areas eligible to be withdrawn from leasing under IM WY-2010-013 need to be identified.

### Locatable Minerals

There are no management issues or concerns identified for locatable minerals as part of the Sage-grouse RMP Amendments planning effort. Changes in the management of locatable minerals are not anticipated as a result of the Sage-grouse RMP Amendments planning effort. Locatable minerals management is adequately addressed in the current Newcastle RMP.

### Salable Minerals

There are no management issues or concerns identified for salable minerals as part of the Sage-grouse RMP Amendments planning effort.

## 2.5.5 Pinedale Field Office

### Overview

The Pinedale Field Office contains approximately 1,199,280 acres of federal mineral estate underlying 922,880 acres of federally owned surface and 276,400 acres of private and state lands. As part of the Pinedale RMP revision effort, the Pinedale Mineral Occurrence and Development Potential Report (Mineral Report) was prepared (ENSR and Booz Allen Hamilton 2002). As confirmed by the Pinedale *Mineral Occurrence and Development Potential Report* (ENSR and Booz Allen Hamilton 2002), hydrocarbons are the most important mineral resources in the field office. Gas from geologic formations

other than coal beds has the greatest development potential; gas from coal beds, also referred to as CBNG, is of lesser importance in the field office.

### Leasable Minerals

Oil and gas drilling activity in the field office is concentrated in three main areas:

- **La Barge Platform.** A number of fields in this vicinity have grown into one large producing area with a cumulative completion of more than 1,900 wells. To date, these fields have produced most of the oil and gas in the field office. Production of carbon dioxide for use in secondary oil recovery operations also takes place in this region.
- **Jonah Field.** More than 1,400 wells have been completed in this field. Most of these wells are producing.
- **Pinedale Anticline.** More than 1,200 active production wells are currently on the anticline. Production from this field is increasing rapidly.

Development of CBNG in the field office is at a very early stage. To date, nine CBNG wells have been drilled into coal beds all in the Riley Ridge Field area. Directional drilling or drilling multiple gas wells from a single, larger pad is taking place in the Jonah and Anticline fields and to a lesser extent in the Big Piney-LaBarge area.

### Locatable Minerals

Locatable minerals, such as copper and gold, have been found only in very small, noncommercial concentrations in the field office. Activity related to the extraction of these minerals does not currently exist and is not anticipated in the future. There are currently no producing mines and historically there has been little mining in the field office. The potential for mining of any locatable mineral is low because the geologic environment within the field office is not favorable for such deposits.

### Salable Minerals

Salable minerals known to occur within the field office are limited to aggregates (e.g., sand and gravel, common-variety limestone) and decorative stone (moss rock and boulders). These commodities are classified as industrial minerals and have a low per-unit valuation. As long as the development potential remains limited and the unit valuation remains low, non-fluid minerals are not expected to be significant contributors to the economic minerals sector of the local economy.

Extensive deposits of sand and gravel are found along major drainages in the field office. Past use of aggregate has been associated with highway construction and, to a much lesser extent, surfacing of drill roads and pads in the rapidly developing gas fields in the area.

Decorative building stone is found in the foothills on both sides of the field office. The most extensive production has come from lichen-covered granite boulders in glacial moraines on the east side and from platy sandstone of the Nuggett Sandstone in the Miller Mountain/LaBarge Creek area on the west side. “Moss rock” located in the Lake Mountain WSA is currently unavailable for sale under the IMP for lands under wilderness review.

## Current Management Practices

### Leasable Minerals

The Pinedale Field Office reviews parcels nominated for potential oil and gas leasing. New oil and gas leases will include standard lease stipulations and appropriate NSO and controlled surface use (CSU) stipulations. Exceptions will be considered to allow year-round drilling and development operations on new and existing leases (170,670 acres) in Intensively Developed Fields that are currently encumbered by seasonal restrictions. Such exceptions will be subject to existing federal laws, such as the Migratory Bird Treaty Act (MBTA) and Endangered Species Act (ESA); additional environmental analysis including cooperating agency coordination; and the leaseholder/operator implementing offsetting mitigation to support other resource objectives. This exception will not be applied to seasonal (timing limitation) protection measures for threatened and endangered (T&E) and migratory bird species unless consultation with USFWS, migratory bird take permits, or other permits beyond the scope of BLM's exception process are obtained.

BMPs and other mitigation measures will be applied to mitigate impacts on sensitive habitats and other resources to the extent possible and practicable. Post-lease actions (activity plans, APDs, Sundry Notices) will be managed under restrictions and COAs developed through programmatic and/or site-specific environmental analysis in coordination with cooperating agencies and in consideration of resource objectives. Accelerated reclamation will be implemented to reestablish habitats.

The unavailable for oil and gas leasing designation could be reevaluated in site-specific situations under the following circumstances:

- Development on adjacent state or private mineral estate is determined by BLM's RMG to be draining federal oil and gas resources to the extent that an offsetting federal well or wells is/are needed to resolve the drainage issue.
- Surface resource values (wildlife, cultural, vegetation, visual, livestock grazing, recreation, etc.) can be adequately mitigated.
- A plan amendment is completed for the conversion.
- Existing oil and gas leases (118,190 acres) will be managed under their existing lease terms and stipulations.
- Oil and gas activities will be regulated to mitigate impacts on important wildlife habitats, including big game crucial winter ranges and greater sage-grouse habitats.
- BMPs and operating standards will be applied to mitigate impacts on sensitive habitats and other resources.
- Post-lease actions (APDs, Sundry Notices) will be managed under restrictions and COAs developed through the appropriate level of additional environmental analysis in coordination with cooperating agencies as appropriate and in consideration of resource objectives.
- On-lease water disposal pits are not allowed.

Oil and gas operators have the right to explore, develop, and produce existing leases. As prescribed in 43 CFR §3101.1-2, post-lease actions (APDs and Sundry Notices) could be subject to reasonable restrictions as determined necessary by the Authorized Officer.

Geophysical data gathering methods that involve only casual use of the surface (as defined in 43 CFR §3150) are permitted throughout the field office. Vehicle-based geophysical activities will be assessed on a case-by-case basis. The use of surface and/or above-ground (Poulter shot) explosive charges for geophysical exploration will be assessed case-by-case. Geophysical projects, including projects proposed in areas with a NSO restriction, will be analyzed and mitigation developed on a case-by-case basis. Geophysical operations are allowed on BLM-administered surface within the Wind River Front MA and the Beaver Creek, Trapper's Point, and New Fork Potholes ACECs if the operations are conducted using non-vehicular methods or on designated roads and trails. Geophysical activities are allowed in and within one-quarter mile of developed recreation sites if the recreation site is not occupied and the operations are conducted on designated roads and trails. Geophysical activities will be designed and implemented to minimize impacts on wildlife habitats through means such as the imposition of surface-use, seasonal, and/or other appropriate mitigation developed through project-specific NEPA analysis. Geophysical activities that are considered casual use actions are allowed within one-quarter mile of active sage-grouse leks provided that—

- Operations are conducted on designated roads and trails.
- Operations during the breeding season (March 1 through May 15) are conducted between the hours of 8:00 a.m. and 8:00 p.m.
- A 150-foot wide strip of undisturbed sagebrush is maintained around the perimeter of the lek for hiding and escape cover.
- Decisions on lands acceptable for leasing consideration for coal development will be made after an application is received and the coal screening process is conducted.

New mineral withdrawals (13,770 acres) will be pursued to protect cultural, wildlife, and recreational values. The field office is open to mineral material disposals with the exception of WSAs (21,200 acres). Should interest in other leasable minerals materialize in the future, leasing will be considered on a case-by-case basis, and the RMP will be amended as appropriate and necessary. The same surface disturbance restrictions will be used in analyzing leasing proposals and determining the issuance of any leases (for example, geothermal steam, coal, sodium, oil shale, and phosphate).

### **Locatable Minerals**

There are no current locatable mineral management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Salable Minerals**

Salable mineral activities will be evaluated on a case-by-case basis.

### **Management Issues and Concerns**

There are no management issues or concerns identified for mineral resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.5.6 Rawlins Field Office

### Overview

#### Leasable Minerals

##### *Oil and Gas*

The majority of the oil and gas fields are located in the western portion of the Rawlins Field Office. Based on production figures through the year 2000, three of the 25 highest producing gas fields in Wyoming and two of the 25 highest producing oil fields are within or partially within the field office. Drilling activity has been concentrated in three regions of the field office. The most heavily drilled region is in the eastern Greater Green River Basin, including the Great Divide Basin, the Wamsutter Arch, and the Washakie Basin. This region is located in the westernmost part of the field office. The two other regions of concentrated activity lie in the eastern and central portions of the field office. These regions have been less heavily explored and developed than the region in the west.

As of October 2003, the field office contained 2,690 wells (WOGCC 2003). Since 1980, 37 percent of the wells drilled in the field office have been abandoned. Abandoned wells are either unproductive (dry holes) or have become depleted and are no longer economical.

An ongoing issue is how to dispose of produced water from coal beds, as well as other formations. Options considered include dumping the water in drainages that do not contact the Colorado River system, treating the produced water to adjust its chemical ratios, and injecting the water into formations that contain water of poorer quality. Despite these concerns, there is sufficient confidence in the coal bed reservoirs' economic viability and, as a result, major drilling proposals have been initiated. These proposals are being evaluated through the preparation of EISs (for example, an EIS is being prepared for the collective proposals in Atlantic Rim).

The large structures in the central portion of the field office may have applicability for CO<sub>2</sub> sequestration. This is a positive environmental factor with disposal of the greenhouse gas. In the case of productive structures, CO<sub>2</sub> sequestration could increase oil recovery. Coal is also known to allow for CO<sub>2</sub> sequestration and to have the added benefit of enhancing CBNG recovery because the coal preferentially replaces methane from the coal structure with CO<sub>2</sub>. Studies show that low-rank coals have the highest replacement factor. CO<sub>2</sub> is readily available from large reserves to the west of the field office, and a CO<sub>2</sub> pipeline is already in place.

##### *Coal*

There are six identified coalfields within the field office. Of these, the Hanna Field has been the most significant in terms of historic and projected coal production. Most activity within the remaining fields has typically been of small scale, and in some cases the coal resource has yet to be economically exploited. Approximately 27 million tons of federal coal have been recovered using strip mining. An additional 16 million tons of federal coal have been extracted using underground mining methods. Within the field office, there are six significant coalfields containing coal resources of sub-bituminous to bituminous rank (Berryhill et al. 1950): Hanna Basin, Carbon Basin, Great Divide Basin, Rock Creek, Kindt Basin, and Little Snake River.

#### Locatable Minerals

The field office contains sedimentary uranium deposits in the Shirley Basin, Great Divide Basin, Red Desert area, and around Baggs in the Poison Buttes area. There is currently one uranium in situ recovery

(ISR) project in the early development stage. Drilling activity continues in the Red Desert Basin, specifically on properties where claims have been located by Lost Creek ISR. There are no active notices for uranium anywhere else in the Rawlins Field Office. Lost Creek ISR has indicated to the public their intention to begin construction activity for an ISR operation in early 2011. However, DEQ and the Nuclear Regulatory Commission (NRC) are still reviewing groundwater and other issues for technical adequacy. The BLM has made the decision that a separate EIS will be required to meet BLM's needs prior to approving a Plan of Operations for the project.

In addition to uranium, the field office contains deposits of titaniferous magnetite, stratabound gold, copper-gold deposits, and diamonds hosted in kimberlite pipes. Commercial development of the sedimentary uranium and titaniferous magnetite deposits has occurred over the past 50 years. Only limited exploration and production of the other locatable mineral deposits has occurred.

### **Salable Minerals**

Common variety minerals that occur within the field office include sand and gravel, limestone, granite, moss rock, cinders (clinker), clay, and petrified wood. The aggregate resource base is generally present as windblown, terrace, and alluvial deposits; however, coarser, gravel-type materials are present to a lesser degree. Where gravel is present, it is generally an older gravel (conglomeratic) deposit, often situated beneath surficial deposits. The Wyoming Geologic Survey has identified aggregate deposits in the field office near Fort Steele (T21N, R85W), Elmo (T22-23N, R81W), and Creston Junction (T21N, R92W) and in the Red Desert Basin (T21-23N, R95-97W).

## **Current Management Practices**

### **Leasable Minerals**

The Rawlins Field Office reviews parcels nominated for potential oil and gas leasing. Existing oil and gas or other mineral rights will be honored. When an oil and gas lease is issued, it constitutes a valid existing right, and BLM cannot unilaterally change the terms and conditions of a lease. The lessee is subject to stipulations attached to the lease; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures needed to minimize impacts to other resources and resource users. Oil and gas lease stipulations may be modified or eliminated using the exception, modification, or waiver criteria. BLM may impose reasonable measures (COAs) to operational aspects of oil and gas development, including modification of sites or design of facilities, timing of operations, and specifying interim or final reclamation measures to control the manner and pace of development.

All lands open to oil and gas leasing consideration will also be open to geophysical exploration, subject to appropriate resource surveys, surface protection measures, adequate bonding, and adherence to State of Wyoming standards for geophysical operations. Vehicular use for "necessary tasks," such as geophysical exploration including project survey and layout, will be permitted except where specifically prohibited (e.g., various SD/MAs). With the exception of WSAs and some other SD/MAs, the remainder of the field office is open to consideration for leasing of geothermal resources and nonenergy leasable minerals. Mineral material disposals are discretionary actions. Disposal will be considered on a case-by case basis.

Surface disturbing activities will be intensively managed and will be subject to reclamation practices. Leases will be issued with stipulations to protect resource values. Oil and gas stipulations for each oil and gas classification are as follows:

- **Oil and Gas Classification A.** Areas open to leasing, subject to the terms and conditions of the standard lease form. Under classification A, 803,070 acres of federal oil and gas leasable lands are open to leasing and subject to standard lease stipulations.
- **Oil and Gas Classification B.** Areas open to leasing, subject to moderate constraints such as seasonal restrictions. These are areas where it has been determined that moderately restrictive lease stipulations may be required to mitigate impacts on other land uses or resource values. Under classification B, 3,070,180 acres of federal oil and gas leasable lands are open to leasing and subject to lease stipulations such as seasonal restrictions.
- **Oil and Gas Classification C.** Areas open to leasing, subject to major constraints such as NSO stipulations on an area more than 40 acres or more than one-quarter mile wide. In these areas, it has been determined that highly restrictive lease stipulations are required to mitigate impacts on other lands or resource values. This classification also includes areas where overlapping moderate constraints would severely limit development of fluid mineral resources. Under classification C, 605,860 acres of federal oil and gas leasable lands are open to leasing and subject to lease stipulations such as NSO.

## Management Issues and Concerns

There are no management issues or concerns identified for mineral resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.5.7 Rock Springs Field Office

#### Overview

##### Leasable Minerals

##### **Coal**

Coal mines within the field office include three active open pit surface mines, one active underground mine, and one inactive underground mine. The coal is used to supply local industry and power plant needs and is shipped to other eastern and western markets. These low sulfur coals are important locally and in eastern markets; however, projections for demand and supply of southwestern Wyoming coal are dependent on world oil prices, transportation costs, availability of alternate fuels, and changes in federal laws and regulations. New low emission regulations are creating higher demands for Wyoming coals.

Federal coal lands within the Coal Occurrence and Development Potential area (approximately 422,000 acres) are open to further consideration for coal leasing and development (i.e., new competitive leasing, emergency leasing, lease modifications, and exchange proposals, under the Federal Coal Management Program) with appropriate and necessary conditions and requirements for protection of other land and resource values and uses.

##### **Oil and Gas**

BLM-administered lands in the field office are open to oil and gas leasing and exploration except for 721,919 acres that are administratively unavailable for oil and gas leasing. Many producing oil and gas fields are aligned along two major anticlinal structures. These structures are the Moxa Arch in the Green River Basin and the Rock Springs Uplift. Fields in the Washakie Basin, Great Divide Basin, and on the low relief Wamsutter Arch separating these two basins are predominantly stratigraphically trapped. Other fields are being developed outside these major producing areas. Approximately 1,745,950 federal acres

are leased for oil and gas development in the field office. The field office has 44 fluid units held by production and 18 units not held by production; and there are 2106 wells for inspection, 1879 active wellbores, and 525 plugged and abandoned wells. There are currently 85 operators producing oil and gas resources in the field office. As of October 2010, federal oil and gas leases cover 1,722,313 acres or 48 percent of the entire of the field office.

### **Trona**

The world's largest known deposit of trona (sodium) is located in southwestern Wyoming and extends into the western portion of the field office. The most likely area for any future sodium leasing is within and around the KSLA, and near the Eden-Farson area for black trona water. Presently, there are five active companies mining trona, one company that processes sodium products only, and several companies and individuals that hold undeveloped sodium leases within the field office. Average annual combined trona production from the four mines averages 16 million tons per year.

### **Oil Shale**

Oil shale areas of interest in southwestern Wyoming lie within the Green River and the Washakie Basins. These areas are presently withdrawn from locatable mineral entry to protect the oil shale resource. The oil shale deposits of Wyoming are located predominantly within Sweetwater County, and to a lesser extent within Uinta, Lincoln, Sublette, and Carbon counties. The oil shale beds are found almost exclusively in the Upper Eocene Age rocks of the Green River Formation in the Green River Basin, the Washakie Basin, and the Fossil Basin of southwestern Wyoming.

The Green River and the Washakie Basins contain approximately 476 billion barrels of in-place oil within the shale. These oil shale deposits have not been leased, nor have they received major attention from industry, primarily due to the marginal quality of the material and to the high development costs associated with underground and surface mining methods.

### **Locatable Minerals**

Locatable mineral deposits within the field office can occur in specific locations over a wide geographical area involving highly diverse and variable geologic settings. The most significant locatable mineral at this time is placer gold, with mining claims mostly concentrated on stream-laid deposits in the northern portion of the field office. Other minerals that have shown some level of interest in the past include diamonds found within scattered kimberlite pipes located in the southern portion of the area, semi-precious stones found in the volcanic deposits of Sweetwater County, zeolite minerals found in the Tertiary age rocks of the Washakie Basin, and uranium minerals found mostly in the northern and the eastern parts of the area.

### **Salable Minerals**

Sand and gravel deposits are found scattered along various drainage channels throughout the field office, but are mostly concentrated along the Green River and its major tributaries. Pockets of sand and gravel can also be found in the outwash material that originated from the glaciations and erosion of the Wind River and the Uinta Mountains. Smaller gravel deposits occur on buttes and plateaus scattered throughout the area that are capped by the Bishop Conglomerate.

Several other types of salable minerals are common throughout the field office, including decorative stone ("moss rock" and landscape boulders), dimension stone (flagstone), and to a much lesser extent, topsoil and petrified wood. Decorative and dimension stone are commonly found on many of the more resistant ridges that occur in the area, and are typically composed of sandstone, granite or limestone slabs partially covered with colorful lichens (not moss), or in some instances, not covered at all. Landscape boulders

usually consist of large blocks of granitic rocks found in the vicinity of the South Pass area in the Wind River Mountains. Currently, the BLM maintains a common use (non-exclusive sale) area for decorative and dimension stone on Aspen Mountain located south of Rock Springs. There is also a small common use area for topsoil material located near Highway 191 South in the Miller Mountain area.

## Current Management Practices

### Leasable Minerals

The Rock Springs Field Office reviews parcels nominated for potential oil and gas leasing. BLM-administered public lands not specifically closed are open to consideration of oil and gas leasing. Public lands closed to leasing include lands within the Red Creek ACEC and portions of the Wind River Front. Where maximum protection of resources is necessary, an NSO requirement will be imposed. Timing limitations (seasonal restrictions) will be applied when activities occur during crucial periods or would adversely affect crucial or sensitive resources. Such resources include, but are not limited to, soils during wet and muddy periods, crucial wildlife seasonal use areas, and raptor nesting areas. Where controlled use or restrictions on specific activities are needed, but do not necessarily exclude activities, CSU or surface disturbance restrictions will be designed to protect those resources. Development actions will be analyzed on a case-by-case basis to identify mitigation needs to meet RMP objectives, provide for resource protection, and provide for logical development. Limitations on the amount, sequence, timing, or level of development may occur. This may result in transportation planning and in limitations in the number of roads and drill pads, or deferring development in some areas until other areas have been restored to previous uses.

Geothermal resources are open to leasing consideration in areas that are open to oil and gas leasing consideration. Areas closed to oil and gas leasing are also closed to geothermal leasing. Exploration and development of geothermal resources are subject to application of mitigation requirements for surface disturbing activities and other activities in the same manner as they are applied to oil and gas exploration and development activities. Active grouse leks (sage- and sharptail- grouse) and the area within a one-quarter mile radius of active leks are avoidance areas for surface disturbing activities and are open to consideration for Federal coal leasing and development with the following requirements:

- Surface disturbing activities associated with such actions as surface coal mining methods, exploration drilling, construction of roads and other types of ROWs, etc., will be avoided in these areas, if possible. In cases where it is not possible to avoid these areas, intensive mitigation of the surface disturbing activities will be emphasized.
- Permanent and high profile structures, such as buildings, overhead power lines, other types of ancillary facilities, etc., are prohibited in these areas.
- During the grouse mating season, surface uses and activities are prohibited between the hours of 6:00 p.m. and 9:00 a.m., within a one-half mile radius of active leks (i.e., those leks occupied by mating birds).

Grouse nesting areas (sage- or sharptail- grouse) are open to consideration for Federal coal leasing and development, with certain requirements. Exploration activities and ancillary facilities will be allowed with the following requirement: If an occupied grouse nest may be adversely affected by coal mining and related surface disturbing activities, surface uses and activities will be delayed in the area of influence for the nest until nesting is completed.

BLM-administered public land surface overlaying state-owned coal are open to further consideration for coal development with appropriate and necessary conditions and requirements for protection of the public land surface and surface resource values and uses, including big game crucial winter range, grouse leks, cultural values, geologic features, and ROW.

### **Jack Morrow Hills**

The Rock Springs Field Office allows fluid mineral leasing, exploration, and development in the Jack Morrow Hills (JMH) area, provided mitigation measures to protect specific resources are implemented. The JMH area is divided into three implementation management areas. Area 1 is open to fluid mineral leasing with appropriate stipulations applied to protect sensitive resources; as leases expire within Area 1, they will be considered for subsequent lease offerings. Area 2 is open to leasing considering such factors as operational need, resource recovery, geology, and ability to mitigate impacts and with stipulations applied to protect sensitive resources. BLM may request potential lessees to share data (such as reservoir data or geologic data) or plans related to the development of the potential oil and gas resource prior to leasing; sharing of these data is voluntary. As leases expire within Area 2, they will be considered for subsequent lease offerings. Approximately 35,500 acres along the perimeter of Area 3 are available for leasing with an NSO stipulation. This acreage represents a distance of one-half mile within portions of the boundary of Area 3. Although current technologies suggest that the one-half mile distance is adequate at this time, these NSO areas may be expanded to include additional adjacent acreage provided the field office resource objectives can be met.

The lease stipulations will notify the leaseholder that development activities may be limited, prohibited, or implemented with mitigation measures to protect specific resources. The stipulations will allow the leaseholder's development activities while providing BLM with the authority for substantial delay or site changes or the denial of operations with the terms of the lease contract. The types of lease stipulations include CSU through limitation on the amount and type of surface disturbance, CSU through avoidance of other resources, timing limitations on development activity, and NSO. Standard lease terms and conditions may also apply.

An interdisciplinary BLM team, in coordination with the working group, stakeholders, and other members of the public, will evaluate monitoring data and determine changes in management. Twelve basic sensitive resources and uses will be used to evaluate these lands and ensure that the appropriate mitigation is provided. These sensitive resources and uses may be adjusted in the future based on the implementation, monitoring, and evaluation strategy. If an evaluation concludes that field office management objectives are not being met, the analysis of actions will include application of strategies that ensure continuity between activities and the land use plan.

Monitoring of sensitive resource indicators will determine the effectiveness of lease stipulations and COAs and provide guidance for adopting new or modified stipulations, exception criteria, or COAs needed to meet resource objectives. Indicators could include, but are not limited to, wildlife population trends, reproduction rates, observed ranges, and habitat integrity. Development levels may be adjusted or new stipulations may be applied to new leases when offered. COAs may be applied to proposed activities as appropriate and necessary to protect resource values. Adjustments could be made to ensure that further activity will not cause fragmentation and abandonment of habitat and will still meet stated management objectives, safeguard sensitive resources, and not result in significant or irreversible adverse effects. Proposed changes will be analyzed in subsequent NEPA or other documents (such as site-specific NEPA analysis for well sites) in accordance with law and policy. Changes will be based on several factors including the following:

- Data trends for indicators on the viability of potentially impacted wildlife and other sensitive resources, including impacts from other causes such as disease, drought, hunting pressure, introduction of nonnative species, and recreation activities.
- Fragmentation of habitat and migration pathways due to development activities.
- Net amount of surface disturbance, including approved development activities that will be implemented in nearby areas and planned reclamation of existing surface disturbances.
- Amount and location of actual land use activity.

Any surface disturbing and disruptive activities involved with development of existing leases will be subject to extensive review and mitigation that will allow appropriate levels of activity while meeting resource objectives and protecting sensitive resources in the area. BLM specialists will review sensitive resources with lease operators to develop and implement measures to allow for effective development operations where impacts could be avoided or mitigated. BLM has and will continue to apply and enforce necessary COAs identified through a site-specific NEPA or other analysis. Exceptions to lease stipulations and COAs will be allowed when site-specific analyses shows impacts to sensitive resources are within acceptable limits. Timing of activities will be considered where consistent with lease rights.

Well spacing requirements for resource protection will defer to the Wyoming Oil and Gas Conservation Commission guidance, with consideration for surface resource values. The Wyoming Oil and Gas Commission is responsible for establishing down-hole spacing for the State of Wyoming, which does not include an assessment of surface resources. BLM is responsible for managing all aspects of the public lands under its jurisdiction, including the appropriate surface use or “spacing,” giving consideration to the design, location, and placement of well sites and facilities and potential impacts on surface resources. Surface spacing for wells is evaluated based on appropriate NEPA or other analysis that considers impacts to all resources. The resultant surface spacing may not be the same as the down-hole spacing established by the Wyoming Oil and Gas Commission.

Withdrawals will be revoked for lands classified as prospectively valuable for oil shale (oil shale is a leasable mineral). Upon revocation, the area will be open to the filing of mining claims, exploration, and development of locatable minerals. The White Mountain Petroglyphs ACEC, located in the oil shale classification lands, will be withdrawn from mineral location prior to the revocation. Other areas that will be withdrawn from mineral location prior to the revocation of the coal classification include Greater Sand Dunes ACEC (western portion), special status plant sites, Crookston Ranch, public water reserves, Tri-Territory Marker, and South Pass Summit.

Surface disturbing exploration activities of five acres or less on mining claims will require a notice to BLM. A plan of operations will be required for exploration-related surface disturbances greater than five acres; all mining-related surface disturbances greater than casual use; and disturbances of any size in ACECs, WSAs, areas closed to OHV use, and any lands or waters known to contain federally proposed or listed T&E species or their proposed or designated critical habitat. A plan of operations will specify how the operator intends to manage the mining operation and location of surface disturbing activities, including pits, adits or shafts, placement of waste rock and mine tailings, mills, conveyors, and surface impoundments (43 CFR 3809).

The field office will be open to mineral material disposals where required to meet planning objectives, such as construction and maintenance of roads in the approved transportation plan, construction of recreational facilities, or other construction related to approved development activities. Mining and

reclamation plans will be prepared for each use of salable mineral materials to provide protection for sensitive resources and to restore disturbed areas.

Areas currently closed to mineral material disposals will remain closed. These include Crookston Ranch, Oregon Buttes ACEC, Native American burial sites, Boars Tusk, White Mountain Petroglyphs, Greater Sand Dunes ACEC, South Pass Historic Landscape ACEC (visible portion), South Pass summit (5,260 acres), raptor nesting sites, WSAs, and special status plant species. Other areas closed to mineral materials disposals will include the lava rock portion of Steamboat Mountain ACEC, the Pinnacles Geologic Feature, and greater sage-grouse leks and one-quarter mile around the lek perimeter.

The remainder of Steamboat Mountain ACEC and the Steamboat Mountain MA will be available for salable mineral development only when required to meet other planning objectives within the field office. The objectives for the Steamboat Mountain ACEC and the Steamboat Mountain MA must also be met.

Greater sage-grouse nesting habitat will be open to mineral material disposals only if related disturbance and reclamation can occur during one field season (August 1 to November 15) and the site could be returned (through reclamation efforts) to a condition usable by greater sage-grouse prior to the next strutting season. Nesting habitat reclamation would require stockpiling and redistribution of top soil and planting of containerized stock (sagebrush, grass, forbs) of sufficient size and density to meet the nesting requirements of the birds.

The field office will be open to alternative energy development projects, such as wind or solar farms, consistent with the resource protection requirements and the transportation plan. Permits or leases that will allow these developments to occur will include mitigation requirements to protect sensitive resources and will meet the location requirements for utility lines and roads required in the transportation plan. Site-specific assessments will be required to identify potential impacts from construction activity and operation noise on wildlife, heritage resources, and visual resources.

### **Locatable Minerals**

There are no current locatable mineral management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Salable Minerals**

There are no current salable mineral management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## **Management Issues and Concerns**

### **Leasable Minerals**

Current management issues and concerns are how to identify mitigation needs to meet RMP objectives, provide for resource protection, and provide for logical development and how to address an increase in national demand for oil and gas resources.

### **Locatable Minerals**

Current management issues and concerns are how to provide opportunities to explore, locate, and develop mining claims while protecting other resource values, how to implement special operating and reclamation requirements for locatable minerals and establish additional locatable mineral withdrawal

areas, and how to develop additional databases and mapping capabilities to properly manage the minerals programs.

### **Salable Minerals**

There are no management issues or concerns identified for salable minerals as part of the Sage-grouse RMP Amendments planning effort.

### **Renewable Energy**

The Rock Springs Field Office is in the southern ‘wind corridor’ area of Wyoming, with wind resources of class 5 and above. The proper level and location of wind resource development and the effects on other resources, incorporation of the national programmatic EISs for Wind Energy and Transmission Corridors, and the identification of BMPs for renewable resources will be important considerations. Other renewable resources such as geothermal also should be considered and allocated in the field office, as appropriate.

## 2.6 RANGELAND MANAGEMENT/LIVESTOCK GRAZING

### 2.6.1 Overview

The livestock grazing on BLM-managed public lands are primarily cattle, but also include sheep, and to a lesser extent horses and bison. Over 1,500 allotments occur within the planning area, providing approximately 1.2 million animal unit months (AUMs) of livestock forage. Grazing use on public lands is also administered through cooperative agreements between the various field offices. Some grazing allotments are operated under AMPs, coordinated RMPs, or management agreements. These plans typically prescribe more intensive grazing systems in an effort to improve or maintain healthy range conditions on the allotment.

The Taylor Grazing Act of 1934 established grazing districts and set restrictions on livestock stocking rates on public land. In the 1960's the BLM in southwest Wyoming conducted vegetation surveys to determine the amount of forage available for livestock grazing. From these surveys, grazing capacity was adjudicated for the allotments in the area. In most cases this meant a reduction in the number of livestock allowed to utilize public land. This was conducted in an effort to make livestock grazing sustainable, and to meet a multiple-use sustained-yield objective.

The BLM manages domestic livestock in accordance with the Wyoming Standards for Rangeland Health and Guidelines for Livestock Grazing Management (1997). The standards are used to enhance sustainable livestock grazing and wildlife habitat while protecting watersheds and riparian ecosystems. Monitoring of rangelands is conducted primarily by BLM field office rangeland management staff, which generally documents use levels, conditions, and trends in rangeland attributes in coordination with current processes such as the Wyoming Standards for Rangeland Health and grazing permit renewals. Allotment-specific appropriate actions are implemented to improve rangeland conditions in areas not meeting the standards.

Livestock use typically varies due to forage conditions, market prices, and changes in livestock operations. Since most of these operations have existed for three to four generations, adjusting to varying climate conditions, including drought, is a normal aspect of annual grazing management. In addition to modifying livestock numbers and use, other practices include locating additional pasture, weaning and/or shipping early, and increasing the use of irrigated, private lands.

Several other recent factors that influence livestock numbers and management include high numbers of wild horses that exceeded appropriate management levels (AML), large increases in elk populations across Wyoming and neighboring states, and expansion of invasive poisonous plants due to surface-disturbing activities related to oil and gas development.

Range improvements within the planning area include water developments (wells, springs, reservoirs, and pipelines), livestock management facilities (fences, cattle guards, and corrals), and vegetation manipulation projects (prescribed burns, herbicide sprays, and mechanical treatments). BLM works closely with conservation districts and local Wyoming grazing districts to facilitate management of rangelands, monitoring of rangeland health, and planning for projects to enhance rangeland condition on public and private lands.

## 2.6.2 Casper Field Office

### Overview

The Casper Field Office manages lands for livestock grazing in Converse, Goshen, Natrona, and Platte counties. The majority of the public lands are within Natrona County. Approximately 1.4 million surface acres of public land is available for grazing within 528 grazing allotments. The Casper Field Office administers 462 grazing leases, allowing approximately 200,000 AUMs of livestock forage. Through cooperative management agreements with other BLM field offices, the Casper Field Office administers grazing use on adjacent public lands.

The types of livestock within the Casper Field Office include cattle, sheep, horses, and a small number of goats and bison. Of the 462 grazing leases, 76 percent (353 leases) authorize cattle only, nine percent (41 leases) authorize both cattle and sheep, three percent (14 leases) authorize cattle, sheep and horses, one percent (6 leases) authorize sheep only, one percent (5 leases) authorize horse only, and less than one percent authorize bison/goats. Horse use for ranch operations is common and has been authorized on 12 percent (39 leases) of the leases.

A total of 18 allotments are operated under AMPs, coordinated RMPs or management agreements. Three allotments are currently in the planning stages for AMPs. Approximately 10 percent of the public lands in the Casper Field Office are to be assessed annually for rangeland health. At the end of the 2009 fiscal year, 76 allotments had been evaluated for rangeland health, with 31 of these not meeting one or more of the rangeland health standards. In these 31 allotments, specific guidelines are implemented to improve rangeland conditions.

### Current Management Practices

There are no current rangeland management/livestock grazing management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

There are no management issues or concerns identified for rangeland management/livestock grazing as part of the Sage-grouse RMP Amendments planning effort.

## 2.6.3 Kemmerer Field Office

### Overview

BLM administration of livestock grazing within the Kemmerer Field Office encompasses Lincoln and Uinta Counties (WY), and parts of Sweetwater County (WY), Bear Lake County (ID), and Rich County (UT). The Kemmerer Field Office administers grazing on 221 allotments ranging in size from 40 acres to 467,059 acres, which accounts for a total of 156,152 AUMs across all allotments. These allotments occur within the former Pioneer Trails and Star Valley Planning Units and include allotments that cross the Wyoming State line into Utah and Idaho. A total of 301 permittees and lessees use these allotments. Livestock that graze within land administered by the Kemmerer Field Office consist of cattle, sheep, and horses. Cattle account for 96,806 AUMs (62%), sheep account for 58,825 AUMs (38%), and horses account for 521 AUMs (less than 1%). Cattle are grazed on 186 allotments, sheep are grazed on 74 allotments, and 42 allotments are grazed by both cattle and sheep. Ten of these allotments are also utilized by horses. Currently, there are 19 allotments that have established AMPs. There are two allotments that

have Coordinated Resource Management Plans (CRMPs). These plans typically prescribe more intensive grazing systems in an effort to improve or maintain healthy range conditions on the allotment.

### **Current Management Practices**

There are no current rangeland management/livestock grazing management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for rangeland management/livestock grazing as part of the Sage-grouse RMP Amendments planning effort.

## **2.6.4 Newcastle Field Office**

### **Overview**

There are 312 ranch operators that graze livestock on public lands in the Newcastle Field Office. These ranchers generally have a low percentage of public land in their total operation. Many have 5,000 to 10,000 acre ranches with scattered 40 to 80 acre tracts of public land. Only 65 operators have leases containing more than 1,000 acres of public land. Approximately 282,000 acres of public land and 48,000 AUMs are leased for livestock grazing. Cow-calf operations are the norm in the area, but there are some sheep and yearling cattle operations. Generally, the season-of-use varies from year-long to five to six months (mid-May through October) in all counties.

Lease periods vary in the field office; however, some ten year grazing leases have been issued. As on-the-ground monitoring of ranch units generates data on the types and numbers of livestock and seasons of use, more ten year leases may be issued. Exceptions to this procedure will be made when private leased land is involved. In such cases, the term of the federal lease will match the private lease term.

### **Current Management Practices**

There are no current rangeland management/livestock grazing management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for rangeland management/livestock grazing as part of the Sage-grouse RMP Amendments planning effort.

## **2.6.5 Pinedale Field Office**

### **Overview**

Cattle and horses graze BLM-administered lands within the Pinedale Field Office. Of the 219 allotments, 197 are cattle operations and 16 have only horses or both horses and cattle. Cattle are allotted 97 percent of the permitted AUMs, which total 107,536 AUMs.

Range improvements in the field office include water developments (wells, springs, reservoirs, and pipelines), livestock management facilities (fences, cattle guards, and corrals), and vegetation

manipulation projects (prescribed burns, herbicide sprays, and mechanical treatments). Range improvements are designed and constructed to minimize adverse environmental impacts and maximize grazing function and cost effectiveness (BLM 1988). BLM works closely with conservation districts and local Wyoming grazing districts to facilitate management of rangelands, monitoring of rangeland health, and planning for projects to enhance rangeland condition on public and private lands.

The last ecological condition inventory in the field office occurred in the mid-1980s. Results indicated that 5,609 acres were at the potential natural community; 479,170 acres were in late seral stage; 420,571 acres were in midseral; 16,751 acres were in early seral stage; and 9,529 acres were undetermined. In many cases, vegetation communities are stable and may require a disturbance event, such as change in grazing regime, fire or mechanical treatment, to change the current seral status or state.

About 65 percent of the field office has been evaluated for compliance with the Wyoming Standards for Rangeland Health (BLM 1997). These assessments indicate that 122 allotments are meeting the standards, 20 allotments (283,508 acres) are not meeting one or more standards as a result of grazing, and 72 allotments have not been assessed.

### **Current Management Practices**

Monitoring of the range and the vegetation resource will be conducted at a level sufficient to detect changes in grazing use, trend, and range conditions. Monitoring will be tied to land health standards and indicators that help determine change in status and progress toward meeting objectives. Data will be used to direct and support grazing management decisions consistent with national policy.

Grazing systems will be designed to maintain or improve watershed and range condition; for example, through changing seasons of use, implementing rotational or other grazing management systems, or developing infrastructure for livestock management.

Livestock grazing in areas of crucial big game winter ranges will be managed to maintain or enhance vegetation condition and forage availability for wildlife, as appropriate.

Livestock water developments on crucial elk winter ranges will be designed, located, and managed to maintain winter elk forage.

Livestock grazing management will be based on monitoring of range condition and trend; consultation, cooperation, and coordination with livestock grazing permittees and other interested parties; and completion of an approved plan with accompanying NEPA documentation.

### **Management Issues and Concerns**

In recent years, additional focus has been placed on riparian habitat. Vegetation within riparian areas is influenced by the close proximity of the water table to the surface and tends to be more abundant and palatable to wildlife and livestock for longer periods of time than the surrounding upland vegetation. As a result, riparian areas are often the focus of grazing impacts. Willows and cottonwood found in these areas also provide shade.

Another area of concern is the diversity of plant species in sagebrush steppe and the effects from livestock grazing on this vegetation type. Sage-grouse literature suggests that intact sagebrush ecosystems are essential during all sage-grouse seasonal periods, and a sagebrush canopy in conjunction with robust herbaceous understory is critical to maintaining quality breeding and summer seasonal habitats (Cagney et al. 2010). Management of cattle grazing (utilization and season of use) affects the height, density, and

diversity of herbaceous materials used by grouse. Continuous spring grazing or season-long grazing on sagebrush/bunchgrass communities allows for potential transition of the sagebrush steppe system to a sagebrush/rhizomatous state that lacks an herbaceous understory to provide forage, nesting, and cover for sage-grouse. Due to geographic, climatic, and economic constraints, much of the rangeland throughout the Pinedale Field Office is continuously spring grazed.

## 2.6.6 Rawlins Field Office

### Overview

A total of 582 grazing allotments exist within the Rawlins Field Office. These are distributed across 3,492,744 acres of public land (52.9%), other federal land (0.8%), state land (5.3%), and private land (40.9%). Allotments range in size from 20 acres to 291,954 acres. There are 222 allotments that contain 640 acres (one section) or less of public land, 160 allotments that contain between 640 and about 2,500 acres of public land, 115 allotments that contain between 2,500 and 10,000 acres, and 80 allotments each containing more than 10,000 acres of public land. These 80 allotments make up 76 percent of the public land in the Rawlins Field Office. The public and other federal lands on which the BLM administers grazing provide 469,575 AUMs for grazing use. The number of AUMs continues to fluctuate for various reasons. Reductions occur as a result of such actions as sheep-to-cattle conversions or following changes in season or duration of use.

Of the 582 allotments in the field office, 87 percent are used by cattle alone, nine percent are used by cattle and sheep, and 1.4 percent are used by sheep alone. Cattle share five allotments with licensed domestic horses; there is one allotment with cattle and bison; four allotments are used by horses alone; and one is used by goats. Small numbers of horses used in ranching operations are also licensed in other allotments. Nine allotments currently do not have permitted livestock use. Two of these are wildlife management units where the private lands are controlled by the Wyoming Game and Fish Department (WGFD) and grazing use is authorized on a temporary, non-renewable basis in conjunction with WGFD. Other private lands with attached public land grazing have been purchased by individuals who are not in the livestock business. The public lands in these allotments are relatively small, and may be managed for other resource or uses (i.e., wildlife habitat or recreation), incorporated into a neighboring allotment, or identified for sale or exchange.

Within the field office, 56 percent of allotments are used on a permit-long basis, 20 percent are managed with a deferred rotation system, and 16 percent are managed with a rotation system. Four percent of allotments are permitted for year-long use and often are used as utility pastures when needed. Dormant season, split season, and rest rotation management systems make up the balance of the allotments, in order by their percentage of use.

### Current Management Practices

New fence construction will be authorized according to BLM standards unless modified following consultation with affected parties. Existing fences will be modified according to current BLM standards and according to wildlife and livestock management needs.

### Management Issues and Concerns

There are no management issues or concerns identified for rangeland management/livestock grazing as part of the Sage-grouse RMP Amendments planning effort.

## 2.6.7 Rock Springs Field Office

### Overview

Livestock grazing is authorized in 79 grazing allotments on approximately 3.5 million acres of BLM-administered public lands in the Rock Springs Field Office. In addition, there are about 15,100 acres of unallocated BLM-administered lands scattered throughout the field office. Some allotments contain lands unsuitable for livestock grazing. Other areas are suitable only for certain classes of livestock.

The rangeland program emphasizes management of forage for livestock and wild horses, and incorporates needs for wildlife habitat and protection of riparian and watershed values. The specific goals and objectives of the program have and are being accomplished through careful planning at the activity level, with attention given to proper placement of rangeland improvements, distribution of livestock, kind and class of livestock, season of use, suitable grazing systems, plant and animal requirements, and vegetative land treatments.

A number of range improvement projects have been constructed both for the enhancement and protection of watershed and wildlife values and for the management of domestic livestock grazing. Some of these projects are water developments, vegetative manipulations, and fences. All projects have been authorized under cooperative agreements or permits, depending on overall benefits and objectives and private investment levels.

### Current Management Practices

All developed and some semi-developed recreation areas are closed to livestock grazing and will be fenced to reduce conflicts between uses.

Site specific analyses will be conducted where necessary to help determine how to alleviate conflicts between wildlife use, livestock grazing, and development activities. A site specific plan that considers wildlife needs will be developed for the Pine Canyon, Long Canyon, Cedar Canyon, and Table Mountain area to alleviate conflicts between oil and gas production and exploration, wildlife needs, and livestock grazing.

Salt or mineral supplements for livestock are prohibited within 500 feet of water, wetlands, or riparian areas unless analysis shows that watershed, riparian, and wildlife objectives and values would not be adversely affected. Salt or mineral supplements are prohibited on areas inhabited by special status plant species or other sensitive areas.

### Management Issues and Concerns

A predicted increase in development of mineral resources will increase the presence of energy development and related infrastructure and machinery (e.g. roads, pipelines, well pads processing facilities and a variety of vehicular traffic). Forage may be reduced or change states, and may increase upon reclamation.

Other likely impacts on livestock grazing will come from evaluations of grazing management, management for wildlife, T&E species, the presence of cultural resources, recreation activities, fire management, WSAs, wild horses, soil and watershed protection, invasive species, land sales and exchanges, ROW, air and atmospheric values (air quality) protection, and hazardous materials control.

## 2.7 RECREATION

### 2.7.1 Overview

#### Recreation

Outdoor recreation is recognized as an important land use that provides social and economic benefits on national, regional and local levels and is more frequently being considered the dominant use on many public lands. The BLM provides opportunities for outdoor recreation and nature-based tourism under the concept of multiple-use management. Recreational activities on public lands are multi-faceted and are both consumptive and non-consumptive. BLM-administered lands provide a broad spectrum of outdoor recreation opportunities, affording visitors the freedom of recreational choice with minimal regulatory constraints. Dispersed recreation uses on BLM-administered lands include, but are not limited to, sight-seeing, touring, hiking, mountain biking, OHV use, photography, wildlife viewing, camping, fishing, and hunting (with the latter two categories accounting for the majority of visitor days). These recreational opportunities are offered to the public on all BLM administered lands where legal access is available. Developed recreation sites are shown on Map 6.

In addition to managing lands for general dispersed recreation activities, BLM administers a number of Special Recreational Permits (SRP) for specific nonexclusive commercial or competitive recreational activities. These permits are issued to provide a mechanism to accommodate commercial recreational use, protect natural and cultural resources, and provide a mechanism to accommodate commercial recreational uses. The six general categories of SRPs are commercial, competitive, vending, individual or group use in special areas, organized group activity, and event use.

Several SRMAs are also managed throughout the planning area. A SRMA is an area with a commitment to provide specific recreational activities and opportunities. These areas usually require a high level of recreational management.

#### Off-Highway Vehicles (OHV)

The national objectives for OHV management are to protect the resources of public lands, promote the safety of all users of those lands, and minimize conflicts among the various uses of those lands. For legislative purposes, OHVs are defined as “any motorized vehicle capable of or designated for, travel on or immediately over land, water, or other terrain.” To meet national objectives each federal agency is required to designate areas and trails for OHV use or restriction. Area and trail designations are completed during the RMP planning process in accordance with BLM regulations and are limited to the following three management categories:

- Open: Areas used for intensive OHV use where there are no compelling resource needs, user conflicts, or public safety issues to warrant limiting cross-country travel.
- Limited: Areas or trails where BLM must restrict OHV use in order to meet specific resource management objectives. These limitations may include: limiting the number or types of vehicles; limiting the time or season of use; permitted, licensed use only; limiting to existing roads and trails; and limiting use to designated roads and trails. The BLM may place other limitations, as necessary, to protect other resources, particularly in areas that motorized OHV enthusiasts use intensely or where they participate in competitive events.

- **Closed:** This designation is used if closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce conflicts.

## 2.7.2 Casper Field Office

### Overview

Dispersed recreation uses within the Casper Field Office include, but are not limited to, sight-seeing, touring, hiking, mountain biking, OHV use, photography, wildlife viewing, camping, fishing, and hunting (with the latter two categories accounting for the majority of visitor days). These recreational opportunities are offered to the public on all BLM-administered lands within the Casper Field Office where legal access is available.

Two travel routes in the field office have been included in the National Scenic Byway System: the South Bighorns/Redwall Backcountry Byway and a portion of the Seminoe to Alcova Backcountry Byway. The Seminoe to Alcova Backcountry Byway is jointly administered by the Rawlins and Casper Field Offices. Recreation developments along the South Bighorn-Redwall Backcountry byway include two BLM campgrounds and interpretive kiosks. Developed recreation sites near the Seminoe to Alcova Backcountry are managed by Natrona County and Wyoming State parks.

In addition to managing lands for general dispersed recreation activities, BLM administers a number of SRP for specific nonexclusive commercial or competitive recreational activities. These permits are issued to provide a mechanism to accommodate commercial recreational use, protect natural and cultural resources, and provide a mechanism to accommodate commercial recreational uses. The six general categories of SRPs are commercial, competitive, vending, individual or group use in special areas, organized group activity, and event use (BLM 2003b). The Casper Field Office administers approximately 27 SRPs annually, 22 of which are authorized for professional outfitter and guide services.

Two SRMAs are designated in the Casper Field Office: the North Platte River SRMA and Middle Fork SRMA.

### Current Management Practices

There are no current recreation management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

Public access is the primary management issue and concern related to recreation.

## 2.7.3 Kemmerer Field Office

### Overview

Dispersed recreation uses within the Kemmerer Field Office include, but are not limited to, sight-seeing, touring, hiking, mountain biking, OHV use, photography, wildlife viewing, camping, fishing, and hunting (with the latter two categories accounting for the majority of visitor days). Additional recreation activities in the Kemmerer Field Office include rock and mineral collecting, boating, paddling, downhill and cross-country skiing, and snowmobiling. Recreational opportunities are offered to the public on all BLM-administered lands within the Kemmerer Field Office where legal access is available.

In addition to managing lands for general dispersed recreation activities, BLM also administers a number of SRPs for specific nonexclusive commercial or competitive recreational activities authorized by the Land and Water Conservation Fund. These permits are issued as a means to manage visitor use, protect natural and cultural resources, and provide a mechanism to accommodate commercial recreational uses. The six general categories are commercial, competitive, vending, individual or group use in special areas, organized group activity and event use (BLM 2003b). The Kemmerer Field Office currently administers eight hunting SRPs for commercial outfitters.

Four SRMAs are designated in the Kemmerer Field Office: Pine Creek Canyon SRMA, Raymond Mountain SRMA, Class 1 portions of the Oregon-California National Historic Trail SRMA, and Dempsey Ridge SRMA.

### **Current Management Practices**

The Kemmerer Field Office allows dispersed recreation and permits special recreational activities (e.g., outfitting and guiding permits and OHV events permitted on an annual basis after evaluation) on all BLM-administered lands. OHV use in the Pine Creek Canyon SRMA is limited to the designated road. The Kemmerer Field Office will maintain and enhance existing facilities in improved campground areas, as well as maintain and enhance other existing permanent recreational facilities and develop additional recreational facilities where appropriate.

### **Management Issues and Concerns**

There are no management issues or concerns identified for recreation as part of the Sage-grouse RMP Amendments planning effort.

## **2.7.4 Newcastle Field Office**

### **Overview**

Recreation activities on public land in the Newcastle Field Office are unstructured and dispersed in nature. The predominant recreational activity is hunting, primarily for mule deer and pronghorn. The Mallo Trail is the only developed recreation site in the field office on BLM-administered surface. The goal of the recreation program is to provide a diverse array of resource-dependent outdoor recreational opportunities while providing for resource protection, visitor services, and the health and safety of public land users. The varied land tenure within the field office has resulted in few contiguous parcels with public access. Of the BLM-administered public land in the field office, 60 percent has legal access; however, only 38 percent has reasonable vehicle access. The field office issues 11 SRPs. The only SRMA managed in the field office is the Stateline SRMA.

Since 2005, visitation in the Newcastle Field Office has increased by approximately 35.8 percent, from 8,266 visitor days to 11,229 visitor days in fiscal year 2010 (BLM 2011). Activities with the most notable increases in participation include camping, driving for pleasure, big game hunting, wildlife viewing, hiking, horseback riding and OHV use. Visitation is expected to remain relatively constant or to slightly increase over the next five years, unless additional public access is acquired in the field office.

### **Current Management Practices**

The Newcastle Field Office will develop a recreation project plan, livestock water development, and wildlife habitat management plan (WHMP) for the development of the proposed Meadow Draw Reservoir Recreation Area.

## Management Issues and Concerns

The current RMP calls for the construction of a livestock water/recreation reservoir. Construction of the proposed Meadow Draw Reservoir is no longer in the best interest of the public. A 35 acre reservoir has been constructed approximately five miles east of the proposed site with public fishing and access.

### 2.7.5 Pinedale Field Office

#### Overview

Recreational activities available within the Pinedale Field Office include big game hunting (e.g., elk, mule deer, moose, and pronghorn), small game hunting (e.g., grouse and waterfowl), fishing, river rafting, canoeing, lake boating, camping, backpacking, horsepacking, cross-country skiing, OHV use (including snowmobiling), rock collecting, sightseeing of historic trails and other scenic places, wildlife viewing, and photography.

Specific recreational resources in the field office include SRMAs, extensive recreation management areas (ERMA), and developed recreation sites. An ERMA is an area not specifically designated as a SRMA and includes all BLM-administered lands outside SRMAs where dispersed recreation activities generally occur. Five SRMAs and eight developed recreation sites are managed within the field office. The SRMAs include the Boulder Lake SRMA, Scab Creek SRMA, Upper Green SRMA, Green and New Fork Rivers SRMA, and CCC Ponds SRMA.

Other designated recreational areas include the Continental Divide Snowmobile Trail system and the National Historic Oregon Trail (Lander Trail). Interpretive sites along the Lander Trail and at other locations inform visitors about the fur trapping era and western explorers and area settlement. Trapper's Point and the DeSmet Monument are two interpretive sites on public lands that depict significant information relative to the "rendezvous" of the mountain men on the Upper Green River.

#### Current Management Practices

The Pinedale Field Office will develop recreation facilities, where needed, to accommodate anticipated recreation uses and use levels and to provide for adequate public health and safety and resource protection according to subsequent SRMA activity plans.

## Management Issues and Concerns

There are no management issues or concerns identified for recreation as part of the Sage-grouse RMP Amendments planning effort.

### 2.7.6 Rawlins Field Office

#### Overview

Recreation is one of the major resource uses within the Rawlins Field Office. Recreation resources include recreation sites and dispersed public lands, wildlife resources, visual resources, waterways, lakes, and other resources (physical, historical, etc.); each of which provides different recreational opportunities.

A wide variety of recreational opportunities exist within the field office, primarily for dispersed use requiring undeveloped open space. These activities include wildlife viewing, hunting, hiking, backpacking, OHV use, fishing, bicycling, photography, camping, orienteering, and floating.

A large portion of the Rawlins Field Office is managed as Middle Country, which is greater than one-half mile from improved roads and in which the landscape appears to be natural, except for obvious primitive roads. The second most abundant class is Front Country, where improved roads are within one-half mile. Front Country is the predominant class in areas developed for oil and gas due to the prevalence of improved roads, particularly in the western area of the field office. Lands within one-half mile of highways and lands dominated by agriculture or industrialization are designated as rural. The small amount of acreage in proximity to and including towns or cities is classified as urban.

In areas where recreation resources receive heavy use, developed recreation sites are often constructed to aid in managing impacts. Consequently, developed recreation sites are primarily located near high-use recreation attractions. There are six developed recreation sites, four undeveloped recreation sites, and seven recreation areas within the field office. These include the following:

- Developed Recreation Sites:
  - Rim Lake Recreation Site
  - Teton Reservoir Recreation Site
  - Dugway Recreation Site
  - Prior Flat Campground
  - Wheatland Reservoir #3
  - East Allen Lake
- Undeveloped Recreation Sites:
  - Nine-Mile Hill
  - Shirley Basin Reservoir
  - Little Sage Reservoir
  - Little Robber Reservoir

Three SRMAs are managed in the field office: the Shirley Mountain SRMA, North Platte River SRMA, and a portion of the Continental Divide National Scenic Trail that passes through BLM-administered land.

## **Current Management Practices**

The Rawlins Field Office will maintain or improve existing recreation sites to ensure continued availability to the recreating public. Additional recreation sites will be considered for development based on need or demand, site suitability, and legal public access. The entire Rawlins Field Office is open to dispersed recreation with the exception of specific areas that must be excluded to protect public health and safety or special resource values.

Developed and undeveloped recreation sites (9,660 acres) and the surrounding one-quarter mile area (an additional 7,930 acres) are open to oil and gas leasing with an NSO stipulation. Lands within one-quarter mile of developed and undeveloped recreation sites (17,590 acres) are closed to locatable mineral entry, mineral material disposals, and operation of the public land laws, including sale. Withdrawals will be pursued. Buried utilities will be allowed with adequate reclamation of the surface. Above-ground facilities will be avoided unless adequately mitigated to protect the recreation site viewshed.

**Continental Divide National Scenic Trail SRMA**

The one-quarter mile wide corridor is open to oil and gas leasing with an NSO stipulation. Existing oil and gas leases will be intensively managed.

Public lands (600 acres) are open to locatable mineral entry and closed to mineral material disposal.

**North Platte River SRMA**

The SRMA is open to oil and gas leasing with an NSO stipulation. Existing oil and gas leases will be intensively managed.

The SRMA is open to locatable mineral entry and closed to mineral material disposals. Surface disturbing and disruptive activities will be restricted to maintain the quality of the visual resource.

**OHV SRMA**

Develop OHV areas when needs are identified to promote educational programs in cooperation with partners on riding ethics and regulations.

**Shirley Mountain SRMA**

Develop primitive camping sites to disperse camping, ensuring compatibility with a middle country setting.

Pursue land tenure adjustments to reduce trespass on private property.

The SRMA is open to oil and gas leasing with an NSO stipulation. Existing oil and gas leases will be intensively managed.

**Management Issues and Concerns**

Management issues and concerns are presented below:

- OHV users often leave existing roads and vehicle routes and create new two-tracks, thereby contributing to vegetation loss, soil compaction, soil erosion, and wildlife harassment.
- Use of existing roads and vehicle routes when they are muddy causes rutting and erosion whether the roads/vehicle routes are two-tracks or improved, and such use creates public safety hazards to drivers.
- OHV use in the Sand Hills and Dune Ponds areas is of special concern because of the fragile nature of these areas. The Dune Ponds area receives a number of visitors because of its proximity to the Seminoe Reservoir and the population center of Rawlins.
- A lack of understanding of land use ethics has increased inappropriate uses of OHVs on federal lands.
- Shortage of law enforcement personnel and a rapid increase in OHV use throughout the Rawlins Field Office make it difficult to enforce OHV designations. This situation generally occurs more often in areas of higher recreational use, but there is evidence of rapid route proliferation throughout the Rawlins Field Office.

## 2.7.7 Rock Springs Field Office

### Overview

Recreation activities available on BLM-administered lands in the Rock Springs Field Office are many and varied. A brief listing includes stream and river fishing; big game hunting for elk, deer, pronghorn, and bear; small game, upland bird, and waterfowl hunting; river rafting and canoeing; swimming; camping; backpacking; horsepacking and riding; cross-country skiing; snowmobiling; dirt bike and other OHV use (dune buggies, etc.); mountain biking; rock and petrified wood collecting; sightseeing of historic trails and places; wild horse viewing; wildlife viewing; and general photography.

The recreation resources of the field office are mostly dispersed. The major recreational boundaries of the field office include the Flaming Gorge National Recreation Area, Green River, and Wind River Front. Major recreation locations include the Greater Sand Dunes Area, Oregon Buttes, Little Mountain, Blucher Creek, Three Patches Picnic Area, Pine Mountain, Wild Horse Loop Tour, and the Oregon Trail and its variant routes.

Seven SRMAs are managed in the field office: Continental Divide National Scenic Trail SRMA, Continental Divide Snowmobile Trail SRMA, Green River SRMA, Wind River Front SRMA, Killpecker Sand Dunes SRMA, and Oregon and Mormon Pioneer National Historic Trails SRMA.

### Current Management Practices

Most public lands in the Rock Springs Field Office are open to consideration of all individual, commercial, and competitive outdoor recreation uses. The Continental Divide National Scenic Trail, Continental Divide Snowmobile Trail, Green River, and Wind River Front are designated SRMAs to place management emphasis on enhancing recreation opportunities and to focus management on areas with high recreation values or areas where there are conflicts between recreation and other uses. The former SRMA designations (Killpecker Sand Dunes and Oregon and Mormon Pioneer National Historic Trails) are retained.

### Jack Morrow Hills

In the JMH area management of recreation resources will comply with applicable regulations (43 CFR 8300, et al.) for functions and activities, such as OHV, visitor services, special recreation use permits, and commercial operations. All management actions and recreation uses will focus on the health and safety of the user and provide for recreational opportunities and experiences while protecting sensitive resources.

### Management Issues and Concerns

There are no management issues or concerns identified for recreation as part of the Sage-grouse RMP Amendments planning effort.

## 2.8 SOCIOECONOMIC CONDITIONS

### 2.8.1 Overview

Socioeconomics includes the existing circumstances for social and economic conditions, health and safety, and environmental justice. Social conditions often are based on a wide range of community and demographic characteristics and involve broad topics of community interests. The rural nature of the communities in the planning area causes them to be affected by public land management decisions. Land use, resource development, community values, and economic development are closely intertwined in the planning area. Community values with respect to land and resource management are central to social issues in the study area because they are closely tied to issues of economic development, custom and culture, and quality of life. Understanding the social and economic development, culture, and history of the area provides valuable insight into how changes to the study area might impact the livelihood and quality of life of residents. BLM's resource management decisions can impact social and economic conditions for all of the communities in the area.

Economic conditions relate to the analyses of production, distribution, and consumption of goods and services. Economic conditions describe how individuals and communities participate in the exchange of goods and services by earning a living and consuming products and services they need and want. Economic activities on BLM-administered land and mineral estate contribute to the fiscal well-being of local governments, as well as to state and federal governments.

In discussions regarding health and safety, the BLM is required to address hazards that create safety risks to visitors on BLM-administered lands.

BLM does not manage environmental justice resources; rather, it manages public lands and the resources and uses that occur on them. Analysis of environmental justice impacts and meaningful involvement of minority and low-income populations in the planning process are required by federal regulations and policies.

## **2.9 SOILS**

### **2.9.1 Overview**

Soils of the planning area have formed from a wide variety of geologic material, ranging from in situ geologic parent material rock (residuum) to material transported by wind (aeolian deposits), water (alluvium), gravity (colluvium), and ice (glacial till). These parent materials, along with variable climate, topography, vegetation, and management, produce soils with diverse characteristics. The soils in the planning area are classified into one of five groups, as applicable. The soils in the planning area possess several limitations that reduce the potential for establishing vegetation following a disturbance. Soils with limitations include highly erodible, saline, sodic, and sandy soils.

Soils are affected by a variety of surface uses that loosen topsoil and damage or remove vegetation or other ground cover, which may result in accelerated erosion. Managing soils within the planning area emphasizes maintaining soil and landscape integrity through efforts to minimize accelerated erosion, avoiding or minimizing destruction of biological soil crusts, establishing successful site reclamation, and, in some cases, improving soil health through implementing grazing management plans. Reclamation of surface-disturbing activities and improving grazing management have been successful in sustaining soil productivity in most cases.

### **2.9.2 Casper Field Office**

#### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

#### **Management Issues and Concerns**

Management issues and concerns related to management of soil resources include considering ways to improve reclamation of disturbed areas. The field office should continue to focus management on maintaining soil integrity, successful reclamation, reducing erosion, and in some cases improving soil health through implementation of grazing management plans.

### **2.9.3 Kemmerer Field Office**

#### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

#### **Management Issues and Concerns**

There are no management issues or concerns identified for soils as part of the Sage-grouse RMP Amendments planning effort.

## **2.9.4 Newcastle Field Office**

### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for soils as part of the Sage-grouse RMP Amendments planning effort.

## **2.9.5 Pinedale Field Office**

### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for soils as part of the Sage-grouse RMP Amendments planning effort.

## **2.9.6 Rawlins Field Office**

### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for soils as part of the Sage-grouse RMP Amendments planning effort.

## **2.9.7 Rock Springs Office**

### **Current Management Practices**

There are no current soils management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

Various issues are being addressed to protect soils. These measures include considering ways to improve reclamation of disturbed areas, focusing management actions on maintaining soil integrity, successful reclamation, reducing erosion, and in some cases, improving soil health through implementation of grazing management plans.

## 2.10 SPECIAL DESIGNATIONS AND MANAGEMENT AREAS

### 2.10.1 Overview

The SD/MAs discussed in this section include ACECs, WSAs, and other MAs. Areas managed under special designations are regulatory or congressionally mandated and are designed to protect or preserve certain resource qualities or uses. Locations of SD/MAs are included on Map 7. The environment in the SD/MAs is unique in some respects, and it is therefore desirable to apply different management prescriptions to these areas compared to surrounding areas.

Pursuant to the FLPMA of 1976, Section 103(a), an ACEC is defined as an area “within public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.” While an ACEC may emphasize one or more unique resources, other existing multiple-use management can continue within an ACEC, provided the uses do not impair the values for which the ACEC was established.

ACECs contain one or more resources that require special management and protection for maintaining the value of the resource and the area. Areas designated as ACECs may contain resources such as rare or sensitive archeological resources; habitat for endangered, sensitive, or threatened species; or rare geologic features. ACEC designations indicate areas for which special management attention is necessary for protecting and preventing irreparable damage to important historic, cultural, and scenic values; for protecting fish or wildlife resources or other natural systems or processes; or for protecting human life and safety from natural hazards. Management is considered special if it is unique to the area and includes terms and conditions designed specifically to protect the values in the ACEC.

BLM recognizes that an ACEC has significant values and establishes special management measures to protect those values. The designation is a reminder that significant values exist that must be accommodated when future management actions and land use proposals are considered in the ACEC. Designation may also support a funding priority. The designation of ACECs is achieved only through the resource management planning process, either in an RMP or in a plan amendment.

In 1964, the Congress passed the Wilderness Act, establishing a national system of lands for the purpose of preserving a representative sample of ecosystems in a natural condition for the benefit of future generations. Until 1976, most land considered for and designated as wilderness was managed by the USFS and NPS. With the passage of FLPMA in 1976, the Congress directed BLM to inventory, study, and recommend which public lands under its administration should be designated wilderness.

In the interim, between the inventory that identifies suitable and eligible areas appropriate for wilderness designation and the actual congressional designation of a wilderness, BLM must manage the potential wilderness. BLM manages these potential wilderness areas as WSAs (BLM 1990). During the time that the Congress considers an area for wilderness, which can be many years, designated WSAs require special management practices to preserve the wilderness characteristics that make the areas appropriate for designation. WSAs, established under the authority of Section 603(c) of FLPMA, are managed to preserve their wilderness values according to the IMP and will continue to be managed in that manner until the Congress either designates them as wilderness or releases them for other uses. Only the Congress can designate or release Section 603 WSAs.

## 2.10.2 Casper Field Office

### Overview

This section identifies the various SD/MAs within the Casper Field Office and addresses the qualities or uses that have resulted in their designation. Three ACECs and five MAs are managed within the Casper Field Office.

### Areas of Critical Environmental Concern

#### ***Jackson Canyon ACEC***

The Jackson Canyon ACEC is in south-central Natrona County at the western end of Casper Mountain. The ACEC encompasses 14,025 acres, of which 3,938 acres are public surface and 11,104 acres are federal mineral estate. Most private lands within the ACEC are subject to easements held by The Nature Conservancy, generally designed to preserve resources in a natural state and limit development.

#### ***Salt Creek Hazardous ACEC***

BLM designated the 235,325 acre Salt Creek Hazardous ACEC under the natural hazards criterion of ACEC designation under Section 103(a) of the FLPMA of 1976. Hazards associated with the Salt Creek ACEC resulted from human activity associated with oil and gas extraction. Since the designation of the ACEC, operators have reduced the amount of environmental hazards in the area by taking their own initiatives and working with BLM and local communities on a case-by-case basis. Operators also have taken steps to improve the visual quality in the area by reclaiming surface disturbance associated with past oil and gas development. BLM management challenges will continue in the area because of environmental hazards associated with ongoing and future oil and gas development.

#### ***Alcova Fossil ACEC***

The Alcova Fossil Area near Alcova Reservoir in southwest Natrona County was designated an ACEC based on the paleontological resources known to exist within the proposed boundaries. Values associated with the site include the Alcova Pterodactyl Trackway locality which one of only four such trackway occurrences known worldwide. The individual tracks in the ACEC are larger than any others found in North America and suggest the animals had a wingspan of 10 feet. Recent research has revealed the presence of additional trackways in the area. Also, exposed outcrops of the Morrison and Sundance formations in the area contain numerous fossilized remains of marine and terrestrial species, including plesiosaurs, ichthyosaurs, Allosaurus, and Camarasaurus from the Triassic and Jurassic periods. The potential for discovery of additional paleontological resources in the area is high. The BOR has developed the Dinosaur Trail, a hiking trail with interpretive signs explaining the geology and paleontology, on adjacent lands.

Several instances of theft and vandalism aimed at the paleontological resources have occurred in the past, including theft of the flagstone-type rock preserving the tracks at one trackway. Numerous mining claims also exist in the area. Recreationalists heavily use the Alcova Reservoir area.

### Management Areas

#### ***Bates Hole MA***

Bates Hole is a collective term for the area with boundaries of the Bates Creek and North Platte River-Bolton Creek watersheds. The area is located in southwestern Natrona County and extends into northern Carbon County beyond the Casper Field Office; however, management decisions in this document apply

only to the 375,221 acres within the field office, not the portions of the watersheds that are located outside. Approximately 288,504 acres of public land, including 158,023 public surface acres, fall within the MA boundary.

The Bates Hole MA will protect highly erosive soils, fragile watersheds, and crucial wildlife habitats within the proposed boundary. Approximately 26,924 acres of highly erosive soils occur on public lands soils on BLM-administered surface in the planning area. Soils with a high wind-erosion potential within the MA are not a significant feature (1,330 acres) and comprise less than one percent of the high wind erosion potential soils on public land in the planning area. The dominant vegetation types in the area include sagebrush, forests, woodlands, and shrublands. Sagebrush complexes comprise nearly 40 percent of the area and represent the best quality greater sage-grouse habitats within the field office and some of the finest habitats in Wyoming. There are 30 identified greater sage-grouse leks, 111 identified raptor nests, and 122,799 acres of crucial wildlife habitats present on public land within the MA boundary. Crucial wildlife habitats occupy approximately 43 percent of all public land within the MA. Some lands within the MA have been converted to agriculture, urban, and industrial uses.

Portions of the North Platte River also fall within the boundary and include some of the highest quality recreation and fishing opportunities in the field office including 17 miles of Class I and 88 miles of Class II waters. The MA currently encompasses portions of the Jackson Canyon Alcova Fossil ACECs.

Ninety-six percent of the MA is located in a very low oil and gas development potential area, with the other four percent rated as having no development potential. Oil and gas leases on 3,478 acres of federal mineral estate (approximately 1% of the MA) are held by production at Government Bridge, Schrader Flats, and Bates Creek oil and gas fields. An additional 13,174 acres (approximately 3.5% of the MA) are presently leased. The remaining portion of the MA is presently unleased. These three fields combined to produce 17,241 barrels of oil and 2,265 thousand metric feet of natural gas during 2004 and appear to be fully developed. This production represents less than one percent of oil and gas production in the Casper Field Office during 2004.

The Bates Hole MA has high potential for locatable minerals, such as uranium, bentonite, limestone, and jade. Numerous mining claims exist in the area, as well as numerous active mineral material pits.

### **Salt Creek MA**

The Salt Creek MA falls completely within the boundary of the existing Salt Creek Hazardous ACEC and facilitates oil and gas exploration and development in the Salt Creek oil field area. The drilling of the No. 1 Salt Creek (or No. 1 Dutch) in October 1908 opened Salt Creek as one of the most productive fields in the Rocky Mountains. Based on data from the WOGCC, the Salt Creek oil field has produced about 671-million barrels of oil and 723-billion CF of gas as of October 2003 (BLM 2005). Salt Creek is the oldest and largest oil field in the southern Powder River Basin, the largest sweet oil-producing field in the world, and is currently the third largest oil producer in Wyoming (BLM 2005). In 2002, Salt Creek produced 36 percent of the oil produced in the planning area, and well over half of the original oil-in-place in Salt Creek is still there (BLM 2005). In addition, the implementation of a carbon dioxide flood began in the Salt Creek field in 2002 and will continue for the next 10 years.

After a century of oil and gas development, the Salt Creek oil field area provides important grazing resources and habitats for nesting raptors, black-tailed prairie dogs, mule deer, pronghorn, and other birds and small mammals. The area contains prehistoric archeology sites, historic oil field sites, the Bozeman Trail, and provides for limited recreational hunting opportunities.

### **Sand Hills MA**

The approximately 17,633 acre Sand Hills area in east central Natrona and west central Converse Counties is identified for special management to maintain the integrity of soils and vegetation and to protect highly erosive soils. Soils in the area are susceptible to moderate to severe wind and water erosion. Ninety-five percent of the MA has been identified as having high wind-erosion potential, which is nearly one quarter of all high wind-erosion soils on public surface in the field office. Sand dunes are a dominant feature in the area and provide visual relief from the surrounding landscape. Although the area contains examples of both active and inactive dunes, the majority of the area is stabilized by vegetation. The sand dunes vary in length from 100 to 500 yards; some reach a height of 300 feet. Pioneer native grasses can be observed on many of the dunes.

While a number of sand hills and sand dunes occur in other areas of Wyoming and the Rocky Mountain system, the Sand Hills area occurs in close proximity to Casper and mostly comprises public lands (both surface and federal mineral estate) within the boundary of the MA. The Sand Hills area is a system that provides habitats for big game and nongame species. Approximately 13 percent of the area is considered to be a crucial wildlife habitat. No greater sage-grouse leks and only one raptor nest have been identified within the MA. A segment of the Bozeman Trail passes through the center of the proposed MA. Sand dunes within the Sand Hills MA may meet habitat requirements for the blowout penstemon, which is adapted to blowout dunes habitat caused and maintained by wind erosion. One management requirement for recovery of blowout penstemon is creating favorable conditions for colonization of new sites.

Livestock grazing is a traditional and historic land use in the area and oil and gas development has occurred in this area since the late 1950s. The area has low-to-moderate development potential for oil and gas. No roads provide legal public access to the Sand Hills. Bladed and gravel roads, as well as unimproved two-track roads, are present in the Sand Hills and serve oil facilities and local ranches. Oil and gas leases in a portion of the area (3,172 acres) are held by production from development at Cole Creek and South Cole Creek. Other portions of the area are leased (10,265 acres); approximately 42 percent is unleased (7,368 acres).

Ninety-eight percent of the MA is identified as having low oil and gas development potential; however, a multimillion-dollar three-dimensional geophysical project was recently completed in this area, which could lead to further development and leasing of the area. No known mining claims occur within the area; however, numerous mining claims for uranium have recently been filed adjacent to the MA along the northeastern boundary.

### **South Bighorns/Red Wall MA**

The South Bighorns/Red Wall complex includes wildlife habitats, unique vegetation, cultural and historic values, and a high-value recreational area. The area encompasses mule deer crucial winter range, elk crucial winter range, and greater sage-grouse habitats. The Red Wall/Gray Wall provides nesting habitats for a variety of raptor species and contributes to the visual quality of the area. The area also contains a unique plant community, curl-leaf mountain mahogany, which is a component of big game crucial winter ranges. Curl-leaf mountain mahogany is also an important fall and winter forage for deer and elk and is utilized by livestock. Forests and woodlands provide hiding, escape, and thermal cover for wildlife; as well as provide a small commercial source of wood products. Mountain big sagebrush communities in the area support a wide variety of wildlife species, as an important food source and as hiding and nesting cover. In addition, the area provides habitats for a variety of wildlife, such as the mountain lion, swift fox, marmot, greater sage-grouse, Hungarian partridge, and various migratory bird species.

The South Bighorns/Red Wall area exhibits a dense and diverse range of cultural and historical resources rivaling that found anywhere in Wyoming including portions of the Cedar Ridge TCP and the Hole-in-

the-Wall region. Evidence that supports Native American use in the South Bighorns includes numerous temporary camps, stone-tool manufacturing localities, and food preparation and processing sites. Native American religious practitioners have identified stone circles found on exposed ridges as having religious significance. The South Bighorns provided several important travel routes used by Native Americans, pioneers, and outlaws.

The area is traversed by the South Bighorns/Red Wall National Back Country Byway, designated in 1990 and originating from two important stock driveways, the Arminto and 33-Mile. These stock driveways are still used today by the local ranching community, are two of the longest stock driveways in the west, and were the first to be established in Wyoming. A shepherd's monument is located at the intersection of these two stock driveways. The National Back Country Byway provides access to the area, which offers numerous recreational opportunities, such as camping, hiking, fishing, hunting, and sightseeing. There are two BLM campgrounds within the area accessed by the national back country byway. Recreational OHV use is increasing and is intensive during the hunting season.

The South Bighorns/Red Wall area has high scenic values. The Chugwater Formation interrupts gentle flowing lines with steep vertical escarpments. The most prominent attribute of the Chugwater Formation is its striking crimson color. Buffalo Creek and Badwater Creek canyons, as well as numerous lesser canyons, dissect the area and add important diversity and richness to the visual quality.

Oil and gas leases in a small portion of the area (1,102 acres) are held by production from development at the Madden (Deep) oil and gas field primarily in Fremont County, which is administered by BLM's Lander Field Office. Approximately 20,179 acres, of which 12,539 acres are public surface and 7,640 acres are federal mineral estate, are administratively unavailable for oil and gas leasing. The majority of the area rates as having low-to-no oil and gas production potential.

Numerous mining claims occur in the area. An increased interest in uranium has increased filings of new mining claims in the area. There are three active sand and gravel permits in the area; two are free-use permits and the other is a negotiated contract. In addition, there are talc and soapstone claims, with some copper exploration, in the area west of Grave Springs Campground along the EK Trail.

### ***Wind River Basin MA***

Improvements in hydraulic fracturing technology have encouraged extensive oil and gas development in parts of the Wind River Basin lying within the field office. The Wind River Basin MA lies in the western portion of Natrona County and the Casper Field Office manages it to facilitate oil and gas production.

Although gas production in the planning area declined from 100- to 63-billion CF per year since 1999, drilling in the eastern Wind River Basin portion of the planning area may reverse or at least flatten the decline during the next few years. In addition, the eastern portion of the Wind River Basin is prospective for additional discoveries of natural gas (BLM 2005).

Estimates for the gas-in-place resource, for the portion of the MA lying within the field office, range from approximately 228-trillion CF to 268-trillion CF. The estimate for deep gas-in-place is approximately 72-trillion CF present within that part of the Wind River Basin that lies within the planning area (BLM 2005).

The Wind River Basin provides a diversity of habitats for numerous plant and wildlife species, including mule deer, pronghorn, and various special status species, such as the mountain plover, white-tailed prairie dog, raptors, and the greater sage-grouse. Portions of the Wind River Basin contain crucial winter ranges for both mule deer and pronghorn. The basin also contains sagebrush habitats for the greater sage-grouse

and other sagebrush obligates, as well as a large number of prehistoric archeology sites and the Bridger Trail.

The Wind River Basin MA is managed for energy development. By not applying discretionary timing restrictions for big game crucial winter ranges, and raptor, mountain plover, and greater sage-grouse nesting habitats within the proposed boundaries of the proposed MA, larger windows of time are provided not only for drilling of new wells but also for reclamation operations. Compliance with federal laws, such as the ESA and MBTA, are still required throughout the MA area.

Currently, the greater sage-grouse and mountain plover are recognized as Wyoming BLM sensitive species. This designation requires the BLM to ensure that actions on public surface and federal mineral estate consider the welfare of these species and do not contribute to the need to list the species under the ESA.

## **Current Management Practices**

### **Bates Hole MA**

Surface-disturbing activities and disruptive activities are subject to a CSU stipulation, restricting or prohibiting surface occupancy unless the proponent and surface management agency arrive at an acceptable plan for mitigation for impacts. To meet watershed management goals, the Bates Hole MA is intensively managed.

No new corridor designations will be made in Bates Hole. When placement of a major ROW facility within a designated corridor is not possible, and for smaller ROW and other linear facilities, placement will be adjacent to existing facilities or disturbances. Cross-country placement of ROW and other linear facilities will be allowed only when placement in a designated corridor or adjacent to an existing facility is not practical or feasible. The extent of all surface disturbances will be minimized. Management actions to conserve and/or improve greater sage-grouse habitats are described in the special status species section.

## **Management Issues and Concerns**

There are no management issues or concerns identified for SD/MAs as part of the Sage-grouse RMP Amendments planning effort.

### **2.10.3 Kemmerer Field Office**

#### **Overview**

This section identifies the various SD/MAs within the Kemmerer Field Office and addresses the qualities or uses that have resulted in their designation. Four ACECs, one WSA, and two Areas of Significant Resource Concern (ASRC) are managed within the Kemmerer Field Office.

#### **Areas of Critical Environmental Concern**

##### ***Raymond Mountain ACEC***

The Raymond Mountain ACEC includes 12,667 acres of BLM-administered surface and mineral estate along the northwestern edge of the planning area and lies wholly within the area managed by the Thomas Fork Habitat Management Plan (BLM 1979). The Raymond Mountain ACEC designation is based on a recommendation within the Thomas Fork HMP to designate aquatic and riparian habitats of the Thomas

Fork drainage as an ACEC to amplify management needs of the Bear River (Bonneville) cutthroat trout (BLM 1982), a BLM sensitive species.

Cooperative management strategies developed with local livestock permittees/lessees have provided additional protections for sensitive resources in the area through livestock reductions and season of use restrictions. Livestock grazing currently is permitted within the Raymond Mountain ACEC.

BLM manages the Raymond Mountain watershed to protect the needs of the sensitive Bonneville cutthroat trout, which is in danger of being extirpated from the drainage. The Raymond Mountain ACEC provides yearlong habitats for all life stages of the Bonneville cutthroat trout and other native nongame aquatic species (WGFD 2004a).

### ***Bridger Butte ACEC***

The Bridger Butte ACEC is located south of I-80 between Lyman and Evanston and is intended to protect sensitive cultural values, including National Historic Trails and associated sites. Historical accounts and emigrant diaries repeatedly refer to Bridger Butte as an important landmark that signified their approach to Fort Bridger, an important rest stop on the journey west. In addition, several Native American tribes have identified Bridger Butte as an area of tribal significance.

The area includes habitats for special status plant species populations, including tufted twinpod, prostrate bladderpod, Maybell locoweed, and Payson beardtongue. Rare animals inhabiting the area include the Uinta ground squirrel and Idaho pocket gopher. In addition, the area of the Blacks Fork River includes populations of roundtail chub and flannelmouth suckers (WGFD 2004a). The ACEC exhibits low oil and gas development potential and low occurrence potential for coal, phosphate, and trona.

### ***Special Status Plants ACEC***

The ACEC includes known populations for any, or all, of eight special status plant species known to exist in the planning area. Particular species of concern include Trelease's racemose milkvetch, entire-leaved peppergrass, large fruited bladderpod, Western bladderpod, prostrate bladderpod, Beaver Rim phlox, tufted twinpod, and Dorn's twinpod.

Special status plant species habitats are located in multiple locations within the planning area including areas subject to OHV use, mineral development, and livestock grazing. The majority of the ACEC areas exhibit low or moderate oil and gas development potential and none of the areas exhibit high oil and gas development potential. Occurrence potential for coal within the ACEC areas is low and most of the areas are classified as having a low to moderate occurrence potential for phosphate. The occurrence potential for trona within ACEC areas is also low.

### ***Cushion Plant Communities ACEC***

The ACEC and areas comprise known populations and seven endemic species. Cushion plant communities are sparsely vegetated areas with low-growing, mat-like tufts of vegetation with bare soil and gravel between the individual plants. Cold winters, little rainfall, and strong winds contribute to the development of these specialized communities. The communities are vulnerable to surface disturbance and have a slow recovery time. Usually 50 years or more are required to restore the communities to their original native state after disturbance. The cushion plant communities frequently contain uncommon and regional endemic plant species. Species composition varies from one community to another. Typical associates found in these areas include different species of phlox, twinpod, bladderpod, and legumes.

The area northeast of Kemmerer within the ACEC includes active livestock grazing and oil and gas development. The ACEC area exhibits moderate oil and gas development potential and low occurrence potential for coal, phosphate, and trona.

### **Wilderness Study Areas**

#### ***Raymond Mountain WSA***

One WSA exists within the planning area. The Raymond Mountain WSA is located in the Sublette Mountain Range (Raymond Mountains). The WSA is approximately 19 miles long, four miles wide at its widest point, and includes approximately 32,880 acres. The WSA has diverse vegetation and steep topography. A major portion of the area is forested with Douglas-fir, lodgepole pine, and other coniferous trees, as well as aspen. The southern end of the WSA contains stands of big sagebrush and rock outcrops.

Current management of the Raymond Mountain WSA is subject to the provisions of *the Interim Management Policy and Guidelines for Lands Under Wilderness Review: Update Document H-8550-1, 11/10/87 (BLM 1995a)*. Management emphasizes preservation of wilderness values until wilderness determination is made by Congress. The Raymond Mountain WSA exhibits very low oil and gas development potential, moderate-to-high phosphate occurrence potential, and most of the WSA is classified as having low occurrence potential for coal and trona.

### **Areas of Significant Resource Concern (ASRC)**

#### ***Rock Creek/Tunp ASRC***

The ASRC is located northwest of Kemmerer and is intended to protect sensitive overlapping wildlife habitats, cultural values, National Historic Trails and associated sites, and special status plant species. The area includes significant physical traces of the Oregon-California National Historic Trail that retain historic scenic qualities. This area also provides habitats for, and identified locations of, several special status plant species.

This area is within the Wyoming Department of Game and Fish's Strategic Habitat Plan Priority Area 1 for both the Green River Regional Wildlife Division and the Pinedale Regional Fish Division. The area contains overlapping big game crucial winter ranges and a north-south migration corridor for mule deer, as well as migration corridors for elk, pronghorn, and moose. Currently, the area is closed during the winter season to motorized vehicles to protect wintering big game. The area supports yearlong and seasonal habitats for greater sage-grouse, other sensitive sagebrush obligate species, and all local big game species. In addition, the northeast portion of the proposed MA contains designated elk parturition habitats. The area also contains a raptor migration corridor and potentially provides habitats for Bonneville cutthroat trout, bluehead suckers, and leatherside chub. Roundtail chub and flannelmouth suckers also may utilize the Willow Creek drainage.

The entire ASRC exhibits low oil and gas development potential. Most of the area exhibits low occurrence potential for coal; however, approximately 5,000 acres exhibit moderate occurrence potential. Phosphate occurrence potential within the ASRC is mostly moderate with less than 10,000 acres classified as low and less than 1,000 acres classified as high occurrence potential. The entire area has low occurrence potential for trona.

#### ***Bear River Divide ASRC***

The ASRC is located southwest of Kemmerer and directly south of the Rock Creek/Tunp ASRC. The two areas are connected by underpasses that allow movement of big game from one side of U.S. Highway 30 to the other. The Bear River Divide MA is intended to protect and enhance critical wildlife habitats,

cultural values, and paleontology resources. The area includes traces of the Oregon-California National Historic Trail, Bear River Divide Trail Landmark, Fossil Butte National Monument viewshed, and internationally renowned fossil fish paleontological resources.

This area is within the Wyoming Department of Game and Fish’s Strategic Habitat Plan Priority Area 1 for both the Green River Regional Wildlife Division and the Pinedale Regional Fish Division (WGFD 2004b). The WGFD reports that the area, “...contains crucial big game winter range for the Wyoming Range mule deer, Uinta mule deer, West Green River elk, Carter Lease pronghorn, and Bear River Divide moose herd units” (WGFD 2004b). The area also contains a north-south migration corridor for mule deer, as well as migration corridors for elk and pronghorn. Currently, the area is closed during the winter season to motorized vehicles to protect wintering big game. The area supports yearlong and seasonal habitats for greater sage-grouse, other sensitive sagebrush obligate species, and all local big game species. The area also contains a raptor migration corridor. In addition, the river potentially provides habitats for Bonneville cutthroat trout, bluehead suckers, and leatherside chub. Roundtail chub and flannelmouth suckers also may utilize area drainages.

The eastern portion of the ASRC is located over the Fossil Basin paleontological feature, and the northeast portion is part of the viewshed area of Fossil Butte National Monument. This area will protect and highlight the paleontological deposits in the area, as well as scenery and views from Fossil Butte National Monument.

A number of gas plants, including Carter Creek, Road Hollow, and Whitney Canyon, occur in the area, including associated surface pipelines. The ASRC exhibits low to high oil and gas development potential. Coal and phosphate occurrence potentials within the area primarily have low to moderate oil and gas development potential. Trona occurrence potential within the ASRC is low.

### **Current Management Practices**

There are no current special designation management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for SD/MAs as part of the Sage-grouse RMP Amendments planning effort.

## **2.10.4 Newcastle Field Office**

### **Overview**

The Newcastle Field Office manages one SD/MA, which is the Whoopup Canyon ACEC.

### **Current Management Practices**

There are no current special designation management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for SD/MAs as part of the Sage-grouse RMP Amendments planning effort.

## 2.10.5 Pinedale Field Office

### Overview

This section identifies the various SD/MAs within the Pinedale Field Office and addresses the qualities or uses that have resulted in their designation. Four ACECs, three MAs, and two WSAs are managed within the Pinedale Field Office.

### Areas of Critical Environmental Concern

#### ***Rock Creek ACEC***

The management objective for the 5,270 acre Rock Creek ACEC is to protect the Rock Creek drainage to ensure quality aquatic habitat for the Colorado River cutthroat trout and to provide crucial winter range for a portion of the Piney elk herd. This ACEC was designated in the 1988 RMP. Because oil and gas leases are issued in aliquot parts, the boundary stretches beyond the actual hydrologic unit of the Rock Creek drainage. Land management actions within the drainage are more restrictive than those applied to the area that falls outside the watershed.

#### ***Beaver Creek ACEC***

The objectives for managing the approximately 3,590 acre Beaver Creek ACEC are to ensure quality aquatic habitat for the sensitive Colorado River cutthroat trout and to protect elk calving habitat. Beaver Creek was designated as an ACEC during the 1988 RMP planning process.

#### ***Trapper's Point ACEC***

Trapper's Point is a major funnel, or bottleneck, for mule deer and pronghorn in their migrations to and from winter range. The bottleneck is formed by the Green River to the west and the New Fork River agricultural lands to the east. A recent upswing in residential development to the east compounds the definition and constriction of the bottleneck. The Upper Green River Cattle Association relies on this area for movement of cattle from desert to forest allotments and back. This tradition has occurred for almost 100 years. Going back further in time, one of the most significant archaeological sites within the planning area is in the heart of the bottleneck, attesting to its long tradition with pronghorn. The Trapper's Point Site, 48SU301, is a pronghorn kill and butchering site more than 6,000 years old. Numerous other cultural sites are concentrated in the area.

#### ***New Fork Potholes ACEC***

This unique subsection of the WindRiver Front contains nearly 100 glacial potholes, which are depressions formed by huge blocks of ice stranded in a field of glacial outwash materials. Upon melting, these blocks left depressions in the landscape, which today remain in the form of small lakes. Abundant waterfowl use the ecosystem for nesting and brood rearing and as a stopover point in their migrations. Reintroduction efforts for the trumpeter swan have been attempted in the past. Riparian vegetation surrounds the potholes, providing habitat for various wildlife, including neotropical birds, elk, deer, and moose. A portion of the region serves as crucial elk winter range. The area is accessible for semi-primitive motorized recreational activities.

### Management Areas

#### ***Miller Mountain MA***

This ecosystem is a remote, largely roadless landscape consisting of steep foothills with a combination of sagebrush, aspen, and conifer vegetation types. This area is an extension of the Lake Mountain WSA

viewshed and contains Visual Resource Management (VRM) Class II values. It is identified as elk parturition and crucial winter range, contains lynx analysis units, and is widely used for big game hunting. It also contains potential Colorado River cutthroat trout habitat in Miller and Coal Creeks. Numerous small perennial streams and sensitive riparian habitats occur throughout the area. The area offers recreational opportunities for semi-primitive motorized activities. Miller Mountain is rich in cultural history and includes an ancient pictograph site, historic Fort Hill, and more recent stone shepherder cairns that signified range boundaries.

### **Ross Butte MA**

This ecosystem is dominated by a badlands landscape that is virtually roadless and offers wide scenic vistas similar to the Painted Desert of Arizona. The soils, which are barren and unstable, provide unique habitat for Wyoming BLM sensitive endemic plant species. Within this area is winter habitat for sage-grouse and mule deer. The area contains abundant archeological materials and unique sites considered important and sensitive to Native Americans. One TCP is known, and the landform types found in this system frequently contain other sensitive cultural resources. The area offers recreational opportunities for semiprimitive motorized activities and is currently experiencing uncontrolled OHV use, resulting in increased erosion that causes visual intrusions and can destroy sensitive plant habitat. This landscape, which is unique to the Pinedale Field Office area, offers substantial recreation potential, including hiking, mountain biking, wildflower viewing, and other activities. Reardon Draw, an ephemeral drainage within the proposed Ross Butte SD/MA, is listed as “impaired” under Section 303(d) of the Clean Water Act. According to the list of impaired or threatened water bodies, the cause of this impairment is physical degradation, and the silt resulting from this condition is considered a threat to wildlife and agriculture.

Several important cultural sites, including the Wardell Buffalo Trap (48SU301), are in the vicinity of Ross Butte. An overview study has been conducted that ties Ross Butte directly to the Wardell buffalo trap as a lookout and sacred site. Uncontrolled OHV use in the region may be affecting VRM and site integrity of many cultural resources, including NRHP-listed properties. The badlands formation is known to hold many fossils in the Wasatch and Green River formations.

### **Wind River Front MA**

This landscape was formed by Pleistocene glacial events that formed world-class geologic features, including terminal and lateral moraines and potholes. Unique to this landscape are huge boulders randomly scattered across a backdrop of rolling sagebrush foothills. Several streams intersect this area with Wild and Scenic River (WSR) values, including three that meet the criteria for inclusion as WSR segments (see related section below). Semi-primitive motorized and non-motorized recreation opportunities include hunting, rock climbing, wilderness trailheads, sightseeing, antler hunting, hiking, mountain biking, and fishing. The Wind River Front, which is in the foreground of the Bridger Wilderness and its Class I airshed, encompasses migration corridors for big game and for crucial winter ranges for moose, elk, and mule deer. It also supplies wintering and breeding habitats for sage-grouse.

## **Wilderness Study Areas**

### **Scab Creek WSA**

This area was originally established and managed as a primitive area in 1975. In April 1985, the Scab Creek Instant Study Area was proposed by former president Ronald Reagan for addition to the National Wilderness Preservation System. The Scab Creek WSA adjoins the Bridger Wilderness in the Bridger-Teton National Forest, which lies to the east. Scab Creek WSA offers extraordinary natural wilderness features and ample opportunity for solitary wilderness experiences. The area was withdrawn from locatable mineral availability in 1970.

### **Lake Mountain WSA**

Lake Mountain WSA contains important elk winter range, as well as Colorado River cutthroat trout habitat. This WSA also contains a 100 acre area designated for collecting moss rock. However, a documented analysis has not been performed to determine whether this type of activity would be compatible with the IMP. Therefore, permits to extract moss rock will not be issued until such analysis is conducted or the WSA is designated as wilderness or released for other multiple uses. Lake Mountain WSA was determined to be difficult to manage as wilderness; therefore, it was not recommended for designation as wilderness in the *Final Rock Springs Wilderness EIS* (BLM 1990). Nonetheless, BLM must manage the area as a WSA until such time as the Congress does or does not designate it as wilderness.

### **Current Management Practices**

Surface disturbing activities (gravel pits, campgrounds, and new roads) will be mitigated to meet management area objectives. Discretionary uses within or adjacent to WSAs will be reviewed to ensure they do not create conflicts with management and preservation of wilderness values.

### **Management Issues and Concerns**

There are no management issues or concerns identified for SD/MAs as part of the Sage-grouse RMP Amendments planning effort.

## **2.10.6 Rawlins Field Office**

### **Overview**

This section identifies the various SD/MAs within the Rawlins Field Office and addresses the qualities or uses that have resulted in their designation. Three ACECs, five WSAs, nine WHMAs, and two other MAs are managed within the Rawlins Field Office.

### **Areas of Critical Environmental Concern**

#### ***Blowout Penstemon ACEC***

The Blowout Penstemon area contains 17,050 acres of potential and occupied habitat for the endangered blowout penstemon. This area has increased in size from 4,020 acres in the RMP DEIS to 17,050 acres in the RMP FEIS to incorporate additional populations of the plant found in 2004 through 2006. This area encompasses unique sand dunes that contain steep sandy slopes deposited at the base of granite or sedimentary mountains. The blowout penstemon plant is restricted to sparsely vegetated, early successional shifting sand dunes created by wind erosion.

#### ***Cave Creek ACEC***

The Cave Creek Cave area is located within the Shirley Mountain SRMA area and contains Cave Creek Cave. Ground water near Cave Creek provides unique humidity and temperature conditions that support hibernating and breeding bats. This cave provides for a hibernaculum and roost site for several bat species, including those on the BLM sensitive species list, because temperatures remain stable and the area is generally undisturbed. In addition to containing unique biological and geological resources, Cave Creek Cave provides unique recreational opportunities for spelunkers, which constitutes the majority of use by people during the late-spring, summer, and fall time period.

### **Sand Hills/JO Ranch ACEC**

The Sand Hills/JO Ranch ACEC protects about 12,680 acres of public land for its unique vegetation complex, wildlife habitat values, and recreational opportunities. The bitterbrush/big sagebrush plant community, which is interspersed with patches of serviceberry, chokecherry, and aspen and occurs on a deep sand soil, is the only representation of this vegetative mix within the State of Wyoming. This area provides crucial winter range for mule deer and elk, and nesting and foraging habitat for raptors, greater sage-grouse, and Columbian sharp-tailed grouse populations.

The JO Ranch includes the historic JO Ranch and the Rawlins-to-Baggs Freight Road. The JO Ranch is a unique example of continuous ranching activities of over 100 years in the Washakie Basin. This property includes a flood irrigation system along the valley bottom, which has resulted in a very high-quality habitat for wildlife. This system will require maintenance and planning to sustain it for the future. The JO Ranch also served as a stage stop along the Rawlins-to-Baggs Freight Road, a historic route that connected northern Colorado with the Union Pacific Railroad line in Rawlins.

The JO Ranch area includes only the surface rights. The mineral rights are retained by the current owner, which may limit the potential management actions that can be considered for the property.

### **Wilderness Study Areas**

#### **Adobe Town WSA**

The Adobe Town WSA consists of a single study area within the Rawlins and Rock Springs Field Office administrative boundaries. This WSA includes 32,650 acres of BLM-managed lands within the Rawlins Field Office. The WSA is located in southeastern Sweetwater County, 25 miles south of Wamsutter. It is bounded on the north by the checkerboard land pattern and the Manual Gap Road, on the west by the Adobe Town Rim Road, on the south by a fading two-track, and on the east by the Willow Creek Road.

#### **Bennett Mountains WSA**

The Bennett Mountains WSA includes 5,950 acres of BLM-managed public lands, with no inholdings or split-estate lands. The WSA is located in north-central Carbon County, east of Seminoe Dam, and lies about 35 miles northeast of Rawlins. It is part of the Seminoe Mountain range, a small, rugged range that rises abruptly from the surrounding lowlands. The WSA is bounded on the north and east by private and state lands, on the south by a power line road, and on the west by the Bennett Mountain Road.

#### **Encampment River Canyon WSA**

The Encampment River Canyon WSA includes 4,500 acres of BLM-managed lands, with no inholdings or split-estate lands. The WSA is located in southern Carbon County, approximately two miles south of Encampment and one mile north of the USFS Encampment River Wilderness. It lies in the foothills of the Sierra Madre. The Encampment River bisects the WSA.

#### **Ferris Mountains WSA**

The Ferris Mountains WSA includes 21,880 acres of BLM-managed public lands and one privately owned inholding of 160 acres. The WSA is located in northwestern Carbon County, about 40 miles north of Rawlins. The Ferris Mountains are a small mountain range, rising abruptly from the gently rolling plains that surround the WSA. The WSA is bounded on the north by the rolling plains of the Sweetwater Valley, on the south by the level expanses of Separation Flat, on the west by Muddy Gap, and on the east by Miners Canyon.

### **Prospect Mountain WSA**

The Prospect Mountain WSA includes 1,140 acres of BLM-managed public lands, with no inholdings or split-estate lands. The WSA is located in southern Carbon County, approximately 16 miles southeast of Encampment and eight miles north of the Colorado-Wyoming border. It is situated along the southwestern flank of the Snowy Range in the Medicine Bow Mountains.

### **Wildlife Habitat Management Areas**

#### **Chain Lakes WHMA**

Management of the Chain Lakes WHMA is coordinated with WGFD by Memorandums of Understanding (MOU) signed by BLM and the Wyoming Game and Fish Commission (owner of adjacent property in the checkerboard landownership pattern) in 1970 and 1976. The MOU objectives include the use of livestock grazing as a management tool, maintenance of an optimum population of pronghorn, maintenance of public ownership, administration of the area practically and economically, and discouragement of new fences. The southwestern portion of the WHMA has moderate potential for oil and gas development and currently is being developed in the western portion. The rest of the WHMA has a low potential for oil and gas development. Locatable mineral potential is low. Different laws, organizational goals and objectives, and management opportunities govern BLM, responsible for public land, and WGFD, responsible for private land. This area encompasses one livestock grazing allotment (Chain Lakes), and is currently used by sheep in the winter.

The Chain Lakes area is located north of I-80, northeast of Wamsutter, and north of Creston Junction. It contains 30,560 acres of public land and occurs in a checkerboard ownership pattern where approximately 54 percent of the lands are either owned or leased by WGFD, and the remaining 46 percent are federal lands administered by the Rawlins Field Office. The area contains migration corridors and seasonal ranges for pronghorn, along with raptors, greater sage-grouse, and other wildlife. It also contains a majority of the Chain Lakes, a unique desert alkaline wetland community. Management actions would continue to protect and identify components of the alkaline desert lake system, including historic mud pots and other geologic features and wildlife habitat.

#### **Cow Butte/Wild Cow WHMA**

The Cow Butte/Wild Cow area, located between Rawlins and Baggs, was developed to promote management of upland and riparian habitats for wildlife and other multiple-uses. It encompasses 63,697 acres of mostly BLM-administered public land (49,570), along with 4,768 acres of private land and 8,697 acres of state land, and it borders the Upper Muddy Creek Watershed area to the north and the Sand Hills ACEC to the northwest. Of special concern in the area are the steep slopes and gullies that have the potential to accelerate erosion that would lead to increased habitat degradation. The moderate and steep slopes on south and west aspects are the principal areas used by elk during critical winter periods. This area encompasses a significant portion of elk crucial winter range. Impediments to wildlife movements from existing fences and habitat fragmentation have resulted in a loss of usable elk crucial winter range.

The area has a combination of diverse upland habitat conditions intertwined with perennial and ephemeral stream systems and riparian habitat, which combine to support an abundance of wildlife species, including elk, mule deer, pronghorn, greater sage-grouse, sharp-tailed grouse, and raptors. The most important factor of the area is the mosaic mix of these wildlife habitats resulting from the diversity of plant communities, topography, soils, and climate. Vegetation communities within this area include aspen, four types of sagebrush, mountain shrub, and riparian/wetland communities which provide for the array of habitat.

There are seven different grazing allotments either wholly or partially contained within the area, including the portion of the Grizzly allotment that lies outside the upper Muddy Creek watershed. The WGFD established the 38,091 acre Grizzly Habitat MA in 1992. In conjunction with the acquisition of the Grizzly allotment, an MOU, habitat management plan, and AMP were developed between the WGFD and BLM to guide management of aquatic and terrestrial wildlife and fisheries habitat.

### ***Jep Canyon WHMA***

The Jep Canyon WHMA protects about 13,810 acres of public land for elk crucial winter range as well as for raptor nesting habitat. There is a Raptor Concentration Area within the boundaries of the WHMA, with a high concentration of raptors including but not limited to red-tailed hawks, Cooper's hawks, golden eagles, and prairie falcons. The high relief topography and wind deposition of snow provide a diversity of vegetation communities, including aspen. Windswept south- and west-facing slopes provide open foraging areas for elk at critical times.

### ***Laramie Peak WHMA***

The Laramie Peak area consists of approximately 18,662 acres of BLM-administered land, 11,500 acres of private land owned by the WGFD, and 6,700 acres of state land. There are 20 grazing allotments within the Laramie Peak area, all of which are licensed for cattle grazing. The area is to be assessed as part of the 2006 watershed assessment report for Standards and Guidelines. Ponderosa pine, Douglas fir, lodgepole pine, aspen, mountain shrubs, and grasslands dominate the vegetative communities. The area has steep granitic rock outcrops that drop into flat grasslands and vertical canyons, especially in the Laramie River and Duck Creek drainages.

The area has a wide variety of wildlife species including bighorn sheep, elk, mule deer, pronghorn, raptors, and fish species such as the hornyhead chub. The area has crucial winter range habitat for bighorn sheep, elk, and mule deer. One of the last remaining populations of the hornyhead chub in Wyoming occurs in this area. The area also contains habitat for the threatened Preble's meadow jumping mouse and potential habitat for Laramie columbine, a BLM sensitive species.

The Laramie Peak area falls within the existing the Laramie Peak Bighorn Sheep Habitat MA that directs management of BLM-administered lands in cooperation and coordination with USFS, WGFD, BLM (both the Rawlins and Casper Field Offices), and public interest groups (such as the Foundation for North American Wild Sheep (FNAWS)). The main objective of the Laramie Peak Habitat MA is to restore, improve and enhance habitat conditions for bighorn sheep and other wildlife species. There are 15 site-specific identified projects that are proposed in the Laramie Peak Bighorn Sheep Habitat MA. The habitat objectives of these projects are to remove forest canopy and increase grass production in order to improve summer forage, lambing areas and improve movement corridors for bighorn sheep.

### ***Laramie Plains Lakes WHMA***

The Laramie Plains Lakes area is located southwest of Laramie and contains Lake Hattie and Twin Buttes Reservoir as well as 1,600 acres of public land. The area has potential habitat for the endangered Wyoming toad, which is currently found in Mortenson Lake and Moeboer Lake, both located within close proximity. Although this area contains only potential habitat, it is highly possible that the toads can travel through the wetland corridors to Lake Hattie and Twin Buttes Reservoir. Recreationists use this area heavily. Shortgrass species dominate upland areas, whereas wetland areas consist of a combination of emergent aquatic vegetation and bare bank areas.

### ***Pennock Mountain WHMA***

WGFD first established the 9,806 acre Pennock Mountain Elk Winter Range, located east of Saratoga, in 1962. The area contains crucial winter habitat for both elk and mule deer. BLM reserves all grazing

preference for wildlife on 6,284 acres of BLM-administered public land, including 1,530 AUMs of forage for wintering elk. This area is closed to human presence and motorized vehicle use, including over-the-snow vehicles, from November 15 through April 30. The area contains mountain big sage, mountain shrub, aspen, cottonwood, and willow habitats.

### ***Red Rim-Daley WHMA***

The Red Rim-Daley Potential ACEC (11,100 acres) is a WGFD Cooperative WHMA and is located approximately 15 miles southwest of Rawlins. The Red Rim area contains both the Daley Ranch allotment and the Daley Ranch Pasture. The area contains scenic values throughout the red sandstone uplift. There are historic carvings in the rocks, with names and dates of people that traveled through the area. The area provides crucial winter range for pronghorn, giving this winter habitat national importance. The area may require additional management to maintain unique scenic and wildlife values.

### ***Upper Muddy Creek Watershed/Grizzly WHMA***

The Upper Muddy Creek Watershed/Grizzly ACEC includes 127,430 acres. The area contains those portions of the Muddy Creek watershed above the Weber headcut stabilization structure, as well as those portions of the Savery Creek watershed within the Grizzly allotment. The Grizzly allotment is currently managed as a WHMA in cooperation with WGFD. The area contains unique fish habitats that support a rare community of native Colorado River Basin fish, including Colorado River cutthroat trout, bluehead sucker, flannelmouth sucker, roundtail chub, mountain sucker, and speckled dace. Elk crucial winter range is located in this area. The high relief topography and wind deposition of snow provide a diversity of vegetation communities, including aspen.

### ***Wick-Beumee WHMA***

WGFD established the Wick Elk Winter Area, located on both sides of I-80 and between the towns of Elk Mountain and Arlington, in 1965. The area contains elk winter/crucial winter range and year-round habitat for wildlife. In conjunction with WGFD's purchase of the Wick Brothers Ranch, an MOU between BLM and WGFD was developed that reserves grazing use on the 280 acres of BLM-administered public land for elk and other wildlife. The terrain ranges from rugged foothills in the south to gently rolling plains in the north. Vegetative communities consist of sagebrush, mountain shrub, and aspen. The area is closed to human presence and motorized vehicle use, including over-the-snow vehicles, from November 16 through May 31.

### **Other Areas of Concern**

#### ***Shamrock Hills Raptor Concentration Area***

Shamrock Hills Raptor Concentration Area protects about 18,400 acres of public land for its habitat and productivity of nesting raptor pairs. Shamrock Hills has one of the highest known nesting populations of ferruginous hawks in the United States.

#### ***Stratton Sagebrush Steppe Research Area***

The Stratton Sagebrush Steppe Research Area is 5,530 acres that includes five small watersheds that have been used for research in the past. Currently, a portion of the Stratton area is withdrawn from locatable mineral entry. There is existing infrastructure that was put in place for past research objectives. Examples of this infrastructure include weirs for measuring stream flows, snow fences, vegetation plot markers, and precipitation gauge sites. The current management allows for grazing on three pastures within the research area, which is part of the Middlewood Hill allotment.

## **Current Management Practices**

### **Blowout Penstemon ACEC**

The Blowout Penstemon area contains 17,050 acres of potential and occupied habitat for the endangered blowout penstemon. This area encompasses unique sand dunes that contain steep sandy slopes deposited at the base of granite or sedimentary mountains. The blowout penstemon plant is restricted to sparsely vegetated, early successional shifting sand dunes created by wind erosion.

The Blowout Penstemon ACEC is open to locatable mineral entry and closed to mineral material disposals. Plans of operations are required for locatable federal mineral exploration and development (except casual use), regardless of the number of acres that may be disturbed.

Fire suppression activities will be utilized to maintain early succession plant communities, and land tenure adjustments, including acquisition of lands, easements, or exchange, will be actively pursued to meet the ACEC management goals.

### **Cave Creek Cave ACEC**

The Cave Creek Cave ACEC is open to oil and gas leasing. Surface disturbing activities will be intensively managed to meet the objectives of the ACEC. Off-road motor vehicle use for “necessary tasks” (as defined in the Glossary) is allowed.

### **Sand Hills/JO Ranch ACEC**

The area is open to federal oil and gas leasing. Surface disturbing activities on oil and gas leases will be intensively managed to meet the objectives of the ACEC, and off-road motor vehicle use for “necessary tasks” is allowed.

New fence construction will be authorized to BLM standards. Existing fences will be modified to current BLM standards.

### **Chain Lakes WHMA**

Public lands are open to locatable mineral entry, mineral materials disposals, and open to operation of public land laws, including sale. The area is also open to oil and gas leasing with intensive management of surface disturbing and disruptive activities, and off-road motor vehicle use for “necessary tasks” (as defined in the Glossary) is allowed.

### **Cow Butte/Wild Cow WHMA**

New fence construction will be authorized to BLM standards. Existing fences will be modified to current BLM standards.

Public lands are open to locatable mineral entry, and off-road motor vehicle use for “necessary tasks” is allowed.

### **High Savery Dam and Reservoir Site**

The area will be cooperatively managed for recreational and multiple-use objectives and irrigation water, consistent with the June 2003 MOU between Wyoming Water Development Council (WWDC) and BLM. The area is open to mineral leasing with an NSO stipulation.

Public lands are open to operation of public land laws, including sale, where consistent with the intent and purpose of the MOU.

### **Jep Canyon WHMA**

The area is open to oil and gas leasing. Surface disturbing activities on oil and gas leases will be intensively managed to meet the objectives of the WHMA.

Public lands are open to locatable mineral entry and mineral material disposal. Plans of operations are required for locatable mineral exploration and development (except casual use), for surface disturbance of five acres or more.

Off-road motor vehicle use for “necessary tasks” is allowed. And, as opportunities arise, acquisition of adjacent lands or easements to improve public access will be considered and evaluated.

### **Laramie Peak WHMA**

The area is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities. Plans of operations are required for locatable mineral exploration and development (except casual use) for disturbances of five acres or more.

Public lands are open to locatable mineral entry and mineral material disposals.

### **Laramie Plains Lakes WHMA**

Public lands are open to land tenure adjustments, including sale, and is also open to oil and gas leasing with an NSO stipulation. Existing oil and gas leases will be intensively managed.

### **Pennock Mountain WHMA**

Public lands are open to locatable mineral entry and mineral material disposals. Off-road motor vehicle use for “necessary tasks” is allowed.

### **Red Rim-Daley WHMA**

The area is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities. Public lands are open to locatable mineral entry and mineral material disposal. Off-road motor vehicle use for “necessary tasks” is allowed.

### **Shamrock Hills Raptor Concentration Area**

The area is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities.

Public lands are open to locatable mineral entry. Lands will be managed in accordance with 43 CFR 3809.11, *When do I have to submit a plan of operations?* Plans of operations are required for locatable mineral exploration and development (except casual use) for surface disturbance of five acres or more. The area is also open to mineral material disposals.

### **Upper Muddy Creek Watershed/Grizzly WHMA**

Public lands are open to locatable mineral entry, and off-road motor vehicle use for “necessary tasks” is allowed.

New fence construction will be authorized according to BLM standards. Modification of existing fences to current BLM standards will be actively pursued. Specific locations will be modified according to wildlife and livestock needs.

### **Wick-Beumee WHMA**

Public lands are open to operation of the public land laws, including sale. Public lands are also open to locatable mineral entry and mineral material disposals.

The area is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities. Off-road motor vehicle use for “necessary tasks” is allowed.

### **National Natural Landmarks Management**

Lands totaling 800 acres in the Big Hollow National Natural Landmark (NNL) and 160 acres in the Sand Creek NNL will be considered for disposal to individuals, organizations, agencies, or institutions that will manage these areas in accordance with their NNL status.

### **Como Bluff NNL**

The Como Bluff NNL is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities within one-quarter mile of exposures of the Morrison Formation. The area is open to mineral material disposals, and off-road motor vehicle use for “necessary tasks” is allowed.

## **Management Issues and Concerns**

There are no management issues or concerns identified for SD/MAs as part of the Sage-grouse RMP Amendments planning effort.

## **2.10.7 Rock Springs Field Office**

### **Overview**

This section identifies the various SD/MAs within the Rock Springs Field Office and addresses the qualities or uses that have resulted in their designation. Ten ACECs, seven WSAs, and two MAs are managed within the Rock Springs Field Office.

### **Areas of Critical Environmental Concern**

#### **Cedar Canyon ACEC**

The purpose of the ACEC was to provide special management attention to a unique group of resource values; specifically, to protect and prevent irreparable damage to prehistoric cultural values (petroglyph panels and Indian campsites), visual aesthetics, and critical wildlife habitat. These values were being threatened by off-road vehicle use, indiscriminate recreation, and mineral development (mostly oil and gas).

The area has highly erodible soils throughout the ACEC. The soils will be managed to maintain or reduce erosion levels and to improve vegetative ground cover. Cliffs, tree hollows, and pinnacles will be managed to provide nesting habitat. Vegetation will continue to be managed to provide habitat for wildlife. Habitat for raptors will be maintained or enhanced. The ACEC will be managed consistent with the VRM Classes II, III, and IV to protect, maintain, and enhance the visual resource values.

### **Greater Red Creek ACEC**

The entire Red Creek watershed has been identified as: (1) having highly erosive soils, (2) being subject to slumping, (3) having slopes greater than 25 percent, and (4) protecting riparian areas in need of protection. The Greater Red Creek Area involves the watershed values in the Pine and Little Mountain drainage systems. The watershed system relates directly to the amount of sedimentation contributed to the Green River drainage through Red Creek, Currant Creek, Sage Creek, Vermillion Creek, Canyon Creek, and other associated drainages. Watershed features such as water quality and stability are currently threatening the existence of Colorado River cutthroat trout through habitat deterioration.

### **Greater Sand Dunes ACEC**

The ACEC was designated to protect geologic, cultural, and wildlife values. The Sand Dunes are part of the larger Killpecker dune field, one of the largest active dune fields in North America. The Killpecker dune field encompasses approximately 109,000 acres, extending 55 miles east from the Green River Basin across the Continental Divide into the Great Divide Basin. The ACEC is unique to the Wyoming Basin and contains values that are geologically, aesthetically and biologically interesting. In addition, the ACEC includes prehistoric and historic values, diverse wildlife use, and high recreation use that has the potential of increasing significantly, and high oil and gas values.

### **Natural Corrals ACEC**

The Natural Corrals ACEC is managed primarily for cultural, historic, geologic, and recreational values. The lands within this ACEC are on the eastern flank of the Rock Springs Uplift (and within a large intermontane basin bounded by the Wind River Mountains to the north), the Uinta Mountains on the south, the Overthrust Belt on the west, and the Sierra Madre and Granite Mountains toward the east.

### **Oregon Buttes ACEC**

The Oregon Buttes ACEC lies on a structural platform which joins the Rock Springs Uplift to the Wind River Mountain Range. It managed primarily to protect and enhance the scenic integrity as a historic landmark and protect the significant wildlife values that are found in the area.

### **Pine Springs ACEC**

This site is one of the most significant prehistoric campsites in southwest Wyoming. The site was continuously occupied from about 8000 B.C. to 1200 A.D. Cultural values at Pine Springs are potentially threatened by vandals and by cattle and sheep trampling in the area. One of the greatest dangers to cultural resources may result from intentional vandalism and illegal collecting.

### **South Pass Historic Landscape ACEC**

The South Pass Historic Landscape encompasses the viewshed along the Oregon, Mormon Pioneer, California, and Pony Express trails and the Lander Cutoff (about 16.42 miles of trail with a 6 mile wide corridor along the Oregon, Mormon Pioneer, and California trails, and a two mile wide corridor along the Lander Cutoff). The topographic setting of South Pass facilitated American settlement of the Pacific

Northwest, thus solidifying United States sovereignty over that region. South Pass is located on the northwest edge of the Wyoming Basin, a desert-like geographical feature which extends south for 150 miles and forms a complete break in the Rocky Mountain chain.

The area having the most historic value is the viewscape created by the Continental Divide, including the top rim of Pacific Butte on the south and the divide between waters flowing to Pacific Creek and the Sweetwater River on the north and east.

### **Special Status Plants ACEC**

The Special Status Plant Species ACEC was designated in 1997. Special status plants are those listed, proposed for listing, or candidates for listing as T&E under the ESA, identified by the state in a category implying potential endangerment or extinction, or species designated by the BLM State Director as sensitive. Management priority and emphasis for the ACEC was given to maintain or enhance these species and their habitats. Although no species associated with the ACEC occur within the planning area, there is potential for other sensitive species to be added to the ACEC as provided in the Green River RMP.

### **Steamboat Mountain ACEC**

The area has highly varied topographic features and ranges in elevation from 7,063 to 8,683 feet. Unique habitats of stabilized sand dunes occur here that are found nowhere else in the district. Tall sagebrush communities (up to 8 feet tall) provide escape cover, shelter, thermal protection, and parturition areas. An understory of bitterbrush and a variety of other shrubs and grasses provide forage. Some of this sagebrush has been estimated to be over 300 years old.

The Steamboat Mountain area contains approximately 43,270 federal acres of a total 48,330 acres within the described geographic boundaries. The management objectives for this ACEC are to: (1) enhance and maintain the water quality, vegetation, soil, and wildlife resources to ensure biological diversity and a healthy ecosystem; (2) maintain the unique diverse habitats (big sagebrush, aspen, limber pine, and mountain shrub communities) in the Steamboat Mountain area, especially on stabilized sand dunes along Steamboat Rim, Indian Gap, and in the Johnson, Lafonte, and Box Canyon areas; and (3) provide suitable habitat to maintain the continued existence of the Steamboat elk herd and other big game populations.

### **White Mountain Petroglyphs ACEC**

The White Mountain Petroglyphs ACEC was designated to protect Indian drawings associated with the early ancestors of the present Shoshone tribe and perhaps other tribes. Common drawings include human figures, elk, buffalo, feather head dresses, and human stick figures. The management objectives of the White Mountain Petroglyphs ACEC are to protect cultural resource values from degradation and provide for wildlife and scenic values, and Native American concerns.

### **Wilderness Study Areas**

#### **Buffalo Hump WSA**

Buffalo Hump WSA has no private or state inholdings. The primary topographic relief consists of sand valleys, blowouts, hills, and dunes with individual dunes exceeding heights of 100 feet. The interdunal areas contain ponds, grass-covered marshes, and playas. The WSA exhibits a natural condition of undisturbed sagebrush-grassland ecosystem intermingled with active sand dunes. The recreation values are outstanding, with opportunities for hiking, backpacking, nature study, photography, hunting, and rockhounding.

### **Sand Dunes WSA**

Sand Dunes WSA comprises a large part of the Killpecker Sand Dunes and contains large areas of barren active dunes, wet meadows, greasewood, big sagebrush, and rabbit brush communities. A unique feature of the WSA is the Aeolian ice-cells that feed pools at the base of many of the large sand dunes. The naturalness of this WSA is considered exceptional because of the lack of human-made intrusions. The flowing dunes virtually eliminate any evidence of human activity in the area. The Steamboat elk herd uses this area.

### **Alkali Draw WSA**

Alkali Draw WSA contains a remnant of the Great Divide Basin-Red Desert area. A series of draws or canyons extend through the WSA, creating a “washboard” topographic effect. Alkali Rim dominates the southern aspect and exhibits colorful blue rock escarpments. Big sagebrush is the dominant vegetation community, with greasewood common along the major drainages. The WSA contains habitat for mule deer and elk. The WSA is in a natural condition, and the human-made intrusions are substantially unnoticeable and undergoing natural re-vegetation. However, the value of the area for oil and gas production and the degree of the wilderness values made the WSA unsuitable for wilderness designation.

### **South Pinnacles WSA**

South Pinnacles WSA contains mostly flat topography with an exposure of broken rim rocks and ridges. Greasewood communities occupy the draws, with big sagebrush in the open areas. The WSA is natural in character and provides opportunities for solitude and varied recreation. However, the potential for gas production and the manageability of the area made the WSA unsuitable for wilderness designation.

### **Honeycomb Buttes WSA**

Honeycomb Buttes WSA contains several terrain types, ranging from sagebrush hills and greasewood flats surrounding the badlands to eroding buttes, colored bluffs, and side canyons. This area is one of the best examples of badlands topography in the state and of fossil- and fossil cast-bearing formation in the region. These highly colorful and rugged desert badlands provide outstanding opportunities for solitude. The WSA is natural in character and relatively free of human activities because of the severe topography of the area.

### **Oregon Buttes WSA**

Oregon Buttes WSA contains no private or state inholdings. The buttes are a prominent feature rising out of the Red Desert, with historical significance as the major landmark for travelers of the Oregon Trail. Resources of the area consist of limber pine stands, small aspen stands, prime raptor habitat, and valuable big game habitat. Visibility from the buttes extends for miles and provides scenic vistas of the mountain ranges to the north and south. The WSA is in a natural state and provides outstanding recreation opportunities for birdwatchers and photographers.

### **Whitehorse Creek WSA**

Whitehorse Creek WSA contains no private or state inholdings. A large portion of the area contains eroding red, green, and gray buttes. The area supports various habitats and landscapes, including aspen and limber pine stands, sheer sandstone cliffs, and badland topography. The WSA contains important raptor habitat. Opportunities for solitude and primitive recreation are high in areas of the WSA where large escarpments and buttes are located. The potential for gas production and the manageability of OHV

use in the portion of the area with little topographic relief contributed to the determination of unsuitability for wilderness designation for this WSA.

## Management Areas

### Red Desert Watershed MA

The Red Desert Watershed Area encompasses 645,570 acres of which 481,930 are public lands (federal surface/federal minerals, federal surface/private minerals, or private surface/federal minerals) administered by BLM. The Red Desert Watershed Area includes all of the Great Divide Basin within the resource area. The Great Divide Basin is one of only a few closed basins found in the United States.

Six WSAs (Alkali Draw, South Pinnacles, Alkali Basin-East Sand Dunes, Red Lake, Honeycomb Buttes, and Oregon Buttes WSAs) are located within the watershed area. Of the six WSAs, Honeycomb Buttes and Oregon Buttes have been recommended for wilderness designation for a total of 40,900 acres within the watershed boundary. Approximately 10 to 20 acres of the northeast corner of the Cedar Canyon ACEC and approximately two-thirds of the Oregon Buttes ACEC are also included in the area.

The management objective for the Red Desert Watershed Area is to manage for all resource values in the Red Desert area with emphasis on protection of visual resources, watershed values, and wildlife resources and to provide large areas of unobstructed views for enjoyment of scenic qualities.

### Steamboat Mountain MA

The Steamboat Mountain area contains approximately 43,270 federal acres of a total 48,330 acres within the described geographic boundaries. The area has highly varied topographic features and ranges in elevation from 7,063 to 8,683 feet. Unique habitats of stabilized sand dunes occur here that are found nowhere else in the district. Tall sagebrush communities (up to 8 feet tall) provide escape cover, shelter, thermal protection, and parturition areas. An understory of bitterbrush and a variety of other shrubs and grasses provide forage.

Water is abundant and found in good distribution through springs, ephemeral and perennial streams, seeps, and reservoirs. Snowpack commonly lies along steep slopes in lee areas late into spring. Two supplemental wildlife waters (guzzlers) are found in the area. The Steamboat Mountain area is of special interest because it provides a favorable environment for the survival of mountain plant species that are not found in the semi-arid plains of the surrounding area. It is one of only a few places where elk populations are found away from a high mountain environment. Surrounding this area is a complex winter range and additional parturition areas (30,000 acres).

The area also provides habitat for an abundant population of pronghorn and mule deer. Two unique species of rodents are found within the Steamboat area. The yellow-bellied marmot and the Wortman's golden-mantled ground squirrel inhabit boulder fields in association with limber pine.

In addition to a number of relic plant populations, one candidate plant species, *Lesquerella macrocarpa*, and one state endemic, *Townsendia spathulifera*, are found within the Steamboat area. Several springs along the slopes of Steamboat Mountain also provide specialized habitat for a number of additional plant species not normally associated with the semi-arid climate of the Wyoming Basin.

## **Current Management Practices**

### **Greater Red Creek ACEC**

Most of the area is open to mineral leasing and related exploration and development activities with appropriate mitigation requirements applied to protect the other important resource values.

Travel and transportation of firefighting equipment is limited to designated roads and trails. Use of heavy firefighting equipment is prohibited in areas closed to surface disturbing activities.

### **Actions Unique to the Currant Creek Watershed**

A north-south ROW window, parallel to the east side of the Flaming Gorge National Recreation Area will be established at County Road 4-33 or to the west of this road.

Aboveground power lines that span the drainage (from rim to rim) could be considered east of County Road 4-33 in the northern portion of the Currant Creek watershed, if environmental analysis demonstrates that scenic, watershed, and fisheries objectives could be met.

Fire suppression activities in this watershed will be limited to containment at ridgetops.

### **Eastern Portion of the Greater Sand Dunes Area**

Surface disturbing activities, geophysical activities, and oil and gas exploration and development activities are restricted seasonally on crucial big game winter ranges and big game birthing areas.

### **Natural Corrals ACEC**

The entire ACEC is open to consideration of oil and gas leasing with an NSO stipulation.

Crucial big game winter range seasonal restrictions and raptor nesting restrictions will be applied to activities that would be disruptive and excessively stressful to big game animals and raptors during these critical periods.

The road/trail from the spring located in the SE1/4NW1/4, NE1/4SW1/4 of Section 18 and the NRHP site are closed to off-road vehicle use. This 20 acre NRHP site is also closed to vehicle use for geophysical activities and by over-the-snow vehicles, and to the use of explosives and blasting. The remainder of the ACEC is open to over-the-snow vehicles; all other off-road vehicle travel is limited to designated roads and trails.

### **South Pass Historic Landscape ACEC**

The landscape is open to consideration of mineral leasing and mineral material sales, provided that effects to the visual and cultural resource values could be mitigated. All activities for the ACEC will be managed consistent with the VRM Class II.

### **Special Status (Candidate) Plant Species ACEC**

Special status (candidate) plant species population areas are closed to any surface disturbing fire suppression activities unless necessary for species survival. The use of fire suppression ground vehicles will be consistent with OHV designations in these areas.

**Steamboat Mountain ACEC**

Seasonal restrictions will be applied to land and resource uses as needed to protect elk and deer during severe winter conditions and during birthing periods.

Vegetation management will be designed to maintain, preserve, or enhance biological diversity while providing big game forage and cover requirements.

**White Mountain Petroglyphs ACEC**

The ACEC is closed to off-road vehicle travel including vehicles used for geophysical exploration activities and to the use of fire retardant chemicals containing dyes.

Off-road vehicle travel, including vehicles used for geophysical exploration and fire suppression activities, within that part of the vista that lies outside of the ACEC is limited to designated roads and trails.

**Monument Valley MA**

The area is open to: (1) consideration for mineral leasing, exploration, and development provided mitigation can be applied to retain the resource values; (2) consideration for mineral material sales with the appropriate constraints applied to all surface disturbing activities; and (3) development and public use with necessary consideration for wildlife, raptors, cultural, watershed, and scientific values.

**Pine Mountain MA**

Restrictions for protection of raptors, big game crucial winter range, and big game calving/fawning areas will apply.

Travel and transportation of firefighting equipment is limited to designated roads and trails. Use of heavy firefighting equipment is prohibited in areas closed to surface disturbing activities. Fire management, suppression needs, and prescribed burning in timber stands will be determined on a case-by-case basis to ensure timber stands are maintained in healthy condition and the "snow fence effect" is preserved. Fire management in other areas will be determined on a case-by-case basis to ensure that area objectives are met.

**Red Desert Watershed MA**

Restrictions for protection of raptors, big game crucial winter range, and big game calving/fawning areas will apply.

**Sugarloaf Basin MA**

The area is open to mineral leasing and related exploration and development activities with appropriate mitigation requirements applied to protect all other resource values.

Restrictions for protection of raptors, big game crucial winter range, and big game calving/fawning areas will apply.

Travel and transportation of firefighting equipment is limited to designated roads and trails. Fire management, suppression needs, and prescribed burning in timber stands will be evaluated on a case-by-case basis to ensure timber stands are maintained in healthy condition and the "snowfence effect" is

preserved. Fire management in other areas will be evaluated on a case-by-case basis to ensure that area objectives will be met.

## **Management Issues and Concerns**

The Pine Mountain MA was identified in the 1997 Green River RMP as an area considered for ACEC designation, but was deferred until a determination could be made that specific resources meet the ACEC relevance and importance criteria. This area contains some of the best remaining sage-grouse habitat in the Rock Springs Field Office, as well as a large amount of important big game habitat. It also contains unique historic trail and landscape features, wilderness characteristics, and SRMAs. A portion of the area is categorized as an important bird area by the Audubon Society. The area contains unique habitats within an area of low disturbance and density of development.

Additional areas of the Rock Springs Field Office that could be considered for ACEC designation include portions of the Wind River Front SRMA through the northern portion of the JMH area. This area contains the best remaining sage-grouse habitat in southwest Wyoming and a large amount of important big game habitat. This area contains sensitive plant and fish species, unique historic trail and landscape features, WSAs, SRMAs, and a WSR, and is categorized as an important bird area by the Audubon Society. These unique habitats are within an area of low disturbance and density of development.

## 2.11 SPECIAL STATUS SPECIES

### 2.11.1 Overview

There is increasingly more interest and controversy surrounding management of T&E and sensitive species. More emphasis is being placed on maintaining species diversity and keeping native ecosystems healthy to keep other species from becoming listed. Special status species are defined as those species currently listed as T&E under the ESA, as well as species that are proposed or candidates for listing. Special status species also include species designated as sensitive and those listed or proposed for listing by the BLM State Director or state government in a category implying potential endangerment or extinction. BLM is mandated to protect and manage threatened, endangered, candidate, proposed, and sensitive species jointly identified with the appropriate state agency.

BLM Manual 6840 provides policy and guidance for special status species management. BLM Wyoming Sensitive Species Policy and List are provided in an annually updated memorandum.

The goals of the BLM Wyoming policy regarding special status species are to:

- Maintain vulnerable species and habitat components in functional BLM ecosystems
- Ensure special status species are considered in land management decisions
- Prevent a need for species listing under the ESA
- Prioritize needed conservation work with an emphasis on habitat.

The State of Wyoming does not have an official list of sensitive or T&E species. The WGFD maintains a list of animal Species of Special Concern (SSC), but no state agency maintains a list of sensitive plant species. Wyoming Natural Diversity Database (NDD) tracks, studies, and documents species of concern in Wyoming including those listed as sensitive or high priority by the WGFD and the USFS. These species are lacking formal federal or state status for protection, but are potentially threatened in the ecosystem. The abundance and vulnerability status of rare species on the Wyoming NDD list and WGFD SSC species are considered during annual revision of the BLM Special Status Species list.

The planning area includes a diversity of habitats on which BLM generally focuses most management efforts. These habitats are the major plant communities or terrestrial features within the area that are important to wildlife. Wildlife habitats include streamside riparian, springs, seeps, wet meadows, seasonal wetlands, playas and lakebeds, cliffs, caves, talus slopes, dry meadows, dryland shrubs, juniper woodlands, ponderosa pine forests, mixed conifer forests, and quaking aspen groves.

In these important vegetation communities, ongoing changes, many of them caused by humans, have altered the animal habitat within the region. Examples of management practices that have modified these habitats include the conversion of wet meadows to dry meadows due to lowering of water tables, conversion of shrublands to juniper woodlands primarily due to changes in fire regimes, and the conversion of aspen groves to shrubland due to fire suppression and grazing. These practices have reduced the size and number of these limited habitats important to SSC. BLM manages these habits for species that are T&E or are candidates for or proposed for listing under federal and state mandates. BLM also manages habitat for species on the Wyoming BLM Sensitive Species List under BLM mandate to avoid further decline of these species.

Special status plant species occur in a variety of plant associations and a variety of physical habitats, many of which have distinctive soil types. Several special status plant species often occur together in plant communities that may exhibit fidelity to specific locations and substrates and ultimately result in the

development of unique subspecies. BLM Manual 6840 sets guidelines for special status plant species. These selected species receive priority attention for inventories, research, monitoring, and management decisions concerning surface disturbing activities.

## 2.11.2 Casper Field Office

### Overview

Within the Casper Field Office there are two birds, one mammal, and three plant species that have been designated as listed, proposed for listing, or are identified as candidate species under the ESA. Within the Platte River system, four animal species and one additional plant species are considered for projects involving water depletion. Although these species are located in Nebraska, losses of water within the Casper Field Office may affect these species' habitats downstream in the Platte River (Table 1). There are eight mammals, sixteen birds, one amphibian, and six plant species that have been designated as sensitive species as per the BLM Wyoming Sensitive Species Policy (Table 2).

**Table 1. Listed, Proposed, and Candidate Species <sup>1</sup> in the Casper Field Office**

Common Name ( <i>Scientific Name</i> )	Status <sup>2</sup>	Habitat
<b>Birds (2)</b>		
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	C	Sagebrush Communities
Mountain plover ( <i>Charadrius montanus</i> )	P	Grasslands and Prairies
<b>Mammals (1)</b>		
Black-footed ferret ( <i>Mustela nigripes</i> )	E	Prairie Dog Towns
Black-footed ferret ( <i>Mustela nigripes</i> )	Non-essential/ Experimental	Shirley Basin
<b>Plants (3)</b>		
Blowout penstemon ( <i>Penstemon haydenii</i> )	E	Sand Dunes or Blowouts
Colorado butterfly plant ( <i>Gaura neomexicana coloradensis</i> )	T	Wet Meadows and Riparian Areas
Colorado butterfly plant Critical Habitat	Designated	Laramie and Platte Counties, WY
Ute ladies'-tresses ( <i>Spiranthes diluvialis</i> )	T	Seasonally Moist Soils and Wet Meadows
<b>Listed Species (considered for projects involving water depletion within the Platte River System)</b>		
Interior least tern (( <i>Sterna antillarum</i> )	E	Downstream Riverine Habitat of the Platte River
Pallid sturgeon ( <i>Scaphirhynchus albus</i> )	E	
Piping plover ( <i>Charadrius melodus</i> )	T	
Whooping crane ( <i>Grus Americana</i> )	E	
Western prairie fringed orchid ( <i>Platanthera praeclara</i> )	T	
Whooping crane Critical Habitat	Designated	Located in Nebraska

1-The list of species is from Current Species List for the Bureau of Land Management Casper Field Office, USFWS (April 2009).

2- Status Key: E = Endangered, T = Threatened, P = Proposed for Listing, C = Candidate.

Table 2. BLM Designated Sensitive Species in the Casper Field Office

Common Name	Scientific Name	Habitat
<b>Mammals (8)</b>		
Townsend big-eared bat	<i>Corynorhinus townsendii</i>	Forests, basin-prairie-shrub, caves and mines
White-tailed prairie dog	<i>Cynomys leucurus</i>	Basin-prairie shrub, grasslands
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	Short-grass prairie
Spotted bat	<i>Euderma maculatum</i>	Cliffs over perennial water, basin-prairie shrub
Long-eared myotis	<i>Myotis evotis</i>	Conifer and deciduous forests, caves and mines
Fringed myotis	<i>Myotis thysanodes</i>	Conifer forests, woodland-chaparral, caves and mines
Swift fox	<i>Vulpes velox</i>	Grasslands
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Heavily vegetated, shrub-dominated riparian (streamside) zones
<b>Birds (16)</b>		
Northern goshawk	<i>Accipiter gentilis</i>	Conifer and deciduous forests
Baird's sparrow	<i>Ammodramus Bairdii</i>	Grasslands, weedy fields
Sage sparrow	<i>Amphispiza belli</i>	Basin-prairie shrub, mountain-foothill shrub
Burrowing owl	<i>Athene cunicularia</i>	Grasslands, basin-prairie shrub
Ferruginous hawk	<i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Basin-prairie shrub, mountain-foothill shrub
Mountain plover	<i>Charadrius montanus</i>	Short-grass and mixed-grass prairie, openings in shrub ecosystems, prairie dog towns
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Open woodlands, streamside willow and alder groves
Trumpeter swan	<i>Cygnus buccinator</i>	Lakes, ponds, rivers
Peregrine falcon	<i>Falco peregrinus</i>	Tall cliffs
Bald eagle	<i>Haliaeetus leucocephalus</i>	Primarily along rivers, streams, lakes and waterways
Loggerhead shrike	<i>Lanius ludovicianus</i>	Basin-prairie shrub, mountain-foothill shrub
Long-billed curlew	<i>Numenius americanus</i>	Grasslands, plains, foothills, wet meadows
Sage thrasher	<i>Oreoscoptes montanus</i>	Basin-prairie shrub, mountain-foothill shrub
White-faced Ibis	<i>Plegadis chihi</i>	Marshes, wet meadows
Brewer's sparrow	<i>Spizella breweri</i>	Basin-prairie shrub

Common Name	Scientific Name	Habitat
<b>Amphibians (1)</b>		
Northern leopard frog	<i>Rana pipiens</i>	Beaver ponds, permanent water in plains and foothills
<b>Plants (6)</b>		
Laramie columbine	<i>Aquilegia laramiensis</i>	Crevices of granite boulders and cliffs 6,400-8,000'
Porter's sagebrush	<i>Artemisia porter</i>	Sparsely vegetated badlands of ashy ortufaceous mudstone and clay slopes 5,300-6,500'
Many-stemmed spiderflower	<i>Cleome multicaulis</i>	Semi-moist, open saline bank of shallow ponds and lakes with Baltic rush and bulrush 5,900'
Williams' wafer-parsnip	<i>Cymopterus williamsii</i>	Open ridgetops and upper slopes with exposed limestone outcrops or rock slides 6,000-8,300'
Limber pine	<i>Pinus flexilis</i>	Timberline and at lower elevation with sagebrush. Associated species are Rocky Mountain lodgepole pine, Engelmann spruce, whitebark pine, Rocky Mountain Douglas-fir, subalpine fir, Rocky Mountain juniper, mountain mahogany, and common juniper
Laramie false sagebrush	<i>Sphaeromeria simplex</i>	Cushion plant communities on rocky limestone ridges and gentle slopes 7,500-8,600'

Sources: BLM 2002; USFWS 2003; Cerovski et al. 2004

Presently, there are approximately 200 greater sage-grouse leks documented throughout the field office, primarily in Natrona and Converse counties, with the highest densities of leks occurring in larger tracts of sagebrush shrublands (Map 8). The largest greater sage-grouse lek complexes are found in Bates Hole, Shirley Basin, Rattlesnake Hills, South Bighorns, and Laramie Range foothills. Occupied habitat is fairly contiguous throughout much of Bates Hole and Shirley Basin. Habitats within Rattlesnake Hills and South Bighorns are more fragmented by changes in habitat type and land use practices. Greater sage-grouse habitats in the Laramie Range are primarily limited to the portion of the west slope of the Laramie Range. Large contiguous blocks of sagebrush and grassland communities east of the Laramie Range have, for the most part, been eliminated. Specific wintering concentration areas of greater sage-grouse within the field office are not widely documented to date.

### Current Management Practices

Occupied sage-grouse leks will have a  $\frac{3}{4}$  mile CSU buffer to protect breeding habitats. Human activity will be avoided between 8 p.m. and 8 a.m. from March 1 to May 15 (timing limitation) within this buffer. Leks, which are currently displayed as points, will be displayed as polygons. Occupied sage-grouse leks will have a four mile buffer. Within this buffer, surface development or wildlife-disturbing activities will be restricted March 15 through July 15 (timing limitation). Also, within this four mile buffer (CSU), surface disturbing activities will avoid sagebrush stands of greater than 10 percent canopy cover. Within this four mile buffer, mitigation will be implemented for power poles and other high profile structures that may provide raptor perches. Placement of these structures will be avoided if possible, or devices will be installed to preclude raptor perching on the structures.

As sage-grouse winter habitats are designated, a timing limitation will restrict activities from November 15 to March 14. Within the designated winter habitats, CSU for surface disturbing activities will be applied in sagebrush stands of greater than 20 percent canopy cover. The areas will have priority for vegetative treatments to improve sage-grouse habitats and for vegetation monitoring to ensure residual herbaceous vegetation is maintained for nesting cover on public lands.

Surface disturbance or occupancy will be avoided within one-quarter mile of the perimeter of occupied sage-grouse leks. Human activity will be avoided between 8 p.m. and 8 a.m. from March 1 to May 15 (timing limitation) within one-quarter mile of the perimeter of occupied sage-grouse leks. Surface-disturbing and disruptive activities will be avoided in suitable sage-grouse nesting and early brood-rearing habitats within two miles of an occupied lek, or in identified sage-grouse nesting and early brood-rearing habitats outside the two mile buffer from March 15 to July 15 (timing limitation). Surface-disturbing and disruptive activities will be avoided in sage-grouse winter habitats from November 15 to March 14 (timing limitation).

Current research, management and conservation plans, and other research and related directives (i.e., BLM IMs, MOUs, and WGFD objectives) will be utilized, as appropriate, to guide habitat management for vegetation, fish, wildlife, and special status species.

Produced water will be used, where reasonable and practical, to develop and enhance waterfowl and special status species waterfowl habitats. Water sources for wildlife and special status species will be developed in coordination with the WGFD and the BLM Water Development Handbook (H-1741-2).

The NSO restriction to protect sage-grouse habitats will not apply to prescribed fire, which will be used as a tool to meet management objectives. Prescribed fire will be subject to CSU and timing limitation restrictions with exceptions granted on a case-by-case basis after site-specific analysis and occasional adverse impacts. An NSO is in place on designated critical habitat for T&E species. Areas known or suspected to contain essential habitat for special status species will be subject to a CSU restriction, requiring the proponent to conduct inventories or studies to verify the presence or absence of special status species.

Water sources for fisheries, waterfowl, and special status species waterfowl are developed opportunistically. Approximately 1,500 acres currently exist. Focus on developing an additional 100 acres of surface water for fish, waterfowl, and special status species waterfowl.

## Management Issues and Concerns

There is increasingly more interest and controversy surrounding management of T&E and sensitive species. More emphasis is being placed on maintaining diversity and keeping native ecosystems healthy to keep other species from becoming listed. Management issues and concerns related to special status species are identified below:

- On the western edge of the Rattlesnake range at the head waters of the Middle fork of Casper Creek, an eleven-township block area that is part of an on-going sage-grouse study area is used to track and map migration patterns of the sage-grouse in the area and habitat. In addition, the Casper Field Office is currently deferring oil and gas leasing pending analysis in the sage-grouse RMP Amendment to increase sage-grouse protection when it meets the screening criteria in Instruction Memorandum WY-2010-013.
- Lack of data on potential habitats or habitat requirements of these species hampers BLMs ability to make decisions regarding the impacts of land use actions on a given species.

- More restrictive measures to protect greater sage-grouse and associated habitats have been adopted in IM-WY-2010-012 to preclude sage-grouse from being fully listed under the ESA. However, new restrictions will be controversial to other resource users.

### 2.11.3 Kemmerer Field Office

#### Overview

Within the Kemmerer Field Office, there are three bird, three mammal, four fish, and two plant species that have been designated as listed, proposed for listing, or are identified as candidate species under the ESA. Three wildlife species (grizzly bear, black-footed ferret and Canada lynx) are listed T&E species and one wildlife species (gray wolf) is listed as nonessential/experimental under the ESA (USFWS 2004). In addition, one candidate species, the yellow-billed cuckoo, may be impacted by decisions that would protect greater sage-grouse. The bald eagle was delisted from threatened status on July 9, 2007 (USFWS 2007), but it is currently considered a BLM sensitive species. A total of forty-one species are listed as sensitive within the field office (BLM 2010). Table 3 represents the special status wildlife species either occurring or having the potential occur in the field office.

**Table 3. Special Status Wildlife Species in the Kemmerer Field Office**

Common Name	Status <sup>1</sup>	Habitat
<b>Trophy Game</b>		
Grizzly Bear	Threatened, NSS3	Montane forests
<b>Furbearing Animals</b>		
Canada lynx	Threatened, NSS1	Montane forests
<b>Predatory Animals</b>		
Gray wolf	Nonessential/Experimental	Greater Yellowstone ecosystem
<b>Game Birds</b>		
Greater sage-grouse	Candidate, NSS2	Basin-prairie shrub, mountain-foothill shrub
<b>Nongame (Raptors)</b>		
Bald eagle	Sensitive, NSS2	Cottonwood riparian, mixed coniferous forests near large lakes and rivers
Northern goshawk	Sensitive, NSS4	Conifer and deciduous forests
Ferruginous hawk	Sensitive, NSS3	Basin-prairie shrub, grassland, rock outcrops
Peregrine falcon	Sensitive, NSS3	Tall cliffs
Burrowing owl	Sensitive, NSS4	Grassland, basin-prairie shrub
<b>Nongame (Neotropical Migrants)</b>		
White-faced ibis	Sensitive, NSS3	Marshes, wet meadows

Common Name	Status <sup>1</sup>	Habitat
Trumpeter swan	Sensitive, NSS2	Lakes, ponds, rivers
Long-billed curlew	Sensitive, NSS3	Grasslands, plains, foothills, wet meadows
Yellow-billed cuckoo	Candidate, NSS2	Riparian areas west of the Continental Divide; open woodlands, streamside willow and alder groves
Mountain plover	Proposed, NSS4	Shortgrass prairies and shrubsteppe; prefers areas with little vegetative cover, such as prairie dog towns (USFWS 2003)
Loggerhead shrike	Sensitive	Basin-prairie shrub, mountain-foothill shrub
Sage thrasher	Sensitive, NSS4	Basin-prairie shrub, mountain-foothill shrub
Brewer's sparrow	Sensitive, NSS4	Basin-prairie shrub
Sage sparrow	Sensitive, NSS4	Basin-prairie shrub, mountain-foothill shrub
<b>Nongame (Mammals)</b>		
Long-eared myotis	Sensitive, NSS2	Conifer and deciduous forests, caves and mines
Pygmy rabbit	Sensitive, NSS3	Basin-prairie and riparian shrub
White-tailed prairie dog	Sensitive, NSS4	Basin-prairie shrub, grasslands
Idaho pocket gopher	Sensitive, NSS3	Shallow stony soils
Black-footed ferret	Endangered, NSS1	Prairie dog towns
<b>Nongame (Amphibians)</b>		
Northern leopard frog	Sensitive, NSS4	Beaver ponds, permanent water in plains and foothills
Great Basin spadefoot	Sensitive, NSS4	Sagebrush communities, spring seeps, permanent and temporary waters
Boreal toad	Sensitive, NSS1	Pond margins, wet meadows, riparian areas
Spotted frog	Sensitive, NSS4	Ponds, sloughs, small streams
Tiger salamander	NSS4	Slow moving streams, pools, ponds, wet meadows, lakes

Sources: USFWS 2004, BLM 2010

1-The list of species is from [Current Species List for the Bureau of Land Management Casper Field Office](#), USFWS (April 2009).

2-Status: Sensitive = BLM Sensitive Species; Threatened, Endangered, Proposed, Candidate = in accordance with the ESA; State-listed definitions (NSS1 through NSS4) are now identified by WGFD as species of greatest conservation need (SGCN).

NSS1 = Populations greatly restricted or declining, extirpation possible

-OR-

Ongoing significant loss of habitat

NSS2 = Populations declining, extirpation possible; habitat restricted or vulnerable but no recent or ongoing significant loss; species likely sensitive to human disturbance

Common Name	Status <sup>1</sup>	Habitat
-OR-		
Populations declining or restricted in numbers or distribution, extirpation not imminent; ongoing significant loss of habitat		
NSS3 = Populations greatly restricted or declining, extirpation possible; habitat not restricted, vulnerable but no loss; species not sensitive to human disturbance		
-OR-		
Populations declining or restricted in numbers or distribution, extirpation not imminent; habitat restricted or vulnerable but no recent or ongoing significant loss; species likely sensitive to human disturbance		
-OR-		
Species widely distributed; population status or trends unknown but suspected to be stable; on-going significant loss of habitat.		
NSS4 = Populations greatly restricted or declining, extirpation possible; habitat stable and not restricted		
-OR-		
Populations declining or restricted in numbers or distribution, extirpation not imminent; habitat not restricted, vulnerable but no loss; species not sensitive to human disturbance		
-OR-		
Species widely distributed, population status or trends unknown but suspected to be stable; habitat restricted or vulnerable but no recent or on-going significant loss; species likely sensitive to human disturbance		
-OR-		
Populations stable or increasing and not restricted in numbers or distribution; on-going significant loss of habitat		

### Aquatic Animals

Three endangered fish species, Colorado pikeminnow, bonytail chub, and razorback sucker, have not existed in Wyoming since the impoundment of Flaming Gorge Dam in 1963 and the humpback chub has only inhabited the downstream tributaries of the Colorado and Green Rivers. However, they are considered in planning projects because of the management implications that they present under the ESA.

In addition to listed species, seven species have been designated as ‘Sensitive’ by BLM, the State of Wyoming, and the Wyoming NDD. These species require special management attention due to reduced or declining populations and habitat (BLM 2010).

### Terrestrial Animals

Numerous high priority special status species occur or have potential to occur in the Kemmerer Field Office. The list includes three wildlife species listed as either endangered or threatened under the ESA and 21 species designated by Wyoming BLM as sensitive.

### Plants

The Kemmerer Field Office has the specific goals of contributing to the recovery of species currently listed under the ESA and to promoting the recovery and conservation of all special status plant species within the Field Office. Special status plant species includes one of the four plant species within Wyoming listed as either endangered or threatened under the ESA and ten species designated by Wyoming BLM as sensitive (Table 4). Seventeen species considered rare by Wyoming NDD and documented to occur within the field office are also considered during project planning and authorization.

**Table 4. Special Plant Species in the Kemmerer Field Office**

Common Name	Scientific Name	Ranking
<b>Federally Listed Plant Species</b>		
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened
<b>BLM Sensitive Plant Species</b>		
Trelease's racemose milkvetch	<i>Astragalus racemosus var. treleasei</i>	G5T2/S2
Winward's narrow leaf	<i>Ericameria discoidea var. winwardii</i>	G4G5T1/S1

Common Name	Scientific Name	Ranking
Entire-leaved peppergrass	<i>Lepidium integrifolium</i> var. <i>integrifolium</i>	G2T1/S1
Large-fruited bladderpod	<i>Lesquerella macrocarpa</i>	G2/S2
Prostrate bladderpod	<i>Lesquerella prostrata</i>	G2G3/S2
Beaver-rim phlox	<i>Phlox pungens</i>	G2/S2
Tufted twinpod	<i>Physaria condensata</i>	G2/S2
Dorn's twinpod	<i>Physaria dornii</i>	G1/S1
Whitebark pine	<i>Pinus albicaulis</i>	G3G4/S3
Limber pine	<i>Pinus flexilis</i>	G4/S5

Sources: BLM 2003a; Keinath et al. 2003

1-The Wyoming NDD utilizes a standardized ranking system developed by The Nature Conservancy's Natural Heritage Network to assess the global and statewide conservation status of each plant and animal species, subspecies, and variety. Each taxon is ranked on a scale of 1-5, from highest conservation concern to lowest. Codes are as follows:

G-Global rank: Rank refers to the rangewide status of a species.

T-Trinomial rank: Rank refers to the rangewide status of a subspecies or variety.

S-State rank: Rank refers to the status of the taxon (species or subspecies) in Wyoming. State ranks differ from state to state.

1-Critically imperiled because of extreme rarity (often known from 5 or fewer extant occurrences or very few remaining individuals) or because some factor of a species' life history makes it vulnerable to extinction.

2-Imperiled because of rarity (often known from 6 to 20 occurrences) or because of factors demonstrably making a species vulnerable to extinction.

3-Rare or local throughout its range or found locally in a restricted range (usually known from 21 to 100 occurrences).

4-Apparently secure, although the species may be quite rare in parts of its range, especially at the periphery.

## Current Management Practices

All appropriate conservation agreements, conservation measures, and BLM-endorsed management strategies for T&E and other special status species will be implemented. An NSO restriction will be applied to bald eagle winter roosting areas. In addition, a one mile buffer zone around bald eagle winter roost sites will be closed from November 1 through April 1. Activities and habitat alterations that may disturb bald eagles will be restricted within suitable habitats that occur within bald eagle buffer zones. Deviations may be made after consultation with the USFWS.

Zone 1 (within one-half mile, year-round) is intended to protect active and alternative nests. For active nests, minimal human activity levels are allowed during the period of first occupancy to two weeks after fledging.

Zone 2 (from one-half mile to one mile from the nest, February 1 through August 15) is intended to protect bald eagle primary use areas and permits light human activity levels.

Zone 3 is designated to protect foraging and (or) concentration areas year-round 2.5 miles from the nest.

Vegetation treatments in special status plant species habitats could be conducted on a case-by-case basis when treatments would benefit these species.

Habitat fragmentation will be avoided through attenuation, siting, and consolidation of roads, energy facilities, and other developments in identified special status species habitats, unless appropriate mitigation is initiated.

BLM manages sage-grouse habitats that will support population levels consistent with the Wyoming Governor's Sage-Grouse Core Population Area strategy. The following distances and timeframes will be utilized to manage activities that may impact greater sage-grouse or their habitats. These distances and

timeframes are based on current information, but may be subject to change in the future based upon new information.

Greater sage-grouse leks: (1) Surface disturbance or occupancy within one-quarter mile of the perimeter of occupied greater sage-grouse leks will be avoided; (2) Human activity between 8 p.m. and 8 a.m. from March 1 through May 15 within one-quarter mile of the perimeter of occupied greater sage-grouse leks will be avoided.

Greater sage-grouse nesting and early brood-rearing habitats: Surface-disturbing and disruptive activities will be avoided in suitable greater sage-grouse nesting and early brood-rearing habitats within two miles of an occupied lek, or in identified greater sage-grouse nesting and early brood-rearing habitats outside the two mile buffer from March 15 through July 15.

Greater sage-grouse winter habitats: Surface disturbance and disruptive activities will be avoided in occupied greater sage-grouse winter habitats from November 15 through March 14.

Mid-scale mapping of sagebrush ecosystems and sage-grouse seasonal habitats will be completed within one year of the record of decision (ROD). Detailed mapping of sagebrush ecosystems and sage-grouse seasonal habitats in the Slate Creek and Moxa Arch areas will be completed within two years of the ROD.

Statewide sage-grouse seasonal habitat models and sagebrush mapping will be used in management as they are developed.

Appropriate restrictions will be determined on a site-specific basis and will consider project size.

Exceptions to CSU and timing restrictions will continue to be considered on a case-by-case basis.

Facilities will be located or BMPs will be used to minimize impacts of continuous noise on species relying on aural cues for successful breeding. This requirement is based on current information, but may be subject to change in the future based upon new information.

New, permanent high-profile structures (higher than 12 feet) will be avoided within one mile of occupied sagebrush obligate habitats unless anti-perch devices are installed.

New, permanent high-profile structures relying on guy wires for support in these habitats will be prohibited.

Exceptions can be made if NEPA analysis shows little or no impact to sagebrush obligate species.

## **Management Issues and Concerns**

Protecting sagebrush habitat specifically for grouse would protect habitat for other BLM sensitive species (i.e. pygmy rabbit, sage thrasher, sage sparrow, Brewer's sparrow), but could also be detrimental to others (i.e. mountain plover).

Continued closure of currently unleased areas would allow all wildlife species, including sage-grouse, to use undisturbed areas. In addition, any area that is not currently leased or closed to leasing could, in the future, be closed to leasing to protect grouse habitat.

## 2.11.4 Newcastle Field Office

### Overview

One candidate species and four listed species occur in the Newcastle Field Office. In addition, there are 17 birds and 13 mammals of special concern within the boundaries of the field office.

A variety of raptors exist in nearly all habitat types in the field office. The population numbers for these species are not currently known. Additional use is made of public land for a forage prey base in many areas. Raptor information is not gathered on a routine basis with the exception of recording the activity of known nests. The sage-grouse population within northeast Wyoming is exhibiting a steady downward trend. Currently, there are 104 known sage-grouse leks within the field office.

Fish species identified by the WGFD as being rare, but possibly occurring in the field office include the northern pearl dace, finescale dace, hornyhead chub, silvery minnow, goldeye, sturgeon chub, and shovelnose sturgeon. Species identified by the WGFD as a special management concern (not rare), and only occurring in limited numbers in the field office include the plains topminnow, Iowa darter, stoneroller, plains killifish, freshwater drum, and emerald shiner.

### Current Management Practices

There are no current special status species management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

There are no management issues or concerns identified for special status species as part of the Sage-grouse RMP Amendments planning effort.

## 2.11.5 Pinedale Field Office

### Overview

The Pinedale Field Office is home to a number of endangered, threatened, proposed, and candidate wildlife species. This includes a variety of mammals, birds, amphibians, and plants. The specific species and their respective habitats are listed in Table 5.

**Table 5. Special Status Species Known to or Potentially Occur in the Pinedale Field Office**

Common Name	Scientific Name	Habitat	Designation and Ranking of others: WY Natural Heritage Program; WGFD; USFS Regions 2 and 4; Partners In Flight <sup>1</sup>
<b>Mammals</b>			
Pygmy rabbit	<i>Brachylagus idahoensis</i>	Basin-prairie and riparian shrub	G4/S1, NSS3, CA, ID, MT, NV, OR/WA, UT, USFSR4, ESA Under Review (petitioned, 01/08/2008)
White-tailed prairie dog	<i>Cynomys leucurus</i>	Basin-prairie shrub, grasslands	G4/S3, NSS4, USFSR2, CO, MT, UT, ESA Under Review (12-Month Finding, 05/06/2008)

Common Name	Scientific Name	Habitat	Designation and Ranking of others: WY Natural Heritage Program; WGFD; USFS Regions 2 and 4; Partners In Flight <sup>1</sup>
Long-eared myotis	<i>Myotis evotis</i>	Conifer and deciduous forests, caves and mines	G5/S4, NSS2, AZ, CA, ID, MT, NV, OR/WA
Idaho pocket gopher	<i>Thomomys idahoensis</i>	Shallow stony soils	G4/S2, NSS3
<b>Birds</b>			
Northern goshawk	<i>Accipiter gentilis</i>	Conifer and deciduous forests	G5/S3, NSS4, USFSR2, USFSR4, CA, CO, ID, MT, NV, UT, WYBCP Priority Level I
Sage sparrow	<i>Amphispiza belli</i>	Basin-prairie shrub, mountain-foothill shrub	G5/S3, NSS4, USFSR2, ID, MT, PIFSCI, WYBCP Priority Level I
Burrowing owl	<i>Athene cunicularia</i>	Grasslands, basin-prairie shrub	G4/S3, NSS4, AZ, CA, CO, MT, NV, OR, UT, WA, USFSR2, WYBCP Priority Level I,
Ferruginous hawk	<i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops	G4/S4B,S5N, NSS3, USFSR2, CO, ID, MT, NV, UT, WA, WYBCP Priority Level I
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Basin-prairie shrub, mountain-foothill shrub	G4/S4, NSS2, USFSR2, USFSR4, CA, CO, ID, MT, NV, OR/WA, UT, PIFSCI, WYBCP Priority Level I ESA Under Review (12-Month Finding, 2/26/08)
Mountain plover	<i>Charadrius montanus</i>	Short-grass and mixed-grass prairie, openings in shrub ecosystems, prairie dog towns	G3/S2, NSS4, AZ, CA, CO, MT, UT, USFSR2, WYBCP Priority Level I, ESA Listing denied (09/09/2003), Removed from proposed Federal listing status
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Open woodlands, streamside willow and alder groves	G5/S1, (G5T3Q/SNR <i>C. americanus occidentalis</i> ), Candidate, NSS2, CO, MT, OR/WA, UT (Candidate), USFSR2, WYBCP Priority Level II
Trumpeter swan	<i>Cygnus buccinator</i>	Lakes, ponds, rivers	G4/S2, NSS2, USFSR2, USFSR4, ID, MT, OR, WYBCP Priority Level I, ESA Listing Denied in 2003 (Tri-State Area Flock of Trumpeter Swans)
Peregrine falcon	<i>Falco peregrinus</i>	Tall cliffs	G4/S1B,S3N, (G4T4/S2 <i>F. peregrinus anatum</i> ; G4T2SU <i>F. peregrinus tundrius</i> ), NSS3, CO, ID, MT, NV, OR/WA, UT, USFSR2, USFSR4, PIFSCI, WYBCP Priority Level I
Bald eagle	<i>Haliaeetus leucocephalus</i>	Primarily along rivers, streams, lakes and waterways	G5/S3B,S5N, NSS2, USFSR2, USFSR4, CO, MT, OR/WA, UT, PIFSCI, WYBCP Priority Level I, ESA Delisted (06/28/2007)
Loggerhead shrike	<i>Lanius ludovicianus</i>	Basin-prairie shrub, mountain-foothill shrub	G4/S3, AZ, ID, MT, NV, USFSR2, WYBCP Priority Level II
Long-billed curlew	<i>Numenius americanus</i>	Grasslands, plains, foothills, wet meadows	G5/S3B, NSS3, USFSR2, CO, MT, NV, UT, WA, WYBCP Priority Level I
Sage thrasher	<i>Oreoscoptes montanus</i>	Basin-prairie shrub, mountain-foothill shrub	G5/S5, NSS4, MT, PIFSCI, WYBCP Priority Level II
White-faced ibis	<i>Plegadis chihi</i>	Marshes, wet meadows	G5/S1B, NSS3, AZ, CO, ID, MT
Brewer's sparrow	<i>Spizella breweri</i>	Basin-prairie shrub	G5/S5, NSS4, CO, ID, MT, USFSR2, PIFSCI, WYBCP Priority Level I

Common Name	Scientific Name	Habitat	Designation and Ranking of others: WY Natural Heritage Program; WGFD; USFS Regions 2 and 4; Partners In Flight <sup>1</sup>
<b>Amphibians</b>			
Boreal toad (Northern Rocky Mountain population)	<i>Bufo boreas boreas</i>	Pond margins, wet meadows, riparian areas	G4T4/S1, NSS1, USFSR2, ID
Northern leopard frog	<i>Rana pipiens</i>	Beaver ponds, permanent water in plains and foothills	G5/S3, NSS4, CO, ID, MT, NV, OR/WA, USFSR2
Columbia spotted frog	<i>Rana luteiventris</i>	Ponds, sloughs, small streams	G4/S3, (G4T1Q/S1 Bighorn Mountain population), NSS4, ID, OR, UT, USFSR2, USFSR4
<b>Plants</b>			
Meadow pussytoes	<i>Spea intermontana</i>	Spring seeps, permanent and temporary waters	G5/S3, NSS4, CO
Porter's sagebrush	<i>Artemisia porteri</i>	Sparsely vegetated badlands of ashy or tuffaceous mudstone and clay slopes 5,300-6,500'	G2/S2
Trelease 's milkvetch	<i>Astragalus racemosus var. treleasei</i>	Sparsely vegetated sagebrush communities on shale or limestone outcrops and barren clay slopes at 6500-8200'	G5T2/S2
Cedar rim thistle	<i>Cirsium aridum</i>	Barren, chalky hills, gravelly slopes, and fine textured, sandy-shaley draws 6,700-7,200'	G2Q/S2
Large-fruited bladderpod	<i>Lesquerella macrocarpa</i>	Gypsum-clay hills and benches, clay flats, and barren hills 7,200-7,700'	G2/S2
Beaver rim phlox	<i>Phlox pungens</i>	Sparsely vegetated slopes on sandstone, siltstone, or limestone substrates 6,000-7,400'	G2/S2
Tufted twinpod	<i>Physaria condensata</i>	Sparsely vegetated shale slopes and ridges 6,500-7,000'	G2/S2
Whitebark pine	<i>Pinus albicaulis</i>	Montane forests and on thin, rocky, cold soils at or near timberline at 1300 - 3700 m	G3G4/S3

Common Name	Scientific Name	Habitat	Designation and Ranking of others: WY Natural Heritage Program; WGFD; USFS Regions 2 and 4; Partners In Flight <sup>1</sup>
Limber pine	<i>Pinus flexilis</i>	Timberline and at lower elevation with sagebrush. Associated species are Rocky Mountain lodgepole pine, Engelmann spruce, whitebark pine, Douglas-fir, subalpine fir, Rocky Mountain juniper, mountain mahogany, and common juniper	G4/S5

G = Global rank assigned by [NatureServe](#): range-wide probability of extinction for a species

T = Trinomial rank: refers to the range-wide probability of extinction for a subspecies or variety

S = State rank assigned by Wyoming NDD biologists: probability of extinction from Wyoming

1 = Critically imperiled because of extreme rarity (often <5 extant occurrences) or because some factor makes it highly vulnerable to extinction

2 = Imperiled because of rarity (often 6-20 extant occurrences) or because of factors making it vulnerable to extinction

3 = Rare or local throughout its range or found locally in a restricted range (often 21-100 known occurrences)

4 = Apparently secure, although it may be quite rare in parts of its range, especially at the periphery

5 = Demonstrably secure, although it may be rare in parts of its range, especially at the periphery

NSS1 = Populations greatly restricted or declining, extirpation possible

-OR-

Ongoing significant loss of habitat

NSS2 = Populations declining, extirpation possible; habitat restricted or vulnerable but no recent or ongoing significant loss; species likely sensitive to human disturbance

-OR-

Populations declining or restricted in numbers or distribution, extirpation not imminent; ongoing significant loss of habitat

NSS3 = Populations greatly restricted or declining, extirpation possible; habitat not restricted, vulnerable but no loss; species not sensitive to human disturbance

-OR-

Populations declining or restricted in numbers or distribution, extirpation not imminent; habitat restricted or vulnerable but no recent or ongoing significant loss; species likely sensitive to human disturbance

-OR-

Species widely distributed; population status or trends unknown but suspected to be stable; on-going significant loss of habitat.

NSS4 = Populations greatly restricted or declining, extirpation possible; habitat stable and not restricted

-OR-

Populations declining or restricted in numbers or distribution, extirpation not imminent; habitat not restricted, vulnerable but no loss; species not sensitive to human disturbance

-OR-

Species widely distributed, population status or trends unknown but suspected to be stable; habitat restricted or vulnerable but no recent or on-going significant loss; species likely sensitive to human disturbance

-OR-

Populations stable or increasing and not restricted in numbers or distribution; on-going significant loss of habitat

USFSR2 = Sensitive in Bighorn, Black Hills, Medicine Bow, and Shoshone National Forests, and the Thunder Basin National Grassland

USFSR4 = Sensitive in Bridger-Teton, Caribou, Targhee, Wasatch-Cache, and Ashley (including Flaming Gorge National Recreation Area) National Forests

All but 13 of the 119 known occupied sage-grouse leks (97%) in the Upper Green River Basin were checked during 2006. This compares with 98 percent, 78 percent, 80 percent, 60 percent, and 62 percent checked during 2005, 2004, 2003, 2002, and 2001, respectively. With increased lek monitoring efforts over the past few years, a total of 12 new leks were located during the 2004–2006 breeding seasons. Of the 106 leks checked in 2005, 87 percent were lek counts and 13 percent were lek surveys. The percentage of leks for which count data were collected has continued to increase from 41 percent in 2001 to 73 percent in 2004. Results from the counts and surveys showed that 74 (70%) leks were active, and 32 (30%) were inactive. The average number of males/lek for all active leks has continued to increase the last three years from 21 in 2003, to 24 in 2004, to 35 in 2005, and 46 in 2006. Generally, the proportion of

leks checked that were active has gradually declined from 2001 to 2006. Data from the lek searches in 2001 showed 88 percent of the leks were active, while 70 percent were active during 2006. Part of this decline can be attributed to increased abandonment in areas with increased gas development activity.

## **Current Management Practices**

### **Intensively Developed Fields:**

- Surface disturbing activities will be designed and implemented to minimize impacts on greater sage-grouse habitats to the extent practicable.
- New power lines will be buried where technologically feasible to minimize predation of sage-grouse.
- Wyoming EO 2008-2, and the Wyoming Stipulations for Development in Core Sage-Grouse Population Areas, will be considered when permitting activities.
- Oil and gas operations are subject to stipulations and mitigations.

### **Traditional Leasing Areas:**

- Vehicular activities are limited to existing roads and trails in accordance with dates established for each stage of greater sage-grouse activity as follows:
  - Lekking/strutting (March 1 to May 15)
  - Nesting and early brood rearing (March 15 to July 15)
  - Winter concentration (November 15 to March 14).
- Surface disturbing activities will be avoided in suitable nesting and early brood-rearing habitat within two miles of occupied greater sage-grouse leks from March 15 to July 15.
- Human activity will be avoided between 8:00 p.m. and 8:00 a.m. from March 1 to May 15 within one-quarter mile of the perimeter of occupied sage-grouse leks.
- Surface disturbing activities are prohibited in suitable habitat within one-quarter mile of occupied leks.
- Noise generating activities will be minimized through the application of BMPs, such as high-efficiency mufflers.
- All surface disturbing activities are prohibited in greater sage-grouse winter concentration areas from November 15 through March 15.
- New power lines will be buried to the extent technologically feasible to minimize predation of sage-grouse.
- Placement of permanent and high-profile facilities (greater than 15 feet in height) is restricted within one mile (or the visual horizon, whichever is nearer) of leks, or mitigated with raptor anti-perching devices.
- Wyoming EO 2008-2, and the Wyoming Stipulations for Development in Core Sage-Grouse Population Areas, will be considered when permitting activities.

- Permitted activities potentially affecting the habitat of special status species will be considered on a case-by-case basis.
- Other sensitive species: If surveys conducted within areas not subject to timing limitations identify sensitive species' life-cycle activities, surface disturbing activities will be delayed until wildlife activity is completed.

**Unavailable Areas:**

- Vehicle activities are limited to existing roads and trails in accordance with dates established for each stage of greater sage-grouse activity as follows:
  - Lekking (March 1 to May 15)
  - Nesting and early brood rearing (March 15 to July 15)
  - Winter concentration (November 15 to March 14).
- Surface disturbing activities will be avoided in suitable nesting and early brood-rearing habitat within two miles of occupied greater sage-grouse leks from March 15 to July 15.
- Human activity will be avoided between 8:00 p.m. and 8:00 a.m. from March 1 to May 15 within one-quarter mile of the perimeter of occupied sage-grouse leks.
- Surface disturbing activities are prohibited in suitable habitat within one-quarter mile of occupied leks.
- Noise generating activities will be minimized through the application of BMPs, such as high-efficiency mufflers.
- All surface disturbing activities are prohibited in greater sage-grouse winter concentration areas from November 15 through March 15.
- Oil and gas development operations on pre-existing leases are subject to stipulations and mitigations.
- New power lines will be buried to the extent technologically feasible to minimize predation of sage-grouse.
- Placement of permanent and high-profile facilities (greater than 15 feet) is restricted within one mile (or the visual horizon, whichever is nearer) of leks, or mitigated with raptor anti-perching devices.
- Wyoming EO 2008-2, and the Wyoming Stipulations for Development in Core Sage-Grouse Population Areas, will be considered when permitting activities.
- The purpose of BLM Manual 6840, Special Status Species Management, is to provide policy and guidance, consistent with appropriate laws, for the conservation of special status species of plants and animals, and the ecosystem upon which they depend. These species are proposed for listing, officially listed as T&E species or are candidates for listing as threatened or endangered under the provisions of the ESA; those listed by a state in a category such as threatened or endangered implying potential endangerment or extinction; and those designated by each State Director as sensitive. Conservation of special status species means using all methods and procedures that are necessary to improve the condition of special status species and their habitats to a point where

their special status recognition is no longer warranted. The objectives of the special status species policy are to (A) conserve listed species and the ecosystems on which they depend and (B) ensure that actions requiring BLM authorization or approval are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy.

- The appropriate type and level of ESA Section 7 consultation with the USFWS will occur for agency actions that may affect T&E and proposed species or their designated or proposed critical habitat. USFWS technical advice will be sought on candidate species. The Statewide Programmatic Biological Assessments and Biological Opinions for each species, including reasonable and prudent measures and terms and conditions, will be implemented. Surveys for endangered, threatened, proposed, and candidate species on BLM-administered public lands and mineral estate will occur before any federally authorized project or activity is approved. If T&E or proposed species or their habitat is found in the area, consultation with the USFWS will be initiated, and activities will be curtailed until concurrence is reached between BLM, USFWS, and the operator on which activities can be authorized.
- Federal oil and gas leases or other areas could now, or hereafter, contain plants, animals, or their habitats determined to be threatened, endangered, or proposed, or candidates for listing as T&E species. BLM will recommend modifications to exploration and development proposals to change BLM-approved activities that contribute to the need to list a species or its habitat. BLM could require modifications to or disapprove a proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed T&E species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any activity (ground-disturbing or otherwise) that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA as amended, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation.
- BLM will comply with the terms of the biological assessments and biological opinions for management of threatened, endangered, proposed, and candidate species.
- Deviation from the restrictions listed in this section for any listed species requires additional site-specific consultation with the USFWS.
- Permitted activities potentially affecting the habitat of special status species will be considered on a case-by-case basis.
- Other sensitive species: If surveys conducted within areas not subject to timing limitations identify sensitive species' life-cycle activities, surface disturbing activities will be delayed until wildlife activity is completed.
- Common ROW routes and corridors will be designated, where appropriate, to minimize environmental impacts.
- Surface disturbing activities and interim and final reclamation will be designed and implemented to minimize impacts, maximize and increase habitat patch sizes, and reduce habitat fragmentation for sagebrush-obligate species, for example:
  - Condensate and produced water will be transported from well locations by pipelines rather than by trucks when feasible.
  - All surface disturbing activities will be subject to interim and final reclamation procedures to reestablish sagebrush habitat function and value.

- Transportation planning will be required in all areas to optimize access; minimize development footprint, human presence, and habitat fragmentation; and reduce road density, duplication of routes, and unnecessary routes.

## Management Issues and Concerns

There are no management issues or concerns identified for special status species as part of the Sage-grouse RMP Amendments planning effort.

### 2.11.6 Rawlins Field Office

#### Overview

The species discussed below are likely to occur within the Rawlins Field Office. They (1) are federally protected; (2) have associated critical habitat; (3) have been determined to be eligible for listing but are precluded (candidate); (4) are part of a nonessential, experimental population; and/or (5) occur in either the North Platte River or Colorado River system.

The bald eagle is generally a winter migrant in the Rawlins Field Office, but some eagles nest in the area. Usable nesting habitats exist and because prey is available, there is the potential for additional nesting bald eagles.

Black-footed ferrets are associated with prairie dog communities, which provide potential habitat within the Rawlins Field Office. Prairie dog burrows provide potential retreats for ferrets, and the prairie dogs themselves provide a supply of food. Black-footed ferret numbers have been shown to be directly linked to fluctuations in the prairie dog population. In the Rawlins Field Office, both the black-tailed prairie dog (*Cynomys ludovicianus*) and the white-tailed prairie dog (*Cynomys leucurus*) are present. Any disturbance to prairie dog towns may affect the black-footed ferret populations. A primary concern, aside from direct loss of the food base, is the potential for distemper transmission from domestic canines to the prairie dogs. A nonessential experimental population of black-footed ferrets has been reintroduced within the Rawlins Field Office in the vicinity of the Shirley Basin. Although naturally occurring populations of black-footed ferrets are no longer known within the Rawlins Field Office, suitable habitat does exist; therefore, there is always the potential for ferrets to occur (BLM 2004b).

BLM-administered public lands have limited direct habitat for the Canada lynx; however, they may provide corridors for movement and habitat for forage. There are no identified Lynx Analysis Units (LAUs) located on BLM-administered public lands within the field office, but LAUs have been identified on USFS lands adjacent to BLM-administered lands within the field office.

The Platte River system species include the least tern, the piping plover, the whooping crane, the Western prairie fringed orchid, and the pallid sturgeon, all of which occur in the Platte River system in association with riverine habitat. Although individuals of the four animal species listed above are not likely to be present in any abundance in Wyoming or in the field office, their populations may be susceptible to actions upstream in the Platte River system. Therefore, any Rawlins Field Office actions that may cause water depletion in the Platte River system are carefully considered (BLM 2004b).

Although no designated critical habitat for the Preble's meadow jumping mouse is located on BLM-administered lands, the Cottonwood Creek, Chugwater Creek, and Lodgepole Creek and Upper Middle Lodgepole Creek designated critical habitat unit cross the field office. The Cottonwood Creek, Chugwater Creek, and Lodgepole Creek and Middle Lodgepole Creek units are collectively composed of 10,542 acres of Preble's meadow jumping mouse habitat extending for a total of 125.1 stream miles on private,

state, municipal, or USFS-administered lands. Threats to the Preble's meadow jumping mouse are the loss of riparian habitat, fragmentation of habitat, and reduction in preferred forage.

The Wyoming toad is listed as endangered under the ESA. The toad's natural populations since 1987 have been restricted to a two-square-mile area around Mortenson Lake near Laramie, which is within the Rawlins Field Office. An ongoing captive breeding program and reintroductions at selected sites within the toad's historic range in the Laramie Basin are enabling population increases by this species (BLM 2004b)

The yellow-billed cuckoo was designated as a candidate for listing by USFWS on July 25, 2001. The predominant impact on the yellow-billed cuckoo is the loss of large blocks of riparian habitat due to fragmentation, overgrazing, exotic plant community changes, river management, and agricultural conversion of native vegetation. The yellow-billed cuckoo west of the Continental Divide is considered a distinct population segment (BLM 2004b).

The humpback chub, Colorado pikeminnow, bonytail chub, and razorback sucker are endemic species to the Colorado River drainage. Although these species do not occur within the field office boundary, management actions within the boundary could affect the downstream habitats of these species. These four Colorado River fish are federally listed as endangered and are directly affected by activities that may deplete water in the Colorado River watershed. USFWS has determined that federal actions resulting in water depletion in the Colorado River system might affect these fish species (BLM 2004b) and would require consultation.

## **Current Management Practices**

Surface disturbing activities or occupancy are prohibited on and within one-quarter mile of the perimeter of an occupied greater sage-grouse or sharp-tailed grouse lek.

Disruptive activities are prohibited between 6:00 p.m. and 9:00 a.m. from March 1 to May 20 on and within one-quarter mile of the perimeter of an occupied greater sage-grouse or sharp-tailed grouse lek.

Nesting/early brood-rearing habitat: Surface disturbing and disruptive activities, geophysical surveys, and organized recreational activities (events) that require a special use permit will be avoided in suitable greater sage-grouse and sharp-tailed grouse nesting and early brood rearing habitat within 2 miles of the perimeter of an occupied greater sage-grouse lek, and within one mile of the perimeter of a sharp-tailed grouse lek, or in identified greater sage-grouse and sharp-tailed grouse nesting and early brood rearing habitat, from March 1 to July 15.

Surface disturbing or disruptive activities within greater sage-grouse breeding or nesting habitat will require the use of BMPs designed to reduce both the direct loss of habitat and disturbance to the birds during the critical breeding and nesting seasons.

High-profile structures (e.g., buildings, storage tanks, overhead power lines, wind turbines, towers, and windmills) will be authorized on a case-by-case basis from one-quarter mile to one mile of an occupied greater sage-grouse and sharp-tailed grouse lek.

Surface disturbing and disruptive activities potentially disruptive to delineated greater sage-grouse and sharp-tailed grouse winter concentration areas are prohibited during the period of November 15 to March 14 for the protection of greater sage-grouse and sharp-tailed grouse winter concentration areas.

## Management Issues and Concerns

There are no management issues or concerns identified for special status species as part of the Sage-grouse RMP Amendments planning effort.

### 2.11.7 Rock Springs Field Office

#### Overview

Within the Rock Springs Field Office, there are seven bird, three mammal, and four fish species that have been designated as listed, proposed for listing, or are identified as candidate species under the ESA. Three wildlife species (grizzly bear, black-footed ferret and Canada lynx) are listed as T&E species and one wildlife species (gray wolf) is listed as nonessential/experimental under the ESA (USFWS 2004). These specific species and their respective occurrences in the field office are listed in Table 6. Wyoming BLM sensitive species are listed in Table 7.

**Table 6. Threatened, Endangered, Proposed, and Candidate Wildlife Species that May Occur in the Rock Springs Field Office Area**

Common Name	Scientific Name	Federal Status	Occurrence in Planning Area
<b>Mammals</b>			
Black-footed ferret	<i>Mustela nigripes</i>	Endangered	Historical sightings and potential habitat exists within prairie dog towns
Canada lynx	<i>Lynx canadensis</i>	Threatened	Montane Forests; Lynx Analysis Units
Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened	Foothills of the Wind River range and historical occurrence
Gray wolf	<i>Canis lupus</i>	Nonessential	Historical occupancy and two recent confirmed sightings (Moody, WGFD 2003)
<b>Birds</b>			
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Sagebrush communities
Mountain plover	<i>Charadrius montanus</i>	Proposed Threatened	Prairie dog towns and areas of sparse or absent vegetation
Western population yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Potential habitat within riparian areas west of the Continental Divide
<u>Platte River Species</u> Interior least tern Pallid sturgeon Piping plover Whooping crane	<i>Sternula antillarum</i> <i>Scaphirhynchus albus</i> <i>Charadrius melodus</i> <i>Grus americana</i>	Endangered Endangered Threatened Endangered	Downstream riverine habitat of the Platte River system
<b>Fish</b>			
Colorado River Fish Bonytail chub Colorado pikeminnow Humpback chub Razorback sucker	<i>Gila elegans</i> <i>Ptychocheilus lucius</i> <i>Gila cypha</i> <i>Xyrauchen texanus</i>	Endangered Endangered Endangered Endangered	Downstream riverine habitat in the Yampa, Green, and Colorado River systems

**Table 7. Wyoming BLM Special Status Wildlife Species that May Occur in the Rock Springs Field Office Area**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>
<b>Mammals</b>		
Townsend big-eared bat	<i>Corynorhinus townsendii</i>	Coniferous forest; desert shrubland
Spotted bat	<i>Euderma maculatum</i>	Desert and coniferous habitats
White-tailed prairie dog	<i>Cynomys leucurus</i>	Shrub-steppe and saltbush communities
Long-eared myotis	<i>Myotis evotis</i>	Coniferous forests, roosts in caves, buildings, or mines near a body of water
Fringed myotis	<i>Myotis thysanodes</i>	Elevations less than 7,500 feet in forests and shrublands
Swift fox	<i>Vulpes velox</i>	Grasslands and sagebrush (grass in the eastern portion of the field office)
Pygmy rabbit	<i>Brachylagus idahoensis</i>	Sagebrush in deep loose soils
Wyoming pocket gopher	<i>Thomomys clusius</i>	Dry ridgetops; gravelly, loose soil; greasewood
Idaho pocket gopher	<i>Thomomys idahoensis</i>	Stony, shallow soil
<b>Birds</b>		
Northern goshawk	<i>Accipiter gentilis</i>	Old-growth timber and cottonwood stands during migration
Sage sparrow	<i>Amphispiza bellineata</i>	Sagebrush shrub, mountain-foothill shrub
Burrowing owl	<i>Athene cunicularia</i>	Grasslands, basin-prairie shrub; often with prairie dogs
Ferruginous hawk	<i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Basin-prairie shrub; mountain-foothill shrub with sagebrush
Mountain plover	<i>Charadrius montanus</i>	Areas of low vegetation
Western population yellow-billed cuckoo	<i>Coccyzus americanus</i>	Closed canopy, deciduous, riparian forests with a dense understory
Trumpeter swan	<i>Cygnus buccinator</i>	Lakes, ponds, and marshes
Peregrine falcon	<i>Falco peregrinus</i>	Tall cliffs
Bald eagle	<i>Haliaeetus leucocephalus</i>	Along major rivers, except during late winter when found in the Eden Valley
Loggerhead shrike	<i>Lanius ludovicianus</i>	Sagebrush shrub, mountain-foothill shrub
Long-billed curlew	<i>Numenius americanus</i>	Grasslands and wet meadows
Sage thrasher	<i>Oreoscoptes montanus</i>	Sagebrush shrub, mountain-foothill shrub
White-faced ibis	<i>Plegadis chihi</i>	Marshes and wet meadows
Brewer's sparrow	<i>Spizella breweri</i>	Sagebrush shrub, mountain-foothill shrub

Common Name	Scientific Name	Habitat
<b>Amphibians</b>		
Great basin spadefoot toad	<i>Spea intermontana</i>	Springs; sweeps; permanent and temporary waters during the breeding season and loose sandy soils in arid habitats the rest of the year (Wyoming NDD 2005)
Columbia spotted frog	<i>Rana luteiventris</i>	Variety of vegetation communities, including subalpine forest grasslands and sagebrush habitats, at elevations from 1,700 feet to 6,400 feet (WGFD 2005). Spotted frog requires both aquatic and terrestrial habitats.
Northern leopard frog	<i>Rana pipiens</i>	Small, fishless ponds for reproduction and upland habitats for summertime foraging
Boreal toad (Northern Rocky Mountain population)	<i>Bufo boreas boreas</i>	Wet habitats in foothills, montane, and subalpine areas
<b>Reptiles</b>		
Midget-faded rattlesnake	<i>Crotalus viridis concolor</i>	Rock outcrops and exposed canyon walls – Lower Green Valley from north of the cities of Green River and Rock Springs to the Utah-Wyoming border (WGFD 2005).
<b>Fish</b>		
Roundtail chub	<i>Gila robusta</i>	Colorado River drainage; mostly large rivers, streams, and lakes
Bluehead sucker	<i>Catostomus discobolus</i>	Colorado River drainage; large rivers, streams, and lakes
Flannelmouth sucker	<i>Catostomus latipinnis</i>	Colorado River drainage; large rivers, streams, and lakes
Colorado river cutthroat trout	<i>Oncorhynchus clarkia pleuriticus</i>	Green River, Black's Fork and Little Snake River enclaves. Cool, clear water and well-vegetated stream banks for cover and bank stability (NatureServe 2009)

Sources: Wyoming BLM Sensitive Species Policy and List, March 31, 2010.

## Current Management Practices

Grouse breeding and nesting areas will be protected.

Aboveground facilities (power lines, storage tanks fences, etc.) are prohibited on or within one-quarter mile of grouse breeding grounds (leks). Placement of facilities, “on” (very low profile) or below ground, and temporary disruptive activities, such as occur with pipeline construction, seismic activity, etc., could be granted exceptions within one-quarter mile of leks, in certain circumstances.

To protect breeding grouse, disruptive activities will avoid occupied grouse leks from 8:00 p.m. to 8:00 a.m. daily. The actual area to be avoided and appropriate time frame (usually from March 1 through May 15) will be determined on a case-by-case basis. The avoidance area size (usually within one-quarter to one-half mile of the lek) may vary depending on natural topographic barriers, terrain, line of sight distance, etc.

To protect grouse nesting habitat, seasonal restrictions will apply within appropriate distances from the grouse lek. Appropriate distances (up to two miles) and time frames (usually from March 15 through July 15) will be determined on a case-by-case basis. Exceptions to seasonal restrictions may be granted.

Seasonal restrictions for other species, such as mountain plover and greater sage-grouse winter concentrations, may be identified on a case-by-case basis. Should additional seasonal restrictions be identified, exceptions would also be handled on a case-by-case basis and include a site specific analysis.

### **Surface Disturbance/Disruptive Activity Limitation Area—**

Surface disturbance or disruptive activities limitations:

- Greater sage-grouse leks + one-quarter mile buffer
- Greater sage-grouse winter concentration area
- Potential greater sage-grouse nesting habitat

Seasonal surface disturbance or disruptive activities limitations:

- Greater sage-grouse leks + one-quarter mile buffer March 1 – May 15
- Greater sage-grouse winter concentration area November 15 – March 14
- Greater sage-grouse potential nesting habitat March 15 – July 15
- Mountain plover aggregation areas + one-quarter mile buffer April 10 – July 10

Surveys or searches will be conducted in potential habitat for federally listed, proposed, candidate, and sensitive species before any surface is disturbed. At any time a listed, proposed, or candidate species is found, all disruptive activities will be halted until protective measures developed with the USFWS are implemented. BLM will take proactive measures to improve habitat character as needed in accordance with Section 7 of the Endangered Species Act and BLM Manual 6840 policy.

In greater sage-grouse habitats, surface disturbing maintenance and/or operational activities will require mitigation measures or development plans. These mitigation measures and/or development plans will be based on local situations on a case-by-case basis.

The management practices in greater sage-grouse sensitive habitats will be designed to limit direct loss of habitat and prevent habitat degradation. Surface disturbing and disruptive activities will avoid these habitats. Measures will be taken to improve habitat character as needed in conformance with BLM Manual 6840 policy and, to the extent possible, with the Wyoming Greater Sage-grouse Conservation Plan (WGS-GCP).

Site-specific field reviews will be conducted, as needed, prior to approval of any surface disturbing or disruptive activities (including prior to issuing an oil and gas lease) in greater sage-grouse breeding (leks, nesting, and early brood-rearing) and winter concentration areas. Activities in these habitats will be restricted or prohibited. New oil and gas leases that contain these habitats will be given a CSU stipulation and timing limitations as appropriate. See the Leasable Fluid Minerals Management section and for related information on oil and gas lease stipulations and practices.

Avoidance areas may vary depending on natural topographic barriers, terrain, type of activity, line-of-sight distance, vegetation structure and cover, habitat needs, and other such factors. Exceptions to avoidance areas and seasonal limitations could be provided on a case-by-case basis provided appropriate mitigation could be implemented and the exception criteria have been met. The actual area to be avoided and appropriate time frames will be determined on a case-by-case basis dependent on applicable scientific research and site-specific analysis.

Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

Before surface disturbing or disruptive activities are approved, site-specific evaluations will be conducted for breeding habitat (leks, nesting, and early broodrearing) as expeditiously as possible after receiving a completed application/proposal for an activity. Field searches conducted as part of these evaluations will determine if the site has the scientifically accepted habitat variables (i.e., vegetation composition, height, cover, etc.) necessary to support greater sage-grouse breeding activities. These variables may change as new information becomes available.

Surface occupancy (long-term or permanent aboveground facilities) will be prohibited within one-quarter mile of the perimeter of greater sage-grouse leks unless adverse impacts can be mitigated. Distances will be subject to change on a case-by-case basis dependent on applicable scientific research and site-specific analysis.

Disruptive activities will also avoid occupied greater sage-grouse leks during appropriate evening and early morning hours, 8 p.m. to 8 a.m. daily. The actual area to be avoided and appropriate time frame (typically March 1 to May 15) will be determined and applied on a case-by-case basis.

No disruptive activities are allowed in nesting and early brood-rearing habitats (March 15 to July 15). These limitations will be determined and applied on a case-by-case basis. In addition, nesting and early brood-rearing habitats will be protected from habitat degradation, and measures will be taken to improve habitat quality within these areas.

Disruptive activities will be prohibited in greater sage-grouse winter concentration areas typically from November 15 to March 14. These areas and/or dates are subject to change based on new data and scientific information.

Disruptive activities will be prohibited in big game crucial winter range between November 15 and April 30. Seasonal limitations may be accepted. Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

Traffic speeds on BLM roads during the brood-rearing period (June and July) will be limited within one-quarter mile of nesting aggregation areas as necessary to avoid nesting birds. Exceptions or other mitigation measures could be applied on a case-by-case basis, as determined by BLM. Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

Measures (e.g., avoidance, burying power lines, installation of anti-perch devices, and exclusion for artificial nest structures) will be taken to limit hunting perches or artificial nest sites for avian predators within one-quarter mile of nesting aggregation areas.

Greater sage-grouse nesting habitat will be open to mineral material disposals only if related disturbance and reclamation can occur during one field season (August 1 to November 15) and the site could be returned (through reclamation efforts) to a condition usable by greater sage-grouse prior to the next strutting season. Nesting habitat reclamation would require stockpiling and redistribution of top soil and planting of containerized stock (sagebrush, grass, forbs) of sufficient size and density to meet the nesting requirements of the birds.

Mountain plover surveys will be required prior to authorizing any surface disturbing or disruptive activities in potential plover habitat. Surveys will be conducted within suitable mountain plover habitat by

a qualified biologist using protocol determined by the Rock Springs BLM biologist. Active mountain plover nesting aggregation areas will be avoidance areas for surface disturbing and disruptive activities within one-quarter mile of the area from April 10 to July 10.

BLM will cooperate with the USFWS in studies for, and reintroduction of, special status species.

Seasonal limitations for surface disturbing activities to protect game and special status fish species during spawning will be applied.

### **Jack Morrow Hills**

Crucial winter range or sensitive habitats (such as birthing areas, the connectivity area (migration corridor), nesting sites, greater sage-grouse breeding habitats and winter concentration areas, and sensitive fisheries habitats) will be managed by maintaining habitat or reducing habitat loss or alteration, improving habitat where possible, and applying appropriate mitigation requirements (e.g., distance and seasonal limitations and rehabilitation) to all appropriate activities. The management practices in greater sage-grouse sensitive habitats will be designed to limit direct loss of habitat and prevent habitat degradation. Surface disturbing and disruptive activities will avoid these habitats.

Measures will be taken to improve habitat character as needed in conformance with BLM Manual 6840 policy and, to the extent possible, with the WGS-GCP. Site-specific field reviews will be conducted, as needed, prior to approval of any surface disturbing or disruptive activities (including prior to issuing an oil and gas lease) in greater sage-grouse breeding (leks, nesting, and early brood-rearing) and winter concentration areas. Activities in these habitats will be restricted or prohibited. New oil and gas leases that contain these habitats will be given a CSU stipulation and timing limitations as appropriate. Avoidance areas may vary depending on natural topographic barriers, terrain, type of activity, line-of-sight distance, vegetation structure and cover, habitat needs, and other such factors. Exceptions to avoidance areas and seasonal limitations could be provided on a case-by-case basis provided appropriate mitigation could be implemented and the exception criteria have been met.

Before surface disturbing or disruptive activities are approved, site-specific evaluations will be conducted for breeding habitat (leks, nesting, and early brood-rearing) as expeditiously as possible after receiving a completed application/proposal for an activity. Field searches conducted as part of these evaluations will determine if the site has the scientifically accepted habitat variables (i.e., vegetation composition, height, cover, etc.) necessary to support greater sage-grouse breeding activities. These variables may change as new information becomes available. Surface occupancy (long-term or permanent aboveground facilities) will be prohibited within one-quarter mile of the perimeter of greater sage-grouse leks unless adverse impacts can be mitigated. Distances will be subject to change on a case-by-case basis dependent on applicable scientific research and site-specific analysis.

Disruptive activities will also avoid occupied greater sage-grouse leks during appropriate evening and early morning hours, 8 p.m. to 8 a.m. daily. The actual area to be avoided and appropriate time frame (typically March 1 to May 15) will be determined and applied on a case-by-case basis. No disruptive activities are allowed in nesting and early brood-rearing habitats (March 15 to July 15). These limitations will be determined and applied on a case-by-case basis. In addition, nesting and early brood-rearing habitats will be protected from habitat degradation, and measures will be taken to improve habitat quality. Disruptive activities will be prohibited in greater sage-grouse winter concentration areas typically from November 15 to March 14. These areas and/or dates are subject to change based on new data and scientific information

Traffic speeds on BLM roads during the brood-rearing period (June and July) will be limited within one-quarter mile of nesting aggregation areas as necessary to avoid nesting birds. Exceptions or other mitigation measures could be applied on a case-by-case basis, as determined by BLM. Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

Measures (e.g., avoidance, burying power lines, installation of anti-perch devices, and exclusion for artificial nest structures) will be taken to limit hunting perches or artificial nest sites for avian predators within one-quarter mile of nesting aggregation areas.

### **Management Issues and Concerns**

Potential wind development is being considered or proposed within sage-grouse key habitat areas and other important habitat within the Rock Spring Field Office. Development of a process to identify where wind development will be allowed will create a better understanding of related impacts to sage-grouse and other species.

## 2.12 TRANSPORTATION AND ACCESS

### 2.12.1 Overview

The main objectives of the Transportation and Access program are to provide legal public access to public lands, provide legal access for BLM staff, maintain existing roads and access easements, and close roads as necessary. Access is acquired through purchase, exchange, reciprocal ROWs, donation, and condemnation. Transportation includes access to public lands and infrastructure management. Local dependence on public land to meet transportation needs occurs mostly in terms of access to those public lands. Public lands also provide for transportation of commodities through ROWs. The transportation system within the planning area is depicted on Map 9.

The checkerboard land ownership pattern and other non-BLM-managed inholdings create problems for accessing land and resources administered by BLM. Some easements exist to allow access across private lands to public lands, but there are several locations where public access to public land is not available due to the lack of such easements or contiguous BLM-managed public land. Energy- and recreation-related vehicular traffic on the public lands is increasing. This is due to further energy development and recreational use by the general public. With the greater use and demand on the existing transportation network, additional legal access would be required to provide for and enhance travel to and from the public lands. Roadways managed by BLM are often used to access private interests. A network of roads built and maintained primarily by the oil and gas industry provides transportation routes across the planning area.

Section 9113 of the BLM Manual determines the functional classification of roadways, which also determines design speeds. Access across private land to public lands is an ongoing issue within the planning area. BLM's policy is to acquire access only when needs are identified through land use planning as being essential for the management of BLM-administered lands and resources. Needs are ranked with other access needs throughout the State of Wyoming to determine how the limited resources for acquisition are used. To establish joint agency cooperation when acquiring access to public lands, BLM has a MOU with the Wyoming Board of Land Commissioners, USFS, and the WGFD.

Travel Management Areas (TMAs) are delineated for those areas with an OHV designation of Limited to Designated Roads and Trails, Open, and Closed. Travel management has been addressed at the site-specific planning level for some areas of the field office. Transportation management involves the infrastructure and legal rights to provide people the opportunity to use and travel to and through specific lands within the planning area. BLM's travel management program includes providing means for legal access and maintenance and development of various transportation facilities. Travel management includes travel ways, travel management, and travel systems. Management encompasses all forms of transportation, including mechanized and motorized vehicles such as bicycles, motorized ATVs, cars and trucks, and pedestrian and equestrian modes of access as well.

For legislative purposes, 42 CFR 840 defines an OHV as "any motorized vehicle capable of or designated for, travel on or immediately over land, water, or other terrain." Over the past 25 years, ownership of OHVs has become commonplace. A lack of understanding of land use ethics has increased inappropriate uses of OHVs on federal lands. A shortage of law enforcement personnel and a rapid increase in OHV use throughout the planning area make it difficult to enforce OHV designations. This situation generally occurs more often in areas of higher recreational use, but there is evidence of rapid route proliferation throughout the planning area. The majority of OHV use on public lands occurs on unpaved roads and two-track trails. OHV use is a popular method to explore public lands. It also provides access for nonmotorized recreational purposes, such as fishing, hiking, mountain biking, horseback riding, and

primitive camping opportunities. Nonrecreational OHV use of the field office includes agricultural management, energy development, and land-management activities. Employees of government agencies, ranchers, energy companies, and utility providers are permitted users who utilize OHVs to access and maintain the infrastructure required for the continued operation and maintenance of their facilities. BLM has established OHV area designations according to the BLM *Land Use Planning Handbook* requirements and 43 CFR 8342.1. These designations establish guidelines and limitations for OHV use.

## 2.12.2 Casper Field Office

### Overview

The Casper Field Office is centrally located in Wyoming and is a hub for the minerals industry. Interstate 25 (I-25) is the main transportation route through the Casper Field Office and provides a link to I-80 and I-90 located to the south and north, respectively. Primary and secondary highways connect most communities in the region, and a series of county roads provide public access to remote areas of the Casper Field Office. Natrona County International Airport is located in Casper and is the major air link to the region. In addition, several municipal airports, a military airport (Guernsey Airport), and several private airstrips are located within the region. The Casper area is served through a single line of the Burlington Northern and Santa Fe Railroad Company.

The existing RMP identifies five areas in need of travel and transportation management plans to address access and transportation program issues. Physical access may be limited by the landscape of the field office and the patchwork land ownership; vehicle access may certainly be hampered or unavailable.

Most access program activities within the Casper Field Office are coordinated with federal, state, local, and as appropriate, tribal agencies. BLM currently manages 18 easements acquired for public access, and the Casper Field Office plans to acquire 16 more easements or cooperative agreements for access across private lands. Much of the transportation infrastructure for the Casper Field Office is already in place, and no need for additional major transportation facilities has been identified. Most efforts associated with transportation infrastructure are used for reconstruction of older or damaged facilities and routine maintenance.

Throughout the majority of the Casper Field Office, OHV use is limited to existing roads and trails. This designation was created to allow OHV use without increasing the number of acres disturbed. OHV users are not to travel off the roads and trails except during the performance of necessary tasks such as the retrieval of game. Each year new trails are being created by a wide range of OHV users including, but not limited to, recreational users. Once a new trail becomes established it is considered by the public to be an existing route.

### Current Management Practices

In areas limited to existing or designated roads and trails, the following is allowed: (1) both motorized and non-motorized transportation on existing and designated roads and trails, unless indicated otherwise at site location; (2) non-motorized cross-country or off-route travel as long as new routes are not created and resource damage does not occur; (3) cross-country or off-route travel by over-snow vehicles when snow cover is sufficient to prevent resource damage; and (4) cross-country or off route travel during hunting season by individuals possessing a valid WGFHD disabled hunter permit or disabled hunter companion permit.

## Management Issues and Concerns

There are no management issues or concerns identified for transportation and access as part of the Sage-grouse RMP Amendments planning effort.

### 2.12.3 Kemmerer Field Office

#### Overview

The Kemmerer Field Office is located in southwestern Wyoming and includes a portion of Interstate 80 (I-80) and a network of other roadways that serve motorists in western Wyoming. I-80 provides east-west access across southern Wyoming and the Nation. Primary and secondary highways (189, 30, and 89) connect the primary communities in the region and provide access to a series of county roads that provide public access to remote areas of the field office.

The majority (1.4 million acres) of the Kemmerer Field Office is designated as limited for OHV use. This designation was created to allow OHV use without increasing the number of acres disturbed. Recreational users are not permitted to travel off of roads and trails except during the performance of necessary tasks, provided the off-road travel does not exceed 300 feet of the existing trail. If off-road distances beyond 300 feet are required for dispersed uses or to perform necessary tasks, exceptions can be granted through a letter of authorization.

The field office is generally open to snowmobiling in the winter months. However, big game winter ranges are closed to minimize stress to wintering animals. The Viva Naughton Trailhead provides access to 343 miles of groomed trails in the Wyoming range.

#### Current Management Practices

Parts of the hill climb area in Section 33, T15 North, R114 West - 60 acres are open for OHV use.

The following areas will be designated limited to existing roads and trails pending resource surveys and travel management planning to support an open designation: Oakley Draw and Leavitt Bench/Crooked Canyon. New proposals for open OHV use areas will be considered and could be approved provided they do not cause a significant impact to other resources.

Motor vehicle travel in the field office, outside of the WSA, is limited to existing roads and trails. Limited off-trail motor vehicle travel is allowed for dispersed uses and to perform necessary tasks as long as it does not cause resource damage or create new trails. If off-road distances beyond 300 feet are required for dispersed uses or to perform necessary tasks, exceptions can be granted through a letter of authorization. Off-trail motor vehicle travel is not allowed in the Rock Creek/Tunp or Bear River Divide prescriptive management areas.

Motor vehicle travel is seasonally limited in the following crucial big game winter range areas: Slate Creek, Rock Creek, and Bridger Creek. Public access to the areas is closed from January 1 to April 30 (exemptions apply).

Mechanized vehicle use is allowed throughout the field office on existing roads and trails, except the Raymond Mountain WSA is closed to mechanized vehicles. Snowmobile use in Pine Creek Canyon is limited to the groomed trail. Snowmobile use is limited to times when favorable snow conditions exist prior to January 1 in the following crucial big game winter range areas: Slate Creek, Rock Creek, and Bridger Creek. No snowmobile use allowed in the Raymond Mountain WSA.

In the field office, 23 miles of groomed snowmobile trails exist and will continue to be groomed. New snowmobile trails are considered on a case-by-case basis.

## **Management Issues and Concerns**

Access to some areas may be further limited due to conflicts with sage-grouse habitats. Restrictions to protect sage-grouse habitats may further support the closure of unauthorized motor vehicle trails.

### **2.12.4 Newcastle Field Office**

#### **Overview**

Due to the nature of existing uses in the field office and the scattered land pattern that exists, all public land outside the Whoopup Canyon ACEC (which is closed to vehicle use) is designated as limited to existing roads and trails. This designation was established to provide access to public lands while protecting the landscape and resources from off-road vehicle damage. BLM retains the authority to permit the construction of new roads or trails to accomplish program goals and for administrative use.

Vehicle travel off existing roads and trails can be authorized to accomplish necessary tasks if such travel does not result in resource damage or encourage additional use on a regular basis. Random off-road travel and creating new roads or trails not specifically authorized by the BLM is not permitted.

#### **Current Management Practices**

There are no current transportation and access management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## **Management Issues and Concerns**

There are no management issues or concerns identified for transportation and access as part of the Sage-grouse RMP Amendments planning effort.

### **2.12.5 Pinedale Field Office**

#### **Overview**

Transportation activity within the Pinedale Field Office is associated with recreational and non-recreational use of the land. The varied landscape; large areas of public land with roads and trails open to OHVs; and numerous landforms along the northern, eastern, and western boundaries of the field office (composed of the foothills and approaches to the Wyoming Range and Wind River Range) provide numerous opportunities for OHV use. This varied landscape and the proximity of and access to the USFS-administered lands in the Bridger-Teton National Forest have contributed to the popularity of this type of vehicle use.

The majority of OHV use within the boundaries of the field office takes place on existing roads and trails. OHV use appears to have increased in some areas during the past 15 years as is evidenced by the expansion of trails by ATVs and motorcycles. Some localized trail expansion is related to the growth in use by racing-type ATVs and motorcycles. The current demand for general OHV use is not exceeding the capacity of areas open to OHV use.

Roads and trails on BLM-administered lands are frequently used as transportation routes to access USFS-administered lands. The Irish Canyon access to the Bridger National Forest is becoming extremely popular for snowmobile use because the route is part of the Continental Divide Snowmobile Trail system and extends into the Bridger-Teton National Forest (Hudson 2002). OHV use for antler collecting has become increasingly popular in the past decade. In addition to these uses, interest in developed mountain bike and motorized OHV routes has increased.

### **Current Management Practices**

Motorized vehicle use, except for over-the-snow equipment, is limited to designated roads and trails in the following areas:

- Boulder Lake, Upper Green River, and Scab Creek SRMAs
- Trapper's Point ACEC
- East Fork River/Irish Canyon area
- Miller Mountain and Ross Butte MAs
- Oregon Trail inscription sites, Native American TCPs, Native American burial locales, and communal big game kill sites
- Muddy Creek/Badlands area
- Green River WSR unit
- CCC Ponds SRMA
- Red Canyon area.

### **Management Issues and Concerns**

Access across private land to public lands is a continuing issue within the field office. BLM's policy is to acquire access only when needs are identified through land use planning as being essential for the management of BLM-administered lands and resources.

Increased OHV use during the past 10 to 15 years has created some identifiable concerns with the management of OHV activities. The most notable concern may be the occurrence of OHV use in some areas in which repeated motorized travel on erodible soils and/or steep slopes may be causing degradation of water quality, loss of vegetation, and alteration of the visual landscape. Another identified concern is the effect of motorized activities on wildlife in crucial winter habitat. In addition, OHV noise can be considered intrusive and unpleasant to other recreational users.

## 2.12.6 Rawlins Field Office

### Overview

Transportation activity within the Rawlins Field Office is associated with a variety of resource uses, including mineral extraction, livestock grazing, and recreation. The level of access to these resources can affect their potential levels of use.

There are two interstate highways through the Rawlins Field Office: I-25, which runs north-south through Cheyenne and Wheatland in the far eastern part of the area; and I-80, running westward from Nebraska to generally bisect the Rawlins Field Office. For the most part, U.S. highways are co-located on interstate highways, with U.S. 87 following I-25 and U.S. 30 following I-80. An important exception is the divergence of U.S. 30 from I-80 between Laramie and Walcott, where it is co-located with U.S. 287. This route is less subject to the blizzard conditions that sometimes occur in this segment of I-80. As would be expected on the basis of population, state highways are much more numerous in the portion of the Rawlins Field Office east of Rawlins. West of Rawlins, State Highway 789 is the only state highway, and other routes are typically unpaved.

There are numerous smaller roads laced throughout the Rawlins Field Office, which connect more remote locations within the Rawlins Field Office to the larger collector roads. These roads are used for recreational purposes, to provide access for the development and maintenance of oil and gas wells, and for range management improvements. Most of these roads are not paved; they are of dirt, gravel, or sand. These roads include those that are maintained by BLM, by counties, and by private corporations. The larger collector roads are not maintained by BLM.

The checkerboard land ownership pattern and other non-BLM-managed inholdings create problems for accessing land and resources administered by BLM. Few easements exist to allow access across private lands to public lands. There are numerous locations where public access to public land is unavailable without private landowner permission due to the lack of easements, county roads or state highways or contiguous BLM-managed public land. For example, access to the Overland Trail is hampered because of noncontiguous BLM-managed land. In addition, public access to streams and reservoirs is often restricted by the absence of lands with legal public access adjacent to the water.

Energy- and recreation-related vehicular traffic on the public lands is increasing. This is due to further energy development and recreational use by the general public. With the greater use and demand on the existing transportation network, additional legal access would be required to provide for and enhance travel to and from the public lands.

OHV use is managed according to designations finalized in the Rawlins RMP. These designations prescribe the available management environment in which OHV users can travel. Potential OHV designations are open, closed, or limited. With the exceptions listed below, the Rawlins Field Office is open to the use of motorized OHV use. The Rawlins RMP prescribes that OHV use throughout the Rawlins Field Office is limited to existing roads and vehicle routes, except in specified areas that contain different designations. Within the Rawlins Field Office, OHV use provides access to hunting, fishing, and camping. In addition, OHV use is increasingly regarded as a method of recreation in itself, and OHV use extends beyond recreational use. Gathering of noncommercial products includes activities such as the collecting of shed deer and elk antlers, moss rock, and native plant material. OHVs provide access to large areas of land and easy access to antlers on the ground. Employees of authorized users, such as government agencies, ranches, oil and gas companies, and utility providers use OHVs to access and maintain the developments that are integral to the continued operation of their facilities. BLM staff also

use OHVs for tasks such as range inspections, surveying and mapping, inventories, monitoring, vegetation treatments, fire suppression, project maintenance, and construction.

## Current Management Practices

With some exceptions, the Rawlins Field Office is open to use of motorized, over-the-snow vehicles provided they do not adversely affect wildlife or vegetation (there are specific OHV exceptions). The field office is divided into areas that are open, limited, or closed to OHV travel. Those areas that are designated limited may have seasonal restrictions or travel limitations to either existing or designated roads, vehicle routes, or any combination of these. Until the designation process is completed, travel in limited to designated areas will remain limited to existing roads and vehicle routes. Travel on parcels of public land not having legal public access will remain limited to existing roads and vehicle routes. TMAs within the Rawlins Field Office are defined as those areas identified as OHV areas and those areas selected as “Limited to Designated Roads and Trails,” “Closed,” or “Open”.

Off-road motor vehicle use is allowed for necessary tasks except in WSAs and specific SD/MAs. In localized areas, temporary, seasonal, or permanent closures to motorized vehicle use may occur for public health and safety concerns or for the protection of resources.

OHV use to retrieve big game kills and to gain access to camping sites is allowed within 300 feet of existing roads and vehicle routes, except where roads and vehicle routes are closed and/or in WSAs and specific SD/MAs. Currently, 3,730 acres are open to OHV use.

The following designations are in place:

- 2,190,690 acres are limited to either designated or existing roads and vehicle routes.
- 1,283,930 acres are limited to existing roads and vehicle routes (within the checkerboard or other intermixed landownership areas).
- 46,370 acres are closed to OHV use.
- The public land transportation system will be maintained or modified to provide for public health and safety and adequate access to public lands.

## Management Issues and Concerns

OHV designations in the Rawlins Field Office for the majority of public lands are “limited to existing roads and vehicle routes.” However, the number of unauthorized roads pioneered within the Rawlins Field Office is expanding rapidly. Even authorized activities can lead to unauthorized roads and vehicle routes. A concern is that OHV users often leave existing roads and vehicle routes and create new two-tracks, thereby contributing to vegetation loss, soil compaction, soil erosion, and wildlife harassment. In addition, use of existing roads and vehicle routes when they are muddy causes rutting and erosion whether the roads/vehicle routes are two-tracks or improved roads. Within the Rawlins Field Office, OHV use in the Sand Hills and Dune Ponds areas is of special concern because of the fragile nature of these areas. The Dune Ponds area receives a number of visitors because of its proximity to the Seminole Reservoir and the population center of Rawlins.

Over the past 25 years, ownership of OHVs has become commonplace. A lack of understanding of land use ethics has increased inappropriate uses of OHVs on federal lands. Shortage of law enforcement personnel and a rapid increase in OHV use throughout the Rawlins Field Office make it difficult to

enforce OHV designations. This situation generally occurs more often in areas of higher recreational use, but there is evidence of rapid route proliferation throughout the Rawlins Field Office.

## 2.12.7 Rock Springs Field Office

### Overview

The transportation infrastructure for the Rock Springs Field Office is extensive and provides adequate physical access through the field office. The Rock Springs Field Office seeks legal public access to areas utilized for recreation, renewable and nonrenewable energy development, range management, and communication site management. BLM acquires access through purchases, exchange, reciprocal ROWs, and donation; and coordinates access activities with federal, state, local, and tribal agencies as appropriate. The most frequently encountered access need is to provide ROWs across public lands. Access is also sought across private land if a need is identified.

### Current Management Practices

Approximately 170,000 acres are closed to off-road vehicle use to protect naturalness and outstanding opportunities for solitude, or primitive and unconfined recreation. Generally, over-the-snow vehicle use is subject to specific prescriptions unless a site specific analysis determines that exceptions can be allowed.

### Jack Morrow Hills

A transportation plan for the JMH Coordinated Activity Plan planning area will be developed in coordination with local governments, users, and other members of the public. The transportation plan could include mitigation measures (such as offsite placement of facilities, remote control monitoring, restricted or prohibited surface use including road construction, multiple wells from a single pad, central tank batteries/facilities, and pipelines and power lines concentrated in specific areas, all based on site-specific analysis) in areas subject to seasonal limitations and use restrictions such as CSU and NSO stipulations for oil and gas development. Transportation planning will provide for access to achieve multiple-use goals while providing maximum protection for crucial habitats and sensitive resources and will consider the following:

- Limiting points of access for all activities to minimize disruption.
- Closing and rehabilitating unused roads and trails and those causing resource damage. This will be subject to county review of existing ROWs needs. The transportation plan and affected maps will be corrected to reflect closed roads and trails.
- Avoiding construction of stream or riparian area crossings in sensitive areas and closing unnecessary crossings. Exceptions may be granted if crossings will reduce adverse effects, benefit area objectives, and reduce miles of road and/or frequency of use. Bridges (versus culverts) will be required for perennial stream crossings.
- Limiting development zones to be accessed by designated routes.

Proposed road installations and improvements will follow the JMH Coordinated Activity Plan and Green River RMP management objectives and applicable BLM guidelines until a JMH transportation plan is prepared and approved. Exceptions to the plan will address site-specific conditions to minimize impacts on natural and cultural resource values. Proposed roads and improvements for Steamboat Mountain and White Mountain will follow the guidelines specified in Appendix 12 in the final EIS.

The Pinnacles Geologic Feature will be closed to OHV use, and OHV use will be limited to designated roads and trails in the South Pass Historic Landscape ACEC (portion not visible), cushion plant community, and Steamboat Mountain MA. The remaining public lands in the JMH Coordinated Activity Plan planning area will remain open, limited, or closed to OHV use as previously described in the Green River RMP. The OHV management prescriptions identified in the Green River RMP will be implemented. Management of OHV activities will be in accordance with EO 11644, as amended by EO 11989, and applicable regulations (43 CFR 8340) that address the use of OHVs on public lands. Designation and authorization of OHV use will be controlled to protect resource values, promote users' safety, and minimize conflict among various public lands uses. In areas where roads have not been assessed and road designations not completed, management will be the same as that for "existing roads and trails" until the assessment can be completed. Specific roads and trails may be closed or seasonally closed to OHV use as needed for public health and safety reasons, restoration or remediation actions, habitat protection, or other valid reasons as determined by BLM. Travel by over-the-snow vehicles will be limited to the OHV designations and BLM trails designated for snow vehicle access. Any travel off existing routes will be considered on a case-by-case basis.

### **Management Issues and Concerns**

It has been identified that there is unavailable or inadequate legal public access to some parcels of public land within the planning area. In addition, there is a need for access restrictions to areas that may pose a threat to public health and safety or significant resource values.

## 2.13 VEGETATION

### 2.13.1 Overview

Vegetation resources within the planning area are diverse and in some areas unique. The precipitation, elevation, and temperature extremes, combined with soil and geology variability, create a variety of vegetation habitat types. Vegetation resources within the planning area include mixed-grass, sagebrush shrubland, and forest communities. Riparian areas and wetlands are ecologically among the most important resources on public land. Structurally diverse plant communities provide habitat for wildlife as well as forage for domestic animals. In addition, healthy riparian areas and wetlands stabilize the soil, act as sponges releasing water throughout the year, and improve water quality for adjacent streams. Resource uses may affect the natural function and condition of riparian areas and wetlands.

Noxious and invasive weeds are identified as a major threat to native ecosystems. They contribute to the loss of rangeland productivity, increased soil erosion, reduced native species diversity and loss of wildlife habitat and, in some instances, are hazardous to human and animal health and welfare (Federal Noxious Weed Act, Public Law 93-629). Waterways, roads, and animals are the principal vectors for expansion of noxious and invasive weed species. Weeds are a component evaluated during Standards for Healthy Rangelands assessments. Major vegetation communities that occur within the planning area are included on Map 10.

### 2.13.2 Casper Field Office

#### Overview

Vegetative resources in the Casper Field Office are diverse and consist of the following community types: grassland communities and shrubland communities; riparian and wetland communities; and woodland and forest communities. Invasive, non-native plant species are present throughout the planning area and have invaded most vegetative communities.

Shrub communities are diverse throughout the field office and dominate the majority of public lands administered by the BLM in this area. The three general shrub communities represented include desert shrub/saltbush-greasewood flats, mountain shrub, and sagebrush. Mixed grass prairie grasslands occur mainly in the eastern two thirds of the planning area. Other grassland communities consist of short- to mid-height grass species; forbs occur primarily in the southern foothills of the Big Horn Mountains in Natrona County. Areas of mixed grass prairie are primarily used for livestock and wildlife grazing.

Greasewood and Gardner saltbush occur in the more arid regions of the field office on soils with at least moderate amounts of salinity. Areas where saltbush occurs include Bates Hole and Anderson Draw. Gardner saltbush, the dominant species in this community type, is preferred livestock forage for lambing sheep and calving cattle, and is consumed by wildlife and livestock in the winter and spring.

The mountain shrublands are made up of mesic upland shrub steppe communities and xeric upland shrub steppe communities. The primary shrub in the mesic upland shrub steppe is chokecherry and occurs at low- to mid-elevations in areas of greater moisture. Associated shrubs include snowberry, currant, Wood's rose, and serviceberry. True and curleaf mountain mahogany dominate the xeric upland shrub steppe, occurring along the foothills of the Laramie Range and on the southern slopes of the Big Horn Mountains, respectively. Mesic upland shrub steppe communities provide hiding and thermal cover for deer, elk, and other wildlife, and forage for browsing animals. Mountain mahogany in the xeric upland

shrub steppe is utilized by livestock, is important winter forage for deer and elk, and provides crucial winter range for mule deer.

Sagebrush communities, the most common vegetative type in the field office, cover 630,221 acres or 46 percent of the total acreage. Several types of sagebrush communities occur within the planning area including Wyoming big sagebrush/grassland, mountain big sagebrush/grassland, silver sagebrush/grasslands, basin big sagebrush shrubland, and low sages such as birdfoot and Wyoming threetip sagebrush/grassland. Wyoming big sagebrush/grassland is the most common vegetative type in south-central Wyoming and provides crucial winter range for pronghorn and mule deer and is a staple for greater sage-grouse. In general, sagebrush communities provide forage, hiding and/or nesting cover, and habitat for wildlife species.

Riparian and wetland communities account for a small percentage (less than one percent) of the public lands within the field office. Typically, these communities produce more plant and animal biomass per unit area than adjacent upland areas. It is estimated that 70 to 85 percent of Wyoming's wildlife use riparian habitats for at least a portion of their life cycles. It is estimated that there are between 300 and 350 miles of lotic (flowing water) riparian/wetland segments and 1,200 acres of lentic (standing water) riparian/wetland areas located on public land in the field office.

### **Current Management Practices**

There are no current vegetation management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for vegetation resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.13.3 Kemmerer Field Office**

### **Overview**

Vegetative resources in the Kemmerer Field Office are divided into woodland and forest communities, riparian and wetland communities, upland grass and shrub communities, and invasive non-native plant species.

Shrublands make up approximately 62 percent of the total private, state, and federal land within the Kemmerer Field Office. Shrub communities include desert shrub, greasewood fans and flats, mesic upland shrub, xeric upland shrub, mountain big sagebrush, and Wyoming big sagebrush. Grasslands make up approximately 4 percent of the total area within the Kemmerer Field Office and include Great Basin foothills grasslands, mixed grass prairie and subalpine meadow.

Desert shrub communities are often dominated by shadscale saltbush (*Atriplex confertifolia*), but may be a mixture of Gardner's saltbush (*Atriplex gardneri*), Greasewood (*Sarcobatus vermiculatus*) and/or Desert pincushion (also known as spiny star, *Escobaria vivipara* var. *vivipara*). The desert shrub vegetation type is usually found in central and western Wyoming in flats and fans. Where greasewood comprises greater than 75 percent of total ground cover, the community is classified as greasewood. Greasewood communities generally occur along streams at low to medium elevations.

Mesic upland shrub includes a variety of shrub species. The dominant and co-dominant species include Rocky Mountain maple (*Acer glabrum*), bigtooth maple (*Acer grandidentatum*), serviceberry (*Amelanchier alnifolia*), snowberry (*Symphoricarpos albus*), wax currant (*Ribes cereum*) and/or chokecherry (*Prunus virginiana*). Mesic upland shrub communities typically occur in the foothills and mesic environments throughout Wyoming. Xeric upland shrub communities are dominated by mountain mahogany (*Cercocarpus ledifolius*) and generally occur on dry slopes or flats at mid-elevation in shallow soils.

Sagebrush communities account for more than 50 percent of the vegetative cover in the Kemmerer Field Office, with Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) representing 1,772,923 acres (45%) of the field office. Mountain big sagebrush is not found east of the Laramie Range in Wyoming.

Mixed grass prairie contains a mixture of short and tall grass prairie species, but does not contain buffalo grass, an indicator of short grass prairie. Grass species that do occur in mixed grass prairies include western wheatgrass, blue grama, needle and thread, threadleaf sedge, Sandberg bluegrass, and prairie junegrass. Great Basin foothills grassland is a grass-forb mix found in the foothills of northwestern Wyoming and includes species such as bluebunch wheatgrass, arrowleaf balsamroot, silvery lupine, Idaho fescue, spike fescue, Richardson's geranium, and old man's whiskers. Subalpine meadows occur in mountain parks within and below the upper treeline, with graminoid-and-forb-dominated species. Subalpine meadows comprise the majority (3.6%) of the grassland within the Kemmerer Field Office.

Infestations of invasive non-native plant species are distributed sporadically throughout the field office. The weed program is continually expanding as a result of changing priorities, new invasive non-native plant species introductions, discovery of new infestations, and the rapid growth of known infestations. GIS mapping of weed locations is ongoing to determine locations of known weeds and locate new infestations.

Riparian and wetland communities are more structurally diverse and produce more plant and animal biomass than adjacent uplands in the Kemmerer Field Office. Three types of riparian and wetland communities are present in the field office. These are forest-dominated riparian, graminoid-dominated wetland, and shrub-dominated riparian. Open water areas represent less than one percent of lands administered by the Kemmerer Field Office. Open water communities include; lakes and reservoirs with areas greater than 99 acres and do not include rivers.

## Current Management Practices

Prescribed fire, wildland fire, and appropriate chemical, mechanical, and biological treatments could be used to meet vegetation management objectives.

## Management Issues and Concerns

Management issues and concerns are listed below by vegetation community type.

Forest, Grassland, and Shrubland Communities:

- Loss of historical wildlife habitat (particularly sage-grouse), may limit opportunities for future vegetation treatments
- Limit vegetation disturbance and treatments to protect habitat for special status species (such as sage-grouse)

- Improve livestock grazing management and implement rotational grazing systems to improve sage-grouse habitat
- Identify and implement appropriate mitigation strategies for sage-grouse when vegetation is disturbed for energy development or other significant activities
- Require successful reclamation of sites disturbed for energy development.

#### Invasive Non-native Plant Species:

- Invasion of noxious weeds and cheatgrass in burn areas, and along roadways
- Transport of invasive non-native plant species from recreation activities, OHV, oil and gas development, livestock grazing and wildlife
- Limitations and restrictions on chemical application (especially near water sources and in sage-grouse habitats)
- Explore new methods for treating invasive non-native plant species near water sources and in sage-grouse habitats to find a viable alternative for chemical application.

#### Riparian and Wetland Communities:

- Excessive livestock use in some riparian zones
- Impacts to streams from road development
- Impacts to streams from private land irrigation
- Impacts to streams from offsite sources (both upstream and downstream, primarily from private land activities)
- Impacts to streams from OHV use
- Long recovery periods for streams and wetland areas
- Restore riparian areas that are currently rated as Functional At Risk or Non-Functional to Proper Functioning Condition (PFC).

### 2.13.4 Newcastle Field Office

#### Overview

The natural vegetative cover in the Newcastle Field Office is predominately shortgrass or mixed prairie. The principal grass species are needle-and-thread grass, western wheatgrass, buffalograss, June grass, Sandberg bluegrass, Kentucky bluegrass, three awns, little bluestem, and blue grama. Blue grama is likely the most important species for livestock forage. In pure stands, blue grama will usually yield from 100 to 125 pounds of forage per acre. It grows from two to six inches high and may be considered a key species of the shortgrass ranges.

Much of the range in the field office has a sagebrush aspect in which big sage appears to be the dominant shrub vegetation, often comprising one-fourth of the vegetative composition. Other shrubs associated with big sage are silver sagebrush, rabbitbrush, plains pricklypear, wild rose, black greasewood, and sumac. Willows, cottonwoods, green ash, Nuttall service berry, chokecherry, and wildplum occur along rivers and streams. Rocky Mountain juniper, ponderosa pine, and creeping juniper occur along some of the higher ridges and slopes in the north, south-central, and eastern portions of the field office.

### **Current Management Practices**

There are no current vegetation management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for vegetation resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.13.5 Pinedale Field Office**

### **Overview**

Most of the Pinedale Field Office is dominated by sagebrush and mountain shrub communities, with some riparian-, saltbush-, and woodland-dominated areas. Within the field office, riparian/wetland vegetation types include riparian forest, shrubland, and herbaceous meadow/wetland areas. Together, these three vegetation types cover approximately 5,824 acres. Wetland communities include moist meadow communities dominated by herbaceous riparian and/or wetland species. Wetland communities comprise about one acre of the field office.

Grasslands are found primarily in the western portion of the field office along shallow ridges of the Overthrust Belt (BLM 1985) and cover approximately 4,745 acres. Patches of grasslands are found scattered throughout low- and high-density sagebrush communities. These grassland communities provide important habitat and forage for wildlife. Grass species dominate these communities, but shrubs, subshrubs, and cushion plants are also common. Included within the grassland mapping zone is a small area (310 acres) of subalpine meadow in the western portion of the field office.

Sagebrush communities are the most extensive plant cover type, not only in the field office but also in the surrounding Wyoming Basin area and intermountain region. Sagebrush communities cover approximately 744,653 acres within the field office. Sagebrush communities in the field office are dominated by two subspecies of big sagebrush (Wyoming big sagebrush and mountain big sagebrush), with a well-established grass and forb component. Wyoming big sagebrush is the most xeric of the big sagebrush varieties in the field office. Within the field office, Wyoming big sagebrush communities are found at elevations of 7,000 to 7,500 feet. A canopy cover of sagebrush in high-density areas is typically greater than 35 percent. Wyoming big sagebrush covers approximately 645,476 acres within the field office. Species commonly associated with Wyoming big sagebrush include various other shrubs, grasses, and forbs, such as rabbitbrush, Letterman's needlegrass, thickspike wheatgrass, various bluegrass species, phlox, and buckwheat.

Mountain big sagebrush usually grows above elevations of 7,800 feet in portions of the field office that receive annual precipitation amounts of 15 inches or more, which translates to approximately 99,177 acres within the field office.

The sagebrush communities within the glacial deposits on the east side of the field office are characterized by a high percentage of bitterbush and are significant vegetation zones for mule deer in spring and fall. Common associated species of mountain shrub communities are similar to those of mountain big sagebrush communities.

### **Current Management Practices**

Where applicants can demonstrate that proposed activities would not impact sensitive plant species, permit authorizations will be allowed.

Prescribed fire, wildland fire use for resource benefit (WFURB), chemical, biological, and mechanical methods, and livestock grazing could be used to achieve vegetation goals.

Vegetation treatments will be designed to reduce erosion, protect Special Status Plant Species, enhance vegetation community and watershed health, increase forage production, and enhance wildlife habitats. Treatments will be designed to consider the natural role of fire in ecosystem management and to restore the natural range of variability in vegetation community types.

Treated areas will generally be rested from livestock grazing for a minimum of two full growing seasons after treatment unless the appropriate level of environmental analysis determines that shorter durations are adequate. Analysis could indicate a need for a longer rest period.

Vegetation treatments will also be designed and implemented to prevent introduction and reduce the spread of invasive species. Disturbed areas will be reclaimed to native site plant composition. If reclamation of original plant composition is impossible or not desirable, reclamation will achieve a native plant community that meets the Wyoming Standards for Rangeland Health.

### **Management Issues and Concerns**

There are no management issues or concerns identified for vegetation resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.13.6 Rawlins Field Office**

### **Overview**

Vegetation resources within the Rawlins field office are diverse and in some areas unique. The precipitation, elevation, and temperature extremes, combined with soil and geology variability, create a variety of vegetation habitat types. The eastern areas of the Rawlins Field Office, located in Wyoming's southeast corner, are within the vast North American prairies where mixed-grass communities dominate. The desert areas provide habitat for a variety of hearty plants tolerant of low precipitation, temperature extremes, and saline soils. High elevation areas on Elk Mountain and the Seminoe and Ferris Mountains support plants adapted to very low temperatures, an extremely short growing season, and high snow accumulation. Since the Rawlins Field Office straddles the Continental Divide in the gap between the Northern and Central Rocky Mountains, it tends to support a mixture of plains and intermountain plant species, with wind and climate factoring strongly into the evolution of local plant communities.

### **Current Management Practices**

Forage allocation on acquired lands will be consistent with the purpose of the acquisition and multiple-use objectives for the area.

Known habitat for BLM Wyoming State sensitive plant species is open to oil and gas leasing with intensive management of surface disturbing and disruptive activities. Occupied habitat for T&E and proposed and candidate species is also open to oil and gas leasing with an NSO stipulation.

In unique plant communities, such as the Muddy Gap Cushion Plant Community area, notices will be required for locatable mineral exploration and development (except casual use) consistent with regulations. Intensive management actions will be taken to protect the unique plant communities where necessary. Unique plant communities are closed to mineral material disposals.

Rangeland Desired Plant Community (DPC): Vegetation treatments (mechanical, biological, chemical, and prescribed fire) will be applied to meet standards for rangeland health and watershed function and to achieve DPC while considering habitat for wildlife, including special status species. Rangeland areas will be managed to achieve DPC.

## Management Issues and Concerns

There are no management issues or concerns identified for vegetation resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.13.7 Rock Springs Field Office

#### Overview

Vegetation resources within the Rock Springs Field Office are diverse and include big sagebrush, low sagebrush, desert shrub, mountain big sagebrush-grass, mountain shrub, saltbush, half shrub, and grassland communities. The communities that comprise the low density sagebrush classification are abundant and are important as a forage base for livestock throughout the planning area. Cattle graze the grasses and forbs extensively during the spring, summer, and fall, while sheep graze the shrubs, grasses, and half shrubs during the spring, fall, and winter. These communities also supply important yearlong forage for pronghorn, and to a lesser extent, mule deer. The communities that comprise the high density sagebrush classification are fairly abundant in the higher elevations and moisture regimes of the planning area.

Riparian areas and wetlands are ecologically among the most important resources on public lands and cover 18,200 acres within the field office. The major components associated with riparian areas are the meadow, willow, cottonwood, greasewood, and sagebrush communities. These communities can generally be found along the Big Sandy, Little Sandy, Sweetwater, Green Black's Fork, and Henry's Fork river systems- along many small perennial and intermittent streams and around hundreds of springs, seeps, sloughs, and reservoirs in all precipitation zones. The soils that support these communities are generally deep, rich loamy high in organic matter, except in moist greasewood communities, where the subsoils may be moderately to strongly alkaline.

#### Current Management Practices

Riparian habitat will be maintained, improved, or restored to provide wildlife and fish habitat, improve water quality, and enhance forage conditions. Where possible, acquisition of additional riparian area acreage will be pursued to enhance riparian area management.

Prescribed fire will generally be the preferred method of vegetation manipulation to convert stands of brush to grasslands and to promote regeneration of aspen stands and/or shrub species. Low intensity burns during periods of high soil moisture will be the preferred methods/times in mountain shrub communities.

Prescribed burns may be conducted in crucial big game winter ranges if habitat values will be improved for these species. Prescribed fire is the preferred method of vegetation manipulation, and spring burns are preferred to regenerate shrubs. Chemical treatment will be used only where national guidelines can be exercised to prevent unwanted effects or harm to desirable fauna or flora and to prevent transportation of chemicals to other areas by water or air movement.

Prescribed burns generally will be conducted in areas having greater than 35 percent sagebrush composition, 20 percent desirable grass composition, and greater than 10 inches of precipitation. All treated areas will be rested a minimum of two growing seasons from livestock grazing. Burn areas will be fenced from livestock and big game animals if necessary. Prescribed fire will be restricted in areas with surface coal or other fossil fuel outcrops.

### **Jack Morrow Hills**

Specific management actions related to known locations of special status species habitat include closing locations to surface disturbing activities or any disruptive activity that could adversely affect the plants or their habitat and closing locations of special status species to location of new mining claims, mineral material sales, OHV use including vehicles used for geophysical exploration activities and surveying, and use of explosives and blasting. Known locations of special status plant species will be open to consideration for fluid mineral leasing with an NSO stipulation.

Special status plant species potential habitat areas will be areas of CSU for surface disturbing activities related to oil and gas activities. Surface disturbing activities for other uses or projects may also be restricted or prohibited based on site-specific analysis. Areas where Wyoming BLM sensitive plant species are known to exist and/or have potential habitat will be ROW avoidance areas.

A site-specific analysis will be prepared for all fire management actions around special status plant species sites to determine the appropriate fire management response. Fire equipment and fire suppression techniques such as vegetation clearing will be limited to existing roads and trails in special status plant species habitat.

### **Management Issues and Concerns**

The continued expansion of invasive weeds throughout the field office is a primary management concern.

Issues to be addressed for forest management include determining the current management levels that are to be maintained and enhanced to promote the health, productivity, and biological diversity of forest and woodland ecosystems. Various levels of management practices and harvesting will need to be determined and monitored to assure sustainability.

Riparian initiatives and riparian/wetland areas will need to be prioritized in order to implement the appropriate management actions. The objectives for management of wetlands/riparian areas are to: (1) achieve a healthy and productive condition for long-term benefits and values in concert with range, watershed, and wildlife needs; and (2) enhance or maintain riparian habitats by managing for deep-rooted native herbaceous or woody vegetation.

## 2.14 VISUAL RESOURCE MANAGEMENT

### 2.14.1 Overview

Visual resources within the planning area are influenced by a wide variety of topographic, geologic, hydrological, vegetative, and other characteristics of the region. Landforms ranging from relatively flat land, to low mountains, low rolling or flat-topped hills, and isolated hills, to higher elevations containing mountain shrub vegetation and alpine forest atop the highest areas. Elevation and precipitation vary widely within the planning area and determine the dominant vegetation. The widely diverse vegetation patterns that result from varying topographic soils and precipitation characteristics create changes in color, form, line, and contrast. These four elements form the basis for the analysis of the visual resources of the area.

VRM focuses on visual values and resources and addresses the visual quality of landscapes, views of native landscapes, and unique areas with high visual quality. VRM classifications (Classes I through IV) are based on scenic quality, visual sensitivity levels, and viewer distance zones. Each VRM classification has a management objective, as described below:

- **Class I.** The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activities. The level of change to the characteristic landscape should be very low and should not attract attention.
- **Class II.** The objective of this class is to retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- **Class III.** The objective of this class is to partially retain the existing character of the landscape. The level of change to the landscape should be moderate. Management activities may attract the attention of the casual observer but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- **Class IV.** The objective of this class is to provide for management activities that require major modifications to the existing character of the landscape. The level of change to the landscape can be high. The management activities may dominate the view and may be the major focus of viewer attention. However, every attempt should be made to minimize the effect of these activities through careful location, disturbance minimization, and repetition of the basic visual elements of form, line, color, and texture (BLM 1986).

Designated VRM classes throughout the planning area are shown on Map 11.

### 2.14.2 Casper Field Office

#### Overview

Management of visual resources focuses on visual values and resources that occur throughout the Casper Field Office. The Powder River Basin, situated between the South Bighorns on the northwest and the

Laramie Range to the south, makes up the largest portion of BLM-managed public land within the field office. The Powder River Basin is distinguished by rolling grasslands, isolated rock outcrops and seemingly endless horizon lines. The Chugwater formation flanks the lowland basins of central Wyoming, interrupting gentle flowing lines with abrupt topography, steep vertical escarpments and mosaic patterns of the foothill communities. The most prominent attribute of the Chugwater formation is its striking crimson color. Brooding, red cliffs overlook verdant springtime vegetation, adding important diversity and richness to the visual setting.

Within the field office, 1,385,262 acres are managed as VRM Class II, 2,173,319 acres are managed as VRM Class III, and 5,005,518 acres are managed as VRM Class IV. No areas are managed as VRM Class I.

### **Current Management Practices**

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

Portions of the field office include private surface lands where visual impacts are often not considered when developing minerals and other resources, but may greatly affect visual resources on public lands.

## **2.14.3 Kemmerer Field Office**

### **Overview**

Management of visual resources in the Kemmerer Field Office focuses on visual values and resources existing in broad areas with vast vistas involving native landscapes and unique areas with spectacular quality. Examples of areas with high values include Raymond Mountain, Rock Creek Ridge, and Slate Creek Ridge. Examples of key resources include Fossil Butte National Monument and the Green River. The visual resources in the field office vary in terms of current value and sensitivity to degradation. Key observation points used in the visual resource inventory include most towns, National Historic Trails, cultural sites, roads and highways, recreation areas, recreational trails, and the west shoreline of Fontenelle Reservoir.

Within the field office, 421,874 acres are managed as VRM Class II, 795,198 acres are managed as VRM Class III, and 1,760,784 acres are managed as VRM Class IV. No areas are managed as VRM Class I.

### **Current Management Practices**

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for visual resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.14.4 Newcastle Field Office

### Overview

Management of visual resources focuses on visual values and resources that occur throughout the Newcastle Field Office. Within the field office, 30,117 acres are managed as VRM Class II, 5,054,092 acres are managed as VRM Class III, and 172 acres are managed as VRM Class IV. No areas are managed as VRM Class I.

### Current Management Practices

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

There are no management issues or concerns identified for visual resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.14.5 Pinedale Field Office

### Overview

Visual resources in the planning area are influenced by the different characteristics of the two physiographic provinces in the region: Wyoming Basin and Central Rocky Mountains province. The Wyoming Basin is located in the west-central portion of the state, bounded on the north by the Wind River Range and on the south by the Uinta Range. The province extends east to the Red Desert and west to the foothills of the Wyoming Range.

Within the planning area, the diversity of topography and landforms exhibited by these two distinctly different topographic zones creates an extraordinary variety of visual contrasts and scenic beauty. The planning area contains a major river system and watershed, the Upper Green River, and borders the slopes of several major mountain ranges: Gros Ventre Range to the north, Wind River Range to the east, and Wyoming Range to the west. The New Fork River is a major tributary of the Green River and flows south along the foothills of the Wind River Range.

Within the field office, 21,307 acres are managed as VRM Class I, 543,755 acres are managed as VRM Class II, 773,497 acres are managed as VRM Class III, and 279,606 acres are managed as VRM Class IV.

### Current Management Practices

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

There are no management issues or concerns identified for visual resources as part of the Sage-grouse RMP Amendments planning effort.

## 2.14.6 Rawlins Field Office

### Overview

Much of the Rawlins Field Office contains natural settings with limited development, open spaces with panoramic vistas, and scenic views. In the non-mountainous, lower elevations of the area, summer views are characterized by scrubby low-growing gray-green vegetation, distant mountains, and an intense blue sky. In contrast, winter views are monochromatic gray, with clear skies and an apparently lifeless gray-to-brown foreground backed by distant snow-capped mountain peaks. Different combinations of plant communities create subtle changes in mosaics of textures and colors. More extensive views that encompass several viewsheds are available from high points. The horizon is a significant aspect of all distant views.

Several areas within the field office that exhibit high scenic quality are easily accessible for tourists and other recreationists. The highest quality scenic views in the field office are the WSAs, particularly the Ferris Mountains and Adobe Town WSAs because of their unique geological formations. Both of these areas are quite rugged and untrammelled by humans (Clair 2002).

The Rawlins RMP is currently in the early stages of completing a VRM-targeted planning review. About 75 percent of the lands within the Rawlins Field Office are categorized as Visual Class III. Class II lands are primarily associated with areas around the Pathfinder and Seminoe Reservoirs and with the close-range viewsheds of the Medicine Bow National Forest. Only the WSAs are rated as VRM Class I.

Within the field office, 67,640 acres are managed as VRM Class I, 1,116,680 acres are managed as VRM Class II, 9,245,326 acres are managed as VRM Class III, and 849,672 acres are managed as VRM Class IV.

### Current Management Practices

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

An increase in unmanaged, unmonitored OHV use within the area for recreation and access to the surrounding USFS-managed lands in the Medicine Bow National Forest and to the dunes area is creating direct, negative visual impacts to visual resources in certain parts of the area.

The widespread development of petroleum, natural gas, and coal in the Rawlins Field Office is creating direct, negative visual impacts to visual resources. The trend toward continued expansion of mineral resource development is creating areas of potential conflict between this activity and the established VRM class objectives.

Specifically, the CBNG project on Seminoe Road is creating visual impacts, as portions of the project are in a VRM Class II area and a backcountry byway is within the project footprint. Although measures have been implemented to camouflage the project infrastructure on federal lands, BLM cannot control visual impacts that occur on private land parcels.

Overall, more effective mitigation of visual impacts associated with mineral development and transportation corridors is needed to prevent conflicts with VRM Class criteria.

## 2.14.7 Rock Springs Field Office

### Overview

The Rock Springs Field Office lies mostly within the Wyoming Basin physiographic province. The landscape found in the area is characterized primarily by highly erodible soils and multi-colored, horizontally layered sedimentary bedrock. These conditions have generated the formation of the colorful badlands landscape common throughout most of the province. Between these badland areas, the land form is primarily low rolling or flat-topped hills. Dramatic elevation changes and steeper slopes become more dominant near the Wyoming and Wind River Mountain ranges.

An updated visual resource inventory for the Rock Springs Field Office was completed in 2008. Areas with important scenic and visual values include the Greater Sand Dunes ACEC, recreation sites, WSAs, South Pass Historic Area and the scenic vistas along Highway 28, White Mountain Petroglyphs, rivers, the Wind River Mountains, Red Creek, Currant Creek, Little Mountain, Pine Mountain, Steamboat Mountain, major reservoirs, historic trails, and the Continental Divide Snowmobile trail.

Within the field office, 230,102 acres are managed as VRM Class I, 873,288 acres are managed as VRM Class II, 1,068,686 acres are managed as VRM Class III, and 3,184,364 acres are managed as VRM Class IV.

### Current Management Practices

There are no current VRM practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

Portions of the field office are private surface, on which visual impacts are often not considered when developing minerals and other resources, which may greatly affect visual resources on public lands.

## 2.15 WATER RESOURCES

### 2.15.1 Overview

Water resources include surface and subsurface sources. Climate, geology, and topography shape the water quality and quantity for both surface and groundwaters in the planning area. Hydrological conditions affect riparian, wildlife, and fishery resources, and cause economic consequences to manmade structures and the water supply. Major watershed boundaries and surface water features are shown on Map 12.

Surface water is governed by the Wyoming constitution under the doctrine of prior appropriation, or “first in time, first in right.” Although water rights are considered property rights that are joined to the land, the Wyoming State Engineer’s Office or Board of Control can transfer them in use or location after a review. Reviewing proposed actions and developing mitigating measures to prevent degradation of the water resources can help accomplish compliance. Actions within the planning area are designed to protect and enhance water resources. Measures such as avoiding highly erosive areas, implementing zero runoff programs on large-scale disturbances, and reclamation of all abandoned surface disturbances are enforced. Potable groundwater supplies are protected, and oil and gas wells are cased below freshwater zones and cemented to prevent the contamination of aquifers. Other measures to enhance and protect water include plugging exploration holes and reducing sedimentation during road building and surface-disturbing activities.

BLM coordinates with different state and federal agencies to ensure that all water resource management responsibilities are carried out. This includes the Wyoming DEQ, which is responsible for water quality; the Army Corps of Engineers, which is responsible for modifications within wetlands and waters of the United States; and the Wyoming State Engineers Office, which is responsible for water rights.

### 2.15.2 Casper Field Office

#### Overview

The Casper Field Office is located in the upper reaches of the Colorado River Basin. There are approximately 1,600 miles of streams and approximately 46,000 acres of lakes, ponds, and reservoirs within the field office. The major watersheds in the area are the Green River, which is part of the Colorado River Basin, and the Sweetwater River which is part of the Missouri River Basin. The major reservoirs in the area include the Eden Valley Reservoir, Sandy Reservoir, Fontenelle Reservoir, and Flaming Gorge Reservoir.

Stream flow within the field office is characterized as high magnitude-low frequency due to thunderstorms falling on soils that shed much of the rainfall. Other characteristics that influence high magnitude stream flow on a local basis are lack of vegetation (characteristic of saline uplands), and extensive areas of rock outcrops which allow for 100 percent runoff.

Many riparian zones in the field office have been over utilized by grazing animals, wild horses, and wildlife. Overuse of vegetation causes destabilization of streams, allowing for channel degradation. Degraded riparian areas are nonpoint source contributors of sediment, salinity, and phosphate to the Colorado River system.

## Current Management Practices

To protect water sources and associated investments, all wells (new and existing) and developed springs will be fenced. Fencing of reservoirs will be considered on a case-by-case basis.

## Management Issues and Concerns

There is a concern over surface-disturbing activities and industrial development (particularly grazing, mineral and energy development, pipelines, recreation use, and off-road vehicle use), which may directly or indirectly affect ground and surface water quality in the field office. Because the field office is located in the upper reaches of the Colorado River Basin, salinity is a management concern. Collected monitoring data demonstrates that this area is capable of producing high salinity levels under natural conditions and much accelerated levels under disturbed conditions.

Many roads in the field office, particularly those south of I-80, are poorly drained and are bladed to the width of four lanes. This combination allows water, sediment, and associated salt to move down drainage ditches and into intermittent or perennial channels thus causing augmented flows and associated erosion and channel incision.

Water depletion also is an ongoing concern. Cities and towns, trona mining, power plants, oil and gas and mineral development activities, and agriculture all utilize water from the Green and Sweetwater rivers and their tributaries. An exception to this is the town of Superior, which relies on groundwater wells for its water.

Groundwater quality is an emerging concern. Aging wells and past practices may have created unintentional groundwater pollution.

### 2.15.3 Kemmerer Field Office

#### Overview

The Kemmerer Field Office encompasses portions of three regional watersheds including the Green River, the Bear River, and the Snake River watersheds. The majority of field office is sagebrush steppe and receives between less than six and ten inches of water per year (based on the years between 1941 and 1990), except for higher elevations that receive between ten and 60 inches per year.

Water resources in the Kemmerer Field Office include both surface and groundwater. The availability, volume and quality of water resources affect many other resources, including riparian, wildlife, fisheries, and public water supplies. This variability can cause consequences to the natural environment and to human health, structures, and finances. There are many different factors that affect groundwater quality and quantity, including geology, land use, depth, and rate of recharge.

On private and state lands, the primary uses of water are domestic and agricultural. On federally managed public lands, the primary uses of water are livestock production and as drilling fluids for hydrocarbon production wells.

#### Current Management Practices

There are no current water management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

There are no management issues or concerns identified for water resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.15.4 Newcastle Field Office

#### Overview

The Newcastle Field Office is drained primarily by four river basins: the Cheyenne River (51%), the Belle Fourche River (32%), the Little Missouri River (9%), and the Niobrara River (6%). A very small portion of the area (2%) drains into the Platte and Powder Rivers. Peak runoff occurs generally at two times during the year. Early runoff (March through April) is in response to snowmelt with the major peak occurring in May and June in response to rainfall events. Most of the streams in the field office are ephemeral in nature and flow only in response to snowmelt and rainfall events. Surface water quality within the field office is generally suitable for livestock and limited irrigation of salt tolerant crops.

Because perennial supplies of surface water are scarce in the area, the primary source of water for domestic, agricultural (livestock), and industrial use is groundwater generated from wells. Water is available from several aquifers ranging from recent alluvial deposits to the Mississippian-aged Madison Limestone. Alluvium aquifers are locally important throughout the field office for livestock and irrigation use. Aquifer use is more important in the larger river valleys such as the Belle Fourche, Cheyenne, and Little Missouri. In the larger valleys, quantities are suitable for irrigation; however, quality may limit usefulness.

#### Current Management Practices

There are no current water management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## Management Issues and Concerns

There are no management issues or concerns identified for water resources as part of the Sage-grouse RMP Amendments planning effort.

### 2.15.5 Pinedale Field Office

#### Overview

The Pinedale Field Office lies almost entirely within the Green River drainage. It contains portions of four separate watersheds located within the Upper Colorado hydrologic region (Region 14) and is adjacent to the Pacific Northwest hydrologic region (Region 17). Within the Upper Colorado region, the bulk of the field office lies within the Upper Green River and New Fork River watersheds, part of the Green River drainage. Very small portions of the field office lie within the Big Sandy and Slate watersheds, also part of the Green River drainage.

Surface water in the field office is greatly influenced by topography and geology. The field office is characterized by a high plateau, dissected by the Green River and its tributaries, bounded to the north and east by the Wind River Range and to the west by the Wyoming Range and Absaroka Ridge. Glacial

deposition features have created numerous lakes on the slopes of the Wind River Range; however, most of these lakes lie just outside the field office boundary (Woolley 1930).

Based on surveys conducted between 1993 and 2002 using the PFC method, the condition of streams within the field office watersheds is generally good throughout the higher elevations. These reaches have more streamside vegetation and coarser, more stable substrate. The high-elevation streams are mostly perennial with high-frequency and low-magnitude flow events. The condition of intermittent and ephemeral streams at lower elevations within field office watersheds is generally poorer. This is generally a result of streambank vegetation conditions, the flashiness of the runoff (i.e., lower-frequency, high-magnitude floods), and the presence of finer-grained substrate more vulnerable to erosion.

### **Current Management Practices**

Water injection wells for the disposal of produced water will be permitted on a case-by-case basis.

Use of produced waters to assist in reclamation could be considered on a case-by-case basis and will be governed by operating WDEQ standards and appropriate irrigation water quality standards.

### **Management Issues and Concerns**

There are no management issues or concerns identified for water resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.15.6 Rawlins Field Office**

### **Overview**

The watersheds in the Rawlins Field Office drain into the Colorado River, Platte River, and Great Divide basins. Streamflows are dominated by spring snow melt runoff and rain storms in May and June for intermittent to perennial systems and summer rainstorms for ephemeral systems. Precipitation ranges from almost 44 inches in the Sierra Madre mountain range to less than six inches per year in portions of the Great Divide Basin (Bartos et. al. 2006). The diverse climate, geology, and topography in the Rawlins Field Office form the surface and groundwater resources. Surface water resources include lakes, rivers, reservoirs, streams, creeks, water wells, and springs. These water resources are important and provide economic, ecological, and recreational benefits, including providing water for wildlife, livestock, and people in the arid and semi-arid environment of the field office.

The North Platte River is the largest stream system in the Rawlins Field Office and is regulated by three dams (Seminoe, Kortes, and Pathfinder), which have formed Pathfinder and Seminoe Reservoirs and Miracle Mile (a Blue Ribbon trout fishery categorized as a Class 1 water between Kortes Dam and Pathfinder Reservoir). The Colorado River Basin includes the Muddy Creek and Savory Creek drainages that flow into the Little Snake River near Baggs and the Colorado border.

The Great Divide Basin occurs in the western portion of the field office. The Great Divide Basin has no known external drainage and contains ephemeral stream systems with the exception of portions of Filmore and Separation Creeks that are perennial near the headwaters. There are a number of large playas and regions with many small playas in the Great Divide Basin and in other basins in the field office. Playas are low, flat, undrained areas, typically with clay bottoms, that pool water on the surface and accumulate salts.

Portions of the headwaters of the Platte and Colorado Rivers are found in the Rawlins Field Office; these rivers supply water to millions of people in the western and Midwestern United States. Water in the intermountain west is less abundant than in most of the United States and is an important source of water for other regions; therefore, proper and cautious management of water resources is essential.

Water quality within the Rawlins Field Office is influenced by the type of rock and soils with which the water has been in contact, vegetation, groundwater interaction, and pollutants discharged into water bodies from point and non-point sources. Effects to water quality are associated with agricultural runoff, road maintenance, removal of riparian vegetation, channel modification, stream bank destabilization, atmospheric deposition, mineral extraction, urban runoff, and grazing activities. Heavy metal, nutrient, sediment, and salinity impacts are associated with mining, oil and gas extraction, agricultural runoff, and other surface disturbing activities. Stream bank degradation and erosion due to poor vegetation cover within watersheds are the predominant sources of sediment and salinity in streams within the field office.

Ground-water recharge primarily originates as precipitation in the mountain areas surrounding the field office where geologic formations outcrop or water resources were deposited during past geologic periods. Aquifers providing usable water in the field office are located along streams and rivers in the unconsolidated alluvium. Groundwater quality in the field office is highly variable, in part reflecting the complex geologic history of the region. In most areas, the shallow groundwater is suitable for livestock. However, these waters can be only marginally suitable or even unsuitable for domestic or irrigation uses, mainly due to high total-dissolve solids (TDS) concentrations. Groundwater tends to deteriorate as the distance from recharge sources and the ground surface increases.

### **Current Management Practices**

There are no current water management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### **Management Issues and Concerns**

There are no management issues or concerns identified for water resources as part of the Sage-grouse RMP Amendments planning effort.

## **2.15.7 Rock Springs Field Office**

### **Overview**

The Rock Springs Field Office is located in the upper reaches of the Colorado River Basin. There are approximately 1,600 miles of streams and approximately 46,000 acres of lakes, ponds, and reservoirs in the area. The major reservoirs in the area include Eden Valley Reservoir, Sandy Reservoir, Fontenelle Reservoir, and Flaming Gorge. The major watersheds in the field office include the Green River, which is part of the Colorado River Basin, and the Sweetwater River which is part of the Missouri River Basin.

Stream flow in the area can be characterized as high magnitude-low frequency due to thunderstorms falling on soils that shed much of the rainfall. Other characteristics which influence high magnitude stream flow on a local basis are lack of vegetation (characteristic of saline uplands), and extensive areas of rock outcrops which allow for 100 percent runoff.

## Current Management Practices

There are no current water management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

All BLM-administered public lands within the Currant Creek watershed (about 23,740 acres) are closed to: (1) surface disturbing activities; (2) mineral material sales; and (3) mineral location. A withdrawal from entry under land laws and mineral location will be pursued. This area is also an exclusion area for ROWs.

BLM-administered public lands within the Red Creek watershed (about 55,880 acres) are closed to: (1) surface disturbing activities; (2) mineral leasing; (3) mineral material sales; and (4) mineral location. A withdrawal from entry under the land laws and mineral location will be pursued for the area.

## Management Issues and Concerns

Because the area is located in the upper reaches of the Colorado River Basin, salinity is a major management concern. Collected monitoring data demonstrates that this area is capable of producing high salinity levels under natural conditions and much accelerated levels under disturbed conditions.

Water depletion also is an ongoing concern. Cities and towns, trona mining, power plants, oil and gas and mineral development activities, and agriculture all utilize water from the Green and Sweetwater rivers and their tributaries.

Many roads in the field office, particularly those south of I-80, are poorly drained and are bladed to the width of four lanes. This combination allows water, sediment, and associated salt to move down drainage ditches and into intermittent or perennial channels thus causing augmented flows and associated erosion and channel incision.

Many riparian zones in the field office have been over utilized by grazing animals, wild horses, and wildlife. Overuse of vegetation causes destabilization of streams, allowing for channel degradation. Degraded riparian areas are nonpoint source contributors of sediment, salinity, and phosphate to the Colorado River system.

## 2.16 WILD HORSES

### 2.16.1 Overview

A wild horse is an unbranded and unclaimed free-roaming horse found on public lands in the western United States or one that has been removed from the public lands and has not lost this status by giving title to an adopter. Wild horses are descendants of animals turned loose or escaped from early Spanish explorers, settlers, ranchers, prospectors, Indian tribes, and the U.S. Cavalry from the 1600s through the Great Depression of the 1930s to more recent times.

BLM protects, manages, and controls wild horses and burros under the authority of the Wild Free-Roaming Horses and Burros Act of 1971 to ensure that healthy herds thrive on healthy rangelands. BLM manages these living symbols of the western spirit as part of its multiple-use mission under FLPMA.

BLM maintains and manages wild horses or burros in herd management areas (HMA). In the ten states where BLM manages horses, there are 270 HMAs. In Wyoming, about 3,000 horses are managed within 16 different HMAs scattered across the State. Wyoming has no wild burros. BLM establishes an AML for each HMA. The AML is the population objective for the HMA that will ensure a thriving ecological balance among all users and resources within the HMA (e.g., wildlife, livestock, wild horses, vegetation, water, and soil).

Wild horse herds are managed by the Rawlins Field and Rock Springs Field Offices. A wild horse HMA exists within the Pinedale Field Office, but the horses have been removed from this area. Wild horse HMAs are depicted on Map 13.

### 2.16.2 Pinedale Field Office

#### Overview

Wild horses were removed from the Pinedale planning area in the early 1990s, as specified in the 1988 RMP. The two HMAs, Desert Herd and LaBarge Herd, still exist but are not managed for wild horses at present. The removal of the wild horse herds has resulted in decreased conflicts for forage and water. A small wild horse group eluded capture in the 1990s and remains in the Desert HMA, mainly in the South Desert Allotment. Currently, the herd number is low (around 12), and conflicts with the resource use in that area are minimal. The consent decree with the State of Wyoming requires all wild horses be removed from this area.

#### Current Management Practices

Not applicable.

#### Management Issues and Concerns

Not applicable.

### 2.16.3 Rawlins Field Office

#### Overview

Following passage of the Wild, Free-Roaming Horse and Burro Act in 1971, BLM identified six areas used by wild horses within the Field Office. The following three herd areas failed to meet the criteria for suitably maintaining a healthy population of wild horses in accordance with the intent of the Act: Bolten, Checkerboard South, and Muddy Creek (subsequently known as “Doty Mountain/Cherokee”). Land ownership and current conditions have not changed significantly since these decisions were made; however, these areas still maintain their herd area status according to the Act. Horses in these herd areas were removed.

The following three herd areas were determined to be able to support viable healthy populations of wild horses: Sand Creek (later renamed “Adobe Town”), Stewart Creek/Chain Lakes, and Cyclone Rim (later renamed “Lost Creek”). Three HMAs currently correspond to these three herd areas. Wild horses that leave designated HMAs are considered excess and are removed.

#### Current Management Practices

There are no current wild horse management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

#### Management Issues and Concerns

Management issues and concerns have not been identified for wild horses. Changes in the management of wild horses are not anticipated as a result of the Sage-grouse RMP Amendments planning effort. Wild horse management is adequately addressed in the current Rawlins RMP.

### 2.16.4 Rock Springs Field Office

#### Overview

In 1979, an agreement with the Rock Springs Grazing Association, the International Society for the Protection of Mustangs and Burros, and Wild Horses established a total population of 1,600 wild horses for the Rock Springs District. This agreement covered all wild horse areas within the Green River Resource Area as well as the Desert Common Wild Horse Area in the Pinedale Resource Area. A population of 1,450 wild horses was judged to be the optimal management level for monitoring purposes. In 1982, the Bureau accepted this management level for horses through an update of the land use plans for the Big Sandy and Salt Wells Resource Areas. The herd numbers for each wild horse management area were designated with regard to the agreement, as well as the size and terrain of the herd area. Monitoring has been carried out in each Wild Horse HMA. The majority of monitoring has been conducted at the allotment level, with emphasis on vegetative conditions. Currently, the following four HMAs are managed within the Rock Springs Field Office: Great Divide Basin HMA, Little Colorado HMA, Salt Wells HMA, and White Mountain HMA.

#### Current Management Practices

There are no current wild horse management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

## **Management Issues and Concerns**

There is increasing concern about the BLM's current management of the Wild Horse and Burro Program, which involves gathering excess animals, successfully adopting these animals, and placing remaining unadopted horses in long-term pastures. In the past few years, the public has expressed growing opposition to gathers, limited support for fertility control, and escalating concern about the use of helicopters and the humane handling and treatment of animals. Currently, the BLM is being asked to consider alternative options for the long-term management of America's wild horses and burros.

## 2.17 WILDLAND FIRE

### 2.17.1 Overview

The wildland fire program is managed to protect life and property while providing the maximum benefits of both prescribed fire and wildfire to overall resource management. Fire is a management tool used to maintain or increase age class diversity within vegetation communities (e.g., big sagebrush/grassland); rejuvenate fire dependent vegetation communities (e.g., true mountain mahogany/ponderosa pine); maintain or increase vegetation productivity, nutrient content, and palatability; and maintain or improve wildlife habitat, rangeland, and watershed condition. Fire is also considered a management tool for disposal of timber slash, seedbed preparation, reduction of hazardous fuel, control of disease or insects, grazing management, thinning, or species manipulation in support of forest management objectives.

The field office is comprised of a variety of vegetation types that are susceptible to fire including sagebrush and grassland communities at the lower elevations, and mixed mountain shrub, aspen, and conifer stands at higher elevations. In mixed conifer stands, fuel sources include dead and down, as well as standing timber with heavy fuel loading, because of past fire suppression, drought, and insect infestation. Although aspen are not as susceptible to fire as are conifers, they will burn and carry fire during the late fall and during drought conditions.

Wildland fires occur from natural causes, such as lightning, or are caused by humans either accidentally or with the intent to cause damage. Prescribed fire is used for beneficial purposes (such as reducing hazardous fuel accumulation) in a controlled manner under a specific prescription and planned effort. Wildland fires are sometimes managed to achieve resource objectives. The response to a wildland fire is based on an evaluation of risks to firefighter and public safety; the circumstances under which the fire has occurred, including weather and fuel conditions; natural and cultural resource management objectives; and resource protection priorities. Wildland fire can be used to protect, maintain, and enhance resources and can be allowed to function in its natural ecological role. The full range of fire management activities will be used to help achieve ecosystem stability, including its interrelated ecological, economic, and social components.

### 2.17.2 Casper Field Office

#### Current Management Practices

Appropriate management response will be used on all wildfires in the field office. Full protection strategies and tactics will be used in WUIs, wildland industrial interface areas, developed recreation sites, and developed electronics sites.

The use of fire retardant within 300 feet of surface water (standing or running) is prohibited. Suppression activities will not involve tree removal within 200 yards of an identified bald eagle roost.

No heavy equipment will be used within the following areas, except when human safety is at risk: areas of cultural resource sensitivity, riparian/wetland habitat, big game crucial winter range habitats, greater sage-grouse leks, and areas of highly erosive soils.

Wildland fire use plans will be developed as opportunities arise for public lands within aspen, juniper, lodgepole pine, true mountain mahogany, ponderosa pine, and big sagebrush (all subspecies) communities where contiguous public lands are greater than 1,280 acres.

An integrated management technique approach (defined as prescribed fire, mechanical, chemical, or biological, followed by desired reseeding) will be used to reduce fuels to protect high priority areas or resource values defined as, but not limited to the following:

- Urban and industrial interface areas
- Developed recreation areas
- Commercial timber areas
- Wildlife habitats
- Range-improvement facilities
- Communication sites
- Municipal watersheds.

## Management Issues and Concerns

The impacts of prescribed fire on sage-grouse habitat is a primary management concern. The plan should address the types of wildfire control that are needed in sage-grouse habitat.

### 2.17.3 Kemmerer Field Office

#### Current Management Practices

Prescribed fire, wildland fire use, chemical, biological, and mechanical treatments can be used to meet fire and fuels management objectives, and to improve plant community health and meet other resource objectives. Management objectives are met based on acreage thresholds and areas found in an approved fire management plan for the field office.

Prescribed fire, wildland fire use, as well as chemical, biological, and mechanical treatments can be used to reduce hazardous fuels in areas of resources at risk. They can also be used to reintroduce fire in its natural role back into the ecosystem to meet fire and fuels resource management objectives.

#### Management Issues and Concerns

Wildland fire should be managed for AMR to increase age diversity and structure among plant communities.

Conflicting issues related to wildland fire management include the following:

- Management for vegetation could be constrained by wildfire and habitat disturbance limitations for sage-grouse habitat
- Habitats could be left at risk from lack of treatment
- Lack of treatment could increase the potential for large, catastrophic wildfires
- Large fires can allow invasive non-native species (weeds) to flourish (i.e. cheatgrass).

## 2.17.4 Newcastle Field Office

### Current Management Practices

There are no current wildland fire management practices that will be amended as part of the Sage-grouse RMP Amendments planning effort.

### Management Issues and Concerns

There are no management issues or concerns identified for wildland fire as part of the Sage-grouse RMP Amendments planning effort.

## 2.17.5 Pinedale Field Office

### Current Management Practices

The 2004 Southwestern Wyoming BLM Fire Plan support and implement wildland fire and fuels management objectives. BLM will evaluate and include when possible all BLM lands abutting the Bridger Teton National Forest, including the Scab Creek and Lake Mountain WSAs, into WFURB areas, working in conjunction with the USFS to maintain a single, integrated WFURB area.

Prescribed fire will be used where possible on all BLM-administered lands to emulate the return intervals of natural fire and to restore the vegetation to Condition Class I in Fire Regimes I, II, and III. Where reintroduction of fire onto the landscape is not feasible because of ecological condition or industrial or urban development, mechanical and chemical methods will be used to manage the vegetation toward the DPC.

In WUI or industrial interface areas, fuel reduction methods best suited to the area will be used to reduce the risk of catastrophic fire.

Fire suppression activities in areas of known sensitive species habitat and fragile or erosive soils will avoid damage to these resources.

### Management Issues and Concerns

Five urban interface areas and two industrial interface areas have been identified. They include Hoback Ranches, Upper Green, Pocket Creek, Pinedale, Boulder, and the existing industrial interface and natural gas developments in the Jonah and Anticline Fields. The focus in these areas is on fuel reduction, fire prevention, and fire suppression.

## 2.17.6 Rawlins Field Office

### Current Management Practices

Fuel treatments, including prescribed fire, mechanical, chemical, and biological treatments will be used for fuels reduction and to meet other multiple-use resource objectives, including returning fire to its natural role in the ecosystem. WUIs and communities at risk will receive priority for fuels reduction. Fire will be managed to meet the Wyoming Standards and Guidelines for Healthy Rangelands.

Wildland fire suppression activities in the entire field office will be managed for AMR. Wildland fire for resource benefit will be used in identified locations to protect, maintain, and enhance resources and allow fire to function in its natural ecological role.

## **Management Issues and Concerns**

Fire frequency and severity vary by plant community, and extensive suppression has altered natural fire cycles in some areas. In some plant communities, this has changed the structure and composition of the vegetation community (i.e., resulted in the reduction of the natural variation of vegetative communities) and could result in undesirable fire behavior and fire effects.

### **2.17.7 Rock Springs Field Office**

#### **Current Management Practices**

Wildfire suppression will emphasize appropriate management response. Immediate control actions will be used only in cases of arson, direct threat to public safety, or a strong potential to threaten structural property. Heavy equipment or actions that will cause surface disturbance will be used only after a site-specific analysis has been performed and approved. Activities that cause surface disturbance will be considered on a case-by-case basis. Priority areas for wildfire suppression will be identified in fire management activity plans for the field office.

#### **Jack Morrow Hills**

Fire management activities, including prescribed fire, will be used as a management tool to help meet multiple-use resource management goals; provide cost-effective protection from wildland fire to life, property, and resource values; allow fire to function in its ecological role when appropriate for the site and situation; and work collaboratively with partners in fire and resource management. Wildland and prescribed fires will be managed in all vegetation types to maintain or improve biological diversity and the overall health of the public lands.

Suppression techniques and hazardous fuels reduction activities will be identified to reduce wildland fire severity and occurrence on portions of the landscape where fire could cause undesirable changes in plant community composition and structure. A site-specific analysis will be prepared for sensitive resource areas, such as special status plant species sites, heritage sites, historic trails, and ACECs, to determine the type of fire suppression activity that will be acceptable. Fire equipment and fire suppression techniques, such as vegetation clearing, will be limited to existing roads and trails in special status plant species habitat.

## **Management Issues and Concerns**

Management issues and concerns regarding wildland fire management involve the appropriate management response to wildland fire throughout the field office. Fire must be managed according to the National Fire Plan to benefit resource objectives and protect private property. Vegetation should be managed to strategically minimize the fire risk to adjacent rural subdivisions, towns, cities, industrial sites, and communication sites.

Specifically, the impacts of prescribed fire on sage-grouse habitat is a primary management concern. The plan should address the types of wildfire control that are needed in sage-grouse habitat.

## 2.18 WILDLIFE AND FISHERIES

### 2.18.1 Overview

Wildlife habitat is best characterized by vegetation type and water resource; although air quality, geology and topography, and soils are also important contributors to habitat character. Such factors as fire management, forest management, ROWs, livestock grazing, energy developments (e.g., windpower and coal mining), OHV use and other recreation activities, and wild horses also influence the quality of habitat. Wildlife species generally use vegetation on the basis of its physiognomy (e.g., structure [height and spacing] and growth form [gross morphology and growth aspect] of the predominant species and leaf characteristics of the dominant or component plants). This means that a given species may use a shrub of a particular height and growth form irrespective of its species. Therefore, the mapping of vegetation zones characterizes wildlife habitat in general terms. Important habitats within the planning area include mountain shrub (mountain big sagebrush and antelope bitterbrush); monotypic stands of bitterbrush and true mountain mahogany; and coniferous, rockland, aspen, riparian, and lowland sagebrush (primarily Wyoming big sagebrush on flatlands and basins below 7,000 feet) (Wichers 2002).

The State of Wyoming has jurisdiction over all wildlife in the state and species are managed by either WGFD or USFWS. The WGFD is responsible for oversight of big game species, nongame species, and small game species that are non-migratory. The USFWS has oversight of migratory bird species, whether they are hunted (e.g., waterfowl) or not (e.g., passerine species such as warblers and sparrows), and of all federal threatened, endangered, proposed, or candidate plant and animal species. BLM manages the habitat that supports these wildlife species, and thus has an integral role in ecological health and viability of the species.

#### Wildlife

A diverse array of wildlife habitats occur within the planning area due to the variety of ecoregions that occur in the area. Habitats include montane forests of lodgepole and ponderosa pines; aspen stands; mountain mahogany and juniper woodlands; sagebrush-steppe communities; sand dunes; badlands; and extensive areas of grasslands (Knight 1994). Vertebrate wildlife species that occur within BLM-administered lands represent all major vertebrate classes: reptiles, amphibians, fishes, birds, and mammals. Emphasis is primarily placed upon birds and mammals because of increased interest in them by the hunting, fishing, and the recreating public. Important species or groups include:

- Big game species such as pronghorn, mule deer, white-tailed deer, elk, moose, and bighorn sheep (see Maps 14-19 for big game habitat locations);
- Waterfowl such as ducks and geese and other water birds such as rails, coots, and snipes;
- Upland game birds such as cranes, pheasants, partridges, grouse, doves, and turkeys;
- Small game mammals such as rabbits, hares, and squirrels;
- Furbearers such as badgers, bobcats, martens, weasels, coyotes, raccoons, red foxes, skunks, beavers, minks, and muskrats; and
- Nongame species such as raptors and neotropical migrants.

## Fisheries

Fisheries habitat includes perennial and intermittent streams, lakes, and reservoirs that support fish through at least a portion of the year. A number of major drainages occur within the planning area. BLM-administered lands provide habitat for many species of fish. These species are adapted to a variety of stream habitats, from the cold, rapid waters of mountainous areas to the slow, turbid waters of the high desert.

Fishery habitat conditions are closely tied to stream riparian conditions. Riparian vegetation moderates water temperatures, adds structure to the banks to reduce erosion, provides in-stream habitat for fish, and provides organic material for aquatic insects. The measure used to evaluate riparian health on BLM lands is PFC. PFC represents the name of the evaluation procedure and the minimum desired level of riparian resiliency. Streams with lower condition ratings are less likely to sustain certain fish species as habitat quality declines. As riparian habitats degrade, erosion and sediment transport increases, temperature fluctuations increase, oxygen content can reach critically low levels, and streams widen and become shallower. As streams improve in condition, some sensitive species could naturally return or be reintroduced to streams that are not currently in PFC.

### 2.18.2 Casper Field Office

#### Overview

##### Wildlife

A diverse array of wildlife habitats occur within the Casper Field Office due to its location. The field office intersects the transitional zone between three major ecoregions: the Great Plains/Palouse Dry Steppe, the Southern Rocky Mountains, and the Intermountain Semidesert/Desert provinces (Bailey 1995b). Habitats in the field office include montane forests of lodgepole and ponderosa pines, aspen stands, mountain mahogany and juniper woodlands, sagebrush-steppe communities, sand dunes, badlands, and extensive areas of grasslands (Knight 1994). Vertebrate wildlife species that occur in the Casper Field Office represent all major vertebrate classes: reptiles, amphibians, fishes, birds, and mammals.

##### Fisheries

Fisheries habitat includes perennial and intermittent streams, lakes, and reservoirs that support fish through at least a portion of the year. Three major drainages occur within the Casper Field Office: the North Platte River watershed in the eastern and southern portions of the field office; the Wind River/Bighorn River watersheds in the northwestern portion; and the Powder River watershed in the northern and northeastern portions of the field office. Public lands within the Casper Field Office provide habitat for eight families and 27 species of fish. These species are adapted to a variety of stream habitats, from the cold, rapid waters of mountainous areas to the slow, turbid waters of the high desert. The Casper Field Office is not known to support any BLM sensitive fish species (BLM 2002).

#### Current Management Practices

In order to protect wildlife habitat, the Casper Field Office will modify identified hazard fences and construct new fences in accordance with the BLM Fencing Handbook 1741-1.

## Management Issues and Concerns

Fragmentation and loss of habitat associated with surface disturbance caused by various permitted uses (e.g., livestock grazing, ROWs, mineral extraction) and by proliferation of invasive non-native plant species is a primary management issue. Specifically, the condition of many Wyoming big sagebrush communities particularly on crucial mule deer and pronghorn winter ranges is a concern. In addition, the lack of adequate inventory and monitoring data for many species is hampering the development of appropriate management plans.

### 2.18.3 Kemmerer Field Office

#### Overview

##### Wildlife

Within the Kemmerer Field Office, sagebrush shrublands and grasslands provide yearlong habitat for mule deer and pronghorn. Aspen and mountain shrub communities provide habitat for elk and nesting sites for a variety of bird species. Large and small rimrock complexes in canyons and along ridgelines provide nesting sites for swallows, pigeons, golden eagles, falcons, turkey vultures, and a number of hawk species. Rocks and canyons also provide denning sites for mountain lions and bobcats, and yearlong habitat for small mammals including ground squirrels, wood rats, and rabbits.

The Bear River Divide, Rock Creek Ridge, and Sublette Range form a major ridgeline that runs north and south along the west side of the field office. Commissary Ridge, Oyster Ridge, and The Hogsback form a ridgeline running north and south through the central portion of the field office. These two major ridgelines are very important migratory pathways for migratory raptors and neotropical migratory birds.

Water sources are important to the location and survival of plants and animals within the field office. Seeps and springs provide water and meadow habitats that are important during birthing and rearing for big game. Riparian habitats are used extensively by wildlife, including neotropical birds, in the spring, summer, and fall months. Small, shallow lakes, reservoirs, ponds and wetlands provide seasonal habitat for moose, as well as resident and migratory waterfowl and shorebirds, including the American avocet, killdeer, Canada geese, mallard, and cinnamon teal. The small streams and spring outlets provide wet meadow and streamside riparian habitats used by a variety of species.

The Kemmerer Field Office encompasses diverse and important habitats for seasonal use by big game, upland birds, waterfowl, non-game birds and mammals, native fish, reptiles, and amphibians. The diversity of habitats and landscapes within the field office provide important areas for breeding, foraging, migration, and wintering. The habitat and wildlife within the field office are representative of Great Basin flora and fauna. Most vegetation in the area occurs within the foothills scrub zone and is dominated by sagebrush. The Kemmerer Field Office also contains timbered mountain slopes, some desert and basin communities, and a small amount of alpine vegetation. These plant communities provide a broad range of habitat types supporting diverse assemblages of species.

##### Fisheries

Public lands within the Kemmerer Field Office support approximately 509 miles of streams. The majority of streams are perennial; however, they vary in base flow from less than one cubic foot per second (cfs) to over 800 cfs. In drought years, the streams of lesser flow may become intermittent. Most streams with low or intermittent flow are generally unsuitable for fisheries. There is a fairly diverse composition of fish species that inhabit the waters on public lands within the Kemmerer Field Office. These species are

adapted to a wide range of habitats, from the cold, rapid waters of the mountainous areas to the slow, turbid waters of the high desert. Three subspecies of cutthroat trout and the mountain whitefish represent the only native salmonids within the field office from the three major drainages: the Bear River, the Green River, and the Snake River.

### **Current Management Practices**

Bury new utility lines or install BLM-approved anti-perch devices on all new utility lines within sagebrush and (or) semiarid shrub-dominated habitats, unless NEPA analysis shows little or no impact without burial or modification.

### **Management Issues and Concerns**

Implementing additional protections for sage-grouse could protect other wildlife species. Reducing the impacts on riparian systems could increase stream depths, increase the water table, and increase plant species that grouse and other species use for foraging and cover.

## **2.18.4 Newcastle Field Office**

### **Overview**

A wide diversity of wildlife habitats exist within in the Newcastle Field Office. Important habitat types include riparian areas, grasslands, shrublands, and timbered areas. Within each of these general types or communities there are individual habitat types providing a variety of combinations of food, shelter, water, and breeding habitats preferred by a variety of species. Some types are used year-long while others provide different requirements that vary seasonally. Some specialized habitat types such as prairie dog towns, riparian areas, rare or unique plant communities, and shrub communities have been surveyed and recorded.

The Newcastle Field Office provides potential habitat for 447 species of wildlife. Of these, 282 species of birds, 76 species of mammals, 30 species of reptiles and amphibians, and 59 species of fish have been documented as occurring in the area or adjacent similar habitats. Four big game species inhabit the field office: mule deer, white-tailed deer, pronghorn, and elk. Only two trophy game species are present in the area, which include mountain lion and bighorn sheep. Upland game species include sage-grouse, sharp-tailed grouse, ruffed grouse, and wild turkey. Big sagebrush shrublands are the second most abundant vegetative type in the planning unit accounting for about one-fourth of the vegetative types.

### **Current Management Practices**

The Newcastle Field Office will apply appropriate mitigation measures to surface-disturbing and disruptive activities.

### **Management Issues and Concerns**

There are no management issues or concerns identified for wildlife and fisheries as part of the Sage-grouse RMP Amendments planning effort.

## 2.18.5 Pinedale Field Office

### Overview

BLM-administered public lands, state lands, and private lands within the Pinedale Field Office provide habitat for pronghorn, mule deer, white-tailed deer, elk, moose, black bear, and mountain lion. Furthermore, BLM-administered lands provide the majority of the crucial winter habitat for mule deer and elk populations found in the Upper Green River Basin. Crucial habitat consists of any particular range or habitat component that is the determining factor in a population's ability to maintain and reproduce itself at a certain level over the long term (as defined by the WGFD).

Common raptors include golden eagle, red-tailed hawk, sharp-shinned hawk, Cooper's hawk, northern harrier, prairie falcon, American kestrel, northern saw-whet owl, great horned owl, and long-eared and short-eared owls. The osprey is one of the most visible raptors along the river corridors. Wintering raptors may include the rough-legged hawk and the snowy owl.

Ravens are common in the field office. Ravens are opportunistic and intelligent. They are scavengers, feeding on carrion; eggs, including sage-grouse eggs; and garbage. Studies are being conducted to determine the extent of raven predation on sage-grouse chicks. Wyoming classifies ravens as a pest; however, they are protected by the MBTA.

### Current Management Practices

Management actions on existing leases within the oil and gas Unavailable Areas will be designed to protect important habitats by excluding surface occupancy and/or disturbance to the extent this restriction does not violate the leaseholder's/operator's lease rights. Management actions/projects designed to maintain or improve wildlife habitat are excluded from this restriction.

BLM will work with the WGFD and affected parties to improve habitat quality in areas surrounding feed grounds. To minimize fragmentation and human presence in winter ranges, access to big game crucial winter ranges outside producing gas fields will be limited to existing designated access routes. Exceptions could be allowed to provide reasonable access to private and state-owned lands as well as to valid existing federal oil and gas leases.

Transportation planning for oil and gas development will be designed and implemented to minimize cumulative impacts such as creating unusable islands of wildlife habitat and proliferation of access points (usable habitat patch size varies by species). Oil and gas developmental operations on preexisting leases are subject to stipulations and mitigations. Permitted activities potentially affecting the habitat of special status species will be considered on a case-by-case basis.

### Management Issues and Concerns

There are no management issues or concerns identified for wildlife and fisheries as part of the Sage-grouse RMP Amendments planning effort.

## 2.18.6 Rawlins Field Office

### Overview

#### Wildlife

The millions of acres of varied BLM-managed lands within the Rawlins Field Office provide important habitat for wildlife and fish species, especially where the lands and the waters occur in large unfragmented tracts and reaches. More than 374 vertebrate species have been documented in the field office (BLM 1987). The vertebrate wildlife species that occur represent all major vertebrate classes: amphibians, reptiles, birds, and mammals. Data are available primarily for birds, mammals, and fish because of particular interest in them by the hunting, fishing, and recreating public and by natural resource specialists. However, some data exist for amphibians and reptiles.

Big game species in the field office include pronghorn, deer (mule deer and small numbers of white-tailed deer), elk, moose, black bear, mountain lion (black bear and mountain lion are classified as trophy game animals in Wyoming statutes), and bighorn sheep. Within the Rawlins Field Office, there are WGFD management areas for moose (Snowy Range) and trophy game animals including black bear (Laramie Peak, Snowy Range, and Sierra Madre) and mountain lion (Iron Mountain, Laramie Peak, Snowy Range, Seminoe, Sierra Madre, and Haystacks). These represent areas where populations of these species are sufficient to support hunting and to warrant hunting management by WGFD.

Small mammals within the Rawlins Field Office include cottontail, jackrabbit, snowshoe hare, squirrel, ground squirrel, mice, vole, and shrew. Other species within the area include badger, bobcat, marten, weasel, coyote, raccoon, red fox, swift fox, gray fox, skunk, beaver, mink, and muskrat.

Raptors within the field office include hawk, kite, eagle, and falcon; however, kites are incidental to the region. Concentrations of ferruginous hawks or golden eagles and prairie falcons (depending on the nesting substrate) have been identified in the past at Shamrock Hills, Brown Canyon Rim, Seminoe, Red Rim, Atlantic Rim, Cherokee, Muddy Creek, Doty Mountain, Delaney Rim, Bolten Rim, Hanna, and Platte-Divide (BLM 1987).

Duck and geese occur in aquatic areas throughout the field office. Some individuals or species breed, winter, or remain year-long in the area, while larger numbers pass through the field office on spring or fall migration. The Rawlins Field Office includes the Central Flyway (east of the Continental Divide except for the Great Divide Basin) and the Pacific Flyway (west of the Continental Divide and the Great Divide Basin).

All migratory bird species likely to be found within the Rawlins Field Office are protected under the MBTA, with the exception of the house sparrow, European starling, Eurasian collared dove, and rock dove. Upland game birds in Wyoming that are native to the state include blue grouse, ruffed grouse, greater sage-grouse, sharp-tailed grouse, and mourning doves. Upland game birds that are introduced include pheasant, chukar, gray partridge, and turkey.

There are three species of sage-grouse and one sub-species that are known to occur within the field office. These species include the greater sage-grouse, plains sharp-tailed grouse, and the blue grouse. The Columbian sharp-tailed grouse is a sub-species of the plains sharp-tailed grouse. Blue grouse are found primarily in the Ferris and Seminoe Mountains, the Laramie Peak area, and throughout forest fringes associated with the Medicine Bow National Forest.

## Fisheries

Public lands within the Rawlins Field Office provide habitat for eight fish families. The Wyoming BLM has classified five species as sensitive: the Colorado River cutthroat trout, bluehead sucker, flannelmouth sucker, roundtail chub, and hornyhead chub. In addition, four endangered fish species can be found downstream of the Rawlins Field Office within the Colorado River basin (razorback sucker, humpback chub, bonytail chub, and Colorado pikeminnow), and one endangered fish species, pallid sturgeon, can be found downstream of the field office in the Platte River basin.

## Current Management Practices

The Rawlins Field Office prohibits surface disturbing and disruptive activities potentially disruptive to nesting raptors within the following distances during the following time periods:

- One mile buffer: golden eagle, ferruginous hawk
- Three-quarter-mile buffer: all others
- February 1–July 15: golden eagle, barn owl, red-tailed hawk, great-horned owl, other raptors
- April 1–July 31: osprey, merlin, sharp-shinned hawk, kestrel, prairie falcon, northern harrier, Swainson’s hawk, Cooper’s hawk
- March 1–July 31: short-eared owl, long-eared owl, ferruginous hawk, peregrine falcon, screech owl
- April 15–September 15: burrowing owl
- April 1–August 31: goshawk.

Well locations, roads, ancillary facilities, and other surface structures requiring a repeated human presence will not be allowed within 825 feet of active raptor nests (ferruginous hawks, 1,200 feet). Distance may vary depending on factors such as nest activity, species, natural topographic barriers, and line-of-sight distances.

RCAs are open to oil and gas leasing (raptor nest locations are not mapped in the RMP to protect these sensitive areas). Surface disturbing and disruptive activities will be intensively managed through the use of appropriate BMPs. Fences identified to be a problem to big game migration will be modified to meet BLM fence standards. New fences are allowed in big game migration corridors, provided they meet BLM fence standards. Water developments for livestock and wild horse use are allowed in crucial winter range when they are consistent with wildlife habitat needs.

## Management Issues and Concerns

There are no management issues or concerns identified for wildlife and fisheries as part of the Sage-grouse RMP Amendments planning effort.

## 2.18.7 Rock Springs Field Office

### Overview

#### Wildlife

Over 350 species of wildlife are found on a variety of habitats on BLM-administered lands within in the Rock Springs Field Office. Wintering populations of big game in the area include an estimated 170 moose; 1,800 elk; 12,600 mule deer; 45 white-tailed deer; and 51,000 pronghorn. Over 55 percent of the field office has been identified as crucial big game habitat. Included in this crucial habitat are fawning and calving areas and winter ranges.

#### Fisheries

There are 32 species of fish known to occur in the waters of the field office. Five species of trout, kokanee salmon, and whitefish provide recreation fishing on public lands. Flannelmouth suckers and carp provide a recreation resource for archers during spring and summer. Nongame fish, their eggs, and fry also provide a forage source for game fish and other wildlife.

Three species are considered sensitive by the State of Wyoming: the Colorado River cutthroat trout, the roundtail chub, and the bluehead sucker. These species are native to the Green River drainage, but because of river and stream impoundments and other habitat losses, the populations of these species are low. Colorado River cutthroat trout inhabit Upper Red Creek, Trout Creek, and Currant Creek.

### Current Management Practices

Active and historic raptor nesting sites will be protected and managed for continued nesting activities. An active raptor nest is one that has been occupied within the past three years; an historic nesting site is an area of high topographic relief, particularly cliff areas, known to have supported concentrations of nesting raptors, such as Cedar Canyon, Four-J Basin, Kinney Rim, etc. The appropriate level of protection will be determined on a case-by-case basis depending upon the species involved, natural topographic barriers, and line-of-sight distances, etc. Different species of raptors may require different types of protective measures.

Project components, such as permanent and high profile structures, i.e., buildings, storage tanks, power lines, roads, well pads, etc. are prohibited within an appropriate distance of active raptor nests. The appropriate distance (usually less than one-half mile) will be determined on a case-by-case basis and may vary depending upon the species involved, natural topographic barriers, and line-of-sight distances, etc. Placement of facilities, “on” (very low profile) or below ground, and temporary disruptive activities, such as occur with pipeline construction, seismic activity, etc., could be granted exceptions within one-half mile of active raptor nests, in certain circumstances.

Nesting raptors will be protected by restricting disruptive activities seasonally within one-half to one mile radius of occupied raptor nesting sites.

Raptor nest surveys will be conducted within a one mile radius, or linear distance of proposed surface uses or activities, if such activities are proposed to be conducted during raptor nesting seasons, usually between February 1 and July 31.

Livestock and wild horse water developments in crucial habitat could be allowed if they conform to wildlife objectives and do not result in adverse impacts to the crucial habitat.

The cooperative management agreement with the WGFD for annual monitoring, maintenance, and the development of additional waters will continue as needed. Livestock water developments will be modified or protected where possible to enhance wildlife habitat and to maintain or enhance water quality.

Needed special management and riparian management exclosures will be developed and/or maintained, and exclosure plans will be implemented for enhancement of wildlife habitat. Exclosures are closed to livestock grazing use and no AUMs in these areas will be available for livestock use.

Seasonal restrictions for surface disturbing activities to protect game fish and special status fish populations during spawning will be applied as necessary.

BLM will continue to coordinate and to annually review with the Animal and Plant Health Inspection Service – Wildlife Services (APHIS-WS), their annual wildlife damage management plan for animal damage control activities on public lands. Areas where proposed animal damage control activities (all or specific methods) are not compatible with BLM planning and management prescriptions or objectives for other resource activities and users, will be identified on a case-by-case basis, and APHIS-WS will be requested to amend or adjust proposed animal damage control activities accordingly.

Habitat management plans will be developed, where needed, particularly for highly developed and disturbed areas to mitigate wildlife habitat losses. Plans could include habitat expansion efforts, T&E species reintroduction, and population goals and objectives. Such actions as preparing transportation plans and reclaiming roads, seeding, and vegetation enhancement (vegetation treatments, fencing), water developments, and reclamation actions to reduce the amount of disturbance, will be considered. Areas identified for consideration of such plans include but are not limited to the Little Colorado Desert (including the Fontenelle II and Blue Forest units), Nitchie Gulch, Wamsutter Arch, Patrick Draw, and Cedar Canyon areas.

BLM-administered public lands in the ACEC are open to consideration for mineral leasing with restrictions to protect cultural and wildlife values, particularly raptors and raptor habitat, big game winter range, and watershed values.

Vegetation will be managed to provide habitat for wildlife.

Habitat for raptors will be maintained or enhanced. Cliffs, tree hollows, and pinnacles will be managed to provide nesting habitat.

Site specific analyses will be conducted to provide direction to alleviate conflicts between wildlife use, livestock grazing, and development activities.

Motorized vehicle travel in the ACEC (including over-the-snow vehicles) is limited to designated roads and trails. All off-road vehicle travel in the area is restricted during the winter and spring to protect wildlife during high stress periods of severely cold temperatures, heavy snow cover, and short food supply.

#### **Surface Disturbance/Disruptive Activity Limitation Area—**

No surface disturbance or disruptive activities:

- Raptor nest sites (active)
- Other sensitive resource values

Seasonal surface disturbance or disruptive activities limitations:

- Elk crucial winter habitat November 15 – April 30
- Deer crucial winter habitat November 15 – April 30
- Pronghorn crucial winter habitat November 15 – April 30
- Elk birthing areas May 1 – June 30
- Deer birthing areas May 1 – June 30
- Raptor nest sites + one-half to one mile buffer February 1 – July 31

Surface disturbing and disruptive activities will be subject to extensive review and mitigation that will allow appropriate levels of activity while meeting objectives and safeguarding sensitive resources in the following areas: portions of Steamboat Mountain ACEC, Greater Sand Dunes ACEC, the White Mountain and Split Rock areas, the core and connectivity areas, and other areas of sensitive resource values. Monitoring and evaluation will determine the effectiveness of the management prescriptions and mitigation measures. Adjustments can be made to ensure that further activity will not cause fragmentation and abandonment of habitat and will still meet stated management objectives, safeguard sensitive resources, and not result in significant or irreversible adverse effects. This determination will be based on the effects on elk and their movement patterns and use of habitat, other wildlife species and habitats, public health and safety, watershed condition, and other sensitive resources.

Application of restrictions and mitigation measures will be accomplished through an implementation strategy that will include case-by-case review of all proposals including evaluation of the 12 sensitive resources. Management prescriptions and mitigation measures, including controlled location and timing of the various activities and related reclamation, may also be considered to meet area objectives. For example, satisfactory reclamation of surface disturbance may be required before additional surface disturbing activities are allowed in big game crucial ranges, migration routes, and birthing areas.

Where documented wildlife conflicts with fencing on public lands occur, fences will be modified, reconstructed, or, if necessary, removed. Herding control of livestock will be encouraged as an alternative to fencing. Fence construction will be in accordance with BLM design standards and located so as not to overly impede wildlife movement. Consideration will also be given to special status species and wild horse movement.

Water developments will be provided as needed to improve wild horse herd distribution and manage forage utilization. Water developments within sensitive wildlife habitats will be considered only if wildlife habitat and resource conditions will be improved or maintained. Compatibility with special status plant species will be required.

Crucial winter range or sensitive habitats (such as birthing areas, the connectivity area (migration corridor), nesting sites, greater sage-grouse breeding habitats and winter concentration areas, and sensitive fisheries habitats) will be managed by maintaining habitat or reducing habitat loss or alteration, improving habitat where possible, and applying appropriate mitigation requirements (e.g., distance and seasonal limitations and rehabilitation) to all appropriate activities.

Exceptions can be provided on a case-by-case basis should exception criteria be met. See also the Surface Use Activities section of the JMH Coordinated Activity Plan for actions relating to surface disturbing and disruptive activities.

Seasonal limitations for wildlife habitat will be applied as necessary to protect sensitive wildlife areas from development and/or disruptive activities during sensitive time periods in animals' life cycles, such as nesting, birthing, and wintering. Wildlife seasonal stipulations will not close an area to development but will protect wildlife species if weather or other habitat needs dictate that it is necessary (Appendix 5

in the final EIS). The BLM Authorized Officer may decide to grant, or not grant exceptions to seasonal limitations based on recommendations from the wildlife biologist, in coordination with the WGFD. Criteria for exceptions are outlined in.

Surface disturbing and disruptive activities are prohibited in big game birthing areas from May 1 to June 30. To meet management objectives, the amount of habitat disturbed in these areas will also be limited (see Sensitive Habitat discussion). Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

Measures will be taken, as appropriate, to reduce potential raptor perches in and around prairie dog towns and colonies, such as constructing anti-perch devices on power poles.

Active and historic raptor nesting sites will be protected and managed (e.g., through distance restrictions) for continued nesting activities. Different species of raptors may require different types of protective measures. Permanent or high-profile structures (e.g., power lines or other structures that may negatively impact raptors) will be prohibited within a specified distance of active raptor nests. Distance will be determined on a case-by-case basis and will depend on the raptor species involved, natural topographic barriers, line-of-sight distances, and other such factors. Temporary disturbances associated with placement of facilities such as pipelines and other actions such as seismic activities can be allowed within one-half to one mile of active raptor nests.

Disruptive activities will be seasonally restricted within a one-half to one mile radius of occupied raptor nesting sites. Raptor nest surveys will be conducted within a one mile radius or linear distance of proposed surface uses or activities during raptor nesting season. Seasonal limitations may be accepted, provided criteria in can be met and appropriate mitigation can be implemented (as determined by BLM). Mitigation of adverse effects (e.g., noise and traffic) on all habitats will be determined and applied on a case-by-case basis.

APHIS-WS and review its annual management plan for animal damage control activities on public lands. Proposed animal damage control activities not compatible with BLM planning and management prescriptions or objectives for other resource activities and uses will be identified on a case by-case basis. BLM will determine appropriate planning strategies with input from APHIS-WS.

BLM will cooperate with the WGFD in studies for the introduction and reintroduction of native and nonnative (game) wildlife and fish species.

Monitoring of sensitive resource indicators will determine the effectiveness of lease stipulations and COAs and provide guidance for adopting new or modified stipulations, exception criteria, or COAs needed to meet resource objectives. Indicators could include, but are not limited to, wildlife population trends, reproduction rates, observed ranges, and habitat integrity. Development levels may be adjusted or new stipulations may be applied to new leases when offered. COAs may be applied to proposed activities as appropriate and necessary to protect resource values. Adjustments could be made to ensure that further activity will not cause fragmentation and abandonment of habitat and will still meet stated management objectives, safeguard sensitive resources, and not result in significant or irreversible adverse effects. Proposed changes will be analyzed in subsequent NEPA or other documents (such as site-specific NEPA analysis for well sites) in accordance with law and policy. Changes will be based on several factors including the following:

- Data trends for indicators on the viability of potentially impacted wildlife and other sensitive resources, including impacts from other causes such as disease, drought, hunting pressure, introduction of nonnative species, and recreation activities

- Fragmentation of habitat and migration pathways due to development activities
- Net amount of surface disturbance, including approved development activities that will be implemented in nearby areas and planned reclamation of existing surface disturbances.

Development levels may be adjusted and/or additional mitigation may be applied to proposed activities as appropriate and necessary to protect resource values. Adjustments could be made to ensure that additional ROWs will not cause fragmentation and abandonment of wildlife habitat and will still meet stated management objectives, safeguard sensitive resources, and not result in significant or irreversible adverse effects. Proposals will be analyzed in subsequent NEPA or other documents (such as site-specific NEPA analysis for well sites) in accordance with law and policy. Changes will be based on consideration of several factors including:

- Data trends for indicators on the viability of potentially impacted wildlife and other sensitive resources, including impacts on indicators from other causes such as disease, drought, or hunting
- Fragmentation of habitat and migration pathways due to surface disturbance
- Net amount of surface disturbance, including approved development activities or ROWs that will be implemented in nearby areas, and planned reclamation of existing surface disturbances.
- Amount and location of actual land use activity.

### **Jack Morrow Hills**

The JMH Coordinated Activity Plan planning area will be designated as a “restricted control area” for animal control in coordination with APHIS-WS. Restricted control areas are public land areas where animal damage management may be planned, but control activities may be limited to certain methods or times of the year to achieve management objectives. Emphasis will be placed on non-lethal methods. Control techniques and methods will be discussed at the annual management meeting between BLM and APHIS-WS.

### **Management Issues and Concerns**

There are no management issues or concerns identified for wildlife and fisheries as part of the Sage-grouse RMP Amendments planning effort.



## **CHAPTER 3—RELEVANT STATUTES, LIMITATIONS, AND GUIDELINES**

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This section provides a listing of the authorities that apply to the development and selection of management alternatives in the RMP amendments.

### **3.1 ENVIRONMENTAL POLICY**

#### **National Environmental Policy Act of 1969**

NEPA (42 United States Code [USC] 4321 et seq.) requires the preparation of EISs for federal projects that may have a significant effect on the environment. It requires systematic, interdisciplinary planning to ensure the integrated use of the natural and social sciences and the environmental design arts in making decisions about major federal actions that may have a significant effect on the environment. The procedures required under NEPA are implemented through the CEQ regulations in 40 CFR §1500.

#### **Federal Compliance with Pollution Control Standards (EO 12088)**

Federal Compliance with Pollution Control Standards (EO 12088) states that federal agencies must comply with applicable pollution control standards.

#### **Protection and Enhancement of Environmental Quality (EO 11514)**

Protection and Enhancement of Environmental Quality (EO 11514, as amended by EO 11991) establishes the policy for federal agencies to provide leadership in environmental protection and enhancement.

### **3.2 LAND USE AND NATURAL RESOURCES MANAGEMENT**

#### **Federal Land Policy and Management Act of 1976**

FLPMA, as amended (43 USC 1701, et seq.), provides for public lands to be generally retained in federal ownership for periodic and systematic inventory of the public lands and their resources; for a review of existing withdrawals and classifications; for establishment of comprehensive rules and regulations for administering public lands statutes; for multiple-use management on a sustained yield basis; for protection of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; for receiving fair market value for the use of the public lands and their resources; for establishment of uniform procedures for any disposal, acquisition, or exchange; for identification and protection of ACECs; for recognition of the nation's need for domestic sources of minerals, food, timber, and fiber from the public lands, including implementation of the Mining and Mineral Policy Act of 1970; and for payments to compensate states and local governments for burdens created as a result of the immunity of federal lands from state and local taxation. The general land management regulations are provided in 43 CFR §2000, Subchapter B.

#### **General Mining Law of 1872**

The General Mining Law of 1872, as amended (30 USC 22, et seq.), provides for locating and patenting mining claims where a discovery has been made for locatable minerals on public lands in specified states.

Regulations for staking and maintenance of claims on BLM-administered lands are listed in 43 CFR §3800.

### **Mineral Leasing Act of 1920**

The Mineral Leasing Act of 1920, as amended (30 USC 181, et seq.), provides for the leasing of deposits of coal, phosphate, sodium, potassium, oil, oil shale, native asphalt, solid and semisolid bitumen, bituminous rock or gas, and lands containing such deposits owned by the United States, including those in national forests but excluding those acquired under other acts subsequent to February 25, 1920, and those lands within the national petroleum and oil shale reserves. Regulations for onshore oil and gas leasing are provided in 43 CFR §3100.

### **Federal Coal Leasing Amendments Act of 1976**

The Federal Coal Leasing Amendments Act of 1976 (30 USC 201, et seq.) requires competitive leasing of coal on public lands and mandates a broad spectrum of coal operations requirements for lease management. Coal leasing regulations for BLM-administered lands are provided in 43 CFR §3400.

### **Materials Act of 1947**

The Materials Act of 1947, as amended (30 USC 601–604, et seq.), provides for the sale of common variety materials for personal, commercial, or industrial uses and for free use for local, state, and federal governmental entities. The sales of mineral materials are controlled by the regulations listed in 43 CFR §3600.

### **Taylor Grazing Act of 1934**

The Taylor Grazing Act of 1934, as amended (43 USC 315), provides authorization to the Secretary of the Interior to establish grazing districts from any part of the public domain of the United States (exclusive of Alaska) which, in the Secretary's opinion, are chiefly valuable for grazing and raising forage crops; to regulate and administer grazing use of the public lands; and to improve the public rangelands. Regulations for grazing permits are provided in 43 CFR §4100.

### **Public Rangelands Improvement Act of 1978**

The Public Rangelands Improvement Act of 1978 (43 USC 1901, et seq.) provides for the improvement of range conditions on public rangelands, research on wild horse and burro population dynamics, and other range management practices.

### **Federal Noxious Weed Act of 1974**

The Federal Noxious Weed Act of 1974, as amended (7 USC 2814), provides for the designation of a lead office and a person trained in the management of undesirable plants, establishment and funding of a management program for undesirable plants, completion and implementation of cooperative agreements with state agencies, and establishment of integrated management systems to control undesirable plant species.

### **Healthy Forests Restoration Act of 2003**

The Healthy Forests Restoration Act serves to further the Healthy Forests Initiative to reduce the threat of destructive wildfires while upholding environmental standards and encouraging early public input during

review and planning processes. The Act strengthens public participation in developing high-priority forest health projects; reduces the complexity of environmental analysis, allowing federal land agencies to use the best science available to actively manage land under their protection; provides a more effective appeals process, encouraging early public participation in project planning; and issues clear guidance for court action against forest health projects.

### **Grazing Fees of 1986 (EO 12548)**

EO 12548 provides for establishment of appropriate fees for the grazing of domestic livestock on public rangelands and directs that the fee shall not be less than \$1.35 per AUM.

### **Wilderness Act of 1964**

The Wilderness Act of 1964 (16 USC 1131, et seq.) provides for the designation and preservation of wilderness areas.

### **Federal Land Exchange Facilitation Act of 1988**

The Federal Land Exchange Facilitation Act amended FLPMA with respect to BLM land exchanges. It was designed to streamline land exchange procedures.

### **Federal Land Transaction Facilitation Act of 2000**

The Federal Land Transaction Facilitation Act provides for the use of revenues from the sale or exchange of public lands identified for disposal under land use plans in effect as of the date of the FLTFA.

### **Recreation and Public Purposes Act of 1926**

In 1954, the Congress enacted the Recreation and Public Purposes Act (43 USC 869 et. seq.) as a complete revision of the Recreation Act of 1926 in response to the public need for a nationwide system of parks and other recreational and public purposes areas. This law is administered by BLM. The Act authorizes the sale or lease of public lands for recreational or public purposes to state and local governments and to qualified nonprofit organizations. Examples of typical uses under the Act are historic monument sites, campgrounds, schools, fire houses, law enforcement facilities, municipal facilities, landfills, hospitals, parks, and fairgrounds.

### **Airport and Airway Improvement Act of 1982**

The Airport and Airway Improvement Act established the Airport Improvement Program, which provides grants to public agencies and, in some cases, to private owners and entities for the planning and development of public-use airports that are included in the National Plan of Integrated Airport systems.

### **Energy Policy and Conservation Act of 2000**

The purposes of the Energy Policy and Conservation Act of 2000, as amended (42 USC 6217 et seq.), are to—

- Grant specific authority to the President to fulfill obligations of the United States under the international energy program

- Provide for the creation of a Strategic Petroleum Reserve capable of reducing the impact of severe energy supply interruptions
- Conserve energy supplies through energy conservation programs, and, where necessary, the regulation of certain energy uses
- Provide for improved energy efficiency of motor vehicles, major appliances, and certain other consumer products
- Provide a means for verification of energy data to ensure the reliability of energy data
- Conserve water by improving the water efficiency of certain plumbing products and appliances.

### **Bureau of Land Management Energy and Non-Energy Mineral Policy**

This statement sets forth BLM policy for the management of energy and non-energy mineral resources (mineral resources) on public lands. It reflects the provisions of five important acts of Congress relating to mineral resources: the Domestic Minerals Program Extension Act of 1953; the Mining and Minerals Policy Act of 1970; FLPMA; the National Materials and Minerals Policy, Research and Development Act of 1980; and the Energy Policy Act of 2005. This policy represents a commitment by BLM to implement the requirements of these statutes consistent with BLM's other statutory obligations, as follows:

The Domestic Minerals Program Extension Act of 1953 states that each department and agency of the Federal Government charged with responsibilities concerning the discovery, development, production, and acquisition of strategic or critical minerals and metals shall undertake to decrease further, and to eliminate where possible, the dependency of the United States on overseas sources of supply of each such material.

The Mining and Minerals Policy Act of 1970 declares that it is the continuing policy of the Federal Government to foster and encourage private enterprise in the development of a stable domestic minerals industry and the orderly and economic development of domestic mineral resources. This act includes all minerals, including sand and gravel, geothermal, coal, and oil and gas.

FLPMA reiterates that the 1970 Mining and Minerals Policy Act shall be implemented and directs that public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals and other resources.

The National Materials and Minerals Policy, Research and Development Act of 1980 requires the Secretary of the Interior to improve the quality of minerals data in Federal land use decision-making.

The Energy Policy Act of 2005 encourages energy efficiency and conservation; promotes alternative and renewable energy sources; reduces dependence on foreign sources of energy; increases domestic production; modernizes the electrical grid; and encourages the expansion of nuclear energy.

BLM recognizes that public lands are an important source of the Nation's energy and non-energy mineral resources, some of which are critical and strategic. BLM is responsible for making public lands available for orderly and efficient development of these resources under principles of multiple use management, and the concept of sustainable development as was defined at the World Summit on Sustainable Development in 2002, in Johannesburg, South Africa.

The following principles will guide BLM in managing mineral resources on public lands:

Except for Congressional withdrawals, public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative actions are clearly justified in the national interest in accordance with the Department of the Interior Land Withdrawal Manual 603 DM 1, and the BLM regulations at 43 CFR §2310. Petitions to the Secretary of the Interior for revocation of land withdrawals for mineral exploration and development will be evaluated through the land use planning process.

BLM endorses the Sustainable Development Plan of Implementation applicable to mineral resources signed by 193 countries, including the United States; in Johannesburg in 2002. This plan encourages social, environmental, and economic considerations before decisions are made on mineral operations. BLM actively encourages development by private industry of public land mineral resources, and promotes practices and technology that least impact natural and human resources.

BLM will adjudicate and process mineral patent applications, permits, operating plans, mineral exchanges, leases, and other mineral use authorizations for public lands in a manner to prevent unnecessary and undue degradation, and in a timely and efficient manner, and will require financial assurances to provide for reclamation of the land and for other purposes authorized by law. Mine closure and reclamation considerations include alternative forms of use such as for landfills, wind farms, biomass facilities and other industrial uses, to attract partnerships to utilize the existing mine infrastructure for a future economic opportunity.

BLM land use planning and multiple-use management decisions will recognize that, with few exceptions, mineral exploration and development can occur concurrently or sequentially with other resource uses. The least restrictive stipulations that effectively accomplish the resource objectives or uses will be used. BLM will coordinate with surface owners when the Federal minerals estate under their surface ownership is proposed for development.

Land use plans will reflect geological assessments and mineral potential on public lands through existing geology and mineral resource data, and to the extent feasible, through new mineral assessments to determine mineral potential. Partnerships with State Geologists and the U.S. Geological Survey for obtaining existing and new data should be considered.

BLM will work closely with Federal, State and Tribal governments to reduce duplication of effort while processing mineral related permit applications.

BLM will monitor locatable, salable and leasable mineral operations to ensure proper resource recovery and evaluation, production verification, diligence and enforcement of terms and conditions. BLM will ensure receipt of fair market value for mineral materials, and appropriate royalty rates for leasable commodities unless otherwise provided for by statute.

BLM will continue to develop e-Government solutions that will provide for electronic submission and tracking of applications for exploration and development of mineral resources. BLM will continue to provide public access to mineral records, including spatial display of all types of authorizations and mineral resource data.

BLM will maintain and enhance the understanding, skills, and abilities of effective professional, technical, and managerial personnel knowledgeable in adjudication, geology, mineral exploration and development.

To the extent provided by law, regulation, secretarial order, and written agreement with the Bureau of Indian Affairs, BLM will apply the above principles to the management of mineral resources and operations on Indian Trust lands in order to comply with its Trust Responsibilities.

### **3.3 AIR QUALITY**

#### **The Clean Air Act of 1990**

The Clean Air Act (CAA) of 1990, as amended (42 USC 7401, 7642), requires BLM to protect air quality, maintain federal- and state-designated air quality standards, and abide by the requirements of the state implementation plans.

#### **Wyoming Air Quality Standards and Regulations**

Wyoming air quality standards and regulations, Chapters 1 to 11, specify the requirements for air permitting and monitoring to implement CAA and state ambient air quality standards.

### **3.4 WATER QUALITY**

#### **The Clean Water Act of 1987**

The Clean Water Act of 1987, as amended (33 USC 1251), establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation's water. The Act also requires permits for point source discharges to navigable waters of the United States and the protection of wetlands and includes monitoring and research provisions for protection of ambient water quality.

#### **The Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and manmade contaminants that may be found in drinking water. U.S. EPA, states, and water systems work together to ensure that these standards are met.

#### **Wyoming Water Quality Standards and Regulations**

Wyoming water quality standards and regulations implement permitting and monitoring requirements for the National Pollutant Discharge Elimination System, operation of injection wells, groundwater protection requirements, prevention and response requirements for spills, and salinity standards and criteria for the Colorado River Basin.

#### **Colorado River Salinity Control Act**

The 1974 Colorado River Basin Salinity Control Act, Public Law 93-320, authorizes the construction, operation, and maintenance of works in the Colorado River Basin to control the salinity of water delivered to Mexico.

### **3.5 PROTECTION OF WETLANDS (EO 11990)**

Protection of Wetlands (EO 11990) requires federal agencies to take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

## **Floodplain Management (EO 11988)**

Floodplain Management (EO 11988) provides for the restoration and preservation of national and beneficial floodplain values, and enhancement of the natural and beneficial values of wetlands in carrying out programs affecting land use.

## **3.6 CULTURAL RESOURCES**

### **The Antiquities Act of 1906**

The Antiquities Act of 1906 protects objects of historic and scientific interest on public lands. It authorizes the President to designate historic landmarks and structures as national monuments and provides penalties for people who damage these historic sites. The Act has two main components: (1) a criminal enforcement component, which provides for the prosecution of persons who appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity on lands owned or controlled by the United States, and (2) a component that authorizes a permit for the examination of ruins and archeological sites and the gathering of objects of antiquity on lands owned or controlled by the United States.

### **Historic Sites Act of 1935**

The Historic Sites Act (16 USC 461) declares national policy to identify and preserve historic sites, buildings, objects, and antiquities of national significance, thereby providing a foundation for the NRHP.

### **National Historic Preservation Act of 1966**

The NHPA, as amended (16 USC 470), expands protection of historic and archeological properties to include those of national, state, and local significance. The NHPA (in Section 106) requires federal agencies to take into account the potential effects of agency actions on properties listed on or eligible for the NRHP. Agencies are also required to consult with the SHPO, and sometimes with the Advisory Council on Historic Preservation, concerning those effects. The SHPO is also sometimes consulted concerning applicable methods for determining whether there are NRHP-eligible properties in the area of potential effect of an agency undertaking, whether properties are eligible, and appropriate mitigation measures. The NHPA (in Section 110) also requires federal agencies to identify properties that may qualify for listing on the NRHP, to evaluate and nominate such places to the register, and to develop plans for their management. Both Section 110 and the Archeological Resources Protection Act of 1979 require federal agencies to develop proactive programs to interpret archeological resources for the benefit of the public. The 1992 amendments to the NHPA call for federal agencies to conduct Native American consultation on projects that may affect sites or resources that tribal representatives consider sensitive, sacred, or culturally important.

### **National Trails System Act of 1968**

The National Trails System Act of 1968, as amended (16 USC 1241–1249), establishes a national trails system and requires that federal rights in abandoned railroads be retained for trail or recreation purposes, or sold with the receipts to be deposited in the Land and Water Conservation Fund. The purpose of the Act is to provide the means for outdoor recreation needs of an expanding population and to promote the preservation of and access to outdoor areas and historic resources of the United States by instituting a national system of recreation, scenic, and historic trails, designating the Appalachian Trail and the Pacific

Crest Trail as the initial components of the system, and prescribing the methods and standards by which additional components may be added to the system.

### **Protection and Enhancement of the Cultural Environment of 1971**

Protection and Enhancement of the Cultural Environment (EO 11593) directs federal agencies to locate, inventory, nominate, and protect federally owned cultural resources eligible for the NRHP and to ensure that their plans and programs contribute to preservation and enhancement of nonfederally owned resources.

### **American Indian Religious Freedom Act of 1978**

The American Indian Religious Freedom Act (AIRFA) clarifies U.S. policy pertaining to the protection of Native Americans' religious freedom. The special nature of Native American religions has frequently resulted in conflicts between federal laws and policies and religious freedom. The Act establishes a policy of protecting and preserving the inherent right of individual Native Americans (including American Indians, Eskimos, Aleuts, and Native Hawaiians) to believe, express, and exercise their traditional religions.

### **Archeological Resources Protection Act of 1979**

The Archeological Resource Protection Act, as amended (16 USC 470a, 470cc, 470ee), requires permits for the excavation or removal of federally administered archeological resources, encourages increased cooperation among federal agencies and private individuals, provides stringent criminal and civil penalties for violations, and requires federal agencies to identify important resources vulnerable to looting and to develop a tracking system for violations.

### **Native American Graves Protection and Repatriation Act of 1990**

The Native American Graves Protection and Repatriation Act (NAGPRA) is a federal law passed in 1990 that provides a process for museums and federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, and objects of cultural patrimony—to lineal descendants, culturally affiliated Native American tribes, and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking. In addition, NAGPRA authorizes Federal grants to Indian tribes, Native Hawaiian organizations, and museums to assist with the documentation and repatriation of Native American cultural items, and establishes the Native American Graves Protection and Repatriation Review Committee to monitor the NAGPRA process and facilitate the resolution of disputes that may arise concerning repatriation under NAGPRA.

### **Indian Sacred Sites (EO 13007)**

EO 13007, signed in 1996, requires each executive branch agency with statutory or administrative responsibility for the management of federal lands to accommodate access to and ceremonial use of Native American sacred sites by Native American religious practitioners and avoid adversely affecting the physical integrity of such sacred sites, whenever possible.

## **Consultation and Coordination with Indian Tribal Governments (EO 13175)**

EO 13175, signed in 2000, required federal agencies to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.

## **Trails for America in the 21st Century (EO 13195)**

EO 13195, signed in 2001, requires federal agencies, to the extent permitted by law and where practicable—and in cooperation with tribes, states, local governments, and interested citizen groups—to protect, connect, promote, and assist trails of all types throughout the United States.

## **Preserve America (EO 13287)**

EO 13287, signed in 2003, requires the Federal Government to lead the preservation of America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the government and by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties.

## **3.7 HAZARDOUS MATERIALS**

### **Comprehensive Environmental Response, Compensation, and Liability Act of 1980**

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 USC 9601–9673), provides for liability, risk assessment, compensation, emergency response, and cleanup (including the cleanup of inactive sites) for hazardous substances. The Act requires federal agencies to report sites where hazardous wastes are or have been stored, treated, or disposed of and requires responsible parties, including federal agencies, to clean up releases of hazardous substances.

### **Resource Conservation and Recovery Act**

The Resource Conservation and Recovery Act, as amended by the Federal Facility Compliance Act of 1992 (42 USC 6901–6992), authorizes the U.S. EPA to manage, by regulation, hazardous wastes on active disposal operations. The Act waives sovereign immunity for federal agencies with respect to all federal, state, and local solid and hazardous waste laws and regulations. Federal agencies are subject to civil and administrative penalties for violations and to cost assessments for the administration of the enforcement.

### **Emergency Planning and Community Right-to-Know Act of 1986**

The Emergency Planning and Community Right-to-Know Act of 1986 (42 USC 11001–11050) requires the private sector to inventory chemicals and chemical products, to report those in excess of threshold planning quantities, to inventory emergency response equipment, to provide annual reports and support to local and state emergency response organizations, and to maintain a liaison with the local and state emergency response organizations and the public.

## **3.8 WILDLIFE**

### **Endangered Species Act of 1973**

The purpose of the Endangered Species Act (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the USDI's USFWS and the Department of Commerce's National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine species such as salmon and whales.

### **Bald and Golden Eagle Protection Act**

The Bald Eagle Protection Act (16 USC 668) prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, transport, export or import, of any bald eagle, alive or dead, or any part, nest, or egg thereof. "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest, or disturb (50 CFR §22.3).

### **Fish and Wildlife Coordination Act of 1958**

The Act of March 10, 1934, (16 USC 661 et seq.) as amended, authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with federal and state agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The Act also directs the Bureau of Fisheries to use impounded waters for fish-culture stations and migratory-bird resting and nesting areas and requires consultation with the Bureau of Fisheries before the construction of any new dams to provide for fish migration. In addition, the Act authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on public lands, and the acceptance by the federal agencies of funds or lands for related purposes provided that land donations receive the consent of the state in which they are located.

The amendments enacted in 1946 require consultation with the USFWS and the fish and wildlife agencies of states where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted...or otherwise controlled or modified" by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources."

### **Fish and Wildlife Improvement Act of 1978**

The Fish and Wildlife Improvement Act of 1978 (16 USC 7421; 92 Stat. 3110), Public Law 95-616, authorizes the Secretaries of the Interior and Commerce to establish, conduct, and assist with national training programs for state fish and wildlife law enforcement personnel. It also authorized funding for research and development of new or improved methods to support fish and wildlife law enforcement. The law provides authority to the Secretaries to enter into law enforcement cooperative agreements with state or other federal agencies and authorizes the disposal of abandoned or forfeited items under the fish, wildlife, and plant jurisdictions of these Secretaries. Public Law 105-328, signed October 30, 1998, amended the Act to allow the USFWS to use the proceeds from the disposal of abandoned items derived from fish, wildlife, and plants to cover the costs of shipping, storing, and disposing of those items.

## **Fish and Wildlife Conservation Act of 1980**

The Fish and Wildlife Conservation Act (USC 2901–2911), commonly known as the Nongame Act, encourages states to develop conservation plans for nongame fish and wildlife of ecological, educational, aesthetic, cultural, recreational, economic, or scientific value. The states may be reimbursed for a percentage of the costs of developing, revising, or implementing conservation plans approved by the Secretary of the Interior. Amendments adopted in 1988 and 1989 directed the Secretary to undertake research and conservation activities for migratory nongame birds.

## **Migratory Bird Treaty Act of 1918**

Taking, killing, or possessing migratory birds is unlawful (16 USC 703–712. § 703). It shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof, included in the terms of the conventions between the United States and Great Britain for the protection of migratory birds concluded August 16, 1916 (39 Stat. 1702); the United States and the United Mexican States for the protection of migratory birds and game mammals concluded February 7, 1936; the United States and the Government of Japan for the protection of migratory birds and birds in danger of extinction, and their environment concluded March 4, 1972 [1]; and the convention between the United States and the Union of Soviet Socialist Republics for the conservation of migratory birds and their environments concluded November 19, 1976 (50 CFR §10.12).

## **Sikes Act of 1960**

The Sikes Act (16 USC 670a–670o, 74 Stat. 1052), as amended, Public Law 86-797, approved September 15, 1960, provides for cooperation by the Departments of the Interior and Defense with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. Key amendments to the Act that affect this EIS are highlighted below:

- An amendment enacted August 8, 1968 (Public Law 90-465, 82 Stat. 661), authorized a program for development of outdoor recreation facilities.
- Public Law 93-452, signed October 18, 1974 (88 Stat. 1369), authorized conservation and rehabilitation programs on Department of Energy (DOE), National Aeronautics and Space Administration (NASA), USFS, and BLM lands. These programs are carried out in cooperation with the states by the Secretary of the Interior and on USFS lands by the Secretary of Agriculture.
- Public Law 97-396, approved December 31, 1982 (96 Stat. 2005), provided for the inclusion of endangered plants in conservation programs developed for BLM, USFS, NASA, and DOE lands.
- Public Law 105-85, approved November 18, 1997 (11 Stat. 2017, 2018, 2020, 2022), added that each integrated natural resource management plan (INRMP) prepared under this act should provide for the sustainable use by the public of natural resources, to the extent that the use is not inconsistent with the needs of fish and wildlife resources. Public Law 105-85 also requires that the Secretary of the Interior, in consultation with state fish and wildlife agencies, submit a report annually on the amounts expended by the USDI and state fish and wildlife agencies on activities

conducted pursuant to INRMPs to respective congressional committees with oversight responsibilities.

### **Federal Cave Resources Protection Act of 1988**

The purpose of the Federal Cave Resources Protection Act (16 USC 63) is to secure, protect, and preserve significant caves on federal lands for the perpetual use, enjoyment, and benefit of all people and to foster increased cooperation and exchange of information between governmental authorities and those who use caves located on federal lands for scientific, education, or recreational purposes.

## **3.9 WILD HORSES**

### **Wild Free Roaming Horse and Burro Act of 1971**

The Wild Free Roaming Horse and Burro Act of 1971 provides for the management, protection, and control of wild horses and burros on public lands and authorizes “adoption” of wild horses and burros by private individuals. Regulations applicable to wild horse and burro management on BLM-administered lands are provided in 43 CFR §4700.

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## LIST OF ACRONYMS

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ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
APHIS-WS	Animal and Plant Health Inspection Service – Wildlife Services
ASRC	Areas of Significant Resource Concern
AUM	Animal Unit Months
BF	Board Feet
BLM	Bureau of Land Management
BMP	Best Management Practices
BOR	Bureau of Reclamation
CAA	Clean Air Act
CBNG	Coal Bed Natural Gas
CCF	Hundred Cubic Feet
CEQ	Council on Environmental Quality
CF	Cubic Feet
CFR	Code of Federal Regulation
CFS	Cubic Feet per Second
CO	Carbon Monoxide
COA	Condition of Approval
CSU	Controlled Surface Use
DOE	Department of Energy
DPC	Desired Plant Community
EO	Executive Order
ERMA	Extensive Recreation Management Area
FLPMA	Federal Land Policy and Management Act of 1976
FUP	Free Use Permits
HMA	Herd Management Area
IMP	Interim Management Policy
INRMP	Integrated Natural Resource Management Plan
ISR	In Situ Recovery
JMH	Jack Morrow Hills

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KSLA	Known Sodium Leasing Area
MA	Management Area
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standard
NAGPRA	Native American Graves Protection and Repatriation Act
NASA	National Aeronautic Space Administration
NDD	National Diversity Database
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NNL	National Natural Landmark
NPS	National Park Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
OHV	Off-highway Vehicle
PFC	Proper Functioning Condition
PSD	Prevention of Significant Deterioration
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
SD/MA	Special Designations/Management Areas
SHPO	State Historic Preservation Office
SRMA	Special Recreation Management Area
SRP	Special Recreational Permit
SSC	Species of Special Concern
T&E	Threatened and Endangered
TCP	Traditional Cultural Properties
TMA	Travel Management Areas
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WAAQS	Wyoming Ambient Air Quality Standards
WAPA	Western Area Power Administration

WDEQ	Wyoming Department of Environmental Quality
WDEQ-AQD	Wyoming Department of Environmental Quality-Air Quality Division
WGFD	Wyoming Game and Fish Department
WGS GCP	Wyoming Greater Sage-grouse Conservation Plan
WHMA	Wildlife Habitat Management Area
WSA	Wilderness Study Area
WSR	Wild and Scenic River
WYDOT	Wyoming Department of Transportation

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## LITERATURE CITED

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- Albert, K.A. 1986. Reported Gold Concentrations in Sediment Samples from U.S. Department of Energy's National Uranium Resource Evaluation (NURE) Reports. Geological Survey Wyoming Open-File Report 86-4.
- Allison, Eldon, Jr. 1988. Bentonite Mining in the Black Hills Region. Wyoming Geological Association 39<sup>th</sup> Annual Field Conference Guidebook: Eastern Powder River Basin-Black Hills.
- Bailey, R.G. 1995. Descriptions of the Ecoregions of the United States. 2nd Edition. Miscellaneous Publication No. 1391. U.S. Department of Agriculture. Washington, D.C.
- Bartos, T.T., L.L. Halberg, J.P. Mason, J.R. Norris, and K.A. Miller. 2006. Water resource of Carbon County, Wyoming. *U.S. Geological Survey Scientific Investigations Report* 2006-5027. 191 pp.
- Berryhill, H.L. Jr., D.M. Brown, A. Brown, and D.A. Taylor. 1950. "Coal resources of Wyoming." *U.S. Geological Survey Circular* 81: 41.
- BLM (Bureau of Land Management). 1979. *Thomas Fork Habitat Management Plan*. U.S. Department of the Interior, Bureau of Land Management. Rock Springs District, Kemmerer Resource Area Wyoming, September.
- BLM (Bureau of Land Management). 1981. *Unit Resource Analysis: Niobrara County, Wyoming*. On file at the Newcastle BLM Field Office, Newcastle, Wyoming.
- BLM (Bureau of Land Management). 1982. *Raymond Mountain Area of Critical Environmental Concern (ACEC) Management Plan, December 1982*.
- BLM (Bureau of Land Management). 1985. *Management Situation Analysis*. United States Department of the Interior, Bureau of Land Management, Pinedale, Wyoming.
- BLM (Bureau of Land Management). 1986. *Visual Resource Contrast Rating*. BLM Manual Handbook, 8431-1.
- BLM (Bureau of Land Management). 1987. *Medicine Bow-Divide Resource Areas, Resource Management Plan, Draft Environmental Impact Statement*. Prepared by the Rawlins Field Office, BLM. Interrupted pagination.
- BLM (Bureau of Land Management). 1988. *Record of Decision and Resource Management Plan for the Pinedale Resource Area*. Rock Springs, Wyoming. December 1988.
- BLM (Bureau of Land Management). 1990. *Final Rock Springs Wilderness Environmental Impact Statement*. Rock Springs District, Wyoming, August 1990.
- BLM (Bureau of Land Management). 1992. *Final Bald Eagle Habitat Management Plan for the Platte River Resource Area and Jackson Canyon ACEC*. Casper District. U.S. Department of the Interior, Bureau of Land Management. Casper, Wyoming.

- BLM (Bureau of Land Management). 1995a. *Interim Management Policy and Guidelines for Lands Under Wilderness Review*. Update Document, H-8550-1. Washington, DC: U.S. Government Printing Office.
- BLM (Bureau of Land Management). 1995b. *Final Laramie Peak Bighorn Sheep Habitat Management Plan*. U.S. Department of the Interior, Bureau of Land Management. Rawlins, Wyoming.
- BLM (Bureau of Land Management). 1997. *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Land Administered by the Bureau of Land Management in the State of Wyoming*. Bureau of Land Management, Wyoming State Office, Cheyenne, Wyoming.
- BLM (Bureau of Land Management). 1999. *Wyodak Coal Bed Methane Project Draft Environmental Impact Statement*. Buffalo Field Office.
- BLM. 2002. BLM Wyoming Sensitive Species Policy and List. U.S. Department of the Interior, Bureau of Land Management. Cheyenne, Wyoming.
- BLM (Bureau of Land Management). 2003a. *Assessing the Potential for Renewable Energy on Public Lands*. U.S. Department of the Interior, Bureau of Land Management and U.S. Department of Energy Efficiency and Renewable Energy. Available on Internet: [www.osti.gov/bridge](http://www.osti.gov/bridge).
- BLM. 2003b. *Special Recreation Permits on Public Lands in Wyoming*. U.S. Department of the Interior, Bureau of Land Management. Wyoming State Office. June.
- BLM (Bureau of Land Management). 2004a. *Mineral Occurrence and Development Potential Report, Casper Field Office Planning Area*. U.S. Department of the Interior, Bureau of Land Management. Casper, Wyoming.
- BLM (Bureau of Land Management). 2004b. *Final Reasonable Foreseeable Development Scenario for Oil and Gas, Rawlins Field Office, Wyoming*. January 20, 2004.
- BLM (Bureau of Land Management). 2005. *Preliminary Final Reasonable Foreseeable Development Scenario for Oil and Gas, Casper Field Office Planning Area*. Wyoming Reservoir Management Group. U.S. Department of the Interior, Bureau of Land Management. Casper, Wyoming.
- BLM (Bureau of Land Management). 2008. *Final Report: Kemmerer Unleased Federal Lands Geologic Oil and Gas Analysis, Kemmerer Field Office, Wyoming*. Prepared by the U. S. Bureau of Land Management Wyoming State Office, Reservoir Management Group. February 14.
- BLM (Bureau of Land Management). 2010. Wyoming Instruction Memorandum 2010-027 (WY-IM-2010-027). Update of the Bureau of Land Management Wyoming Sensitive Species List – 2010. Cheyenne, WY.
- BLM (Bureau of Land Management). 2011. BLM Recreation Management Information System (RMIS).
- Cagney, J., B. Budd, E. Bainter, T. Christiansen, V. Herren, M. Hollaron, B. Rashford, M. Smith, J. Williams. 2010. "Grazing Influence, Objective Development, and Management in Wyoming's Greater Sage-Grouse Habitat."
- Cerovski, A.O., M. Grenier, B. Oakleaf, L. Van Fleet, and S. Patla. 2004. Atlas of Birds, Mammals, Amphibians, and Reptiles in Wyoming. Wyoming Game and Fish Department Nongame Program, Lander. 206pp.

- Chenoweth, William L. 1988. Geology and Production History of Uranium Deposits in the Northern Black Hills, Wyoming – South Dakota. Wyoming Geological Association 39<sup>th</sup> Annual Field Conference Guidebook: Eastern Powder River Basin-Black Hills.
- Clair, K. 2002. Rawlins Field Office Recreation Specialist. Personal communication. July 17, 2002, e-mail to Mike Stanwood (Booz Allen Hamilton).
- Davis, John C. 1965. Bentonite Deposits in the Clay Spur District, Crook and Weston Counties, Wyoming. The Geological Survey of Wyoming, preliminary report no. 4. Laramie, WY: University of Wyoming.
- Energy Atlas. 2004. Wyoming Renewable Energy Resources. Available on Internet: [www.energyatlas.org](http://www.energyatlas.org).
- ENSR and Booz Allen Hamilton. 2002. Mineral Occurrence and Development Potential Report. Prepared for the BLM Pinedale Field Office, Pinedale, Wyoming.
- Frison, G.C. 1991. *Prehistoric hunters of the High Plains (2nd. ed.)*. Academic Press, New York, New York.
- Glass, G. 1976. "Review of Wyoming Coal Fields, 1976." Geological Survey of Wyoming. Laramie, Wyoming.
- Gries, John Paul. 1974. *Mineral Resources of the Black Hills Areas, South Dakota and Wyoming*. U.S. Bureau of Mines Information Circular 8660. Washington: GPO.
- Hausel, W. Dan and Wayne M. Sutherland. 1988. *The Geology and Metal Resources of the Black Hills Uplift, Wyoming*. Wyoming Geological Association 39<sup>th</sup> Annual Field Conference Guidebook: Eastern Powder River Basin-Black Hills.
- Heath, B.J.; R. Straw; S.H. Anderson; and J. Lawson 1997. "Sage Grouse Productivity, Survival, and Seasonal Habitat Use Near Farson, Wyoming." Completion Report. Wyoming Game and Fish Department. pp 14–16.
- Hudson, Martin. 2002. Personal communication between Martin Hudson, Pinedale BLM Field Office, and David Harris, SWCA Inc. Environmental Consultants, Pinedale, Wyoming, April 3, 2002.
- Keinath, D., B. Heidel, and G.P. Beauvais. 2003. *Wyoming Plant and Animal Species of Concern*. Prepared by the Wyoming Natural Diversity Database. University of Wyoming. Laramie, Wyoming.
- Knechtel, Maxwell M. and Sam H. Patterson. 1962. *Bentonite Deposits of the Northern Black Hills District Wyoming, Montana, and South Dakota*. Geological Survey Bulletin No. 1082-M. Washington: GPO.
- Knight, D.H. 1994. *Mountains and Plains, the Ecology of Wyoming Landscapes*. Yale University Press, New Haven, Connecticut.
- Parker, P. L. and T. F. King. 1998. "Guidelines for Evaluating and Documenting Traditional Cultural Properties." National Register Bulletin, U.S. Department of the Interior, National Park Service, National Register, History and Education, Available online at: <http://www.cr.nps.gov/nr/publications/bulletins/nrb38/nrb38%20introduction.htm>

- Schiche, Neil. 2003. *Forest Insect and Disease Assessment 2003 BLM Administered Forestlands*. Unpublished data. U.S. Department of Interior, Bureau of Land Management. Cheyenne, Wyoming.
- TRC Mariah Associates, Inc. 2006. *Cultural Resources Overview of the Pinedale Field Office, Bureau of Land Management, Wyoming*. In three volumes, prepared by TRC Mariah Associates, Laramie, Wyoming. Report on file, BLM Pinedale Field Office, Pinedale, Wyoming.
- USFWS (U.S. Fish and Wildlife Service). 2003. Letter from Michael M. Long, Field Supervisor, U.S. Fish and Wildlife Service to James Murkin, Field Manager, Casper Field Office, regarding current species list for the Bureau of Land Management Casper Field Office. U.S. Fish and Wildlife Service. June 12.
- USFWS (U.S. Fish and Wildlife Service). 2004. Species List for the Kemmerer Field Office. Memorandum from U.S. Department of the Interior, Fish and Wildlife Service to Mary Jo Rugwell, Field Manager, Bureau of Land Management, Kemmerer Field Office, Wyoming. U.S. Fish and Wildlife Service. March 17, 2004.
- USFWS (U.S. Fish and Wildlife Service). 2007. Endangered and Threatened Wildlife and Plants; Removing the Bald Eagle in the Lower 48 States From the List of Endangered and Threatened Wildlife; Final Rule; Draft Post-delisting and Monitoring Plan for the Bald Eagle (*Haliaeetus leucocephalus*) and Proposed Information Collection; Notice. Federal Register 72(130):37345-37372.
- Valentine, C. 2002, 2003. Rawlins Field Office, Realty Specialist, Personal communication.
- Wichers, B. 2002. Comments on Preliminary Draft Management Situation Analysis, Rawlins BLM Resource Management Plan. Letter to Art Reese, Director, Office of Federal Land Policy. August 14. 10 pp.
- Woolley, R. 1930. *The Green River and its Utilization*. USGS Water-Supply Paper 618.
- WGFD (Wyoming Game and Fish Department). 2004a. Letter to Linda Slone, Bureau of Land Management, Casper Field Office, Wyoming about ACECs. Wyoming Game and Fish Department. January 8.
- Wyoming Game and Fish Department (WGFD). 2004b. Letter from Bill Wichers, Deputy Director Wyoming Game and Fish Department to Michele Easley, BLM - Regarding special designations.
- WOGCC (Wyoming Oil and Gas Conservation Commission). 2003. Online data. Available at the WOGCC website: <http://wogcc.state.wy.us/>