U.S. Department of the Interior

Bureau of Land Management
Casper Field Office, Wyoming

November 2003

Casper Field Office Planning Area

Final Summary of the Management Situation Analysis

How To Use This Document

This summary of the Management Situation Analysis for the Bureau of Land Management Platte River Resource Area Management Plan revision, to be titled and referred to as the Casper Resource Management Plan revision, is intended to be a reader-friendly document that provides an introduction to the Resource Management Plan revision topics. The document organization is shown below:

Introduction and Overview

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- Resource Management Planning
- Why Conduct the Management Situation Analysis?
- Collaborative Planning

RMP Revision Topics

Chapter 2.0 What Topics Will the Resource Management Plan Revision Include?

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  - Cultural Resources
  - Fire Management
  - Fish and Wildlife
  - Geology and Geologic Hazards
  - Health and Safety
  - Lands and Realty
  - Mineral Resources – Leasables
  - Mineral Resources – Locatables
  - Mineral Resources – Salables
  - Paleontology
  - Rangeland Management
  - Recreation
  - Socioeconomic Conditions
  - Soil
  - Special Management Areas
  - Special Status Species
  - Transportation and Access
  - Vegetative Resources
  - Visual Resource Management
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- Appendix B – Plant and Wildlife Scientific and Common Names
- Acronyms and Abbreviations

Final
Summary of the
Management Situation Analysis

Casper Field Office Planning Area

U.S. Department of the Interior
Bureau of Land Management
Casper Field Office, Wyoming

November 2003

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.

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CHAPTER 1.0 WHERE DO WE BEGIN?

This document summarizes the Management Situation Analysis (MSA) for the Casper Field Office Planning Area (Casper Planning Area) (**Figure 1**). The MSA is a comprehensive assessment of the various resources on public lands within the planning area.

The summary of the MSA is intended to be a reader-friendly document that provides an introduction to the Casper Resource Management Plan (RMP) revision topics. It is designed to give the reader an overview of the current management situation in the Casper Planning Area.

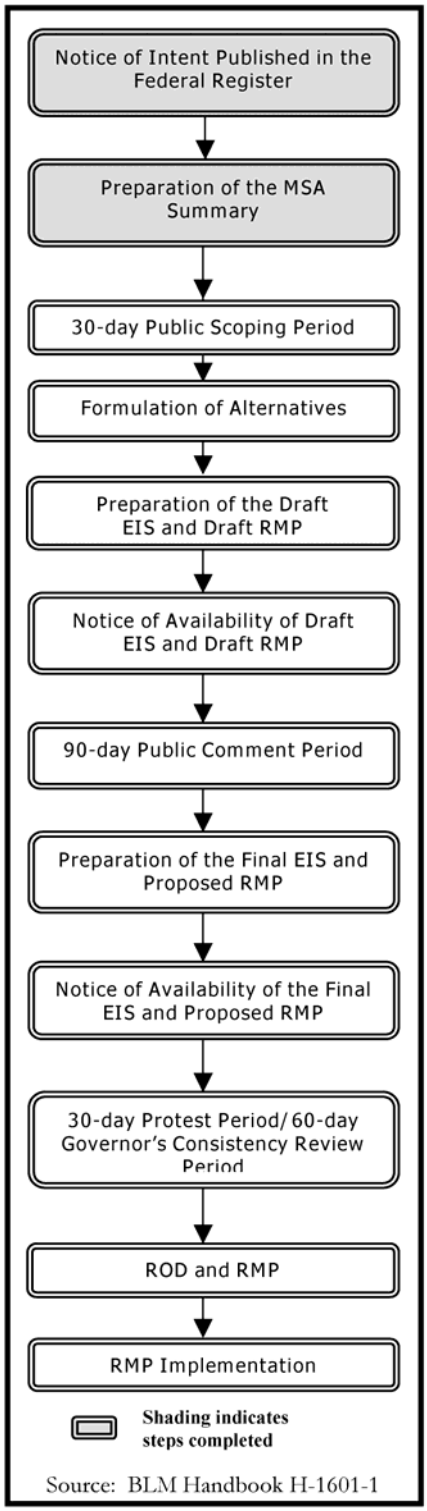
The Bureau of Land Management's (BLM) Platte River Resource Area is now the Casper Planning Area. The existing RMP is titled the Platte River RMP. The RMP revision is titled and referred to as the Casper RMP.

1.1 Introduction

As part of the RMP revision process, the Casper Field Office conducted a management situation analysis for the Casper Planning Area. The MSA provides baseline information for the RMP revision and associated Environmental Impact Statement (EIS). The RMP revision process is outlined to the right.

This summary compiles, in one location, important information about existing resource conditions, current management practices, and issues and concerns identified to date. Preliminary planning issues and criteria have been identified and will be used to guide the identification and development of management alternatives (Appendix A). These preliminary issues and criteria are not final. They may be added to or refined during public scoping. The BLM is requesting your help in identifying additional issues and concerns, management alternatives, or other ideas to be considered in the planning effort.

The issues and concerns discussed in this document do not comprise an exhaustive list of issues and concerns, nor do the issues included at this time represent conclusions or decisions. Rather, the identified issues and concerns are intended to stimulate public discussion and input during scoping. Appendix B provides a list of scientific and common plant and wildlife species names. A guide to using this document is provided on the inside front cover.



1.2 Resource Management Planning

The Federal Land Policy and Management Act (FLPMA) (43 USC 1711) of 1976 required the BLM to develop RMPs and to update or revise

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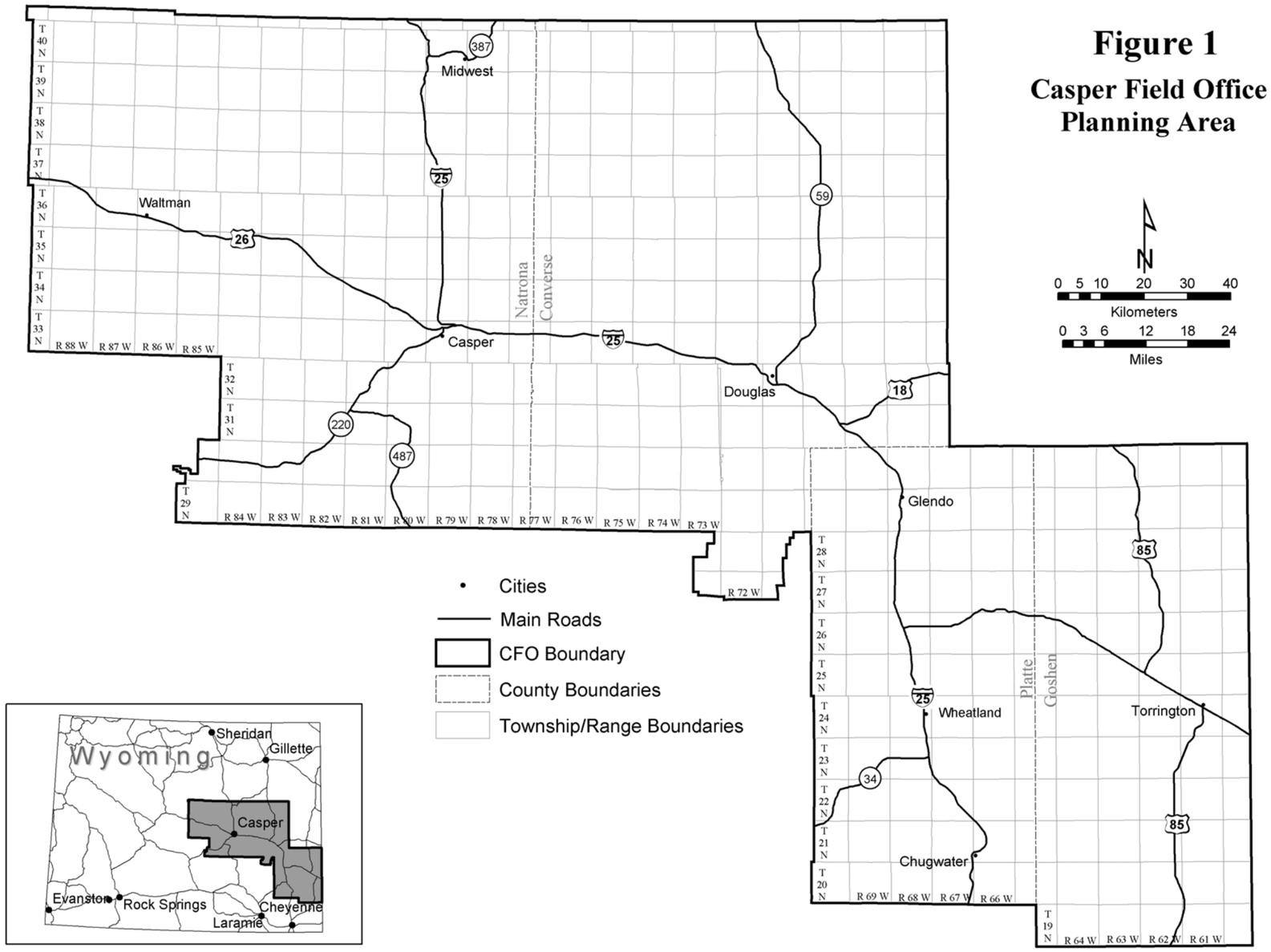
Figure 1
Casper Field Office
Planning Area
N
0 5 10 20 30 40
Kilometers
0 3 6 12 18 24
Miles
Midwest
Waltman
Casper
Douglas
Glendo
Wheatland
Torrington
Chugwater
Natrona
Converse
Platte
Goshen
Cities
Main Roads
CFO Boundary
County Boundaries
Township/Range Boundaries
Wyoming
Sheridan
Gillette
Casper
Evanston
Rock Springs
Cheyenne
Laramie

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the RMP when appropriate. The approach to this revision process includes building on experience, new science, and working with collaborators.

The existing RMP was completed in 1985. Since 1985, the existing RMP has undergone over 50 maintenance actions to either update or amend the RMP.

Currently, the BLM is revising the existing RMP for the Casper Planning Area. The revised RMP will provide future direction for managing approximately 1.4 million acres of BLM-administered surface land and 4.7 million acres of BLM-administered mineral estate.

The Casper Field Office Administers 1,361,218 Acres

County	Acres
Natrona	1,124,191
Converse	129,911
Platte	81,943
Goshen	25,173

An RMP is a set of comprehensive, long-range decisions concerning the use and management of resources administered by the BLM. In general, an RMP does two things: 1) it provides an overview of goals, objectives, and needs associated with public land management; and 2) it resolves multiple-use conflicts or issues driving the preparation of the RMP.

This summary has been made available for public and agency review. Scoping meetings are scheduled the week of November 10, 2003, after which the BLM and cooperators will begin the formulation of alternatives and preparation of the Draft EIS.

Potential collaborators include:

- State of Wyoming
- Converse County Commissioners
- Converse County Conservation District
- Goshen County Commissioners
- Lingle-Fort Laramie Conservation District
- North Platte Valley Conservation District
- South Goshen Conservation District
- Natrona County Commissioners
- Natrona County Conservation District
- Platte County Commissioners
- Platte County Resource District
- Bureau of Reclamation
- U.S. Fish and Wildlife Service
- National Park Service
- EPA Region 8 Office
- Department of Energy
- Medicine Bow-Routt National Forests and Thunder Basin National Grassland

1.3 Why Conduct the Management Situation Analysis?

The MSA is part of the RMP planning process as described in 43 Code of Federal Regulation (CFR) 1600 and planning program guidance in the Land Use Planning Handbook (BLM Handbook H-1601-1). The MSA is an in-depth assessment of the various resources and uses on public lands. It is a comprehensive look at present conditions of the resources, current management practices, and the issues. Foremost, the MSA provides baseline information for developing management alternatives. The summary of the MSA is intended to condense this information into a user-friendly document.

1.4 Collaborative Planning

A successful RMP revision depends on the ability of the BLM and other interested parties, stakeholders, tribal representatives, and agencies to collaborate effectively. Communication and input from all collaborators during the RMP revision process are critical. The process of collaborative planning must be balanced with the need to move forward and meet

aggressive schedules. Information on how to contact the BLM is provided in Chapter 3.0.

The BLM has invited numerous partners and agencies to become cooperators in the RMP revision process. These cooperators will provide additional opportunities for identifying issues relating to the use of BLM managed lands.

The BLM recognizes the historical presence of a number of tribes in the planning area. Based on this customary use, the BLM will consult with tribal representatives on such issues as traditional use areas and sacred or ceremonial sites. BLM has initiated consultation with numerous tribal representatives.

CHAPTER 2.0 WHAT TOPICS WILL THE RESOURCE MANAGEMENT PLAN REVISION INCLUDE?

This chapter includes a discussion of the RMP revision topics in alphabetical order. Topics were selected based on the resources or uses that are managed by BLM in the planning area. For example, wild horses and burros were initially considered, but after further evaluation were eliminated from further discussion in the MSA since there are no herds in the planning area.

- Air Quality
- Cultural Resources
- Fire Management
- Fish and Wildlife
- Geology and Geologic Hazards
- Health and Safety
- Lands and Realty
- Mineral Resources – Leasables
- Mineral Resources – Locatables
- Mineral Resources – Salables
- Paleontology
- Rangeland Management
- Recreation
- Socioeconomic Conditions
- Soil
- Special Management Areas
- Special Status Species
- Transportation and Access
- Vegetative Resources
- Visual Resource Management
- Water Resources

A brief overview, discussion of current management practices, and list of issues and concerns are included for each resource.

2.1 Air Quality

2.1.1 Overview

The basic framework for controlling air pollutants in the United States is mandated by the 1955 Clean Air Act and its amendments, including the 1999 Regional Haze Regulations. The Clean Air Act addresses the emission of criteria air pollutants, state and National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, and the prevention of significant deterioration (PSD) program. The Regional Haze Regulations address visibility impairment within those mandatory federal PSD Class I areas specified by the U.S. Congress.

Wyoming and NAAQS set the absolute upper limits for air pollutant concentrations at all locations to which the public has access. These standards are legally enforceable. Concentrations exceeding air quality standards represent a risk to human health and welfare.

The best visibility in the United States is often monitored at the Bridger Wilderness station in western Wyoming. Trend analysis of visibility data from this station reveals no significant trend of visibility degradation from 1989 through 1999.

Air quality in the planning area is assumed to be excellent; however, current and complete criteria air pollutant concentration data for the area are not available. The State of Wyoming has determined that the Casper Planning Area is in compliance with Wyoming Ambient Air Quality Standards (WAAQS) and the NAAQS. The best available data on concentrations of criteria air pollutants relevant to the Casper region are shown in **Table 1** and is described below.

Table 1. Concentrations of Criteria Air Pollutants and Background Air Quality for the Casper Planning Area

Pollutant	Averaging Time	NAAQS ($\mu g/m^3$)	WAAQS ($\mu g/m^3$)	Background ($\mu g/m^3$)
Carbon Monoxide CO	1 hour	40,000	40,000	2,299
	8 hour	10,000	10,000	1,148
Nitrogen Dioxide NO_2	Annual	100	100	3.4
Ozone O_3	1 hour	235	235	169
	8 hour	157	157	147
Inhalable Particulate Matter PM_{10}	24 hour	150	150	47
	Annual	50	50	16
Fine Particulate Matter $PM_{2.5}$	24 hour	65	65	15
	Annual	15	15	5
Sulfur Dioxide SO_2	3 hour	1300	695	29
	24 hour	365	260	18
	Annual	80	60	5

$PM_{2.5}$ Particulate matter 2.5 microns or less
PM_{10} Particulate matter 10 microns or less

Nitrogen Dioxide. Nitrogen dioxide (NO_2) concentration data representative of the Casper Planning Area were collected at the Green River Basin Visibility Study site from January to December 2001, representing 3 percent of the WAAQS and the NAAQS. Monitoring of other nitrogen-containing pollutants shows that concentrations at Newcastle, Wyoming of nitric acid, nitrate, and particulate ammonium are low and typical for remote locations.

Ozone. Ozone (O_3) concentration data representative of the Casper Planning Area collected at the Green River Basin Visibility Study site (during 1998 through 2001) indicate rural ambient conditions are less than 94 percent of the WAAQS and the NAAQS. Although occasional short-duration high O_3 concentrations have been measured in the intermountain West and the exact origin is unknown, they are probably not caused by urban or industrial emission sources.

Particulate Matter. Particulate matter (PM_{10} and $PM_{2.5}$) concentration data were collected in the Casper Planning Area since 1993 and 1999, respectively; their values are typically less than 33 percent of the WAAQS and the NAAQS. Although occasional higher values have been recorded within the City of Casper, Wyoming, and near operating coal mines, the entire area is assumed to be within applicable ambient air quality standards.

Visibility. The Interagency Monitoring of Protected Visual Environments program has measured visibility at six locations in Wyoming: the best visibility in the United States is often monitored at the Bridger Wilderness station in western Wyoming. Visibility on the clearest days (80th percentile) varies from 5 to 3 dv (visual range of about 150 to 180 miles). Average visibility (50th percentile) varies from 8 to 7 dv (about 110 to 120 miles). Visibility for the haziest days (20th percentile) varies from 12 to 10 dv (about 70 to 90 miles). Trend analysis of visibility data from this station reveals no significant trend of visibility degradation from 1989 through 1999.

Atmospheric Deposition. The interagency National Atmospheric Deposition Program (NADP) assesses wet deposition by routinely measuring the chemical composition of total collected precipitation (rain and snow). There are eight NADP stations in Wyoming, including monitoring near Newcastle since 1981. The mean average annual pH has ranged from 5.1 to 5.5, while the natural acidity of rainwater generally ranges from 5.0 to 5.6 (Seinfeld 1986). Although dry deposition is now measured at a Clean Air Status and Trends Network station near Pinedale, Wyoming, its data may not be representative of the Casper Planning Area.

Sulfur Dioxide. Sulfur dioxide (SO_2) concentration data representative of the Casper Planning Area measured near Newcastle, Wyoming indicate ambient conditions are less than 8 percent of the WAAQS and the NAAQS. Monitoring of other sulfur-containing pollutants shows that sulfate concentrations are consistent with concentrations typical for remote areas.

2.1.2 Current Management Practices

The air quality goals of the BLM are to maintain and improve air quality through cooperative management with other agencies, industry, and the public. The FLPMA and the Clean Air Act prohibit BLM from conducting, supporting, approving, licensing, or permitting any activity under its jurisdiction that does not comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, and implementation plans.

In support of these regulations, a program has been developed that provides benefits to air quality and other resources by decreasing air pollutant concentrations, increasing visibility, and decreasing atmospheric depositions. For example, BLM works closely with the Wyoming Department of Environmental Quality (DEQ), Air Quality Division, to assure its prescribed fire actions comply with applicable smoke management regulations.

Adherence to the air quality regulatory program and coordination with other federal and state agencies is key to air quality management success.

2.1.3 Management Issues and Concerns

- Are there air quality concerns related to fugitive dust from surface disturbance or smoke management that impair visibility or affect public health?
- Are these air quality concerns related to emissions generated from additional compression needed to market natural gas in the planning area?

2.2 Cultural Resources

2.2.1 Overview

The BLM is legally mandated to identify, evaluate, and manage cultural resources as part of its multiple-use management practices.

Cultural resources are the products of human history in the form of items produced by human workmanship or use, and elements of the natural environment that were altered by people's activities. Examples in the planning area include: historic artifacts, buildings, mines, trails, railroads, ditches and trash dumps; historic landscapes from the last two centuries; archeological sites with stone tools and flaked debris from their production; remnants of animals and plants produced by food processing; and the remains of fires, rock art, and other evidence of ancient human activity. Physical manifestations of human activity must normally be more than 50 years old to be considered cultural resources, but sites, structures or objects related to exceptional historical events within the past 50 years can be considered cultural resources. Cultural resources may also include Traditional Cultural Properties (TCP), which are properties that are critical to a living community's beliefs, customs, and practices.

More than 8,000 cultural resources have been documented to date on lands administered by the BLM within the Casper Planning Area.

More than 8,000 cultural resources have been documented to date on lands administered by the BLM within the Casper Planning Area. Recorded cultural resources include: prehistoric sites that represent human activities in the area for about 12,000 years prior to the beginning of the historic period in the 18th 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 Planning Area contain about 22.5 miles of congressionally-designated National Historic Trails (Oregon, California, Mormon Pioneer, and Pony Express trails). The planning area also includes segments of other historic trails, roads, and railroad lines (**Figure 2**). One TCP, the Cedar Ridge Site, has been identified in the planning area.

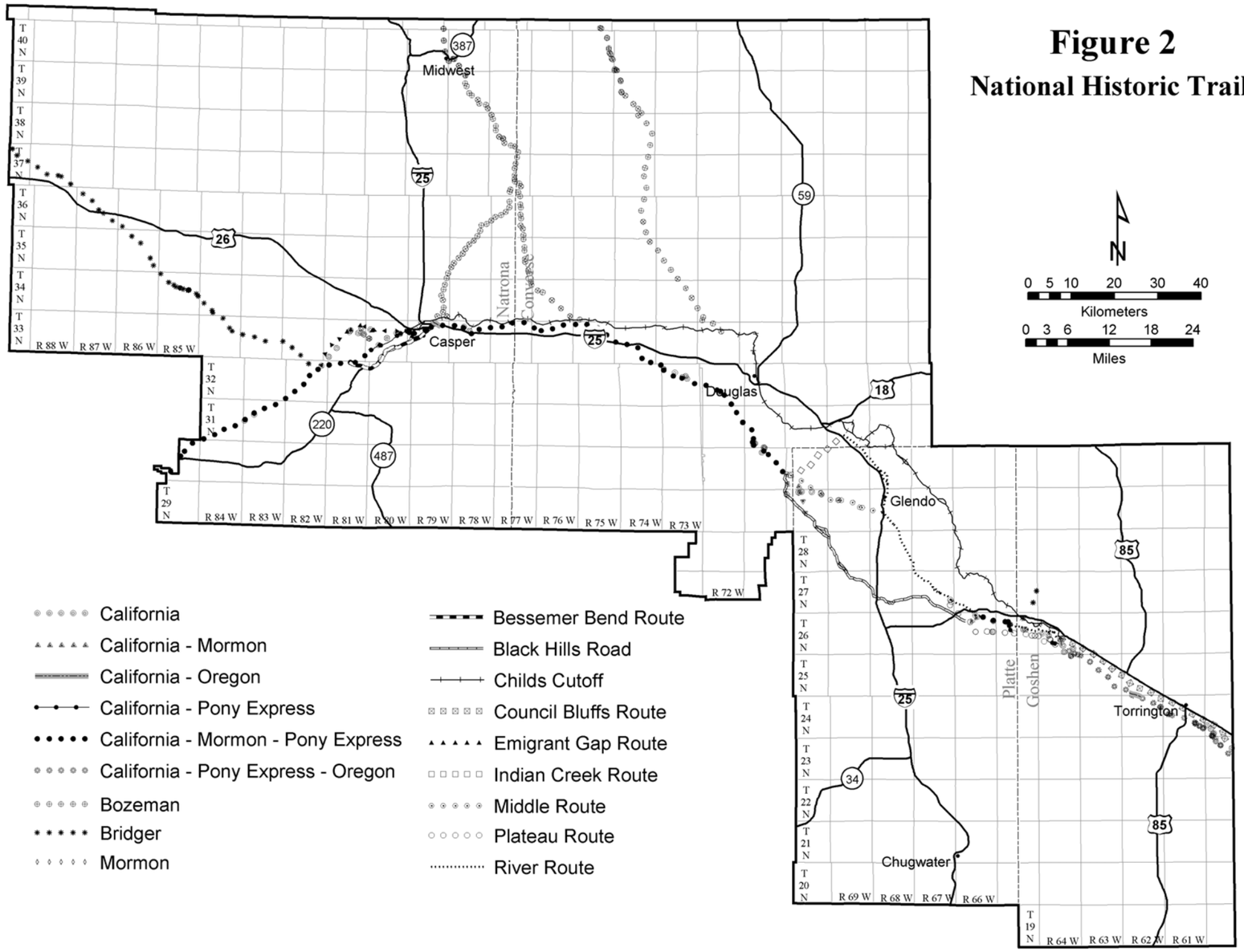
Figure 2
National Historic Trails
N
0 5 10 20 30 40
Kilometers
0 3 6 12 18 24
Miles
Midwest
Casper
Douglas
Glendo
Torrington
Chugwater
Natrona
Converse
Platte
Goshen
387
25
26
59
220
487
18
85
34
T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
T 35 N
T 34 N
T 33 N
T 32 N
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R 68 W
R 67 W
R 66 W
R 64 W
R 63 W
R 62 W
R 61 W
California
California - Mormon
California - Oregon
California - Pony Express
California - Mormon - Pony Express
California - Pony Express - Oregon
Bozeman
Bridger
Mormon
Bessemer Bend Route
Black Hills Road
Childs Cutoff
Council Bluffs Route
Emigrant Gap Route
Indian Creek Route
Middle Route
Plateau Route
River Route

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Cultural resources are usually identified and documented during surveys conducted by professional archeologists, historians, architectural historians, or ethnographers. More than 3,500 cultural resource inventories have been conducted on BLM-administered lands in the Casper Planning Area. These inventories examined less than 10 percent of the entire planning area, mostly in areas where extensive oil and gas exploration and development have occurred during the past 30 years.

2.2.2 Current Management Practices

Most cultural resource inventories and site evaluations within the Casper Planning Area are in direct response to specific land use proposals in accordance with Section 106 of the National Historic Preservation Act. Additional inventory is carried out, when resources permit, to comply with Section 110 of the National Historic Preservation Act. BLM will continue to preserve and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations.

2.2.3 Management Issues and Concerns

The various uses of BLM-administered public lands will continue to require BLM to mitigate impacts to cultural resources.

- How should the historic setting and landscape associated with the National Historic Trails and other sites for which the setting is a component of significance be managed?

2.3 Fire Management

2.3.1 Overview

The fire program in the Casper Planning Area has been managed to protect public safety, 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.

Wildland-Urban Interface (WUI) was not addressed in the existing RMP. The field office is currently planning and evaluating the options for implementing fuel reduction projects in WUI areas. Except for limited situations, modification of vegetative fuels on public land alone would not

result in a significant reduction of the threat of wildfire to private lands and homes.

2.3.2 Current Management Practices

The Casper Field Office coordinates its fire management program with the U.S. Forest Service (USFS), Wyoming State Forestry Division, County Fire Departments and local fire protection districts. The Casper Field Office's fire program also complies with federal laws such as National Environmental Policy Act (NEPA), FLPMA, Endangered Species Act (ESA), Clean Air Act, and Executive Order 13112-1999 (Invasive Species). Fire suppression on public lands is guided by objectives in the existing RMP and the 1998 Fire Management Plan for the Wyoming Eastern Zone.

The fire management program of the Casper Field Office focuses on two categories of fires: unplanned and planned. Unplanned fires are those that occur as the result of an act of nature, such as lightning, or occur by human accident or by intent to cause damage. Planned or prescribed fire is used in a controlled manner for beneficial purposes such as improving habitat and plant community health and reducing hazardous fuels.

Vegetative communities and their respective fire regimes vary throughout the Casper Planning Area. **Table 2** displays the number of acres of planned and unplanned fires occurring in different vegetation types. The numbers of acres burned are calculated as the annual average since 1985 for planned fires and 1990 for unplanned fires until the present.

Table 2. Annual Average Acreage of Planned and Unplanned Fires in Different Vegetation Types

Vegetation	Average Number of Acres Burned/Year	Fire Type
Aspens and conifers	2 acres	Planned
Mountain big sagebrush	378 acres	Planned
Mountain mahogany	45 acres	Planned
Rocky Mountain juniper forest	3 acres	Planned
Subtotal	**428 acres**	
Greasewood–salt desert shrub	42 acres	Unplanned
Forest or woodlands	250 acres	Unplanned
Mountain shrubs	24 acres	Unplanned
Sagebrush grasslands	1,620 acres	Unplanned
Subtotal	**1,936 acres**	
Grand Total	**2,364 acres**	

Source: BLM 2003a

Based on the existing RMP, the Casper Field Office has identified unique fire management practices for multiple sites within the planning area. These practices vary from site to site, but generally identify the amount of acreage designated for full fire suppression and limited suppression and sites designated for prescribed burns. For example, in the Southern Bighorns, there are 300,000 BLM acres of limited suppression, 80,770 acres of full suppression and 7,500 acres of prescribed burns at 59 sites.

2.3.3 Management Issues and Concerns

- Does the public support BLM's use of prescribed fires as a management tool for reducing dangerous accumulations of fire fuels, controlling vegetation, and enhancing range and wildlife habitat?
- Wildland fire use for resource benefit was not addressed in the existing RMP. The field office will need to work with adjacent land owners to identify potential areas for opportunities to reintroduce fire into the ecosystem.
- Emergency stabilization and rehabilitation was not addressed in the RMP. The BLM will need to identify potential actions that could be taken to stabilize or rehabilitate burned areas such as seeding, fencing, and temporary closures.
- Rehabilitation/Reclamation: Current land use planning calls for restrictions on the use of heavy equipment near known historic trail ruts or within crucial elk winter range. The current restrictions in practical application are vague and do not provide guidance to protect areas with sensitive soils and fragile watershed conditions or other important cultural/historic resources.
- Invasive non-native plant species is not a new problem. Burned areas usually offer an excellent opportunity for the establishment or expansion of these species. Pre and post fire management is crucial and as with WUI areas is dependent on a cooperative approach by all landowners.

2.4 Fish and Wildlife

2.4.1 Overview

2.4.1.1 Fish

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 Planning Area: the North Platte River watershed in the eastern and southern portions of the planning area; the Wind River/Bighorn River watersheds in the northwestern portion; and the Powder River watershed in the northern and northeastern portions of the planning area.

Public lands within the Casper Planning Area provide habitat for 8 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 Planning Area is not known to support any BLM sensitive fish species (BLM 2002a).

Fishery habitat conditions are closely tied to stream riparian conditions. Riparian vegetation moderates water temperatures, adds structure to the banks, reduces erosion, provides instream habitat for fish, and provides organic material for aquatic insects. 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.

2.4.1.2 Wildlife

Habitats in the Casper Planning Area 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

A diverse array of wildlife habitats occurs within the Casper Planning Area due to its location straddling the transitional zone between three major ecoregions: the Great Plains/Palouse Dry Steppe, the Southern Rocky Mountains, and the Intermountain Semidesert/Desert provinces (Bailey 1995). Habitats in the Casper Planning Area 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).

Although wildlife habitats are managed by the Casper Field Office according to the guiding principles outlined by an extensive list of state and federal laws, regulations, and BLM policies, management of wildlife species is overseen by state and federal wildlife management agencies. The Wyoming Game and Fish Department (WGFD) provides regulatory oversight of big game, small game, and nongame that are nonmigratory. Crucial big game range is identified in **Figure 3**.

The U.S. Fish and Wildlife Service (USFWS) is responsible for providing regulatory oversight for all species that are listed, proposed for listing, or candidates for listing as threatened or endangered under the ESA. The USFWS also administers the Migratory Bird Treaty Act, which protects migratory bird species whether they are hunted (e.g., waterfowl) or not (e.g., songbird species). The Casper Field Office, with its responsibility of managing millions of acres of habitat that support these wildlife species, performs an integral role in sustaining and ensuring the ecological health and viability of these wildlife populations.

Vertebrate wildlife species that occur in the Casper Planning Area 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 recreating public. Important species or groups include:

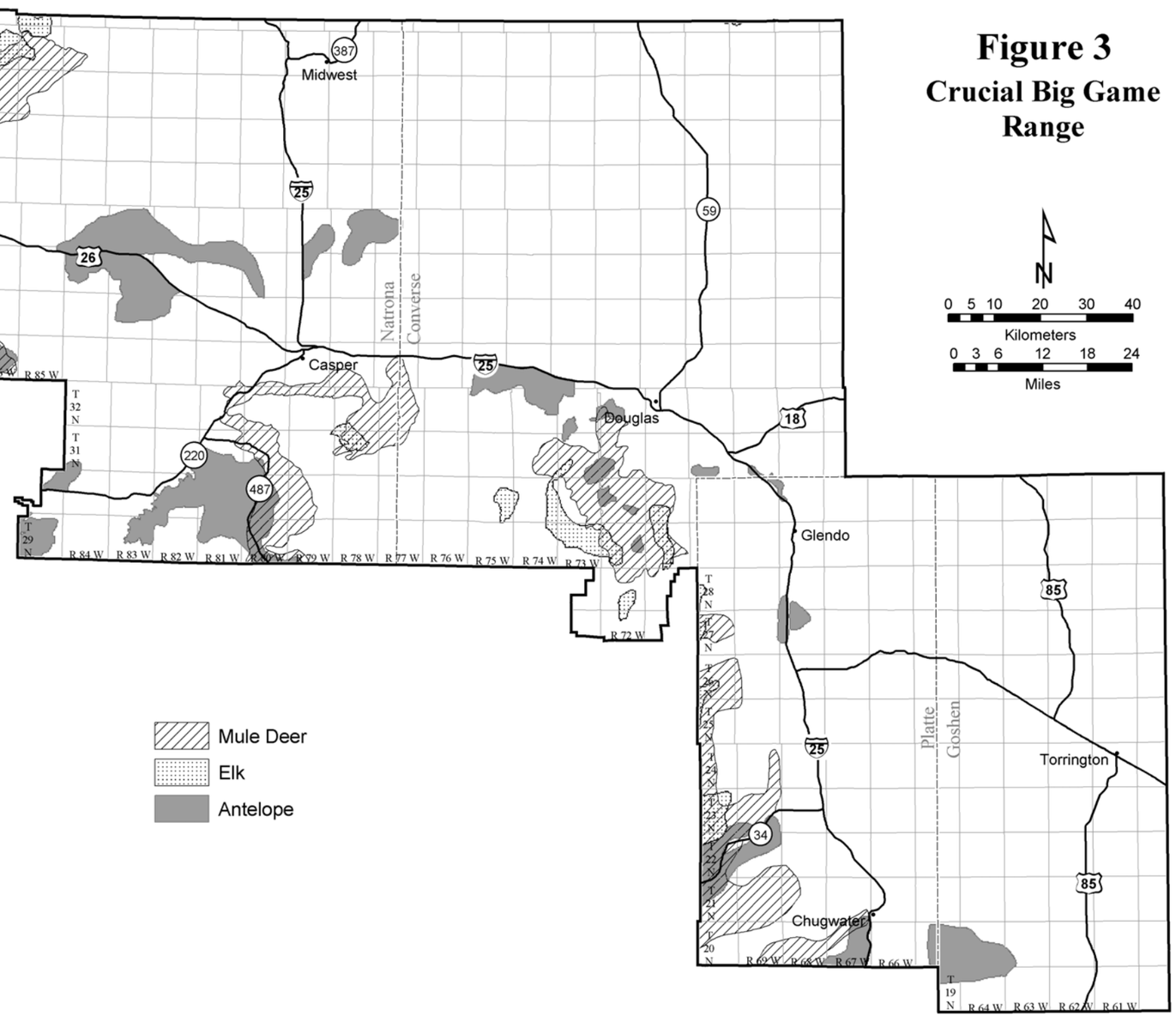

Figure 3
Crucial Big Game Range

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- Big game species such as pronghorn, mule deer and small numbers of white-tailed deer, elk, black bear, mountain lion, and bighorn sheep;
- 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.

2.4.2 Current Management Practices

2.4.2.1 Fish

Fisheries habitat is managed according to the guiding principles outlined in a number of national level programs, including BLM Fish and Wildlife 2000, Riparian-Wetlands Initiative for the 1990s, and the Recreational Fisheries Program. Additionally, the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management address management goals on a landscape scale. Standards include goals for riparian and wetland structure and function, as well as maintenance of adequate habitat conditions to support diverse plant and animal species. Several Habitat Management Plans (HMPs) have been developed to address site-specific areas of fisheries and riparian habitat, including the Bolton Creek Action Plan, the Bates Creek Aquatic Plan, the Goldeneye Wildlife and Recreation Plan, the Table Mountain Wildlife HMP, and the Springer/Bump-Sullivan Wildlife HMP.

2.4.2.2 Wildlife

The primary factors that influence populations for all classes of wildlife are weather (especially severe winters, spring storms, and water availability) and effects from activities carried out by other resource uses, such as minerals development, grazing, and recreation. Two approaches are employed to minimize population reductions associated with these primary factors. One approach is to manage certain areas as HMPs (**Table 3**), where improvement of wildlife habitats is the major focus for the area and population-limiting factors can be addressed. Secondly, the effects of disturbances to animals and habitat loss fragmentation can be addressed by applying restrictions to other resource development uses. For some groups of wildlife (big game species, raptors, and sage-grouse), the BLM has identified specific crucial use areas, or has identified specific crucial life stages (winter survival, nesting and brood-rearing) for which resource use restrictions can be applied. However, existing management may not be sufficient to maintain sage-grouse and big game populations due to fragmentation of habitats.

Also, the public has raised concerns about some less traditional groups of wildlife species: neotropical migrant birds, sagebrush-dependent species, and riparian-dependent wildlife. Specific use areas have not been identified for these groups.

Table 3. Habitat Management Plans for the Casper Planning Area

Habitat Management Plan	Area (acres)	Management Focus
33-Mile Reservoir HMP (1974)	160	Waterfowl habitat
Bates Creek Aquatic HMP (1973)	1,360	Fisheries habitat
Bates Creek Reservoir Plan (1972)	1,800	Waterfowl habitat
Bishop Waterfowl HMP (1972)	120	Waterfowl habitat
Bolton Creek Action Plan (1988)	200	Riparian habitat
Camel Hump Reservoir Wildlife and Recreation Area (1985)	160	Waterfowl habitat
Ferris-Seminoe HMP (Rawlins Field Office 1983)	~50,000	All species
Greyrocks Reservoir HMP (1980)	600	Fisheries and waterfowl habitat
Jackson Canyon ACEC (1992)	3,938	Bald eagle habitat
Laramie Peak Big Horn Sheep HMP (Rawlins Field Office 1995)	~100,000	Big horn sheep
Railroad Grade Reservoir (1974)	80	Waterfowl habitat
Rawhide Wildlife Area HMP (1986)	200	Waterfowl and upland game habitat, birding
Springer/Bump-Sullivan Wildlife HMP (1966)	600	Waterfowl, upland game, and fisheries habitat
Table Mountain Wildlife HMP (1977)	1,540	Waterfowl, upland game, and fisheries habitat, birding
Teal Marsh Reservoir HMP (1974)	120	Waterfowl habitat

~ = Approximately

2.4.3 Management Issues and Concerns

2.4.3.1 Fish

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.4.3.2 Wildlife

A general concern of wildlife managers is the lack of adequate inventory and monitoring data for many species, hampering the development of appropriate management plans. Specific challenges facing the management of wildlife species and their habitats within the Casper Planning Area include the following:

- Fragmentation and loss of habitat associated with surface disturbance caused by various permitted uses (e.g., livestock grazing, rights-of-way, mineral extraction, oil and gas activity). The cumulative effect of disturbances from all uses is of concern.
- The condition of many Wyoming big sagebrush communities particularly on crucial mule deer and antelope winter ranges is a concern. How should BLM work to improve conditions, particularly where there is intermingled ownership?
- Loss of habitat caused by invasive, non-native plant species.

2.5 Geology and Geologic Hazards

2.5.1 Overview

The planning area lies in two physiographic provinces including the Interior Plains Province and the Western Mountains Province. The Interior Plains Province is known for its gently sloping hills with elevations between 4,000 and 7,000 feet. The Western Mountains Province is found in the Laramie Mountain Range and it is known for fault block mountains varying in elevation from 7,500 to 11,000 feet. The planning area contains a unique and wide range of geology and geologic features giving rise to an assortment of minerals.

The primary geologic hazards in the planning area are earthquakes, landslides, and surface topography hazards. Other potential hazards include floods, snow slides, mudslides, windstorms, and subsidence areas.

The primary geologic hazards in the planning area are earthquakes, landslides, and surface topography hazards.

The United States Geological Survey (USGS) and the Wyoming Geological Survey (WGS) monitor statewide earthquake events. The Casper Field Office has had 28 detected earthquakes since 1873, when the State of Wyoming started monitoring earthquakes. The latest earthquake in the Casper Field Office occurred on February 1, 2003 and had an epicenter located 15 miles northeast of Casper in Natrona County, Wyoming. This was the third quake to occur on or near that site. There have been twelve quakes in Converse County, four in Goshen County, eleven in Natrona County, and one in Platte County.

Most of the earthquake action has occurred on active faults or along the north face of the Laramie Mountain Range, which may also be fault-related.

No actual surface damage to federal lands has been attributed to any of these earthquakes.

Geological slide areas are also mapped by both the USGS and the WGS. In the Casper Planning Area, the shale within the Frontier Formation provides an unstable formation in which slumping can occur. The planning area has experienced a series of four separate slump events as observed in the field. No federal surface lands have been disturbed by these slumping events.

2.5.2 Current Management Practices

Activities in known geologic hazards are restricted. Geologic hazard information is considered during the environmental analysis of individual proposals and, when necessary, the Casper Field Office develops appropriate mitigation measures. Geologic hazards resulting from human activity are addressed in the Health and Safety section of this document.

2.5.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.6 Health and Safety

2.6.1 Overview

The two primary health and safety concerns of the Casper Planning Area involve abandoned mines and hazardous waste.

2.6.1.1 Abandoned Mines

In conjunction with the 1872 Mining Law to develop the west, mining and miners have left a legacy of constructed mining hazards while trying to develop these minerals within the Casper Planning Area. In the spring of 2000, the Casper Field Office began prioritizing and identifying the constructed mining hazards based on the nature of the hazards it presented. These abandoned mines may provide crucial habitat for wildlife, specifically bats, many of which are sensitive species as identified by Wyoming BLM.

The hazards are not always apparent to an unauthorized visitor, a hiker, or an off-highway vehicle (OHV) user enjoying outdoor recreation.

Extreme physical hazards are common at abandoned mine sites. The hazards are not always apparent to an unauthorized visitor, a hiker, or an off-highway vehicle (OHV) user enjoying outdoor recreation. Serious injury or death may occur at these sites. Common hazards include: open shafts; unstable rock and decayed support structures; deadly gases and lack of oxygen; explosives and toxic chemicals; disruptions in the terrain that result in becoming lost and disoriented; and, high walls, open pits, and open drill holes.

2.6.1.2 Hazardous Materials

Hazardous substances and wastes resulting from illegal dumping and oil and gas activities are important health and safety issues. In addition, oil spills from pipelines, and unexploded ordnances are of concern. The Wyoming DEQ is responsible for regulating hazardous waste within the State of Wyoming.

Five formerly used defense sites (FUDS) are located on BLM-managed lands in the planning area. Before being reverted to the Department of the Interior (DOI), these sites were military properties primarily used as target ranges. Initial reports indicate various hazards are potentially present. The Department of Defense (DOD) retains the responsibility for any remaining ordnances, explosives and munitions on public lands. Implementation of a cleanup program for these sites is the responsibility of the U.S. Corps of Engineers (COE). The BLM would provide support for these cleanup activities.

2.6.2 Current Management Practices

2.6.2.1 Abandoned Mines

The Wyoming DEQ/Abandoned Mine Land (AML) division has the authority to reclaim abandoned mines disturbed prior to the passage of the Surface Mining Control and Reclamation Act of 1977 on all lands within the state. The Wyoming DEQ/AML works closely with federal land management agencies, private land owners, and the general public to assure that the views of all interested parties are considered in the reclamation process. The Wyoming DEQ/AML operates its program with a 25 to 28 million dollar annual budget to identify and reclaim AMLs and to construct public works projects in communities impacted by mining. Of this total budget, over 95 percent goes to actual on-the-ground project costs.

The BLM receives funding from the Wyoming DEQ/AML for its Watershed Management Program to address environmental hazards and watershed concerns associated with abandoned mines on a site-specific basis. By combining this available funding, safety hazards and environmental impacts to water quality and watershed function can be addressed in a more comprehensive fashion at priority AML sites. In this collaborative partnership approach, BLM and Wyoming DEQ/AML are undertaking several AML reclamation projects on public lands within the Casper Planning Area.

2.6.2.2 Hazardous Materials

The major emphasis of the Hazard Management and Resource Restoration Program within the Casper Field Office is to manage hazards in order to reduce risks to visitors and employees, to restore contaminated lands, and to

carry out emergency response activities. Program responsibilities are divided into the following categories and associated management practices:

- Hazardous waste management;
- Hazard management;
- Emergency response;
- Liability and risk management; and
- Program support.

2.6.3 Management Issues and Concerns

Management issues and concerns associated with abandoned mines and hazardous materials in the Casper Planning Area are listed below.

2.6.3.1 Abandoned Mines

- How should unrestored, AMLs be managed to protect the health and safety of the general public?

2.6.3.2 Hazardous Materials

- How should the five FUDS in the planning area be managed to protect the health and safety of the general public?

2.7 Lands and Realty

2.7.1 Overview

FLPMA is the primary statute governing management of public lands, and the primary authority for activities within the lands program.

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. Key activities within the lands and realty program are 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. The ownership of lands in the Casper Planning Area is presented in **Figure 4**.

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

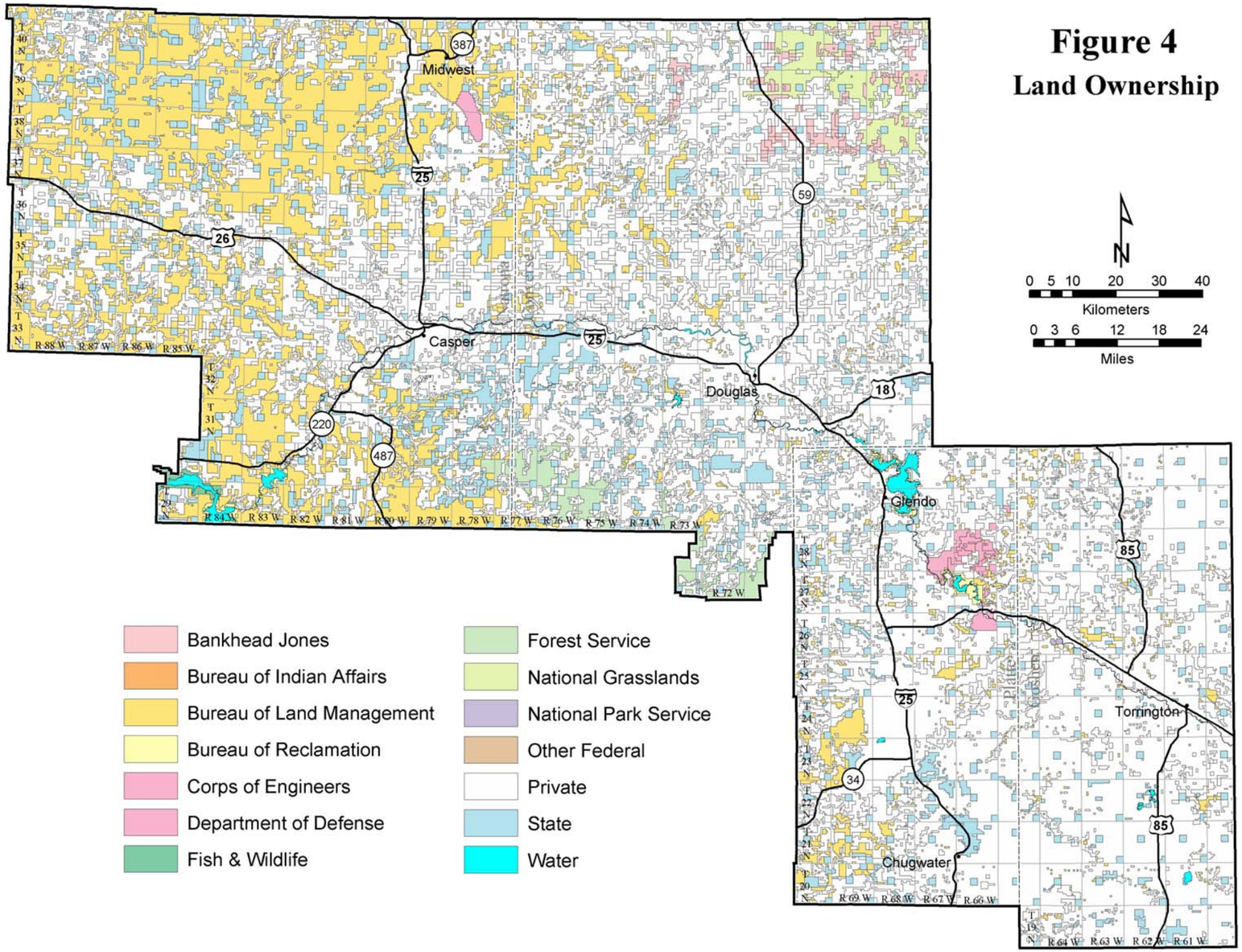

Figure 4
Land Ownership

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easements under this section of FLPMA, there have been permits in the past and there are likely to be permits in the future.

2.7.2 Current Management Practices

Current lands and realty management is guided by decisions made in the existing RMP. Within the Casper Planning Area, 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.

ROW 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. ROW are authorized to meet public or commercial demands. The preferred method of land disposal is by exchange.

2.7.3 Management Issues and Concerns

Use of public lands has been increasing over the past two to three decades, particularly for recreational use. In general, public land users want access to public lands and, more specifically, better land patterns and better access to lands in order to reduce conflicts that occur at boundaries between public and private lands. Other issues and management concerns associated with the Casper Field Office lands and realty program include the following:

In general, public land users want access to public lands and, more specifically, better land patterns and better access to lands in order to reduce conflicts that occur at boundaries between public and private lands.

- Where should BLM acquire land?
- Two areas should be identified and policy developed for land tenure adjustment.
  - Retention and Acquisition Areas – Retain all public lands. Most lands in this area would be retained to benefit other resource values such as ACECs, crucial wildlife habitat, and cultural resource sites. This area would include private and state lands that might be desired for acquisition from willing sellers to benefit other resources.
  - Disposal Areas – Dispose of lands that meet the FLPMA criteria for disposal. The means of disposal include sale, exchange, recreation and public purposes lease, patent, or others mechanisms. Criteria for disposal by sale are:1) lands, because of their location, are difficult or uneconomical to manage and are not suitable for another federal agency to manage; 2) land was acquired for a specific purpose and the land is no longer required for that or other federal purpose; or 3) disposal of land will serve important public objectives, such as community expansion.
- Since existing utility corridors are experiencing crowding, where should new utility corridors be located? Where should avoidance or exclusion areas be located?

2.8 Mineral Resources - Leasables

2.8.1 Overview

2.8.1.1 Coal

The BLM manages coal leasing and other administrative duties related to coal production from federal coal lands throughout the U.S. Wyoming has the largest federal coal program in the BLM. Wyoming is also the nation's largest producer of coal, producing about 34 percent of the nation's coal. Most Wyoming coal is used for steam generation in the electrical utility industry.

Coal production in Wyoming occurs in four areas, including the Powder River Basin. The Powder River Basin produces about 96 percent of Wyoming coal. There has been a dramatic increase in Wyoming coal production since the early 1970s. The Powder River Basin accounts for the majority of the increase. All Powder River Basin coal mining currently occurs in the eastern Powder River Basin. There are 15 permitted mines operated by seven different companies in the eastern Powder River Basin. Powder River Basin coal is mined from north of Gillette to a few miles into northern Converse County. The quality of the coal improves towards the south, enabling the mines near the Converse/Campbell County line to produce a better quality product with more market demand. Production capacity currently exceeds demand (BLM 2003b).

Potential exists for increased production from the Powder River Basin. Future demand is expected to increase. There are two major factors that are expected to affect demand on Powder River Basin coal: 1) Clean Air Amendments Act of 1990 on SO_2 requirements expected to take affect in 2008; and, 2) NAAQS for $PM_{2.5}$ pollutants expected to affect the market by 2004.

Production of federal coal in the Powder River Basin occurs within the boundaries of the Buffalo Field Office Planning Area and the Casper Planning Area. Even though most of the production is located within the Buffalo Planning Area, production levels in the Casper Planning Area have been increasing annually. Historically, production in the Casper Planning area has occurred in two areas. One area is the Ross area (north of Glenrock) at the Dave Johnson Mine. This mine is not currently producing and is in the reclamation phase. The other area is in northern Converse County. The Antelope mine is in operation in this area and production at this mine has been increasing annually. While this mine has a 30 million ton per year production limit established by the Wyoming DEQ air quality permit, production at this mine has yet to reach this level.

The amount of coal being mined from existing leases must be replaced with new reserves for a mine to stay operational. Coal leasing continues to occur as reserves are depleted. Most of the activity will be in the Buffalo Field Office Planning Area, but some increased production may occur in Converse County. Little, if any, activity is anticipated in the Ross Planning Area (David Johnson mine area) because the market for this quality of coal is limited. **Table 4** illustrates the amount of leasing estimated during 5-year increments to keep Powder River Basin mine production stable. Some of this leasing will take place in the Casper Planning Area.

Table 4. Future Coal Leasing Estimates for the Powder River Basin

Years	Billions of Tons of Coal
2000-2005	2.16
2006-2010	0.93
2011-2015	2.34
2016-2020	2.93

Source: BLM 2003b

2.8.1.2 Oil and Gas

The Casper Field Office is responsible for supervising and managing all exploration, development, and production operations on federal oil and gas leases in Converse, Natrona, Platte, and Goshen Counties. 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.

Presently and historically, almost all of the oil and gas produced in the Casper Planning Area comes from Natrona and Converse Counties. Based on production records from the State of Wyoming Oil and Gas Conservation Commission for 2002, 14 percent of the state's oil and 5 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 1992a). The federal mineral estate in the Casper Planning Area 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. In November 2002, federal oil and gas leases covered 1,881,510 acres in the Casper Planning Area. Goshen and Platte Counties have minimal oil and gas production.

Currently, there are 48 oil and gas fields in Natrona County and 73 oil and gas fields in Converse County. In 1985, oil production averaged 754,000

barrels per month in Natrona County and about 818,000 barrels per month in Converse County. In 2002, oil production in Natrona County dropped to about 288,245 barrels per month and oil production in Converse County dropped to about 185,800 barrels per month. In 1985, gas production averaged 1,250,650 thousand cubic feet (MCF) per month in Natrona County and 2,523,570 MCF per month in Converse County. Gas production in 2002 was 3,227,872 MCF per month in Natrona County and 2,065,050 MCF per month in Converse County.

The increase in gas production in Natrona County is primarily attributed to the development of Waltman Field between 1995 and 1997, which is presently the 11th largest gas producing field in the State of Wyoming. Salt Creek Field is the leading oil producing field in Natrona County and it produced about 2.1 million barrels of oil in 2001. Salt Creek Field is the third largest oil producing field in the State of Wyoming. Scott Field is the leading oil producing field in Converse County and produced 770,320 barrels in 2001. Lost Dome Field was discovered in March of 1998 and is the second leading oil producing field in Natrona County. It produced 306,504 barrels of oil in 2001.

The Powder River Basin is one of the most important coal bed methane producing regions in the United States.

The Powder River Basin is one of the most important coal bed methane producing regions in the United States. In 2001, coal bed methane was the largest single source of natural gas in the State of Wyoming and coal bed methane wells in the Powder River Basin produced over 250,000,000 MCF of methane. The southern portion of this geological province extends into the northern half of Converse County, but no coal bed methane has been realized in this portion of the basin to date.

Over the past eight years, 34 seismic projects were conducted in the planning area. Large 3D seismic acquisition projects have been conducted in areas that have the greatest remaining oil and gas potential. These areas consist of western Natrona County and northern and western Converse County. Some areas in western Natrona County like the Cedar Ridge, Arminto, Boone Dome, and Wallace Creek areas have been covered by multiple large 3D seismic projects.

Based on a trend analysis conducted by the Casper Field Office and known drilling plans, a total of 2,800 oil and gas wells (including approximately 700 coalbed gas wells) may be drilled on federal, state, and fee minerals in the planning area within the next 20 years (Crockett 2003). Based on prior drilling, approximately 10 percent (134) of the 1,343 wells will be deep wells and 10 percent (134) will be exploratory wells. The remaining wells will likely be development wells. Most of this disturbance will be located in existing oil and gas fields as the planning area is located in a mature oil and gas producing region with limited potential for new field discoveries. The use of carbon dioxide to enhance oil recovery is currently occurring in the planning area and is expected to increase.

Based on the Powder River Basin Oil and Gas Project EIS, an estimated 1,451 coalbed methane wells (federal, state, and fee) will be drilled over the next ten years in the Antelope Creek watershed that is located in southern Campbell County and northern Converse County. An estimated 20 percent of the 1,451 wells or 290 wells will be drilled in the planning area based on the areal extent of the Antelope Creek watershed in Converse County.

Approximately 250 federal wells have been plugged in the planning area since 1997, or an average of about 40 wells per year. The number of wells expected to be plugged in the future is expected to increase as fields reach their economic limits.

2.8.1.3 Other Leasables

The BLM may lease certain solid minerals, like phosphate, sodium, uranium, and potassium, on public and other federal lands. These lands include areas managed by the BLM and the Forest Service. BLM can also lease these minerals on certain private lands, provided the mineral rights are owned by the federal government. There are currently no leases for other minerals in the planning area.

In some areas where the federal government has acquired the land, BLM leases bentonite and uranium.

2.8.2 Current Management Practices

2.8.2.1 Coal

RMP, Activity Plans, and Special Plans: Current management decisions for coal are outlined in the existing RMP dated July 1985. Federal coal land, as identified in the Converse County Coal Amendment (BLM 1983), can be considered for further leasing through the competitive leasing program, emergency leasing, lease modifications, or exchanges. Delineated coal tracts on federal coal lands are available for competitive leasing. Any coal tract not selected for inclusion in a lease sale or any tract included in a lease sale but not sold can be either re-delineated or dropped from further consideration for sale. Coal leasing may be deferred in producing oil and gas fields where coal development would interfere with oil and gas operations and the economic recovery of the existing oil and gas resource. An exception to this would occur where it can be shown that economic recovery of oil and gas has been or will be completed before coal mining operations would begin.

On coal leases where mining and reclamation plans have been approved, oil and gas drilling and production are authorized where such activities would not conflict with coal mining. If conflicts cannot be resolved, oil and gas drilling and production are deferred. Proposals are evaluated on a case-by-

case basis, and coal mining and oil and gas operations are allowed where conflicts can be avoided or mitigated.

All federal coal lands with mining claims are acceptable for coal development and for further consideration for leasing subject to valid existing rights.

Casper Field Office and Wyoming State Office Decisions: Field Office and State Office decisions affect the operational aspects of the coal program. A decision was made in 1990 to defer oil and gas leasing within existing mine permit boundaries unless the oil and gas lease falls within an area that has already been mined and reclaimed or is obviously not going to be affected by the coal mining activity. This eliminates a potential conflict between oil/gas and coal operations. Later in the 1990s, a stipulation was developed to handle these situations, and all oil and gas leases issued within the boundaries of existing coal leases have this stipulation applied.

Washington Office Decisions: Washington Office policies affect the way in which coal operations are handled. To the greatest extent possible, BLM works to achieve three principal goals resolving development conflicts between coal lessees and oil and gas lessees. The three goals are:

- Protect the rights of each lessee under the terms of its lease, the Mineral Leasing Act and the implementing regulations, including those concerning conservation of natural resources.
- Optimize the recovery of both resources.
- Optimize the return to the public while protecting public safety and the environment and minimizing impacts on local communities.

On October 31, 1989, the Regional Coal Team (RCT) recommended to the Secretary of the Department of Interior to decertify the Powder River Basin coal area. This decision was based on the fact the RCT did not believe the basin had high competitive interest for regional leasing. The decertification allowed for leasing through a lease by application (LBA) process by parties interested in coal leasing to replenish reserves that had been mined. The RCT annually monitors the activities in the Powder River Basin and makes recommendations as to whether the area should become certified again or remain decertified. Decertification remains in effect today and will govern the process by which coal leasing is accomplished until the region is certified again.

Since 1989, the Casper Field Office Solids Group has processed 11 LBAs and is currently working on nine pending applications. All of the processed applications have been within the boundaries of the Buffalo Field Office Planning Area. Two pending applications (North Antelope South and Antelope Mine) are partially within the boundaries of the Casper Planning Area.

Lease Modifications: Lease modifications involve changing the original configuration of the lease by adding acreage. This is done at the request of the lessee either on the initiative of the lessee or the initiative of the BLM. Generally, lease modification is used for adding small amounts of acreage that has coal underlying it that will be by-passed by the mine.

Exchanges: Exchanges provide for exchange of coal resources when it would be in the public interest to shift the impact of mineral operations from leased lands or portions of leased lands to currently unleased lands to preserve public resource or social values, and to carry out congressional directives authorizing coal lease exchanges. There have been no lease exchanges conducted within the Casper Planning Area.

Exploration Licenses: An exploration license is required by anyone conducting exploration to gather data concerning federal coal. This includes the gathering of any data related to the coal, the hydrology of the coal and surrounding sediments, or the environment of deposition of the coal and surrounding sediments. Data obtained by this process is confidential; only the participants in the license and the BLM have access to the data. All lands within the Casper Planning Area boundaries are open to exploration drilling.

Incidental Exploration Licenses: An incidental exploration license is required by coal companies who are drilling water monitoring wells at the request of other agencies (e.g., Wyoming DEQ) or as part of the environmental plans to monitor the mine area.

Lease Operations: The Casper Field Office mining engineers inspect the mines to verify production and compliance with the regulations and mine plans on a quarterly basis.

2.8.2.2 Oil and Gas

The main objectives of the oil and gas program are to foster a fair return to the public for its resources, ensure environmentally acceptable activities within the program, and provide for conservation of the fluid mineral resources without compromising the long-term health and diversity of the land. BLM's management of the oil and gas program accomplishes several functions in support of the main objectives including: 1) supporting the domestic need for energy resources; 2) making eligible lands available for leasing through proper planning; 3) timely processing of applications and notices for exploration and development; and 4) conducting inspections of operations and ensuring compliance with lease terms and regulations.

BLM-administered lands in the planning area are open to oil and gas leasing and exploration subject to the following provisions: 1) leasing is subject to Wyoming BLM standard stipulations; 2) leasing and development are subject to a range of planning decisions; 3) no leasing is allowed to occur within

Naval Petroleum Reserve No. 3; 4) selected tracts of land are not available for leasing; and 5) surface disturbance relating to oil and gas development is prohibited in the following areas or conditions: slopes in excess of 25 percent; within important scenic areas (Class I and II Visual Resource Management [VRM] areas); within 500 feet of surface water or riparian areas; within a quarter-mile or within visual horizon (whichever is closer) of a historic trail; construction during periods when the soil material is saturated, or frozen, or when watershed damage is likely to occur; within 500 feet of Interstate Highways and 200 feet of other existing rights-of-way (U.S. and State Highways, roads, railroads, pipelines, power lines); within a quarter-mile of occupied dwellings; and on material sites. Exceptions, waivers or modifications can be granted.

The Casper Field Office conducts onsite inspections to identify environmental concerns and to develop mitigation measures prior to issuing an application for permit to drill.

The Casper Field Office conducts onsite inspections to identify environmental concerns and to develop mitigation measures prior to issuing an application for permit to drill. Enforcement action is taken in cases where operations are not being conducted within these guidelines or regulations.

The Casper Field Office prepares environmental documents outlining mitigation measures for oil and gas and geophysical actions involving surface disturbances.

2.8.2.3 Other Leasables

Currently there are no federal leases for any other leasable minerals within the Casper Planning Area.

2.8.3 Management Issues and Concerns

2.8.3.1 Coal

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.8.3.2 Oil and Gas

Management issues and concerns associated with oil and gas are presented below. Additional issues may be identified during public scoping.

- What areas are suitable or not suitable, particularly no surface occupancy 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., wildife, soil, and watershed)? Should they be changed?

2.8.3.3 Other Leasables

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.9 Mineral Resources - Locatables

2.9.1 Overview

The Casper Planning Area includes a unique and wide range of geology and geological features giving rise to an assortment of minerals. Among these are base and precious locatable metals such as gold, silver, platinum, copper, chromite, talc, jade, white marble, chemical-grade limestone, bentonite, diamonds hosted in volcanic pipes, and uranium.

The Casper Planning Area includes a unique and wide range of geology and geological features giving rise to an assortment of minerals.

Uranium was discovered in the Powder River and Wind River Basins during the 1950s, and continued exploration for uranium resulted in discovery of additional sedimentary uranium deposits in the major basins of central and southern Wyoming. The Casper Planning Area contains sedimentary uranium deposits in the Wind River and Powder River Basins area. Commercial development of the sedimentary deposits of uranium, bentonite, white marble, jade, and chemical-grade limestone deposits has occurred over the past 50 years. The other locatable mineral deposits have experienced only limited production and sporadic exploration.

Converse, Goshen, Natrona, and Platte Counties contain approximately 5,199 mining claims, minus 216 mining claims within that portion of Natrona County that lies within the Lander Field Office Planning Area, or approximately 4,983 mining claims administered by BLM and USFS.

2.9.2 Current Management Practices

The BLM Surface Management Program involves authorizing and permitting of mineral exploration, mining, and reclamation actions on the public lands administered by BLM. Operations of any nature that disturb the surface of the mining claim or site require authorization. The necessary authorizations and permits are obtained through the appropriate BLM field office.

The BLM regulations establish three levels of authorization: casual use, notice level, and plan of operations.

Casual use involves minor activity with hand tools, no explosives, and no mechanized earth moving equipment. No permit is required. Notice level activities involve use of explosives or earth moving equipment. A plan of operations is required for all other surface disturbance activities. An environmental assessment (EA) and reclamation bonding are required.

All BLM-administered mineral estate, except in areas specifically withdrawn from mineral location, remains open for prospecting for and development of locatable minerals.

The areas that are withdrawn from mineral location are North Platte River protective withdrawal; leased or patented public purpose lands; Pathfinder Wildlife Refuge; and Naval Petroleum Reserve No. 3.

2.9.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.10 Mineral Resources - Salables

2.10.1 Overview

Mineral materials such as sand and gravel, moss rock, flagstone, rock aggregate, riprap, leonardite, and scoria are available on demand for sale or free use. Materials in all low, moderate, and high potential areas are available except as follows:

- Those in an area within a quarter-mile of the North Platte River for its entire length in the Casper Planning Area; and
- Those within bald eagle roost areas.

The Casper Field Office maintains three community mineral material sites open to the public to obtain material at a reasonable price. Generally, these are sand, moss rock and a moss rock/boulder site. These sites are sporadically used since they are convenient material. One is under an acre of disturbance. For the other two, which cover up to ten acres, no mechanical machinery is allowed, and disturbance is minimal and low impact.

2.10.2 Current Management Practices

The Casper Field Office conducts exclusive sales when a party wants to purchase material from a specific location for exclusive use by the applicant. This can be done as a Free Use Permit (given to non-profits, usually government entities like city, county, and state) or as a private party sale.

With both a community pit and an exclusive sale, a plan of operation must be completed along with a reclamation plan and sometimes a bond must be posted.

The general policy for small quantities of decorative rock and other similar mineral material is that if a person wants to fill a pickup by hand and is not reselling the material, a permit is not needed. A permit is issued for the minimum amount if the person specifically requests one.

Salable minerals are discretionary in nature. The authorized officer can deny a proposed mineral sale for any number of reasons. Much of what is sold in the Casper Planning Area is from established negotiable pits. Periodically a proposal is received requesting an exclusive sale or exclusive Free Use Permit and on rare occasions there have been requests that have gone for competitive sale.

2.10.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.11 Paleontology

2.11.1 Overview

Paleontology is a biologic and geologic scientific discipline involving the study of fossil materials. Paleontological resources (fossils) include the bones, teeth, body remains, traces, or imprints of plants and animals that have been preserved in the Earth's crust since some past geologic time. All fossils can offer scientific information, but not all fossils offer significant scientific information. Among paleontologists, fossils are generally considered scientifically significant if they are unique, unusual, rare, diagnostically or stratigraphically important, or add to the existing body of knowledge in a specific area of science.

The BLM is legally mandated to identify, evaluate, and manage paleontological resources as part of its multiple use management practices. Management of paleontological resources on BLM-administered lands is aimed at protecting scientifically significant fossils for the benefit of the public. Significant fossils are defined by BLM policy to include all vertebrate fossil remains (body and trace fossils) and those plant and invertebrate fossils determined to be scientifically unique on a case-by-case basis.

Fossils are important because they provide information about the relationships of living organisms, their evolution, and their former distribution. Progressive morphologic changes seen in fossil lineages provide critical information on the evolutionary process--the ways that new species arise and organisms adapt or fail to adapt to changing environmental circumstances. Fossils also serve as important guides to the ages of the rocks in which they are found. They are useful in determining the temporal relationships of rock units from one area to another and in identifying the timing of geologic events. Time scales established by fossils provide chronologic frameworks for geologic studies of all kinds. Fossils can also provide clues regarding the depositional environments of the sedimentary rocks in which they are preserved, can be important indicators of ancient climates, and can help document climatic change.

Fossil resources are part of the geologic formations in which they occur. Most fossils occur in sedimentary rock formations, where they may be distributed extensively both vertically and horizontally throughout the formations in which they occur, or they may occur in discontinuous pockets. Few geologic formations are uniformly fossiliferous throughout, and some are more richly fossiliferous than others. Although experienced paleontologists can generally predict which formations will contain fossils and, in general, what types of fossils will be found based on the age of the formation and its depositional environment, predicting the exact location where fossils will be found without field surveys is usually not possible.

Within the Casper Planning Area, rocks as old as 3 billion years are exposed, but known fossil deposits represent about 200 million years, reflecting a major portion of the known dinosaur period and the early through middle portion of the predominance of the mammals. Nearly all the major fossil-bearing formations identified within Wyoming are present in the Casper Planning Area, but these are not as extensively distributed as in other areas.

The major formations known to produce dinosaur or marine reptile remains in the planning area include the Alcova Limestone and Sundance, Morrison, Cloverly, and Lance formations.

The major formations known to produce dinosaur or marine reptile remains in the planning area include the Alcova Limestone and Sundance, Morrison, Cloverly, and Lance formations. The Wind River and White River formations are the main units to produce mammal fossils and other small non-mammalian vertebrates.

A classification scale, termed the Potential Fossil Yield Classification, has been developed to estimate the potential for discovering significant fossils during any surface-disturbing activity in specific geologic formations. Based on specific geologic formations, the scale uses a ranking of 1 through 5, with Class 5 being assigned to high potential units. Within the Casper Planning Area, Class 5 geologic formations account for approximately 50 percent of the total acreage, including all ownerships. About 35 percent of public land in the planning area is underlain by Class 5 formations, but because public land often has more bedrock exposures, there may actually be more potential for finding fossils on public land.

Specific fossil resources in the Casper Planning Area have been, and will continue to be, identified by field surveys conducted by permitted paleontologists, including faculty at universities and curators at museums, as well as by students conducting research. Additional fossil resources may be identified by consultants conducting environmental reviews of specific land use proposals and as discoveries reported by members of the public.

There are presently 17 active paleontology permits in the Casper Planning Area (16 survey permits, one excavation permit), representing 15 different researchers. Ten of these active permits were issued statewide, and may not reflect work in the planning area. Of the statewide permits, six are for consulting purposes. There are five paleontological permittees that work

principally in the Casper Planning Area and they will probably continue work for at least the next few years. All five are from universities or museums outside Wyoming.

2.11.2 Current Management Practices

Collection of fossils from public lands is allowed with some restrictions, depending on the significance of the fossils. Under existing regulations, hobby collection of common invertebrate or plant fossils by the public is allowed in reasonable quantities using hand tools. Current regulations do not allow any commercial collecting of paleontological resources. The public is allowed to collect petrified wood without a permit for personal, noncommercial purposes. They can collect up to 25 pounds plus one piece per person per day, with a maximum of 250 pounds in one calendar year.

Collection of significant fossils, which includes all vertebrate and any administratively designated plant or invertebrate fossils, may only be done under authority of permits issued to qualified researchers. Two types of permits are issued. The basic permit is the survey and limited surface collection permit, issued for reconnaissance work and collection of surface finds, with a one square meter limit on surface disturbance. If the work will exceed one square meter, or requires mechanized equipment, the researcher must apply for an excavation permit. Prior to authorization of an excavation permit, and in some cases for survey permits in special management areas (SMA), BLM must prepare an EA of the proposed location. A cultural survey and other resource surveys may also be required if surface disturbance will occur. All fossils collected under a permit remain public property and must be placed in an approved repository. Yearly reports of findings including locality and specimen information are required to be submitted to the BLM.

2.11.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.12 Rangeland Management

2.12.1 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 (**Figure 5**). The Casper Field Office administers 462 grazing leases, allowing approximately 200,000 animal unit months of livestock forage. Through cooperative

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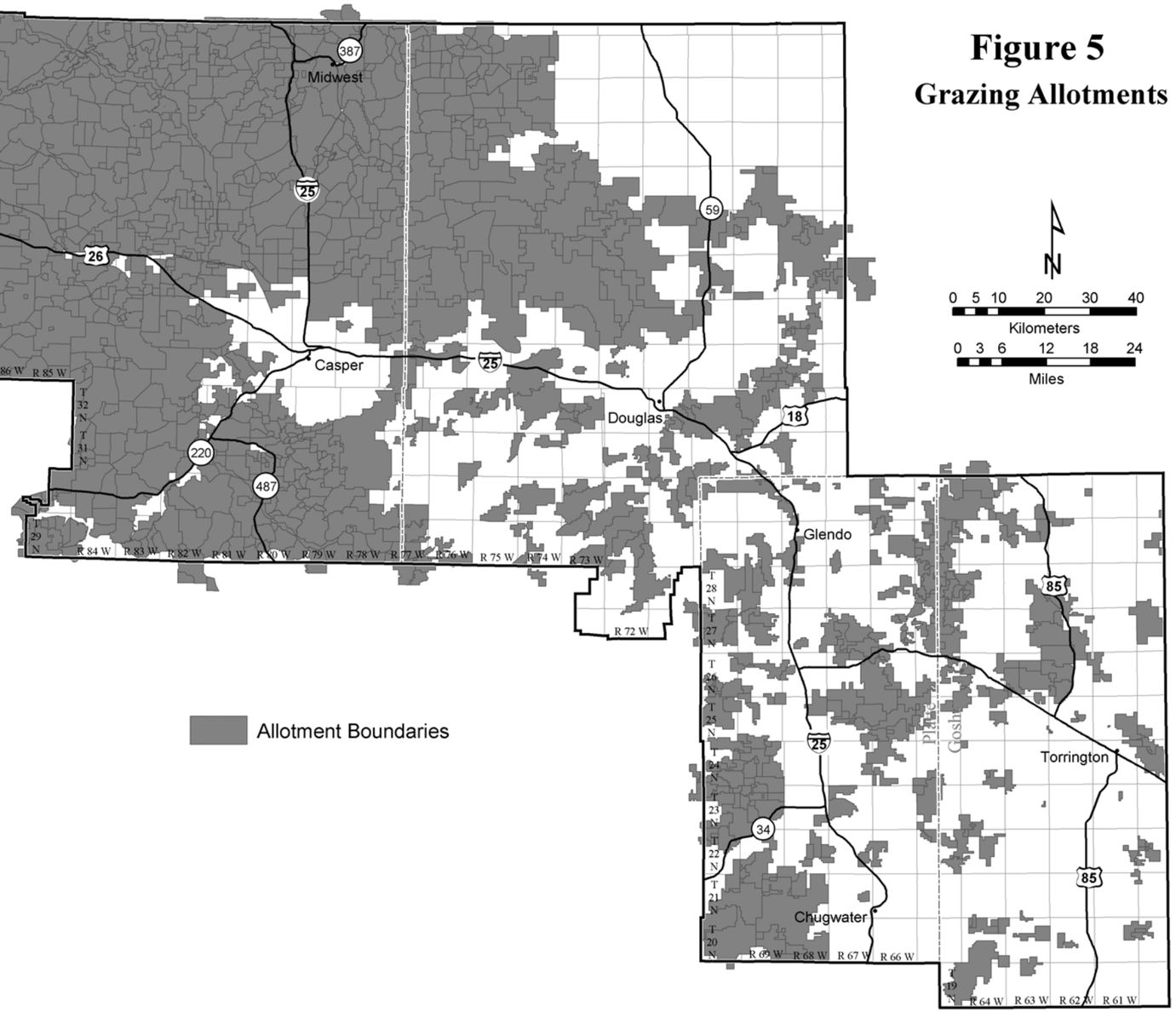
Figure 5
Grazing Allotments
N
0 5 10 20 30 40
Kilometers
0 3 6 12 18 24
Miles
Midwest
Casper
Douglas
Glendo
Torrington
Chugwater
Allotment Boundaries
387
25
26
59
18
220
487
85
34

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management agreements with other BLM field offices, the Casper Field Office administers grazing use on adjacent public lands.

The types of livestock include cattle, sheep, horses, and a small number of goats and bison. Of the 462 grazing leases, 76 percent (353 leases) authorize cattle only, 9 percent (41 leases) authorize both cattle and sheep, 3 percent (14 leases) authorize cattle, sheep and horses, 1 percent (6 leases) authorize sheep only, 1 percent (5 leases) authorize horse only, and less than one percent authorizes bison/goats. Horse use for ranch operations is common and has been authorized on 12 percent (39 leases) of the leases.

Livestock Grazing Leases on Lands Administered by the Casper Field Office

Leases	Livestock
353	Cattle
41	Cattle/Sheep
14	Cattle/Sheep/Horses
6	Sheep
5	Horses
4	Bison/Goats
39	Horse/Ranch Operations

From 1995 to 2002, the Casper Planning Area accounted for 23 to 25 percent of the total number of breeding sheep and 21 to 27 percent of all cattle and calves in Wyoming. Public lands are important to local ranch operations particularly in Natrona and western Converse Counties. Here the majority of ranch operations lease some public lands and many are dependent on these lands to keep their operations running. The amount of land leased ranges from 40 acres to 50,000 acres of public land. Public lands contribute anywhere from 1 percent to 60 percent of the available forage in some grazing allotments.

Historically over 200 miles of Stock Driveways existed in the Casper Field Office Planning Area. Use of these Stock Driveways has been an important part of livestock operations especially for ranchers driving livestock between summer and winter ranges. Today there are two major Stock Driveways systems, which include the 33 Mile Stock Driveways and Bates Hole Stock Driveways. The BLM annually issues trailing permits and supervises the use of these areas.

2.12.2 Current Management Practices

On the average, the BLM completes 11 to 12 new range improvement projects per year to meet specific management goals and objectives. These projects consist primarily of fences, reservoirs, springs, water wells, and vegetative treatments.

In 1985, BLM established three categories for allotments to identify areas where management was potentially needed. Allotments were classified as Improve Existing Resource Conditions (I), Maintain Existing Resource Conditions (M), or Custodial Management (C) to prioritize workloads and use of range improvement dollars. Of the 528 allotments within the Casper Planning Area, 47 allotments are classified as "I," 65 are classified as "M," and 416 are classified as "C."

A total of 18 allotments are being operated under allotment management plans, coordinated resource management plans or management agreements.

Livestock grazing in the Casper Planning Area is managed primarily in designated livestock allotments. In 1995, changes in federal grazing regulations required the BLM to manage domestic livestock in accordance with the *Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management*, August 12, 1997. The standards are used to enhance sustainable livestock grazing and wildlife habitat while protecting watersheds and riparian ecosystems. Allotment-specific guidelines are being implemented to improve rangeland conditions in areas not meeting standards. Approximately 10 percent of the public lands in the Casper Planning Area are to be assessed annually for rangeland health. At the end of the 2003 fiscal year, 41 allotments had been evaluated for rangeland health, with 21 of these not meeting one or more of the rangeland health standards. In these 21 allotments, specific guidelines are being implemented to improve rangeland conditions.

2.12.3 Management Issues and Concerns

The BLM will continue to mange public lands in order to ensure healthy rangelands while allowing livestock grazing to continue and to minimize conflicts between users. The Casper Field Office has identified the following issues and concerns for the rangeland management program and would like feedback on these or any other issues:

- Landscape-level goals and objectives have not been identified for vegetative communities found within the planning area. What kind of vegetative communities should the BLM be managing for, which seral states should these communities be in, and how much of each seral state is needed to maintain viable populations of native plant and animal species? At what scale should the BLM base its management goals and objectives on, considering livestock grazing is managed primarily on an individual allotment basis?
- Stock driveways will continue to be important for trailing livestock between summer and winter ranges. Some lands withdrawn for stock driveway use are no longer used for this purpose and have been incorporated into adjacent grazing leases. Should these withdrawals be revoked?
- Invasive, non-native plant species are present on public lands and can be detrimental to the health and productivity of native plant communities. How can the BLM more effectively manage the impact of these plant species as it relates to grazing management?
- Where goals and objectives are established for desired future condition in vegetative communities, livestock grazing is likely to be affected and may result in season of use, type of livestock, and grazing preference changes, and development of range projects.

- Managing for desired future condition within crucial wildlife habitats such as riparian zones and crucial winter ranges may affect livestock grazing on the public lands.

2.13 Recreation

2.13.1 Overview

2.13.1.1 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."

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.

Instruction Memorandum 2004-005 has established new guidelines for OHV planning timeframes. During the RMP planning process the planning team is to identify areas as open, closed, and limited (selection criteria is outlined in 43 CFR 8340.05 f, g, and h), and complete the selection of roads and trails in limited use areas. 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 the 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.

2.13.1.2 Recreation

Outdoor recreation is recognized as an important land use providing social and economic benefits on national, regional and local levels and is more

frequently being considered the dominant use on many public lands (Driver et al. 2000). 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. Federal lands within the Casper Planning Area provide a broad spectrum of outdoor 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 within the Casper Planning Area where legal access is available.

Two travel routes in the Casper Planning Area have also been included in the National Scenic Byway System: the South Bighorns/Redwall Backcounty 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 includes two BLM campgrounds and interpretive kiosks. Developed recreation sites near the Seminoe to Alocova 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 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 (BLM 1995). The Casper Field Office administers approximately 27 SRPs annually, 22 of which are authorized for professional outfitter and guide services.

2.13.2 Current Management Practices

2.13.2.1 Off-Highway Vehicles (OHV)

On the majority of the Casper Planning Area, 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.

Environmentally sensitive areas have a more restrictive designation than non-sensitive areas. Roads and trails have been designated for the Muddy Mountain Environmental Education Area (EEA) and Goldeneye Wildlife and Recreation Area. No route designations have been made for the Red Wall, the Sand Dunes, and Jackson Canyon.

Areas closed to all OHV use include 802 acres in the Natural Area of the Muddy Mountain EEA, 955 acres of the Oregon Trail, and 1,030 acres of the Bozeman Trail. These areas have special resource concerns and are closed to OHVs.

The only area opened for unlimited OHV use in the Casper Planning Area is the Poison Spider OHV Park. A total of 200 acres is currently available within the park. This area, once used as a bentonite mine, was set-aside expressly for OHV recreation. OHV use occurring outside park boundaries has fueled complaints by local residents.

2.13.2.2 Recreation

The existing RMP allows for dispersed recreation throughout the Planning Area with minimal regulatory constraint. Legal mandates restricting recreational use were enacted for purposes of public safety and resource protection. Management prescriptions emphasize monitoring, education, and enforcement to reduce user conflicts and provide resource protection. Site specific Recreation Area Management Plans have been developed for heavily used areas within the Casper Planning Area.

Monitoring and enforcement of dispersed recreation is limited, especially in areas with a small percentage of public lands or limited access. The BLM is dependent upon cooperation from public land users and other federal and state agencies for the successful management of these areas. Complaints are handled on a case-by-case basis, the majority of which involve illegal posting or otherwise restricting public access to federal lands, trespass onto private lands, and vandalism to vegetation and soils.

The BLM signs public and private land boundaries, interprets resources, and provides regulatory and informational kiosks in high use areas. Detailed information is available to the public via informational pamphlets, land ownership maps and online websites. Moreover, the BLM promotes educational programs that enlighten the public and increase awareness. These programs include Tread Lightly, Leave No Trace, Operation Respect, and Smokey the Bear.

2.13.3 Management Issues and Concerns

2.13.3.1 Off-Highway Vehicles (OHV)

OHV issues and management concerns are presented below. Additional, issues may be identified during public scoping.

- Should the BLM provide for more OHV open areas?
- Should the BLM restrict or close OHV use in sensitive areas?
- The Wyoming BLM has recently signed a memorandum of understanding with the Wyoming State Parks Association, which will require all OHV users to purchase a $15 sticker. The funds acquired by the sticker program will be filtered through the Wyoming State Parks to be given to agencies for mapping, trail maintenance and signing and the establishment of new trails specifically for use by OHV riders. Determining the criteria for the establishment of new OHV trails on public lands should be set as part of this planning process.

2.13.3.2 Recreation

The primary management issue and concern related to recreation is access to public lands. Additional issues may be identified during public scoping.

2.14 Socioeconomic Conditions

2.14.1 Overview

Executive Order 12898, enacted by President Clinton in 1993, requires that each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The following discussions provide an overview of population, income, employment and ethnic diversity in the Casper Planning Area.

The four counties in the Casper Planning Area are Natrona, Converse, Platte, and Goshen. In 2000, Natrona was the most populous with 66,552 people, followed by Converse County with a population of 12,092. In 2000, Platte had a population of 8,766 and Goshen had 12,554 people. All four counties experienced rising populations in the late 1970s, a decline in population at some point in the 1980s, and slow growth since about 1990, and overall positive growth from 1970 to 2000 (Sonoran Institute 2003a,c,d).

Per capita personal income in 2000 was greatest in Natrona County at $32,112. Per capita personal income was $23,381 in Converse, $23,984 in Platte, $22,921 in Goshen, and the state per capita income was $27,941. From 1990 to 2000, per capita personal income grew in real terms (i.e., accounting for inflation) in all four counties; the gain was largest in Natrona

(14 percent) and smallest in Goshen (9 percent) (Sonoran Institute 2003a,b,c,d).

The largest component of personal income in all four counties in 2000 was nonlabor income, including transfer payments (e.g., retirement, disability, insurance payments, Medicare, and welfare) as well as dividends, interest, and rent. Dividends, interest and rent made up between 58 percent and 68 percent of nonlabor income in all four counties. Income from the services and professional sector was the largest contributor to labor-derived personal income in all four counties, and the government sector was among the top three contributors to labor-derived personal income in all counties. Mining is an important sector in Natrona and Converse Counties, while the farm and agricultural services sector is more important in Goshen. About 77 percent of gross farm income in Goshen County was from livestock and livestock products, and about 14 percent was from crops. The remainder was from government payments, rent, and in-kind income such as food grown on the farm. The contributions of livestock and livestock products versus crops are almost identical in Platte County, where just over 5 percent of personal income derives from farming and agricultural services (Sonoran Institute 2003a,b,c,d).

Mining is an important sector in Natrona and Converse Counties, while the farm and agricultural services sector is more important in Goshen.

Average earnings per job in 2000 were lower than the national average in all four counties, and were lower than the state average in Converse, Platte, and Goshen Counties. **Table 5** shows the average earnings per job by county.

Table 5. Average Earnings Per Job (2000)

Locality	Average Earnings Per Job
Natrona County	$32,442
Converse County	$25,210
Platte County	$23,890
Goshen County	$23,051
Wyoming	$27,037
United States	$36,316

Source: Sonoran Institute 2003a,b,c,d.

All four counties in the planning area had lower unemployment in 2001 than the national average of 4.8 percent. Natrona had an unemployment rate of 4.1 percent, Converse had a rate of 4.2 percent, Platte had a rate of 3.9 percent, and Goshen had 3.6 percent unemployment. Wyoming had 3.9 percent unemployment overall in 2001 (Sonoran Institute 2003a,b,c,d).

Populations of all four counties in the Casper Planning Area are predominantly white and non-Hispanic. All four counties have a smaller

proportion of nonwhite residents than the state, and only Goshen County has a higher proportion of Hispanics than the state overall. **Table 6** provides a summary of population by race and ethnicity in 2000.

Table 6. Racial and Ethnic Groups for Casper Planning Area Counties (Percent of Population in 2000)[1]

Race or Ethnicity	Natrona	Converse	Platte	Goshen	State
White	94.2%	94.7%	96.2%	93.8%	92.1%
Black or African American	0.8%	0.1%	0.2%	0.2%	0.8%
American Indian or Alaska Native	1.0%	0.9%	0.5%	0.9%	2.3%
Asian, Native Hawaiian, or Pacific Islander	0.4%	0.3%	0.2%	0.3%	0.7%
Some other race	1.9%	2.5%	1.7%	3.7%	2.5%
Two or more races	1.7%	1.5%	1.3%	1.1%	1.8%
Hispanic or Latino (of any race)[2]	4.9%	5.5%	5.3%	8.8%	6.4%
Not Hispanic or Latino[2]	95.1%	94.5%	94.7%	91.2%	93.6%

Source: Sonoran Institute 2003a,b,c,d.

1 Detail may not add to 100 percent due to rounding.

2 Hispanic/Latino breakout is separate because Hispanics/Latinos can be of any race.

The median age in all four counties in 2000 exceeded the national median of 35.3 years. The median age represents the age for which 50 percent of the residents are older and 50 percent are younger. The median age was 36.5 years in Natrona County, 37.5 years in Converse, 41.2 in Platte, and 40.0 in Goshen (Sonoran Institute 2003a,b,c,d).

2.14.2 Current Management Practices

BLM does not manage socioeconomics. Rather, it manages public lands and the natural resources and uses that occur on them. BLM's management actions are integrally connected with socioeconomics, and must be considered in the NEPA process.

2.14.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.15 Soil

2.15.1 Overview

Soils in the Casper Planning Area are diverse and can vary significantly over relatively short distances. The distribution and occurrence of soils is dependent on a number of factors including slope, geology, vegetation, climate, and time. Soils in the area are in good condition and capable of producing forage for wildlife and livestock, maintaining watershed integrity, and recovering from impacts associated with surface-disturbing activities.

The most significant regional or national demand placed on soils in the planning area result from the development of mineral resources. Extraction of minerals generally involves surface-disturbing activities including road building, well pad construction, pipeline installation, or soil disturbance associated with open pit mining.

Soils are also impacted by a variety of surface uses such as livestock grazing, OHV use, and development of recreation facilities such as trails or campgrounds, timber harvesting, development of ROW, fire suppression activities, and the use of prescribed fire.

2.15.2 Current Management Practices

Protection of soil resources is accomplished through the application of use restrictions or preferred management practices intended to limit soil erosion or loss of soil productivity. Some restrictions may be general such as programmatic stipulations, which are applied to all surface-disturbing activities such as limitations on surface-disturbing activities during periods of wet or frozen soils or limitations on operations on slopes greater than a certain percent. Typically, the protection of soil resources is accomplished through the application of site-specific management techniques. Examples of site-specific mitigation may include designation of an OHV use area, use of water bars or diversion channels to control surface runoff on a disturbed area, or development of a specific seed mixture or seeding technique appropriate to the area being reclaimed.

Protection of soil resources is accomplished through the application of use restrictions or preferred management practices intended to limit soil erosion or loss of soil productivity.

There are sites in the Casper Planning Area where soils require special management practices to limit erosion and loss of productivity. For example, surface development is not allowed on Cedar Ridge without the written permission of the field office manager because of fragile watershed conditions. Also, surface development is not permitted from December 30 to June 1 in specific areas such as the South Fork Powder River drainage, Coal Mountain-Twin Buttes area, and Pine Mountain. Other management practices help protect soils in specially designated areas like the Casper Sand Dunes and Salt Creek.

2.15.3 Management Issues and Concerns

- Should the BLM develop targets for the planning area defining an acceptable level of cumulative surface disturbance? How should these targets be developed and enforced?

2.16 Special Management Areas

2.16.1 Overview

The Casper Field Office currently manages four SMAs and is considering two new SMAs.

SMAs are designated by the BLM to protect or preserve certain qualities or uses in specific areas. The environment in these areas is unique in some regard, so that it is desirable to apply different management to the areas than is applied to the surrounding public lands. The Casper Field Office currently manages four SMAs and is considering two new SMAs. The existing SMAs include two Areas of Critical Environmental Concern (ACEC) and two Recreation Management Areas (RMA) (**Figure 6**). The Casper Planning Area does not contain any designated National Recreation Areas, Wilderness Study Areas, or Wild and Scenic Rivers.

2.16.1.1 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 area consists of mountainous topography, with steep, partially wooded slopes, escarpments, and deeply incised drainages and canyons. The ACEC was established to protect critical bald eagle habitat and winter roost sites.

Salt Creek Hazardous ACEC

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*." It is under the natural hazards criterion that the Salt Creek ACEC was established. All of the hazards associated with the Salt Creek Hazardous ACEC, however, are a result of human activity and are not considered part of the natural process. The basis for the ACEC designation is under review.

2.16.1.2 Recreation Management Areas

Goldeneye Wildlife and Recreation Area

Goldeneye Wildlife and Recreation Area was initially established for railroad purposes and subsequently for irrigation. Today, it is managed exclusively to protect wetland habitat and provide recreational opportunities, specifically

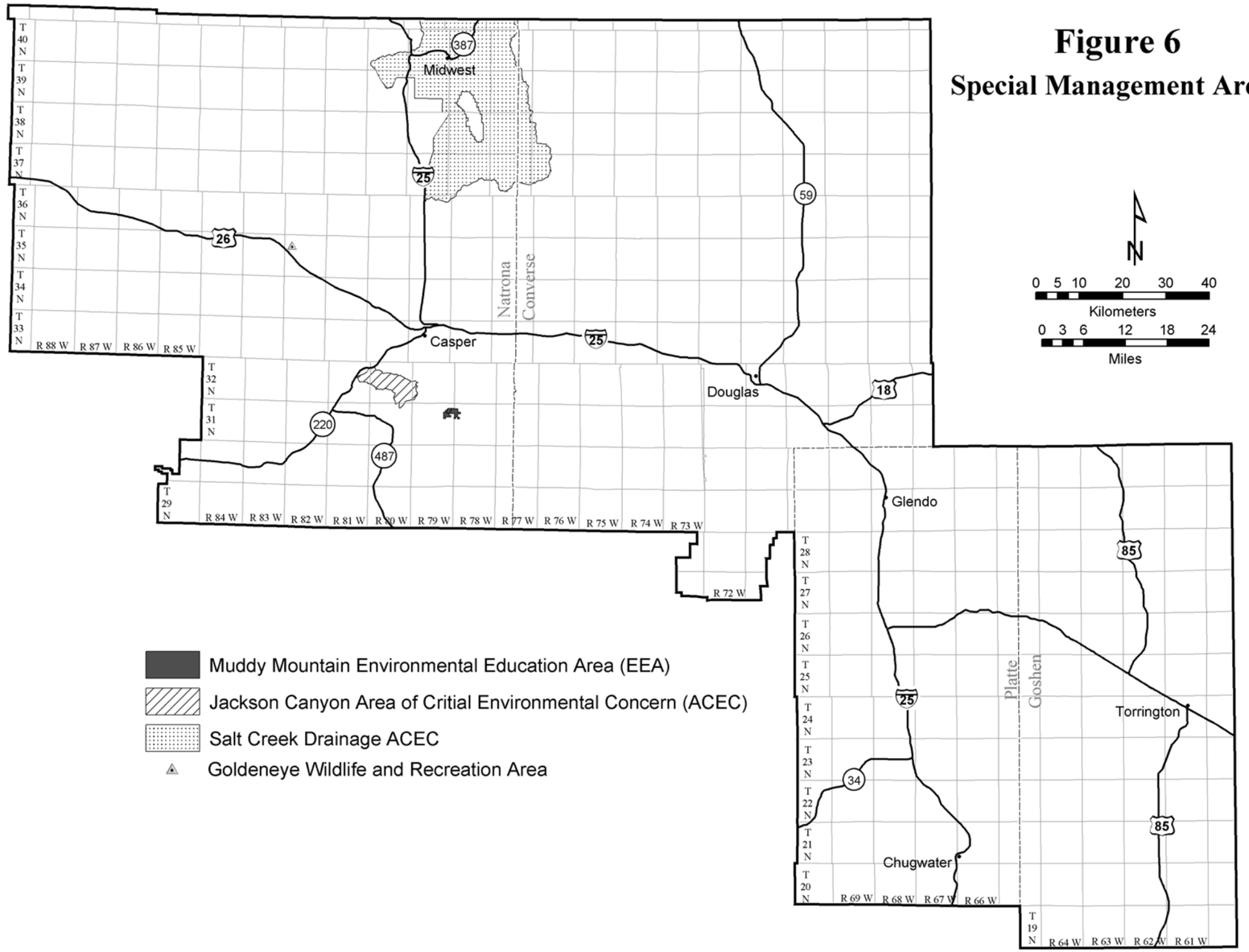
Figure 6
Special Management Areas
N
0 5 10 20 30 40
Kilometers
0 3 6 12 18 24
Miles
Midwest
Casper
Douglas
Glendo
Torrington
Chugwater
Natrona
Converse
Platte
Goshen
387
25
26
59
18
220
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Muddy Mountain Environmental Education Area (EEA)
Jackson Canyon Area of Critial Environmental Concern (ACEC)
Salt Creek Drainage ACEC
Goldeneye Wildlife and Recreation Area

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fishing. The popularity of the area has varied over the years and fluctuates with the success of stocking efforts by WGFD. Use of the area is expected to increase dramatically over the next few years if walleye stocking efforts by the WGFD are successful.

Muddy Mountain Environmental Education Area (EEA)

The Muddy Mountain EEA was established in 1977 for recreation purposes and wildlife habitat. Recreational facilities currently available in the Muddy Mountain EEA include two campgrounds, a multiple-use trail system, an interpretive nature trail, and a natural area. Camping and day use fees are collected at the two campgrounds.

2.16.1.3 Potential Special Management Areas

Cedar Ridge Traditional Cultural Property

The Cedar Ridge site was established as a TCP in 1997 after extensive consultation with the Eastern Shoshone and the Wyoming State Historic Preservation Officer. This locality has been utilized for over 5,500 years as a ceremonial site for prayers and rituals. It represents a highly scared place for the Eastern Shoshone to conduct religious observances. The site's qualification as a TCP is based on the fact that this area is integral in the proper functioning of contemporary Shoshonean lifeways, and changes to it could create problems for the Eastern Shoshone. Executive Order 13007, the American Indian Religious Freedom Act and elements of the National Historic Preservation Act enjoin the government to work to prevent disturbance and provide access to such sites. In addition, the site is archaeologically significant in that it contains a vast number of stone circles and other rock alignments, extensive evidence of prehistoric activity, and fire hearths with charcoal deposits suitable for radiocarbon dating. These materials are also associated with a very high site density in the lowlands to the south of the ridge. Archaeological and cultural values are highly significant both on Cedar Ridge proper and in its peripheral outlying areas.

This locality has been utilized for over 5,500 years as a ceremonial site for prayers and rituals. It represents a highly scared place for the Eastern Shoshone to conduct religious observances.

Trappers Route

This withdrawal is directed at managing public lands contiguous to the river between Alcova Reservoir and Casper. These tracts along the river are commonly referred to as the Trappers Route. The route is intensively used as stopover points for canoeing, rafting, camping, and fishing. A draft Recreation Area Management Plan (RAMP) is proposed to address management on the Trappers Route and ten other riverfront parcels of public land between Casper and the Wyoming-Nebraska state line.

2.16.2 Current Management Practices

Special Management Areas administered by the Casper Field Office are managed under a combination of FLPMA authority and BLM regulations.

2.16.2.1 Areas of Critical Environmental Concern

Jackson Canyon ACEC

Given the sensitive habitat for which the Jackson Canyon ACEC was established, specific decisions were made in the existing RMP to restrict uses that were not compatible with bald eagle use in the area. Bald eagle management prescriptions are further defined within the *Bald Eagle Habitat Management Plan for the Platte River Resource Area and Jackson Canyon ACEC* (BLM 1992b). Oil and gas leases also preclude occupancy of the surface for oil and gas drilling. The private inholdings within the area are subject to easements held by The Nature Conservancy generally designed for the preservation of the natural resources in a natural state and limitations on development of the lands.

Salt Creek Hazardous ACEC

Under the Salt Creek Hazardous ACEC plan, monitoring and sampling of produced water discharge and field inspections were to be conducted by BLM on an annual basis. However, this function is under the jurisdiction of the Wyoming DEQ. Produced water monitoring and sampling, and annual field inspections by BLM have not occurred in the ACEC since the early to mid-1980s. The existing RMP indicates that stream-monitoring surveys would be conducted and that the ACEC plan would be amended to provide for inventory and evaluation of historic oil and gas sites, structures, and town sites that may be eligible for nomination to the National Register. Stream monitoring in the ACEC has not been conducted since the RMP was issued.

2.16.2.2 Recreation Management Areas

Goldeneye Wildlife and Recreation Area

Successful management of the Goldeneye Wildlife and Recreation Area has required the combined efforts of the BLM, WGFD, Burlington Northern, Inc., and the adjacent private landowner. In 1974, the BLM signed cooperative management agreements with both the WGFD and Burlington Northern. These agreements outlined agency responsibilities and laid the foundation for the Goldeneye Wildlife and Recreation Area Management Plan completed by the BLM in 1978. This plan describes specific management goals, objectives, and limitations. The plan was carried forward into the existing RMP. A recent cooperative agreement with the adjacent private landowner has helped to physically remove grazing from the area near the reservoir. The 1974 cooperative agreement has expired. A new agreement is needed for future management of this area.

Muddy Mountain Environmental Education Area (EEA)

Current management of the Muddy Mountain EEA focuses on environmental education, diverse recreation opportunities, and ecosystem health. BLM goals and objectives seek to preserve the natural character and wildlife habitats within the Muddy Mountain EEA. The 1977 Muddy Mountain Recreation Area Management Plan set forth actions necessary to manage public use so that resource damage and conflicts were minimized. The 2000 plan revision allows the BLM to seek a withdrawal of all federal minerals within the EEA boundary, removes livestock grazing, designates travel routes, limits bear baiting, and requires the construction of an enclosure fence.

2.16.2.3 Potential Special Management Areas

Cedar Ridge Traditional Cultural Property

Presently, the site and its peripheral area are managed under normal cultural resource management practices, with recognition of its sensitivity. This means that each new land use application requires a cultural resource inventory and subsequent analysis of the effects of the proposal on significant cultural values. The site is eligible under Criterion d (36 CFR 60.6d) due to its potential to contain scientific information important in prehistory. Such information can be recovered by a number of processes (excavation work, detailed mapping, etc.) which can be time-consuming and expensive, but would enable use of an area once the data recovery was complete. However, the Cedar Ridge site is also significant under Criterion A (36 CFR 60.6a) by virtue of its association with patterns in Shoshonean history. There is no means by which to mitigate the adverse effects to these values in the event that development activities were to take place. Moreover, the noise, activity and surface disturbance accompanying development would disturb those characteristics which make this site also valuable as a sacred site, contrary to Executive Order 13007.

Discovery of the Cedar Ridge site post-dated the existing RMP, and a plan amendment has not yet been made. Since most of the area is already leased for minerals development (primarily natural gas), future exploration for oil, gas, and possibly locatable minerals such as uranium poses a great potential for conflicts between sensitive cultural resources and minerals development. Provisions must be made in the new resource management plan to avoid or resolve these potential conflicts. Stipulations such as no surface occupancy or controlled surface use may be attached to new leases, or withdrawal from locatable minerals applications or leasing may be established, or other measures may be developed during the analysis of impacts. Ideally, as existing leases expire, the tracts should be withdrawn from future leasing. Valid existing rights must be respected. Whatever protective measures are developed, this area requires additional management action to protect significant cultural resources and also provide for fair multiple use.

Trappers Route

The existing RMP requires that an activity plan addressing recreation along Trappers Route be prepared. A comprehensive RAMP for this area is essential for the protection of natural resources and future recreational opportunities. The main purpose of this plan is to provide guidelines for recreational development and the reduction of user conflicts.

2.16.3 Management Issues and Concerns

A primary management issue and concern is whether or not there are other areas requiring special management. Other issues include the following:

2.16.3.1 Areas of Critical Environmental Concern

Jackson Canyon ACEC

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

Salt Creek Hazardous ACEC

- The Salt Creek ACEC was designated under FLMPA, Section 103(a) to protect and prevent irreparable damage from natural hazards. All the hazards at the Salt Creek ACEC are the result of human activity. As a result, should the designation for the Salt Creek Hazardous ACEC continue?

2.16.3.2 Recreation Management Areas

Goldeneye Reservoir

- Does the public want the BLM to continue to maintain this fishing area?
- Can an agreement for water rights be obtained soon, so that the reservoir can be managed in the future?

Muddy Mountain Environmental Education Area (EEA)

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.16.3.3 Potential Special Management Areas

Cedar Ridge Traditional Cultural Property

- Managing the Cedar Ridge site will continue to be an issue as long as there are existing oil and gas leases and potential locatable minerals available for claiming. Revision of the existing RMP should address

these issues, as future development could encroach upon a highly significant and sensitive cultural resource.

- Since most of the area is already leased for mineral development (primarily natural gas), future exploration for oil, gas, and possibly locatable minerals such as uranium poses a great potential for conflicts between sensitive cultural resources and mineral development.
- As a parallel issue, efforts must be made to plan for the discovery and management of additional spiritual or other traditionally important sites in the Casper Planning Area. Such sites are almost certainly present, and as the consultation process with Native Americans improves, will be more readily identified. Surface disturbance and development activities are incompatible with such cultural resources, procedures need to be established.

Trappers Route

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

2.17 Special Status Species

2.17.1 Overview

Special status animal and plant species are defined as those currently federally listed, proposed for listing, or candidates for listing under the ESA, as well as species designated as sensitive by the BLM State Director. There is increasingly more interest and controversy surrounding management of threatened, endangered, and sensitive species. More emphasis is being placed on maintaining species diversity and keeping native ecosystems healthy to keep other species from becoming listed.

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 (BLM 2002a).

The goals of the BLM Wyoming policy regarding special status species (BLM 2002a) are to:

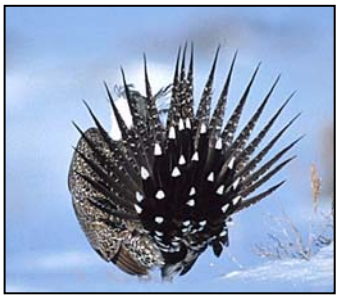
- Maintain vulnerable species and habitat components in functional BLM ecosystems.
- Ensure special status species are considered in land management decisions.
- Prevent a need for species listing under the ESA.
- Prioritize needed conservation work with an emphasis on habitat.

The 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 special status

species in Wyoming, as well as species that may become rare due to environmental disturbance. 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.

Within the Casper Planning Area there are 2 birds, 3 mammals, and 3 plant species that have been designated as listed, proposed for listing, or are identified as candidate species as per the ESA (**Table 7**).

2.17.1.1 Animals



Special status animal species that occur or have habitat available in the Casper Planning Area are listed in Table 7 and described below.

Bald eagle nesting generally does not occur in the planning area and attempts to nest have only been documented at 3 locations. Bald eagle habitats are described in detail in the Bald Eagle HMP for the Platte River Resource Area and Jackson Canyon ACEC (BLM 1992b). The Draft Statewide Programmatic Bald Eagle Biological Assessment (Greystone Environmental Consultants 2002) contains a summary of the land use plan information statewide.

Mountain plover was withdrawn from consideration for listing under the ESA in September 2003. Plovers are considered to be either breeding birds or potential breeders, and plover sightings have been documented in the Casper Planning Area.

No black-footed ferret sighting has been documented within the Casper Planning Area; however, a portion of the planning area is within the Shirley Basin-Medicine Bow black-footed ferret experimental release area. Ferret habitat is primarily prairie dog towns.

Critical habitat for the Preble's meadow jumping mouse has been designated along 4 streams within the Casper Planning Area. Less than 2 percent of the critical habitat is on public lands.

Table 7. Special Status Animal Species in the Casper Planning Area

Common Name	Rank Designation[1]
Baird's sparrow	Sensitive
Bald Eagle	Threatened
Black-footed ferret	Endangered
Black-tailed prairie dog	Candidate
Brewer's sparrow	Sensitive
Burrowing owl	Sensitive

Common Name	Rank Designation[1]
Eskimo curlew[2]	Endangered
Ferruginous hawk	Sensitive
Fringed myotis	Sensitive
Greater sage-grouse	Sensitive
Interior least tern[2]	Endangered
Loggerhead shrike	Sensitive
Long-billed curlew	Sensitive
Long-eared myotis	Sensitive
Mountain plover	Proposed (withdrawn)
Northern goshawk	Sensitive
Northern leopard frog	Sensitive
Pallid sturgeon[2]	Endangered
Peregrine falcon	Sensitive
Piping plover[2]	Threatened
Preble's meadow jumping mouse	Threatened
Sage sparrow	Sensitive
Sage thrasher	Sensitive
Spotted bat	Sensitive
Swift fox	Sensitive
Townsend's big-eared bat	Sensitive
Trumpeter swan	Sensitive
White-faced ibis	Sensitive
White-tailed prairie dog	Sensitive
Yellow-billed cuckoo	Sensitive

Sources: BLM 2002a; USFWS 2003.

[1]Sensitive = BLM Sensitive Species; Threatened, Endangered, Proposed, Candidate/Status in accordance with the ESA.

[2] Species does not occur in the Casper Field Office area; occurs in habitat subject to hydrologic influence of Casper Field Office

2.17.1.2 Plants

Special status plant species that occur or have habitat available in the Casper Planning Area are listed in **Table 8**. The list includes three of the four plant species within Wyoming listed as either endangered or threatened under the ESA. In addition, one federally threatened plant species, the western prairie fringed orchid, which occurs in Nebraska within the Platte River System, is included. The western prairie fringed orchid may be affected by losses of

water in the Platte River drainage. Six species designated by Wyoming BLM as sensitive are also included in Table 8.

Table 8. Special Status Plant Species in the Casper Planning Area

Species	Common Name	Rank Designation[1]
Aquilegia laramiensis	Laramie columbine	Sensitive
Artemisia porteri	Porter's sagebrush	Sensitive
Astragalus nelsonianus	Nelson's milkvetch	Sensitive
Cleome multicaulis	Many-stemmed spiderflower	Sensitive
Cymopterus williamsii	Williams' wafer- parsnip	Sensitive
Gaura neomexicana var. *coloradensis*	Colorado butterfly plant	Threatened
Penstemon haydenii	Blowout penstemon	Endangered
Platanthera praeclara[2]	Western prairie fringed orchid	Threatened
Sphaeromeria simplex	Laramie false sagebrush	Sensitive
Spiranthes diluvialis	Ute ladies' tresses	Threatened

Sources: BLM 2002a; USFWS 2003.

[1]Sensitive = BLM Sensitive Species; Threatened, Endangered, Proposed, Candidate – Status in accordance with the ESA.

[2] Species does not occur in the Casper Field Office area; occurs in habitat subject to hydrologic influence of Casper Field Office.

2.17.2 Current Management Practices

2.17.2.1 Animals

No management actions are permitted on BLM lands that would jeopardize the continued existence of species that are federally listed, proposed for listing, or candidates for listing. Casper Field Office requires surveys of all areas of suitable habitat for federally listed, proposed, or candidate species prior to engaging in surface disturbance activities. Appropriate measures to protect all special status species are applied to agency actions and use authorizations.

2.17.2.2 Plants

No management actions are permitted on BLM lands that would jeopardize the continued existence of species that are federally listed, proposed for listing, or candidates for listing. Casper Field Office requires surveys of all areas of suitable habitat for federally listed, proposed, or candidate species prior to engaging in surface disturbance activities. Appropriate measures to

protect all special status species are applied to agency actions and use authorizations. For the Casper Planning Area, these measures frequently include avoidance of wet habitats, which protects wetlands as well as habitat for Ute ladies' tresses and Colorado butterfly plant, two of the three federally listed species that occur or have habitat in the Casper Field Office managed area. The other federally listed species, blowout penstemon, occurs in the western Nebraska sandhills and in the Rawlins, Wyoming area, but has not yet been found in sandhill blowouts in the Casper Planning Area.

2.17.3 Management Issues and Concerns

There is increasingly more interest and controversy surrounding management of threatened, endangered, 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. Additional issues may be identified through public scoping.

2.17.3.1 Animals

- 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 sage-grouse and prairie dog populations have been recommended in recent conservation plans to preclude these species from being listed under the ESA. However, new restrictions will be controversial to other resource users.

2.17.3.2 Plants

- 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.

2.18 Transportation and Access

2.18.1 Overview

The Casper Field Office access program is aimed at managing access to and across public lands. The main objectives of this 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 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 Planning Area and provides a link to I-80 and I-90 located to the south and north, respectively

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 Planning Area and provides a link to I-80 and I-90 located to the south and north, respectively (**Figure 7**). 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 Planning Area. 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 & Santa Fe Railroad Company.

2.18.2 Current Management Practices

The existing RMP addresses access and transportation program issues. Based on a 1995 analysis, about 67 percent of public lands within the Casper Planning Area are legally accessible to the public. Physical access may be limited by the landscape of the planning area and the patchwork land ownership; vehicle access may certainly be hampered or unavailable.

Most access program activities within the Casper Planning Area are coordinated with federal, state, local, and as appropriate, tribal agencies. The 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 Planning Area is already in place, and no need for additional major transportation facilities has been identified. Most efforts on transportation infrastructure are used for reconstruction of older or damaged facilities and routine maintenance.

2.18.3 Management Issues and Concerns

The following issues and management concerns for the Casper Field Office have been identified:

- The following areas have been identified as needing improved access -- Casper Sand Dunes; north and west of Alcova Reservoir; Ross Road, Cottonwood Creek, Poison Spider Creek, Edgerton, Okie Pasture, Bolton Creek, and 33 Mile Road. In what specific areas should the BLM work toward developing additional access to public lands?

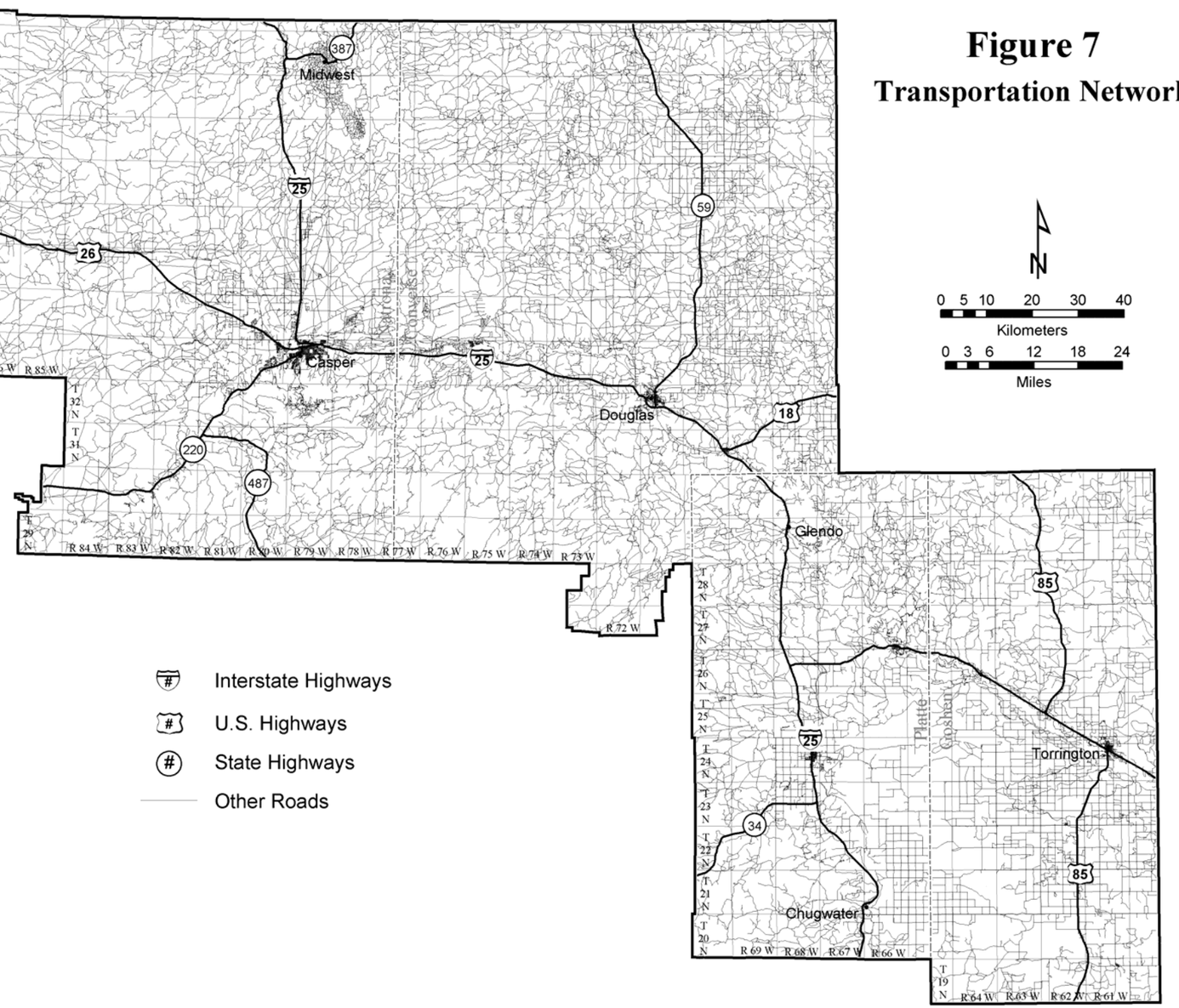


Figure 7
Transportation Network

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2.19 Vegetative Resources

2.19.1 Overview

Vegetative resources in the Casper Planning Area 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. The distribution of the different vegetative community types in the planning area is presented in **Figure 8**.

2.19.1.1 Grassland and Shrubland Communities

Shrub communities are diverse throughout the Casper Planning Area 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 consisting 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 Casper Planning Area on soils with at least moderate amounts of salinity. A good example of where greasewood can be found is along lower Bates Creek in Natrona County. 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 curlleaf 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.

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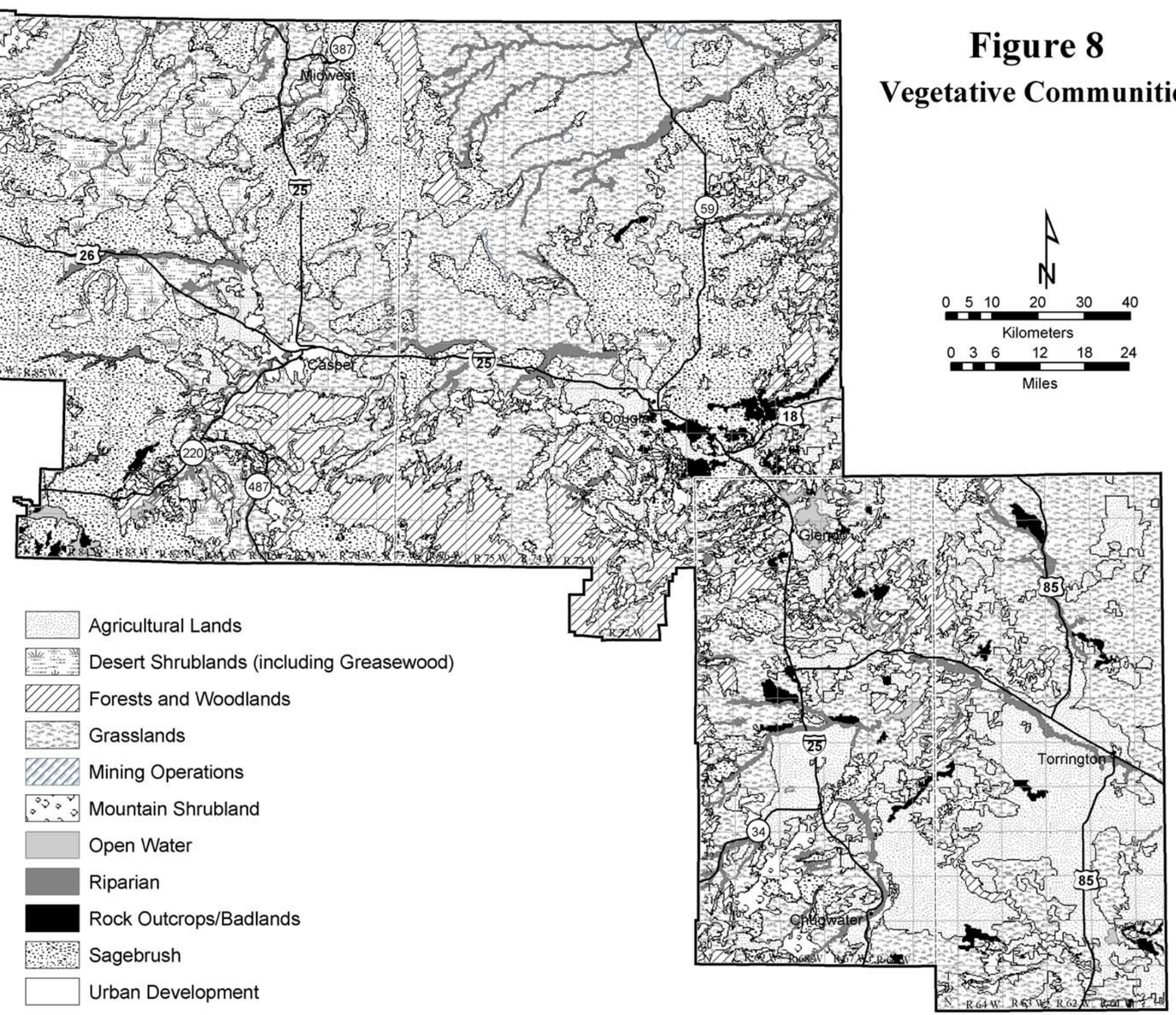

Figure 8
Vegetative Communities

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Sagebrush communities, the most common vegetative type in the Casper Planning Area, cover 630,221 acres or 46.3 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 antelope and mule deer as well as being a staple for greater sage-grouse. In general, sagebrush communities provide forage, hiding and/or nesting cover, and habitat for wildlife species. An important component of all the sagebrush communities is fire.

Sagebrush communities, the most common vegetative type in the Casper Planning Area, cover 630,221 acres or 46.3 percent of the total acreage.

2.19.1.2 Riparian and Wetland Communities

Riparian and wetland communities account for a small percentage (less than one percent) of the public lands within the Casper Planning Area. Typically, these communities produce more plant and animal biomass per unit area than adjacent upland areas do. 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 planning area. Many of the riparian and wetland areas have been classified as proper functioning condition (PFC), functional at risk (FAR), or nonfunctional (NF). **Table 9** shows the amount of riparian/wetland areas that have been evaluated and their condition classes.

Table 9. Results of Proper Functioning Condition Assessment of Riparian/Wetland Areas within Casper Planning Area

Riparian/ Wetland Type	Total Area Evaluated	Proper Functioning Condition	Functional at Risk	Nonfunctional
Lakes, Reservoirs, Ponds	930 acres	877 acres	26 acres	27 acres
Streams, Rivers	203 miles	96 miles	74 miles	33 miles

Source: BLM 2003c

2.19.1.3 Woodland and Forest Communities

The Casper Field Office administers approximately 61,000 acres of forest and woodland. Of that acreage, the existing RMP classifies 34,000 acres as forestland, and the 2002 Forest and Woodland Action Plan categorizes 27,000 acres of the Casper Field Office as woodland (BLM 1985, 2002b). Approximately 8,000 acres of the forestland is identified as commercial timberland, and the remaining 26,000 as non-commercial. 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. Woodland species are occasionally used for firewood, decorative or hobby applications, but are not important commercially. These communities have important ecological values especially wildlife habitat.

Aspen throughout the interior west appears to be declining (Brown 1995; Bartos and Campbell 1998; Rogers et al. 1998; Rogers 2001). According to a report on forest health published by the Wyoming State Division of Forestry, forest health data shows that the average age of aspen forest is 68 years. The report also points out that conifer invasion is occurring in most aspen stands, which will likely result in further reductions in aspen presence. Barring any major surface disturbance (e.g., fire, mechanical treatment), the majority of the aspen stands will eventually be replaced by conifers (Koch et al. 2001). Aspen stands provide a rich understory of vegetation, are utilized extensively by wildlife and livestock, and often provide a critical riparian/wetland component in the forest system.

2.19.1.4 Invasive, Non-native Plant Species

The spread of invasive, non-native plant species contributes to the loss of rangeland productivity, increased soil erosion, reduced water quantity and quality, reduced structural and species diversity, and loss of wildlife habitat. In some instances, these species are hazardous to human health and welfare, as emphasized in the Federal Noxious Weed Act (PL 93-629) and Executive Order 13112.

Most, if not all, invasive, non-native plant species infestations began as small patches in disturbed areas, such as corridors, oil and gas locations, range improvement projects, road sides, rights-of-way, and mining operations. Seeds of these exotic plants were unknowingly transported to these areas where habitats, free of established competition, were found. These small infestations were not identified or treated, and the infestations spread into surrounding areas resulting in serious infestations.

The goals of Casper Field Office regarding invasive, non-native plant species are:

- To develop a prevention and early detection program for invasive plant species;
- To generate internal and external support for invasive, non-native plant species control through public outreach programs;
- To ensure that adequate baseline data are available on the distribution and density of invasive plant species;
- To address invasive, non-native plant species management in all BLM-funded or authorized activities;
- To determine the best methods for an integrated approach to weed management and implement on-the-ground operations;
- To promote management for invasive, non-native plant species across jurisdiction and political boundaries; and
- To evaluate management actions, provide a basis for making informed decisions, assess progress toward management objectives, and develop new and more effective management tools.

The Casper Field Office operates under invasive, non-native plant species protocols as set forth in the following documents: 1) Vegetation Treatment on BLM Lands in the Thirteen Western States FEIS and ROD (1991) and as revised; 2) Partners Against Weeds, An Action Plan for the Bureau of Land Management; 3) Executive Order 13112-1999 that provides recent guidance to federal agencies regarding invasive, non-native plant species; and 4) Cooperative agreements with relevant weed and pest control districts (KA010009 Natrona County; KAA010018 Converse County; KAA010017 Goshen County; and KAA010021 Platte County).

2.19.2 Current Management Practices

2.19.2.1 Grassland and Shrubland Communities

Current management practices of upland grass and shrub communities are covered under various resources including range management, riparian management, soils management, forest management, and grazing. Forage is managed on a sustained yield basis as required by the Taylor Grazing Act and FLPMA.

2.19.2.2 Riparian and Wetland Communities

BLM's goals for riparian and wetland areas are to maintain, rehabilitate, and improve riparian ecosystems to achieve maximum long-term benefits according to the 1987 State Directors Riparian Policy. Several legislative acts, Executive Orders, and other policies specify management of riparian/wetland systems and the wildlife and plants within these systems.

Proper functioning condition of riparian and wetland communities is important for the interests of livestock ranchers, wildlife, recreationists and tourists, and researchers.

Proper functioning condition of riparian and wetland communities is important for the interests of livestock ranchers, wildlife, recreationists and tourists, and researchers. The Casper Field Office seeks to preserve riparian/wetland areas. Management in these areas may include habitat improvement projects, restrictions or prohibitions of certain activities near riparian/wetland areas, monitoring range condition, stream improvement and use of areas by wildlife, control of noxious weeds, and recreation guidelines.

2.19.2.3 Woodland and Forest Communities

A total of 3,314 thousand board feet (MBF) of sawtimber was harvested from 1983 to 1991. Firewood, posts and poles were harvested as well. From 1992 to 2001 there has been no activity in the forest program due to the absence of funding, and no active forest management has occurred on forestlands from 1990 to 2001. There has been no annual appropriation for the forest program since 1992. In 2001, a forest plan was prepared and initiated for the Muddy Mountain EEA. Firewood as well as posts and poles have been harvested there in 2001 and 2002 as a result. There have been 192 cords of firewood and 1,223 post/poles sold. The plan provides for Christmas tree sales also, but no sales have been initiated to date. Prescribed fire is used to regenerate aspen stands for improved wildlife habitat.

2.19.2.4 Invasive, Non-native Plant Species

The Casper Field Office controls invasive, non-native plant species on public lands through cooperative agreements with County Weed Control Districts. County weed districts and BLM's resource users have generally been able to meet the control needs of BLM through the use of biological control agents and herbicides. The Casper Field Office has one ACEC in which invasive, non-native plant species are addressed (Salt Creek ACEC).

The Casper Field Office is targeting plants that are designated on the State of Wyoming noxious weed list or declared on the county noxious weed lists (**Table 10**). The primary species being targeted on the public lands include several knapweeds, leafy spurge, dalmation toadflax, several species of thistle, houndstongue, field bindweed, and puncture vine. These plants are typically found in sagebrush/grassland, desert shrub and riparian/wetland communities. Saltcedar is invading riparian/wetland areas. Saltcedar was only recently added to the state's designated noxious weed list; treatments on public land within the Casper Planning Area began in 2002.

It is unlikely that most of these invasive, non-native plant species will ever be eradicated. The goal is to initiate an invasive, non-native plant species strategy as described in Partners Against Weeds, An Action Plan for the Bureau of Land Management.

Table 10. Wyoming Weed and Pest Control Act Designated Noxious Weed List

Common Name	
Canada thistle	Scotch thistle
Common tansy	St. Johnswort
Field bindweed	Dalmatian toadflax
Hoary cress (whitetop)	Dyers woad
Leafy spurge	Musk thistle
Ox-eye daisy	Spotted knapweed
Perennial pepperweed (giant whitetop)	Houndstongue
Perennial sowthistle	Common burdock
Quackgrass	Plumeless thistle
Russian knapweed	Purple loosestrife
Skeletonleaf bursage	Diffuse knapweed
Yellow toadflax	Saltcedar

Non-native, annual bromes, in particular downy and Japanese bromes, are invading grassland, sagebrush grassland, mixed grass prairie, desert shrub and mountain shrub communities. The State of Wyoming has not yet listed any non-native, annual bromes as designated noxious weeds. Using currently available approved herbicides the Casper Field Office is initiating limited control efforts on non-native bromes.

The most effective control of invasive, non-native plant species in the Casper Planning Area results from the combination of biological control and chemical treatments. Casper Field Office is chemically treating approximately 850 acres of invasive, non-native plant species annually. There are insufficient data to project the rate of invasive, non-native plant species increase. Based on observations and reports given by the weed districts, treatment efforts appear to be keeping invasive, non-native plant species populations from continued rapid spread but are not necessarily reducing existing population size.

2.19.3 Management Issues and Concerns

2.19.3.1 Grassland and Shrubland Communities

The various uses of BLM-administered public lands will continue to require BLM to develop goals and objectives for grassland and shrubland communities and maintain healthy communities for wildlife and livestock grazing. General issues and management concerns include:

- There are no clear goals or objectives on what kind of vegetative communities are desired to sustain viable populations and diversity of

plant and animal species and healthy functioning watersheds. What does the public want to see? How receptive is the public to certain treatments such as prescribed fire?

- Increasingly more interest and controversy surround the management of threatened, endangered, and sensitive species. The desired habitat conditions or desired plant communities needed for these species should be defined on a landscape-level basis.
- Various tools are available to manage vegetative communities. These include mechanical, chemical, biological, or prescribed fire treatments. Mechanical, treatments may include logging, mowing, or chaining. Chemical treatments use herbicides to kill, thin, or set back plants. Biological treatments may include using livestock or insects. Prescribed fire includes planned and potentially unplanned natural fire to reach specific goals and objectives. Some treatments may be more appropriate to use in some areas than others, depending upon their impact on other resource values or interests. Where, when, how much, and how often are these practices needed to sustain healthy ecosystems?
- What management practices and resource development projects will help achieve new management objectives for livestock grazing, wildlife habitat, non-threatened and endangered species, and watershed enhancement on public lands?

2.19.3.2 Riparian and Wetland Communities

Although the amount of riparian/wetland habitat in the Casper Planning Area is small, conservation of this habitat is important to management needs. Management issues and concerns include:

- The condition or health of riparian/wetland communities can affect water quality, which will become more of an issue in the future.
- Considering the diversity and productivity of riparian/wetland areas, should the BLM provide for special management or protection within these areas?
- In recent surveys, most of the riparian areas have been rated as FAR or PFC. How can we further improve these areas to a Preferred Natural Community, which would provide even more benefits to grazing and many wildlife species?
- What management practices and resource development projects will help achieve new management objectives for livestock grazing, wildlife habitat, non-threatened and endangered species, and watershed enhancement on public lands?

2.19.3.3 Woodland and Forest Communities

The primary management concerns are summarized below. Additional issues may be identified during public scoping.

- The lack of clear landscape goals, objectives, or desired future condition for vegetative communities within the planning area is hampering management efforts to sustain viable populations and diversity of plant and animal species as well as healthy and functioning watersheds.
- Various tools are available to manage vegetative communities. These include mechanical, chemical, biological, or prescribed fire treatments. Mechanical, treatments may include logging, mowing, or chaining. Chemical treatments use herbicides to kill, thin, or set back plants. Biological treatments may include using livestock or insects. Prescribed fire includes planned and potentially unplanned natural fire to reach specific goals and objectives. Some treatments may be more appropriate to use in some areas than others, depending on their impact on other resource values or interests. Where, when, how much, and how often are these practices needed to sustain healthy ecosystems?
- What management practices and resource development projects will help achieve new management objectives for wildlife habitat, non-threatened and endangered species, and watershed enhancement on public lands?
- Many aspen communities within the planning area consist of mature and decadent trees with very little recruitment. Aspen communities appear to be declining throughout the planning area. Is it important that this decline be reversed and how should this be accomplished?
- Juniper dominated communities often become less diverse over time due to junipers ability to extract water from dry soils. This can result in a monoculture of juniper. In the latter state high-intensity wildfire can occur in the hot season. How many juniper communities are in this state and what actions should be taken to change this state?

2.19.3.4 Invasive, Non-native Plant Species

Invasive, non-native plant species are present and increasing on public lands. These plants are detrimental to the health and productivity of native plant communities and even alter ecosystem function.

- How should BLM develop an integrated weed management program that is supported by all adjacent surface owners as well as users of public lands?

2.20 Visual Resource Management

2.20.1 Overview

VRM in the Casper Planning Area focuses on values and resources existing throughout the planning area. VRM addresses the visual quality of landscapes and covers views of native landscapes and unique areas with high visual quality. 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 planning area boundary of the Casper 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 with riparian areas, adding important diversity and richness to the visual setting.

Brooding, red cliffs overlook verdant springtime vegetation with riparian areas, adding important diversity and richness to the visual setting.

Through a broad range of regulations and planning criteria, BLM is required to manage BLM-administered lands in a manner that will preserve scenic values. FLPMA and NEPA include federal mandates, while documents such as BLM Manual 8400-VRM and BLM Manual 8410-1-Visual Resource Inventory and Evaluation are essential in carrying out the process and developing proper management actions. Through VRM, BLM protects against visual impacts while maintaining sociologically important resource values.

BLM's VRM classification system consists of three phases:

1. Inventory (Visual Resource Inventory);
2. Establishment of management classes through land use plans; and
3. Analysis of management actions to ensure compliance (Visual Resource Contrast Rating).

BLM categorizes visual resources into four distinctive classes, which are based on scenic quality evaluations, sensitivity level analysis, and the delineation of distance zones. The classes are as follows:

- Class I: This class provides for natural ecological changes only.
- Class II: Changes within the basic elements (form, line, color or texture) should not be evident in the characteristic landscape.
- Class III: Changes in the basic elements (form, line, color or texture) may be evident in the characteristic landscape. However, changes must remain subordinate to the visual strength of the existing character.
- Class IV: Changes may be dissimilar from the original composition and character, but must reflect what could be a natural occurrence within the characteristic landscape.

The area managed by the Casper Field Office's Watershed and Water Resources Program is located in the North Platte, Cheyenne, Powder, Wind, and Niobrara River watersheds, which are all tributaries to the Missouri River.

VRM classes are established through the RMP process and adjustments are made to reflect resource allocation decisions made in the RMP. The goal of VRM is to minimize the visual impacts of all surface-disturbing activities regardless of the class in which they occur.

2.20.2 Current Management Practices

The VRM classes for the Casper Planning Area were established with the Platte River Resource Area Oil and Gas EA of 1981. Class determinations were completed using an overlay technique that combined vegetation

communities and major travel routes. The majority of the planning area is characterized as Classes III and IV. Five areas in Natrona County were excluded from consideration during the analysis; as a result, no VRM class determinations have been made for these areas. The excluded areas include the Naval Petroleum Reserve #3, Southern Big Horn Mountains, Salt Creek Drainage ACEC, and two smaller federal parcels. The Navel Petroleum Reserve #3 is not in the jurisdiction of BLM. Both the Southern Bighorn Mountains and the Salt Creek Drainage ACEC had previously developed management plans. BLM currently authorizes activities on BLM-administered lands that range from vegetation and habitat improvement projects to large-scale energy, mineral and mining operations, all of which have the potential to impact visual resources. The BLM is preparing a Visual Resource Inventory of the planning area. The results of this inventory will be used to assist in the establishment of VRM Classes during this planning process.

The BLM is preparing a Visual Resource Inventory of the planning area. The results of this inventory will be used to assist in the establishment of VRM Classes during this planning process.

2.20.3 Management Issues and Concerns

Public issues concerning VRM focus on the quality of recreation experiences on public lands, protecting landscapes along the National Historic Trails, a heightened awareness of scenic values and of the existing scenic quality for some residents and visitors, and the cost to development of mitigation. In addition:

- BLM's management of the visual integrity of national historic trails, major highways, backcountry byways, and recreation areas may affect other users.

2.21 Water Resources

2.21.1 Overview

The area managed by the Casper Field Office's Watershed and Water Resources Program is located in the North Platte, Cheyenne, Powder, Wind, and Niobrara River watersheds, which are all tributaries to the Missouri River. Groundwater resources within the Casper Planning Area occur in five structural basins – Powder River, Wind River, Laramie, Shirley, and Denver Basins. The Watershed and Water Resources Program primarily plays a support role in the Casper Planning Area. Data collection, resource monitoring, and analysis are generally done in support of other activities such as range management, forest management, and mineral extraction. **Figure 9** presents major streams and lakes in the Casper Planning Area.

2.21.2 Current Management Practices

Control and allocation of water within the boundaries of the Casper Planning Area is primarily the responsibility of the Wyoming State Engineers Office, which administers all of the waters of the state, and the U.S. Bureau of Reclamation, which administers dam and reservoir systems along the North

Platte River. The BLM is responsible for the management of federal lands and minerals in a manner that maintains or enhances water quality and quantity for other uses. Other administrating agencies include the Wyoming Board of Control and the Wyoming DEQ.

Water is used primarily for agricultural, municipal, and industrial purposes. Water-based recreation and use by fish and wildlife are also prevalent in the planning area.

Water is used primarily for agricultural, municipal, and industrial purposes. Water-based recreation and use by fish and wildlife are also prevalent in the planning area. Agricultural use consists primarily of livestock watering and irrigation. The irrigation use is primarily for forage production for the livestock industry. Recent court decisions have established water allocations within the North Platte River drainage that limit use of water within the planning area.

The BLM has developed various types of water resource plans and stipulations to manage its water resources. For example, watershed plans are commonly used to address degradation of specific streams and other riparian resources. Also, water resource protection plans and stipulations can be used to prohibit development within a certain distance from surface water resources such as streams, lakes, reservoirs, and groundwater resources such as wells and springs. Other water management plans can address especially fragile areas in specific locations and water resources with special designations.

2.21.3 Management Issues and Concerns

No specific management issues and concerns have been identified to date. Specific management issues and concerns may be identified during public scoping.

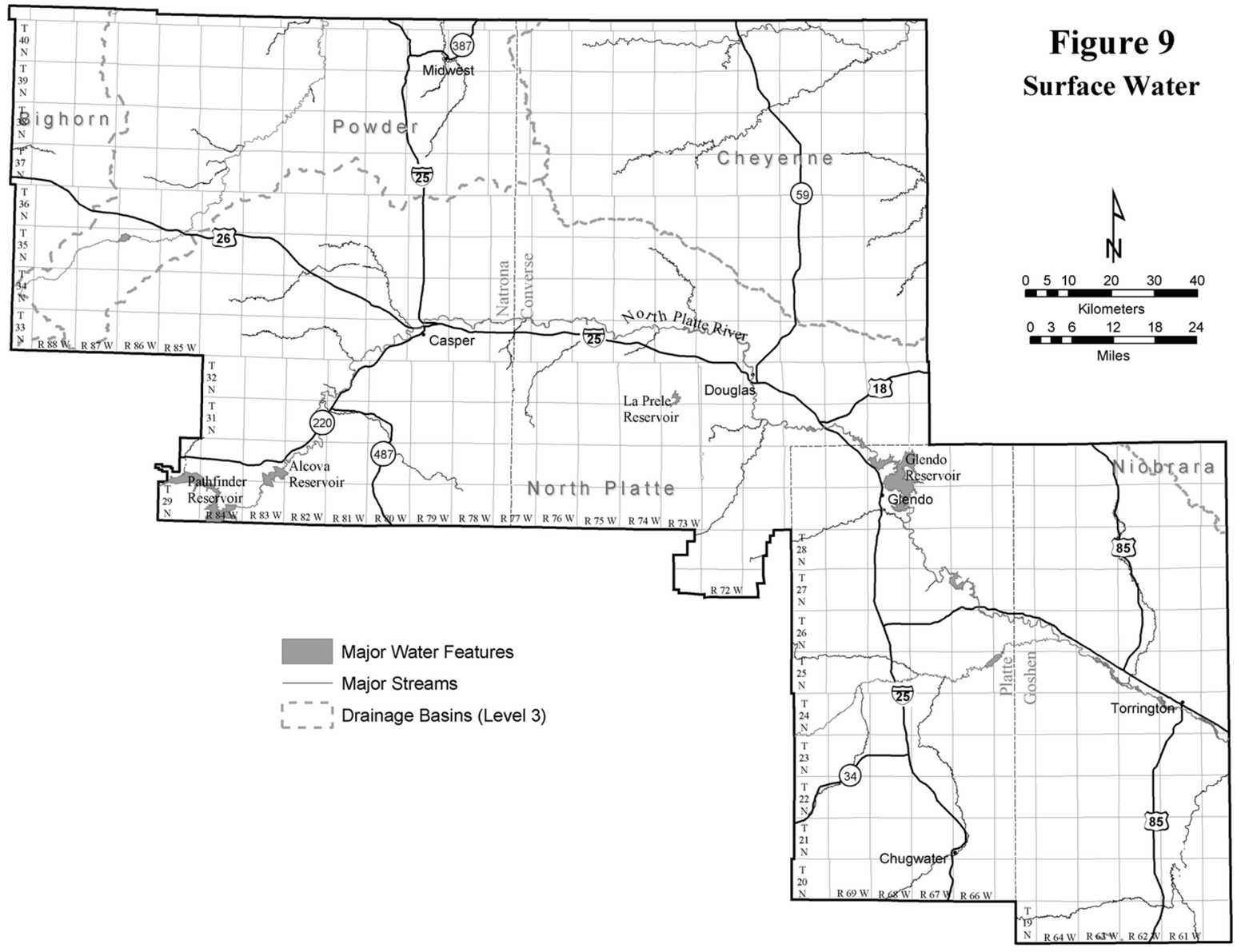

Figure 9
Surface Water

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CHAPTER 3.0 WHERE DO WE GO FROM HERE?

This chapter briefly identifies the next steps in the RMP revision process. Information on providing feedback is described and a form to be placed on the mailing list is provided at the end of this document.

3.1 Next Steps

The summary of the MSA has been distributed for public and agency review. Scoping meetings on the RMP revision are scheduled to occur the week of November 10, 2003. Shortly thereafter, the formulation of alternatives process will begin. This process will consider the input received during review of the Summary of the MSA and scoping. Alternative formulation will be a collaborative process and involve input from the cooperating agencies. The RMP revision process is outlined in Chapter 1.0.

3.2 Providing Feedback

The BLM always welcomes comments on land and resource management in the Casper Planning Area. Specifically, the BLM is requesting help in identifying additional issues and concerns, management alternatives, or other ideas to be considered in the planning effort. The most helpful comments are regarding the current document. It is most useful when you include the reason behind your support for, or opposition to, the proposed topics for revision or other information contained in the topic discussion. Please help us not only to know what you think, but also to understand why.

Specifically, the BLM is requesting help in identifying additional issues and concerns, management alternatives, or other ideas to be considered in the planning effort.

Public comments submitted for this planning effort, including names and street addresses of respondents, will be available for public review in their entirety after the comment period closes at the Casper Field Office during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except federal holidays. Individual respondents may request confidentiality. If you wish to withhold your name or address from public review or from disclosure under the Freedom of Information Act (FOIA), you must state this prominently at the beginning of your comments. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals or officials representing organizations or businesses, will be made available for public inspection in their entirety.

There are several ways you can communicate with us:

Write Soon! While this is only the beginning of the revision process, we want to incorporate your comments into the next steps in the process. So

please write to Linda Slone, RMP Project Manager, BLM Casper Field Office, 2987 Prospector Drive, Casper, Wyoming 82604-2968 by November 20, 2003.

Website. You may also send comments or questions and access important RMP revision information by visiting the RMP revision website at: www.blm.gov/rmp/casper.

Let's Talk! If you have questions, you may also call Linda Slone, RMP Project Manager, at 307-261-7600. BLM staff is happy to come to your next group meeting or meet with you at our office to answer questions and hear your views on the RMP revision.

Request to be Added to the RMP Revision Mailing List

If you are not already on the mailing list for the BLM Casper Field Office RMP revision, please write your name and address below.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Detach and send this page to:

BLM Casper Field Office
2987 Prospector Drive
Casper, Wyoming 82604-2968
Attention: RMP Revision

Public comments submitted for this planning effort, including names and street addresses of respondents, will be available for public review in their entirety after the comment period closes at the Casper Field Office during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except federal holidays. Individual respondents may request confidentiality. If you wish to withhold your name or address from public review or from disclosure under FOIA, you must state this prominently at the beginning of your comments. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals or officials representing organizations or business, will be made available for public inspection in their entirety.

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APPENDIX A
PRELIMINARY PLANNING ISSUES AND CRITERIA

APPENDIX A – PRELIMINARY PLANNING ISSUES AND CRITERIA

The following preliminary planning issues and planning criteria have been identified to date. Additional planning issues and planning criteria may be identified during public scoping.

Preliminary Planning Issues

A. Energy and mineral resource exploration and development;

B. Access to and transportation on BLM lands;

C. Recreation and off-highway vehicle management;

D. Wildlife habitat and management of crucial habitat and migration corridors;

E. Management and cumulative effect of land uses and human activities on threatened, endangered, candidate, and sensitive species and their habitats;

F. Vegetation, including impacts of invasive, non-native species;

G. Management of cultural and paleontological resources, including National Historic Trails;

H. Land ownership adjustments;

I. Fire management;

J. Livestock grazing;

K. VRM; and,

L. Air and water quality.

Preliminary Planning Criteria

The BLM identified the following preliminary planning criteria to guide resolution of the issues considered in the planning effort. The BLM may revise these criteria during the planning process or in response to public comment.

A. The revised RMP will recognize valid existing rights.

B. The revised RMP will comply with all applicable laws, regulations, policy, and guidance.

C. Planning decisions will cover BLM-administered public lands, including split-estate lands where the subsurface minerals are severed from the surface right, and the BLM has legal jurisdiction over one or the other.

D. The RMP planning effort will be collaborative and multi-jurisdictional in nature. The BLM will strive to ensure that its management decisions are complimentary to other planning jurisdictions and adjoining properties, within the boundaries described by law and regulation.

E. The environmental analysis will consider a reasonable range of alternatives that focus on the relative values of resources and respond to the issues. Management prescriptions will reflect the principles of multiple use and sustained yield.

F. The BLM will use current scientific information, research, new technologies, and the results of resource assessments, monitoring, and coordination to determine appropriate local and regional management strategies that will enhance or restore impaired ecosystems.

G. The Wyoming Standards for Healthy Rangelands will apply to all activities and uses.

H. The BLM will address socioeconomic conditions and environmental justice.

I. The BLM will provide for public safety and welfare relative to fire, hazardous materials, and abandoned mine lands.

J. Visual Resource Management (VRM) class designations will be analyzed and modified to reflect present conditions and future needs.

K. The BLM will consider present and potential uses of the public lands through the development of reasonably foreseeable future development and activity scenarios based on historical, existing, and projected levels of use.

L. Planning decisions will include the preservation, conservation, and enhancement of cultural, historical, paleontological, and natural components of public land resources, while considering energy development and other surface-disturbing activities.

M. The BLM will coordinate with Native American tribes to identify sites, areas, and objects important to their cultural and religious heritage.

N. Planning decisions will comply with the Endangered Species Act and the BLM interagency agreements with the U.S. Fish & Wildlife Service regarding consultation.

O. Areas potentially suitable for ACECs or other special management designations will be identified, and where appropriate, brought forward for analysis in the EIS.

P. Waterway segments have been classified and determinations of eligibility and suitability made in accordance with Section 5(d) of the Wild and Scenic Rivers Act. Appropriate management prescriptions for maintaining or enhancing the outstanding remarkable values and classifications of waterway segments meeting suitability factors will be part of the RMP revision.

Q. OHV management decisions in the revised RMP will be consistent with the BLM's National OHV Strategy.

R. Decisions in the revised RMP will adhere to the goals and objectives of the National Energy Policy as well as the Energy Policy and Conservation Act.

S. Known areas in the Casper Planning Area with coal development potential are located in northeastern Converse County. Coal screening determinations were made on these areas during planning efforts for the Buffalo RMP and the Thunder Basin National Grasslands Land and Resource Management Plan. No additional coal screening determinations or coal planning decisions are planned for the Casper RMP, unless public submissions of coal resource information or surface resource issues indicate a need to update these determinations.

APPENDIX B
PLANT AND WILDLIFE SCIENTIFIC AND COMMON NAMES

APPENDIX B – PLANT AND WILDLIFE SCIENTIFIC AND COMMON NAMES

Common Name	Scientific Name
PLANTS	
Basin big sagebrush	*Artemisia tridentata*
Beaver Rim phlox	*Phlox pungens*
Birdfoot sagebrush	*Artemisia pedatifida*
Black henbane	*Hyoscyamus niger*
Blowout penstemon	*Penstemon haydenii*
Canada thistle	*Cirsium arvense L.*
Chokecherry	*Prunus virginiana*
Colorado butterfly plant	*Gaura neomexicana var. coloradensis*
Common burdock	*Arctium minus (Hill) Bernh.*
Common tansy	*Tanacetum vulgare*
Curlleaf mahogany	*Cercocarpus ledifolius*
Currant	*Ribes spp.*
Dalmatian toadflax	*Linaria dalmatica (L.) Mill.*
Deep creek cinquefoil	*Potentilla multisecta*
Desert glandular phacelia	*Phacelia glandulosa* var. *deserta*
Diffuse knapweed	*Centaurea diffusa Lam.*
Divergent wild buckwheat	*Eriogonum divaricatum*
Dorn's twinpod	*Physaria dornii*
Douglas' campion	*Silene douglasii*
Douglas fir	*Pseudotsuga menziesii*
Downy brome	*Bromus tectorum*
Dyers woad	*Isatis tinctoria L.*
Entire-leaved peppergrass	*Lepidium integrifolium var. integrifolium*
Field bindweed	*Convolvulus arvensis L.*
Fullstem	*Chamaechaenactis scaposa*
Gardner saltbush	*Atriplex gardneri*
Garrett's beardtongue	*Penstemon scariosus* var. *garrettii*
Greasewood	*Sarcobatus vermiculatus*
Great Basin downingia	*Downingia laeta*
Halogeton	*Halogeton glomeratus*
Hayden's milkvetch	*Astragalus bisulcatus* var. *haydenianus*

Common Name	Scientific Name
Hoary cress (whitetop)	*Cardaria draba (L.) Desv. and Cardaria pubescens*
Houndstongue	*Cynoglossum officinale* L.
Japanese brome	*Bromus japonicus*
Juniper prickly-pear	*Opuntia polyacantha* var. *juniperina*
Laramie columbine	*Aquilegia laramiensis*
Laramie false sagebrush	*Sphaeromeria simplex*
Large-fruited bladderpod	*Lesquerella macrocarpa*
Leafy spurge	*Euphorbia esula* L.
Limber pine	*Pinus flexilis*
Lodgepole pine	*Pinus contorta var. latifolia*
Many-stemmed spiderflower	*Cleome multicaulis*
Moab milkvetch	*Astragalus coltonii var moabensis*
Mountain big sagebrush	*Artemisia tridentata var. vaseyana*
Mountain mahogany	*Cercocarpus montanus*
Musk thistle	*Carduus nutans* L.
Narrow-leaved bladderpod	*Lesquerella parvula*
Nelson's milkvetch	*Astragalus nelsonianus*
Nevada sweetpea	*Lathyrus lanszwertii* var. *lanszwertii*
Ox-eye daisy	*Chrysanthemum leucanthemum* L.
Perennial pepperweed (giant whitetop)	*Lepidium latifolium* L.
Perennial sowthistle	*Sonchus arvensis* L.
Plumeless thistle	*Carduus acanthoides* L.
Ponderosa pine	*Pinus ponderosa*
Porter's sagebrush	*Artemisia porteri*
Prostrate bladderpod	*Lesquerella prostrata*
Puncture vine	*Tribulus terrestris*
Purple loosestrife	*Lythrum salicaria* L.
Quackgrass	*Agropyron repens* L. *Beauv.*
Quaking aspen	*Populus tremuloides*
Rocky Mountain juniper	*Juniperus scopulorum*
Rufous-spine prickly-pear	*Opuntia polyacantha* var. *rufispina*
Russian knapweed	*Centaurea repens* L.
Saltcedar	*Tamarix spp.*
Scotch thistle	*Onopordum acanthium* L.
Serviceberry	*Amelanchier alnifolia*

Common Name	Scientific Name
Sickle saltbush	*Atriplex falcata*
Silver sagebrush	*Artemisia cana*
Skeletonleaf bursage	*Franseria discolor Nutt.*
Snowberry	*Symphoricarpos albus*
Sodaville milkvetch	*Astragalus lentiginosus* var. *salinus*
Spotted knapweed	*Centaurea maculosa Lam.*
St. Johnswort	*Hypericum spp.*
Subalpine fir	*Abies lasiocarpa*
Swallen mountain- ricegrass	*Achnatherum swallenii*
Trelease's racemose milkvetch	*Astragalus racemosus var. treleasei*
Tufted twinpod	*Physaria condensata*
Ute ladies' tresses	*Spiranthes diluvialis*
Wax currant	*Ribes cereum*
Western bladderpod	*Lesquerella multiceps*
Western prairie fringed orchid	*Platanthera praeclara*
White-margined phlox	*Phlox albomarginata*
Williams' wafer-parsnip	*Cymopterus williamsii*
Wood's rose	*Rosa woodsii*
Wyoming big sagebrush	*Artemisia tridentata var. wyomingensis*
Wyoming threetip sagebrush	*Artemisia tripartita*
Yellow toadflax	*Linaria vulgaris L.*
WILDLIFE	
Badger	*Taxidea taxus*
Baird's sparrow	*Ammodramus bairdii*
Bald eagle	*Haliaeetus leucocephalus*
Beaver	*Castor canadensis*
Bighorn sheep	*Ovis canadensis*
Black bear	*Ursus americanus*
Black-footed ferret	*Mustela nigripes*
Black-tailed prairie dog	*Cynomys ludovicianus*
Bluehead sucker	*Catostomus discobolus*
Bobcat	*Felis rufus*
Bonneville cutthroat trout	*Oncorhynchus clarki utah*
Bonytail chub	*Gila elegans*
Boreal toad	*Bufo boreas boreas*

Common Name	Scientific Name
Brewer's sparrow	*Spizella breweri*
Burrowing owl	*Athene cunicularia*
Canada lynx	*Lynx canadensis*
Colorado pikeminnow	*Ptychocheilus lucius*
Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*
Coot	*Fulica americana*
Coyote	*Canis latrans*
Elk	*Cervus elaphus*
Eskimo curlew	*Numenius borealis*
Ferruginous hawk	*Buteo regalis*
Flannelmouth sucker	*Catostomus latipinnis*
Fringed myotis	*Myotis thysanodes*
Gray wolf	*Canis lupus*
Great Basin spadefoot	*Spea intermontanus*
Greater sage-grouse	*Centrocercus urophasianus*
Grizzly bear	*Ursus horribilis*
Humpback chub	*Gila cypha*
Idaho pocket gopher	*Thomomys idahoensis*
Interior least tern	*Sternum antillarum anthalassos*
Leatherside chub	*Snyderichthys copei*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew	*Numenius americanus*
Long-eared myotis	*Myotis evotis*
Marten	*Martes americana*
Mink	*Mustela vison*
Mountain lion	*Puma concolor*
Mountain plover	*Charadrius montanus*
Mule deer	*Odocoileus hemionus*
Muskrat	*Ondatra zibethicus*
Northern goshawk	*Accipiter gentilis*
Northern leopard frog	*Rana pipiens*
Pallid sturgeon	*Scaphirhynchus albus*
Peregrine falcon	*Falco peregrinus*
Pheasant	*Phasianus colchicus*
Piping plover	*Charadrius melodus*

Common Name	Scientific Name
Preble's meadow jumping mouse	*Zapus hudsonius preblei*
Pronghorn antelope	*Antilocapra americana*
Pygmy rabbit	*Sylvilagus idahoensis*
Raccoon	*Procyon lotor*
Razorback sucker	*Xyrauchen texanus*
Red fox	*Vulpes vulpes*
Roundtail chub	*Gila robusta*
Sage sparrow	*Amphispiza belli*
Sage thrasher	*Oreoscoptes montanus*
Snake River (fine-spotted) cutthroat trout	*Oncorhynchus clarki ssp. 2*
Snipe	*Gallinago gallinago*
Spotted bat	*Euderma maculatum*
Spotted frog	*Rana luteiventris*
Swift fox	*Vulpes velox*
Townsend's big-eared bat	*Corynorhinus townsedii pallescens*
Trumpeter swan	*Cygnys buccinator*
Turkey	*Meleagris gallopavo*
White-faced ibis	*Plegadis chihi*
White-tailed deer	*Odocoileus virginianus*
White-tailed prairie dog	*Cynomys leucurus*
Yellow-billed cuckoo	*Coccyzus americanus*

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Acronyms and Abbreviations

~	Approximately
$\mu g/m^3$	micrograms per cubic meter
ACEC	Area of Critical Environmental Concern
AML	Abandoned Mine Land
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CO	carbon monoxide
COE	U.S. Army Corps of Engineers
DEQ	Department of Environmental Quality
DOD	U.S. Department of Defense
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EEA	Environmental Education Area
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAR	Functional At Risk
FLPMA	Federal Land Policy and Management Act
FOIA	Freedom of Information Act
FUDS	Formerly Used Defense Sites
HMP	Habitat Management Plan
I-25	Interstate 25
LBA	Lease by application
MBF	thousand board feet
MCF	thousand cubic feet
MSA	Management Situation Analysis
NAAQS	National Ambient Air Quality Standards
NADP	National Atmospheric Deposition Program
NDD	Natural Diversity Database
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
O_3	ozone
OHV	off-highway vehicle
PFC	proper functioning condition
PM_{10}	particulate matter 10 microns or less
$PM_{2.5}$	particulate matter 2.5 microns or less
PSD	Prevention of Significant Deterioration
RAMP	Recreation Area Management Plan
RCT	Regional Coal Team
RMA	Recreation Management Area
RMP	Resource Management Plan
ROW	right-of-way
SMA	Special Management Area
SO_2	sulfur dioxide
SRP	Special Recreation Permits
SSC	Species of Special Concern
TCP	Traditional Cultural Property
U.S.	United States
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management
WAAQS	Wyoming Ambient Air Quality Standards
WGFD	Wyoming Game and Fish Department
WGS	Wyoming Geological Survey
WUI	Wildland-Urban Interface