

3.0 Affected Environment

3.1 Introduction

This chapter characterizes the existing environment of the Planning Area. While the alternatives address VRM management within the smaller Decision Area (discussed in Section 1.5), the affected environment discussion focuses on resources within the larger Planning Area (a nominally 30-mile buffer from the CCSM project as discussed in Section 1.4 and shown on **Figure 1-1**). A side-by-side comparison displaying the variation of acreages within VRM classes by alternative is provided in **Table 4-2** of Chapter 4.0.

Although relevant environmental resources are described to some degree, emphasis is placed on those resources managed by the BLM that are substantially influenced by BLM's VRM actions. The following resources would not be affected by VRM class alternatives in the Decision Area and are not discussed further in this plan amendment: air quality, paleontology, socioeconomics, soils, wild horses, and wildlife and fish. For a general discussion of these resource values, refer to the Rawlins RMP Final EIS (BLM 2008a) for the following: air quality (Section 3.2, pp. 3-2 – 3-9); paleontology (Section 3.10, pp. 3-48 – 3-50); socioeconomics (Section 3.12, pp. 3-59 – 3-85); soils (Section 3.17, pp. 3-135 – 137); wild horses (Section 3.18, pp. 3-139 – 3-142); and wildlife and fish (Section 3.19, pp. 3-143 – 3-158).

This document is tiered to the Rawlins RMP Final EIS (BLM 2008a) and ROD (BLM 2008b), which provides the primary source of baseline information. Applicable information to the Planning Area has been summarized in the following sections and additional data or updates have been added as needed, with particular emphasis on those resources that have the highest potential to be affected. Additional information for all resources in the Planning Area can be found in Chapter 3.0 of the Rawlins RMP Final EIS (BLM 2008a). For ease of reference, the sections below are arranged alphabetically.

3.2 Cultural Resources

Section 3.3 and Section 3.13.2 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-10 – 3-18, 3-92 – 3-93) provides a general description of cultural resources in the RFO area and is herein incorporated by reference. Section 3.3 of the Rawlins RMP Final EIS (2008a) provides an overview of cultural resource sites and subregions found in the RFO area (pp. 3-10 – 3-11 and Table 3-3); a discussion of prehistoric sites and associated periods relevant to the RFO area (Section 3.3.2, pp. 3-11 – 3-13); historic area influences and associated sites (pp. 3-14 – 3-17); and resources that are considered sensitive and potentially sacred to modern Native American tribes (Section 3.3.3, pp. 3-17). Descriptions of the relevant history of the historic trails that cross the Planning Area are provided in Section 3.13.2 (pp. 3-92 – 3-93). Relevant information is summarized in this section.

Archaeological investigations indicate that prehistoric people likely inhabited the Planning Area. Prehistoric sites within the Planning Area may include lithic scatters, lithic material quarries, open camps, stone circles, rock shelters, house pits, rock cairns and alignments, game drive lines and kill sites, brush or pole structures, rock art, and human burials.

Additionally, historic-age sites including expansion-era trails, freight roads, and railroads also are located in the Planning Area. The historic era began in the early 1800s, with the arrival of well-organized fur trading expeditions in the region. Major themes represented by historic cultural resources include ranching, transportation, and mining. Remnants of the transcontinental Union Pacific Railroad (UPRR) are located within the Planning Area. The railroad was constructed through southern Wyoming Territory in 1867 and 1868. The original UPRR grade was abandoned in 1901. Much of the original grade has

been impacted by pipelines and road ROWs. The Lincoln Highway eventually followed the UPRR grade, and was part of the first national coast to coast modern highway system.

There also are four historic trails within the Planning Area: the Overland Trail, Cherokee Trail, Rawlins to Baggs Road, and Rawlins to Ft. Washakie Road. These historic transportation routes are managed to preserve and protect the historic trails to ensure that they are available for appropriate uses by present and future generations.

Of greatest concern are visual effects to cultural resource sites in which site setting contributes to their eligibility to the NRHP. These include, but are not limited to, the Rawlins Historic District, Parco/Sinclair Historic District, Rawlins to Baggs Road, Rawlins to Fort Washakie Road, Overland Trail, Lincoln Highway, and Fort Fred Steele, as well as to sites of traditional, cultural, or religious significance to Native Americans.

3.3 Wildland Fire and Fuels

Section 3.4 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a; pp. 3-18 – 3-20) provides a general description of wildland fire and fuels in the RFO area and is herein incorporated by reference.

Section 3.4 of the Rawlins RMP Final EIS (2008a) provides an overview of the wildland fire and fuels management program (pp. 3-18) and the primary ignition sources and potential for wildland fire occurrence in the RFO area (Section 3.4.1, pp. 3-18 – 3-19). Section 3.4 of the Rawlins RMP Final EIS (2008a) also discusses how fuels are managed (Section 3.4.2, pp. 3-19), the use of wildland fire (Section 3.4.3, pp. 3-19), the role of wildland fire in plant communities (Section 3.4.6, pp. 3-19), and emergency stabilization and rehabilitation (Section 3.4.7, pp. 3-20). WUI areas (Section 3.4.4, pp. 3-19) and community assistance with wildfire suppression (Section 3.4.5) also are discussed. Relevant information is summarized in this section.

Wildland fire, fuels treatments, and fuel loads influence the visual character of the Planning Area, and VRM can affect how treatments are conducted. The response to wildland fires in the Planning Area varies according to the evaluation of several factors, such as cause of the fire, public safety, weather and fuel conditions, and resource management objectives. Lightning is the primary ignition source for natural fires and the majority of strikes occur at higher elevations. The majority of human-caused fires occur along the I-80 and railroad corridors.

Drought and fire suppression have altered natural fire cycles and vegetation composition within some plant communities. This alteration could result in undesirable fire behavior and effects. Vegetation treatments, including prescribed fire, mechanical, chemical, and biological treatments, are used to reduce unnatural fuel loads and restore desired ecological conditions. In areas where private property would not be endangered, wildland fires are sometimes used as a vegetation treatment. Within the Planning Area, this would only apply to the southwest portion west of SH 789. There is a much greater need to suppress wildland fires in WUI areas. In the Planning Area, WUI areas are found in the southwest portion (near Baggs), northern portion (near the Seminoe Reservoir), and the southeastern portion (encompassing an area around the North Platte River from Saratoga down to Encampment and east towards Ryan Park). These areas receive priority for fuel reduction treatments. Map 2-1 of the Rawlins RMP ROD (2008b) displays fire management areas in the RFO area.

3.4 Forest Management

Section 3.5 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-21 – 3-23) provides a general description of forest management in the RFO area and is herein incorporated by reference. Section 3.5 of the Rawlins RMP Final EIS (2008a) provides an overview of forest management (pp. 3-21) and detailed descriptions of the Elk Mountain Forest (Section 3.5.2, pp. 3-22 – 3-23), which occurs in the Planning Area. Relevant information is summarized in this section.

Forest resources influence the visual character of the Planning Area, and VRM can affect how forest management activities are conducted. The condition or health of forest stands varies by location. The general absence of large fires over the past 80 years has made forests more susceptible to disease such as dwarf mistletoe, mountain pine beetle infestations, and newly introduced diseases such as white pine blister rust, which has increased the mortality rate and the amount of dead standing timber in federal forests. In addition, species such as lodgepole pine have not experienced the natural regenerative properties of fire. The woodland forest type (mainly limber pine) typically occupies drier south facing slopes, but is invading sagebrush-covered meadows in some locations and could create a desirable environment for other tree species in several decades. Conifers are encroaching on aspen stands, limiting aspen regeneration. Along with conifer encroachment, disease and insect damage also are playing a major role in the increasing mortality rate of older mature aspen clones. There also has been a decline in timber harvesting over the past decade, allowing for additional buildup of overall biomass. Map 3-1 of the Rawlins RMP Final EIS (2008a) displays forested lands and lands with potential for commercial harvest in the RFO area.

3.5 Lands and Realty

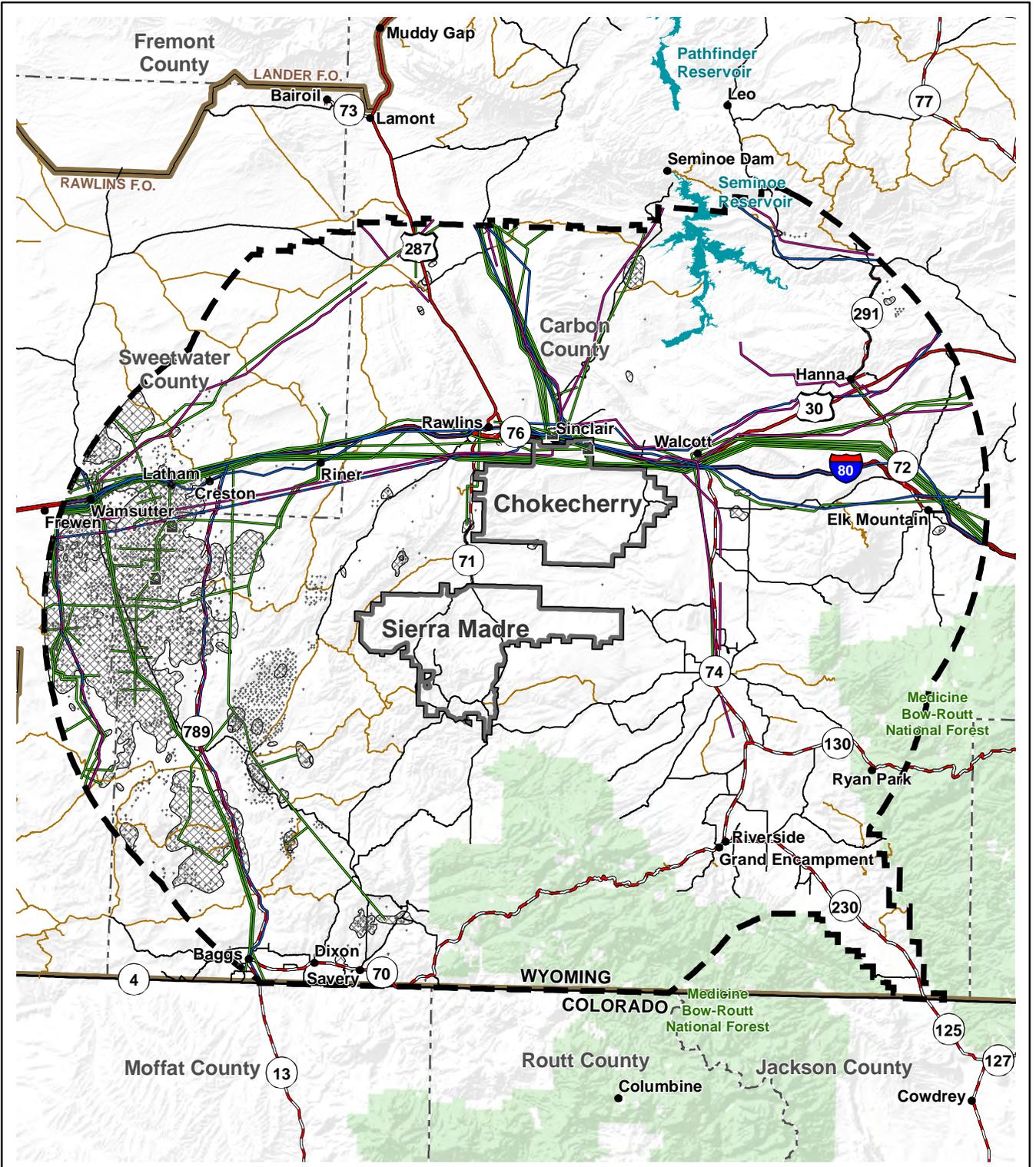
Section 3.6 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-24 – 3-26) provides a general description of lands and realty in the RFO area and is herein incorporated by reference. Section 3.6 of the Rawlins RMP Final EIS (2008a) provides an overview of lands and realty in the RFO area (pp. 3-24); land ownership adjustments and consolidations (Sections 3.6.1 and 3.6.5, pp. 3-24 and 3-26); withdrawals and classifications on land or minerals to protect resource values or existing facilities (Section 3.6.2, pp. 3-25); and existing leases for energy and minerals and transportation and utility ROW (Sections 3.6.3 and 3.6.4; pp. 3-26). Relevant information is summarized in this section and augmented with current information for leases and ROW.

Land uses that offer natural landscapes and open space, such as agriculture, contribute to high value Class I VRI ratings, whereas large modifications to the landscape, such as infrastructure development, contribute to low value Class IV ratings. Current VRI ratings within the Planning Area are depicted on **Figure 2-2**. Development on public lands is guided by the Rawlins RMP (2008b). Development on private lands is guided by the Carbon County land use plan and zoning regulations, which were created to preserve values such as open space and crucial wildlife habitat, protect private property rights, and maintain efficient services by promoting rural expansion closer to existing communities and infrastructure.

The most prominent land use feature in the Planning Area is a large swath of land that is divided into a checkerboard pattern of ownership. In this area, ownership is divided among private land, state land, and public land. The checkerboard pattern, with alternating sections of mainly private and public land, occurs 20 miles perpendicular to both sides of the UPRR line. Each section in the checkerboard is one square mile. Due to the variable, fractured landownership in the checkerboard, management of resources and resource uses on these parcels can be difficult.

The majority of existing infrastructure leases and ROW grants in the Planning Area are for oil and gas. Other leases and ROW grants in the Planning Area have been designated for transportation, wind energy, and other utilities. **Figure 3-1** depicts the current infrastructure and ROWs. Major transportation and utility corridors in the Planning Area parallel I-80 and SH 789. The I-80 ROW Corridor also is used for major natural gas delivery systems.

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Legend	
	Planning Area
	Application Area
	WOGCC Well
	Refinery or Gas Plant
	Pipeline
	Utility Corridor
	Designated Right-of-Way Corridor
	Intersate Highway
	U.S. Highway
	State Highway
	County Road
	BLM Road
	Oil & Gas Field
	BLM Field Office Boundary
	US Forest Service Land

Chokecherry and Sierra Madre Wind Energy Project

Figure 3-1

Existing Infrastructure and ROWs within the Planning Area

1:900,000

Wind site testing and monitoring application areas comprise approximately 215,690 acres of the Planning Area (**Table 3-1**). **Figure 3-2** illustrates the location of the current wind site testing and monitoring application areas within the Planning Area and where these locations overlap with areas of high wind potential (defined as areas with wind classes 5 through 7)¹.

Table 3-1 Wind Resources and Application Areas on Public Lands within the Planning Area

Feature	Acres within the Planning Area
Areas with High Wind Potential	433,316
Wind Site Testing and Monitoring Application Areas	215,690
Wind Site Testing and Monitoring Application Areas with High Wind Potential	197,669

3.6 Livestock Grazing

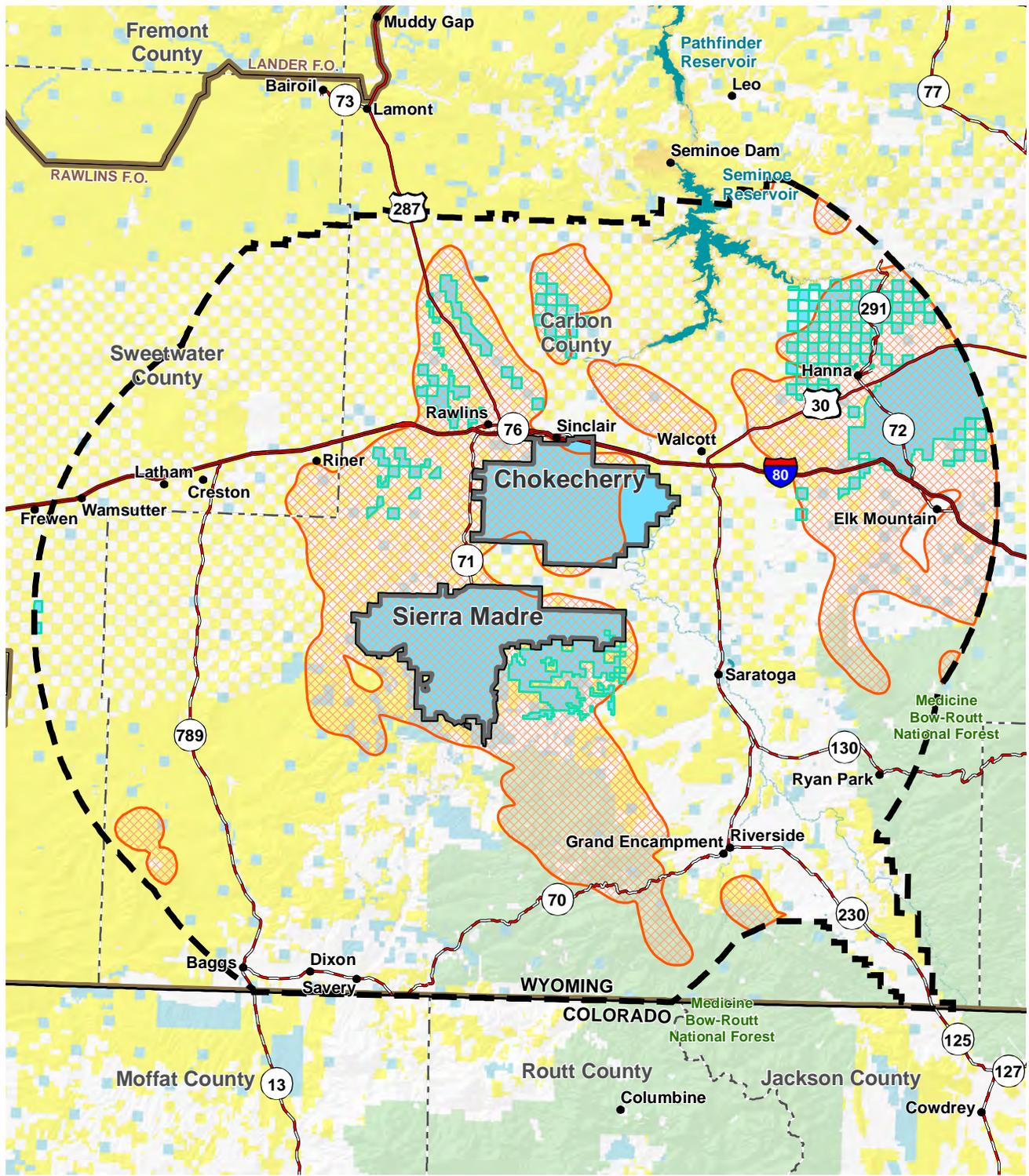
Section 3.7 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-27 – 3-33) provides a general description of livestock grazing in the RFO area and is herein incorporated by reference. Section 3.7 of the Rawlins RMP Final EIS (2008a) provides a discussion on the historic and current use of livestock grazing in the RFO area (Sections 3.7.1 and 3.7.2, pp. 3-27 – 3-30) and results of rangeland BMPs by allotment (Section 3.7.3, pp. 3-30 – 3-33). The allotments in the RFO are shown in Map 3-3 of the RMP Final EIS (2008a). Relevant information is summarized in this section.

Livestock grazing influences the visual character of the Planning Area, and VRM can affect how grazing management activities are conducted. Livestock grazing on public lands within the Planning Area consist mainly of cattle; however, sheep, bison, and horses also are included. Livestock grazing on public lands has been regulated by the Taylor Grazing Act of 1934 and the FLPMA. Multiple inventories have been conducted and used for adjusting livestock stocking rates, establishing allotment management plans, standardizing land use plans, and managing riparian and wetland habitat.

Since the mid-1990s, grazing allotments have been ranked using the Rangeland Health Standards and Guidelines Assessment system. This system evaluates rangeland health on a watershed level basis.

¹ Wind resources are characterized by the NREL wind-power density classes, ranging from Class 1 (the lowest) to Class 7 (the highest). Good wind resources (e.g., Class 4 and above, which have an average annual wind speed of at least 15.7 to 16.8 mph at a 50-m height) are the minimum requirement for large wind turbine systems, but higher wind classes are more desirable for optimum power output. For the purposes of this plan amendment, areas with high wind potential were classified as areas with wind resources of Class 5 (excellent; 16.8 to 17.9 mph at a 50 m), Class 6 (outstanding; 17.9 to 19.7 mph at 50 m), or Class 7 (superb; >19.7 mph at 50 m). Estimates of reasonably foreseeable wind energy development activity were developed from analysis of current wind site testing and monitoring application areas and areas with high wind potential. These estimates were used to aid in the analysis of environmental consequences. Because they are general, the development potential classifications are appropriate for planning purposes, but they are not intended to predict future activity or the locations of new wind energy projects.

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Legend	
	Interstate Highway
	U.S. Highway
	State Highway
	Planning Area
	Application Area
	BLM Field Office Boundary
	Wind Site Testing and Monitoring Application Area
	High Wind Potential
Land Owner	
	Bureau of Land Management
	Bureau of Reclamation
	US Fish and Wildlife Service
	US Forest Service
	Private
	State

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Figure 3-2
Wind Site Testing and Monitoring Application Areas within Areas of High Wind Potential in the Planning Area

0 5 10 15 20 Miles
 0 5 10 15 20 25 Kilometers
 1:900,000

Within the Planning Area, there are a total of 266 grazing allotments containing 2,852,984 acres. Allotments range in size from 2.5 to 283,701 acres. Map 3-3 of the Rawlins RMP Final EIS (2008a) displays grazing allotments in the RFO area. Livestock levels vary due to forage conditions, market prices, and changes in livestock operations. Increases in wild horse and elk populations, spread of invasive species, and BMPs have recently influenced livestock numbers as well. Successful BMPs have been implemented on six different allotments within the Planning Area. Examples of these practices include pasture fencing, water developments, vegetation treatments, and grazing rotation systems.

3.7 Minerals, Geology, and Topography

3.7.1 Minerals

Section 3.8.4 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-37 – 3-44) provides a general description of mineral resources in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a description of the resources, relevant authorities, and past and current activity for leaseable minerals (pp. 3-37 – 3-39); coal (pp. 3-39); locatable minerals (pp. 3-40 – 3-43); and common variety minerals (pp. 3-44). Relevant information is summarized in this section.

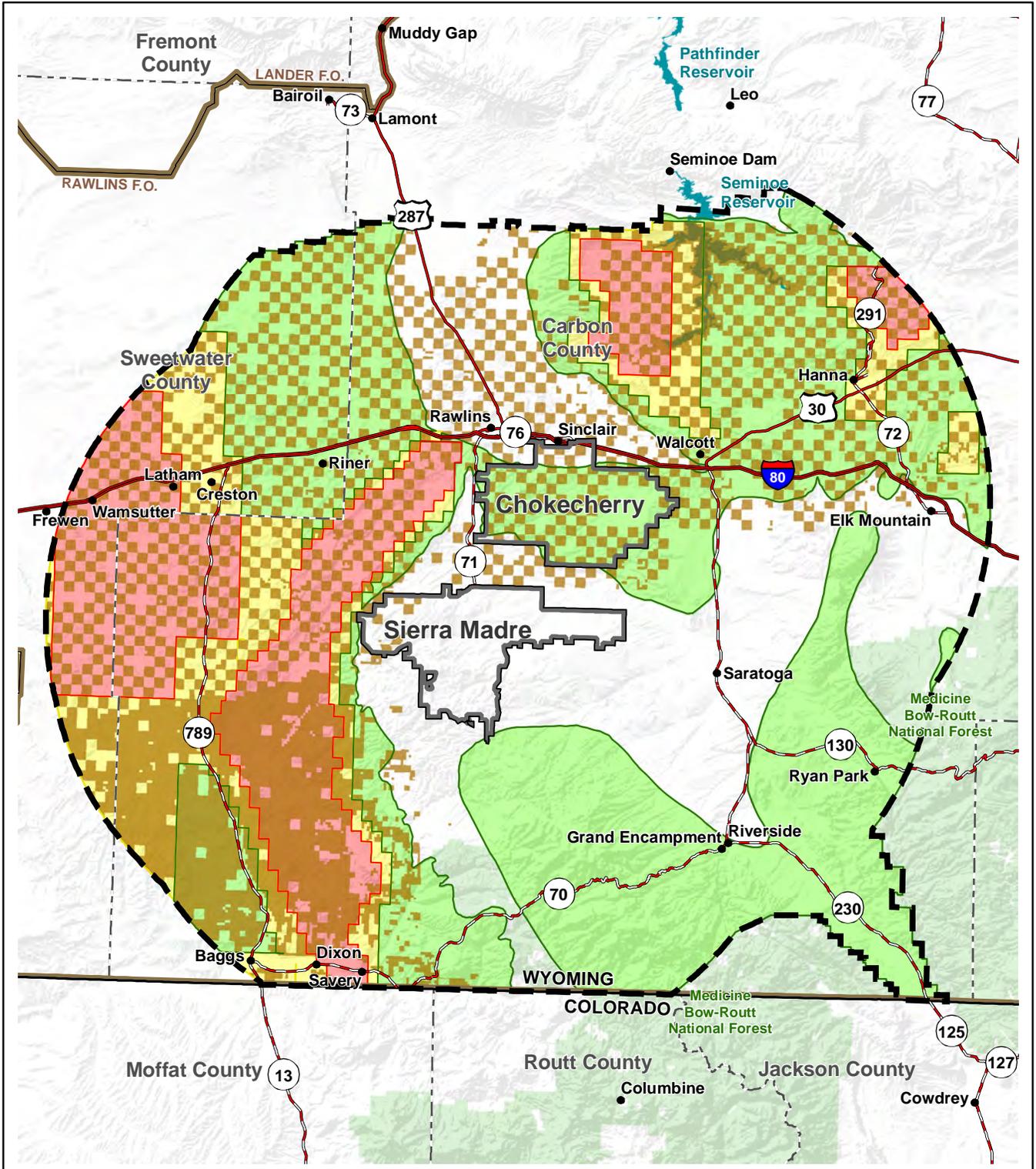
Mineral development influences the visual character of the Planning Area, and VRM can affect how and where minerals development activities are conducted. Mineral resources on public lands are placed into one of three categories: leasable, locatable, or common variety.

Leasable minerals consist of coal, oil and gas, trona, and geothermal energy. Multiple coal and oil and gas developments exist within the Planning Area. The Hanna Field is the most significant for production of coal. Both strip mining and underground mining methods are used for extraction. Carbon dioxide (CO₂) is often located near coal reserves. The northeastern portion of the Planning Area (southwest of Seminoe Reservoir) could be used for CO₂ sequestration. Typically, the CO₂ would be used for enhanced oil and gas recovery. The majority of oil and gas production, including CBNG, occurs in the western and northern portions of the Planning Area (see **Figure 3-3** for high, moderate, and low oil and gas potential areas). In the western portion, drilling activity is heavily concentrated in the Great Divide and Washakie basins and Wamsutter Arch. **Table 3-2** provides a breakdown of leased public lands with high, moderate, and low oil and gas potential². The areas of high and moderate oil and gas potential that are unleased occur primarily in the western and northeastern portions of the Planning Area. Unleased areas of low oil and gas potential occur in the western, northeastern, and southeastern portions of the Planning Area.

Locatable minerals in the Planning Area primarily consist of uranium. Sedimentary uranium deposits exist in the Great Divide Basin and around Baggs. Since 2008, there has been a substantial interest in uranium exploration and development. Other locatable minerals include titaniferous magnetite, gold, copper, and diamonds. Locatable mineral deposits in the RFO area are summarized in Table 3-6 and shown on Map 3-6 of the Rawlins RMP (2008a).

² Using available geologic information, reports of past production, and information from the minerals industry, areas of high, moderate, and low potential for the occurrence and development of hydrocarbons in the Planning Area were identified. Estimates of reasonably foreseeable oil and gas (including coalbed methane) exploration and development activity were developed from analysis of past activity and production. These estimates were used to aid in the analysis of environmental consequences. Because they are general, the development potential classifications and production estimates are appropriate for planning purposes, but they are not intended to predict future activity or the locations of new discoveries.

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Legend

- Authorized BLM Mineral Lease
- High O&G Potential
- Moderate O&G Potential
- Low O&G Potential
- City or Town
- Planning Area
- Application Area
- BLM Field Office Boundary
- US Forest Service

Chokecherry and Sierra Madre Wind Energy Project

Figure 3-3

High, Moderate, and Low Potential Oil and Gas within the Planning Area

0 5 10 15 20 Miles
0 5 10 15 20 25 Kilometers

1:900,000

Table 3-2 Public Land with High, Moderate, and Low Oil and Gas Potential

Potential	Total Acres	Leased Acres	Percent (%)
High	311,949	283,748	91
Moderate	260,708	224,153	86
Low	530,653	345,042	65
Total	1,103,310	852,944	77

Disposal of common variety minerals is discretionary and is addressed under the Materials Act of 1947, as amended by the Acts of 1955 and 1962. These acts authorized that certain mineral materials be disposed of either through a contract of sale or a free use permit (for state and local governments or eligible nonprofit organizations). Types of common variety minerals that occur within the Planning Area include sand and gravel, limestone, clinker (scoria), and moss rock.

3.7.2 Geology

Sections 3.8.1 and 3.8.2 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp 3-34 – 3-36) provides a general description of geology in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion of geologic units (Section 3.8.1, pp. 3-34 – 3-35) and structural geology and tectonics (Section 3.8.2, pp. 3-35 – 3-36). Relevant information is summarized in this section.

Geology influences the visual character of the Planning Area and the locations of geologic formations influence where other resources and resource uses occur. The geologic formations within the Planning Area range from Precambrian to recent. Precambrian rocks become exposed in the core of mountain ranges (Medicine Bow and Sierra Madre) and the Rawlins Uplift, and consist of igneous and metamorphic assemblages (Houston 1993). Younger rock types tend to be sedimentary. The major structural elements consist of the Hanna, Carbon, and Kindt basins, portions of the Great Divide and Washakie basins, the Medicine Bow, Sierra Madre, and Rawlins uplifts, and a portion of the Wamsutter Arch. The Precambrian cores of the mountain ranges have been uplifted through movement on reverse faults. The igneous and metamorphic rocks eventually break down to form the sedimentary rock that fills the adjacent basins. In addition to these major faults, the Cheyenne Belt (a major shear zone) extends into the southeastern portion of the Planning Area. The belt separates some of North America's oldest metamorphic sedimentary rocks to the north from younger igneous rocks to the south. Map 3-4 of the Rawlins RMP EIS (BLM 2008a) displays major structural elements in the RFO area.

3.7.3 Topography

Section 3.8.3 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-36 – 3-37) provides a general description of topography in the RFO area and is herein incorporated by reference. Relevant information is summarized in this section.

Topography influences the visual character of the Planning Area and where other resources and resource uses occur. Within the Planning Area, there are two major physiographic provinces: the Wyoming Basin and the Southern Rocky Mountains. The northern, western, and much of the central portion of the Planning Area are within the Wyoming Basin. The Wyoming Basin is characterized by topographic sub-basins ranging from 6,500 to 7,500 feet in elevation and bounded by mountains. Major drainages within the Wyoming Basin that overlap the Planning Area include the Little Snake and North Platte Rivers, which both originate in the Southern Rocky Mountains. The southeastern portion of the Planning Area lies within the Southern Rocky Mountain Province. This province consists of the Medicine

Bow Mountains and the Sierra Madre Range and ranges from 7,500 to approximately 11,000 feet in elevation.

3.8 Off-highway Vehicles

Section 3.9 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-45 – 3-47) provides a general description of OHV use in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion of management of OHV use in the RFO area (Section 3.9.1, pp. 3-45) and OHV use trends (Section 3.9.2, pp. 3-45 – 3-47). Relevant information is summarized in this section.

OHV use influences the visual character of the Planning Area. OHVs provide access to hunting, fishing, and camping, and are quickly becoming a popular form of recreation as OHV ownership becomes more common. There are four categories of OHV use: all-terrain vehicles, cars/trucks/sport utility vehicles (SUV), motorcycles, and snowmobiles. The most popular category among OHV enthusiasts is cars/trucks/SUV. With increasing OHV use, environmental degradation effects associated with a lack of understanding of land use ethics as well as a shortage of law enforcement personnel has become more apparent on the landscape.

Public lands in the Planning Area are managed by OHV designations of open, closed, or limited. The majority of OHV use in the Planning Area is “limited to existing roads and vehicle routes.” There are three special designations in the Planning Area (Encampment River Canyon and Prospect Mountain WSAs and Sand Hills/JO Ranch ACEC) that are either closed to OHV use or have specific seasonal timing stipulations. Map 2-44 of the Rawlins RMP ROD (2008b) displays OHV designations in the RFO area.

3.9 Recreation and Visitor Services

Section 3.11 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a; pp. 3-51 – 3-58) provides a general description of recreation and visitor services in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion of recreation resources, sites, and areas (Sections 3.11.1, 3.11.3-5, pp. 3-51 – 3-52, 3-55 – 3-58); recreation trends (Section 3.11.6, pp. 3-58); and SRMAs including the Continental Divide National Scenic Trail and North Platte River SRMAs that occur in the Planning Area (Section 3.11.2, pp. 3-53 – 3-55). Relevant information is summarized in this section.

Recreation is one of the many uses in the area and is largely influenced by the visual character or setting of the Planning Area. Recreational opportunities occur at developed/undeveloped recreation sites and dispersed uses of public lands, primarily near areas that contain high quality wildlife and visual resources, waterways, lakes, and other resources (physical, historical, etc.). Wildlife-based recreation, including hunting, fishing, trapping, and wildlife viewing, comprises the majority of all recreational activities in the Planning Area.

The Planning Area is home to six developed recreation sites, five undeveloped recreation sites, and two SRMAs. The Continental Divide National Scenic Trail and North Platte River SRMAs occur within the Planning Area. These SRMAs primarily allow for hiking and fishing opportunities with diverse activities ranging from camping and mountain biking, to drift boating and waterfowl hunting. Additionally, a large portion of public lands in the Planning Area are managed as Middle Country, which includes areas greater than 0.5 mile from improved roads and in which the landscape appears to be natural, except for obvious primitive roads. Visitor numbers in the Planning Area have been steady to slightly increasing, with the vast majority of visitors favoring dispersed recreation over developed/undeveloped recreation sites. Recreation management areas are shown on Map 2-17 of the Rawlins RMP ROD (2008b) and recreation sites are shown on Map 3-7 of the Rawlins RMP ROD (2008b).

3.10 Special Designations and Management Areas

SD/MAs are designated to protect or preserve certain qualities or uses in areas that best provide them. Management of the SD/MAs affect the visual character of the Planning Area and VRM can affect how and where resource use occurs in the SD/MAs. The Planning Area contains no wilderness areas, two WSAs, one ACEC, no NNLs, no designated WSRs, and other management areas. SD/MAs are shown on Maps 2-6 (WSAs), 2-9 (ACECs), 2-13 (other management areas), 2-18 (NNLs), and 2-19 (WSRs) of the Rawlins RMP ROD (2008b). Section 3.13 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a; pp. 3-86 – 3-99) provides a general description of SD/MAs in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion of the two WSAs (Section 3.13.1, pp. 3-87); one ACEC (Section 3.13.2, pp. 3-88 – 3-89); other management areas (pp. 3-89 – 92, 3-95 – 96); and the suitable WSR segment (Section 3.13.4, pp. 3-97) that occur in the Planning Area. Relevant information is summarized in this section.

The two WSAs – Encampment River Canyon and Prospect Mountain WSAs – occur in the southeastern portion of the Planning Area (the Saratoga Valley) and are managed according to the non-impairment standard so as not to impair the suitability of such areas for preservation as wilderness. Both ACECs are managed as VRM Class I.

ACECs are managed to protect and prevent irreparable damage to specific resources. The 12,680-acre Sand Hills/JO Ranch ACEC is managed for its unique vegetation complex, wildlife habitat values, recreational opportunities, and the historic JO Ranch. The ACEC occurs in the southwestern portion of the Planning Area. The JO Ranch portion of the ACEC is managed as VRM Class II and the remainder is managed as VRM Class III.

While there are no designated WSRs, a number of waterways in the Planning Area were determined to meet the suitability criteria, including: Muddy Creek, Littlefield Creek, Encampment River, North Platte River, and Big Creek. The portion of the Encampment River within the WSA is the only segment in the Planning Area that has been identified as eligible and suitable for WSR designation, which requires congressional approval.

Other management areas in the Planning Area include: six wildlife habitat management areas (WHMAs), the Shamrock Hills Raptor Concentration Area, the High Savery Dam and Reservoir Site Management Area, and Stratton Sagebrush Steppe Research Area. The six WHMAs, which focus on management of wildlife habitat values associate with big game and other wildlife, include: Chain Lakes, Red Rim-Daley, Jep Canyon, Upper Muddy Creek/Grizzly (which includes the 38,090-acre Grizzly Habitat Management Area managed by the Wyoming Game and Fish Department), Cow Butte/Wild Cow, and Pennock Mountain. The Shamrock Hills Raptor Concentration Area is managed to protect the concentration of breeding and nesting ferruginous hawk species, as well as other bird species, including the mountain plover, sage sparrow, and greater sage-grouse and crucial winter/year-long range for pronghorn. The High Savery Dam and Reservoir Site Management Area is managed to protect the site for fisheries and recreation purposes. The Stratton Sagebrush Steppe Research Area is managed to protect scientific values.

3.11 Transportation and Access

Section 3.14 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-100) provides information on the roadway network, including access and transportation trends (Section 3.14.1, pp. 3-100). Relevant information is summarized in this section.

Transportation resources affect the visual character of the area and often provide key observation points (KOPs) of public views into the Planning Area. The transportation network within the Planning Area is associated with a variety of resource uses, such as mineral extraction, livestock grazing, and recreation. There is one interstate highway, I-80, traversing westward from Nebraska, one U.S. Highway, and

multiple state highways and maintained and non-maintained BLM, county, and private roads throughout the Planning Area. Public access can be difficult due to the checkerboard landownership pattern. Where easements do not exist, access through private land to public land is not available. Use of the transportation network is increasing as energy development and recreational use by the general public increases.

3.12 Vegetation

Section 3.15 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-101 – 3-119) provides a general description of vegetation resources in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion of ecological provinces (Section 3.15.1, pp. 3-101 – 3-102); general vegetation map zones (Section 3.15.2, pp. 3-103 – 3-112); riparian proper functioning condition (Section 3.15.3, pp. 3-113); noxious and invasive weed management (Section 3.15.4, pp. 3-113 – 3-115); poisonous plants (Section 3.15.5, pp. 3-115 – 3-116); and special status and sensitive plant species (Section 3.15.6, pp. 3-116 – 3-118). Relevant information is summarized in this section.

Vegetation resources influence the visual character of the Planning Area, and VRM can affect how vegetation management activities are conducted. Vegetation communities within the Planning Area exist almost entirely within the Intermountain Semi-Desert Province (sagebrush steppe) and the Southern Rocky Mountain Steppe-Open Woodland-Coniferous Forest Province (transition from grass and shrub dominated areas to shrub and tree dominated areas). The vegetation types in these areas are a product of precipitation, elevation, aspect, temperature extremes, wind, and soil properties. Map 3-10 of the Rawlins RMP Final EIS (2008a) displays vegetation resources in the RFO area.

The Intermountain Semi-Desert Province lies below 8,000 feet and is dominated by sagebrush, saltbush and a mix of grasses and forbs. Wet valley bottoms will produce rushes, sedges, and willows, and the drier streams and ephemeral washes produce greasewood and saltgrass (Bailey 1995; Knight 1994). Wind-distributed snowfall provides most of the moisture for spring plant growth.

The Southern Rocky Mountain Steppe-Open Woodland-Coniferous Forest Province lies between 8,000 and 12,000 feet in elevation and makes up most of the mountain ranges in the Planning Area. The lower elevations (8,000 to 9,000 feet) are dominated by brome and fescue grasses, mountain mahogany, sagebrush, aspen, and juniper. Higher elevations (Medicine Bow National Forest) in the southern and eastern portion of the Planning Area contain spruce and pine forests. This province provides increased diversity and productivity that is used as summer forage for wildlife and livestock.

Due to the semi-arid climate, wetlands and riparian areas throughout the entire Planning Area are important communities and emphasis is placed on their Proper Functioning Condition (PFC). PFC surveys determine whether they are meeting the minimum requirements for proper ecological and physical processes. Emphasis also is placed on the control of noxious and invasive weeds. Approximately 18 different noxious and invasive weeds are known to occur within the Planning Area. Additionally, several species of poisonous plants are known to exist within the Planning Area as well as several species of threatened, endangered, candidate, and sensitive plants.

There are two threatened species (the Ute ladies'-tresses and the Colorado butterfly plant) that are located within the Planning Area. In addition, eight plant species that have been identified on the BLM Wyoming State Director's Sensitive Species List: Laramie columbine, Nelson' milkvetch, cedar rim thistle, Weber's scarlet gilia, Gibben's beardtongue, persistent sepal yellowcress, pale blue-eyed grass, and Laramie false sagebrush.

3.13 Visual Resources

Section 3.16 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-120 – 3-122) provides a general description of visual resources in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion on natural settings and scenic views (pp. 3-120); visibility (pp. 3-120); a description of the VRM system (pp. 3-120 – 3-121); and visual resource trends and issues (pp. 3-122). Relevant information is summarized in this section and augmented by information in the VRI (Otak, Inc. 2011).

Visual resources within the Planning Area are influenced by a wide variety of topographic, geologic, hydrological, vegetative, and other characteristics of the region. The Planning Area topography ranges from relatively flat land and low rolling or flat-topped hills to high elevations containing mountain shrub vegetation. The type of vegetation varies and is dependent on the amount of precipitation received in any given area. Vegetation patterns affect color, form, line, and contrast, which shape the basis for analysis of visual resources in the area. The excellent air quality in the area allows for mostly unobstructed views. Visual resources vary widely within the Planning Area and are often associated with recreational opportunities, such as hiking and photography, that depend on the natural settings and scenic views that VRM is intended to protect. Negative trends affecting visual resources include increased OHV use, resource development (energy and mineral development), and utility construction.

A VRI was conducted in July and August of 2010 within the RFO area, with findings published in February 2011 (Otak, Inc. 2011). The VRI was conducted to determine the visual (scenic) values within the Field Office at a specific point in time. The three primary components to a visual resource inventory include: scenic quality evaluation, sensitivity level analysis, and distances zones.

For the scenic quality evaluation, public lands are rated as Class A (19 points or more), Class B (12 to 18 points), or Class C (11 points or less). Lands are reviewed and rated using seven key factors: landforms, vegetation, water, color, influence of adjacent scenery, scarcity and cultural modifications. **Figure 3-4** illustrates the scenic quality classifications for the scenic quality rating units in the Planning Area.

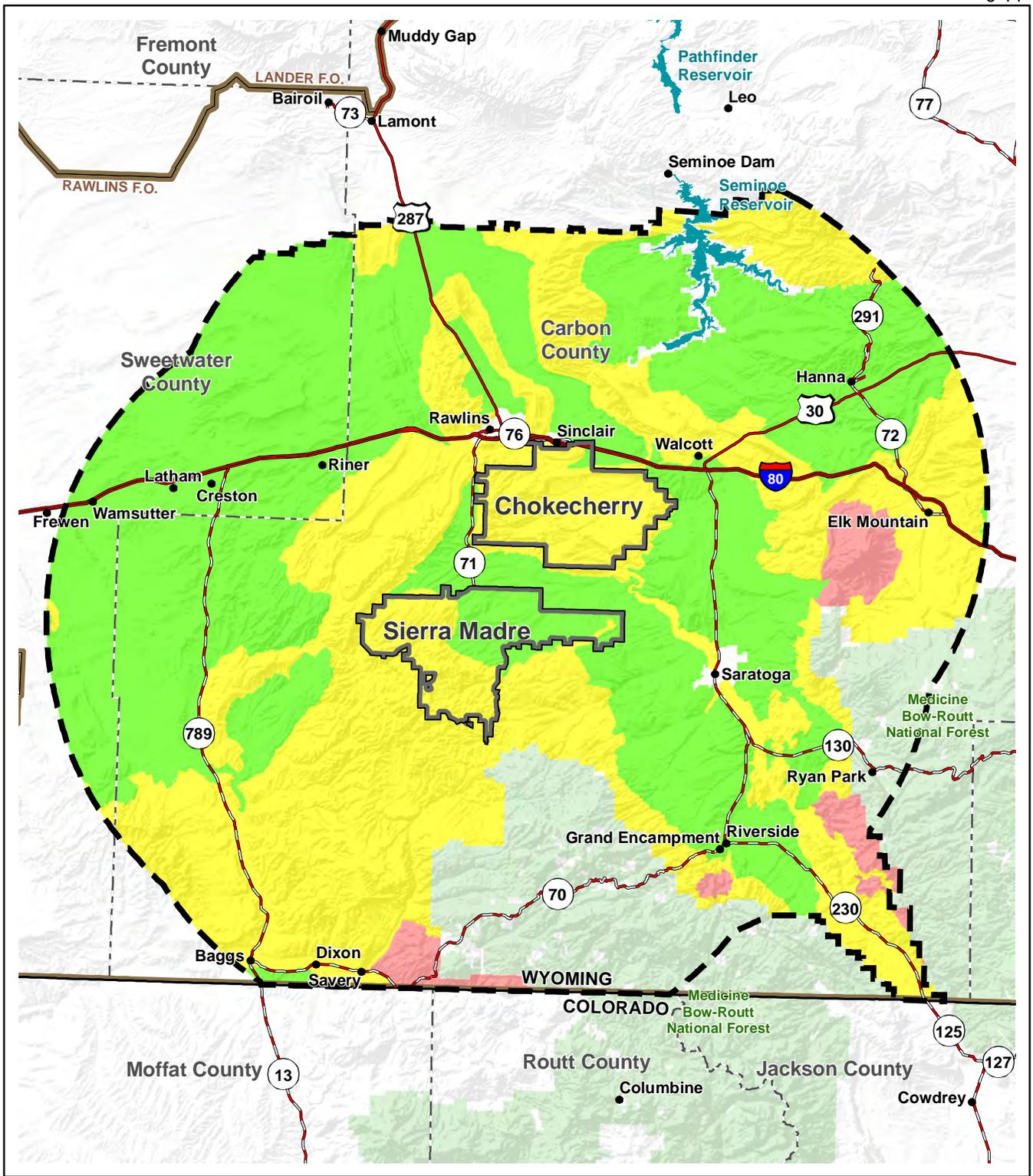
The sensitivity level analysis measures public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels based on consideration of the following factors: types of users, amount of use, public interest, adjacent land uses, special areas, and other factors. Sensitivity level rating units typically do not have the same boundaries as scenic quality rating units. **Figure 3-5** illustrates the sensitivity levels for the sensitivity level rating units in the Planning Area.

Distance zones are delineated to subdivide the landscape based on relative visibility from travel routes or from Inventory Observation Points. The three distance zones include:

- **Foreground-Middleground Zone:** This is an area that can be seen from each travel route for a distance of 3 to 5 miles;
- **Background Zone:** This is the remaining area which can be seen from each travel route approximately 15 miles; and
- **Seldom Seen Zone:** These are areas that are not visible within the foreground-middleground and background zones and areas beyond the background zones.

All lands in the Planning Area were delineated as the foreground-middleground distance zone.

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Legend

- Planning Area
- Application Area
- State Boundary
- County Boundary
- Interstate Highway
- U.S. Highway
- State Highway
- BLM Field Office Boundary
- US Forest Service Land

Visual Resource Inventory Scenic Quality Rating

- Class A
- Class B
- Class C

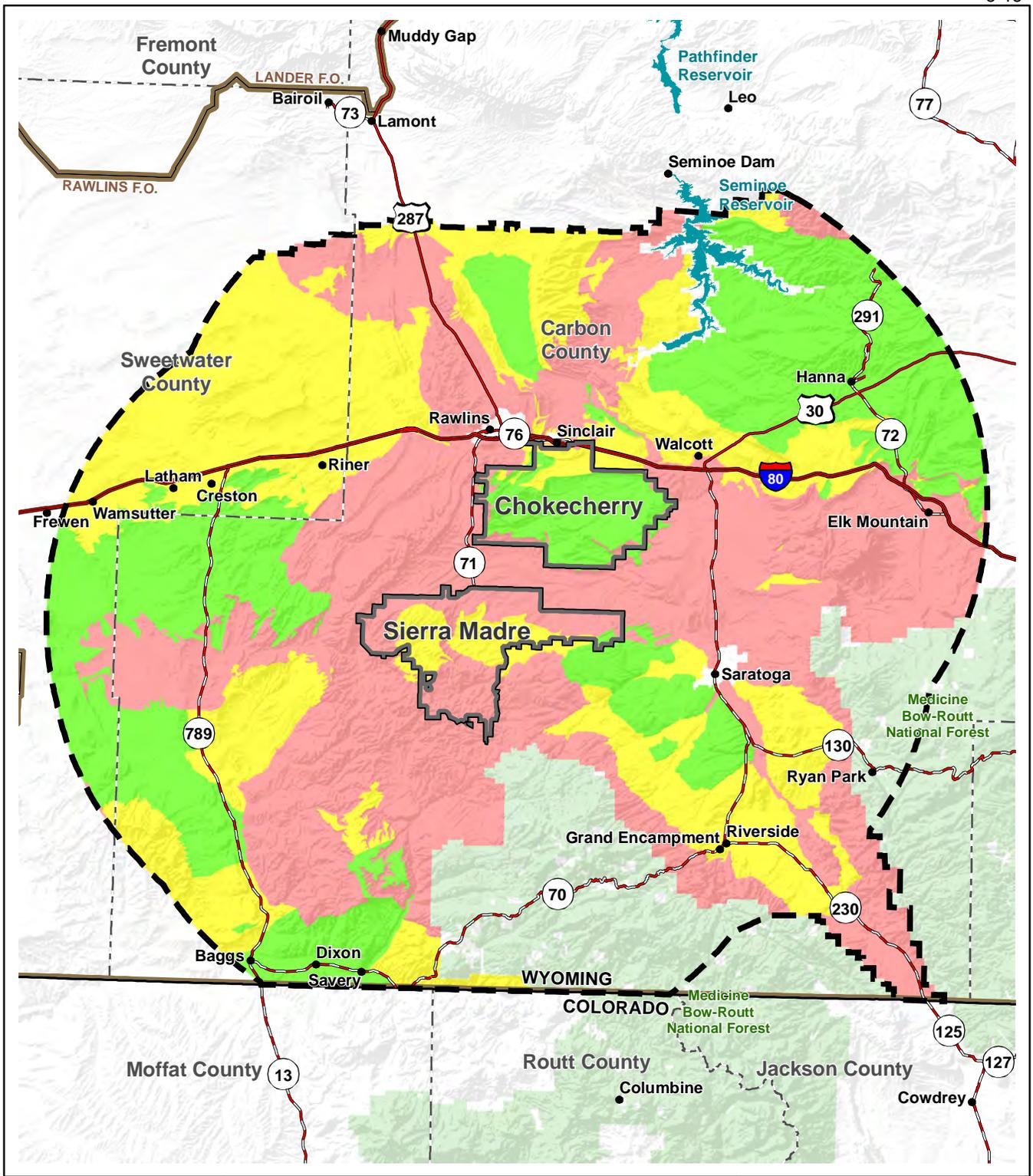
Chokecherry and Sierra Madre Wind Energy Project

Figure 3-4

Scenic Quality Classifications in the Planning Area

1:900,000

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<ul style="list-style-type: none"> Planning Area Application Area State Boundary County Boundary Interstate Highway U.S. Highway State Highway 	<p>Legend</p> <ul style="list-style-type: none"> BLM Field Office Boundary US Forest Service Land <p>Visual Resource Inventory Sensitivity Rating Level</p> <ul style="list-style-type: none"> High Moderate Low
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Chokecherry and Sierra Madre Wind Energy Project

Figure 3-5

Sensitivity Levels in the Planning Area

0 5 10 15 20 Miles
0 5 10 15 20 25 Kilometers

1:900,000

The scenic quality evaluation, sensitivity level analysis, and delineation of distance zones are combined to develop VRI classes (**Figure 2-1**), which represent the relative value of the visual resources. Classes I and II are the most valued, Class III represents a moderate value, and Class IV represents the least value. VRI classes are informational in nature and provide the baseline data for considering visual values in the RMP process. VRI classes do not establish management direction and should not be used as a basis for constraining or encouraging surface-disturbing activities. **Table 3-3** summarizes the percent of the Planning Area categorized into each VRI component and the resulting VRI classes.

Table 3-3 Visual Resource Inventory Summary for Public Lands in the Planning Area

	Acres	%	Acres	%	Acres	%	Acres	%	
	BLM – Class A		BLM – Class B		BLM – Class C		Not Inventoried		Total
Scenic Quality Evaluation	30,750	2	634,269	44	762,325	53	949	0	1,428,294
	High		Medium		Low		Not Inventoried		Total
Sensitivity Level Analysis	567,017	40	438,845	31	421,482	30	949	0	1,428,294
	Foreground-Midleground		Background		Seldom Seen		Not Inventoried		Total
Distance Zones	1,427,344	100	0	0	0	0	949	0	1,428,294
	VRI Class I		VRI Class II		VRI Class III		VRI Class IV		Not Inventoried
VRI Classes	0	0	392,255	27	342,862	24	692,227	48	949

Source: Otak, Inc. 2011.

The assignment of VRM classes is ultimately based on the management decisions made in the RMP process, which must take into consideration the value of visual resources and management priorities for land uses. During the RMP process, inventory class boundaries can be adjusted as necessary to reflect resource allocation decisions made in the RMP. Management objectives established for each VRM class in the BLM Handbook H-8410-1 *Visual Resource Inventory* (BLM 2003b) are summarized in **Table 2-1**. VRM decisions only apply to public lands in the Planning Area.

3.14 Surface Water

Section 3.17.1 from Chapter 3.0 of the Rawlins RMP Final EIS (2008a, pp. 3-123 – 3-131) provides a general description of surface water in the RFO area and is herein incorporated by reference. The Rawlins RMP Final EIS (2008a) provides a discussion on water quality and watershed (pp. 3-123 – 3-124); surface water characteristics (pp. 3-124 – 3-129); and surface water quality (pp. 3-129 – 3-131). Relevant information is summarized in this section.

Surface water resources in the Planning Area include lakes, rivers, reservoirs, streams, creeks, water wells, and springs. Water resources are important for a variety of reasons, including economic, ecological, recreational, and human health. Specifically, these water resources are important for the

wildlife habitat they provide and as water sources for livestock, wildlife, and people in this arid and semi-arid environment. A break in the Continental Divide around the Great Divide Basin forms the western portion of the Planning Area. The Great Divide Basin has no known external drainage. The largest water bodies in the Planning Area are the North Platte and Medicine Bow Rivers. Both of these rivers are in the Platte River watershed and drain north into Seminoe Reservoir. Map 3-11 and 3-12 of the Rawlins RMP Final EIS (2008a) displays major surface water basins and soil precipitation zones, respectively.

Surface water quality is protected to the maximum extent based on requirements with the State of Wyoming and the Environmental Protection Agency's administration of the Clean Water Act, BLM guidance, memoranda and directives, best science/monitoring, and environmental planning documents. Turbidity is the main water quality concern in the North Platte River Basin on the eastern portion of the Planning Area, while salinity is the main water quality concern in the Little Snake River basin on the western portion of the Planning Area.