Chapter 2

Alternatives

Introduction

Chapter 2 describes alternatives for managing the South Dakota Field Office (SDFO) to meet the purpose and need, management goals, and desired future condition, and to address issues discussed in Chapter 1. Each alternative represents a reasonable set of objectives and actions to guide future management of public land in the SDFO planning area. This chapter contains the following sections:

- Development of the Alternatives
- Key Components of the Alternatives
- Greater Sage-Grouse Management
    - Mitigation
    - Adaptive Management
    - Monitoring
    - Comparitive Tables Addressing Threats to Sage-Grouse and Land Use Allocations
- Alternatives Considered in Detail
    - Alternative A (Current Management)
    - Alternative B
    - Alternative C
    - Alternative D including Proposed Plan for Sage Grouse Management
- Alternatives Considered but Not Carried Forward for Detailed Analysis
- Summary of Restrictions (Table 2-5)
- Summary Comparison of Alternatives (Table 2-6)
- Summary Comparison of Impacts (Table 2-7)

To compare the management actions in the alternatives, refer to Table 2-6, which provides more specific information about each action. In some instances, actions that would be prohibited or restricted may be allowed under specific circumstances when such use is needed for emergencies, to meet short-term critical needs, or would result in negligible impacts or positive outcomes consistent with established goals shown in Chapter 1 and Table 2-6. Examples include allowing off road use for emergencies or administrative use in areas where travel is limited to existing roads, use of non-native vegetation to serve as nurse crops to establish native vegetation, or allowing broadcast weed treatments in special status plant habitat if it is determined to be beneficial to special status plants. Refer to program-specific details in Table 2-6 for specific details about circumstances where restricted or prohibited actions may be allowed. Oil and gas waivers, exceptions, and modifications are detailed in Appendix E.1 through E.4.

Development of the Alternatives

Alternatives were developed to establish a framework for measuring impacts that might occur as a result of future management. The alternatives do not constitute management decisions; instead, they represent varying approaches to managing BLM-administered public land and activities. Alternatives are summarized in the Narrative Section of Chapter 2 and described in detail in Table 2-6.

The process to develop the range of alternatives included the following steps:

- Solicit and consider public input from scoping.
- Identify current management (Alternative A, the No Action Alternative).
- Identify and consider related plans.
- Consider BLM policies, plans and programs.

- Develop a range of alternatives (Alternatives A, B, C, and D).
- Analyze the effects of the alternatives.
- Identify the BLM's Proposed Action (Alternative D).

Key Components of the Alternatives

Each alternative comprises two categories of land use planning decisions: (1) goals and objectives (desired outcomes) and (2) allowable uses and management actions.

Goals and Objectives

Goals and objectives direct BLM actions to most effectively meet legal mandates, regulations, and agency policy, as well as local and regional resource needs. Goals and objectives are broad statements of desired outcomes that usually are not quantifiable, but identify the desired outcomes which allowable uses and management actions work toward achieving.

Allowable Uses and Management Actions

The BLM developed allowable uses and management actions to achieve the goals and objectives defined for each resource. Allowable uses identify uses that are allowed, restricted, or excluded on the BLM-administered surface lands and federal mineral estate. Alternatives can include specific land use restrictions to meet goals and objectives and can exclude certain land uses (such as mineral leasing, locatable mineral development, recreation, forest management, utility corridors, and livestock grazing) to preserve resource values. Allowable uses often contain a spatial component because the alternatives identify whether particular land uses are allowed, restricted, or excluded. Maps of the planning area illustrate these spatial components and define the geographical extent of the management actions.

Management actions are proactive measures (for example, measures the BLM will implement to enhance watershed function and condition), or limitations intended to guide BLM activities in the planning area. Management actions can vary among the alternatives in degrees of intensity, geographic scope or temporal scale, but all would generally meet the identified goals and objectives of the resource. Restrictions and stipulations developed in the alternatives apply to BLM-administered surface and mineral estate only. In cases of split estate with Federal minerals under surface owned by another entity, restrictions and stipulations apply only for mineral actions.

Mitigation

Table 2-5, Summary of Restrictions, provides an overview of the restrictions, including oil and gas stipulations, that would be applied under the alternatives. This summary provides basic information about acres affected and the type of restriction for each alternative.

Mitigation of surface-disturbing or disruptive activities would be applied where needed to minimize impacts of human activities on resources vulnerable to impacts consistent with the restrictions and stipulations outlined in the Summary Comparison of Alternatives (Table 2-6). Mitigation specifically for Greater Sage-Grouse is discussed later in this section, in Table 2-6 (Special Status Species section), and in Appendix V-5. Appendix B also identifies mitigation measures for all resources through the use of BMPs, Guidelines and Standard Operating Procedures.

Mitigation measures would be applied on a case-by-case basis during activity-level (project-level) planning if an evaluation of the project area indicates the presence of important wildlife species, special status species, or resources sensitive to disturbance. Exceptions to some restrictions may be granted by the BLM Authorized Officer if an environmental review demonstrates that effects could be mitigated to an acceptable level, habitat for the species is not present in the area, or portions of the area can be occupied without affecting a particular species. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., prescribed fire or forest health treatments). Mitigation measures would also be applied at the project level to resolve potential conflicts with other resource users, including the general public.

Guidelines, Best Management Practices, and Required Design Features

Guidelines and Best Management Practices (BMPs) represent an effective and practical means to achieve management goals and limit impacts to natural resources on a given site. Guidelines and BMPs are referenced in the applicable resource or resource use section in the Summary Comparison of Alternatives Table 2-6 and in Appendix B. Guidelines may include Standard Operating Practices (SOPs) as described in Appendix B and in specific resource or resource use sections of the SD Final RMP and EIS. Specific mitigation measures including required design features for sage-grouse and sagebrush habitat are shown in Appendix V-1. Mitigation measures shown in Appendix B would also apply to sage-grouse and sagebrush habitat.

Guidelines and BMPs are a suite of techniques or practices used to guide desired outcomes while reducing impacts of various management actions. They may also be applied to management actions to aid in achieving desired outcomes. BMPs and Guidelines are not mandatory, but are often adopted or developed in conjunction with RMPs.

Unless detailed as a specific management action in a particular resource program area in the range of alternatives, the Guidelines, BMPs and Standard Operating Procedures are not land use plan decisions. Rather, they are examples of mitigation measures that could be applied as appropriate, based on site-specific National Environmental Policy Act (NEPA) analysis for individual proposals. Comments on the use and application of specific mitigation measures can be made during the NEPA process. Because mitigation measures change or are modified based on new information, the BMPs, Guidelines and SOPs may be updated or modified periodically, primarily through administrative review and without an RMP amendment, as new research findings, technologies, and techniques become available.

Within the limits of BLM authority, the Authorized Officer may require that applicable BMPs Guidelines and SOPs become mandatory requirements or conditions for a specific authorization in the planning area based on project-level (implementation-level) environmental review. Individual guidelines and BMPs for a specific use may be applied or adapted to other uses as applicable to reduce or avoid adverse impacts. The application of BMPs Guidelines and SOPs for other uses would require project-level (implementation-level) environmental review.

Summaries of the BMPs and Guidelines can be found in Appendix B. They include:

I. Air Resources BMPs
II. Climate Change BMPs
III. Other BMPs, Guidelines, Standards, and SOPs
    - Air Quality Guidelines for Open Burning
    - Air Resources BMPs for Fluid Minerals
    - Aquatic Nuisance Species (ANS) Management Plan, South Dakota
    - Bats and Wind Energy
    - Core Terrestrial Indicators and Methods, BLM
    - Field Office Technical Guides, USDA Natural Resources Conservation Service (NRCS)
    - Fluid Minerals Operations – Reducing Preventable Causes of Direct Wildlife Mortality
    - Forestry Best Management Practices for South Dakota
    - Guidelines for Livestock Grazing Management, Montana/Dakotas (Dakotas Portion)
    - Integrated Vegetation Management Handbook
    - Interagency Burned Area Rehabilitation Guidebook
    - Interagency Standards for Fire and Fire Aviation Operations
    - Interpreting Indicators of Rangeland Health
    - Invasive Species National Management Plan 2008-2012
    - Keep Aquatic Nuisance Species out of South Dakota Waters
    - Land-Based Wind Energy Guidelines, U.S. Fish and Wildlife Service
    - Mitigation Guidelines, South Dakota Field Office
    - Monitoring Guidelines for Soils
    - National Management Measures to Control Nonpoint Source Pollution from Agriculture
    - National Range and Pasture Handbook
    - Reclamation Guidelines, South Dakota
    - Renewable Energy Facilities on BLM-Administered Lands: Best Management Practices for Reducing

Visual Impact
- Riparian Area Management: Grazing Management Processes and Strategies for Riparian-Wetland Areas
- Selected Practices for Avian Protection on Power Lines
- Siting Guidelines for Wind Power Projects in South Dakota
- Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development
- Upland Soil Erosion Monitoring and Assessment: An Overview
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States
- Wind Energy Development Programmatic EIS

Appendix B; BMPs, Guidelines and Standard Operating Procedures, Appendix V-1, Required Design Features for Sage-Grouse Habitat, Appendix V-3 Lek Buffers, Appendix V-4 Disturbance Caps, Appendix V-5, Mitigation and Appendix V-6 Effects Analysis provide specific practices and measures to conserve sage-grouse and sagebrush habitat. Appendix V-2 provides a Monitoring Framework for GRSG and its habitat.

In November 2014, the USGS released their Report on Conservation Buffer Distance Estimates for Greater Sage-Grouse USGS Report – A Review (Open File Report 2014-1239). The purpose of this report is to provide a reference for land managers and others who are working to develop biologically relevant and socioeconomically practical buffer distances around sage-grouse habitats. The proposed plan imposes restrictions targeted to the individual threats to breeding and nesting activity in GRSG habitat. The findings of the Buffer Study have been incorporated into the Proposed Plan. Refer for Appendix V-3 for additional information about lek buffers.

The Required Design Features in Appendix V-1 are required for certain activities in all GRSG habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area).

All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g., due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable;
- An alternative RDF is determined to provide equal or better protection for GRSG or its habitat;
- A specific RDF will provide no additional protection to GRSG or its habitat.

Mitigation Measures and Conservation Actions for Surface-Disturbing and Disruptive Activities

Mitigation measures and conservation actions are BMPs, Guidelines and Standard Operating Procedures (Appendix B), or design features (Appendix V-1) that have been developed to avoid, minimize, rectify, reduce, or compensate for adverse environmental impacts associated with surface-disturbing or disruptive activities.

For the purposes of applying mitigation measures, surface-disturbing and disruptive activities are defined as follows:

Surface-Disturbing Activities. The physical disturbance or removal of land surface and vegetation. Some examples of surface-disturbing activities include, but are not limited to, construction of roads, well pads, pipelines, power lines, reservoirs, facilities, recreation sites, and mining. Vegetation renovation treatments that involve soil penetration and/or substantial mechanical damage to plants (plowing, chiseling, chopping, etc.) are also surface-disturbing activities.

Disruptive Activities. Those uses and activities that are likely to alter the behavior of, displace, or cause excessive stress to wildlife populations occurring at a specific location and/or time. In this context, disruptive activity(ies) refers to those

actions that alter behavior or cause the displacement of wildlife such that reproductive success is negatively affected, or the physiological ability to cope with environmental stress is compromised. This term does not apply to the physical disturbance of the land surface, vegetation, or features. Examples of disruptive activities may include fence construction, noise, vehicle traffic, or other human presence regardless of the activity. The term is used in conjunction with protecting wildlife during crucial life stages (for example, breeding, nesting, birthing, etc.), although it could apply to any resource value. This definition is not intended to prohibit all activities or authorized uses. For example, emergency activities (fire suppression, search and rescue, etc.), or rangeland monitoring, routine maintenance associated with an approved authorization, dispersed recreational activities (hunting, hiking, etc.), and livestock grazing are not considered surface-disturbing or disruptive activities.

Mitigation measures are included in Table 2-6 and a detailed summary of mitigation measures for all resources are included in Appendix B and V. Mitigation actions specific to soil, water, and reclamation are included in Table 2-6 and Appendices C and D. Mitigation and conservation actions for sage-grouse are included in Table 2-6 and Appendix V-1. The BLM may add additional mitigation measures as deemed necessary by further environmental analysis and as developed through consultation with other federal, state, and local regulatory and resource agencies. Monitoring of sage-grouse and sagebrush habitats is described in Appendix V-2.

The BLM will apply appropriate mitigation measures and conservation actions to BLM-authorized activities to avoid, minimize, rectify, reduce, or compensate for impacts if an evaluation of the project area indicates the presence of important wildlife species, seasonal wildlife habitat, or other resource concern. The sequence of mitigation action will be:

Step 1. Avoid - Adverse impacts to resources are to be avoided and no action shall be permitted if there is a practicable alternative with less adverse impact.
Step 2. Minimize - If impacts to resources cannot be avoided, appropriate and practicable steps to minimize adverse Impacts must be taken.
Step 3. Compensate - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain. The amount and quality of compensatory mitigation may not substitute for avoiding and minimizing impacts.

Even after avoiding and minimizing impacts, projects that will cause adverse impacts to resources typically require some type of compensatory mitigation. Compensatory mitigation refers to the restoration, establishment, enhancement, or in certain circumstances preservation of resources for the purpose of offsetting unavoidable adverse impacts. The BLM will determine the appropriate form and amount of compensatory mitigation required. Methods of compensatory mitigation include restoration, establishment, enhancement, and preservation.

- *Restoration:* Re-establishment or rehabilitation of a resource with the goal of returning natural or historic functions and characteristics to a currently degraded area. Restoration may result in a gain in function or acres, or both.

- *Establishment (Creation):* The development of a resource where that resource did not previously exist through manipulation of the physical, chemical and/or biological characteristics of the site. Successful establishment results in a net gain in acres and function.

- *Enhancement:* Activities conducted within existing resource that heighten, intensify, or improve one or more functions. Enhancement is often undertaken for a specific purpose such as to improve water quality, flood water retention or wildlife habitat. Enhancement results in a gain in function, but does not result in a net gain in acres.

- *Preservation:* The permanent protection of ecologically important resources through the implementation of appropriate legal and physical mechanisms (i.e. conservation easements, title transfers, marking of boundaries). Preservation may include protection of areas adjacent to a resource location as necessary to ensure protection or enhancement of the ecosystem. Preservation does not result in a net gain of acres and may only be used in certain circumstances, including when the resources to be preserved contribute significantly to ecological sustainability.

There are times when mitigating project impacts through onsite mitigation alone may not be possible or sufficient to adequately mitigate impacts and achieve resource objectives. In these cases, it may be appropriate to consider offsite mitigation as a feature of one or more of the alternatives in the impact analysis. Offsite mitigation is generally appropriate

when the authorized officer determines that impacts cannot be mitigated to an acceptable level onsite and it is expected that the land use authorization as submitted would not be consistent with the BLM's resource objectives. The BLM may expressly condition its approval of an action on the applicant's commitment to take actions, and the BLM may, if necessary, seek appropriate enforcement action to ensure the terms of the contract are met.

Because of site-specific circumstances, some mitigation measures may not apply to some activities (e.g., a resource or conflict is not present on a given site) and/or may require slight variations from what is described in Appendix B and V-1. Proposed variations will be addressed as site-specific mitigation applied in the permitting process. All variations in mitigation measures and conservation actions will require appropriate analysis and disclosure as part of activity authorization. It is anticipated that variations in the mitigation measures and conservation actions will be approved in very limited circumstances and only in coordination with state wildlife management agencies. Mitigation measures and conservation actions selected for implementation will be identified in the Record of Decision (ROD) or Decision Record (DR) for those activities. The proponent must implement those identified mitigations because they are commitments made as part of the BLM decision. Because these decisions create a clear obligation for the BLM to ensure any proposed mitigation adopted in the environmental review process is performed, there is assurance that mitigation will lead to a reduction of environmental impacts in the implementation stage and include binding mechanisms for enforcement (CEQ Memorandum for Heads of Federal Departments and Agencies 2011). The determination of adequate application of the mitigation measures and conservation actions for specific projects will remain with the BLM's Authorized Officer.

Greater Sage-Grouse Habitat Management

On December 9, 2011, a Notice of Availability was published in the Federal Register to initiate the BLM/USFS Greater Sage-Grouse (GRSG) Planning Strategy across nine western states, including California, Oregon, Nevada, Idaho, Utah, and Southwest Montana in the Great Basin Region and Northwest Colorado, Wyoming, Montana, South Dakota, and North Dakota in the Rocky Mountain Region. This proposed RMP/Final EIS is one of fifteen separate EISs to analyzing incorporation of specific conservation measures across the range of the GRSG, consistent with National BLM and USFS policy.

On December 27, 2011, the BLM Washington Office released Instruction Memorandum (IM) No. 2012-044, which directed all of the planning efforts across the GRSG range to consider all applicable conservation measures when revising or amending its RMPs in GRSG habitat, including the measures developed by the National Technical Team (NTT) that were presented in their December 2011 document – A Report on National Greater Sage-Grouse Conservation Measures. IM-2012-044 directs all planning efforts associated with the national strategy to consider and analyze (as appropriate) applicable conservation measures presented in the report.

On October 27, 2014, the USFWS provided the BLM and Forest Service a memorandum titled "Greater Sage-Grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes" http://www.fws.gov/greatersagegrouse/documents/ESA%20Process/GRSG%20Strongholds%20memo%20to%20BLM%20and%20USFS%20102714.pdf. The memorandum and associated maps provided by the USFWS identify areas that represent recognized "strongholds" for GRSG that have been noted and referenced as having the highest densities of GRSG and other criteria important for the persistence of the species (FWS maps). Within these areas, the BLM/FS identified Sagebrush Focal Areas (SFAs), which are PHMAs with additional management. There are no areas in the South Dakota planning area identified as SFAs .

Along with the applicable measures that were outlined in the NTT Report, planning efforts associated with this National GRSG Planning Strategy will also analyze applicable conservation measures that were submitted to the BLM from various state governments and from citizens during the public scoping process.

Sage-grouse management areas in this plan are divided into the following two types:

- **Priority Habitat Management Areas (PHMA).** Areas with limited impacts containing substantial and high-quality sage-grouse habitat that support sustainable sage-grouse populations. Management actions would emphasize the protection and enhancement of sustainable sage-grouse populations. Areas are delimitated by using "key," "core," and connectivity data/maps and other resources. These areas were previously labeled Protection Priority Areas (PPA) in the Draft SD RMP/EIS (Refer to Maps 2-3 through 2-5). PHMA that were

identified in the Proposed Action are the same areas identified by the SD Game, Fish and Parks (SDGFP) as Sage-Grouse Core Areas in their State Sage-Grouse Plan (SD GFP 2014).

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- **General Habitat Management Areas (GHMA).** Areas with or without ongoing or imminent impacts containing sage-grouse habitat outside the priority areas. Management actions would maintain habitat for sustainable sage-grouse populations to promote movement and genetic diversity. Areas are delineated based on sage-grouse habitat (Refer to Maps 2-3 through 2-5). These areas were formerly labeled General Habitat (GH) in the Draft SD RMP/EIS.

As discussed previously, there are no proposed Sagebrush Focal Areas (SFAs) in the SD planning area, as bird densities are lower and quality habitat is limited compared to other western states that have proposed SFAs. Other important habitat areas such as winter range, brood-rearing, and nesting areas are addressed throughout the range of Alternatives. Winter range is shown in Map 2-6. A Biologically Significant Unit for this plan is the summary of all the Priority Habitat Management Areas within a Greater Sage-Grouse population as delineated in the COT report.

Disturbance

BLM in South Dakota will use a 3% disturbance cap within sage-grouse PHMAs. If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within GRSG PHMAs in any given Biologically Significant Unit, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.) would be permitted by BLM within GRSG PHMAs in any given Biologically Significant Unit until the disturbance has been reduced to less than the cap.

If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a project analysis area in PHMAs, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.) will be permitted by BLM within PHMA in a project analysis area until the disturbance has been reduced to less than the cap.

Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the Priority Habitat Management Area within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area. This direction applies to the following: oil and gas wells and development facilities, coal mines, wind towers, solar fields, geothermal, and mining (active locatable, leasable, and saleable developments). Appendix V-4 provides specific details about how calculations are determined for disturbance caps.

BLM Programs Addressing Greater Sage-Grouse Habitat Threats

The direction for managing GRSG habitat in this document is focused on responding to the threats identified by the USFWS's in its 2010 warranted but precluded finding on listing the GRSG, as well as its Conservation Objectives Team (COT) Report. The USFWS threats do not necessarily align with BLM or Forest Service resource program areas, and are often integrated into several different resource program areas. Table 2-1, USFWS Threats to GRSG and Their Habitat, Applicable BLM Proposed Plan Resource Program Areas Addressing these Threats, provides a cross-walk between each of the 2010 warranted but precluded finding and COT identified threats and the BLM program areas addressing these threats, with references to specific sections of the proposed plan.

On November 21, 2014 the USGS published "Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review" (USGS 2014). The USGS review provided a compilation and summary of published scientific studies that evaluate the influence of anthropogenic activities and infrastructure on GRSG populations. The BLM has reviewed this information and examined how lek buffer-distances were addressed through land use allocations and other management actions in the Draft Billings and Pompeys Pillar National Monument RMP/EIS. Based on this review, in undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM would apply the lek buffer-distances in the USGS Report "Conservation Buffer Distance Estimates for

Greater Sage Grouse-A Review (Open File Report 2014-1239)" in both GHMA and PHMA as detailed in Appendix V-3, Applying Lek Buffer-Distances When Approving Actions. The effects of proposed actions on sage-grouse and its habitat would be evaluated as decribed in the Sage-Grouse Effects Analysis Process which is described in Appendix V-6.

Range of Alternatives for Greater Sage-Grouse Management

The action alternatives (Alternatives B, C, and D) offer a range of management approaches to maintain or increase Greater Sage-Grouse abundance and distribution of Greater Sage-Grouse by conserving, enhancing, or restoring the sagebrush ecosystem upon which Greater Sage-Grouse populations depend in collaboration with other conservation partners. The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives. The table below provides a comparative summary of acres included in allocation decisions for Greater Sage-Grouse management by resource/resource use.

Table 2-1
USFWS Threats to Greater Sage-Grouse and Their Habitat,
Applicable BLM Proposed Plan Resource Program Areas Addressing these Threats

USFWS-Identified Threats to GRSG and Its Habitat (2010 warranted but precluded finding)	COT Report-Identified Threats to GRSG and Its Habitat (2013)	Applicable BLM Proposed Plan Resource Program Addressing Threat
Wildland Fire	Fire	Wildland Fire Management (see pg 171, Table 2-6)
Invasive Species	Nonnative, Invasive Plants Species	Vegetative Communities (see pg 117, Table 2-6), Noxious Weeds (see pg 120, Table 2-6), Livestock Grazing (see pg 177, Table 2-6), Fire Management and Ecology (see pg 171, Table 2-6), and Recreation (see pg 187, Table 2-6)
Oil and Gas For wind energy development, see *Infrastructure – power lines/pipelines, roads (below)*	Energy Development	Lands and Realty (see pg 198, Table 2-6) and Leasable Minerals (see pg 208 [Oil & Gas], Table 2-6)
Prescribed Fire	Sagebrush Removal	Vegetative Communities (see pg 117, Table 2-6) and Fire Management and Ecology (see pg 171, Table 2-6)
Grazing	Grazing	Livestock Grazing (see pg 177, Table 2-6), Special Status Species (see pg 134, Table 2-6), and Vegetative Communities (see pg 117, Table 2-6)
See *Grazing Management (above)*	Range Management Structures	Livestock Grazing (see pg 177, Table 2-6)
No similar threat identified	Free-Roaming Equid Management	*There are no free-roaming equids in the South Dakota Planning Area.*
Conifer Encroachment	Pinyon and/or Juniper Expansion	Vegetative Communities (see pg 117, Table 2-6) and Fire Management and Ecology (see pg 171, Table 2-6)
Agriculture & Urbanization	Agricultural Conversion and Ex-Urban Development	Lands and Realty (see pg 198, Table 2-6)
Hard Rock Mining	Mining	Lands and Realty (see pg 198, Table 2-6), Locatable Minerals (see pg 215, Table 2-6), Salable Minerals (see pg 216), and Non-energy Leasable Minerals (see pg 212, Table 2-6)
See Infrastructure, Roads	Recreation	Recreation (see pg 187, Table 2-6) and Travel Management and Transportation (see pg 194, Table 2-6)
Infrastructure - Power lines/ pipelines - Roads	Infrastructure	Lands and Realty (see pg 198, Table 2-6) and Travel Management and Transportation (see pg 194, Table 2-6)

Table 2-1
USFWS Threats to Greater Sage-Grouse and Their Habitat,
Applicable BLM Proposed Plan Resource Program Areas Addressing these Threats

USFWS-Identified Threats to GRSG and Its Habitat (2010 warranted but precluded finding)	COT Report-Identified Threats to GRSG and Its Habitat (2013)	Applicable BLM Proposed Plan Resource Program Addressing Threat
- Communication sites - Railroads		
Infrastructure – Range Improvements	Range Management Structures	Livestock Grazing (see pg 177, Table 2-6)
Water Developments	No similar threat identified	All applicable programs
Climate Change	No similar threat identified	*There is no BLM resource program in the proposed plan addressing this threat.*
Weather	No similar threat identified	*There is no BLM resource program in the proposed plan addressing this threat.*
Predation	No similar threat identified	All applicable programs
Disease	No similar threat identified	All applicable programs
Hunting	No similar threat identified	*There is no BLM resource program in the proposed plan addressing this threat.*
Contaminants	No similar threat identified	Public Safety (see pg 236, Table 2-6)

Source: USFWS 2010, 2013

Table 2-2 Comparative Summary of Potential Allocations for Greater Sage-Grouse Management

Resource/ Resource use	Alternative A	Alternative B	Alternative C	Alternative D
Fluid Minerals	All habitat would be open. Areas within ¼ mile of leks would have NSO stipulations. Areas within 2 miles of leks would have CSU restrictions. 151,419 surface acres, 660,599 mineral acres.	PHMA: Open with NSO stipulations 83,744 surface acres, 253,357 mineral acres. GHMA: Open 48,256 surface acres, 385,734 mineral acres. Moderate and minor stipulations near leks and in winter range in GHMA on 14,749 surface acres and 31,522 mineral acres.	PHMA: Closed. 93,266 surface acres, 289,563 mineral acres. GHMA: Open on 33,557 acres surface and 303,523 mineral acres. Moderate and minor stipulations near leks and in winter range in GHMA on 14,749 surface acres and 31,522 mineral acres.	PHMA: Open with NSO stipulations 127,735 surface acres, 412,822 mineral acres. GHMA: Open with NSO stipulations on 76 surface acres and 170 mineral acres. CSU stipulation in nesting and brood-rearing habitat near leks in GHMA on 22,824 surface acres and 239,761 mineral acres. NSO stipulation in winter range in GHMA.
Other leasable minerals (non-energy leasables)	Open with standard stipulations.	PHMA and GHMA: Open with standard stipulations and sage-grouse conservation measures. PHMA: 83,744	PHMA and GHMA: Open with standard stipulations and sage-grouse conservation measures. PHMA: 93,266	PHMA: Closed on 127,735 surface acres and 412,822 mineral acres. GHMA open with standard stipulations GHMA: 23,161

Table 2-2 Comparative Summary of Potential Allocations for Greater Sage-Grouse Management				
Resource/ Resource use	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
		surface acres and 253,357 mineral acres.	surface acres and 289,563 mineral acres.	surface acres and 247,771 mineral acres.
Salable Minerals	Open with standard stipulations in all habitat.	PHMA and GHMA: Open with standard stipulations. PHMA: 83,744 surface acres and 253,357 mineral acres. GHMA: 63,005 surface acres and 400,256 mineral acres.	PHMA and GHMA: Open with standard stipulations. PHMA: 93,266 surface acres and 289,563 mineral acres. GHMA: 53,483 surface acres and 364,051 mineral acres.	PHMA: Closed except for free use permits on 127,735 surface acres and 412,822 mineral acres. GHMA: Open with standard stipulations on 23,684 surface acres and 247,771 mineral acres.
Locatable Minerals	Open with BMPs in all habitat.	PHMA and GHMA: Open with sage-grouse conservation measures and BMPs. PHMA: 83,744 surface acres and 253,357 mineral acres. GHMA: 63,005 surface acres and 400,256 mineral acres.	PHMA and GHMA: Open with sage-grouse conservation measures and BMPs. PHMA: 93,266 surface acres and 289,563 mineral acres. GHMA: 53,483 surface acres and 364,051 mineral acres.	PHMA and GHMA: Open with sage-grouse conservation measures and BMPs. PHMA: 127,735 surface acres and 412,822 mineral acres. GHMA: 23,684 surface acres and 247,771 mineral acres.
Land Tenure (Retention/disposal criterial shown by class in Appendix I)	All lands in sage-grouse habitat could be disposed pending specialist review. 151,419 surface acres.	PHMA: Class 2. All lands retained unless disposed to consolidate lands for benefit of sage-grouse. 83,744 surface acres. GHMA: Class 3. Lands in GHMA could be disposed of if it meets Class 3 disposal criteria. 63,005 surface acres.	PHMA: Class 2. All lands retained unless disposed to consolidate lands for benefit of sage-grouse 93,266 surface acres. GHMA: Class 3. Lands in GHMA could be disposed of if it meets Class 3 disposal criteria 53,483 surface acres.	PHMA: Class 2. All lands retained unless disposed to consolidate lands for benefit of sage-grouse. 127,735 surface acres. GHMA: Class 2. Lands in GHMA retained unless disposed to consolidate lands for benefit of sage-grouse. 23,684 surface acres.
Livestock Grazing	Open in all habitat.	PHMA and GHMA: Open. AUMs and acres available vary by size of PHMA in each alternative. Allocations based on 75% available forage for wildlife and watershed needs and 25% for livestock.		
ROWs	Open in all habitat 151, 419 acres	PHMA: Avoidance on 84,384 acres. GHMA: Open on	PHMA: Exclusion on 93,379 acres. GHMA: Open on	PHMA: Avoidance on 127,735 acres. GHMA: Open for

Table 2-2 Comparative Summary of Potential Allocations for Greater Sage-Grouse Management				
Resource/ Resource use	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
		45,264 acres, except areas 3 miles from leks are avoidance areas on 17,741 acres.	32,524 acres, except areas 4 miles from leks are avoidance areas on 20,959 acres.	minor ROWs on 22,883 acres, except areas 2 miles from leks would be exclusion areas on 801 acres. Major ROWs avoided on 23,684 acres.
Renewable Energy ROWS	Open in all habitat 151, 419 acres.	PHMA: Avoidance on 84,384 acres. GHMA: Open on 45,264 acres, except areas 3 miles from leks are avoidance areas on 17,741 acres.	PHMA: Exclusion on 93,379 acres. GHMA: Open on 32,524 acres, except areas 4 miles from leks are avoidance areas on 20,959 acres.	PHMA: Exclusion on 127,771 acres. Avoidance on 23,570 acres, except areas within 1 mile of leks would be exclusion on 114 acres. GHMA: Exclusion 1 mile from leks and avoidance in other parts of GHMAs. 23,570 acres.

Development of the Proposed Plan for Greater Sage-Grouse Habitat Management

In developing the Proposed Plan, the BLM made modifications to the Preferred Alternative identified in the SD Draft RMP/EIS. The modifications are based on public comments received on the SD Draft RMP/EIS, internal BLM review, new information and best available science, the need for clarification in the plans, and ongoing coordination with stakeholders across the range of the sage-grouse. As a result, the Proposed Plan provides consistent sage-grouse habitat management across the range, prioritizes development outside of sage-grouse habitat, and focuses on a landscape-scale approach to conserving sage-grouse habitat.

The BLM modified the Preferred Alternative, identified as Alternative D as presented in the SD Draft RMP/EIS, which is now considered the RMP/proposed plan for managing BLM-administered lands within the South Dakota Field Office.

Since release of the SD Draft RMP/EIS, the BLM has worked with a broad range of governmental partners, including State Agencies, the USFWS, Indian tribes, county commissioners, and many others. Through this cooperation, the BLM has developed a Proposed Plan that takes into account state, Tribal, and local plans, policies, and strategies in accordance with applicable law and contributes to the long-term conservation of sage-grouse. The BLM also received many substantive public comments on the Draft RMP/EIS (see Appendix V-2), which greatly informed the BLM's development of the Proposed Plan.

The BLM's Proposed Plan considers documents related to the conservation of sage-grouse that have been released since the publication of the Draft RMP/EIS. For example, this Proposed Plan considers the USFWS' October 27, 2014 memorandum Greater Sage-Grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes and the USGS' November 21, 2014 report Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review (USGS 2014). The Proposed Plan also addresses the key threats to sage-grouse and its habitat identified by the USFWS (Table 2-1).

The BLM has refined the Proposed Plan to provide a layered management approach that offers the highest level of protection for sage-grouse in the most valuable habitat. Land use allocations in the Proposed Plan would limit or eliminate new surface disturbance in PHMA, while minimizing disturbance in GHMA. In addition to establishing protective land use allocations, the Proposed Plan would implement a suite of management tools such as disturbance limits, sage-grouse habitat objectives and monitoring, mitigation approaches, adaptive management triggers and responses, and lek buffer-distances throughout the range (Refer to Table 2-6 Summary of Alternatives, Special Status Section and Appendix V-1 through V-6). These overlapping and reinforcing conservation measures will work in concert to improve sage-grouse habitat condition and provide clarity and consistency on how the BLM will manage activities in sage-grouse habitat.

BLM Proposed Plan for Greater Sage-Grouse Habitat Management

The proposed plan goals, objectives, management actions, and allowable uses applicable to the proposed management of Greater Sage-Grouse habitat are contained within the detailed description of Alternative D (Proposed Action) of Chapter 2. Throughout the planning area, BLM-authorized activities associated with all resources and all resource use programs would be subject to impact mitigation/minimization guidelines and best management practices (BMPs) in Appendix B and Required Design Features in Appendix V-1.

In developing the Proposed Plan for Greater Sage-Grouse management, the BLM made modifications to the Preferred Alternative identified in the Draft RMP/EIS. The modifications are based on public comments received on the Draft RMP/EIS, internal BLM review, new information and best available science, the need for clarification in the plans, and ongoing coordination with stakeholders across the range of the Greater Sage-Grouse. As a result, Alternative D is the Proposed Plan and provides consistent Greater Sage-Grouse habitat management across the range, prioritizes development outside of Greater Sage-Grouse habitat, and focuses on a landscape-scale approach to conserving Greater Sage-Grouse habitat. In some cases, the goals presented below address not only Greater Sage-Grouse but other Special Status Species. The intent of the Proposed Plan is to provide a net conservation gain to the species. To do so, in undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation within priority habitat (core population areas and core population connectivity corridors), the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions.

Goals specific to Greater Sage-Grouse and other Special Status Species include:

- Ensure the long-term and self-sustaining persistence of special status species in South Dakota.
- Protect/maintain populations of special status species by minimizing direct mortality and impacts to habitat.
- Provide suitable habitat condition to allow for movement between large blocks of habitat and seasonal and specialized habitats on a local and landscape scale.
- Maintain or improve specialized habitats on a local and landscape scale.
- Maintain and/or increase sage-grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.
- Within sage-grouse habitat areas, the BLM will maintain habitat for viable sage-grouse populations.
- Manage for the biological integrity and habitat suitability to facilitate the conservation, recovery, and maintenance of populations of fish and wildlife to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.
- Maintain or enhance areas of ecological importance for special status wildlife species.
- Conserve and recover special status wildlife species by determining and implementing conservation strategies including restoration opportunities, use restrictions, and management actions.
- Manage specific environmental hazards, risks, and impacts in a manner compatible with special status wildlife species health.
- Identify habitat thresholds necessary to sustain well-distributed healthy populations of special status wildlife species to avoid future listings under the Endangered Species Act.
- Develop and implement the BMPs, activity plans, or use other mechanisms to protect high priority special status wildlife species.
- Manage special status fish and wildlife species in consideration of the working landscape and the intermingled land ownership pattern that is present.

- In all Greater Sage-Grouse Priority Habitat Management Areas, the desired condition is to maintain a minimum of 70% of lands capable of producing sagebrush with 10 to 30% sagebrush canopy cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

The BLM modified the Preferred Alternative, identified as Alternative D as presented in the Draft RMP/EIS, which is now considered the proposed plan for managing BLM-administered lands within the SD Planning Area.

Since release of the Draft RMP/EIS, the BLM has continued to work closely with a broad range of governmental partners. Through this coordination, the BLM has developed a Proposed Plan that is consistent with state, tribal, and local strategies to the maximum extent possible and ensures the long-term conservation of the Greater Sage-Grouse. The BLM also received many substantive public comments on the Draft RMP (see Chapter 5), which greatly informed the BLM's development of the Proposed Plan for Greater Sage-Grouse management.

The BLM has refined the Proposed Plan to provide a layered management approach that offers the highest level of protection for Greater Sage-Grouse in the most valuable habitat. Land use allocations in the Proposed Plan would limit new surface disturbance in PHMA. In addition to establishing protective land use allocations, the Proposed Plan for Greater Sage-Grouse management would implement a suite of management tools such as disturbance limits, sage-grouse habitat objectives and monitoring, mitigation approaches, adaptive management triggers and responses, and lek buffer-distances throughout the range. These overlapping and reinforcing conservation measures will work in concert to improve Greater Sage-Grouse habitat condition and provide clarity and consistency on how the BLM will manage activities in Greater Sage-Grouse habitat.

As explained below, the BLM has reviewed each of these subsequent publications, and determined that none constitute "significant new information relevant to environmental concerns and bearing on the proposed action or its impacts" such that
supplementation of the South Dakota Proposed RMP Final EIS is required. See 40 CFR 1502.9(c)(1).

NEPA requires agencies to prepare a supplement to the Draft EIS if 1) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or 2) if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. A supplement is not necessary if a newly formulated alternative is a minor variation of one of the alternatives and is qualitatively within the spectrum of alternatives analyzed in the Draft EIS.

The Proposed RMP includes components of the alternatives analyzed in the Draft EIS. Taken together, these components present a suite of management decisions that present a minor variation of the preferred alternative identified in the Draft RMP/Draft EIS and are qualitatively within the spectrum of alternatives analyzed.

As such, the BLM has determined that the Proposed RMP is a minor variation of the preferred alternative and that the impacts of the Proposed RMP would not affect the human environment in a substantial manner or to a significant extent not already considered in the EIS. The impacts disclosed in the Proposed RMP/Final EIS are similar or identical to those described Draft RMP/Draft EIS.

The Actions listed below are a summary of actions that would taken to manage sage-grouse and its habitat.

Lands and Realty Actions

Lands classified as habitat for Greater Sage-Grouse (PHMAs or GHMAs) will be retained in federal management unless:

The agency can demonstrate that disposal of the lands will provide a net conservation gain to Greater Sage-Grouse; or
the agency can demonstrate that the disposal of the lands will have no direct or indirect adverse impact on conservation of Greater Sage-Grouse.

ROWs would be defined for sage-grouse management in terms of major and minor ROWs. Major ROWs include transmission lines 100kV and over and pipelines 24 inches in width and over. Minor ROWs include utilities under these design descriptions, as well as communication (comm) sites and towers. Greater Sage-Grouse PHMAs would be avoidance areas for major and minor ROWs. Within GHMAs, major ROWs would be avoidance and minor ROWs would be

avoidance within two miles of leks with GHMAs. The rest of the GHMA would be open to minor ROWs. Sage-Grouse winter range would be treated the same in PGMA and GHMAs: These areas would be an avoidance areas for general ROWs and would be an exclusion area for renewable energy ROWs.

Wildland Fire Management

Prescribed fire would only be used to improve or maintain habitat for sage-grouse. If prescribed fire is used in Greater Sage-Grouse habitat, the NEPA analysis for the Burn Plan will address the following:

- Why alternative techniques were not selected as a viable options;
- How Greater Sage-Grouse goals and objectives would be met by its use;
- How the COT Report objectives would be addressed and met;
- A risk assessment to address how potential threats to Greater Sage-Grouse habitat would be minimized.

Prescribed fire as a vegetation or fuels treatment shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that would protect Greater Sage-Grouse habitat in PHMAs (e.g., creation of fuel breaks that would disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, and burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).

Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality. Secretarial order SO3336 would be applied to protect GRSG habitat from fire: http://www.forestsandrangelands.gov/rangeland/index.shtml.

Trails and Travel Planning

In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR subpart 8364 (Closures and Restrictions); 43 CFR subpart 8351 (Designated National Area); 43 CFR subpart 6302 (Use of Wilderness Areas, Prohibited Acts, and Penalties); and 43 CFR subpart 8341 (Conditions of Use). Temporary closure or restriction orders under these authorities are enacted at the discretion of the Authorized Officer to resolve management conflicts and protect persons, property, and public lands and resources. Where an Authorized Officer determines that off-highway vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas shall be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures are implemented to prevent recurrence (43 CFR 8341.2). A closure or restriction order should be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders should be limited to 24 months or less; however, certain situations may require longer closures and/or iterative temporary closures. This may include closure of routes or areas.

Recreational Facilities and Visitor Services

In PHMAs, BLM will not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development would have a net conservation gain to GRSG habitat (such as concentrating recreation, diverting use away from critical areas, etc.), or unless the development is required for visitor health and safety or resource protection.

Fluid Minerals (Oil, Gas, and Geothermal)

PHMAs: Greater Sage-Grouse PHMAs would be managed as No Surface Occupancy and Use (127,735 surface acres and 412,822 oil and gas subsurface minerals acres). Sage-grouse winter range would be managed as a No Surface Occupancy for oil and gas development and exploration.

GHMAs: No surface occupancy or use stipulation would apply within 6/10 of a mile from sage-grouse leks. Sage-grouse crucial winter range would be managed as a No Surface Occupancy for oil and gas development and exploration. A CSU stipulation would apply within 2 miles of leks.

Fluid minerals would be managed with the following conservation objectives:

Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMAs and GHMAs. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMAs, and subject to applicable stipulations for the conservation of Greater Sage-Grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. The implementation of these priorities will be subject to valid existing rights and any applicable law or regulation, including, but not limited to, 30 U.S.C. 226(p) and 43 C.F.R. 3162.3-1(h).

Where a proposed fluid mineral development project on an existing lease could adversely affect GRSG populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimze and apply compensatory mitigation towards adverse impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD for the lease to avoid, minimze and apply compensatory mitigation towards impacts to sage-grouse or its habitat and will ensure that the best information about the GRSG and its habitat informs and helps to guide development of such Federal leases.

Split Estate and Fluid Minerals

For stipulations designed to protect sage-grouse habitat in PHMAs:

No waivers or modifications to a fluid mineral lease NSO stipulation will be granted. The BLM Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:

(i) Would not have direct, indirect, or cumulative effects on GRSG or its habitat; or
(ii) Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide a clear conservation gain to GRSG.

Exceptions based on conservation gain (ii) may only be considered in (a) PHMAs of mixed ownership where federal minerals underlie less than 50 percent of the total surface, or (b) area of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.

Any exceptions to this lease stipulation may be approved by the Authorized Officer only with the concurrence of the State Director. The Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly.

Required Design Features (RDFs) are required for fluid minerals in all GRSG habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area). All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g., due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable;
- An alternative RDF is determined to provide equal or better protection for GRSG or its habitat;
- A specific RDF will provide no additional protection to GRSG or its habitat.

Where the federal government owns the mineral estate in PHMAs and GHMAs, and the surface is in non-federal ownership, the federal government will apply the same stipulations, Conditions of Approval (COAs), and/or conservation measures and mineral RDFs applied if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, and in coordination with the landowner.

Where the federal government owns the surface and the mineral estate is in non-federal ownership in PHMAs and GHMAs, the federal government will apply appropriate surface use COAs, stipulations, and mineral RDFs through ROW grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.

In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with Appendix V-3.

Coal

At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will determine whether the lease application area is "unsuitable" for all or certain coal mining methods pursuant to 43 CFR 3461.5. PHMA is essential habitat for maintaining GRSG for purposes of the suitability criteria set forth at 43 CFR 3461.5(o)(1).

Mineral Materials

PHMAs are closed to new mineral material sales (including salable) . However, these areas remain "open" to free use permits and the expansion of existing active pits, only if the following criteria are met:

- The activity is within the Biologically Significant Unit (BSU) and project area disturbance cap (Appendix V-4);
- The activity is subject to the provisions set forth in the mitigation framework described at the beginning of this Chapter all applicable required design features shown in Appendix V-1 are applied, and the activity is permissible under the subregional screening criteria in Appendix V-6.

Locatable Minerals

Restrictions applicable to locatable minerals are limited to the prevention of unnecessary or undue degradation (UUD), as defined in 43 CFR 3715 and 43 CFR 3809.5. Additional requirements beyond unnecessary or undue degradation UUD are voluntary and achieved by negotiation with the claim holder. Required design features would not be mandatory, and would be implemented within the limits of the mining laws.

Management of Vegetation in Sage-Grouse Habitat

Conifer Encroachment:
While BLM has no encroachment of conifers in sage-grouse habitat in South Dakota at this time, the following direction would apply if encroachment of conifers occurs into sagebrush habitats in the future. Prioritize treatments closest to occupied sage-grouse habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in the FIAT report (Chambers et. al., 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.

Habitat Objectives:
BLM will incorporate Greater Sage-Grouse Seasonal Habitat Objectives (see Table 2-3) into the design of projects or activities, as appropriate, based on site conditions and ecological potential, unless achievement of fuels management objectives require additional reduction in sagebrush cover to meet strategic protection of sage-grouse habitat and conserve habitat quality for the species, unless at least one of the following conditions can be demonstrated and documented in the NEPA analysis associated with the specific project:

- A specific objective is not applicable to the site-specific conditions of the project or activity; An alternative objective is determined to provide equal or better protection for sage-grouse or its habitat (based on appropriate scientific findings); or
- Analysis concludes that following a specific objective would provide no more protection to sage-grouse or its habitat than not following it, for the project being proposed.

In all Priority Habitat Management Areas, the desired condition is to maintain a minimum of 70% of lands capable of producing sagebrush with 10 to 30% sagebrush canopy cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

The Habitat Objectives for Greater Sage-Grouse (Table 2-3) are a list of indicators and values that describe Greater Sage-Grouse seasonal habitat conditions. The values for the indicators were derived using a synthesis of current local and regional GRSG habitat research and data and reflect variability of ecological sites. The habitat cover indicators are consistent with existing indicators used by the BLM. When determining if a site is meeting habitat objectives, the measurements from that particular site will be assessed based on the range of values for the indicators in the habitat objectives table. The habitat objectives table is one component of sage-grouse multi-scale habitat assessment (see Monitoring Framework, Appendix V-2). The results of the habitat assessment will be used during the land health evaluation to ascertain if the land health standard applicable to sage-grouse habitat (e.g., special status species habitat standard) is being met.

When authorizing activities in sage-grouse habitat, the BLM will consider if habitat objectives are being achieved. If the habitat objectives are not being achieved, and the site has the potential for achieving these objectives, the BLM will determine the causal factor(s) and make the necessary management adjustments to address the causal factor(s), following current BLM regulations and policy.

Thse habitat objectives in Table 2-3 summarize the characteristics that research has found represent the seasonal habitat needs for Greater Sage-Grouse. The specific seasonal components identified in the Table were adjusted based on local science and monitoring data to define the range of characteristics used in this subregion. Thus, the habitat objectives provide the broad vegetative conditions we strive to obtain across the landscape that indicate the seasonal habitats used by sage-grouse. These habitat indicators are consistent with the rangeland health indicators used by the BLM.

The habitat objectives will be part of the sage-grouse habitat assessment to be used during land health evaluations (see Monitoring Framework, Appendix V-2). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination on whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in the table.

All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.

This information should not be viewed as providing standards by which to judge the overall quality of sagebrush habitats. Instead, these sage-grouse habitat characteristics should be used as one tool for assessing habitats and guiding management actions. There is a tendency to review each indicator and its suitability category independently, but site suitability is determined by the relationship among the several indicator values in each matrix and the relative abundance of habitat types across the landscape. It is important to understand that the desired conditions described for these habitat types are based on average plant productivity and structural data and expert opinion relative to sage-grouse use of a subset of sagebrush communities, and they may not apply to all sagebrush communities in the planning area variation (Davies et al. 2006). These measures also do not account for inter-annual climate variation (Davies et al. 2006). Individual indicator values do not define site suitability and overall site suitability descriptions require an interpretation of the relationships between the indicators and other factors. Professional expertise and judgment are required. Measurement of these objectives will follow the steps described in Appendix V-2.

As described above, the identified habitat objectives are averages and will vary based on the individual ecological sites and their potential. Ecological sites are the basic component of a land-type classification system that describes ecological potential and ecosystem dynamics of land areas. All land/land use types are identified within the ecological site system, including rangeland, pasture, and forest land. An ecological site is defined as a distinctive kind of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances. Lands are classified considering discrete physical and biotic factors. Physical factors include soils, climate, hydrology, geology, and physiographic features. Biotic factors include plant species occurrence, plant community compositions, annual biomass production, wildlife-vegetation interactions, and other factors. Ecological dynamics, primarily disturbance regimes, such as

grazing; fire; drought; management actions; and all resulting interactions are also a primary factor of ecological sites. Information and data pertaining to a particular ecological site is organized into a reference document known as an Ecological Site Description (ESD). ESDs function as a primary repository of ecological knowledge regarding an ecological site. ESDs are maintained on the NRCS Ecological Site Information System (ESIS), which is the repository for information associated with ESDs and the collection of all site data (https://esis.sc.egov.usda.gov/Welcome/pgESDWelcome.aspx). The ESD can help interpret if a site's potential is less than or greater than the identified habitat objectives.

Table 2-3 describes the seasonal habitat desired conditions for Greater Sage-Grouse.

Table 2-3 Seasonal Habitat Desired Conditions for Greater Sage-Grouse

ATTRIBUTE	INDICATOR	DESIRED CONDTION
BREEDING HABITAT (LEK AND NESTING/EARLY BROOD REARING)		
Lek Security	Proximity of trees[7,13]	Trees absent or rare. When present trees consist of rocky mountain juniper and ponderosa pine > 328 feet (100 meters) from lek.
Lek Security		
	Proximity of sagebrush to leks[13]	Adjacent protective sagebrush cover within 328 ft (100 m) of an occupied lek
NESTING/EARLY BROOD REARING[5,10,12,13,14]		
	Sagebrush canopy cover [2,8, 9,11]	2-20%
	Sagebrush height[8]	4-12 inches (10.16-30.48 cm)
	Predominant sagebrush shape[13]	Predominantly spreading shape[5]
	Perennial grass cover [2,8,13]	≥10%
	Perennial grass height[8,9, 11,13]	Adequate nest cover based on ecological site potential and seasonal precipitation.[15]
	Perennial forb cover [2,8]	≥3%, Based on ecological site potential and seasonal precipitation
	Perennial forb availability[13]	Preferred forbs are common with several species present[6]
LATE BROOD-REARING/SUMMER[1] (July-October)[1] (Apply to all habitat outside of nesting/breeding and winter)		
	Sagebrush canopy cover[2, 8]	2-20%
	Sagebrush height[8]	4 - 12 inches (10.16-30.48 cm)
	Perennial grass canopy cover [2,8]	>10%
	Upland and riparian perennial forb availability [2,13]	Preferred forbs are common with several preferred species present[6,]
	Riparian meadow habitat condition	Proper Functioning Condition[13]
WINTER[1] November-March[1] (Apply to areas of known or likely winter-use)		
Cover and Food	Seasonal habitat extent[8]	Winter habitat is managed to optimize its potential within the constraints of ecological site potential
	Sagebrush canopy cover [8,13]	2-20%
	Sagebrush height above snow[8]	Winter habitat is managed to optimize its potential within the constraints of ecological site potential

NOTES AND REFERENCES

[1] Seasonal dates can be adjusted by local unit according to geographic region.
[2] Absolute cover is the actual recorded cover and can exceed 100% when recorded across all species and all layers. It is not relative cover, which is the proportions of each species, and equals 100%. Note that cover is reported for only those species (e.g., sagebrush, preferred forbs) that are sampled to determine suitability of habitat for sage-grouse. Overall cover at the site will be greater than that sampled for sage-grouse habitat, due to other species present. Percent cover refers to foliar cover,

Table 2-3 Seasonal Habitat Desired Conditions for Greater Sage-Grouse

ATTRIBUTE	INDICATOR	DESIRED CONDTION

measured using the HAF protocol line-point intercept method.
[3] Arid corresponds to the 10 – 12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (Stiver et al. 2015 *In press*).
[4] Mesic corresponds to the ≥12 inch precipitation zone.
[5]Collectively the indicators for sagebrush (cover, height, and shape), perennial grass and perennial forb (cover, height and/or availability) represent the desired condition range for nesting/early brood rearing habitat characteristics, consistent with the breeding habitat suitability matrix identified in Stiver et al. 2015 *In press*. Sagebrush plants that are more tree or columnar-shaped provide less protective cover near the ground than sagebrush plants with a spreading shape (Stiver et al. 2015 *In press*). Some sagebrush plants are naturally columnar (e.g., Great Basin big sagebrush), and a natural part of the plant community. However, a predominance of columnar shape arising from animal impacts may warrant management investigation or adjustments at site specific scales.
[6] Preferred forbs are listed in Stiver et al. 2015 *In press*. Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred.
[7]Baruch-Mordo, S., J. S. Evans, J. P. Severson, D. E. Naugle, J. D. Maestas, J. M. Kiesecker, M. J. Falkowski, C. A. Hagen, and K. P. Reese. 2013. Saving sage-grouse from trees.
[8] Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28:967-985.
[9]Connelly , J. W., K. P. Reese, and M. A. Schroeder. 2003. Monitoring of Greater sage-grouse habitats and populations. University of Idaho College of Natural Resources Experiment Station Bulletin 80. University of Idaho, Moscow, ID.
[10]Doherty, K. 2008. Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts. Ph.D. Dissertation. University of Montana, Missoula, MT.
[11] Hagen, C. A., J. W. Connelly, and M. A. Schroeder. 2007. A meta-analysis of Greater Sage-Grouse *Centrocercus urophasianus* nesting and brood-rearing habitats. Wildlife Biology 13 (Supplement 1):42-50.
[12]Holloran, M. J., and S. H. Anderson. 2005. Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats. Condor 107:742-752.
[13]Stiver, S. J., E. T. Rinkes, D. E. Naugle, P. D. Makela, D. A. Nance, and J. W. Karl. *In press*. Sage-Grouse Habitat Assessment Framework: Multi-scale Habitat Assessment Tool. Bureau of Land Management and Western Association of Fish and Wildlife Agencies Technical Reference. U.S. Bureau of Land Management, Denver, Colorado.
[14] Connelly, J.W., A. Moser, and D. Kemner. 2013. Greater Sage-Grouse breeding habitats: Landscape-based comparisons. Grouse News 45. Research Reports.
[15] Specific height requirements needed to meet the objective will be set when project level planning is completed.

Livestock Grazing

The BLM will prioritize (1) the review of grazing leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing leases in PHMAs. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (e.g., fire) and legal obligations.

The NEPA analysis for renewals and modifications of livestock grazing leases that include lands within PHMAs will include specific management thresholds based on GRSG Habitat Objectives Table, Land Health Standards (43 CFR 4180.2) and ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.

Allotments within PHMAs focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing leases. Field checks could include monitoring for actual use, utilization, and use supervision.

At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks.

Range improvements in GRSG PHMAs would be allowed if the improvements would not impact GRSG, improvements, would provide a conservation benefit to GRSG such as fences for protecting important seasonal habitats, improvements would meet the lek buffer requirement. Refer to Appendix V-3 for a discussion about GRSG lek buffers.

The BLM will monitor grazing permits/leases renewed or modified in accordance with the direction contained in this guidance as follows: Allotments within in PHMAs, and focusing on those with riparian areas, will be prioritized for monitoring to ensure compliance with the terms and conditions in the permits. The BLM will collect, at a minimum, the following monitoring data:

- Vegetation Condition
- Actual Use
- Utilization
- Use Supervision

Addressing GRSG RMP Revisions Objectives in Grazing Permits/Leases

BLM will develop criteria to prioritize the workload to process permits/leases (either fully processed or reauthorized based on the Appropriations rider, or issued under Section 402(c)(2) of FLPMA) and determine whether modification is necessary prior to renewal within PHMAs. In setting priorities, those containing riparian areas and areas not meeting Land Health Standards (43 C.F.R. 4180) will take precedence. Potential criteria for prioritizing permit modifications could include:

- Are there riparian areas or wet meadows in the permit/lease area?
- Was current livestock grazing identified as a causal factor for not meeting Land Health Standards?
- Since the last allotment/watershed evaluation, is there current monitoring information to determine that the watershed/allotment is currently achieving or making significant progress towards achieving land health standards?
- Does the permit have terms and conditions adequate to ensure proper grazing practices to meet GRSG habitat objectives found in the Special Status Species section of the land use plan?
- Is there data that indicates that the GRSG habitat objectives, including the Habitat Objectives table, found in the Special Status Species section of the land use plan are being met?
- Is there a request from the permittee to modify the terms and conditions of his/her permit?

Additionally, if an existing permit/lease within PHMAs requires modification because current grazing is a significant causal factor for not meeting the Land Health Standards, the BLM will prepare the appropriate NEPA analysis and issue the proposed/final grazing decision under 43 C.F.R. Subpart 4160, subject to administrative appeal and potential judicial challenge.

The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include PHMAs will include specific management thresholds based on GRSG Habitat Objectives Table and Land Health Standards (43 CFR 4180.2) and defined responses that will allow the authorizing officer to make adjustments to livestock grazing without conducting additional NEPA. Adjustments to meet seasonal Sage-Grouse habitat requirements could include:

- Season or timing of use;
- Numbers of livestock (includes temporary non-use or livestock removal);
- Distribution of livestock use;
- Intensity of use; and
- Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas and goats).

Adaptive Management Strategy for Greater Sage-Grouse Habitat Management

Adaptive Management is a decision process that promotes flexible resource management decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps with adjusting

resource management directions as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. On February 1, 2008, the Department of the Interior published its Adaptive Management Implementation Policy (522 DM 1). The adaptive management strategy presented within this EIS complies with this policy and direction.

In relation to the BLM's National Greater Sage-grouse Planning Strategy, adaptive management will help identify if Greater Sage-Grouse conservation measures presented in this EIS contain the needed level of certainty for effectiveness. Principles of adaptive management will be incorporated into the conservation measures in the plan to ameliorate threats to a species, thereby increasing the likelihood that the conservation measure and plan will be effective in reducing threats to that species. The following provides the BLM adaptive management strategy for the SDFO Proposed RMP/Final EIS.

Adaptive Management and Monitoring

This EIS contains a monitoring framework plan (Appendix V-2) that includes an effectiveness monitoring component. The agencies intend to use the data collected from the effectiveness monitoring to identify any changes in habitat conditions related to the goals and objectives of the plan and other range-wide conservation strategies (U.S. Department of the Interior 2004; Stiver et al. 2006; U.S. Fish and Wildlife Service 2013). The information collected through the Monitoring Framework Plan outlined in Appendix V-2 will be used by the BLM to determine when adaptive management hard and soft triggers (discussed below) are met. Adaptive management reponses at the RMP level were included as part of the assumptions when impacts were analyzed in Chapter 4. In making amendments to this plan, the BLM will coordinate with the FWS as BLM continues to meet its objective of conserving, enhancing and restoring GRSG habitat by reducing, minimizing or eliminating threats to that habitat. The GRSG adaptive management plan provides a means of addressing and responding to unintended negative impacts to GRSG and its habitat before consequences become severe or irreversible.

Adaptive Management Triggers

Adaptive management triggers are essential for identifying when potential management changes are needed in order to continue meeting Greater Sage-Grouse conservation objectives. The BLM will use soft and hard triggers.

Soft Triggers:

Soft triggers are indicators that management or specific activities may not be achieving the intended results of conservation action. The soft trigger is any negative deviation from normal trends in habitat or population in any given year, or if observed across two to three consecutive years. Metrics include, but are not limited to, annual lek counts, wing counts, aerial surveys, habitat monitoring, and DDCT evaluations. BLM field offices, local SDGFP) offices, and sage-grouse working groups will evaluate the metrics. The purpose of these strategies is to address localized Greater Sage-Grouse population and habitat changes by providing the framework in which management will change if monitoring identifies negative population and habitat anomalies.

Each major project (EIS level) will include adaptive management strategies in support of the population management objectives for Greater Sage-Grouse set by the State of South Dakota, and will be consistent with this Greater Sage-Grouse Adaptive Management Plan. These adaptive management strategies will be developed in partnership with the State of South Dakota, project proponents, partners, and stakeholders, incorporating the best available science.

Soft Triggers Response:

Soft triggers require immediate monitoring and surveillance to determine causal factors and may require curtailment of activities in the short or long term, as allowed by law. The project-level adaptive management strategies will identify appropriate responses where the project's activities are identified as the causal factor. The management agency (BLM and/or FS) and the adaptive management group will implement an appropriate response strategy to address causal factors not addressed by specific project adaptive management strategies, not attributable to a specific project, or to make adjustments at a larger regional or state-wide level.

Hard Triggers:
Hard triggers are indicators that management is not achieving desired conservation results. Hard triggers would be considered a catastrophic indicator that the species is not responding to conservation actions, or that a larger-scale impact is having a negative effect. Hard triggers are focused on three metrics: 1) number of active leks, 2) acres of available habitat, and 3) population trends based on annual lek counts. Within the context of normal population variables, hard triggers shall be determined to take effect when two of the three metrics exceeds 60% of normal variability for the BSU in a single year, or when any of the three metrics exceeds 40% of normal variability for a three-year time period within a five-year range of analysis. A minimum of three years is used to determine trends, with a five-year period preferred to allow determination of three actual time periods (i.e., Y1-2-3, Y2-3-4, Y3-4-5). Baseline population estimates are established by pre-disturbance surveys, reference surveys and account for regional and statewide trends in population levels. Population count data in South Dakota are maintained by South Dakota Game, Fish, and Parks (GFP). Estimates of population are determined based upon survey protocols determined by GFP, and are implemented consistently throughout the state. Population counts are tracked for individual leks and are then summarized by county and for the state.

Hard Trigger Response:
Hard triggers represent a threshold indicating that immediate action is necessary to stop a severe deviation from Greater Sage-Grouse conservation objectives set forth in the BLM plans. As such, the Proposed Plan Amendment/Final EIS includes a "hard-wired" plan-level response; that is, it provides that, upon reaching the trigger, a more restrictive alternative, or an appropriate component of a more restrictive alternative analyzed in the EIS, will be implemented without further action by the BLM. Specific "hard-wired" changes in management are identified in the Specific Management Responses, Table 2-4 below. In addition to the specific changes identified in Table 2-4 (see below), the BLM will review available and pertinent data, in coordination Greater Sage-Grouse biologists and managers from multiple agencies, including the FWS, NRCS, and the State of South Dakota, to determine the causal factor(s) and implement a corrective strategy. The corrective strategy would include the changes identified in Table 2-4 and could also include the need to amend or revise the RMP to address the situation and modify management accordingly.

Upon determination that a hard trigger has been tripped, the BLM will immediately defer issuance of discretionary authorizations for new actions within the Biologically Significant Unit (BSU) for a period of 90 days. When a hard trigger is hit in a BSU, including those that cross state lines, the WAFWA Management Zone Greater Sage-Grouse Conservation Team will convene to determine the casual factor, put project level responses in place, as appropriate, and discuss further appropriate actions to be applied.

Table 2-4
Specific Management Responses

Program	Adaptive Management Response[1]
Sage-Grouse Management	Areas within and adjacent to PHMA where a hard trigger has been reached would be the top priority for regional mitigation habitat restoration and fuels reduction treatments.
Vegetation Management	PHMA would be the top priority for regional mitigation, habitat restoration, and fuels reduction treatments.
Wildland Fire Management	Reassess GRSG habitat needs to determine if priorities for at-risk habitats, fuels management areas, preparedness, suppression, and restoration have changed.
Livestock Grazing	For areas not achieving the GRSG habitat objectives due to grazing, apply adjustments to livestock grazing to achieve objectives. Actions would include increased monitoring, changes to season of use or timing of grazing, changes to livestock numbers and intensity of grazing, changes to stocking rates, installation or removal of range improvements.
Rights-of-Way – Existing Corridors	ROW avoidance areas. If allowed, placement of proposed ROWs next to existing ROWs when feasible. Proposed above ground powerlines that can be safely bured would be buried.

Program	Adaptive Management Response[1]
Wind Energy Development	No wind energy development would be allowed in PHMAs as these areas are exclusion areas. Wind energy applications could be denied in all avoidance areas in GHMAs.
Industrial Solar	No solar energy development would be allowed in PHMAs as these areas are exclusion areas. Wind energy applications could be denied in all avoidance areas in GHMAs.
Comprehensive Travel and Transportation Management	If travel management planning has not been completed within GRSG habitat, PHMA areas where the hard trigger was met would be the highest priority for future travel management planning efforts. If travel management has been completed within GRSG habitat in the PHMA where the hard trigger was met, re-evaluate designated routes to determine their effects on GRSG. If routes are found to be causing population-level impacts, revise their designation status to reduce the effect.
Fluid Minerals	New leases may be deferred and/or additional mitigation required. Ongoing operations may be suspended, including wells shut in, until the the impacts that tripped a hard trigger are resolved.
Locatable Minerals	New operations would be evaluated for impacts and mitigation would be required within the limits of BLM's authority as defined in 43 CFR 3715 and 43 CFR 3800.
Salable Minerals	BLM may deny application for new permits or additional mitigation may be required. Ongoing operations may be suspended until the the impacts that tripped a hard trigger are resolved.
Nonenergy Leasable Minerals and Coal	BLM may deny new applications for leases, additional mitigation may be required. Ongoing operations may be suspended until the the impacts that tripped a hard trigger are resolved.

The responses listed above would be implemented in a manner that honors valid, existing rights.

In addition to implementing the hard wired plan-level response, in the event that new scientific information becomes available demonstrating that the hard-wired response would be insufficient to stop a severe deviation from sage-grouse conservation objectives set forth in the BLM plans, the BLM will immediately implement a formal directive to protect GRSG and its habitat and to ensure that conservation options are not foreclosed. To the extent that it is supported scientifically, this formal directive will be drawn from the range of alternatives analyzed in the RMP Amendments/Revisions.

Mitigation for Sage-Grouse Management

Consistent with the Proposed Plan's goal, the intent of the South Dakota Resource Management Plan (SD RMP) is to provide a net conservation gain to the species. In all sage-grouse habitat, in undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third-party actions that result in sage-grouse habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species, including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions.

Actions that result in habitat loss and degradation including those identified as threats which contribute to Greater Sage-Grouse disturbance as identified by the U.S. Fish and Wildlife Service in its 2010 listing decision (75 FR 13910) and

shown in Table 2 in the attached Monitoring Framework (Appendix V-2). This is also consistent with BLM Manual 6840 – Special Status Species Management, Section .02B, which states "to initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of the need for listing of these species under the ESA."

Mitigation Standards. In undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing-third party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species, including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20; e.g., avoid, minimize, and compensate), hereafter referred to as the mitigation hierarchy. If impacts from BLM management actions and authorized third-party actions that result in habitat loss and degradation remain after applying avoidance and minimization measures (i.e., residual impacts), then compensatory mitigation projects will be used to provide a net conservation gain to the species. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation.

Greater Sage-Grouse Conservation Team. The BLM will establish a WAFWA Management Zone Greater Sage-Grouse Conservation Team (hereafter, Team) to help guide the conservation of Greater Sage-Grouse, within 90 days of the issuance of the Record of Decision. This Team will develop a WAFWA Management Zone Regional Mitigation Strategy (hereafter, Regional Mitigation Strategy). The Team will also compile and report on monitoring data (including data on habitat condition, population trends, and mitigation effectiveness) from States across the WAFWA Management Zone (see Monitoring section). Subsequently, the Team will use these data to either modify the appropriate Regional Mitigation Strategy or recommend adaptive management actions (see Adaptive Management section).

The BLM will invite governmental and Tribal partners to participate in this Team, including the SD Game, Fish and Parks (GFP) and U.S. Fish and Wildlife Service (FWS), in compliance with the exemptions provided for committees defined in the Federal Advisory Committee Act and the regulations that implement that act. The BLM will strive for a collaborative and unified approach between Federal agencies , Tribal governments, state and local government(s), and other stakeholders for Greater Sage-Grouse conservation. The Team will provide advice, and will not make any decisions that impact Federal lands. The BLM will remain responsible for making decisions that affect Federal lands.

Developing a Regional Mitigation Strategy. The Team will develop a Regional Mitigation Strategy to inform the mitigation components of NEPA analyses for BLM management actions and third-party actions that result in habitat loss and degradation. The Strategy will be developed within one year of the issuance of the Record of Decision. The BLM's Regional Mitigation Manual MS-1794 will serve as a framework for developing the Regional Mitigation Strategy. The Regional Mitigation Strategy will be applicable to the States/Field Offices within the WAFWA Management Zone's boundaries.

Regional mitigation is a landscape-scale approach to mitigating impacts on resources. This involves anticipating future mitigation needs and strategically identifying mitigation sites and measures that can provide a net conservation gain to the species. The Regional Mitigation Strategy developed by the Team will elaborate on the components identified above (i.e., avoidance, minimization, and compensation; additionality, timeliness, and durability). .

In the time period before the Strategy is developed, BLM will consider regional conditions, trends, and sites, to the greatest extent possible, when applying the mitigation hierarchy and will ensure that mitigation is consistent with the standards set forth in the first paragraph of this section.

Incorporating the Regional Mitigation Strategy into NEPA Analyses. The BLM will include the avoidance, minimization, and compensatory recommendations from the Regional Mitigation Strategy in one or more of the NEPA analysis' alternatives for BLM management actions and third-party actions that result in habitat loss and degradation, and the appropriate mitigation actions will be carried forward into the decision.
Implementing a Compensatory Mitigation Program. Consistent with the principles identified above, the BLM needs to ensure that compensatory mitigation is strategically implemented to provide a net conservation gain to the species, as identified in the Regional Mitigation Strategy. To align with existing compensatory mitigation efforts, this compensatory mitigation program will be implemented at a State level (as opposed to a WAFWA Management Zone, a Field Office, or a Forest), in collaboration with our partners (e.g., Federal, Tribal, and State agencies).

To ensure transparent and effective management of the compensatory mitigation funds, the BLM will enter into a contract or agreement with a third-party to help manage the State-level compensatory mitigation funds, within one year of the issuance of the Record of Decision. The selection of the third-party compensatory mitigation administrator will conform to all relevant laws, regulations, and policies. The BLM will remain responsible for making decisions that affect Federal lands. Information on BMPs, Guidelines and Standard Operating Procedures can be found in Appendix B. Required Design Features are described in Appendix V.

Monitoring Framework for Greater Sage-Grouse Habitat Management

The BLM's planning regulations, specifically 43 CFR 1610.4-9, require that land use plans establish intervals and standards for monitoring based on the sensitivity of the resource decisions. Land use plan monitoring is the process of tracking the implementation of land use plan decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use plan decisions (effectiveness monitoring). For GRSG, these types of monitoring are also described in the criteria found in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (50 CFR Vol. 68, No. 60). One of the Policy for Evaluation of Conservation Efforts When Making Listing Decisions criteria evaluates whether provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.

A guiding principle in the BLM National Sage-grouse Conservation Strategy (2004) is that "the Bureau is committed to sage-grouse and sagebrush conservation and will continue to adjust and adapt our National Sage-grouse Strategy as new information, science and monitoring results evaluate effectiveness over time." In keeping with the WAFWA Sage-grouse Comprehensive Conservation Strategy (2006) and the Greater Sage-grouse Conservation Objectives: Final Report (COT, 2013), the BLM will monitor implementation and effectiveness of conservation measures in sage-grouse habitats.

On March 5, 2010 the 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered were posted as a Federal Register notice (75 FR 13910 14014). This notice stated:
"… the information collected by BLM could not be used to make broad generalizations about the status of rangelands and management actions. There was a lack of consistency across the range in how questions were interpreted and answered for the data call, which limited our ability to use the results to understand habitat conditions for sage-grouse on BLM lands."
Standardization of monitoring methods and implementation of a defensible monitoring approach (within and across jurisdictions) will resolve this situation. The BLM and other conservation partners use the resulting information to guide implementation of conservation activities.

Monitoring strategies for GRSG habitat and populations must be collaborative, as habitat occurs across jurisdictional boundaries (52 percent on BLM-administered lands, 31 percent on private lands, eight percent on National Forest System lands, five percent on state lands, and four percent on tribal and other federal lands) (75 *Federal Register* 13910, March 23, 2010), and state fish and wildlife agencies have primary responsibility for population-level wildlife management, including population monitoring. Therefore, population efforts will continue to be conducted in partnership with state fish and wildlife agencies. The BLM has finalized a monitoring framework, which can be found in Appendix V-2. This framework describes the process that the BLM will use to monitor implementation and effectiveness of RMP/LUP decisions. The monitoring framework includes methods, data standards, and intervals of monitoring at broad and mid scales; consistent indicators to measure and metric descriptions for each of the scales; analysis and reporting methods; and the incorporation of monitoring results into adaptive management. The need for fine-scale and site-specific habitat monitoring may vary by area depending on existing conditions, habitat variability, threats, and land health. Indicators at the fine and site scales will be consistent with the Habitat Assessment Framework; however, the values for the indicators could be adjusted for regional conditions.

More specifically, the framework discusses how the BLM will monitor and track implementation and effectiveness of planning decisions (e.g., tracking of waivers, modifications, and site-level actions). The two agencies will monitor the effectiveness of RMP/RMPA decisions in meeting management and conservation objectives. Effectiveness monitoring will include monitoring disturbance in habitats, as well as landscape habitat attributes. To monitor habitats, the BLM will measure and track attributes of occupied habitat, priority habitat, and general habitat at the broad scale, and attributes of habitat availability, patch size, connectivity, linkage/connectivity habitat, edge effect, and anthropogenic disturbances at the mid-scale. Disturbance monitoring will measure and track changes in the amount of sagebrush in the

landscape and changes in the anthropogenic footprint, including changes in energy development density. The framework also includes methodology for analysis and reporting for field offices, states, and BLM districts, including geospatial and tabular data for disturbance mapping (e.g., geospatial footprint of new permitted disturbances) and management actions effectiveness. A full copy of the Monitoring Framework can be found in Appendix V-2.

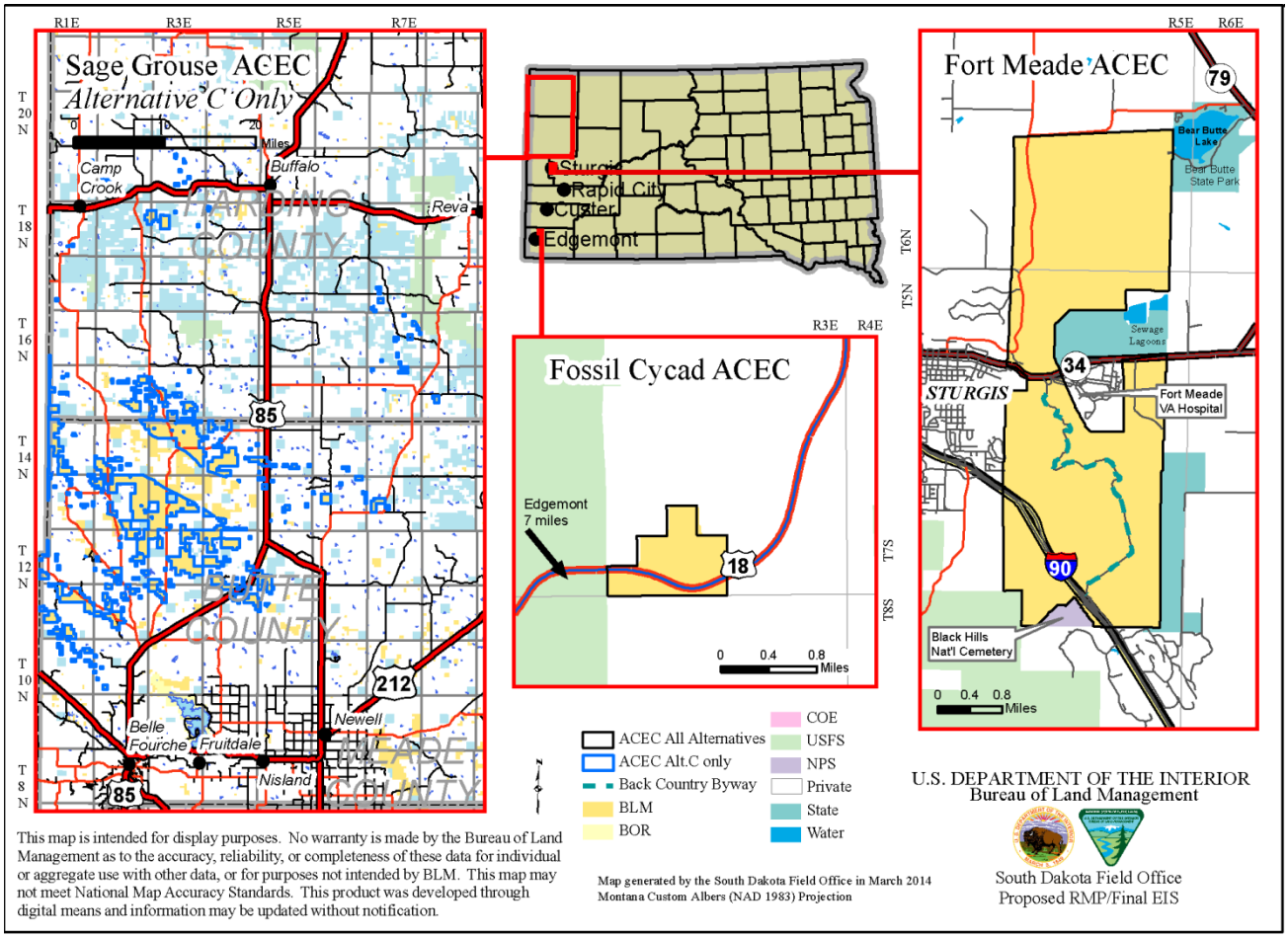
Overview of the Alternatives

The alternatives provide a reasonable range of management options to resolve the issues identified for the planning area. Alternatives include a range of management actions that emphasize current use (Alternative A), commercial use (Alternative B), and conservation of resources (Alternative C). Alternative D, the Proposed Action, was developed after a review of the impacts of Alternatives A, B, and C. Table 2-5, located at the end of Chapter 2, provides an overview of the restrictions including oil and gas stipulations that would be applied under the alternatives. This summary provides basic information about acres affected and the type of restriction for each alternative. The alternatives are presented below and specific details about the alternatives are shown in Table 2-6, Summary Comparison of Alternatives, which follows Table 2-5. Refer to Appendix E and http://www.blm.gov/mt/st/en/prog/energy/oil_and_gas/leasing/stipulations.html for a full description of lease notices and stipulations.

The areas impacted by the restrictions that are described in the various alternatives are shown as follows:

- ROWs: Maps 2-15 through 2-18
- Renewable energy ROWs: Maps 2-19 through 2-24
- Oil and gas restrictions: Maps 2-25 through 2-28

Figure 2-1
Areas of Critical Environmental Concern



Alternatives Considered in Detail

Key components are described below for each alternative considered in detail. All alternatives are consistent with laws, regulations and policy, and provide for varying levels of compatible resource uses and development opportunities. A detailed discussion of each alternative is presented in Table 2-6, Summary Comparison of Alternatives.

This section summarizes the four alternatives (A through D) considered in detail in this Proposed RMP/Final EIS. Due to the breadth of management prescriptions in the alternatives, this section describes only the key elements of the alternatives. The maps at the end of each chapter further illustrate differences in acreage allocations and management prescriptions by alternative for key resource program areas.

Management Actions Common to All Alternatives

Guidance found in the Management Actions Common to All Alternatives section has been carried forward from existing laws, regulations, policy, and previous planning efforts, primarily the 1985 SDFO RMP Record of Decision (as amended) (BLM 1986), and the Fort Meade Recreation Area ACEC Plan (BLM 1996). The Management Actions Common to All Alternatives combined with selected management actions from Alternatives A, B, or C form the Proposed Action (Alternative D).

Some of the management actions common to all alternatives were developed as a result of specific limitations on management of resources and land use programs. These limitations are defined in various laws and regulations that govern BLM management decisions. They are also set forth in the planning criteria to ensure that management actions under all alternatives comply with nondiscretionary laws and regulations. In many cases, these laws and regulations preclude the development of the alternatives to a given action; in some cases, they limit management either to implementing or not implementing the action.

This section summarizes the key management action components that are common to and apply to all alternatives. This section does not list all management actions; only key actions are listed to provide an overview. Detailed descriptions of all management actions common to all alternatives are set forth at the beginning of each resource or resource use section in Table 2-6.

Highlights of Management Actions Common to All Alternatives

- Guidelines and BMPs (Appendix B) will be used to guide management practices based on site-specific evaluations.
- Priority will be placed on actions that reduce or mitigate greenhouse gas (GHG) emissions by actions such as enhanced energy efficiency, use of lower GHG-emitting technologies, renewable energy, planning for carbon capture and sequestration, and the capture or beneficial use of fugitive methane emissions.
- The BLM will continue to work in coordination with federal, state, and county agencies, tribal governments, lessees, private landowners, and organizations.
- The BLM will continue to use an Integrated Pest Management approach for control and management of noxious weeds and invasive pests.
- All Fire Management Units in the planning area will be designated as Category B where suppression is required, but prescribed fire and mechanical treatments will be utilized (Map 2-10, located at the end of Chapter 2).
- Consistent with the RMP, National fire suppression guidelines and the current Fire Management Plan will be utilized to guide fire suppression techniques.
- The State of South Dakota Division of Wildland Fire will continue to provide suppression responsibilities in cooperation with local rural and volunteer fire departments. The BLM Eastern Montana/Dakotas District Office in Miles City, Montana will continue to provide suppression responsibilities within Harding County.
- Wildland urban interface (WUI) areas will be prioritized for fuels treatments in conjunction with completed Community Wildfire Protection Plans.
- Fire Regime Condition Class will be used to determine the level of fuels treatment outside of WUI areas.
- The Fort Meade Recreation Area and Fossil Cycad Area will be managed as Areas of Critical Environmental Concern (ACECs) (Figure 2-1).
- A range of forest conditions (savanna to dense canopy, newly regenerated to mature stands) will be maintained. All appropriate silvicultural systems (even-aged, two-aged, uneven-aged) will be available for management.
- Rangeland Health Standards may be applied to other uses of BLM-administered public land, as applicable.
- Across the planning area, the BLM would allow permitted grazing use levels consistent with the Missouri River Basin studies and applicable studies conducted since the Missouri River Basin Studies were completed with 77,300 AUMs permitted.
- The BLM would continue to manage the National Recreational Trails per 16 USC Chapter 27, National Trails System Act of 1968, located in the planning area (Mickelson and Centennial Trails).

- Firearm shooting is closed in portions of the Fort Meade Recreation Area ACEC (Figure 2-2). Additional areas may be closed to firearm shooting if health and safety issues arise, littering occurs, or conflicts with other resources or resource uses occur. At the implementation phase, coordination with user groups and the public would be conducted to resolve conflicts and problems if they are discovered. Closure would be considered only if conflicts or problems cannot be resolved through other means. Note: all developed recreation sites (including trailheads, picnic areas, etc.) are closed to target shooting per 43 CFR 8365.2-5(a).

- Motorized travel would continue to be limited to existing roads and trails, until travel planning is complete.

- Prior to approval of any projects, the potential impact on National Historic or Recreational Trails and associated features such as auto tour routes and scenic overlooks will be considered though environmental review at the implementation level (project level). This would apply to the established Lewis and Clark Historic Trail. There are no new proposals for new National Historical or Recreational Trails on BLM administered lands at this time but this does not preclude one in the future.

- Oil and gas timing limitation lease stipulations will not apply to the operation and maintenance of production facilities. Mitigation of potential surface-disturbing or disruptive activities associated with oil and gas operation and maintenance activities would be applied as needed at the project level through Conditions of Approval or BMPs to minimize the impact of human activities on important seasonal wildlife habitats.

- Prior to authorizing Waivers, Exceptions or Modifications (WEMS) for oil and gas leasing, the BLM would coordinate with the State of South Dakota, including SDGFP and other applicable State agencies or surface owners on any potential decision related to the use of WEMs that would affect resources or activities managed by the State or surface owner.

- No surface occupancy and use will be allowed within floodplains or within 1/4 mile of least tern or piping plover habitat.

- Lands identified in this RMP as closed to oil and gas leasing would be leased for oil and gas production only if a state or fee well is proposed or completed within the same spacing unit, or if the lands are within a producing unit. These lands would be leased with a no surface occupancy and no subsurface occupancy stipulation with no waiver, modification or exception provisions. There would only be a paper transaction with no physical impacts on the unavailable lands. No exploration or development (drilling or production) would occur within the unavailable lands. After issuance of a lease, the lease would be committed to a communization agreement and the United States would then receive revenue in proportion to its acreage interest as it bears to the entire acreage interest committed to the agreements. This also includes lands specifically prohibited by law from oil and gas leasing.

- The Fort Meade ACEC will be recommended for continued closure to leasable minerals, closed to salable minerals and recommended for withdrawal from locatable mineral entry.

- Motorized travel will be limited to existing roads and trails, unless otherwise restricted. Motorized cross-country travel will be allowed for BLM grazing lease holders if the travel is essential to administer the lease, provided it does not result in resource damage or wildlife disruption. The BLM may limit or prohibit administrative cross-country travel on a seasonal or site-specific basis to limit impacts to resources. Authorization of cross-country travel for individuals with disabilities will be addressed on a case-by-case basis. Use of snowmobiles or vehicles specifically equipped to drive over snow will be prohibited in the Fort Meade Recreation Area ACEC. Management of motorized travel in areas identified as travel management areas may be changed pending subsequent project-level travel management planning.

- Existing public access routes will be retained in land adjustment actions.

- The BLM will work with partners and willing landowners to proactively secure access to BLM-administered public lands for the use and enjoyment of the public with consideration of the working landscape and the intermingled landownership pattern that is present.

- Acquired lands will be managed the same as adjacent BLM-administered public lands or, if isolated, similar to nearby BLM-administered public lands.

- Identified cultural resource sites will be assigned to cultural resource use categories as defined in Chapter 3, Cultural Resources and BMPs that are shown in Appendix B.

> Regulations at part 43 CFR 3100.0-3(d); the Secretary's general authority to prevent the waste and dissipation of public property; and the Attorney General's Opinion of April 2, 1941 (Vol. 40 Op. Atty. Gen 41) allow the BLM to lease lands that are otherwise unavailable for leasing if oil and gas is being drained from such lands. If the unavailable lands were under the jurisdiction of another agency, leasing of such lands would only occur following consultation, and consent if necessary, from the surface managing agency.

- The Back Country Byway designation and management will continue as detailed in the 1996 Fort Meade ACEC Management Plan.

- A Recreation Setting Characteristics Classification (RSC) has been identified for the entire planning area (refer to Appendix L).

- Visual Resource Management (VRM) classes will be designated for all areas (refer to Table 2-6).

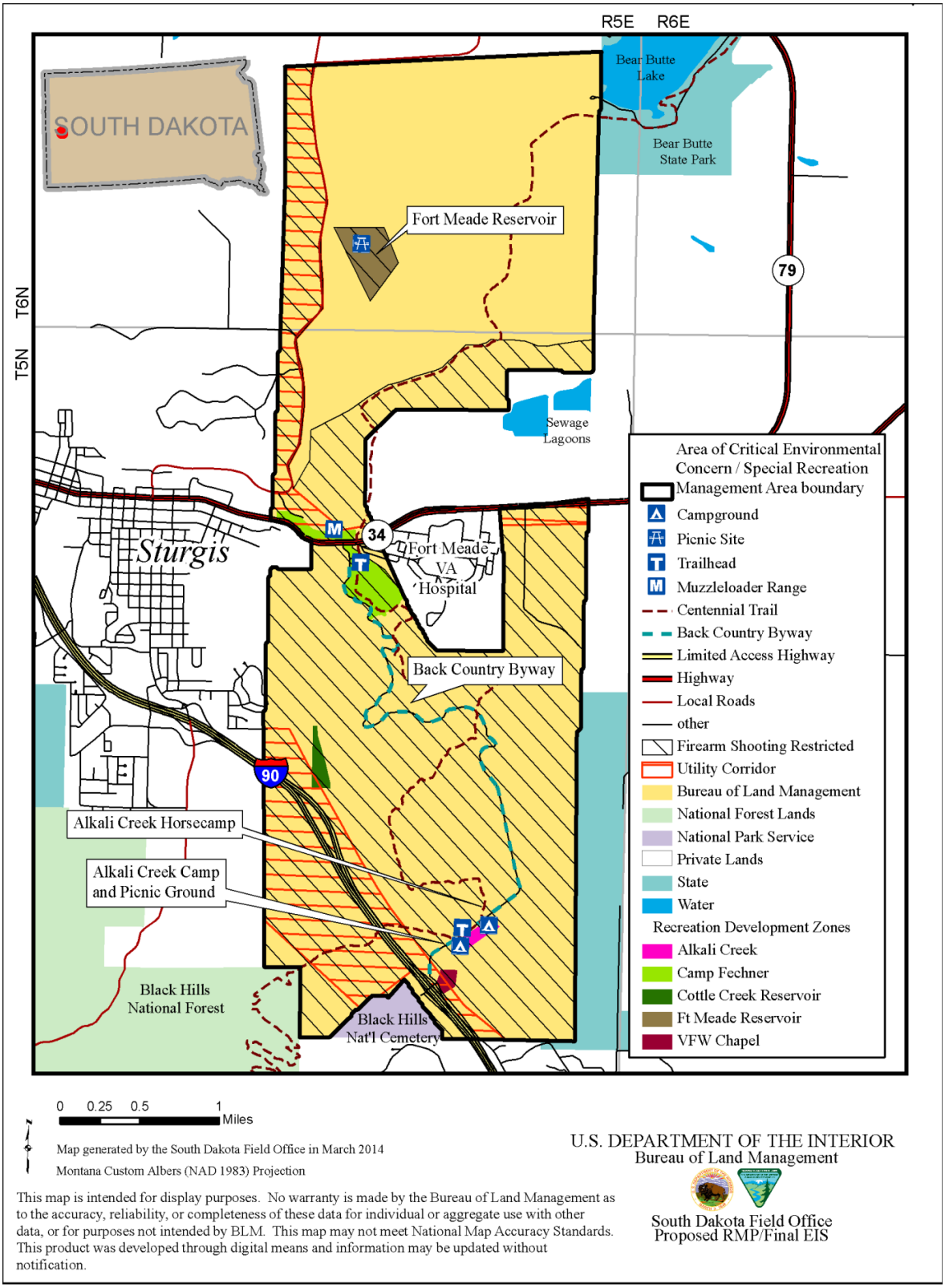
- A detailed, comprehensive transportation and travel plan will be developed during the implementation phase of the RMP.

- A no surface occupancy and use restriction will be applied to occupied current and SDGFP proposed bighorn sheep range.

- There would be no recommendations to designate Wild and Scenic Rivers or Wilderness Areas (refer to the special designation section of Chapter 3 and Appendix U for more information).

- The RMP/EIS is based on data that is available at the time of development. As additional locations of resource features such as leks, nests, cultural sites, etc. are discovered, the management action associated with the feature would apply according to the selected alternative.

Figure 2-2: Firearm Shooting Restrictions and ROW Utility Corridors in the Fort Meade ACEC



Management Actions Common to Alternatives B, C, and the Proposed Action (Alternative D)

PHMAs and GHMAs were developed for Alternatives B, C, and D in cooperation and coordination with staff from SDGFP and were reviewed by the US FWS. General habitat is an area of general occurrence for sage-grouse in South Dakota. The direction and areas included in the PHMAs were developed from lek data (active and inactive), lek buffer maps, sagebrush inventory maps, and year-round sage-grouse activity data collected during studies in 2006-2008 (Kaczor 2008 and Swanson 2009) and a study in neighboring Carter County, MT from 2009-2012 (MFWP 2014). Prior to delineating PHMAs, the active lek areas and areas around leks (lek buffers) were identified in Butte and Harding counties. Sagebrush habitat maps were then reviewed along with bird location maps from local studies (Kaczor 2008, Swanson 2009, MFWP 2014). The BLM worked on developing PHMAs prior to any designation of sage-grouse core areas by the state of South Dakota. Recently, the state has developed core areas (SDGFP 2014b) based largely on the same body of information used by the BLM. Because of SDGFP's role as the wildlife management agency, the BLM has incorporated the state's core areas as the proposed action for this RMP/EIS. Other sage-grouse use areas were delineated as GHMAs (Maps 2-3 through 2-5). The size of the PHMAs varies by alternative, with Alternative D protecting the largest area.

No Surface Occupancy restrictions would apply to perennial or intermittent streams, lakes, ponds, 100-year floodplains, wetlands, riparian areas, and reservoirs. Due to the lack of designated floodplain data, frequently flooded soils criteria from the Natural Resources Conservation Service has been used for delineation and determination of acres affected by these restrictions (see 'Floodplain' within the Glossary). However, field inspections (site visits) along with a review of other data including wetland data from the BLM and other agencies would be used to determine exact boundaries of wetland, floodplains, riparian areas and water bodies in specific locations as projects are proposed and reviewed at the implementation level. Sensitive soils are proposed for management within Alternatives B, C, and D. Natural Resources Conservation Service data is also used in defining sensitive soils areas. Methodology and criteria details for delineating these lands can be found under 'Sensitive Soil' within the Glossary. As projects are proposed and reviewed at the implementation level, site inspections and a review of other data may be used to determine exact boundaries of sensitive soil resources in specific locations. As information is updated or new technology emerges, additional data or new methods of delineation may be used to determine the locations and boundaries of these areas.

Travel Management Areas (TMAs) will be utilized and would include the Center of the Nation (Map 2-1, located at the end of Chapter 2), Fort Meade Recreation Area ACEC (Figure 2-1), and Exemption Area (Figure 2-3). TMAs are a flexible planning tool and may be changed without a formal decision-making process as circumstances warrant. The planning area will be designated as a 'OHV Limited Area', except for the Fort Meade and Fossil Cycad ACECs which will be 'OHV Limited to Designated Routes'. The OHV limitation would ultimately be to 'OHV Limited to Designated Routes' for the planning area as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routes may occur, however no new routes may be created without specific authorization. Site-specific travel planning within TMAs located in PHMAs would be completed within a five (5) year period after the ROD is signed. Specific requirements authorizing or prohibiting cross-country travel within a certain distance of existing or designated routes for camping or retrieval of downed big game may be changed subject to project-level environmental review when TMPs are completed. Cross-country travel with snowmobiles and vehicles specifically equipped to travel over snow would be allowed except in the Fort Meade Recreation Area ACEC where it would be prohibited. Snowmobile use in the Exemption Area would be limited to the state snowmobile trail system and portions of the Mickelson trail that are open to snowmobile use. Emergency use of snowmobiles and vehicles equipped to travel over the snow may be allowed on a case-by-case basis in closed or limited areas.

The Fort Meade Recreation Area ACEC will be designated a Special Recreation Management Area (SRMA). The previous ACEC designation and the current ACEC designation proposal in the Action Alternatives (B,C, and D) were done for Historic and Cultural Importance. An SRMA designation is also needed to address the high level of recreational use at Fort Meade.

Lands have been identified for retention and disposal, pending site-specific environmental review. Land ownership adjustment criteria are described in detail in the Summary Comparison of Alternatives (refer to the Lands section of Table 2-6 and Map 2-2 located at the end of Chapter 2, and Appendix I).

The Fort Meade ACEC and Fossil Cycad ACEC would continue to be managed as ACECs. The acres managed within each ACEC would vary slightly by alternative if the proposed land exchange to the Black Hills National Cemetery occurs. When applicable, stipulations developed for oil and gas development may be applied to other resource uses and activities pending environmental review at the project level (implementation level).

All sage-grouse habitat and use areas that are not identified as a Greater Sage-Grouse PHMAs would be managed as GHMAs (Maps 2-3 through 2-5).

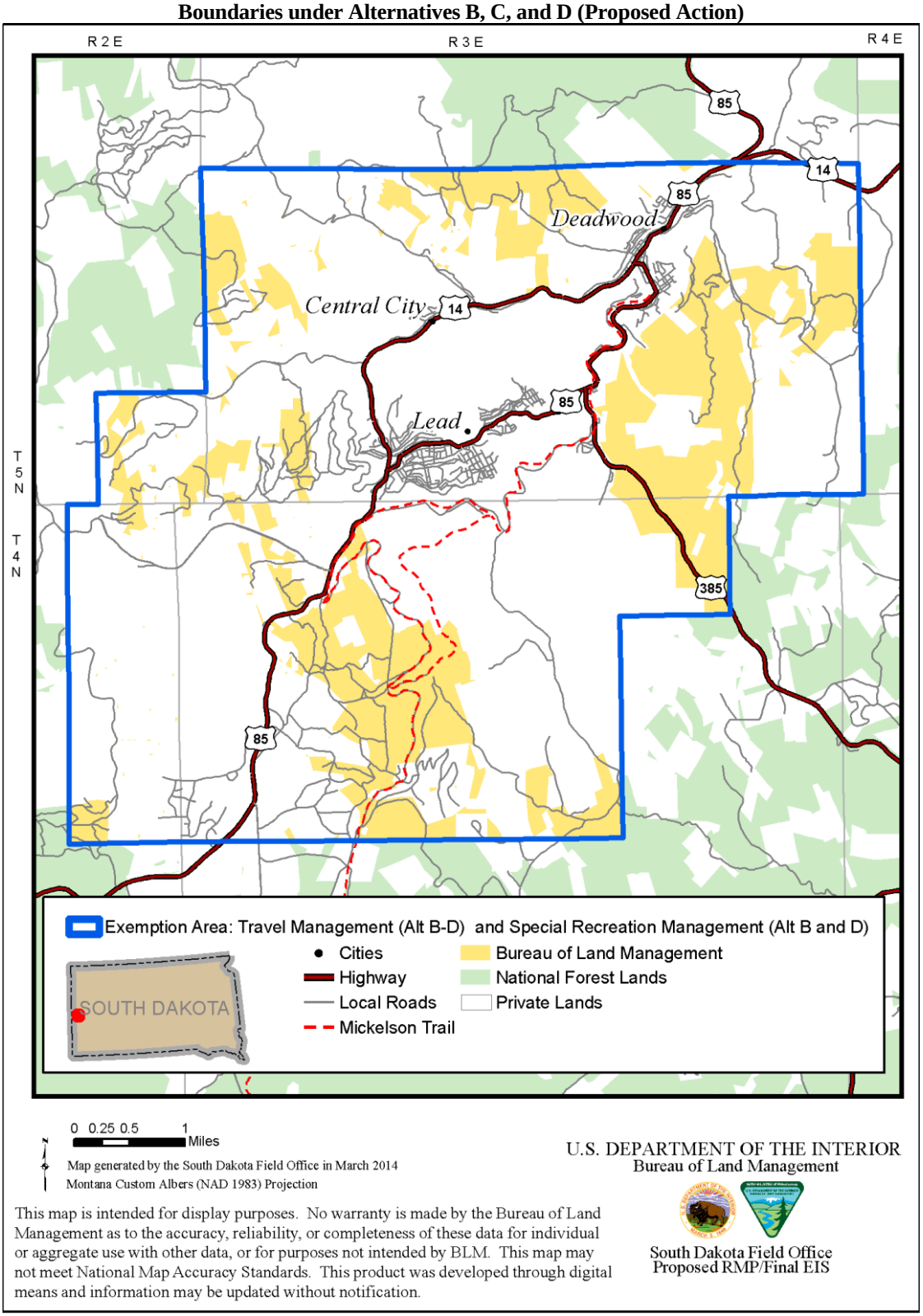
All grazing allotments wholly located in Greater Sage-Grouse PHMAs would be considered for retirement where the base property owner relinquishes their preference.

The term renewable energy as used in this document includes wind and solar power. Renewable energy avoidance or exclusion restrictions apply only to large-scale commercial renewable energy projects and do not apply to small-scale projects such as powering electric fences, weather stations or water pumps, etc.

Oil and gas leasing and development decisions including stipulations may also apply to geophysical exploration and development. When a geophysical application is received, restrictions may be placed on the application to protect resource values or mitigate impacts to them. Some of these requirements may be the same as oil and gas lease stipulations. Other less restrictive measures may be used when impacts to resource values would be less severe. This is due in part to the temporary nature of geophysical exploration. The decisions concerning the level of protection required are made on a case-by-case basis when a Notice of Intent (NOI) is received.

Stipulations that were developed for oil and gas development would also apply to geothermal resources and may be applied to surface-disturbing and disruptive activities including renewable energy development (refer to Appendix E), pending an environmental review of specific project proposals. Other, less restrictive measures may be used when impacts to resource values are determined to be minimal.

Figure 2-3
Exemption Area: Proposed Travel Management and Special Recreation Management Area Boundaries under Alternatives B, C, and D (Proposed Action)



Alternative A (Current Management)

Resource Uses and Support

This section includes a summary of key restrictions and management actions under Alternative A that would affect forest and woodland products, livestock grazing, minerals, recreation, renewable energy, transportation and access, and lands and realty. For a summary of restrictions, refer to the Summary of Restrictions Table 2-5. For a complete, detailed description of Alternative A, refer to the Summary of Alternatives Table 2-6.

Under Alternative A, 267,445 BLM-administered surface acres would be available for locatable mineral entry and 6,894 acres would be recommended for withdrawal from locatable mineral entry. Areas recommended for withdrawal would include the Fort Meade and Fossil Cycad ACECs. Approximately 1,708,777 acres of BLM-administered mineral estate (subsurface estate) would be available for locatable mineral entry. Approximately 103,033 BLM-administered surface acres would be open to leasing (including oil and gas) without BLM restrictions other than standard terms and conditions. Approximately 798,690 BLM-administered mineral acres would be open to leasing without BLM restrictions other than standard terms and conditions. Alternative A identifies State GRSG core areas as Priority Habitat and includes GHMAs as show in Chapter 1, Figure 1-2. No specific management actions are provided for GRSG in Priorty Habitat in Alternative A; however buffers around GRSG leks would be used to limit impacts as described below.

Unlike Alternatives B, C and D, subsurface estate under Bear Butte (410 acres) would be available for mineral development of all types under Alternative A. The Fort Meade Recreation Area ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) would be recommended for withdrawal from locatable mineral entry. The Fort Meade and Fossil Cycad ACECs would be closed to exploration and development of leasable minerals. Motorized travel would be limited to existing roads and trails. Cross-country travel with snowmobiles would be allowed except in the Fort Meade Recreation Area ACEC. Detailed comprehensive travel plans would not be completed for the planning area after the RMP/EIS planning process is completed. Current Fort Meade travel decisions would remain in effect until an updated travel plan is determined.

Oil and gas stipulations that establish protective buffers to reduce disturbance to wildlife and special status species would include an NSO stipulation within 1/4 mile of sage-grouse and sharp-tailed grouse and greater prairie-chicken leks (strutting grounds); a 1/2 mile NSO around eagle and sensitive species raptor nests; a March 1 to July 1 timing restriction within two miles of sage-grouse, sharp-tailed grouse and greater prairie-chicken leks; and a timing restriction within sage-grouse winter range from December 1 through March 31 as shown in Table 2-6. Unlike Alternatives B, C, and D, the oil and gas stipulations would not be applied to other uses and no specific limits on other types of surface-disturbing and disruptive activities would be applied except for those specified in standard stipulations and project-level environmental review.

Noxious weed treatments would not occur from March 1 through June 30 within two miles of sage-grouse leks. There would be no weed treatment restrictions in areas with special status plants.

Under Alternative A, approximately 267,768 acres would be open to all types of ROW actions. In the Fort Meade ACEC, 1,066 acres would be open to utility and transmission line ROWs only, and approximately 5,521 acres would be a ROW exclusion area (refer to Figure 2-2). The acres available for renewable energy ROW projects would be the same as those for other types of ROWs. Renewable energy projects would be addressed on a case-by-case basis as applications are received.

Approximately 259,936 acres would be not be designated as recreation management areas, indicating recreation would be managed as one of many multiple uses, rather than as a priority resource. The two ACECs (Fort Meade Recreation Area and Fossil Cycad) would continue to be designated as ACECs and would have NSO restrictions applied to oil and gas activity.

Motorized cross-country travel to retrieve downed big game animals would be prohibited. Cross-country travel would be allowed within 300 feet of roads to access campsites. Alternative A would not place restrictions on snowmobiles or vehicles specifically equipped to travel over the snow except in the Fort Meade ACEC, where such use would be prohibited.

Livestock grazing would be allowed on 271,000 acres. The amount of forage available for permitted use on these lands would be 73,400 AUMs.

Direction from the BLM Washington Office Instruction Memorandum (IM) No. 98-140 (1998) would be followed to protect bighorn sheep. To limit the potential for disease transmission to bighorn sheep, the IM provides guidelines for domestic livestock management, summarized as follows: Domestic sheep and goat grazing and trailing should be discouraged in the vicinity of native wild sheep ranges; review of grazing permit applications for new domestic sheep or goat grazing permits would consider buffer strips up to nine miles or as developed through a cooperative agreement to minimize contact between domestic sheep and goats and native wild sheep; domestic sheep and goats should be closely managed and carefully herded where necessary to prevent them from straying into native wild sheep areas. Occupied bighorn sheep range is shown on Map 2-3, located at the end of Chapter 2.

New grazing allotments or expansion of current allotments would be allowed in the Exemption Area (Figure 2-3) in areas where tree regeneration is not of importance.

Special Designations

Special designations include ACECs, Back Country Byways, National Scenic and Historic Trails and Recreation Areas, Wild and Scenic Rivers, Wilderness and Wilderness Study Areas.

As noted in the Management Actions Common to All Alternatives section, the Fort Meade Recreation Area ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) would continue to be managed as ACECs. The Fort Meade ACEC (Figure 2-1) would not be designated a SRMA in Alternative A, but would be designated as a SRMA in Alternatives B and D. No new SRMAs would be established.

The BLM would continue with the present National Register of Historic Places District Boundary for portions of the Fort Meade ACEC (includes 3,200 acres).

Physical, Biological, Cultural and Visual Resources

Physical, biological, cultural and visual resources include air, soil, geology, water, forest, rangeland and riparian vegetation, invasive species, wildlife, special status species, wildfire management and ecology, cultural and paleontological resources, visual resources, and wilderness characteristics. This section summarizes key management actions that would affect these resources.

The majority of BLM-administered surface estate in the planning area, including the Exemption Area (Figure 2-3), would be designated as an ERMA (267,758 acres).

Alternative A would not establish PHMAs. Protection of sage-grouse would occur through implementation of Standards for Rangeland Health and Guidelines for Livestock Grazing Management and implementation of oil and gas restrictions in and around leks and brood rearing habitat. Alternative A would provide the least amount of restrictions in sage-grouse habitat.

Conversion of native rangeland vegetation to non-native vegetation (tame pastures) would be allowed to increase livestock production.

The VRM classifications would be as follows: 0 acres in Class I; 1,231 acres in Class II; 4,993 acres in Class III; and 531 acres in Class IV. Approximately 264,997 acres would be managed on a case-by-case basis with no formal designation, using the Visual Resource Inventory as a guide.

Project-level travel planning at the implementation level would occur on a case-by-case basis as in the past. All areas would be limited to existing routes. No TMAs would be identified except for the Fort Meade ACEC. No designated routes would be established except those that are already present in the Fort Meade ACEC.

The BLM would consider land ownership adjustments on a case-by-case basis, based on the criteria for retention, acquisition and disposal.

Alternative B

Resource Uses and Support

This section includes a summary of key restrictions and management actions under Alternative B that would affect forest and woodland products, livestock grazing, minerals, recreation, renewable energy, transportation and access, and lands and realty. For a summary of restrictions refer to the Summary of Restrictions in Table 2-5. For a complete, detailed description of Alternative B refer to the Summary of Alternatives in Table 2-6.

Stipulations would be at the minimal level to protect resources. In general, the stipulations under Alternative B would involve more constraints and would address specific resource concerns better than Alternative A, but would provide less stringent restrictions than Alternative C and D. Under Alternatives B, C, and D, stipulations would not be limited to oil and gas production; they may be applied to other resource uses as applicable and when needed to protect or manage resources and resource uses.

Under Alternative B, 267,445 surface acres would be available for locatable mineral entry and 6,900 surface acres would be recommended for withdrawal from locatable mineral entry. Approximately 1,708,777 acres of BLM-administered mineral estate (subsurface estate) would be available for locatable mineral entry. The Fort Meade Recreation Area ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) and subsurface estate (minerals) under Bear Butte (410 acres) would be recommended for withdrawal from locatable mineral entry. Bear Butte (410 acres) would have NSO restrictions for oil and gas leasing and would be closed to other leasable minerals and closed to salable minerals.

Under Alternative B, approximately 30,246 surface acres and 282,296 mineral acres would be open without BLM restrictions other than standard terms and conditions. The Fort Meade Recreation Area ACEC (6,574 acres) would be closed to exploration and development of leasable minerals. The Fossil Cycad ACEC (320 acres) would be closed to oil and gas leasing.

Key stipulations in Alternative B include:

- The NSO stipulations and limits on other types of surface-disturbing and disruptive activities would include current and future SDGFP proposed bighorn sheep range, areas within 1/2 mile of sage-grouse leks and associated habitat (outside of PHMAs), and areas within 1/4 mile of sharp-tailed grouse and greater prairie-chicken leks and raptor nests, including special status species raptors (except for peregrine falcons which would have a 1/2 mile NSO stipulation from nests). Alternative B would establish an NSO and limits on other types of surface-disturbing and disruptive activities on PHMAs totaling 83,744 BLM-administered surface acres and 253,357 subsurface mineral acres (locations of PHMAs are shown in Map 2-3, located at the end of Chapter 2). Surface-disturbing and disruptive activities are defined on the second page of this chapter and in the Glossary. Limits on surface-disturbing and disruptive activities are described by alternative in Table 2-6. In comparison, Alternative A would create no PHMAs and Alternative C would close oil and gas leasing on PHMAs totaling 93,266 BLM-administered surface acres and 289,563 acres of federal mineral subsurface estate. Alternative D would also establish an NSO stipulation and limits on other types of surface-disturbing and disruptive activities for PHMAs; however, these areas would be considerably larger, covering 127,734 BLM-administered surface acres and 412,822 federal mineral acres. Under Alternatives B, C, and D, NSO stipulations and limits on other types of surface-disturbing and disruptive activities would apply to perennial or intermittent streams, lakes, ponds, 100-year floodplains, reservoirs, wetlands and riparian areas. Federal minerals within the abandoned Black Hills Army Depot (BHAD) and abandoned Igloo townsite would be NSO in Alternative B. Alternatives B and C provide an NSO stipulation in areas within 300 feet of streams, floodplains, wetlands, riparian areas, and waterbodies.
- Controlled Surface Use restrictions would include sensitive soils and steep slopes.
- Timing stipulations would not allow surface-disturbing or disrupting activities within three miles of sage-grouse leks from March 1 through July 15 and within two miles of sharp-tailed grouse and greater prairie-chicken leks from March 1 through June 30. Timing restrictions would also apply to big game and sage-grouse winter range from December 1 through March 31 under Alternatives A, B, and C.

Under Alternative B, chemical treatment of weeds would be applied using wick or spot treatment with backpack sprayers and selective herbicides in areas with threatened and endangered (T&E) and sensitive plant species. Weed treatments near sage-grouse leks would have timing limits from March 1 through June 30 within three miles of leks.

Under Alternative B, ROWs and Renewable energy ROWs would be managed as follows: The Fort Meade Recreation Area ACEC and Fossil Cycad ACEC would be ROW avoidance areas (except for the ROWs corridor in the Fort Meade ACEC as shown in Figure 2-2). Other ROW avoidance areas would be PHMAs and areas outside of PHMAs that are within three miles of sage-grouse leks, big game/sage-grouse wintering areas, areas within two miles of sharp-tailed grouse leks, areas within 1/4 mile of raptor nests (except for peregrine falcon which would have a 1/2 mile ROW avoidance buffer), bighorn sheep range, fisheries, piping plover and least tern habitat, and VRM Class II areas. Floodplains and sensitive soils would also be ROW avoidance areas. Refer to the Renewable Energy section of Table 2-6, ROWs section of the Lands and Realty section of Table 2-6, and Appendix R.

Motorized cross-country travel would be limited to 300 feet from the nearest road to retrieve downed big game animals and to access campsites in dispersed recreational areas. Use of snowmobiles and vehicles specifically equipped to travel on snow would be unrestricted (except in the Fort Meade ACEC) unless damage to resources/infrastructure occur, wildlife is disturbed, or safety problems become evident. In the Fort Meade ACEC, use of snowmobiles and vehicles specifically equipped to travel on snow would be prohibited. Cross-country travel actions related to camping and game retrieval may be changed subject to project-level environmental review when Travel Management Plans are completed.

Additional travel direction for Alternatives B, C and D is described in the Management Actions Common to Alternatives B, C, and D (discussed above and Figure 2-1).

Livestock grazing would be allowed on about 272,000 acres. The amount of forage that could be available for permitted use on these lands would be about 77,300 AUMs.

Currently, there are no BLM domestic sheep or goat grazing authorizations on or near bighorn sheep range in the planning area. To limit the potential for disease transmission to bighorn sheep, the BLM would not allow cattle or bison grazing authorizations to be changed to domestic sheep or goat authorizations on grazing allotments within five miles of current and future SDGFP proposed bighorn sheep range. Transfer of grazing preference would only be allowed to livestock types other than domestic sheep and goats within bighorn sheep range. This distance would be greater if deemed necessary through site-specific analysis and additional research findings. To minimize contact with bighorn sheep, domestic sheep and goats used for weed control within five miles of bighorn sheep range would only occur in coordination with SDGFP. Actions that create separation buffers between domestic sheep and goats and bighorn sheep would be mandatory under Alternatives B, C, and D. In contrast, Alternative A recommends but does not require a separation buffer between domestic sheep and goats, and bighorn sheep.

New grazing allotments or expansion of existing allotments would be allowed in the Exemption Area if capability criteria are met for 50 percent of the area.

Special Designations

Special designations include ACECs, Back Country Byways, National Scenic and Historic Trails and Recreation Areas, Wild and Scenic Rivers, Wilderness and Wilderness Study Areas. There are no Wild and Scenic River, Wilderness or Wilderness Study Areas on BLM administered lands in the planning area. The only National Historic or Scenic Trail is along the Missouri River corridor and very limited amount of BLM administered public land is present in this area and nearly all was inidated when dams where built on the Missouri River.

As noted in the Management Actions Common to all Alternatives, the Fort Meade ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) would continue to be managed as ACECs. While 6,574 acres would be designated as an ACEC in the Fort Meade Recreation Area, up to 220 acres may be removed from ACEC designation to allow a land transfer to the Department of Veterans Affairs for expansion of the Black Hills National Cemetery (maximum of 170 acres) and transfer of a maximum of six acres to the City of Sturgis pending site-specific environmental review. If the transfers are approved, the size of the Fort Meade ACEC may drop from 6,574 acres to 6,404 acres. Transfer of land in the Fort Meade ACEC would not be considered under Alternative C.

The BLM would complete a formal nomination of Fort Meade as a National Historic Landmark for a National Register Landmark listing of 6,574 acres.

Like Alternative D, Alternative B would designate approximately 11,816 acres (Fort Meade ACEC and Exemption Area) as SRMAs. The Fort Meade ACEC and the Exemption Area are shown in Figures 2-2 and 2-3.

Physical, Biological, Cultural and Visual Resources

Physical, biological, cultural and visual resources, and lands with wilderness characteristics include air, soil, geology, water, forest, rangeland and riparian vegetation, invasive species, wildlife, special status species, wildfire management and ecology, cultural and paleontological resources, visual resources, and wilderness characteristics. This section summarizes key management actions that would affect these resources.

Alternative B would provide Greater Sage-Grouse PHMAs and GHMAs to manage sage-grouse habitat. PHMAs would have NSO restrictions and would be avoidance areas for ROWs (83,744 surface acres, 253,357 subsurface acres).

Under Alternative B, all areas would have a VRM classification. This classification would be as follows: 0 acres in Class I; 1,544 acres in Class II; 5,284 acres in Class III; and 264,924 acres in Class IV. Acres protected by other restrictions are shown in the Resource Uses and Support Section.

Alternative C

Resource Uses and Support

This section includes a summary of key restrictions and management actions under Alternative C that would affect forest and woodland products, livestock grazing, minerals, recreation, renewable energy, transportation and access, and lands and realty. For a summary of restrictions refer to the Summary of Restrictions Table 2-5. For a complete, detailed description of Alternative C refer to the Summary of Alternatives Table 2-6.

Alternative C would provide the highest level of resource protection. In general, the stipulations under Alternative C would provide a higher degree of constraints on resource uses compared to Alternatives A, B, and D. Many of the closed and NSO stipulations would be NSO and CSU stipulations, respectively, in the other alternatives; and the acres protected would be larger in many cases.

Under Alternative C, 173,663 surface acres would be available for locatable mineral entry and 100,576 acres would be recommended for withdrawal or extension of an existing withdrawal from locatable mineral entry. Areas recommended for withdrawal would include Greater Sage-Grouse PHMAs, Fort Meade and Fossil Cycad ACECs, and federal minerals under Bear Butte. In contrast to the other alternatives, Alternative C would manage all Greater Sage-Grouse PHMAs as an ACEC (refer to Figure 2-1) and would close PHMAs to oil and gas development and exploration. Approximately 100,576 mineral acres would be recommended to be withdrawn from locatable mineral entry and 1,615,101 acres of mineral estate would be available for locatable mineral entry. In addition to the areas described above, the Black Hills Army Depot would be closed to leasable minerals, leading to a total of 309,576 acres of oil and gas minerals closed (no lease). Under Alternative C, 26,674 surface acres and 258,650 mineral acres would be open to mineral leasing without BLM restrictions other than standard terms and conditions.

Alternative C would provide for larger Greater Sage-Grouse PHMAs than Alternative B but would provide smaller PHMAs than Alternative D (Alternative A would create no PHMAs). Total PHMA acres would include 93,266 BLM-administered surface acres and 289,563 acres of federal minerals subsurface estate (locations of PHMAs are shown on Map 2-4, located at the end of this Chapter). Greater Sage-Grouse PHMAs would be closed to oil and gas development. The PHMAs would be recommended to be withdrawn from locatable mineral development and exploration. The PHMAs would be closed to salable mineral development and exploration and closed to other fluid energy minerals (geothermal) and other non-energy leasable minerals (potash, sodium, etc.) development and exploration. The PHMAs would be unsuitable for coal leasing and closed to coal exploration. All sage-grouse habitat that is not part of a PHMA would be managed as GHMA, as noted in Map 2-4. PHMAs would be excluded from renewable energy and other types of ROWs, and prescribed fire would not be allowed in Alternative C.

Key stipulations of Alternative C include:

- PHMAs would become an ACEC and be closed to fluid energy minerals (oil and gas, geothermal). The PHMAs would be recommended to be withdrawn from locatable mineral development and exploration, closed to salable mineral development and exploration, and closed to other non-energy leasable minerals (potash, sodium, etc.) development and exploration. The PHMAs would be unsuitable for coal leasing and closed to coal exploration. The 12,709 acres of federal minerals within the abandoned Black Hills Army Depot (BHAD) and Igloo townsite would be closed to all leasable and salable minerals.
- No Surface Occupancy and Use stipulations and limits on other types of surface-disturbing and disruptive activities would include areas within 1 mile of sage-grouse leks and associated habitat (outside of PHMAs), areas within ½ mile of sharp-tailed grouse and Greater prairie-chicken leks and raptor nests, areas within 1 mile of peregrine falcon nests, and areas with sensitive soils, including steep slopes. NSO stipulations would apply to streams, floodplains, reservoirs, wetlands and riparian areas in all alternatives. Alternatives B and C provide an NSO stipulation in areas within 300 feet of streams, floodplains, wetlands, riparian areas, and waterbodies. Current and future SDGFP proposed bighorn sheep habitat would be under NSO stipulations in Alternatives B, C, and D. . Limits on surface-disturbing and disruptive activities are described under each alternative in Table 2-6.
- Conditional Surface Use stipulations would not allow structures over 10 feet that create raptor perches to be used or would require anti-perch devices within the two mile buffer of sharp-tailed grouse and greater prairie-chicken nesting areas (the same as Alternative D).
- Timing stipulations would not allow surface-disturbing or disruptive activities within four miles of sage-grouse leks from March 1 through July 15 and areas three miles from sharp-tailed grouse or greater prairie-chicken leks from March 1 through June 30. Timing restrictions would also apply to big game and sage-grouse winter range from December 31 to March 31 under all alternatives as described in the Management Actions Common to All section. Timing restrictions would apply only to exploration and development and would not apply to activities associated with oil and gas production.
- Site-specific travel planning within Greater Sage-Grouse PHMAs would be completed within a five (5) year period after the ROD is signed. The Center of the Nation Travel Management Area would be extended to include all BLM-administered lands within PHMAs and GHMAs as shown in Map 2-1 and 2-5, located at the end of this Chapter. This action would be the same as Alternative D.

Under Alternative C, listed T&E and sensitive plant species would have a 100 foot herbicide buffer zone. Any herbicides applied in this buffer would be applied by spot treatment only unless broadcast treatment would have beneficial impacts to such species. Herbicide weed treatments near sage-grouse leks would have timing limits from March 1 through June 30 within four miles of leks.

Under Alternative C, ROWs and Renewable energy ROWs would be managed as follows: The Fort Meade Recreation Area ACEC and Fossil Cycad ACEC would be ROWs exclusion areas (except for the ROWs corridor in the Fort Meade ACEC). Other ROWs exclusion areas would include sage-grouse PHMAs, big game/sage-grouse wintering areas, areas within three miles of sharp-tailed grouse and prairie-chicken leks, areas within 1/2 mile of raptor nests, current or proposed bighorn sheep range, fisheries, and piping plover and least tern habitat. The VRM Class II areas, steep slopes, floodplains, and sensitive soils would also be ROWs exclusion areas. Alternative C would provide the most ROWs exclusion areas (88% of BLM surface lands). Refer to the Renewable Energy section of Table 2-6, ROWs section of the Lands and Realty section of Table 2-6, and Appendix R.

Motorized cross-country travel to retrieve downed big game animals would not be allowed (the same as Alternative A). Motorized wheeled travel would be allowed within 100 feet of roads to access campsites in dispersed recreational areas (the same as Alternative D). Snowmobiles and vehicles specifically equipped to travel on snow would be restricted to designated roads and trails. Cross-country travel actions related to camping and game retrieval may be changed subject to project-level environmental review when TMPs are completed.

Additional travel direction for Alternatives B, C and D is described in the Management Actions Common to Alternatives B, C, and D (discussed above Figure 2-1).

Grazing use allocations would be the same as under Alternative A. Livestock grazing would be allowed on about 271,000 acres. The amount of forage available for permitted use on these lands would be about 73,400 AUMs.

Restrictions to address the potential for disease transmission from domestic livestock to bighorn sheep would be the same as Alternative B except the buffer separation distance between domestic sheep and goats and bighorn sheep would be larger; a 15 mile buffer between domestic sheep and goats would be used instead of a 10 mile buffer as described in Alternative B. A 10 mile buffer for domestic sheep and goats would be used for weed control instead of the five mile buffer that would be used in Alternative B.

No new grazing allotments or expansion of existing allotments would be allowed in the Exemption Area.

Special Designations

Special designations include ACECs, Back Country Byways, National Scenic and Historic Trails and Recreation Areas, Wild and Scenic Rivers, Wilderness and Wilderness Study Areas. There are no Wild and Scenic River, Wilderness or Wilderness Study Areas on BLM administered lands in the planning area. The only National Historic or Scenic Trail is along the Missouri River corridor and very limited amount of BLM administered public land is present in this area and nearly all was inidated when dams where built on the Missouri River.

As noted under Management Actions Common to All Alternatives, the Fort Meade Recreation Area ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) (Figure 2-1) would continue to be designated as ACECs. In addition to the Fort Meade and Fossil Cycad ACECs, all BLM surface lands within the Greater Sage-Grouse PHMAs would be managed as an ACEC in Alternative C (Figure 2-1). The proposed exchange of land in the Fort Meade ACEC for expansion of the Fort Meade National Cemetery (up to 170 acres) would not occur.

The BLM would revise the National Register of Historic Places Fort Meade District nomination to incorporate 3,370 additional acres inside the District Boundary resulting in nomination of the entire Military Reservation. Total acreage in the Historic District would be changed to 6,574 acres.

Approximately 6,574 acres (Fort Meade Recreation Area ACEC) would be designated a SRMA, indicating a commitment to intensive recreation management. While Alternatives B and D would designate the Exemption Area as a SRMA, Alternative C would not designate this area as a recreation management area. The Fort Meade ACEC and the Exemption Area are shown in Figures 2-2 and 2-3.

Physical, Biological, Cultural and Visual Resources

Physical, biological, cultural and visual resources, and lands with wilderness characteristics include air, soil, geology, water, forest, rangeland and riparian vegetation, invasive species, wildlife, special status species, wildfire management and ecology, cultural and paleontological resources, visual resources, and wilderness characteristics. This section summarizes key management actions that would affect these resources.

Alternative C provides the most visual resource protection. This classification would be as follows: 0 acres in Class I; 11,657 acres in Class II; 179,212 acres in Class III; and 80,883 acres in Class IV. Under Alternative C all areas would have a VRM classification. Acres protected by other restrictions are shown in the Resource Uses and Support Section.

Alternative D (Proposed Plan)

Resource Uses and Support

This section includes a summary of key restrictions and management actions under Alternative D that would affect forest and woodland products, livestock grazing, minerals, recreation, renewable energy, transportation and access, and lands and realty. For a summary of restrictions refer to the Summary of Restrictions Table 2-5. For a complete, detailed description of Alternative D refer to the Summary of Alternatives Table 2-6.

Stipulations would be at the minimal level to protect resources. In general, the stipulations under Alternative D would provide an intermediate degree of restriction compared to Alternatives B and C. Alternative D would provide more specific direction to protect resources and manage resource uses than Alternative A. Under Alternatives B, C, and D, stipulations

would not be limited to oil and gas production; they may be applied to other resource uses as applicable and when needed to protect or manage resources and resource uses. Alternative D would provide the most acres protected as sage-grouse PHMAs. In all PHMAs, the desired condition is to maintain a minimum of 70% of lands capable of producing sagebrush, with 10% to 30% sagebrush canopy cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

Mineral allocations under Alternative D would be as follows:

- Under Alternative D, 267,035 surface acres would be available for locatable mineral entry and 7,310 acres would be recommended for withdrawal. Areas recommended for withdrawal include the Fort Meade and Fossil Cycad ACECs and federal minerals under Bear Butte. Approximately 1,708,367 acres of mineral estate would be available for locatable mineral entry. The Black Hills Army Depot (BHAD) would be closed to leasing and salable mineral exploration and development. No Surface Occupancy restrictions and limits on other types of surface-disturbing and disruptive activities would apply to the adjacent abandoned townsite of Igloo.
- Under Alternative D, 62,236 surface acres and 500,399 mineral acres would be open to fluid mineral leasing without BLM restrictions other than standard terms and conditions.

Key stipulations of Alternative D include the following:

- Alternative D would establish the largest areas for Greater Sage-Grouse PHMAs, with 127,735 BLM-administered surface acres and 412,822 subsurface acres (Map 2-5). Under Alternatives B and D, Greater Sage-Grouse PHMAs would have NSO stipulations and limits on other types of surface-disturbing and disruptive activities.
- No Surface Occupancy stipulations and limits on surface-disturbing and disruptive activities would include the Igloo townsite (Figure 2-4), current and future SDGFP proposed bighorn sheep range, sage-grouse crucial winter range, areas within 6/10 of a mile from sage-grouse leks in general habitat, and areas within 1/4 mile of raptor nests, including most special status species raptors except bald eagles and peregrine falcons. No Surface Occupancy stipulations would not apply to GHMAs. A 1/2 mile NSO around bald eagle nest and a 1 mile NSO buffer would be applied to peregrine falcon nests. NSO stipulations would also apply to floodplains, riparian areas, source water protection areas, National Scenic and Historic Trails, current or proposed bighorn sheep habitat, and the abandoned Igloo townsite that is adjacent to the BHAD. Limits on surface-disturbing and disruptive activities are described under each alternative in Table 2-6. Alternative D differs from the other alternatives as this alternative provides additional protection in the form of an NSO stipulation and limits on other types of surface-disturbing and disruptive activities in badlands and rock outcrops, Sprague's pipit habitat, and areas within 1/4 mile of colonial nesting water birds colonies, pallid and shovel-nosed sturgeon habitat, and black-footed ferret habitat.
- The abandoned BHAD located in southwest South Dakota would be closed to leasing and exploration (including oil, gas and geothermal) and development of salable minerals. See Figure 2-4.
- Controlled Surface Use stipulations would apply on sensitive soils and steep slopes. In addition, structures over 10 feet that create raptor perches would not be authorized or would require anti-perch devices within the two mile buffer of sharp-tailed grouse and greater prairie-chicken nesting areas (the same as Alternatives B and C). Areas within 2 miles of sage-grouse leks outside of PHMAs would be managed with CSU stipulations, as would big game winter range, prairie dog towns, and areas within 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.

Under Alternative D, listed T&E and sensitive plant species would have a 100 foot herbicide buffer zone. Any herbicides applied in this buffer would be applied by spot treatment only unless broadcast treatment would have beneficial impacts to such species (the same as Alternative C). Weed treatments near sage-grouse leks within GHMAs would have timing limits from March 1 through June 30 within three miles of leks (the same as Alternative B). Spot treatments in PHMAs would occur using only IPM methods within suitable nesting or brood-rearing habitat of known sage-grouse leks from March 1 – June 30.

General ROWs (ROWs not associated with Renewable Energy).

- The Fort Meade and Fossil Cycad ACECs would be exclusion areas for ROWs (except for the ROWs corridor at Fort Meade which would be open to utility and transmission line ROWs as shown in Figure 2-2). Other sensitive

management areas would be avoidance areas for general ROWs. Examples of avoidance areas include big game/sage-grouse wintering areas, current and SDGFP proposed bighorn sheep range, areas within two miles of sharp-tailed grouse leks, and areas within 1/4 mile of raptor nests (except for peregrine falcons which would have a one mile avoidance area buffer and bald eagle nests would have 1/2 mile). VRM Class II, least tern and piping plover habitat, fisheries, SRMAs, Sprague's pipit habitat, and areas with 1/4 mile of colonial nesting water bird colonies, black footed ferret and prairie dog colonies, areas with sensitive soils, floodplains, riparian areas, badlands and rock outcrops would also be ROW avoidance areas.

- GHMAs would be avoidance areas for major types of general ROWs and would open to minor types of general ROWs. For general ROWs, major ROWs include powerlines over 100 kV and pipelines over 24 inches. Minor ROWs include powerlines and pipelines under these dimensions.

- PHMAs would be avoidance areas for major and minor type of general ROWs.

Renewable energy ROWs (including solar and wind energy) would be managed as follows:

- The Fort Meade Recreation Area ACEC and Fossil Cycad ACEC, the Exemption area, VRM Class II areas, Greater Sage-Grouse PHMAs, raptor nests and sharp-tailed grouse leks, greater prairie-chicken leks and wintering areas for sage-grouse would be renewable energy ROW exclusion areas. At the discretion of the Authorized Officer, lands designated as Potential Wind Development Areas could be offered for competitive leasing. Other important wildlife and special status species habitat, floodplains, riparian areas, sensitive soils, badlands and rock outcrops would be ROW avoidance areas. VRM Classes III and IV would be open to renewable energy ROWs. Sage-grouse GHMAs and big game wintering areas would be renewable energy ROW avoidance areas. Renewable energy restrictions apply to large scale commercial use and do not apply to small scale projects such as use of solar power to charge electric livestock fences or power pumps for wells, etc. Refer to Renewable Energy section of Table 2-6, ROWs portion of the Lands and Realty section of Table 2-6, and Appendix R.

Livestock grazing would be managed the same as Alternative B. Grazing would be allowed on about 272,000 acres. The amount of forage that could be available for permitted use on these lands would be about 77,300 AUMs.

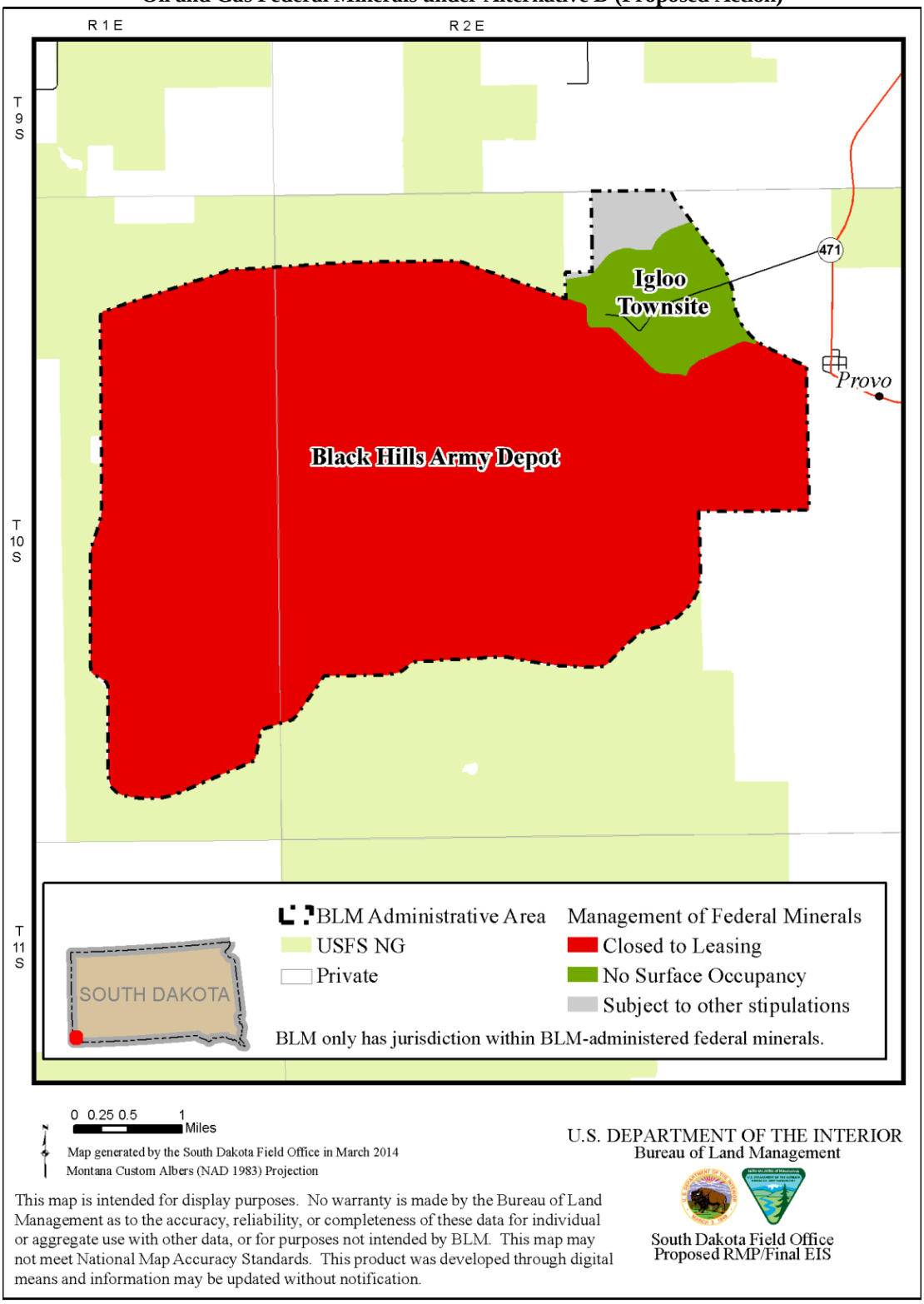
Motorized cross-country travel to retrieve downed big game animals would be prohibited (the same as in Alternatives A and C). Cross-country travel would be allowed within 300 feet of roads to access campsites in dispersed recreational areas (the same as Alternative C).

Snowmobiles and vehicles specifically equipped to travel on snow would be managed the same as under Alternative B. They would be unrestricted unless damage occurs to resources/infrastructure, wildlife is disturbed, or safety problems become evident (except for the Fort Meade ACEC where this type of use would not be allowed). Cross-country travel actions related to camping and game retrieval may be changed subject to project-level environmental review when Travel Management Plans are completed. Additional travel direction for Alternatives B, C, and D is described in the Management Actions Common to Alternatives B, C, and D (discussed above Figure 2-1).

Criteria to address the potential for disease transmission from domestic livestock to bighorn sheep would be the same as under Alternative C. A 15 mile separation buffer between domestic sheep and goats and bighorn sheep would be used except for domestic sheep and goats used for weed control; in this case, a 10 mile buffer would apply.

New grazing allotments or expansion of existing allotments would be allowed in the Exemption Area if capability criteria are met for 50 percent of the area.

Figure 2-4
Abandoned Black Hills Army Depot and former Igloo Townsite: Proposed Management Area for Oil and Gas Federal Minerals under Alternative D (Proposed Action)



Special Designations

Types of special designations include ACECs, Back Country Byways, National Scenic and Historic Trails and Recreation Areas, Wild and Scenic Rivers, Wilderness, and Wilderness Study Areas. There are no Wild and Scenic River, Wilderness or Wilderness Study Areas on BLM administered lands in the planning area. The only National Historic or Scenic Trail is along the Missouri River corridor and very limited amount of BLM administered public land is present in this area and nearly all was inidated when dams where built on the Missouri River.

As noted under Management Actions Common to All Alternatives, the Fort Meade Recreation Area ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) would continue to be designated as ACECs. While 6,574 acres would be designated as an ACEC in the Fort Meade Recreation Area, up to 220 acres may be removed from ACEC designation to allow a land transfer to the Department of Veterans Affairs for expansion of the Black Hills National Cemetery (maximum of 170 acres) and transfer of a maximum of six acres to the City of Sturgis pending project level environmental review. If the transfers are approved, the size of the Fort Meade Recreation Area ACEC may drop from 6,574 acres to 6,404 acres. Transfer of land in the Fort Meade ACEC would not be considered under Alternative C.

Alternative D would revise the current National Register of Historic Places Nomination for the Fort Meade Historic District boundary to incorporate all additional acres, approximately 3,370 acres, inside the original Military Reservation that are administered by the BLM. The BLM would consider a National Historic Landmark nomination, contingent on other partnering agency cooperation.

Approximately 11,657 acres (Fort Meade ACEC (6,574 acres) and the Exemption Area (5,083 acres) would be designated as SRMAs, indicating a commitment to intensive recreation management (the same as Alternative B). The Fort Meade ACEC and the Exemption Area are shown in Figures 2-2 and 2-3.

Physical, Biological, Cultural and Visual Resources

Physical, biological, cultural and visual resources, and lands with wilderness characteristics include air, soil, geology, water, forest, rangeland and riparian vegetation, invasive species, wildlife, special status species, wildfire management and ecology, cultural and paleontological resources, visual resources, and wilderness characteristics. This section summarizes key management actions that would affect these resources.

Alternative D provides higher levels of visual resource protection than Alternatives A and B, and less protection than under Alternative C. This classification would be as follows: 0 acres in Class I; 1,544 acres in Class II; 10,367 acres in Class III; and 259,841 acres in Class IV. Under Alternative D all areas would have a VRM classification. Acres protected by other restrictions are shown in the Resource Uses and Support Section.

Alternatives Considered but Not Carried Forward for Detailed Analysis

The BLM considered several alternatives and management options as possible methods for resolving resource management issues and conflicts. However, after further review and consideration, the BLM did not carry all of those forward for detailed analysis.

The BLM did not carry forward for detailed analysis the alternatives described in the following sections because (1) they would not fulfill requirements of the Federal Land Policy and Management Act (FLPMA) or other existing laws or regulations, (2) they would not meet the purpose and need, (3) they were already part of an existing plan, policy, or administrative function, or (4) they did not fall within the limits of the planning criteria.

Conservation Groups Alternative

During the range-wide scoping effort for sage-grouse, several conservation organizations submitted scoping comments and proposed management actions and alternatives for sage-grouse conservation (referred to here as the Conservation Groups Alternative). In summary, the primary intent of these proposed alternatives and management actions was to: (1) add additional measures beyond those conservation measures identified in the National Technical Team (NTT) report (disseminated by BLM WO-IM-2012-044) in order to maintain and increase sage-grouse abundance and, (2) designate a Greater Sage-Grouse Areas of Critical Environmental Concern (ACECs).

These proposed actions and alternatives submitted by these organizations were determined to be substantially similar to the actions and habitat areas considered within the range of alternatives in this RMP/EIS. As described in the Wildlife and Special Status Species section in Chapter 2, this RMP/EIS delineates two types of sage-grouse management areas as part of the planning process (refer to Maps 2-3 through 2-5), including: Priority Habitat Management Areas (PHMAs) and Priority General Management Areas (GHMAs). Varying degrees of management are considered and analyzed as part of the range of alternatives within each of these habitat delineations in this RMP/EIS in order to achieve the goals or objectives for each sage-grouse habitat area, as well as address the conservation measures and management practices to conserve sage-grouse consistent with the NTT report. Additionally, this RMP/EIS includes Required Design Features for for Greater Sage-Grouse (Appendix V). This Appendix identifies design features to conserve sage-grouse that would be applied during project-specific activities through subsequent environmental review and analysis. Appendix B described BMPs, Guidleines and Standard Operating Procedures to minimize impacts to all resources.

Specific to the organization's proposed alternative to designate sage-grouse ACECs, this RMP/EIS does include, within the range of alternatives for detailed study, a Greater Sage-Grouse Priority Habitat Management Areas ACEC (Alternative C). The Summary Comparison of Alternatives Table 2-6 provides a summary of the range of acreages for sage-grouse PHMAs and GHMAs and a summary of the range of alternatives for these management areas (e.g., allowable uses, constraints, etc.). This range of alternatives is adequate to compare impacts to sage-grouse from different conservation measures as well as the sizes of habitat classifications.

In summary, the additional alternatives and actions proposed through the Conservation Groups Alternative were considered but eliminated from detailed study from this RMP revision because the range of alternatives adequately addresses conservation measures for sage-grouse. For example, the alternatives range from open to fluid mineral leasing and right-of-way development, to a no-lease stipulation for new oil and gas development and exclusion areas for rights-of-way.

Develop a Controlled Surface Use Stipulation (CSU) for Greater Sage-Grouse Priority Habitat Management Areas (PHMAs)

A Controlled Surface Use (CSU) stipulation was considered for Greater Sage-Grouse PHMAs but was determined to be impractical because quality sagebrush habitat within PHMAs tends to be more tightly defined with sagebrush stands clumped in small patches compared to the more widely distributed stands that are common in other western states. As a result, habitat distribution and use is more concentrated in South Dakota. To be effective, a CSU would need to include a three to four mile buffer around sage-grouse leks. Given the density of leks, the concentrated sage-grouse use, and highly intermingled land and mineral ownership status in PHMAs, a CSU buffer around leks or other habitat features in Greater Sage-Grouse PHMAs would effectively result in the same on-the-ground management as an NSO stipulation, which is already included and analyzed for PHMAs in Alternatives B, C and D. To adequately protect sage-grouse, CSU requirements in PHMAs on BLM-administered lands in South Dakota would need to be stringent and offer such limited options for development that project proponents would often relocate proposed projects to nearby adjacent private lands/private minerals. These circumstances make implementation of a CSU impractical in PHMAs. Greater Sage-Grouse PHMAs are shown in Maps 2-3 through 2-5.

Western Heritage Alternative

The Western Heritage Alternative was sent to the South Dakota Field Office during the initial scoping period for the RMP and offered as an approach to manage public lands. This alternative was developed as "A sustainable vision for the public land and resources of the Great Divide, managed by the Rawlings Field Office of the BLM" (Western Heritage Alternative,

Biodiversity Conservation Alliance 2003). The proposed alternative was developed to address a wide variety of resources and resource uses typically addressed in an RMP including energy development, grazing, soils, wildlife, forest health, and special designations. The alternative was reviewed and considered by the South Dakota RMP interdisciplinary team for applicability and discussed with the cooperating agencies.

The South Dakota RMP alternatives were developed with cooperating agencies through an interdisciplinary process stipulated by NEPA standards and rules and address a reasonable range of alternatives for resources and resource uses. The Western Heritage Alternative was developed for specific areas within the Great Divide planning area and does not identify issues or concerns specific to management of public lands or resources in South Dakota.

Eliminate or Reduce Livestock Grazing on BLM-Administered Public Lands

An alternative that proposes to make the entire South Dakota Planning Area unavailable for grazing would not meet the purpose and need of the RMP/EIS. NEPA requires that agencies study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources. An Alternative that would eliminate grazing from the public lands in the absence of an unresolved conflict is inconsistent with the policy objectives of the planning area. Livestock grazing was not a source of contention or controversy during scoping for this RMP and no issues or conflicts have been identified during this land use planning effort that require the complete elimination or major reduction of grazing within the planning area for their resolution. Because the BLM has considerable discretion through its grazing regulations to determine and adjust stocking levels, seasons-of-use, and grazing management activities, and to allocate forage to uses of the public lands in RMPs, the analysis of an alternative to entirely eliminate grazing is not needed.

Resource conditions on BLM-administered public lands in the planning area, including vegetation, riparian areas, watershed, and wildlife habitat, and biodiversity do not warrant elimination or reduction of livestock grazing throughout the planning area. The BLM has assessed rangeland health on approximately 95 percent of the public lands in the planning area. These ongoing rangeland health assessments on BLM surface estate indicate that less than two percent of the areas assessed are not meeting rangeland health standards as a result of grazing practices that were occurring at the time of the evaluation. Of the two percent of public lands not meeting standards because of current grazing practices, corrective management actions have already been implemented to address the grazing practices that contributed to the decline in rangeland health. Refer to the Livestock Grazing section in Chapter 3 for additional details.

The South Dakota RMP planning area is located in the northern portion of the Great Plains Ecoregion (U.S. Environmental Protection Agency 2010) and the rangelands in the planning area are classified as mixed-grass prairie. The rangelands of the Great Plains have a long evolutionary history of grazing and grazing is accepted by grassland ecologists as a keystone process of the grassland ecosystem (Fuhlendorf and Engle 2001, Milchunas, et al. 1988, Knapp, et al. 1999). There is also agreement among many scientists and natural resource managers that some level of grazing disturbance is necessary to assure the ecological integrity of the mixed-grass prairie ecosystem (Grasslands National Park Management Plan 2001).

From 1956 through 1972, the BLM conducted a classification of public lands to estimate the amount of available forage within these planning areas. These are typically referred to as the “Missouri River Basin Surveys.” From this effort, multiple sub-basin reports were generated, which provided the carrying capacities by Animal Unit Months (AUMs) for all BLM lands at the time of survey. The measurement of the available forage for livestock grazing was conducted by trained professionals and involved intensive vegetation sampling (clipping, weighing, and ocular estimation). The BLM, in cooperation with grazing advisory boards, used the information to make adjustments to the AUMs allocated to a grazing permit. This cooperative effort resulted in implementation of appropriate changes to grazing permits in the planning areas. Most of these changes were implemented prior to 1975, however in a few cases they were not implemented until the 1980s. These historical grazing allocations have been included in the existing RMP that was approved in 1986 and allocation of vegetation in most areas is set at a very conservative levels with 28 percent of forage available for livestock and 72 percent allocated for watershed and wildlife.

While the BLM received no comments or concerns that would require a reduction or elimination of grazing during the scoping process for this RMP, the BLM has periodically received requests to graze livestock in ungrazed (unleased) portions of the Exemption Area that burned in a major fire in 2002 (Figure 2-3). For this reason, the BLM analyzed and

addressed grazing suitability in the ungrazed portions of the Exemption Area in this RMP. Through this analysis, the BLM has developed various suitability criteria in the range of alternatives and has identified areas that are unsuitable for grazing because of slope, low productivity and erosion potential for the ungrazed portions of the Exemption Area (Table 2-6).

Reduction or elimination of livestock grazing could become necessary in specific situations where livestock grazing causes or contributes to conflicts with the protection and/or management of other resource values or uses. Such determinations would be made during site-specific (implementation level) activity planning and associated environmental analysis. These determinations would be based on several factors, including monitoring studies, reviewing current science, obtaining input from livestock operators and interested parties, and assessing the ability to meet the Dakotas Standards for Rangeland Health.

Implementation of a no grazing alternative would be highly problematic. The scattered and highly intermingled pattern of land ownership in the planning area would require extensive fencing to eliminate livestock use from BLM-administered public land. In some cases, fence maintenance along public property boundaries would be very difficult due to terrain features. Additionally, the extensive fencing needed to implement such an action would increase hazards to wildlife. To implement a no grazing alternative, nearly 2,600 miles of fence would need to be constructed in the planning area between the boundaries of BLM surface estate and lands owned by other parties. Fence construction costs would easily exceed 20 million dollars and approximately one-half million to one million dollars would be needed per year for additional maintenance costs for upkeep of the fence. In most cases, these costs would be borne by livestock producers that own or control land adjacent to BLM. Without construction of fences along boundaries of BLM public land parcels, herding of livestock would be required 24 hours a day to keep them off the BLM public land that is intermingled with other lands. Continuous herding is not practical and as a result, trespass of livestock onto BLM public land from other lands would be constant. Under a no grazing alternative, proper administration and orderly management of livestock grazing on BLM public land would be extremely difficult.

As previously evaluated in 1986 South Dakota RMP, eliminating grazing from BLM-administered public lands in the planning area would cause significant economic hardship and adverse social impacts to local communities. The economic and social structure of local communities has not changed to a large degree since this time; agriculture, especially livestock grazing, remains one of the major drivers of the local economy in western South Dakota and as stated above, it would be extremely difficult to separate management of grazing on public and private land in a discrete fashion without extensive fencing. Refer to the Social-Economic sections of Chapter 3 for a discussion of social and economic conditions in the planning area.

Livestock grazing is and has been an important use of the public lands in the planning area for many years and is a continuing government program. As stated above, the Great Plains evolved with high levels of large herbivore use and such use is a keystone process of the grassland ecosystem. In addition, Standards for Rangeland Health are being met on public lands throughout the planning area in the vast majority of cases (refer to the Livestock Grazing section of Chapter 3 for details). The CEQ guidelines for compliance with NEPA require that agencies analyze the “No Action Alternative” in all EISs (40 CFR 1502.14(d)). For the purposes of this NEPA analysis, the “no action alternative” is to continue the status quo, which includes livestock grazing. For this reason and those stated above, the South Dakota Planning Area dismissed a no grazing alternative for the entire planning area from further consideration in this RMP/EIS. The alternatives analyzed in detail do include various considerations for eliminating or reducing livestock grazing or maximizing individual resource values or uses in specific areas where conflicts exist.

Summary Comparison Tables

Summary of Restrictions (Table 2-5)

Table 2-5, which follows this chapter, provides an overview of the restrictions including oil and gas stipulations and ROWs restrictions that would be applied under Alternatives A (Current Management), B, C, and D (Proposed Action). This summary provides basic information about acres affected and the type of restriction for each alternative. Additional details about individual alternatives can be found in the Summary Comparison of Alternatives Table 2-6.

Summary Comparison of Alternatives (Table 2-6)

Table 2-6, Summary Comparison of Alternatives, addresses management in the entire planning area, as well as alternatives specific to the Fort Meade ACEC and Fossil Cycad ACEC. Table 2-6 provides detailed descriptions of the alternatives by resource and resource use. Each resource section includes a list of goals, management actions common to all alternatives, cross references to other applicable alternative sections, and a description of the alternatives. When an alternative is developed to address a specific management objective, the objective is shown in the alternative column. Adaptive management actions that have been developed are also listed under the alternative column.

How To Read Table 2-6

Each alternative plan is presented in table format by columns and rows. To learn about a specific alternative and potential management actions, read down each column in the table. To compare all alternatives, read across the rows in table. All acreage numbers in the table are approximate. All of the management actions considered apply to BLM-administered lands and minerals only. Actions such as restrictions may overlap with other restrictions in some areas. Adding acreage figures associated with these actions may not result in accurate total acreage because of this overlap. If conflicting management actions are proposed for the same acreage (and the resources for that action are present) within an alternative, then the most restrictive action would be implemented (unless a safety hazard was identified or the action were to conflict with existing law and regulation). For example, if an alternative provides a No Surface Occupancy and Use stipulation (NSO) for a specific area but a later action in the same alternative provides a lesser degree of restriction such as a Conditional Surface Use (CSU), the NSO restriction would apply and no surface occupancy and use would be allowed even though a less restrictive stipulation (CSU) is described for the same area. If an alternative allows surface-disturbing or other activities but hazards to the public are later identified, the BLM may prohibit the proposed activity (or stop ongoing activity).

All stipulations for oil and gas can be found in the Minerals Appendix E.1(Alternative A), E.2 (Alternative B), E.3 (Alternative C), and E.4 (Alternative D the Proposed Action).

Upon plan approval (ROD), valid existing rights would not be changed by the decisions in this document until a permit or lease expired; following this, the area would be subject to the decisions reached in this document. However, the BLM will continue to coordinate with private surface owners before approving minerals activities under their private surface. Surface owner requirements can be incorporated as conditions of approval prior to approving an action.

How the Summaries of Acres Apply (GIS Analysis)

Acreages affected by restrictions are approximations based on Geographic Information System (GIS) analysis. The acreages represent a single restriction's areal (area) extent. There may be areas where multiple restrictions overlap. In instances where there is overlap, the most restrictive type of restriction would be employed to ensure proper resource protection as described in the previous section. The areal extent affected by a management action may change through the life of the RMP based on new knowledge obtained on resources, new refinements in definitions, and new applications of technology. These changes would normally be documented during RMP maintenance.

Unless otherwise noted, acres listed as BLM surface estate includes the BLM-managed surface estate acres regardless of subsurface (mineral) ownership. Acres listed as subsurface include BLM-administered federal mineral estate regardless of surface ownership. Actual acres affected by withdrawals or closures may differ because the withdrawals or closures would

not affect valid existing rights; valid claims or leases for minerals that are leased would not be included as part of a withdrawal or closure.

In some cases the BLM-administered mineral estate (subsurface) acres protecting the same area may be different for each mineral type because the federal government may own only certain portions of the minerals rights. For example, on a section of land the federal government may have the oil and gas mineral rights, but not the salable mineral rights. The manner in which the federal government maintained or relinquished all or portions of mineral rights when federal lands were privatized is complex and has varied during different time periods. In other cases, apparent inconsistencies in the acres that are listed may occur because of cases where there is no federal mineral estate underneath BLM-administered surface estate. This usually occurs when private lands are transferred back to the federal government and the previous owner kept all or part of the mineral rights.

Summary Comparison of Impacts (Table 2-7)

Table 2-7 contains a summary comparison of potential impacts under the alternatives. Where appropriate, the table quantifies potential impacts anticipated from BLM-authorized actions. Table 2-7 summarizes impacts under the four alternatives by acres and actions. For example, more acreage implies more impact (either beneficial or adverse). The Summary Comparison of Impacts by Alternative section for each resource in Chapter 4 provides a more detailed comparison of impacts between the alternatives. Table 2-7 does not include or describe cumulative impacts from non-BLM actions; however, they are discussed in detail in Chapter 4.

How to Read Table 2-7

Each alternative plan is presented in table format by column. To compare impacts for each alternative, read down each column. To compare impacts for all alternatives read across each row. The table is organized by resource, resource use, special designation area, or topic. See Chapter 4, Environmental Consequences, for complete analysis of each alternative.

Standard practices, the BMPs, and guidelines for surface-disturbing activities are built into each alternative to avoid and minimize potential impacts. The BLM would consider mitigation of residual impacts during subsequent implementation-level projects and any associated environmental analyses performed at that time. All alternatives include reclamation of surface disturbance to reduce long-term impacts.

The figures for acres and other units that are listed throughout this document for vegetation and fuels treatments or products resulting from these treatments are not specific target commitments to be accomplished each year; they represent the average number of acres or other units that BLM expects to be treated or produced each year (or the period provided) assuming that levels of funding remain the same.

Table 2–5
Summary of Restrictions
The restrictions listed below are condensed summaries of the restrictions. Refer to Table 2-2 for specific details about each alternative.

Key
ACEC: Area of Critical Environmental Concern
CSU: Controlled Surface Use Stipulation
NSO: No Surface Occupancy Stipulation
O&G: Oil and Gas
ROWs: Rights-of-Way
TL: Timing Limitation Stipulation

Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Air Resources				
O&G Emissions from nonroad engines—Tier 4 engines (low emission engines)	A Lease Notice would be attached to all leases stating that Tier 4 nonroad diesel engines, or the engine emits NO_x at rates less than or equal to EPA emission standards for Tier 4 nonroad diesel engines would be required (Refer to Appendix E-7).			CSU: Tier 4 engines would be required for oil and gas drilling and completion activities as follows: Tier 4 nonroad diesel engines, or the engine emits NO_x at rates less than or equal to EPA emission standards for Tier 4 nonroad diesel engines (Refer to Appendix E-4).
Soil and Water				
O&G stipulation within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.	NSO within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Surface: 13,397 acres Subsurface: 63,426 acres			
	No similar action	NSO with 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Surface: 17,090 acres Subsurface: 82,745 acres		CSU: Surface occupancy and use would be controlled within 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Surface: 17,090 acres Subsurface: 82,745 acres
ROWs restriction within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.	Open	ROWs avoidance Surface: 14,191 acres	ROWs exclusion Surface: 14,191 acres	ROWs avoidance Surface: 14,191 acres
O&G stipulation within source water protection areas	No similar action			NSO: Surface occupancy and use is prohibited within State-designated Source Water Protection Areas.
ROWs restriction within source water protection areas	No similar action			ROW avoidance in State-designated Source Water Protection Areas.

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Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
O&G stipulation on sensitive soils	Sensitive Soils are open with standard lease terms CSU: 30% slopes Surface: 8,575 acres Subsurface: 40,476 acres	CSU Surface: 122,725 acres Subsurface: 719,649 acres	NSO Surface: 122,725 acres Subsurface: 719,649 acres	CSU Surface: 122,725 acres Subsurface: 719,649 acres
ROWs restriction on sensitive soils	Open	ROWs avoidance Surface: 144,171 acres	ROWs exclusion Surface: 144,171 acres	ROWs avoidance Surface: 144,171 acres
O&G stipulation on badland formations and rock outcrops	No similar action			NSO: Surface occupancy and use is prohibited on badlands and rock outcrop. Surface: 21,575 acres Subsurface: 136,146 acres
ROWs restriction on badlands and rock outcrops	No similar action			ROWs avoidance Surface: 24,222 acres
Invasive Species Some exceptions would apply to the following restrictions (refer to Weeds Section of Table 2-6).				
Herbicide weed treatments in or near special status plant species	No similar action.	In areas with identified T&E, special status plants, and sensitive plant species, wick or backpack sprayers and selective herbicides would be used to minimize risks to those species.	Listed T&E and sensitive plant species would have a 100 foot herbicide buffer zone, applied by spot treatment unless broadcast treatment would have beneficial impacts to such species.	Listed T&E and sensitive plant species would have a 100 foot herbicide buffer zone, applied by spot treatment unless broadcast treatment would not have have adverse impacts to such species.
Herbicide weed treatments near active raptors nests (including SSS, and bald eagle nests)	No similar action.	No weed treatments from 3/1-8/1 within ¼ mile raptor nest that are currently occupied from March 1-Aug. 1.	No weed treatments from 3/1 -8/1 within ¼ mile of current year active raptor nesting site active over the last 7 years.	No weed treatments from 3/1-8/1 within ¼ mile raptor nest that are currently occupied from March 1-Aug. 1.
Herbicide weed treatments near Greater Sage-Grouse leks within General	TL: No treatments within 2 miles of sage-grouse leks from March 1-June 30.	TL: Spot treatments only within 3 miles of sage-grouse leks from March 1-June 30 in	TL: Spot treatments only within 4 miles of sage-grouse leks from March 1-June	TL: Spot treatments only within 3 miles of sage-grouse leks from March 1-June 30 in GHMAs.

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Habitat Management Areas (GHMA)		GHMAs.	30 in GHMAs.	
Herbicide weed treatments in Greater Sage-Grouse Priority Habitat Management Areas (PHMA)	TL: No treatments within 2 miles of sage-grouse leks from March 1-June 30.	Spot treatments in PHMAs only, using IPM methods within suitable nesting or brood rearing habitat of known sage-grouse leks from March 1 – June 30. This does not apply to areas outside of PHMAs.		
Wildlife				
O&G stipulation on bighorn sheep habitat	Open with standard O&G stipulations	NSO Surface: 788 acres Subsurface: 58,072 acres		
ROWs restrictions in bighorn sheep habitat	Open	ROWs avoidance Surface: 875 acres	ROWs exclusion Surface: 875 acres	ROWs avoidance Surface: 875 acres
Livestock grazing in bighorn sheep habitat	Open (domestic sheep/goat grazing discouraged but not prohibited near bighorn sheep habitat)	Closed to domestic sheep and goat grazing within 5 miles of bighorn sheep range Surface: 3,536 acres	Closed to domestic sheep and goat grazing within 15 miles of bighorn sheep range. Surface: 9,292 acres	
O&G stipulation for colonial-nesting waterbirds (refer to Wildlife section of Table 2-2 for a list of species)	No similar action			NSO: Surface occupancy and use is prohibited within ¼ mile of waterbird nesting colonies. TL: Surface use is prohibited within ½ mile of waterbird nesting colonies from April 1 through July 15.
ROW restrictions for colonial-nesting waterbirds (refer to Wildlife section of Table 2-2 for a list of species)	No similar action			<u>Renewable energy ROWs:</u> Exclusion ½ mile of nesting colonies. <u>Other types of ROWs</u>: Avoidance ½ mile of nesting colonies.
O&G stipulation on or near raptor nest sites active within the preceding 7 years (does not include bald eagle, peregrine falcon, or special status species)	Open with standard O&G stipulations	NSO: ¼ mile of nest. Surface: 544 acres Subsurface: 3,059 acres	NSO: ½ mile of nest. Surface: 2,258 acres Subsurface: 13,674 acres	NSO: ¼ mile of nest. Surface: 544 acres Subsurface: 3,059 acres
	No similar action			TL: Surface use is prohibited within ½ mile

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				of active raptor nest sites from March 1 through July 31. Surface: 2,258 acres Subsurface: 13,674 acres
ROWs restriction on or near other raptor nest sites active within the preceding 7 years (does not include bald eagle, peregrine falcon, or special status species)	Open	ROWs avoidance within ¼ mile Surface: 657 acres	ROWs exclusion within ½ mile Surface: 2,735 acres	<u>Renewable energy ROWs:</u> Exclusion ¼ mile from nests. Surface: 657 acres <u>Other types of ROWs</u>: Avoidance ¼ mile from nests. Surface: 657 acres
O&G stipulation on big game wintering areas	TL: 12/1-3/31 Surface: 106,382 acres Subsurface: 411,150 acres			CSU: Within wintering areas. Surface: 106,382 acres Subsurface: 411,150 acres
ROWs restriction in big game wintering areas	Open	ROWs avoidance Surface: 121,406 acres	ROWs exclusion Surface: 121,406 acres	ROWs avoidance Surface: 121,406 acres
O&G stipulation on or near sharp-tailed grouse/greater prairie-chicken breeding/ brood rearing/nesting habitat	TL: 3/1-6/15 2 miles from sharp-tailed grouse leks Surface: 1,316 acres Subsurface: 15,378 acres	TL: 3/1-6/30 2 miles from sharp-tailed grouse/greater prairie-chicken leks Surface: 1,316 acres Subsurface: 15,378 acres	TL: 3/1-6/30 3 miles from sharp-tailed grouse/greater prairie-chicken leks Surface: 2,736 acres Subsurface: 34,605 acres	CSU: 2 miles from sharp-tailed grouse/greater prairie-chicken leks. Surface: 1,316 acres Subsurface: 15,373 acres
	NSO within ¼ mile of sharp-tailed grouse/prairie chicken leks Surface: 0 acres Subsurface: 163 acres		NSO: ½ mile from sharp-tailed grouse/prairie chicken leks Surface: 27 acres Subsurface: 805 acres	
	Structures would not be limited	CSU: Structures over 10 feet within 2 miles of leks Surface: 1,316 acres Subsurface: 15,378 acres		

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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
ROWs restriction on or near sharp-tailed grouse/greater prairie-chicken breeding/brood rearing/nesting habitat	Open	ROWs avoidance 2 miles from sharp-tailed grouse/greater prairie-chicken leks Surface: 1,366 acres	ROWs exclusion 3 miles from sharp-tailed grouse/greater prairie-chicken leks Surface: 2,811 acres	ROWs avoidance 2 miles from sharp-tailed grouse/greater prairie-chicken leks Surface: 1,366 acres
			New power lines would be sited and designed in a manner which does not impact sharp-tailed grouse or greater prairie-chickens within 2 miles of leks.	
Special Status Species				
O&G stipulation in Black-footed ferret habitat	No similar action			NSO: Surface occupancy and use is prohibited within ¼ mile of black-footed ferret habitat
ROWs restriction in Black-footed ferret habitat	No similar action			ROWs exclusion within habitat
O&G stipulation in prairie dog habitat	No similar action			CSU: Within prairie dog colonies. Surface: 2,806 acres Subsurface: 6,378 acres
ROW restriction in prairie dog habitat.	No similar action			ROWs avoidance within prairie dog colonies Surface: 2,862 acres
O&G Stipulation for Pallid and Shovel-nosed Sturgeon	No similar action			NSO: Surface occupancy and use is prohihibited within ¼ mile of the waters edge (high water mark) of the Missouri River and its reservoirs
ROWs restriction for Pallid and Shovel-nosed Sturgeon	No similar action			ROWs avoidance within ¼ mile of the waters edge (high water mark) of the Missouri River and its reservoirs
O&G stipulation for Sprague's pipit	No similar action			Lease Notice stating that mitigation may be required on all parcels with potentional habitat. Migratory Bird Treaty Act Lease notice would also apply.

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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
ROWs restiction for Sprague's pipit	No similar action			ROWs avoidance in areas identified as high to moderate potential for Sprague's pipit habitat
O&G stipulation in interior least tern nesting habitat	NSO: ¼ mile from identified habitat (specific habitat not identified but potential exists)			
ROWs restrictions in interior least tern nesting habitat	Open	ROWs avoidance ¼ mile from identified habitat (specific habitat not identified but potential exists)	ROWs exclusion ¼ mile from identified habitat (specific habitat not identified but potential exists)	
O&G stipulation in piping plover nesting habitat	NSO: ¼ mile from identified habitat (specific habitat not identified but potential exists)			
ROWs restriction in piping plover nesting habitat	Open	ROWs avoidance ¼ mile from identified habitat (specific habitat not identified but potential exists)	ROWs exclusion ¼ mile from identified habitat (specific habitat not identified but potential exists)	
O&G stipulation on or near peregrine falcon aeries (applies to aeries active within past 7 years)	NSO: 1 mile of aeries	NSO: ½ mile of aeries	NSO: 1 mile of aeries	
ROWs restriction on or near peregrine falcon aeries (applies to aeries active within past 7 years)	Open	ROWs avoidance within ½ mile of aeries	ROWs exclusion within 1 mile of aeries	Renewable Energy ROWs: Exclusion within ½ mile of aeries Other types of ROWs: Avoidance within ½ mile of aeries
O&G stipulation on or near bald eagle nest sites active within the preceding 5 years	NSO: ½ mile. Surface: 0 acres Subsurface: 259 acres	NSO: ¼ mile. Surface: 0 acres Subsurface: 80 acres	NSO: ½ mile. Surface: 0 acres Subsurface: 259 acres	
ROWs restriction on or near bald eagle nest sites active within the preceding 5 years	Open	ROWs avoidance within ¼ mile of nests & within riparian habitat within ¼ mile of nests	ROWs exclusion within ½ mile of nests & within riparian habitat within ¼ mile of nests	Renewable Energy ROWs: Exclusion within ½ mile of nests Other types of ROWs: Avoidance within ½ mile of nests

Table 2–5
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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
O&G stipulation on or near special status raptor nests active within 7 years (bald eagles and peregrine falcon addressed in separately)	NSO: ½ mile of nest. Surface: 1,837 acres Subsurface: 10,636 acres	NSO: ¼ mile of nest. Surface: 499 acres Subsurface: 7,510 acres	NSO: ½ mile of nest. Surface: 1,837 acres Subsurface: 10,636 acres	NSO: ¼ mile of nest. Surface: 499 acres Subsurface: 7,510 acres
	No similar action			TL: 3/1-7/31 within ½ mile of nest Surface: 1,837 acres Subsurface: 10,636 acres
ROWs restriction on or near special status raptor nests (bald eagles and peregrine falcon addressed separately)	Open	ROWs avoidance within ¼ mile of nests Surface: 554 acres	ROWs exclusion within ½ mile of nests Surface: 2,160 acres	<u>Renewable Energy ROWs</u>: Exclusion within ¼ mile of nests Surface: 554 acres
				<u>Other types of ROWs</u>: Avoidance within ¼ mile of nests Surface: 554 acres
O&G and Geothermal stipulation on Greater Sage-Grouse PHMAs See Maps 2-3 through 2-5 for PHMA boundary differences by alternative.	NSO: ¼ mile from leks (applies to O&G only) Surface: 916 acres Subsurface: 1,950 acres	NSO (applies to O&G and Geothermal) Surface: 83,744 acres Subsurface: 253,357 acres	Closed to O&G and Geothermal leasing.) Surface: 93,266 acres Subsurface: 289,563 acres	NSO (applies to O&G and Geothermal) Surface: 123,594 acres Subsurface: 405,849 acres
	TL: 3/1-7/1 2 miles from leks (applies to O&G only) Surface: 27,634 acres Subsurface: 73,828 acres			
ROWs restriction on Greater Sage-Grouse PHMAs See Maps 2-3 through 2-5 for PHMA boundary differences by alternative.	Open	ROWs avoidance Surface: 84,384 acres	ROWs exclusion Surface: 96,379 acres An exception would apply if the exclusion may cause development of a ROW on adjacent lands with better quality habitat than is present on BLM-administered lands.	<u>Renewable Energy ROWs</u>: Exclusion Surface: 127,735 acres
				<u>Other types of ROWs</u>: Avoidance Surface: 127,735 acres

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Locatable, salable and other leasable minerals other than oil, gas and geothermal development in Greater Sage-Grouse PHMAs (Other leasable minerals includes all leasable minerals except oil, gas and geothermal which are addressed separately)	Open for locatable, salable and leasable minerals. Other leasable minerals would have standard stipulations	Open. Development and exploration of locatable, salable and other leasable minerals would be open subject to adequate mitigation measures and conservation actions for sage-grouse and other sagebrush obligate species. Surface: 83,744 acres Subsurface: 253,357 acres	PHMAs would be withdrawn from locatable mineral entry and closed to salable and other leasable minerals . Surface: 93,266 acres Subsurface: 289,563 acres	Development and exploration of locatable minerals would be open subject to adequate mitigation measures and conservation actions for sage-grouse and other sagebrush obligate species. Leasable minerals (other than oil. gas and geothermal and commercial salable mineral permits would be closed. Salable minerals closed except for free use permits. Surface: 127,735 acres Subsurface: 412,822 acres
Oil and Gas (O&G and geothermal) stipulation on or near Greater Sage-Grouse leks within GHMAs See Maps 2-3 through 2-5 for Priority General Management Areas.	NSO: ¼ mile from sage-grouse leks (applies to O&G only) Surface: 81 acres Subsurface: 816 acres	NSO: ½ mile from sage-grouse leks (applies to O&G only) Surface: 509 acres Subsurface: 2,072 acres	NSO: 1 mile from sage-grouse leks (applies to O&G only) Surface: 767 acres Subsurface: 1,846 acres	NSO: 6/10 mile from sage-grouse leks. This restriction applies to O&G and geothermal development. Surface: 76 acres Subsurface: 170acres
ROWs restriction on BLM surface on or near Greater Sage-Grouse leks within GHMAs Note: Other ROW restrictions for nesting/ brood rearing habitat would also apply (see below). See Maps 2-3 through 2-5 for General Habitat Management	Open	ROWs avoidance ½ mile from sage-grouse leks for all types of ROWs Surface: 526 acres	ROWs exclusion 1 mile from sage-grouse leks for all types of ROWs. Surface: 768 acres	<u>Renewable energy ROWs:</u> Exclusion 1 mile of leks (114 acres of surface) and avoidance in other portions of the GHMA (23,570 acres of surface). <u>Other types of ROWs</u>: Avoidance for Major ROWs (powerlines ≥ 100kV and pipelines ≥ 24 inches) throughout the entire GHMA. Surface: 23,684 acres

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Areas.				Avoidance for Minor ROWs 2 miles of leks (801 acres of surface). Other portions of the GHMA would be open to minor ROWs (22,883 acres of surface).
O&G, Geothermal stipulation on Greater Sage-Grouse brood rearing/nesting habitat within GHMAs See Maps 2-3 through 2-5.	TL: 3/1-6/30 2 miles from sage-grouse leks (Applies to O&G only) Surface: 5,109 acres Subsurface: 23,584 acres No Management Areas identified. Stipulations apply in sage-grouse habitat across the planning area.	TL: 3/1-7/15 3 miles from sage-grouse leks, within GHMAs (Applies to O&G only) Surface: 14,749 acres Subsurface: 31,522 acres	TL: 3/1-7/15 4 miles from sage-grouse leks; within GHMAs (Applies to O&G only) Surface: 19,926 acres Subsurface: 60,528 acres	CSU: 2 miles from sage-grouse leks within GHMAs. This restriction applies to O&G and geothermal development. Surface: 784 acres Subsurface: 7,840 acres
ROWs restriction on Greater Sage-Grouse brood rearing/nesting habitat within GHMAs See Maps 2-3through 2-5	Open	ROWs avoidance 3 miles from sage-grouse leks Surface: 17,741 acres	ROWs exclusion 4 miles from sage-grouse leks Surface: 20,959 acres	<u>Renewable energy ROWs</u>: Exclusion within 1 mile of leks (114 acres of surface) and avoidance in other portions of GHMA (23,570 acres of surface). <u>Other types of ROWs</u>: Avoidance for Major ROWs (powerlines ≥ 100kV and pipelines ≥ 24 inches) throughout the entire GHMA. Surface: 23,684 acres Avoidance for Minor ROWs within 2 miles of leks (801 acres of surface). Other portions of the GHMA would be open to minor ROWs (22,883 acres of surface).

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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
CSU – Bury or modify fiber optic, telephone, or power lines – Greater Sage-Grouse GHMAs, PHMAs and within Greater Sage-Grouse winter range	No specific management action exists.	All new power lines within 1 mile of sage-grouse leks and within sage-grouse winter range and PHMAs would be buried provided the lines can be safely buried. Acres affected vary depending on site specific circumstances.	All new power lines within 2 miles of sage-grouse leks in GHMAs, PHMAs, and within sage-grouse winter range would be buried provided the lines can be safely buried. Acres affected vary depending on site specific circumstances.	
O&G, Geothermal stipulation on Greater Sage-Grouse wintering areas (includes areas within PHMAs and GHMAs)	TL: 12/1-3/31 (applies to O&G only) Surface: 50,791 acres Subsurface: 103,553 acres			NSO: Greater sage-grouse crucial wintering areas. Includes Geothermal development. Surface: 50,791 acres Subsurface: 103,553 acres
ROWs restriction on Greater Sage-Grouse wintering areas (includes areas within PHMAs and GHMAs)	Open	ROWs avoidance Surface: 53,144 acres	ROWs exclusion Surface: 53,144 acres	<u>Renewable Energy ROWs</u>: Exclusion within crucial winter range Surface: 53,144 acres <u>Other types of ROWs</u>: Avoidance within crucial winter range Surface: 53,144 acres
Fisheries				
O&G stipulation in areas within ¼ mile of sport fish reservoirs	NSO Surface: 551 acres Subsurface: 12,548 acres			
ROWs restriction within ¼ mile of sport fish reservoirs.	Open	ROWs avoidance Surface: 1,018 acres	ROWs exclusion Surface: 1,018 acres	ROWs avoidance Surface: 1,018 acres
Cultural				
Leasable minerals and O&G stipulation on Bear Butte Surface: 0 acres Subsurface: 410 acres	Open with standard O&G stipulations. Geothermal exploration and development would be closed.	NSO. Geothermal exploration and development would be closed.	Closed This restriction applies to O&G and geothermal development.	

Table 2–5
Summary of Restrictions
The restrictions listed below are condensed summaries of the restrictions. Refer to Table 2-2 for specific details about each alternative.

Key
ACEC: Area of Critical Environmental Concern
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O&G: Oil and Gas
ROWs: Rights-of-Way
TL: Timing Limitation Stipulation

Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Locatable minerals on Bear Butte Surface: 0 acres Subsurface: 410 acres	Open to locatable mineral entry	Recommended for withdrawal from locatable mineral entry		
Salable minerals on Bear Butte Surface: 0 acres Subsurface: 410 acres	Open to salable minerals	Closed		
Leasable minerals (including O&G) stipulation on National Scenic and Historic Trails (NSHT).	Open with standard stipulations			NSO: Within ½ mile of the National Trail Management Corridor of designated NSHTs. For the Lewis and Clark NHT this would include the Missouri River and its reservoirs and ½ mile from the high water mark of the Missouri river and its reservoirs.
ROWs within ½ mile of the designated National Trail Management Corridor of National Scenic and Historic Trails (NSHT)	No similar action			Renewable energy ROWs: Exclusion within ½ mile of NSHT Other types of ROWs: Avoidance within ½ mile of NSHT For the Lewis & Clark NHT this would include the Missouri River and its reservoirs and ½ mile from the high water mark of the Missouri river and its reservoirs.
Leasable Minerals (including O&G) stipulations on Cultural properties determined to be of importance to Native American Tribal groups, sites determined to be Traditional Cultural Properties, and/or designated for	Open with standard stipulations	NSO		

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
traditional use.				
Mineral exploration and development at the abandoned Black Hills Army Depot (BHAD) Surface: 0 acres Subsurface: 11,899 acres	Open with standard stipulations.	NSO to leasable minerals (including O&G). Closed to salable minerals. Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD).	Closed to leasable and salable minerals (including O&G). Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD)..	Closed to leasable and salable minerals (including O&G). Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD).
Abandoned townsite of Igloo (Does not include BHAD) Surface: 0 acres Subsurface: 903 acres	Open with standard stipulations.	NSO for leasable minerals (including O&G). Closed to salable minerals.	Closed for leasable and salable minerals (including O&G). Open to locatable minerals..	NSO for leasable minerals (including O&G). Closed to salable minerals. Open to locatable minerals.
Visual Resources				
CSU O&G stipulation on VRM Class II designation	CSU: VRM Class II criteria (refer to glossary) would apply to 1,231 acres in Fort Meade and Fossil Cycad ACECs.	CSU: VRM Class II criteria constraints would apply to 1,544 acres in Fort Meade and Fossil Cycad ACECs.	CSU: VRM Class II criteria would apply to 6,801 acres in Fort Meade ACEC and Fossil Cycad ACEC. Other Visual Resource Inventory Class 2 areas would become VRM Class II areas (4,790 acres).	CSU: VRM Class II criteria would apply to 1,544 acres in Fort Meade and Fossil Cycad ACECs.
ROW restriction on VRM Class II designation	Open Surface: 1,231 acres	ROWs avoidance Surface: 1,544 acres	ROWs exclusion Surface: 11,590 acres	<u>Renewable Energy ROWs</u>: Exclusion Surface: 1,544 acres Other types of ROWs: Avoidance Surface: 1,544 acres

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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Recreation				
O&G stipulation in or near SRMAs	No SRMAs established	NSO: In and within ½ mile buffer of Exemption Area SRMA. NSO: Within a ½ mile buffer around Fort Meade SRMA. Surface: 5,078 acres Subsurface: 8,839 acres	Exemption Area would not be designated as an SRMA. NSO: Within a 1 mile buffer around Fort Meade SRMA. Surface: 0 acres Subsurface: 1,497 acres	NSO: In and within ½ mile buffer of Exemption Area SRMA. NSO: Within ½ mile buffer around Fort Meade SRMA. Surface: 5,078 acres Subsurface: 8,839acres
Locatable and leasable minerals in or near SRMAs	No SRMAs established	Locatable minerals would be withdrawn and leasable minerals would be closed within the Fort Meade SRMA. Surface: 6,574 acres Subsurface: 6,574 acres		
ROWs restriction on Fort Meade SRMA, buffer only (Fort Meade ACEC addresses the interior area) Surface: 0 acres	Open	ROWs avoidance with ½ mile buffer	ROWs exclusion with 1 mile buffer	Renewable Energy ROWs: Exclusion within ½ mile Other types of ROWs: Avoidance within ½ mile
ROWs restriction on Exemption Area SRMA and SRMA buffer Surface: 5,078 acres	Open	ROWs avoidance within SRMA and ½ mile buffer	Open. Exemption Area would not be designated as a SRMA.	Renewable Energy ROWs: Exclusion within SRMA and ½ mile Other types of ROWs: Avoidance within SRMA and ½ mile
Camping	Restricted to 16 days	Same as Alternative A	Same as Alternative A	Same as Alternative A
Motorized Cross Country Travel to Access Campsites (does not include Fort Meade)	Allowed within 300 feet of roads to access campsite	Allowed within 300 feet of roads to access campsite by direct route	Allowed within 100 feet of roads to access campsite by direct route	Same as Alternative B.
Motorized cross-country travel to retrieve downed big game animals	Not allowed	Allowed within 300 feet from the nearest road	Same as Alternative A	Same as Alternative A
Travel with Motorized	Not allowed at Fort	Not allowed at Fort	Not allowed at Fort	Same as Alternative B

Table 2–5
Summary of Restrictions
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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Vehicles Equipped to Travel Over Snow (does not include administrative or emergency use)	Meade. Cross country travel and travel on roads and trails allowed in all other areas.	Meade. Cross country travel and travel on roads and trails allowed in all other areas.	Meade. In other areas this use is allowed only on designated roads and trails (no cross-country use allowed in any part of the planning area).	except this type of equipment use would be limited to designated roads and trails in the Exemption Area and could be restricted in other areas through subsequent travel management planning.
OHV Travel (does not include administrative or emergency use)	Limited to designated roads on Fort Meade and Fossil Cycad ACECs; limited to existing roads and trails elsewhere.	The planning area would be designated as a 'OHV Limited Area', except for the Fort Meade and Fossil Cycads ACECs which would be 'OHV Limited to Designated Routes'. The OHV limitation for the planning area would ultimately be to "OHV Limited to Designated Routes' as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routhes may occur, however no new routes may be created without specific authorization.		
Firearm Shooting	No discharge of firearms in southern portion of Fort Meade ACEC Surface: 3,996 acres (Refer to Map 4-3)			
Travel and Transportation Management				
Summary of travel and transportation management restrictions	Motorized travel limited to designated routes in Fort Meade and Fossil Cycad ACECs and to existing roads and trails elsewhere. Oversnow motorized vehicles prohibited in Fort Meade ACEC. Motorized travel off-road greater than 300 feet from the road for campsite location is prohibited.	Motorized travel limited to designated routes. Existing roads and trails will be considered designated routes until such time as an area-specific Travel Management Plan is completed and specific routes are identified and designated. Oversnow motorized vehicles prohibited in Fort Meade ACEC. Oversnow motor vehicles may be restricted in future Travel Management Plan decisions. Motorized travel off-road greater than 300 feet from the road for campsite location is prohibited.	Motorized travel limited to designated routes. Existing roads and trails will be considered designated routes until such time as an area specific Travel Management Plan is completed and specific routes are identified and designated. Oversnow motorized vehicles prohibited in Fort Meade ACEC. Oversnow motor vehicles may be restricted in future Travel Management Plan decisions. Motorized travel off-road greater than 100 feet from the road for campsite location is prohibited.	Same as Alternative B

Table 2–5
Summary of Restrictions
The restrictions listed below are condensed summaries of the restrictions. Refer to Table 2-2 for specific details about each alternative.

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Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
ACECs				
Summary of ACECs and acres protected by ACEC Designation	Two ACECs: Fort Meade and Fossil Cycad Surface: 6,894 acres Subsurface: 6,894 acres	Two ACECs: Fort Meade and Fossil Cycad Surface: 6,894 acres Subsurface: 6,894 acres	Three ACECs: Fort Meade, Fossil Cycad and Greater Sage-Grouse PHMAs Surface: 103,273 acres Subsurface: 296,457 acres	Two ACECs: Fort Meade and Fossil Cycad Surface: 6,894 acres Subsurface: 6,894 acres
Leasable minerals (including O&G and geothermal) on Fort Meade ACEC	Closed Surface: 6,574 acres Subsurface: 6,574 acres			
ROWs restriction on Fort Meade ACEC	Utility and transmission line ROWs would be allowed (open) in the designated ROW corridor in the Fort Meade ACEC Surface: 1,066 acres			
	ROWs exclusion outside ROW corridor Surface: 5,508 acres	ROWs avoidance outside ROW corridor Surface: 5,508 acres	ROWs exclusion outside ROW corridor Surface: 5,508 acres	ROWs exclusion outside ROW corridor Surface: 5,508 acres
Locatable minerals on Fort Meade ACEC	Withdrawn from locatable mineral entry Surface: 6,574 acres Subsurface: 6,574 acres			
Salable minerals on Fort Meade ACEC	Closed to salable minerals Surface 6,574 acres Subsurface: 6,574 acres			
Leasable minerals (including O&G and geothermal) Fossil Cycad ACEC Surface: 320 acres Subsurface: 320 acres	Closed	NSO Geothermal development would be closed.	Closed This restriction applies to O&G and geothermal development.	
ROWs restriction on Fossil Cycad ACEC	Open	ROWs avoidance Surface: 320 acres	ROWs exclusion Surface: 320 acres	
Other leasable minerals on Fossil Cycad ACEC	No Lease (Closed) Subsurface: 320 acres			
Locatable minerals on Fossil Cycad ACEC	Withdrawn from mineral entry Surface: 320 acres Subsurface: 320 acres			

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Summary of Restrictions
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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	*Alternative A (Current Management)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Salable minerals on Fossil Cycad ACEC	Closed Surface: 320 acres Subsurface: 320 acres			
Leasable minerals (including O&G and geothermal)in Greater Sage-Grouse PHMAs ACEC	N/A	N/A	Closed (No Lease) Surface: 93,266 acres Subsurface: 289,563 acres	N/A
ROWs in Greater Sage-Grouse PHMAs ACEC	N/A	N/A	ROWs exclusion Surface: 96,379 acres	N/A
Locatable minerals in Greater Sage-Grouse PHMAs /ACEC	N/A	N/A	Withdrawn Surface: 93,266 acres Subsurface: 289,288 acres	N/A
Hazardous Materials and Cultural Resources				
U.S. Air Force abandoned Minuteman missile sites	Open	CSU: at U.S. Air Force abandoned Minuteman missile sites	CSU: Within 1/8 mile (approximately 200 meters) of U.S. Air Force abandoned Minuteman missile sites	
Mineral exploration and development at the abandoned Black Hills Army Depot (BHAD) Surface: 0 acres Subsurface: 11,899 acres	Open	NSO to leasable minerals (including O&G). Closed to salable minerals. Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD), as defined in 43 CFR 3715 and 43 CFR 3809.5. Additional requirements beyond unnecessary or undue degradation UUD are voluntary and achieved by negotiation with the claim holder. Required design features would not be mandatory, and would be implemented within the limits of the mining laws.	Closed to leasable and salable minerals (including O&G). Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD), as defined in 43 CFR 3715 and 43 CFR 3809.5. Additional requirements beyond unnecessary or undue degradation UUD are voluntary and achieved by negotiation with the claim holder. Required design features would not be mandatory, and would be	Closed to leasable and salable minerals (including O&G). Open, with restrictions applicable to locatable minerals, limited to the prevention of unnecessary or undue degradation (UUD), as defined in 43 CFR 3715 and 43 CFR 3809.5. Additional requirements beyond unnecessary or undue degradation UUD are voluntary and achieved by negotiation with the claim holder. Required design features would not be mandatory, and would be implemented within the limits of the mining laws.

Table 2–5
Summary of Restrictions
The restrictions listed below are condensed summaries of the restrictions. Refer to Table 2-2 for specific details about each alternative.

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Note: *Subsurface acres include federal mineral estate below BLM-administered surface estate and federal mineral estate below lands of other surface ownerships (split-estate).*

Open designations may be subject to site- or project-specific restrictions determined at the project level (implementation) environmental review.

Resource and Resource Use	***Alternative A (Current Management)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
			implemented within the limits of the mining laws.	

Other surface disturbance and disruptive activites not associated with oil and gas activites or ROWs would be avoided or limited in areas identified in the oil and gas stipulations. Surface disturbing and disruptive activities would not be allowed in these areas unless impacts can be adequately mitigated, conservation actions included (refer to table 2-2) and the goals of this plan not compromised. Refer to glossary for definition of surface disturbing and disruptive activites.

Table 2-5 (continued)
Cumulative Acres of Federal Mineral Estate Available or Unavailable for Oil and Gas Leasing[1]

	Alternative A (Current Management)		*Alternative B*		*Alternative C*		*Alternative D (Proposed Action)*	
	Surface[2]	*Subsurface*	*Surface[2]*	*Subsurface*	*Surface[2]*	*Subsurface*	*Surface[2]*	*Subsurface*
Cumulative Acres Available for Oil and Gas Leasing								
No Surface Occupancy	15,489	87,349	105,838	404,442	99,811	700,398	152,100	584,118
Timing Limitations	115,204	450,032	61,186	305,574	15,878	92,903	1,169	8,616
Controlled Surface Use	2,954	19,613	39,730	363,692	1,051	1,051	21,175	250,242
Standard Lease Terms	103,033	798,690	30,246	282,296	26,674	258,650	62,236	500,399
Cumulative Areas Unavailable for Oil and Gas Leasing								
Non-discretionary	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)
Discretionary (closed)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade (6,574 acres)	Fort Meade (6,574 acres)	SG PHMAs, Fort Meade and Fossil Cycad (100,160 acres)	SG PHMAs, BHAD, Igloo townsite, Fort Meade, Fossil Cycad, and Bear Butte (309,576 acres)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade, Fossil Cycad, BHAD, and Bear Butte (19,203 acres)

[1] Acreages by subcategory were calculated such that each column of subcategories under each alternative adds up to the total available acres for leasing based on the following general concepts where multiple stipulations overlapped: Unavailable land categories override available land categories. Within available lands, No Surface Occupancy stipulations override and are more restrictive than Timing Limitations, Controlled Surface Use, and Standard Lease Terms. Timing Limitation stipulations override and are more restrictive than Controlled Surface Use and Standard Lease Terms. Controlled Surface Use stipulations override and are more restrictive than Standard Lease Terms.

[2] BLM-administered surface acres with federal minerals lands underneath.

Note: For a detailed breakdown of the table depicting the Cumulative Areas for Oil and Gas Leasing by Oil and Gas RFD levels please see Chapter 4, Table 4-77.

Table 2-5 (continued)
Acres of Federal Mineral Estate Available or Unavailable for Oil and Gas Leasing[1]

	Alternative A (Current Management)		***Alternative B***		***Alternative C***		***Alternative D (Proposed Action)***	
	Surface[2]	***Subsurface***	***Surface[2]***	***Subsurface***	***Surface[2]***	***Subsurface***	***Surface[2]***	***Subsurface***
Acres Available for Oil and Gas Leasing								
No Surface Occupancy	16,385	88,246	107,412	406,020	147,465	842,537	153,537	586,079
Timing Limitations	127,220	501,754	112,832	460,595	118,401	498,577	4,027	23,556
Controlled Surface Use	9,695	41,599	124,332	727,022	12,523	26,585	44,920	395,897
Areas Unavailable for Oil and Gas Leasing								
Non-discretionary	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)	--	National parks, wildlife refuges, wilderness areas, and incorpor-ated cities and towns (175 acres)
Discretionary (closed)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade (6,574 acres)	Fort Meade (6,574 acres)	SG PHMAs, Fort Meade and Fossil Cycad (100,160 acres)	SG PHMAs, BHAD/ Igloo, Fort Meade, Fossil Cycad, and Bear Butte (309,576 acres)	Fort Meade and Fossil Cycad (6,894 acres)	Fort Meade, Fossil Cycad, BHAD, and Bear Butte (19,203 acres)

[1] Acreages by subcategory under each alternative. Total available and unavailable may overlap and do not equal the total number of BLM administered lands (surface and federal minerals). Overlapping individual stipulation-specific acreages by restriction order are displayed by alternative in Chapter 2 in Table 2-2.
[2] BLM-administered surface acres with federal minerals lands underneath.

Table 2-5 (continued)
Rights-of-Way, Cumulative Acres of BLM-Administered Surface Acres Affected[1]

	Alternative A (Current Management)		*Alternative B*		*Alternative C*		*Alternative D (Proposed Action)*	
	BLM-admin Surface Acres	*BLM-admin Surface in the Planning Area (%)*	*BLM-admin Surface Acres*	*BLM-admin Surface in the Planning Area (%)*	*BLM-admin Surface Acres*	*BLM-admin Surface in the Planning Area (%)*	*BLM-admin Surface Acres*	*BLM-admin Surface in the Planning Area (%)*
Cumulative Acres for All ROWs								
Exclusion	5,522	2%	--	--	240,566	88%	--	--
Avoidance	--	--	236,250	86.4%	--	--	--	--
Open	267,768	98%	37,040	13.6%	32,724	12%	--	--
Cumulative Acres for Renewable Energy ROWs								
Exclusion	--	--	--	--	--	--	146,240	53.5%
Avoidance	--	--	--	--	--	--	107,147	39.2%
Open	--	--	--	--	--	--	19,903	7.3%
Cumulative Acres for other ROWs[2]								
Exclusion	--	--	--	--	--	--	5,836	2.1%
Avoidance	--	--	--	--	--	--	247,551	90.6%
Open	--	--	--	--	--	--	19,903	7.3%
Cumulative Acres for other ROWs: Major ROWs[3]								
Exclusion	--	--	--	--	--	--	5,836	2.1%
Avoidance	--	--	--	--	--	--	247,551	90.6%
Open	--	--	--	--	--	--	19,903	7.3%
Cumulative Acres for other ROWs: Minor ROWs[3]								
Exclusion	--	--	--	--	--	--	5,836	2.1%
Avoidance	--	--	--	--	--	--	241,430	88.3%
Open	--	--	--	--	--	--	26,024	9.6%

1 Acres within this table are cumulative, taking out the overlap between resource uses. The most restrictive acres are reported for each acre of ground. Areas of exclusion override and are more restrictive than areas of avoidance and open. Areas of avoidance are more restrictive than open areas.

2 For Cumulative acres for other types of ROWs, these acres reflect the most restrictive acres in regards to ROW subtype (see #3 below). In the case of Major vs Minor ROWs, the total cumulative acres in this section reflect areas restricted under the Major ROW category.

3 ROWs would be defined for sage-grouse management in terms of Major and Minor ROWs. Major ROWs include transmission lines 100 kV and over and pipelines 24" in width and over. Minor ROWs include utilities under these design descriptions, as well as communication (comm) sites and towers. Greater Sage-Grouse PHMAs would be avoidance areas for major and minor ROWs. Within PGMAs, major ROWs would be avoidance and minor ROWs would be avoidance within two miles of leks with PGMAs. The rest of the area of the PGMAs would be open to minor ROWs. These management actions are reflected in the cumulative acres above by ROW subtype.

Table 2-6
Summary Comparison of Alternatives

Table of Contents

Resources

Air Resources 107
Climate 108
Soil Resources 108
Water Resources 112
Vegetative Communities – Rangeland, Riparian, Forest and Woodlands 117
Noxious Weeds and Other Invasive Non-Native Species (Plant and Animal) 120
    Invasive Plants 121
    Invasive Terrestrial Animals and Insect Species 123
    Invasive Aquatic Species 124
Wildlife 124
Special Status Species 134
    Raptors 134
    Greater Sage-Grouse Priority Habitat Management Areas 140
    Greater Sage-Grouse General Habitat Management Areas 146
    Grassland and Migratory Birds 155
    Other Special Status Wildlife Species 157
    Special Status Plants 160
Fish and Aquatics 160
Cultural Resources 162
Paleontological Resources 166
Visual Resources 168
Fire Management and Ecology 171

Resource Uses

Forest and Woodland Products 175
Livestock Grazing 177
Recreation 181
Travel Management and Transportation 194
Lands and Realty 198
Minerals 205
    Leasable Minerals 208
    Locatable Minerals 215
    Salable Minerals 216
Renewable Energy Resources 217
Special Designations 221
    Fort Meade ACEC 221
    Fossil Cycad ACEC 233
    Greater Sage-Grouse Priority Habitat Management Areas ACEC 235
Social and Economic 236
Public Safety 236

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Natural, Biological and Cultural Resources				
Program: Air Resources				
Goal 1: Ensure BLM authorizations and management activities protect the local quality of life and sustain economic benefits by complying with tribal, local, county, state, and federal air quality regulations, requirements, and implementation plans. **Goal 2:** Meet federal and state air quality standards. **Management Common to All Alternatives:** • All resource uses would be managed to meet the Rangeland Health Standards for air quality • Management would protect air quality throughout the planning area by adapting current Best Management Practices and developing and applying mitigation measures, when necessary. • Coordinate with regulatory agencies to meet air quality standards. • A Lease Notice would be applied to all leases stating the lessee/operator is given notice that prior to project-specific approval, additional air resource analyses may be required in order to comply with the National Environmental Policy Act, Federal Land Policy Management Act, and/or other applicable laws and regulations Refer to Appendix E-7.				
1 Air Quality/ Oil and Gas	Tier 4 engines would be required through a Lease Notice as follows: Diesel-fueled nonroad engines (vehicles engines excluded) with greater than 200 horsepower (hp) design rating to be used during drilling or completion activities meets one of the following two criteria: (1) the engine was manufactured to meet EPA nitrogen oxides (NO_x) emission standards for Tier 4 nonroad diesel engines, or (2) the engine emits NO_x at rates less than or equal to EPA emission standards for Tier 4 nonroad diesel engines (refer to Appendix E-7),			Tier 4 engine requirements for oil and gas drilling and completion activities would be addressed through a CSU as follows: CSU: Surface occupancy or use is subject to the following special operating constraint: Ensure that each diesel-fueled nonroad engine with greater than 200 horsepower (hp) design rating to be used during drilling or completion activities meets one of the following two criteria: (1) the engine was manufactured to meet EPA nitrogen oxides (NO_x) emission standards for Tier 4 nonroad diesel engines, or (2) the engine emits NO_x at rates less than or equal to EPA emission standards for Tier 4 nonroad diesel

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				engines. Refer to Appendix E.4
Program: Climate				
Goal 1: Evaluate the observed and anticipated long-term dynamic of climate change and minimize the impact of greenhouse gases from projects to the degree practicable and reasonably foreseeable. **Goal 2:** Provide for diverse, healthy ecosystems that are resilient to stresses such as climate change. **Goal 3:** Provide for flexible, adaptable management that allows for timely responses to changing climatic conditions. **Goal 4:** Maintain or improve the ability of BLM lands to reduce (sequester) atmospheric greenhouse gases. **Management Actions Common to all Alternatives:** • BLM authorized actions would consider methods to decrease Greenhouse Gas (GHG) emissions. • Priority would be placed on actions that reduce or mitigate GHG emissions by actions such as: enhanced energy efficiency, use of lower GHG-emitting technologies, or renewable energy, planning for carbon capture and sequestration, and the capture or beneficial use of fugitive methane emissions. • Promote vegetative capture and storage of carbon, with consideration for resource objectives, by implementing Rangeland Health Standards and Guidelines and soil, monitoring, and vegetation BMPs at the project planning and implementation level (Appendix B). • Adjust the timing of BLM authorized activities as needed, to accommodate long-term changes in seasonal weather patterns while considering the impacts of adjustments to other resources and resource uses.				
Program: Soil Resources				
Goal 1: Manage uses to minimize soil erosion, sedimentation to water sources, and compaction; and to maintain surface soil water infiltration based on site-specific conditions. **Goal 2:** Maintain, improve, or restore soil health and productivity while supporting multiple use management. **Goal 3:** Soils are stable and provide for capture, storage, and release of water, appropriate to soil type, climate, and land form. **Goal 4:** Soils are productive and support vegetation that provides forage, wildlife habitat, watershed protection, and esthetic characteristic based on soil type. **Management Common to All Alternatives:** • Best management practices (BMPs) would be implemented at a site-specific project level to maintain or improve soil resources (Appendix B). • BLM would reclaim/reseed disturbed areas as needed to maintain or improve soil health and stability. • Rangeland Health Standards would be implemented to maintain and conserve soil resources and productivity. • Authorizations would be denied in areas where erosion could not be effectively controlled/mitigated; and reclamation to BLM program-specific standards would likely be unsuccessful. • Best Management Practices and Guidelines would include the Best Management Practices described in Appendix B), South Dakota Field Office Reclamation Guidelines – Appendix D, South Dakota Field Office Soil Monitoring Guidelines – Appendix N, and South Dakota Field Office Mitigation				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Guidelines – Appendix C and Sage-Grouse Conservation Actions in Appendix V-1. • Mitigation of surface-disturbing or disruptive activities would be applied where needed to minimize impacts of human activities in sensitive soils consistent with the stipulations outlined in this section. Mitigation measures would be applied on a case-by-case basis during activity level planning if review of the project area indicates that sensitive soils are present or would be affected consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. Exceptions to restriction requirements may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., riparian restoration projects, prescribed fire, or vegetation treatments).				
1 Erosion/ Sensitive Soils	**O&G** - CSU: Slopes over 30 percent would be managed as a Controlled Surface Use stipulation for oil and gas activities. Prior to surface disturbance on slopes over 30%, an engineering and reclamation plan must be approved by the authorized officer. The plan must demonstrate how the following will be accomplished: • site productivity restored; • surface runoff adequately controlled; • off-site areas protected from accelerated erosion, such as rilling, gullying, piping, and mass wasting; • water quality and quantity in conformance with state and federal water quality laws; • surface-disturbing activities prohibited during extended wet periods; and	Vegetation treatments and livestock grazing would be allowed on sensitive soils provided BMPs and Guidelines are followed and these activities are conducted in a manner consistent with the vegetation, soil and water goals of this plan. . Surface disturbing and disruptive activities would be allowed if the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant BMPs, Guidelines or needed design features are included and such activities are conducted in a manner consistent with the vegetation, soil and water goals of this plan. Refer to glossary for definition of surface disturbing and disruptive activities. **O&G** – CSU: Surface occupancy and use would be controlled on	Vegetation treatments and livestock grazing would be allowed on sensitive soils provided BMPs and Guidelines are followed and these activities are conducted in a manner consistent with the vegetation, soil and water goals of this plan. **O&G** - NSO: Sensitive soils would be managed as No Surface Occupancy and Use stipulation for oil and gas leasing. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.3.	Same as Alternative B.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
	• construction not allowed when soils are frozen. (This stipulation would not apply to other resources uses).	sensitive soils. Prior to surface disturbance on sensitive soils, a reclamation plan must be approved by the administrative officer. The plan must demonstrate the following: (1) no other practicable alternatives exist for relocating the activity, (2) the activity will be located to reduce impacts to soil and water resources, (3) site productivity will be maintained or restored, (4) surface runoff and sedimentation will be adequately controlled, (5) on- and off-site areas will be protected from accelerated erosion, (6) that no areas susceptible to mass wasting would be disturbed and (7) surface-disturbing activities will be prohibited during extended wet periods. Waivers, exceptions, and modifications are described in Appendix E-4. Sensitive soils determined using a combination of slope and soil erodibility which includes slopes 25% or greater.		
2 ROWs/ Sensitive soils	No similar management action.	Sensitive soils would be managed as ROWs avoidance areas for all types of ROWs including renewable energy development. Linear renewable energy ROWs may be allowed if no other	Sensitive soils would be managed as ROWs exclusion area for renewable energy development. These areas would be managed as exclusion areas for other types of ROWs.	Sensitive soils would be ROWs avoidance areas for all types of ROWs, including renewable energy development.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		feasible option is available. BLM would require off site mitigation prior to approving ROWs in these areas.		
3 Badland and Rock Outcrops	No similar management action			Surface disturbing and disruptive activities would be allowed in badlands and rock outcrops if the impacts can be adequately mitigated, relevant BMPs, Guidelines or needed design features to reduce erosion are included and the activities would not compromise the goals of this plan. **O&G** - NSO: Surface occupancy and use is prohibited on badlands and rock outcrop. Waivers, exceptions and modifications described in Appendix E.4 Surface: 21,575 acres Subsurface: 136,146 acres
4 ROWS/ Badland and Rock Outcrops	No similar management action			Badland and rock outcrops would be ROW avoidance areas.
5 Roads/ Trails/ Soils	No management action	Road and trail restrictions would be used on routes not necessary for management when soil health would be adversely impacted.	Roads and trails not necessary for management would be closed when soil health would be negatively or adversely impacted,	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		Roads may be closed and reclaimed if necessary. The authorized officer would consult with other users outside the BLM to determine which roads and trails should remain open for their management and public safety.	and reclaimed to native vegetation. The authorized officer would consult with other users outside the BLM to determine which roads and trails should remain open for their management and public safety.	

Program: Water Resources

Goal 1: Maintain or improve the chemical, physical, and biological integrity of water resources to protect designated beneficial uses and achieve water quality standards and guidelines.
Goal 2: Improve watershed function to minimize erosion and accelerated runoff to streams.
Goal 3: Maintain or improve water quality for municipal, industrial, agricultural, biological, recreational and residential purposes.
Goal 4: Maintain or improve stream channel shape, form, and function within the natural range of variability to allow for hydrological processes that can fully support beneficial uses.
Goal 5: Maintain existing or acquire new water rights on BLM lands to ensure water availability for multiple use management while adhering to the State of South Dakota water rights, and other water quality related laws and regulations.
Goal 6: Protect ground and surface water quantity and quality.
Goal 7: Meet water quality standards without adversely affecting prior existing water rights and uses and protect beneficial uses of water.

Management Common to All Alternatives:

- Rangeland Health Standards and BMPs would be implemented to protect beneficial uses of water.
- Projects (including mining plans) would be reviewed and current BMPs with mitigation measures adapted and applied to minimize impacts to water quality (see Appendix B).
- BLM would continue working in coordination with local, county, state, tribal and federal agencies, private landowners, water companies and organizations to meet Total Maximum Daily Load goals.
- Burned areas would be monitored for weed infestations, flow alterations, and accelerated soil erosion. Where sedimentation impacts to adjacent streams are likely, erosion would be mitigated.
- Mitigation of surface-disturbing or disruptive activities would be applied where needed to minimize impacts of human activities in riparian areas, 100 year floodplains of rivers, areas with hydric soils, water bodies and streams consistent with the management actions and restrictions outlined in this section and the Guidelines and BMPs listed in Appendix B. Mitigation measures would be applied on a case-by-case basis during activity level planning if the review of the project area indicates that riparian areas, 100 year floodplains of major rivers, and water bodies and streams are present or would be affected.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Exceptions to stipulation requirements may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level. Frequently flooded soils data set (NRCS) would be used for initial identification of floodplains and other features unless 100 year flood plains are delineated. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., riparian restoration projects, prescribed fire, or vegetation treatments).				
Planning Area				
1 Perennial or intermittent streams, 100 year floodplains, wetlands, lakes, ponds, reservoirs, and riparian areas	Grazing use would be restricted in portions of these areas through riparian exclosure fencing if other grazing management practices are inadequate to protect the health and function of riparian areas. Other uses would not be restricted in these areas. **O&G** – NSO: Riparian areas, 100 year floodplains of major rivers, and water bodies and streams would be managed as a No Surface Occupancy and Use for oil and gas leasing. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.1.	Surface disturbing and disruptive activities would be allowed in in these areas if the project proponent can demonstrate that adverse impacts can be adequately mitigated, relevant BMPs, guidelines, conservation actions or needed design features are included and the goals of this plan not compromised. Vegetation treatments and livestock grazing would be allowed in these areas provided Standards for Rangeland health are met, BMPs and Guidelines are followed. Projects to improve or maintain resource conditions or recreational opportunities may be allowed in these areas pending project level environmental review and mitigation of impacts. **O&G** – NSO: Surface occupancy and use is prohibited within perennial or intermittent streams,	Same as Alternative B. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.3 and E.4.	

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.4.		
2 Areas adjacent to perennial or intermittent streams, 100-year floodplains, wetlands, lakes, ponds, reservoirs, and riparian areas.	**O&G**: No restrictions other than standard restrictions for areas within 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas. No specific restrictions on other types of uses.	Surface disturbing and disruptive activities would be allowed within 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas if adverse impacts can be adequately mitigated, BMPs, Guidelines or Required Design Features (Appendices B, C, D, and V-1) are used and the goals of this plan not compromised or the project is designed to improve or maintain resource conditions or recreational opportunities. **O&G** - NSO: Areas within 300 feet of riparian areas, wetlands, 100 year floodplains of rivers and streams and water bodies would be managed as No Surface Occupancy and Use for oil and gas leasing. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.2 and E.3.		Surface disturbing and disruptive activities would be allowed within 300 feet of perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas if adverse impacts can be adequately mitigated, Mitigation, Required Design Features, BMPs and Guidelines Required Design Features F (Appendices B, C, D, and V-1) are used and the goals of this plan not compromised. Projects to improve or maintain resource conditions or recreational opportunities may be allowed pending project level environmental review and mitigation. **O&G** - CSU: Surface occupancy and use would be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities would require a plan with design features that demonstrate how all actions would maintain and/or improve the

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				functionality of riparian/wetland areas. The plan will address: (a) potential impacts to riparian and wetland resources, (b) mitigation to reduce impacts to acceptable levels (including timing restrictions), (c) post project restoration, and (d) monitoring (the operator must conduct monitoring capable detecting early signs of changing riparian and/or wetland conditions. Applicable Waivers, Exceptions, and Modifications are described in Appendix E.4.
3 Streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.	No Restrictions on ROWs in Riparian areas, 100 year floodplains of major rivers, and water bodies and streams	Perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas would be managed as ROWs avoidance areas for all types of ROWs including renewable energy development. Linear ROWs may be allowed across these areas if no other feasible option is available. BLM would require off site mitigation prior to approving ROWs in these areas.	Perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas would be managed as ROWs exclusion areas for renewable energy development and other ROWs.	Same as Alternative B.
4 Source Water Protection Areas	No similar management action			Surface disturbing and disruptive activities would be allowed within State-designated source water protection areas (pending consultation with the State and Counties) if adverse impacts can be adequately mitigated, relevant

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				soil and water BMPs and Guidelines are followed (Appendix B) and water quality would not be adversely impacted. **O&G - NSO**: Surface occupancy and use would be prohibited within State-designated Source Water Protection Areas. Waivers, exceptions, and modifications (WEMs) are described in Appendix E-4. Prior to approval of any WEMs BLM would consult with the State.
5 Source Water Protection Areas	No similar management action			Source water protection areas would be ROW avoidance areas for renewable energy and other types of ROWs.
6 Water Quality /Roads	No similar management action	BLM would utilize road and trail restrictions on routes not necessary for management when water quality is likely to be adversely impacted. Roads could be closed and reclaimed if necessary. The authorized officer would consult with the public, including other users and affected parties to determine which roads and trails should remain open for their management and public safety.	BLM would close and reclaim roads and trails not necessary for management when water quality is likely to be adversely impacted. The authorized officer would consult with the public, including other users and affected parties to determine which roads and trails should remain open for their management and public safety	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Program: Vegetative Communities – Rangeland, Riparian, Forest and Woodlands				

Goal 1: Manage public lands to provide plant communities that support the integrity of the ecological processes (water, energy, and nutrient cycles) and to provide forage, watershed protection, and a variety of wildlife habitat.
Goal 2: Public lands meet the Dakotas Standards for Rangeland Health (Appendix A).
Goal 3 A variety of habitat is present with a diverse assemblage of native plant communities indicative of the Northern Great Plains.
Goal 4: Native plants dominate the planning area and are resistant to invasive plants, noxious weeds, and invasive pests.
Goal 5: The abundance of woody vegetation is maintained or improved on those riparian sites that have the potential to support woody vegetation.
Goal 6: Stands of oak, aspen, box elder, ash and other hardwoods are maintained and a variety of age classes are present.
Goal 7: In Greater sage-grouse Priority Habitat Management Areas (PHMAs), maintain a minimum of 70% of lands capable of producing sagebrush with 10 to 30% sagebrush canopy cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

Management Common to All Alternatives:

- Management actions on BLM lands would be consistent with achieving the Dakotas Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Appendix A).
- BLM would complete assessments for rangeland health on a priority allotment basis with emphasis on allotments with significant acreage of public land, Special Status Species, and resource problems or issues (e.g., I and M category allotments).
- Allocation of forage would be based on benefits to livestock grazing, wildlife, watershed protection, and ecological processes.
- Use of forest products, including firewood, posts, poles, sawtimber, Christmas trees, and other special forest products would be allowed by permit.
- Gathering of plants and plant parts would be allowed for incidental use unless otherwise restricted.
- Old growth forested stands would not be identified; however, characteristics such as large, old trees would be considered in treatments. The BLM would manage for multiple age classes of shrubs and trees.
- Treatments would be designed to decrease the presence of or reduce the susceptibility to invasion by invasive plants and pests and noxious weeds.
- Riparian and wetland communities, habitat, and associated uplands would be treated and restored through implementation of livestock grazing guidelines to meet Dakotas Standards for Rangeland Health (Appendix A).
- Where riparian and wetland areas are already meeting standards they would be maintained in that condition or better. Where a sites capability is less than PFC BLM would manage to achieve or move towards capability.
- Maintain and/or improve desired mix of seral stages within vegetation communities including forest and woodlands, grasslands, shrublands and riparian/wetlands.
- BLM would consider the potential impacts of climate change on disturbed or degraded areas when determining the type of reclamation or the seed mix needed for reclamation.
- The use of native plant species would be the preferred method used to revegetate or reclaim areas. If non-native species are used, the seed mix would be evaluated and approved by an IDT team prior to use to ensure that it has a low probability of displacing adjacent native vegetation.
- Mitigation measures would be applied on a case-by-case basis during activity level planning to protect or maintain desired vegetation types including

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
special status plant species consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. Exceptions to restriction requirements may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., riparian restoration projects, prescribed fire, or vegetation treatments). Vegetation is shown in Map 2-33.				
Planning Area				
1 Vegetation Treatments	Mechanical vegetation treatments used to achieve desired plant communities could include scalping, chiseling, contour furrowing, ripping, interseeding, and chaining. Other treatments could include herbicides and prescribed fire.	Vegetation treatments used to achieve desired plant communities could include mechanical, prescribed fire, chemical treatments, grazing, seeding or planting. Any mechanical treatments within big sagebrush habitat crucial to sagebrush obligate species would be carried out to enhance that resource.	Same as Alternative B except mechanical and/or chemical treatments on herbaceous vegetation would be limited to seedbed preparation, drill seeding, and weed spraying. Any mechanical treatments within big sagebrush habitat crucial sagebrush obligate species would be evaluated at the project level to protect that resource.	Same as Alternative B.
2 Native/ Introduced Vegetation	Any mechanical treatment and tame pasture conversion proposed on big sagebrush habitat important to antelope and Greater Sage-Grouse would be evaluated to protect that resource.	Conversion of native vegetation to tame pastures would only be allowed to improve, maintain, or protect habitat, sensitive soils, riparian vegetation or special status plants or animals during vulnerable periods and in cases where alternative forage sources are needed to defer or change livestock grazing patterns to reduce disturbance to wildlife. Vegetation type conversion proposals would be evaluated at	Same as Alternative B except conversion of vegetation type from native vegetation to tame pastures would **not** be allowed.	Conversion of native vegetation to tame pastures would only be allowed to improve, maintain, or protect habitat, sensitive soils, riparian vegetation or special status plants or animals during vulnerable periods and in cases where alternative forage sources are needed to defer or change livestock grazing patterns to reduce disturbance to wildlife. Vegetation type conversion proposals would be evaluated at

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		the project level. No more than 3% (8,220 acres) of the public land in the planning area could be converted to introduced species over the next 20 years.		the project level. No more than 1% (2,740 acres) of the public land in the planning area could be converted to non-invasive introduced species over the next 20 years.
3 Range Improvements	Range improvements would be used to protect and improve riparian areas.	Priority for funding and implementing range improvements would be given to projects that improve livestock management, provide stock water, or enhance forage production.	Priority for funding and implementing range improvements would be given to projects that improve riparian areas, better manage wildlife habitat, and provide for watershed protection. Improved management of livestock would be a secondary benefit.	Priority for funding and implementing range improvements would be given to projects that improve multiple resources.
4 Native Plants	The use of native seed species would be preferred for vegetation restoration.	The use of native species would be the preferred method of revegetating disturbed sites. Non-invasive introduced species that pose little threat of displacing adjacent native vegetative communities could be used to restore vegetation including but not limited to the following circumstances: 1) Emergency rehabilitation is needed to control erosion or weed invasion and native seed is not available 2) A non-native nurse crop is needed to establish native vegetation	Only native seed species would be used when seeding unless native seed is not available or the need for a non-native nurse crop is needed to establish native vegetation on a disturbed site. As a last resort, non-invasive introduced species that pose little threat of displacing adjacent native vegetative communities could be used to restore vegetation.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		3) The presence of a problematic soil (as defined in glossary) or severe loss of top soil on a disturbed site make re-establishment of native vegetation unlikely.		
5 Plant Gathering (does not include firewood gathering)	No similar management action	BLM would consider designating indigenous plant gathering sites if specific proposals are brought forward in the future. The size of designated gathering sites would be determined during project level planning. Plant gathering for incidental use would be allowed, except that only above ground gathering would be allowed in the Fossil Cycad ACEC.	BLM would not consider designating indigenous plant gathering sites if specific proposals are brought forward in the future. Plant gathering for incidental use would be allowed, except that only above ground gathering would be allowed in the Fossil Cycad ACEC.	BLM would not consider designating indigenous plant gathering sites if specific proposals are brought forward in the future. Plant gathering for incidental use would be allowed, except that only above ground gathering would be allowed in the Fossil Cycad ACEC and Fort Meade ACEC. BLM could restrict gathering within areas if an Interdisciplinary Team determines through monitoring that gathering is causing negative impacts to resources within gathering areas.

Program: Noxious Weeds and Other Invasive Non-Native Species (Plant and Animal)

Goal 1: Minimize infestation of noxious weeds.

- Reduce existing acres infested by invasive plants and noxious weeds through IPM treatment methods including restoration and elimination of new infestations through early detection and rapid response.
- New infestations are not common and existing infestations are declining across the landscape.
- Invasive plants and noxious weeds are not leading to a decrease in acres that are meeting Standards for Rangeland Health.

Management Common to All Alternatives:

- Work cooperatively, and in coordination with federal, state, and county agencies, private landowners, and organizations to prevent and treat invasive plant species, including noxious weeds.
- Use of a combination of Integrated Pest Management (IPM) methods and treatment practices for weed management.
- Weed management Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) will be included in all new treatment projects and

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
incorporated, where possible, into existing contracts, agreements and land use authorizations which result in ground disturbing activities (Appendix B). • Certified weed seed free forage (hay and grains) straw and mulch would be required for all activities when used on BLM lands (exceptions could be made for emergencies when approved by the BLM authorized officer). • Reestablish perennial vegetation using native species in rehabilitation and reclamation unless site-specific evaluations indicate that non-native species are needed to ensure success or rapid vegetation reestablishment. If non-native species are used, the seed mix would be evaluated by an IDT team prior to use to ensure that it has a low probability of displacing adjacent native vegetation. • Monitoring will evaluate weed management activities at project and field office levels. • Provide information and educational material to the public. • • Mitigation measures would be applied on a case-by-case basis during activity level planning if review of the project indicates a potential to spread or introduce invasive species consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. • Exceptions to weed and invasive species control restrictions would be allowed in cases where noxious weeds or other invasive species are rapidly spreading or invading and immediate action is needed for control provided the long-term impacts to the species being protected is minor. • All herbicide, insecticide, and pesticide applications would be completed in accordance with label restrictions.				
Planning Area				
Invasive Plants				
1 Noxious Weeds and Invasive Plants in Sage-Grouse GHMAs	No herbicide weed treatments would occur within suitable nesting habitat, within a 2 mile buffer zone, of known Greater Sage-Grouse leks from March 1-June 30.	Herbicide treatments limited to spot treatments within suitable nesting or brood rearing habitat, within a 3 mile buffer zone, of known sage-grouse leks from March 1-June 30. Exceptions to treatment types and dates of treatments may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to sage-grouse.	Herbicide treatments limited to spot treatments within suitable nesting or brood rearing habitat, within a 4 mile buffer zone, of known sage-grouse leks from March 1-June 30.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
2 Noxious Weeds and Invasive Plants in Sage-Grouse PHMAs	No herbicide treatments would occur within suitable nesting habitat, within a 2 mile buffer zone, of known Greater Sage-Grouse leks from March 1 – June 30.	Herbicide treatments limited to spot treatments within suitable nesting or brood rearing habitat of known sage-grouse leks from March 1 – June 30. Exceptions to treatment types and dates of treatments may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to sage-grouse.		
3 Noxious Weeds and Invasive Plants Near Eagle Nests	No similar management action	¼ mile herbicide weed treatment restriction zone around current year active raptor nesting site (including bald eagles) from March 1-August 1. Exceptions may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require treatment during this period following consultation with necessary specialists for timing of least impacts to raptors.	¼ mile herbicide weed treatment restriction zone around raptor nesting sites (including bald eagles) active over the previous 7 years from March 1-August 1. Exceptions may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require treatment during this period following consultation with necessary specialists for timing of least impacts to raptors.	Same as Alternative B.
4 Poisonous Plants	Poisonous plants, unless designated as noxious, would not be treated.	Poisonous plants could be treated, where found, using IPM methods.	Poisonous plants could be treated only in developed recreation areas and along recreation trails.	Same as Alternative B.
5 Noxious Weeds and Invasive Plants Near Special Status Plants	In areas with identified T&E, special status plant, and sensitive plant species, wick or backpack sprayers and selective herbicides would be used to minimize risks to those species.		Listed T&E and sensitive plant species would have a 100 foot herbicide buffer zone. Any herbicides applied in this buffer would be applied by spot treatment only unless broadcast treatment would not have adverse impacts to such species. Exceptions to treatment types may	Same as Alternative C.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to sensitive status species.	
6 Plant Gathering	No related action exists in the current plan regarding herbicide use at plant gathering sites.	If plant gathering sites are designated, all methods of herbicide weed treatments within these sites could be allowed given consideration to time of application and target species.	BLM would not consider designation of indigenous plant gathering areas.	Same as Alternative C .
Invasive Terrestrial Animals and Insect Species				
Goal 2: Manage invasive terrestrial animal and insect species, and state and locally declared pests. Reduce acres and/or density of infestations by invasive species through prevention, early detection and rapid response, and provide education opportunities for public land users. **Goal 3:** Infestations are not common across the landscape. **Management Common to All Alternatives:** • All treatments would be designed to decrease the presence of, or reduce the susceptibility of invasion/outbreaks of invasive pests while minimizing adverse impacts to non-target species. • Grasshopper/Mormon Cricket outbreaks would be managed in cooperation with the United States Dept. of Agriculture's (USDA) Animal and Plant Health Inspection Service/Plant Protection and Quarantine (APHIS/PPQ). • All insecticide and pesticide applications would be completed in accordance with label restrictions.				
1 Invasive Animals and Insects	No related action exists in the current plan for invasive animal or insect species.	Invasive terrestrial species, could be treated using IPM methods, as required by federal, state, and local laws, statutes and regulations, or if they are causing economic or environmental harm, or harm to human health.	Same as Alternative B.	
2	No related action exists in the	State or locally declared pests	Same as Alternative B.	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Invasive Animals and Insects	current plan for state or locally declared pests. *Prairie dog towns on public land will be inventoried and examined on an as needed basis. Where prairie dogs are known to damage public and adjoining private rangelands, management would occur on a case-by-case basis.	could be treated using IPM methods, if consultation reveals that serious, economic or environmental harm, or harm to human health, may occur.		
Invasive Aquatic Species				
Goal 4: Keep the aquatic environment free from invasive aquatic species. Prevent the introduction of invasive species into the aquatic environment through education of public land users on prevention, early detection, rapid response, control, management and restoration. **Goal 5:** All lentic (lakeshore/wetland) and lotic (river/stream) areas remain free from invasive aquatic species. **Management Common to All Alternatives:** • Provide information and educational material to the public. • Utilize Integrated Pest Management (IPM) concepts while working within federal, state laws, statutes, and regulations to minimize infestations of invasive aquatic species. • Best Management Practices (BMP) would be included in all new treatment projects, and incorporated, where possible, into existing contracts, agreements, and land use authorizations that would potentially result in the introduction or spread of invasive aquatic species. • All herbicide, insecticide, and pesticide applications would be completed in accordance with label restrictions.				
Planning Area				
1 Invasive Aquatic Species	No related action exists in the current plan for the treatment of invasive aquatic species.	Invasive aquatic species could be treated using IPM methods, as required by federal, state, and local laws, statutes and regulations, or if they are causing or have the potential to cause economic or environmental harm, or harm to human health.		
Program: Wildlife				
Goal 1: Ensure that native wildlife species are provided habitat of sufficient quality and quantity to enhance biological diversity and sustain their economic, social and ecological values. **Goal 2:** Provide habitat and forage to support wildlife with consideration of South Dakota Wildlife Action Plan game management goals and the Northern				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*

Great Plains Joint Venture Program.

Goal 3: Improve the resilience of wildlife habitats to protect wildlife communities from stressors and events such as severe wildfire and climate change

Goal 4: Movement of big game species between habitats would be facilitated.

Goal 5: A full spectrum of biological communities' habitats and their ecological processes are present.

Goal 6: Populations of native plants and animals are well distributed across the landscape.

Goal 7: Provide suitable habitat condition to allow for movement between blocks of habitat and seasonal and specialized habitats on a local and landscape scale.

Goal 8: Maintain or improve specialized habitats on a local and landscape scale.

Management Common to All Alternatives:

- New fences would follow BLM specifications (BLM Handbook 1741-1 and WO-IM-2010-022) to allow for wildlife passage and located or marked as feasible to minimize collisions and other wildlife issues, except for fences built specifically to keep wildlife out of an area.
- Existing fences would be reviewed to identify areas where fence modification or removal could be implemented to improve wildlife movement problems.
- BMPs (Appendix B) including oil and gas BMPs for wildlife would be used to reduce impacts to wildlife.
- Functional wildlife escape ramps would be installed and maintained on all water tanks on BLM lands.
- SDGFP Bat Management Plan would be implemented and mine openings inventoried for bat use prior to closing with public safety in mind.
- Retain a minimum of two existing snags greater than 16 in DBH and 30 ft. tall per acre, unless a safety hazard exists. Salvage or felling of dead or dying trees would be acceptable.
- Coordinate with other federal, state and private land management agencies in developing a habitat management plan.
- BLM authorized activities would actively manage for multiple ecosystems and a variety of habitat conditions for non-game mammals, migratory and grassland birds.
- Follow current "Reducing Avian Collisions with Power Lines" (APLIC) for all land use authorizations (summarized in Appendix B).
- Existing power lines identified for electrocution problems for wildlife on public lands would be modified to prevent wildlife electrocution.
- Fuels treatments would be designed to protect and/or improve wildlife habitat.
- Manage water developments to reduce the spread of West Nile virus through type, design, and siting of water developments (refer to Appendix V-1).
- Predator control would be permitted subject to the stipulations outlined in the annual Animal Damage Control (ADC) MOU between BLM and USDA-Animal Plant Health Inspection Service.
- Identify distribution, key habitat areas, and special management needs for development of management plans and conservation measures. With emphasis on riparian/wetland areas, cottonwood galleries, native grasslands, sagebrush steppe, woody draws and seasonal ranges supporting life cycle requirements for wildlife.
- Mitigation of activities including surface-disturbing or disruptive activities would be applied where needed to avoid, minimize, rectify, reduce or compensate for impacts of human activities to wildlife or wildlife habitat consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. Mitigation measures would be applied on a case-by-case basis during activity level planning if review of the project area indicates wildlife would be affected. Exceptions to stipulation requirements may be granted by the authorized officer if an environmental

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
review demonstrates that effects could be mitigated to an acceptable level. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., riparian restoration projects, prescribed fire, or vegetation treatments). • The sequence of mitigation action would be: Step 1. Avoid - Adverse impacts to resources are to be avoided and no action shall be permitted if there is a practicable alternative with less adverse impact. Step 2. Minimize - If impacts to resources cannot be avoided, appropriate and practicable steps to minimize adverse impacts must be taken. Step 3. Compensate - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain. The amount and quality of compensatory mitigation may not substitute for avoiding and minimizing impacts. Additional details about mitigation can be found in Appendices C and V-1 and in the Mitigation section of the Chapter 2 Summary.				
Planning Area				
1 Vegetation/ Habitat	Mechanical and vegetation treatments in sagebrush areas would be done on a case-by-case basis	Any mechanical and vegetation treatments within big sagebrush habitat crucial to antelope and sage-grouse would be carried out to enhance that resource (see Map 2-6).	Any mechanical and vegetation treatments within big sagebrush habitat crucial to sage brush obligate species would be evaluated at the project level by an IDT to protect that resource (see Map 2-6).	Same as Alternative C.
2 Sharp-tailed Grouse/ Prairie Chicken	Surface occupancy and use would be prohibited within ¼ mile of grouse leks (O&G only).	Surface disturbing and disruptive activities would be avoided within ¼ mile of sharp-tailed grouse and greater prairie-chicken leks. **O&G** – NSO: Surface occupancy and use is prohibited within ¼ mile of sharp-tailed grouse and greater prairie-chicken leks. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would be avoided within ½ mile of sharp-tailed grouse and greater prairie-chicken leks. **O&G** – NSO: Surface occupancy and use would be avoided within ½ mile of sharp-tailed grouse and greater prairie-chicken leks. Waivers, exceptions, and modifications are described in Appendix E.3.	Surface-disturbing and disruptive activities within 2 miles of the perimeter of sharp-tailed grouse leks would be subject to a plan approved by BLM that provides adequate mitigation measures and conservation actions to protect breeding, nesting, and brood-rearing habitats and limit disturbance in a manner that will support the long-term populations associated with the lek and surrounding habitat.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				O&G - CSU: Oil and gas leasing within 2 miles of a lek would be subject to a plan approved by BLM that provides adequate mitigation measures and conservation actions to protect breeding, nesting, and brood-rearing habitats and limit disturbance in a manner that will support the long-term populations associated with the lek and surrounding habitat. Waivers, exceptions, and modifications are described in Appendix E.3.
3 Sharp-tailed grouse/ prairie chicken	**O&G** - Timing Restriction: Surface use would be prohibited from March 1 to June 15 in grouse nesting habitat within 2 miles of a lek. This stipulation does not apply to the operation and maintenance of production facilities (O&G only).	Surface disturbing and disruptive activities would be avoided from March 1 to June 30 in sharp-tailed grouse and greater prairie-chicken nesting habitat within 2 miles of a lek **O&G** – TL: Timing Restriction from March 1 to June 30 in sharp-tailed grouse and greater prairie-chicken nesting habitat within 2 miles of a lek. This restriction does apply to the operation and maintenance of production facilities. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would be avoided from March 1 to June 30 in sharp-tailed grouse and greater prairie-chicken nesting habitat within 3 miles of a lek **O&G** – TL: Timing Restriction from March 1 to June 30 in sharp-tailed grouse and greater prairie-chicken nesting habitat within 3 miles of a lek. This restriction does apply to the operation and maintenance of production facilities. Waivers, exceptions, and modifications are described in Appendix E.3.	No timing limit proposed. Refer to 2 mile sharp-tailed grouse/prairie chicken CSU above. .

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
4 Sharp-tailed grouse/ prairie chicken	No similar management action	Public lands within 2 miles of sharp-tailed grouse and greater prairie-chicken leks would be an avoidance area for commercial renewable energy development and other ROWs.	Public lands within 3 miles of sharp-tailed grouse and greater prairie-chicken leks would be an exclusion area for commercial renewable energy development and other ROWs.	Public lands within 2 miles of sharp-tailed grouse and greater prairie-chicken leks would be an avoidance area for all types of ROWs including renewable energy ROWs.
5 Raptor Perches	No similar management action	No restrictions on authorizations for structures that provide raptor perches.	Controlled Surface Use (CSU): Structures over 10 feet that create raptor perches would not be authorized or would require anti-perch devices within the 2 mile buffer of sharp-tailed grouse and greater prairie-chicken nesting areas	
6 Raptor Perches	No similar management action		New power lines would be sited and designed in a manner which does not impact sharp-tailed grouse or greater prairie-chickens within two mile buffer of leks.	
7 Big Game Winter Range	TL: Oil and gas development and exploration in big game winter range would be restricted from oil and gas development and production from December 1 to March 31 This stipulation would not apply to the operation and maintenance of production facilities. Other uses would not be restricted.	Surface disturbance and disruptive activities would be avoided from December 1 to March 31 within winter range for big game. **O&G** - TL: Oil and gas development and exploration would be prohibited from December 1 to March 31 within winter range for big game. Waivers, exceptions, and modifications are described in Appendix E.2 and E.3. Refer to Map 2-9.		Surface disturbing and disruptive activities within big game winter range would be subject to a plan approved by BLM that provides adequate mitigation measures and conservation actions to protect habitat and limit disturbance in a manner that will support the long-term populations associated with the winter range. **O&G** –CSU: Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				authorized officer with confirmation from the state wildlife management agency. The operator shall not initiate surface-disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction the function and suitability of the habitat will not be impaired. Waivers, exceptions, and modifications are described in Appendix E.4. Refer to Map 2-9.
8 Big Game Winter Range	No similar management action	Big game winter range would be an avoidance area for commercial renewable energy development and other ROWs. Refer to Map 2-9.	Big game winter range would be an exclusion area for commercial renewable energy development and other ROWs. Refer to Map 2-9.	Same as Alternative B. Refer to Map 2-9.
9 Raptors	No similar management action for raptors not designated as special status raptors	Surface disturbing and disruptive activities would not be allowed within ¼ mile of raptor nest sites active within the preceding 7 years unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** – NSO: Surface occupancy and use is prohibited within ¼	Surface disturbing and disruptive activities would not be allowed within ½ mile of raptor nest sites active within the preceding 7 years unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** – NSO: Surface occupancy and use is prohibited within ½	Same as Alternative B. Waivers, exceptions, and modifications are described in Appendix E.4.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		mile of raptor nest sites active within the preceding 7 years. Waivers, exceptions, and modifications are described in Appendix E.2.	mile of raptor nest sites active within the preceding 7 years. Waivers, exceptions, and modifications are described in Appendix E.3.	
10 Raptors	No similar management action			Surface disturbing and disruptive activities would be avoided within ½ mile of active raptor nests from March 1 through July 31. **O&G** – TL: Surface use is prohibited within ½ mile of active raptor nest sites from March 1 through July 31.
11 Raptors	No similar management action	Areas with ¼ mile of raptor nests active within the preceding 7 years would be ROWs avoidance areas for all types of ROWs.	Areas with ½ mile of raptor nests active within the preceding 7 years would be ROWs exclusion areas for all types of ROWs.	Areas within ¼ mile of raptor nests active within the preceding 7 years would be an exclusion area for renewable energy ROWs and an avoidance areas for other types of ROWs.
12 Raptors	No similar management action	¼ mile weed treatment restriction zone around current year active raptor nesting site from March 1-August 1.	¼ mile weed treatment restriction zone around raptor nesting sites active over the previous 2 years from March 1-August 1.	Same as Alternative B.
13 Snags and Cavity Nesting Bird Habitat	No similar management action	Snag and cavity bearing tree cutting, removal, and offer for sale or utilization would be allowed for public safety, salvage post fire, and/or in response to other resource needs.	Snag and cavity bearing tree cutting, removal, and offer for sale or utilization would be allowed where public safety has been identified as a potential concern and where no new permanent roads would be required for	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			removal of wood products.	
14 Turkey Roosts	No similar management action		Limit activities that would destroy or degrade traditional high value roost sites for wild turkeys. Retain 10 inch or larger diameter at breast height trees in groups of 3 to 6 that have roost tree characteristics on slopes and ridges to provide roost sites for turkeys within ponderosa pine habitat.	
15 Bighorn Sheep	BLM Instruction Memorandum 98-140 (1998) would be followed to protect bighorn sheep. Grazing of domestic sheep or goats near bighorn sheep range would be discouraged within 9 miles of bighorn sheep range (refer to livestock grazing section).	a. No change in livestock conversions from cattle to domestic sheep or goats would be allowed in allotments within current or SDGFP proposed bighorn sheep range. Transfer of grazing preference would only be allowed to livestock types other than domestic sheep and goats within occupied or proposed bighorn sheep range. b. New domestic sheep and goat allotments or conversions from cattle to domestic sheep or goats would be permitted a minimum of 5 miles from known bighorn sheep range This distance (buffer) would be greater if deemed necessary through site-specific analysis and additional research findings. c. To minimize contact with bighorn sheep, domestic sheep	a. Same as Alternative B. b. Same as Alternative B except 15 mile separation buffer instead of a 5 mile separation buffer. c. Same as Alternative B except 10 mile separation buffer instead of a 5 mile separation buffer.	a. Same as Alternative B. b. Same as Alternative B except a 15 mile separation buffer between domestic sheep/goats and bighorn sheep would be used instead of 5 mile separation buffer. c. Same as Alternative B except a 10 mile separation buffer between domestic goats used for weed control and bighorn sheep would be used instead of a 5 mile separation buffer.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		and goats used for weed control within 5 miles of bighorn sheep range would only occur with coordination with SDGFP.		
16 Bighorn Sheep	No similar management action	Surface disturbing and disruptive activities would be allowed in occupied or SDGFP proposed bighorn sheep habitat provided any adverse impacts to bighorn sheep can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan and the SDGFP bighorn sheep plan are not compromised. **O&G** – NSO: Surface occupancy and use would not be allowed in occupied or SDGFP proposed bighorn sheep range. Waivers, exceptions, and modifications are described in Appendix E.2-E.4.		
17 Bighorn Sheep	No similar management action	Occupied or SD GFP proposed bighorn sheep range would be a ROW avoidance area for renewable energy and other types of ROWs.	Occupied or SD GFP proposed bighorn sheep range would be a ROW exclusion area for renewable energy and other types of ROWs.	Same as Alternative B.
18 Introduced Plants	Any mechanical treatment and tame pasture conversion proposed on big sagebrush habitat important to antelope and Greater Sage-Grouse would be evaluated to protect that resource.	Any Conversion of vegetation type from tame pasture to native vegetation or from native vegetation to tame pasture (introduced species) would be allowed when needed to protect, maintain or improve wildlife habitat, sensitive soils, riparian vegetation and control weeds/invasive species. Vegetation type conversion proposals would be evaluated at the project level to protect wildlife habitat and watershed resources (e.g., sagebrush habitat important	Any Conversion of vegetation type from tame pasture to native vegetation would be allowed to protect wildlife habitat and watershed resources (e.g., sagebrush habitat important to sagebrush obligate species). Conversion of vegetation type from native vegetation to tame pasture would **not** be allowed.	Same as Alternative B, except no more than 1% of public land (surface estate) in the planning area would be converted from native to non-native species.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		to sagebrush obligate species). No more than 3% of public land in the planning area would be converted from native species to introduced species.		
19 Range Improve-ments	Any Range improvements would be used to protect and improve riparian areas.	Priority for funding and implementing range improvements would be given to projects that improve livestock management, provide stock water, or enhance forage production.	Priority for funding and implementing range improvements would be given to improve riparian areas, better manage wildlife habitat, and provide for watershed protection. Improved management of livestock would be a secondary benefit.	Priority for funding and implementing range improvements would be given to improve multiple resources.
20 Colonial Nesting Water-Birds	No similar management action			Surface disturbing and disruptive activities would not be allowed within ¼ mile of colonial nesting waterbird colonies unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** – NSO: Surface occupancy and use is prohibited within ¼ mile of waterbird nesting colonies. Waivers, exceptions, and modifications are described in Appendix E.4.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
21 Colonial Nesting Water-Birds	No similar management action			Surface disturbing and disruptive activities would not be allowed within ½ mile of colonial nesting waterbird colonies from April 1 through July 15 unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G:** TL: Surface disturbing and disruptive activities would be prohibited within ½ mile of waterbird nesting colonies from April 1 through July 15. Waivers, exceptions, and modifications are described in Appendix E.4.
22 Colonial Nesting Water Birds	No similar management action			Renewable Energy ROWs: Areas within ½ mile of colonial waterbird nesting colonies would be exclusion areas. Other types of ROWs: Areas within ½ mile of colonial waterbird nesting colonies would be avoidance areas
Program: Special Status Species				
Goal 1: Ensure the long-term and self-sustaining persistence of special status species in South Dakota. **Goal 2:** Protect/maintain populations of special status species by minimizing direct mortality and impacts to habitat. **Goal 3:** Provide suitable habitat condition to allow for movement between large blocks of habitat and seasonal and specialized habitats on a local and				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	landscape scale.			
Goal 4:	Maintain or improve specialized habitats on a local and landscape scale.			
Goal 5:	Maintain and/or increase sage-grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.			
Goal 6:	Within Greater Sage-Grouse General Habitat Management Areas, BLM will maintain habitat for viable sage-grouse populations.			
Goal 7:	Manage for the biological integrity and habitat suitability to facilitate the conservation, recovery, and maintenance of populations of plants, fish and wildlife to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.			
Goal 8:	Maintain or enhance areas of ecological importance for special status wildlife species.			
Goal 9:	Conserve and recover special status wildlife species by determining and implementing conservation strategies including restoration opportunities, use restrictions, and management actions.			
Goal 10:	Manage specific environmental hazards, risks, and impacts in a manner compatible with special status wildlife species health.			
Goal 11:	Identify habitat thresholds necessary to sustain well-distributed healthy populations of special status species to avoid future listings under the Endangered Species Act.			
Goal 12:	Develop and implement the BMPs, activity plans, or use other mechanisms to protect high priority special status wildlife species.			
Goal 13:	Manage special status species in consideration of the working landscape and the intermingled land ownership pattern that is present.			
Goal 14:	Across the planning area, maintain greater sage-brush cover at levels at or near the full potential for the each ecological site.			
Goal 15:	Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA.			
Goal 16:	In all Priority Habitat Management Areas, the desired condition is to maintain a minimum of 70% of lands capable of producing sagebrush with 10 to 30% sagebrush canopy cover.			
Management Common to All Alternatives: • Special Status Species and their habitat will be given special consideration before any actions are taken. • BMPs (Appendix B) including Oil and Gas BMPs for Wildlife would be used to reduce impacts to Special Status Species. • Inventory potential habitat used by BLM sensitive species. • If unoccupied habitat for TES species exists, BLM would work with other agencies, stakeholders, and partners to analyze proposals to reintroduce species while considering other resources and uses. • The mitigation and conservation measures for sage grouse (Appendix V-1) would be used to mitigate impacts from surface disturbance and disruptive activities in priority and general sage-grouse habitat in order to meet the goals and objectives set forth in this RMP and the BLM National Sage-grouse Conservation Strategy. • New fences would be located to avoid sage-grouse leks and winter range and/or marked if these areas cannot be avoided. • Manage water developments to reduce the spread of West Nile virus within sage-grouse habitat areas (especially for those water impoundments where water levels are artificially maintained). • Install reflectors on fences for sage-grouse where appropriate. • Manage water developments to reduce the spread of West Nile virus within sage-grouse habitat areas.				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
• Follow current "Reducing Avian Collisions with Power Lines" (APLIC)" for all land use authorizations (Appendix B). • Existing overhead lines that are determined to be a major hazard to wildlife would be modified to reduce or eliminate the hazard. • Prairie dog control would consider impacts to wildlife species associated with prairie dog colonies. • Within sage-grouse habitat, BLM would maintain habitat for sage-grouse subpopulations to promote movement and genetic diversity. Maintain, restore or enhance sage-grouse habitat and connectivity between sagebrush habitats, with emphasis on those habitats occupied by sage-grouse. • Within sage-grouse habitat, BLM would evaluate areas for habitat restoration or enhancement potential. Specific restoration or enhancement actions would be determined at the project (implementation) level. • Where suitable conservation actions cannot be achieved, seek to acquire state and private lands with intact subsurface mineral estate by donation, purchase or exchange in order to best conserve, enhance or restore sage-grouse habitat. • The RMP would incorporate existing recovery plans, management strategies, and guidelines for federally listed threatened and endangered species. State management plans would be considered for delisted species. • When mitigation for sage-grouse is necessary, BLM would prioritize mitigation in priority sage-grouse habitat areas (dependent upon the area-specific ability to increase sage-grouse populations; Appendix V-5). • To insure compliance with the Migratory Bird Treaty Act, surface disturbing and disruptive activities would be avoided from April 15 to July 15 and a Migratory Bird Treaty Act lease notice attached to all new leases (Refer to Appendix E.5). Mitigation of activities including surface-disturbing or disruptive activities would be applied where needed to avoid, minimize, rectify, reduce or compensate for the impacts of human activities to special status species or special species habitat consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. Mitigation measures would be applied on a case-by-case basis during activity level planning if review of the project area indicates special status species are present or would be affected. Exceptions to stipulation requirements may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., riparian restoration projects, prescribed fire, or vegetation treatments). The sequence of mitigation action would be: *Step 1. Avoid* - Adverse impacts to resources are to be avoided and no action shall be permitted if there is a practicable alternative with less adverse impact. *Step 2. Minimize* - If impacts to resources cannot be avoided, appropriate and practicable steps to minimize adverse impacts must be taken. *Step 3. Compensate* - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain. The amount and quality of compensatory mitigation may not substitute for avoiding and minimizing impacts. Additional details about mitigation including sage-grouse mitigation and conservation measures can be found in Appendices B and V-1 and in the mitigation section of the Chapter 2 Summary. Management Actions Common to Action Alternatives (Alternatives B, C and D): • Prior to authorizing Waivers, Exceptions or Modifications (WEMS) for oil and gas leasing, BLM would coordinate with the State of South Dakota				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
including the SD Game, Fish and Parks and other applicable State agencies or surface owner on any potential decision related to the use of WEMs that would affect resources or activities managed by the State or surface owner. • Applications for Special Recreation Use Permits in sage-grouse priority habitat may be denied if approval of the permit would adversely impact sage-grouse or sage-grouse habitat.				
Planning Area				
Raptors				
1 Bald Eagles	**O&G** only – NSO: Surface occupancy and use would be prohibited within ½ mile of known bald eagle nest sites which have been active within the past 5 years and within bald eagle nesting habitat in riparian areas.	Surface disturbing and disruptive activities would be avoided within ¼ mile of known bald eagle nests which have been active within the past 5 years. **O&G** –NSO: Surface occupancy and use is prohibited within ¼ mile of bald eagle nest sites active within the preceding 5 years. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would not be allowed within ½ mile of known bald eagles nests active within the preceding 5 breeding seasons unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** – NSO: Surface occupancy and use is prohibited within ½ mile of bald eagle nest sites active within the preceding 5 years. Waivers, exceptions, and modifications are described in Appendix E.3.	Same as Alternative C.
2 Bald Eagles	No similar management action	Public lands within ¼ mile of bald eagle nests would be an avoidance area for commercial renewable energy development and other	Public lands within ½ mile of bald eagle nests would be an exclusion area for commercial renewable energy development and other	Renewable Energy ROWs: Public lands within ½ mile of bald eagle nests would be an exclusion area. Other types of ROWs: Public

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		ROWs.	ROWs.	lands within ½ mile of bald eagle nests would be an avoidance area.
3 Bald & Golden Eagles	No similar management action exists in the current management plan for special status / raptor species.	No weed treatments from 3/1- 8/1 within a ¼ mile buffer zone around active bald and golden eagle nesting sites. Exceptions to treatment restrictions may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to eagles.		
4 Peregrine Falcon	Surface occupancy and use would be prohibited within 1 mile of identified peregrine falcon nesting sites (**O&G** only).	Surface disturbing and disruptive activities would be avoided within ½ mile of identified peregrine falcon nesting sites. Other surface occupancy and permitted uses could be limited at the project level. **O&G** – NSO: No surface occupancy or use within ½ mile of peregrine nesting sites. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would not be allowed within 1 mile of identified peregrine falcon nesting sites active within the preceding 7 breeding seasons unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. Other surface occupancy and permitted uses could be limited at the project level. **O&G** – NSO: No surface occupancy or use within 1mile of peregrine nesting sites. Waivers, exceptions, and modifications are described in Appendix E.3.	Same as Alternative C.
5 Peregrine Falcon	No similar management action	Public lands within ½ mile of peregrine falcon nests would be an avoidance area for commercial renewable energy development	Public lands within 1 mile of peregrine falcon nests would be an exclusion area for commercial renewable energy development	Renewable Energy ROWs: Public lands within ½ mile of peregrine falcon nests would be an exclusion area.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		and other ROWs.	and other ROWs.	Other types of ROWs: Public lands within ½ mile of peregrine falcon nests would be an avoidance area.
6 Special Status Raptors	No similar management action for surface disturbing and disruptive activities **O&G -** Surface occupancy and use is prohibited within ½ mile of sensitive and special status raptor nest sites (peregrine falcons and bald eagles addressed separately . At the present time raptors that would be addressed by management action 6 include ferruginous hawk, northern goshawk, Swainson's hawk, golden eagle, and burrowing owls.	Surface disturbing and disruptive activities would be avoided within ¼ mile of sensitive and special status raptor nest sites that were active within the last 7 years (species addressed by this NSO would be the same as Alternative A). **O&G** – NSO: No surface occupancy or use within ¼ mile of special status raptor nests. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would be avoided within ½ mile of sensitive and special status raptor nest sites that were active within the last 7 years (species addressed by this NSO would be the same as Alternative A). **O&G** – NSO: No surface occupancy or use within ½ mile of special status raptor nests. Waivers, exceptions, and modifications are described in Appendix E.3.	Same as Alternative B. Oil and gas waivers, exceptions, and modifications are described in Appendix E.4.
7 Special Status Raptors (Eagles & Peregrine Falcons addressed separately)	No similar management action			Surface disturbing and disruptive activities would be avoided within ½ mile of active special status raptor nests from March 1 through July 31. Peregrine falcons and bald eagle would be addressed separately. **O&G** – Timing Limit: Surface use is prohibited within ½ mile of active raptor nest sites from March 1 through July 31. Waivers,

Table 2-6 Summary Comparison of Alternatives				
Management Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				exceptions, and modifications are described in Appendix E.4.
8 Special Status Raptors (Eagles & Peregrine Falcons addressed separately)	No similar management action	Areas with ¼ mile of special status raptor nests active within the preceding 7 years would be a ROWs avoidance area for all types of ROWs.	Areas with ½ mile of special status raptor nests active within the preceding 7 years would be a ROWs exclusion area for all types of ROWs.	Renewable Energy ROWs: Areas within ¼ miles of nest of special status raptors active within the preceding 7 years would be an exclusion area. Other types of ROWs: Areas within ¼ miles of nest of special status raptors active within the preceding 7 years would be an avoidance area
9 Special Status Raptors	No similar management action	¼ mile weed treatment restriction zone around current year active raptor nests from March 1-July 31. Exceptions to treatment types and dates of treatments may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts.	¼ mile weed treatment restriction zone around raptor nests sites active over the previous 2 years from March 1-July 31. Exceptions to treatment types and dates of treatments may be allowed to address aggressively spreading weeds or invasive plants (MT Category 1 weeds) that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts.	Same as Alternative B.
Greater Sage-Grouse General Habitat Management Area (GHMA) Refer to Maps 2-3 through 2-5				
10	General Habitat would be the same as Alternative D, with 23,684 surface and 247,771 subsurface oil and gas minerals acres. No specific management actions are identified in General Habitat.	GHMAs would include 63,005 surface and 400,256 subsurface oil and gas minerals acres. See Map 2-3.	Intermediate number of acres protected through Greater Sage-Grouse GHMAs include 53,483 surface and 364,051 subsurface oil and gas minerals acres. See Map 2-4.	GHMAs would be the smallest amount of acres due to the larger size of the PHMAs (see PHMA section). Greater Sage-Grouse GHMAs include 23,684 surface and 247,771 subsurface oil and gas minerals acres. See Map 2-5.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Adaptive management for sage-grouse is described in Chapter 2 Narrative under the Greater Sage-Grouse section.
11 OG/ Sage-Grouse GHMAs	No actions developed for General Habitat; however a surface occupancy and use restriction would apply as follows to the whole planning area: Surface use would be prohibited within ¼ of a mile of sage-grouse leks across the planning area (**O&G** only).	Surface disturbing and disruptive activities would be avoided within ½ of a mile of sage-grouse leks. **O&G** - NSO: No surface occupancy or use within ½ mile of leks. Waivers, exceptions, and modifications are described in Appendix E.2.	Surface disturbing and disruptive activities would be avoided within 1 mile of sage-grouse leks. **O&G** - NSO: No surface occupancy or use within 1 mile of leks. Waivers, exceptions, and modifications are described in Appendix E.3.	Surface disturbing and disruptive activities would be avoided within 6/10 of a mile of sage-grouse leks **O&G** - NSO: No surface occupancy or use within 6/10 of a mile from leks.
12 ROW/ Sage-Grouse GHMAs	No similar management action for General Habitat	Public lands within ½ mile of sage-grouse leks would be an avoidance area for all types of ROWs (commercial renewable energy development and other ROWs). Where new ROWs are necessary, ROWs would be co-located within existing ROWs where possible.	All public lands within 1 mile of sage-grouse leks in general habitat would be an exclusion area and all other areas in general habitat would be avoidance area for all types of ROWs. Where new ROWs are necessary, ROWs would be co-located within existing ROWs where possible.	Renewable Energy ROWs: 1 mile from leks would an exclusion area, the rest of the GHMA would be an avoidance area. Other types of ROWs: Major ROWs (powerlines 100 kV and pipelines 24 inches and over) would be avoided. Minor ROWs within 2 miles of a lek would be avoidance, the rest of the GHMA would be open. Where new ROWs are necessary, ROWs would be co-located within existing ROWs where possible.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
13 Lands & Realty Sage-Grouse GHMAs	No similar management action for General Habitat	GHMAs would be Class 3 land disposal areas (Maps 2-2 and 2-3). Refer to the Land Tenure subsection of the Lands section of this table for additional details about Class 3 disposal criteria.	Same as Alternative B. All public land in GHMAs would be Class 3 land disposal areas (Maps 2-2 and 2-4).	GHMAs and PHMAs within the Center of the Nation would be Class 2 land retention areas (Maps 2-2 and 2-5). Any land disposals would be limited and subject to specialist review. Refer to the Land Tenure subsection of the Lands section of this table for additional details about Class 2 retention criteria. BLM could also dispose of land in PHMAs and GHMAs within the Center of the Nation areas in cases where there is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns. Under sage-grouse habitat areas with minority federal ownership, BLM would develop an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure, consideration would be given to pursuing a permanent conservation easement.
14 OG/ Winter Range in GHMAs	Stipulations apply to sage-grouse winter range across the planning area. **O&G** - Timing Restriction: Surface use would be	Surface-disturbing or disruptive activities would be avoided from December 1 to March 31 within winter range for sage-grouse. **O&G** - Timing Restriction: Oil	Same as Alternative B. Oil and gas waivers, exceptions, and modifications are described in Appendix E.3.	Surface disturbing and disruptive activities would be avoided in winter range for sage-grouse unless the project proponent can clearly demonstrate that the impacts can be adequately

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	prohibited from December 1 to March 31 within crucial winter range for Greater Sage-Grouse. See sagebrush cover Map 2-6	and gas development and exploration would be would be prohibited from December 1 to March 31 within winter range for sage-grouse. Waivers, exceptions, and modifications are described in Appendix E.2. See sagebrush cover Map 2-6.		mitigated, Conservation Actions, Guidelines or needed design features (Appendices B and V-1) are included and the goals for sage-grouse are not compromised. Prior to approving any surface disturbance and disruptive activities, the project proponent would be required to provide a plan approved by BLM to maintain suitability of habitat and avoid or minimize habitat loss and disturbance. **O&G**: NSO: Sage-grouse crucial winter range would be managed as a No Surface Occupancy for oil and gas development and exploration. See sagebrush cover Map 2-6.
15 ROW/ Winter range in GHMAs	No similar management action for General Habitat	Sage-grouse winter range would be an avoidance area for commercial renewable energy development and other ROWs.	Sage-grouse winter range would be an exclusion area for commercial renewable energy development and other ROWs.	Renewable Energy ROWs: Sage-grouse winter range would be an exclusion area. Other types of ROWs: Sage-grouse winter range would be an an avoidance area. In cases where avoidance is not possible, BLM may require design features to mitigate impacts or co-location of new ROWs with existing ROWs where possible.
16	No actions developed for	Timing Restriction: Surface	Timing Restriction: Surface	**O&G** - A CSU stipulation would

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
OG/ Nesting Habitat in GHMAs	General Habitat; however a Timing Restriction would apply as follows to the whole planning area: Surface use would be prohibited from March 1 through June 30 in sage-grouse nesting habitat within 2 miles of a lek. This stipulation does not apply to the operation and maintenance of production facilities (**O&G** only).	disturbing and disruptive activities would be avoided from March 1 through July 15 in sage-grouse nesting habitat within 3 miles of a lek. **O&G** – Timing limit: Oil and gas exploration and development would be prohibited from March 1 through July 15 in sage-grouse nesting habitat within 3 miles of a lek. Waivers, exceptions, and modifications are described in Appendix E.2.	disturbing and disruptive activities would be avoided from March 1 through July 15 in sage-grouse nesting habitat within 4 miles of a lek. **O&G** – Timing limit: Oil and gas exploration and development would be prohibited from March 1 through July 15 in sage-grouse nesting habitat within 4 miles of a lek. Waivers, exceptions, and modifications are described in Appendix E.3.	apply within 2 miles of leks. Waivers, exceptions, and modifications are described in Appendix E.4. Surface disturbing and disruptive activities within 2 miles of a lek would be avoided unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, BMPs Guidelines and Standard Operating Procedures (SOPs) or Required Design Features (Appendix V-1) are included and the goals for sage-grouse not compromised.
17 ROWs/ Nesting Habitat in GHMAs	No similar management action for General Habitat	Sage-grouse nesting habitat within 3 miles of a lek would be an avoidance area for commercial renewable energy development and other ROWs.	Sage-grouse nesting habitat within 4 miles of a lek would be an exclusion area for commercial renewable energy development and other ROWs.	Renewable Energy ROWs: All of GHMAs would be an avoidance area except areas within 1 mile of leks would be exclusion areas. Other types of ROWs: Major ROWs (powerlines 100 kV and over and pipelines 24 inches and over) would be avoided. Minor ROWs would be open except areas with 2 miles of a lek would be avoided. Where new ROWs are necessary, ROWs would be co-located within existing ROWs where possible.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
18 GHMAs	No similar management action for General Habitat	All new utility and powerlines (overhead lines) that can be safely buried would be buried within 1 mile of sage-grouse leks and within sage-grouse winter range.	All new utility and powerlines (overhead lines) that can be safely buried would be buried within 2 miles of sage-grouse leks and within sage-grouse winter range. When burial of power lines is not possible, above ground lines will be located and designed to minimize impacts of predation, collision and other associated stressors to sage-grouse. Existing overhead lines within 2 miles of leks and within sage-grouse winter range would be evaluated for threats to sage-grouse and if necessary, modified to reduce the threat. If modification would not likely be effective, the overhead line may be relocated. Any requirements for modification or relocation of existing overhead lines would be subject to valid existing rights.	Same as Alternative C.
19 Nesting and brood rearing habitat in GHMAs	No actions developed for GHMAs, however a Timing Limit would be as follows for the whole planning area: No weed treatments would occur within suitable nesting habitat, within a 2 mile buffer	TL: Herbicide treatments limited to spot weed treatments only within a 3 mile buffer zone, of known sage-grouse leks from March 1-June 30. Exceptions to treatment types and dates of treatments may be allowed to address aggressively spreading	TL: Herbicide treatments limited to spot weed treatments only, within suitable nesting or brood rearing habitat, within a 4 mile buffer zone, of known sage-grouse leks from March 1-June 30. Exceptions to treatment types and dates of treatments may be	Same as Alternative B.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
	zone, of known sage-grouse leks from March 1-June 30.	weeds or invasive plants that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to sage-grouse.	allowed to address aggressively spreading weeds or invasive plants that require aggressive and timely treatment during this period following consultation with necessary specialists to minimize impacts to sage-grouse.	
Greater Sage-Grouse Priority Habitat Management Areas (PHMAs) Refer to Maps 2-3 through 2-5				
20 Sage-grouse Priority Habitat/ PHMAs	No specific objectives developed for Priority Habitat	Objective: Manage Greater Sage-Grouse PHMAs so that discrete anthropogenic (human-caused) disturbances do not adversely impact sage-grouse distribution or abundance.	Objective: Manage Greater Sage-Grouse PHMAs/ACEC so that discrete anthropogenic (human-caused) disturbances cover less than 3% of the total sage-grouse habitat (considering disturbances across the landscape on all ownership types) to protect priority sage-grouse habitats from anthropogenic disturbances that will reduce distribution or abundance of sage-grouse.	Same as Alternative C. Refer to Appendix V-4 for additional discussion about sage-grouse disturbance caps.
21 Sage-grouse Priority Habitat/ PHMAs	Priority Habitat would be the same as the State of South Dakota Sage-grouse Core Areas (SD GFP 2014b) with 127,735 surface and 412,822 subsurface oil and gas minerals acres. No specific management actions are identified in Priority Habitat.	PHMAs would include 83,744 surface and 253,357 subsurface oil and gas minerals acres. See Map 2-3.	Intermediate number of acres protected through Greater Sage-Grouse PHMAs including 93,266 surface and 289,563 subsurface oil and gas minerals acres. See Map 2-4. Greater Sage-Grouse PHMAs would be designated as an ACEC.	PHMAs would be the same as the State of South Dakota Sage-grouse Core Areas (SD GFP 2014b). Largest number of acres protected through Greater Sage-Grouse PHMAs including 127,735 surface and 412,822 subsurface oil and gas minerals acres. See Map 2-5. See Map 2-5. Adaptive management for sage-grouse is described in Chapter 2 Narrative

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				section under Greater Sage-Grouse.
22 Summary of Minerals Mgmt. in GRSG Priority Habitat/ PHMAs	No similar management actions developed for Priority Habitat	Surface disturbing and disruptive activities would be allowed if the project proponent can clearly demonstrate that adverse impacts to sage-grouse can be adequately mitigated, BMPs, Guidelines (Appendix B) and Required Design Features (Appendix V-1) are included and the goals for sage-grouse not compromised. PHMAs would include 83,744 surface acres and approximately 250,000 acres of mineral estate depending on the type of mineral (refer to Map 2-3). **O&G** – NSO: Greater Sage-Grouse PHMAs would be managed as No Surface Occupancy and Use (83,744 surface and 253,357 oil and gas subsurface minerals acres). These areas would be open to oil and gas leasing with a no surface occupancy stipulation. All sage-grouse habitat that is not part of a PHMAs would be managed as GHMA as noted in Map 2-3. Waivers, exceptions, and modifications are described in	Surface disturbing and disruptive activities would be allowed if the project proponent can clearly demonstrate that adverse impacts to sage-grouse can be adequately mitigated, BMPs Guidelines (Appendix B) and or Required Design Features are included and the goals for sage-grouse not compromised. PHMAs/ACEC would include 93,266 surface acres and approximately 290,000 acres of mineral estate depending on the type of mineral (refer to Map 2-4). **O&G** – Closed: Sage-Grouse PHMAs would be closed to oil and gas development. PHMAs/ACEC would include 93,266 surface acres and 289,563 oil and gas subsurface mineral acres. All sage-grouse habitat that is not part of a PHMAs would be managed as GHMA as noted in Map 2-4. Waivers, exceptions, and modifications are described in Appendix E.3. Locatable, salable and other leasable minerals would be recommended for withdrawal or	Surface disturbing and disruptive activities would be allowed if the project proponent can clearly demonstrate that adverse impacts to sage-grouse can be adequately mitigated through BMPs, guidelines (Appendix B) and Required Design Features (Appendix V-1) are included and the goals for sage-grouse not compromised. Prior to approving any surface disturbance and disruptive activities, the project proponent would be required to provide a plan approved by BLM to maintain suitability of habitat and avoid or minimize habitat loss and disturbance. See sagebrush cover Map 2-6. **O&G:** NSO: Greater Sage-Grouse PHMAs would be managed as No Surface Occupancy and Use (127,735 surface and 412,822 oil and gas subsurface minerals acres). These areas would be open to oil and gas leasing with a no surface occupancy stipulation. All sage-grouse habitat that is not part of a PHMAs would be managed as GHMA as noted in Map 2-5.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		Appendix E.2. Locatable, salable and other leasable minerals would be open subject to standard stipulations, sage grouse conservation, measures, required design features and applicable BMPs and Guidelines.	closed.	Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. No waivers or modifications to a fluid minerals lease no-surface-occupancy stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation in certain cases. Exceptions based on conservation gain (ii) may only be considered in (A) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) area of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP. See Appendix E.4. O&G stipulations would also apply to geothermal resources. Locatable minerals would be open subject to GRSG BMPs (Appendix V-1, Required Design Features that would be applied as BMPs for locatable minerals, subject to valid existing rights and in coordination with the claimant)

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				and other applicable BMPs and Guidelines. Non-energy leasable minerals and salable minerals would be closed except for the following exception: PHMAs are closed to new mineral material sales. However, these areas remain "open" to free use permits and the expansion of existing active pits, only if the following criteria are met: The activity is within the Biologically Significant Unit (BSU) and project area disturbance cap; the activity is subject to the provisions set forth in the mitigation framework (Chapter 2 Narrative section, BMPs and Guidelines, (Appendix B) Mitigation Measures, and Required Design Features for Greater Sage-Grouse Habitat; and all applicable required design features (Appendix V-1) are applied, and the activity is permissible under the subregional screening criteria
23 Retirement of grazing lease in Priority Habitat/	Grazing Allotments may be retired through current BLM direction, however no management action specifically identified in Priority Habitat.	At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks.		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
PHMAs				
24 Sage-Grouse Priority Habitat/ PHMAs	No similar management action for Priority Habitat	Other resource uses within the Greater Sage-Grouse PHMAs may be allowed pending project level environmental review provided that Mitigation, BMPs Guidelines, SOPs, and Required Design Features are implemented, Impacts are evaluated through Appendix V-6, and the project does not exceed the disturbance Cap (Appendix V-4) and the goals for sage-grouse and sage-grouse habitat are not compromised (Appendix B and V-1). Areas managed as PHMAs vary by alternatives as shown in Maps 2-3 through 2-5 Categorical Exclusions (CXs) including those under the Energy Policy Act of 2005, Section 390 would not be used in priority sage-grouse habitats due to resource conflicts.		
25 ROWs Sage-Grouse Priority Habitat/ PHMAs	No similar management action for Priority Habitat	Greater Sage-Grouse PHMAs would be avoidance areas for all types of ROWs. Where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes sage-grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary.	The Greater Sage-Grouse PHMAs/ ACEC would be exclusion areas for all types of ROWs. The following exceptions would apply: Within designated ROW corridors encumbered by existing ROW authorizations: new ROWs may be co-located only if the entire footprint of the proposed project (including construction and staging) can be completed within the existing disturbance associated with the authorized ROWs. Subject to valid existing rights: where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes sage-grouse impacts. BLM would use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid	<u>Renewable Energy ROWs:</u> Greater Sage-Grouse PHMAs would be exclusion areas. <u>Other types of ROWs:</u> Greater Sage-Grouse PHMAs would be avoidance areas. Where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes sage-grouse impacts. Use existing roads, or realignments as described above to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in the priority area. If that disturbance exceeds 3% for that area, then make additional effective mitigation necessary to offset the resulting loss of sage-grouse.	
26 Power lines Sage-Grouse Priority Habitat/ PHMAs	No similar management action for Priority Habitat	Within PHMAs new power and utility lines (overhead lines) would be buried, eliminated, designed or sited in a manner which would not impact sage-grouse on public lands.	Within PHMAs all new power and utility lines (overhead lines) that can be safely buried would be buried. When burial of power lines is not possible, above ground lines will be located and designed to minimize impacts of predation, collision and other associated stressors to sage-grouse. Existing overhead lines within PHMAs and within sage-grouse winter range would be evaluated for threats to sage-grouse and if necessary, modified to reduce the threat. If modification would not likely be effective, the overhead line may be relocated. Any requirements for modification	PHMAs are defined as avoidance areas for all ROWs (major and minor). If proposed project cannot be avoided, actions described within Alternative C will apply.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			or relocation of existing overhead lines would be subject to valid existing rights.	
27 Lands & realty Sage-Grouse Priority Habitat/ PHMAs	No similar management action for Priority Habitat	PHMAs within the Center of the Nation would be Class 2 land retention areas (Maps 2-2 and 2-3). BLM would retain public land in PHMAs except for areas with scattered, small tracts of public land in PHMAs outside of the Center of the Nation retention area. Any land disposals would be limited and subject to specialist review. Refer to the Land Tenure subsection of the Lands section of this table for additional details about Class 2 retention criteria. BLM could also dispose of land in PHMAs within the Center of the Nation areas in cases where there is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns. Under priority sage-grouse habitat areas with minority federal ownership, BLM would develop an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure,	All public land in PHMAs would be Class 2 land retention areas (Maps 2-2 and 2-4). BLM would retain public ownership of all BLM administered surface estate in all PHMAs except where there is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within the PHMAs. Any land disposals would be limited and subject to specialist review. Under priority sage-grouse habitat areas with minority federal ownership, BLM would develop an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure, consideration would be given to pursuing a permanent conservation easement More land would be would be retained because PHMAs would be larger than Alternative B and retention status would apply to all	PHMAs and GHMAs within the Center of the Nation would be Class 2 land retention areas (Maps 2-2 and 2-5). Any land disposals would be limited and subject to specialist review. Refer to the Land Tenure subsection of the Lands section of this table for additional details about Class 2 retention criteria. BLM could also dispose of land in PHMAs and GHMAs within the Center of the Nation areas in cases where there is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns. Under sage-grouse habitat areas with minority federal ownership, BLM would develop an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure, consideration would be given to pursuing a permanent conservation easement.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		consideration would be given to pursuing a permanent conservation easement.	of the PHMAs.	
28 Sage-Grouse Priority Habitat/ PHMAs	No actions developed for Priority Habitat; however a Timing Limit would apply as follows to the whole planning area: No weed treatments would occur within suitable nesting habitat, within a 2 mile buffer zone, of known sage-Grouse leks from March 1-June 30.	TL: Spot weed treatments only, using IPM methods within all suitable nesting or brood rearing habitat of known sage-grouse leks from March 1-June 30.		
29 OG/ Sage-Grouse Priority Habitat/ PHMAs winter range	Stipulations apply to sage-grouse winter range across the planning area. **O&G** - Timing Restriction: Surface use would be prohibited from December 1 to March 31 within crucial winter range for Greater Sage-Grouse. See sagebrush cover Map 2-6	Winter range in PHMAs would be treated the same as winter range GHMA: Surface-disturbing or disruptive activities would be prohibited from December 1 to March 31 within winter range for sage-grouse. **O&G** - Timing Restriction: Oil and gas development and exploration would be would be prohibited from December 1 to March 31 within winter range for sage-grouse. Waivers, exceptions, and modifications are described in Appendix E.2. See sagebrush cover Map 2-6.	Same as Alternative B. Waivers, exceptions, and modifications are described in Appendix E.3.	Winter range in PHMAs would be treated the same as winter range in GHMA: Surface disturbing and disruptive activities would not be allowed in winter range for sage-grouse unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, conservation actions or needed design features are included and the goals of this plan not compromised. Prior to approving any surface disturbance and disruptive activities, the project proponent would be required to provide a plan approved by BLM to maintain suitability of habitat and avoid or minimize habitat loss and disturbance.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				O&G: NSO: Sage-grouse winter range would be managed as a No Surface Occupancy for oil and gas development and exploration. No waivers or modifications to a fluid minerals lease no-surface-occupancy stipulation will be granted for NSO stipulations in PHMAs. See sagebrush cover Map 2-6.
30 ROW/ Sage-Grouse Priority Habitat/ PHMAs winter range	No similar management action for Priority Habitat	Winter range in PHMAs would be treated the same as winter range GHMA: Sage-grouse winter range would be an avoidance area for commercial renewable energy development and other ROWs.	Winter range in PHMAs would be treated the same as winter range GHMA: Sage-grouse winter range would be an exclusion area for commercial renewable energy development and other ROWs.	Winter range in PHMAs would be treated the same as winter range in GHMA: Renewable Energy ROWs: Sage-grouse winter range would be an exclusion area. Other types of ROWs: Sage-grouse winter range would be an avoidance area. In cases where avoidance is not possible, BLM may require co-location of new ROWs with existing ROWs where possible.
31 Sage-Grouse Priority Habitat/ PHMAs	No specific management objectives for Priority Habitat.			Seasonal habitat objectives identified in Table 2-2 of the Chapter 2 narrative will be incorporated into all project designs, as appropriate, based on site conditions and ecological potential. Habitat objectives include metrics for sagebrush height, cover, and other vegetation characteristics

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				typical of sage-grouse habitat at the eastern edge of the species' distribution.
32 Sage-Grouse Priority Habitat/ PHMAs	No specific management objectives for Priority Habitat.			BLM will prioritize grazing leases in PHMAs to determine if modifications are necessary prior to renewals or if the allotment does not meet Land Health Standards.
33 Fire/ Priority Habitat/ PHMAs	No restrictions on use of prescribed fire in Priority Habitat.	Prescribed fire may be allowed in Greater Sage-Grouse PHMAs and general habitat if it is done solely for the purposes of improving or maintaining sage grouse habitat.	Prescribed fire would not be allowed in the Greater Sage-Grouse PHMAs/ACEC.	Same as Alternative B.
Grassland and Migratory Birds				
33 Grassland/ Migratory Birds	Prescribed burning could be used as an alternative to mechanical treatment. Prescribed fire would be used to enhance vegetation and habitat and reduce hazardous fuels.	Prescribed burning would be allowed to achieve measurable landscape level objectives from: • other resources, including, but not limited to forestry, wildlife, range, vegetation, and watershed - the reduction of hazardous fuels (public safety) • the introduction of fire into fire adapted ecosystems Prescribed fire may be allowed in Greater Sage-Grouse PHMAs and general habitat if it is done solely for the purposes of improving or maintaining sage grouse habitat. See Map 2-3.	Same as Alternative B, except prescribed fire would not be allowed in the Greater Sage-Grouse PHMAs/ACEC. See Map 2-4.	Same as Alternative B. See Map 2-5 for Greater Sage-Grouse PHMAs under Alternative D.
34	Surface occupancy and use	Surface disturbing and disruptive activities would not be allowed within ¼ miles of wetlands identified as		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Piping Plover	would be prohibited within ¼ mile of wetlands identified as piping plover habitat. (O&G only).	piping plover habitat unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** - NSO: Surface occupancy and use would be prohibited with ¼ miles of piping plover habitat. Waivers, exceptions, and modifications are described in Appendix E.2-E.4.		
35 Piping Plover	No similar management action	Public lands within ¼ mile of wetlands or associated habitats identified as piping plover habitat would be an avoidance area for renewable energy development and other ROWs.	Public lands within ¼ mile of wetlands or associated habitats identified as piping plover habitat would be an exclusion area for renewable energy development and other ROWs.	
36 Least Tern	Surface occupancy and use would be prohibited within ¼ mile of wetlands identified as interior least tern habitat (O&G only).	Surface disturbing and disruptive activities would not be allowed within ¼ mile of wetlands identified as interior least tern habitat unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G** - NSO: Surface occupancy and use would be prohibited with ¼ miles of interior least tern habitat. Waivers, exceptions, and modifications are described in Appendix E.2-4.		
37 Least Tern	No similar management action	Public lands within ¼ mile of wetlands or associated habitats identified as least tern habitat would be an avoidance area for commercial renewable energy development and other ROWs.	Public lands within ¼ mile of wetlands or associated habitats identified as least tern habitat would be an exclusion area for commercial renewable energy development and other ROWs.	
38 Sprague's Pipit	Surface disturbing and disruptive activities would not be allowed in moderate to high potential Sprague's Pipit habitat from April 15 to July 15 unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated, relevant conservation actions or needed design features are included and the goals of this plan not compromised. **O&G**- A lease notice would be attached to all leases in documented or potential habitat for Sprague's Pipit. The lease notice would notify the lease holder that mitigation and conservation actions may be required including a limit on exploration and development from April 15 to July 15. *Currently habitat is present but not well identified in western South Dakota.			

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
39 Sprague's Pipit	No specific ROWs restrictions in Sprague's Pipit habitat.			Moderate to high potential habitat for Sprague's Pipit would be ROWs avoidance areas for all types of ROWs.
Other Special Status Wildlife Species				
40 Prairie Dogs	Prairie dog colonies that occur entirely on public land and are not causing significant adverse impacts to soil and vegetative resources would be managed for their wildlife and recreational values.	Prairie dog colonies that occur entirely on public land would be managed for their wildlife, recreational and other values. Treatment would be considered if prairie dogs are determined by an IDT to be causing adverse impacts to soil and vegetative resources, or other resources and/or threats to public health and safety.	Prairie dog colonies that occur entirely on public land will be managed for their wildlife, recreational and other values. Treatment would only be considered for public health and safety.	Prairie dog colonies that occur entirely on public land would be managed for their wildlife, recreational and other values. Treatment would be considered if prairie dogs are determined by an IDT to be causing adverse impacts to soil and vegetative resources, or other resources and/or threats to public health and safety.
41 Prairie Dogs	In cases where prairie dog colonies originate on public land and spread onto private land, treatment would only be considered if the adjoining landowner is willing to enter into an agreement to control the prairie dogs on his land at the same time they are being controlled on public land.	Treatment of any prairie dog colony that exists on both public and private land would be considered through project level planning when the adjoining landowner is controlling the prairie dogs on their land.	Same as Alternative B.	
42 Prairie Dogs	No similar management action	Prairie dogs would not be considered for reintroduction on public land.	Prairie dogs could be considered for reintroduction on historic colonies or large unfragmented blocks of public land with a minimum of 10,000 or more acres of public land, if acquired, and while considering other resources and uses.	Prairie dogs could be considered for reintroduction on historic colonies or large unfragmented blocks of public and cooperating adjoining land owners with a minimum of 10,000 or more acres of public land, if acquired, with a 1 mile buffer from adjoining

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				private land, and while considering other resources and uses.
43 Prairie Dogs	No similar management action			Surface-disturbing and disruptive activities would be allowed within prairie dog colonies provided that adequate mitigation and conservation actions are developed to maintain the functionality of the prairie dog habitat. **O&G** – CSU: Oil and gas leasing would be open and surface occupancy and use on prairie dog colonies would be allowed provided adequate mitigation and conservation actions are implemented to maintain the functionality of the prairie dog habitat. Waivers, exceptions, and modifications are described in Appendix E-4.
44	No similar management action			Prairie dog colonies would be ROWs avoidance areas.
45 Prairie Dogs	No similar management action.	No more than 15% of the total acreage of prairie dogs would be treated on public land each year. At current levels 15% amounts to approximately 296 acres.	No more than 10% of the total acreage of prairie dogs on public land would be treated each year. At current levels, 10% amounts to approximately 198 acres.	Same as Alternative B.
462 Black-Footed Ferret	No similar management action			Surface disturbing and disruptive activities would not be allowed in occupied black-footed ferret habitat. Currently suitable habitat

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				is not present on BLM public lands in the planning area. However, potential habitat does exist and may be occupied in the future. **O&G** - NSO: Surface occupancy and use would be prohibited within ¼ mile of occupied black-footed ferret habitat. Waivers, exceptions, and modifications are described in Appendix E.4.
47 Black-Footed Ferret	No similar management action			Occupied black-footed ferret habitat would be a ROW exclusion area.
48 Bats	No similar management action.	Bat gates or other suitable measures would be used to protect bats and bat habitat unless public health and safety would be sacrificed.		
49 Pallid and Shovel-Nosed Sturgeon	No similar management action			Surface disturbing and disruptive activities would be avoided within ¼ mile of the water's edge of the Missouri, River to protect pallid and shovel-nosed sturgeon. **O&G** –NSO: Surface occupancy and use is prohibited within ¼ mile of the water's edge of the Missouri, River to protect pallid and shovel-nosed sturgeon. Waivers, exceptions, and modifications are described in Appendix E.4.
	No similar management action			Areas within ¼ miles of the

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
50 Pallid and Shovel-Nosed Sturgeon				water's edge of the Missouri River would be ROW avoidance areas. to protect pallid and shovel-nosed sturgeon.
Special Status Plants				
51 Special Status Plants	No similar management action	Livestock grazing in areas with high concentration of special status plants would not be allowed unless no adverse impacts would occur as determined through site-specific review by interdisciplinary team.		
Exemption Area Same as rest of planning area except:				
52 American Dipper	No similar management action	Evaluate all actions along Whitewood Creek and limit any actions that could decrease water flows and quality to maintain American dipper habitat.		

Program: Fish and Aquatics

Goal 1: Ensure that aquatic habitat is of suitable quality to support a diversity of plant and animal communities.
Goal 2: Promote public awareness, appreciation, and fisheries conservation, management and ecology.

Management Common to All Alternatives:

- Evaluate all projects for aquatic habitat potential.
- Aquatic stream/river surveys and monitoring would occur to collect baseline and trend data to evaluate the existing condition. This information is needed for determining the effects from other management on aquatic resources, mitigation and protection measures and identifying habitat restoration needs.
- Survey and monitoring would include (1) fish (2) Macro-invertebrates (3) water quality (4) instream habitat (5) riparian habitat.
- Fishing reservoirs would be surveyed/monitored as needed for fish, riparian, emergent vegetation, reservoir condition, water quality, water depth, and condition of access.
- BLM roads/trail crossings and ROW on fish bearing streams would be made fish and aquatic species passable.
- All fishing reservoirs would be maintained as a fishery as long as BLM and SDGFP determine that it is a viable fishery.
- Coordinate with SDGFP, other agencies and general public on the educational public fishing days and other aquatic educational opportunities.
- Develop habitat structures in reservoirs that are lacking structure or need restoration for aquatic species.
- Coordinate with SDGFP prior to fisheries improvements.
- Utilize Integrated Pest Management (IPM) concepts while working within federal, state laws, statutes, and regulations to minimize infestations of invasive

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
aquatic species. Refer to Special Status Species Alternatives for pallid and shovel nose-sturgeon actions.				
Planning Area				
1 Sport fishing	No specific management action developed.	Increase fishing opportunities by development of ponds or reservoirs dependent upon water availability and dam constraints.		
2 Sport fishing	Fish would be periodically stocked in two impoundments, Fort Meade Reservoir and Cottle Creek Reservoir.	Maintain aquatic habitat and fishing opportunities. Periodic stocking would be allowed by SDGFP or BLM.	No stocking would be allowed in water sources that have adequate natural reproduction of game fish.	Same as Alternative B.
3 Stream improve-ments	The fisheries habitat in Bear Butte Creek would be improved by narrowing and deepening the channel during low water periods and using structures to create riffles, overhangs, and other improvements.	The fisheries habitat in Bear Butte and Whitewood Creek would be improved where feasible.		
4 Reservoirs with Sport Fisheries	NSO – Surface occupancy and use would be prohibited within ¼ mile of designated reservoirs with fisheries (oil & gas only).	Surface disturbing and disruptive activities would be avoided within ¼ mile of reservoirs with sport fisheries. **O&G** – NSO: Surface occupancy and use would be prohibited within ¼ mile of designated reservoirs with fisheries. Waivers, exceptions, and modifications are described in Appendix E.2-E.4.		
5 Reservoirs with Sport Fisheries	No specific management action developed.	Public lands within ¼ mile of reservoirs with sport fisheries would be an avoidance area for renewable energy development and other ROWs.	Public lands within ¼ mile of reservoirs with sport fisheries would be an exclusion area for renewable energy development and other ROWs.	Public lands within ¼ mile of reservoirs with sport fisheries would be an avoidance area for renewable energy development and other ROWs except that proposals would be considered for implementing individual ROW linear crossings if no other feasible crossing location can be found. If BLM allows a ROW crossing of the avoidance area, off site

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				mitigation may be required.
6 Water Sources	Additional water sources that benefit wildlife would be developed.	Additional water sources and opportunities to maintain or increase water levels would be developed to benefit wildlife, fisheries, other aquatic species and livestock.		

Program: Cultural Resources

Goal 1: Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations.
Goal 2: Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration or potential conflict with other resource uses by identifying priority geographic areas for new field inventory, based on a probability for unrecorded significant resources.

Management Common to All Alternatives:

- BLM would inventory and evaluate cultural resources pursuant to Section 106 and Section 110 of the National Historic Preservation Act to consider the effects of proposed BLM actions on cultural properties which may be eligible for the National Register of Historic Places including Traditional Cultural Properties.
- Should National Register eligible cultural resources be found during an inventory, impacts to them would be mitigated, generally through avoidance. Should it be determined the cultural resources cannot be avoided; consultation with the State Historic Preservation Officer would be initiated. A program on mitigation would be developed via consultation between the South Dakota Field Office, the SHPO, the THPOs, and the Advisory Council on Historic Preservation.
- The BLM would continue to consult with Native American Tribes to identify areas that are important to the tribes. Consultation may result in identifying areas for cultural resource field inventories.
- BLM would consult with Native American tribes to discuss view shed and the potential effects on Traditional Cultural Properties.
- The BLM would limit surface-disturbing activities within selected Native American traditional cultural and religious sites for continued use by tribes. Traditional cultural sites would be identified in consultation with affiliated Native American tribes.
- BLM would evaluate cultural resources according to the National Register criteria (36 CFR Part 60.4) and assign cultural resources to appropriate use categories (BLM Handbook 8110.41 and .42) as the basis for management decisions.
- All sites determined eligible to the National Register of Historic Places would be allocated and managed for Scientific, Public, Traditional, Experimental, and/or Conservation for future use. If another use becomes evident or proposed after use allocation has occurred, the use allocation may be changed without a plan amendment.
- The BLM would conduct regular monitoring of at-risk cultural sites to protect sites from conflicts with other resources uses and to document natural and human caused deterioration
- Where feasible, the BLM would acquire properties adjacent to public lands through donation, exchange, or purchase that contain significant cultural resources including, but not limited to, those properties eligible for inclusion on the NRHP.
- The BLM would continue management of Fort Meade according to the goals and objectives of the 1987 Cultural Resource Management Plan (CRMP) and the 1996 Fort Meade Recreation Area ACEC Management Plan. This includes Management Objectives such as: (1) Inventory and evaluate sites/features

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
on public lands to determine their best use. (2) Protect significant sites/features and 3. Insure their proper use by allocating and managing cultural resource sites to Conservation, Scientific, Traditional, and /or Public Use. Interpretive sites would be developed as appropriate. • For Oil and Gas Leasing, to ensure that leased lands are examined to determine if cultural resources are present and to specify protective mitigation measures, the BLM would restrict surface-disturbing activities by attaching a lease notice for Cultural Resource Survey and a Cultural Resource Lease Stipulation for avoidance and protection of cultural resources (Appendix E), to all oil and gas lease parcels sold. • BLM would continue to attach the Cultural Resource Protection condition to all Range Grazing Leases (Appendix P). • Allocate and manage all National Register eligible Rock Art sites for Conservation, Scientific, Traditional, and /or Public Use. Interpretative sites would be developed as appropriate. • Allocate and manage all National Register eligible Aboriginal sites such as Occupation (camp sites), and Use Sites (quarries, game kills, lithic procurement sites) to Scientific, Traditional, and/or Conservation Use. No interpretative sites would be developed. • Allocate and manage all Prehistoric Earthworks sites (Aboriginal earthen mounds) to Conservation Use and Traditional Use. No interpretative sites would be developed. • Allocate and manage all National Register eligible Rock alignments, (effigy figures, drive-lines, cairns, stone circles) to Conservation Use, Scientific, and Traditional Use. No interpretative sites would be developed. • Allocate and manage all National Register eligible Historic Sites--non-mining, (homesteads, farmsteads, cabins, historic roads, trails, and rail roads) for scientific use and public use. Interpretative sites would be developed as appropriate. • Allocate and manage all National Register eligible Historic Mining Complex sites to Public and Scientific Use. Interpretative site would be developed at the Belle Eldridge Mine Site. • Allocate and manage National Register eligible Homestake Gold Historic Powder House Structures and related Caretakers House Foundation to Public Use. Interpretative site would be developed. • Allocate and manage all Vision Quest Sites/Sacred Sites/TCPs/Ethnohistoric as well as burial sites to Conservation Use and Traditional Use. • Allocate and manage site that have been determined Not Eligible for consideration to the NRHP, such as Prehistoric sites with low diversity and limited quantity (50 artifacts), isolated finds; low or limited complexity; and small size with exhausted potential after initial recordation, or have been destroyed. Historic sites that contain little or no scientific or historical value (isolated trash dumps and artifact scatters, isolated features such as mine prospects pits or claim markers, and structural remains with no integrity) to Experimental Use or Discharge from Use. No interpretive sites would be developed.			
Planning Area				
1 Cultural Inventory	Identify priority geographic areas for Section 110 cultural inventories based on a probability for unrecorded significant resources and/or resource need.	Conduct at least 100 acres of Section 110 cultural inventories per year.	Conduct up to 400 acres of Section 110 cultural inventories per year.	
2	Bear Butte National Historic	Bear Butte National Historic	Bear Butte National Historic Landmark (410 Acres federal minerals)	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Bear Butte Historic Landmark	Landmark (410 acres federal minerals) would be available for mineral entry.	Landmark (410 Acres federal minerals) would not be recommended for withdrawal. Leasable federal minerals would be closed (no lease) except for oil and gas which would be open to leasing with an NSO-stipulation. Salable federal minerals (410 Acres) would be closed (no lease).	would be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed (no lease).	
3 National Register Historic Places	Standard lease stipulations would protect areas directly within cultural sites, Native American traditional use areas/Traditional Cultural Properties, and Archaeological/Historic Districts that are eligible or potentially eligible for the National Register of Historic Places. Refer to Appendix E.6.	Standard lease conditions (Appendix E.6) would protect areas within <u>and around</u> cultural sites, Native American traditional use areas/Traditional Cultural Properties, and Archaeological/Historic Districts that are eligible or potentially eligible for the National Register of Historic Places. Protective buffers would include: • NSO: Surface-disturbing activities would not be allowed within and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible for the National Register of Historic Places. Standard lease conditions would not allow Surface Occupancy and Use within, and for a distance of ½ mile from the boundaries of cultural properties determined to be of importance to Native American Tribal groups, sites determined to be Traditional Cultural Properties, and/or designated for traditional use. Such properties include (but are not limited to) burial locations, pictograph/petroglyph, vision quest locations, certain stone alignments, buttes or other uplift type landforms, plant gathering locations, and areas considered sacred or used for religious purposes. Waivers, exceptions, and modifications are described in Appendix E.2-4. Refer to Appendix E.2-E.4 for specific details including exceptions, modifications, and waivers.			
4 Aband-oned BH Army Depot and Former townsite of Igloo	No Specific Management Action for the abandoned Black Hills Army Depot (BHAD) and abandoned Igloo town site. Both properties are Eligible National Register of Historic Places sites. Refer to figure 2-4.	**O&G** -NSO (No Surface Occupancy) within BHAD and the town site of Igloo. These areas would be closed to salable minerals and open to locatable minerals. Waivers, exceptions, and modifications are described in Appendix E.2.	The abandoned Black Hills Army Depot (BHAD) and abandoned Igloo town site would be closed to leasable and salable minerals, but open to locatable minerals.	**O&G**: Closed. BHAD would be closed to oil and gas leasing due to public safety concerns (see Hazardous Materials section). NSO: The abandoned town site of Igloo and adjacent Eligible

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Historic Property lands would have NSO restrictions. Waivers, exceptions, and modifications are described in Appendix E.4. The BHAD and Igloo town site would be closed to salable minerals, but open to locatable mineral development.
5 National Scenic and Historic Trails (NSHT)	No similar management action			Surface disturbing and disruptive activities would be avoided within 1/2 mile of National Historic Trails unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated through design features or other means and the goals of this plan not compromised. O&G – NSO: A no surface occupancy and use stipulation would apply within 1/2 mile of National Historic Trails. Waivers, exceptions, and modifications are described in Appendix E-4. In the case of the Lewis and Clark National Historic Trail, the NSO stipulation and limits on surface disturbing and disruptive activities would apply to the waterbodies and those areas with ½ mile of the high water mark of the Missouri River and its reservoirs.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
6 National Scenic and Historic Trails	No similar management action			Renewable energy ROWs: Areas within ½ mile of NSHT would be an exclusion area Other types of ROWs: Areas within ½ mile of NSHT would be an avoidance area unless the project proponent can clearly demonstrate that the impacts can be adequately mitigated through design features or other means and the goals of this plan not compromised.
Program: Paleontological Resources				
Goal 1: Preserve and enhance paleontological resources on public land. **Goal 2:** Provide opportunities for scientific and recreational uses of paleontological resources within the planning area. **Goal 3:** Significant paleontological resources will be identified and preserved for their scientific values. **Goal 4:** Educational and recreational opportunities will be enhanced for the enjoyment of the public. **Management Common to All Alternatives:** • Significant fossil localities will be identified, recorded, protected, and retained in Federal ownership as much as possible. • Projects would be designed to avoid disturbance to significant paleontological resources, or proper mitigation procedures applied if avoidance is not possible. • The Potential Fossil Yield Classification (PFYC) system will be developed and applied to afford proper mitigation actions for all surface-disturbing activities and land disposal actions. See Map 2-7. Surface occupancy and use is prohibited within designated paleontological sites/localities. • BLM would cooperate with permitted institutions or parties to map and record fossil localities • The requirements of Public Law 111-11 Subtitle D - Paleontological Resources Preservation will be followed for all management practices. • At the Fossil Cycad ACEC casual or commercial collection of invertebrate, vertebrate and plant fossil would not be allowed (refer to glossary for definition of casual collection). • Scientific collection of invertebrate, vertebrate and plant fossils may be allowed on a case-by-case basis through a permit.				
Planning Area				
1 Paleon-tological Resources	Paleontological resources would be protected by clearance or review action on a case-by-case basis.	Prior to approval of surface-disturbing activities, BLM would review proposed project and if needed, require field surveys to be	Prior to approval of surface-disturbing activities field surveys would be completed for all PFYC 3, 4, and 5 geologic formations,	Prior to approval of surface-disturbing activities, field surveys would be considered for all PFYC Class 4 and 5 formations in

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		completed for bedrock exposures of PFYC 4 and 5 geologic formations (Class 4a and 5a). See Map 2-7. BLM would review proposed project plans for activities that result in surface disturbance potential impacts to paleontological resources and if needed require On-site monitoring or spot-checks at key times would be done if significant fossils are located during the survey.	and on-site monitoring would be performed for all Class 4 and 5 formations. See Map 2-7.	accordance with BLM guidance. A sampling of Class 3 formations would be surveyed based on known or likely paleontological occurrences. See Map 2-7. On-site or spot-check monitoring requirements during disturbance activities would be determined based on results of the survey (Appendix E.4).
2 Paleon-tological Resources	Collection of common invertebrate and plant fossils by the public would be allowed in reasonable quantities using only hand tools.	Portions of the planning area would remain open for hobby collection of common invertebrate and plant fossils. Hobby collecting areas would be designated using only hand tools.	Same as Alternative A except collecting would be limited to surface collection for personal, noncommercial use using only hand tools.	Hobby collecting areas for common invertebrate and plant fossils would be designated when possible using only hand tools. Areas containing significant invertebrate or plant fossils would be identified and closed to hobby collecting if warranted. Other surface use authorizations would be assessed for adverse impacts to paleontological resources in these localities, and appropriate management restrictions applied.
3 Paleon-tological Resources	Lands of paleontological interest would be considered for retention during land sales or exchanges. Lands that would help meet resource needs would be considered for acquisition by land exchange actions.	Retain public lands with significant paleontological values.	Retain public lands with significant paleontological values. Identify and proactively work toward acquiring non-BLM parcels within the planning area that contain significant paleontological resources.	Retain public lands with significant paleontological values. Identify non-BLM parcels that contain significant paleontological values. Include these parcels in acquisition efforts prompted by other resources, as applicable.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Program: Visual Resources				
Goal 1: Public lands provide natural appearing landscapes for recreational opportunities. **Management Common to All Alternatives:** • Provide appealing landscapes and enhance opportunities to enjoy attractive settings. Manage scenic values in accordance with the objectives established for Visual Resource Management Classification as described in Appendix I, and in coordination with other resource uses and values. • Surface occupancy and use for energy development would be prohibited in Class I Visual Management designations. • Where current development degrades potential inventory class and as opportunities arise, review options to improve visual inventory class. • Require interim reclamation for surface disturbances that are not necessary for production and maintenance activities, to reduce visual contrasts.				
Planning Area				
1 VRM Classes	Visual Resource Management Classification approximate (total) acres would be: VRI Acres / VRM Class / VRM Acres 313 / I / 0 6,060 / II / 1,231 5,284 / III / 4,993 260,095 / IV / 531 / 0 (No Desig-nation) / 264,997 Fossil Cycad ACEC is a Class IV VRM designation, and Fort Meade has a mix of designation, including some undesignated. All undesignated areas would be managed as VRM Class IV and evaluated on a case-by-case basis through project/activity	Visual Resource Management Classification approximate (total) acres would be: VRM Class / VRM Acres I / 0 II / 1,544 III / 5,284 IV / 264,924 0 (No Designation) / 0 Designates Fossil Cycad ACEC as Class II, and completes designation in Fort Meade ACEC to match adjacent class.	Visual Resource Management Classification approximate (total) acres would be: VRM Class / VRM Acres I / 0 II / 11,657 III / 179,212 IV / 80,883 0 (No Designation) / 0 Designates Fossil Cycad ACEC as VRM Class II, designates all of Fort Meade ACEC to VRM Class II (Except Recreation development zones which would be retained as Class IV), designates Inventory Class II as VRM Class II, designates BLM identified areas as	Visual Resource Management Classification approximate (total) acres would be: VRM Class / VRM Acres **I** / 0 II / 1,544 III / 10,367 IV / 259,841 0 (No Designation) / 0 Designates Fossil Cycad ACEC as VRM Class II, retains Fort Meade Byway as VRM Class II; Class III designation is assigned to Fort Meade ACEC portions, and to the Exemption Area SRMA; Class IV includes Recreation Development Zones in Fort Meade ACEC and

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	plans. Refer to the Fort Meade and Fossil Cycad sections below in this table for additional details about the ACECs.		VRM Class III. The Greater Sage-Grouse PHMAs/ACEC would be classified as VRM Class IV .	other planning area acres.
2 VRM	CSU – surface-disturbing activities. Semi-permanent or permanent facilities in VRM Class II, areas may require special design including location, size, and camouflage painting to blend with the natural surroundings and meet the visual quality objectives for the area (applied to all activities)	CSU –All surface-disturbing activities. Semi-permanent or permanent facilities may require special design including location, size, and camouflage or earth tone paint to blend with the natural surroundings and meet the visual quality objectives in VRM Classes II, III and IV.	Same as Alternative B.	CSU - Semi-permanent or permanent facilities that are not specifically prohibited in VRM Class II areas may require special design including location, size, and camouflage painting to blend with the natural surroundings and meet the visual quality objectives for the area (applies to all activities; CSU for oil and gas). Surface-disturbing activities in VRM Class III and IV may also require designs to reduce VRM impacts (applies to all activities; lease notice for oil and gas). **Exceptions:** The field manager may allow temporary projects to exceed VRM standards in Class II-IV areas if the project will terminate within 2 years of initiation. Rehabilitation will begin at least by the end of the two year period. During the temporary project, the field manager may require phased mitigation to better conform with prescribed VRM.
3 VRM	Surface occupancy and use would be prohibited within	Surface occupancy and use would be prohibited in and within ½ mile	Surface occupancy and use would be prohibited within 1 mile of Fort	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	developed recreation areas and undeveloped recreation areas receiving concentrated public use to protect visual resources (**O&G only**).	buffer of Exemption Area SRMA. Surface occupancy and use would be prohibited within ½ mile buffer around Fort Meade SRMA/ACEC.	Meade and other developed recreation sites.	
4 VRM	No similar management action	Public lands would be an avoidance area for commercial wind energy development in VRM Class I and II designations.	Public lands would be excluded from commercial wind energy development in VRM Class I and II designations.	Public lands would be an excluded from commercial wind energy development and would be a ROW avoidance area for other types of ROWs in VRM Class I and II designations.
5 VRM Classes	**Exemption Area**: Visual Resource Management Classification(included in planning area totals above) approximate acres would be: VRI Acres / VRM Class / Acres 0 / 1 / 0 3,438 / 2 / 0 0 / 3 / 0 1,645 / 4 / 0 0 (No Desig-nation) / 5,083	**Exemption Area:** Visual Resource Management Classification (included in planning area totals above) approximate acres would be: VRM Class / Acres I / 0 II / 0 III / 0 IV / 5,083 0 (No Designation) / 0 All Exemption Area acres would be designated as VRM Class IV.	**Exemption Area:** Visual Resource Management Classification (included in planning area totals above) approximate acres would be: VRM Class / Acres I / 0 II / 3,438 III / 1,645 IV / 0 0 (No Designation) / 0 Acres with VRI Class II would be designated as VRM class II and VRI Class IV would be designated as VRM Class III.	**Exemption Area** Visual Resource Management Classification (included in planning area totals above) approximate acres would be: VRM Class / Acres I / 0 II / 0 III / 5,083 IV / 0 0 (No Designation) / 0 All Exemption Area acres would be designated as VRM Class III.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Program: Fire Management and Ecology				
Goal 1: Manage wildfire and fuels for the protection of public health, safety, property, and resource values, emphasizing firefighter and public safety as the single overriding priority. **Goal 2:** Manage hazardous fuels in areas of urban and industrial interface to reduce potential loss due to severe wildfire. **Goal 3:** Maintain and/or improve desired mix of seral stages within vegetation communities including forest and woodlands, grasslands, shrublands, and riparian/wetlands. **Goal 4:** Manage vegetation communities through cooperative efforts by restoring and maintaining natural fire regimes and frequency to the landscape, where appropriate. **Goal 5:** Maintain and promote partnerships with the public and interagency cooperators to develop and strengthen coordination of all fire management activities across jurisdictional boundaries. **Goal 6:** Utilize integrated management techniques unless otherwise restricted (defined as prescribed fire, mechanical, chemical, or biological, followed by desired seeding) to reduce fuels and to protect high priority areas or resource values. **Goal 7:** Burned areas pose minimal threat to public safety, property, cultural resources, and/or ecological function. **Goal 8:** Continued ecological improvements in the conifer, grassland, shrubland, and riparian strata. This is reflected in moving Fire Regime Condition Class (FRCC) 3 to 2, Class 2 to 1, and maintaining Class 1; with emphasis in wildland urban interface (WUI) areas. **Management Common to All Alternatives:** • All 274,000 acres of BLM-administered lands including the Exemption Area, Fort Meade ACEC, and remainder of South Dakota Fire Management Units would be designated as Category B – where fire may be desirable for resource benefit, but wildfire would cause negative impacts because of developments and sensitive resources. Suppression is required. Prescribed fire and mechanical treatments would be used to reduce hazardous fuels and to enhance resources. • Consistent with the RMP, National fire suppression guidelines and the current Fire Management Plan would be utilized to guide fire suppression techniques on public lands. • In the course of fire suppression, a resource advisor would be consulted or assigned to wildfires that involve or threaten public lands. • State of South Dakota Division of Wildland Fire (SDDWF) would provide suppression responsibilities for wildfires on BLM-administered lands in cooperation with local rural and volunteer fire departments through Interagency Cooperative Agreements and approved Annual Operating Plans. Eastern Montana/Dakotas District Office in Miles City would provide suppression responsibilities for BLM-administered lands within Harding County. • The aerial application of fire retardant would be restricted over areas that contain petroglyphs and pictographs. • BLM would follow the most recent policy for delivery of wildfire chemicals near waterways. • Incident base camps, staging areas, helibases, and other incident management activities would be placed outside of and sufficiently distant from known or identified cultural resources and riparian areas. • Priority of fire management activities would be placed on fuels reduction in WUI areas in conjunction with completed Community Wildfire Protection Plans (CWPPs). • Fire management activities outside of WUI areas would use FRCC to determine level of fuels treatment.				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
• Treatments would be designed to protect and/or improve wildlife habitat and reduce the severity of wildfires. • BLM would protect sensitive status species habitat during suppression and prescribed fire activities as described in the National Fire Suppression Guidelines and the current fire management plan. • BLM would provide assistance to communities in developing, implementing, and maintaining CWPPs. • Treat burned areas that pose an unacceptable risk to public safety, property, cultural resources, and/or ecological function. Treatments would be in accordance with the National BLM Emergency Stabilization and Burned Area Rehabilitation policy. • Mitigation measures would be applied on a case-by-case basis during activity level planning consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B. **Management Actions Common to Action Alternatives (Alternatives B, C and D):** • In Greater Sage-Grouse Priority Habitat Management Areas (PHMAs) and within 3 miles of leks in General Habitat Management Areas (GHMAs), use aggressive suppression techniques and heavy equipment only when lesser techniques would not adequately protect habitat.				
Planning Area				
1 Fire Sup-pressio n	Use of earth moving/tillage equipment would be avoided for wildfire suppression in areas with special designations to protect cultural resources and values, archeological districts, and other areas known to possess cultural resources. The use of heavy equipment and off road vehicles would be limited to existing roads and trails within these areas during rehabilitation. Use of heavy equipment would be restricted in riparian areas, streamside zones, Belle Eldridge repository, or other hazardous and	Use and movement of heavy equipment (earth moving/tillage equipment) for fire suppression would be allowed in all areas unless otherwise restricted (ex: known archeological sites, hazardous and environmentally sensitive sites, ACECs). Precautions would be applied to protect cultural resources and values, archeological districts, reduce impacts to sensitive soils and plants, and to minimize soil erosion. In areas where heavy equipment is restricted, Cultural Resource Specialists or Resource Advisors	Same as Alternative B.	Use and movement of heavy equipment (earth moving/tillage equipment) for fire suppression would be allowed in all areas unless otherwise restricted (ex: known archeological sites, hazardous and environmentally sensitive sites, ACECs). Precautions would be applied to protect cultural resources and values, archeological districts, reduce impacts to sensitive soils and plants, and to minimize soil erosion. In areas where heavy equipment is restricted, Cultural Resource Specialists or Resource Advisors

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	environmentally sensitive sites and identified cultural properties in order to reduce impacts to sensitive soils and plants and to minimize soil erosion.	would be consulted for locations of identified areas before use of or anticipated use of heavy equipment. Heavy equipment would be allowed off roads and trails except where prohibited.		would be consulted for locations of identified areas before use of or anticipated use of heavy equipment. Heavy equipment would be allowed off roads and trails except where prohibited.
2 Pre-scribed Burning	Prescribed burning could be used as an alternative to mechanical treatment. Prescribed fire would be used to enhance vegetation and habitat and reduce hazardous fuels.	Prescribed burning would be allowed to achieve measurable landscape level objectives from: • other resources, including, but not limited to forestry, wildlife, range, vegetation, and watershed - the reduction of hazardous fuels (public safety); • the introduction of fire into fire adapted ecosystems. Prescribed fire may be allowed in Greater Sage-Grouse PHMAs and GHMAs, provided it is done to to benefit sage-grouse and the burn is consistent with BMPs, guidelines and sage grouse mitigation and conservation actions as described in Appendix B and V-1. The burn plan in GHMA or PHMAs will clearly indicate how COT objectives will be addressed and met by its use, and why alternative techniques were not selected. A Fire Risk Assessment will be	Same as Alternative B, except prescribed fire would not be allowed in the Greater Sage-Grouse PHMAs/ACEC. See Map 2-4 for Greater Sage-Grouse PHMAs.	Same as Alternative B. See Map 2-5 for Greater Sage-Grouse PHMAs.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		completed for implementation of prescribed fire in relation to the GRSG goals and objectives. See Map 2-3 for Greater Sage-Grouse PHMAs.		
3 Pre-scribed Burning	No similar management action	Areas identified for prescribed burning could be rested from livestock grazing up to one year prior to treatment if necessary to produce fine fuels to carry the burn, and for a minimum of one growing season following treatment to promote recovery of vegetation. **Adaptive Management:** Prescribed livestock grazing following fire may be implemented prior to the minimum rest period. **Threshold:** When an interdisciplinary team has determined that plant communities would move away from those plant communities that support the integrity of the ecological processes (water, energy, and nutrient cycles) without prescribed livestock grazing, prescribed livestock grazing would be used for special management purposes such as reducing annual plant invasion where site-specific	Areas identified for prescribed burning could be rested from livestock grazing up to one year prior to treatment if necessary to produce fine fuels to carry the burn, and for a minimum of two growing seasons following treatment to promote recovery of vegetation. Adaptive Management would be the same as Alternative B.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		interdisciplinary planning and the NEPA process has determined it to be a viable management option.		

Resource Uses

Program: Forest and Woodland Products

Goal 1: Manage public forest and woodlands to provide plant communities that support the integrity of the ecological processes (water cycle, energy cycle, and nutrient cycle) and improve or maintain wildlife habitat considering economically efficient methods.

Goal 2:

- Forests and woodlands support diverse vegetative communities as indicated by wildlife habitat goals.
- Forests and woodlands would be managed for ecological resiliency, as indicated by fuels and fire management goals.
- Forest and woodland treatments may result in vegetative products being available for public or other use depending on local market demands

Goal 3: Manage forest resources to improve resilience to severe events and maintain and enhance their ability for the long-term sequestration of carbon.

Management Common to All Alternatives:

- A range of forested conditions (open savannah to dense canopy, newly regenerated to mature stands) would be maintained in the forest and woodland types
- All appropriate silvicultural systems (Even-aged, Two-aged, Uneven-aged) would be available for management
- All silvicultural tools would be available (mechanical thinning, hand thinning, horse logging, planting, prescribed burning, cable logging, chemical treatments, pheromone application, etc.) to provide the desired results
- Forestry Best Management Practices for South Dakota would be followed for forest and woodland projects (Appendix B).
- Retain, where existing, a minimum of 2 existing snags per acre greater than 16 in DBH and 30 ft. tall, unless a safety hazard. Salvage or felling of dead or dying trees would be acceptable
- Forest treatments would retain or improve turkey roost sites
- Cross-country travel would be allowed for forest management practices under the terms of a permit.
- Mitigation measures would be applied on a case-by-case basis during activity level planning consistent with the management actions and restrictions found in this section and the Guidelines and BMPs listed in Appendix B.

Planning Area				
1 Forestry and Woodland Products	All lands would be available for the sale, use, and treatment of forest and woodland products, except sale would not be allowed on the Fossil Cycad ACEC.	Same as Alternative A.	All lands would be available for the sale, use, and treatment of forest and woodland products, unless otherwise restricted.	Same as Alternative A.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
2 Forestry and Woodland Products	Forest and woodland products, such as firewood, posts, poles, biomass, and timber would be managed to benefit other resources and offered for sale when they have an economic value. Probable Sale Quantity (PSQ) would be 7000 Tons/year for all forest and woodland products.	Forest and woodland products, such as firewood, posts, poles, biomass, timber, and other special forest products would be managed to benefit other resources and offered for sale when they have an economic value and utilized or treated if there is no economic value. Probable Sale Quantity (PSQ) would be 7000 Tons/year for all forest and woodland products.	Treatment methods would favor natural processes applied by management (prescribed burning, pheromone application, patience) to work towards desired conditions. Removal off-site (through sale offering or other utilization) of forest products with economic value would be allowed where no new permanent roads would be required. Probable Sale Quantity (PSQ) would be 6000 Tons/year for all forest and woodland products.	Same as Alternative B.
3 Plant Gathering In ACECs	No similar management action	Incidental use of plant materials would be allowed, except that only above ground plant gathering would be allowed in the Fossil Cycad ACEC (Figure 2-1).	Same as Alternative B.	Incidental use of plant materials would be allowed, except that only above ground plant gathering would be allowed in the Fossil Cycad ACEC and Fort Meade ACEC (Figure 2-1).
4 Snag and Cavity Nesting Bird Habitat	No similar management action	Snag and cavity bearing tree cutting, removal, and offer for sale or utilization would be allowed for public safety, salvage post fire, and/or in response to other resource needs.	Snag and cavity bearing tree cutting, removal, and offer for sale or utilization would be allowed where public safety has been identified as a potential concern and where no new permanent roads would be required. Removal off-site would be unacceptable where additional permanent roads would be necessary for product removal.	Snag and cavity bearing tree cutting, removal, and offer for sale or utilization would be allowed for public safety, salvage post fire, and/or in response to other resource needs.
5	Roads would be constructed to	New permanent roads may be built	No new permanent roads would be	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Forestry and Forest Products	the minimum standard necessary to remove forest and woodland products, unless the roads would be needed for other purposes requiring a higher standard.	for long-term management of areas where multiple entries would be necessary to meet objectives. New road construction would be kept to the minimum (construction standard, number and length) necessary for multiple use management. Rerouting and maintenance of existing authorized roads would be allowed to reduce impacts to resources. Temporary road construction would also be kept to a minimum and decommissioned as part of the project. This applies only to roads associated with forest treatments or removal of forest products	constructed for forest management. Maintenance of existing roads would be allowed. Rerouting of existing roads would not be allowed. Temporary road construction would be kept to a minimum (construction standard, number and length) necessary for the project, and decommissioned as part of the project. This applies only to roads associated with forest treatments or removal of forest products	
6 Goshawk	No similar management action	If goshawk nest areas occur within ½ mile of project area and a protected area has not been identified, the project analysis would determine whether some of the acreage should be protected.	Same as Alternative B.	Same as Alternative B.

Program: Livestock Grazing

Goal 1: Manage for a sustainable level of livestock grazing while meeting or progressing toward the Dakotas Standards for Rangeland Health (Appendix A) recognizing the ecological benefits of moderate levels of large animal grazing in the Great Plains.
Goal 2: Manage livestock grazing to provide economic opportunities in the planning area.

Locations of Grazing Allotments are shown in Maps 2-11 through 2-14 .

Management Common to All Alternatives:
- Livestock grazing would be managed through implementation of the Dakotas Standards for Rangeland Health and Guidelines for Livestock Grazing

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Management (Appendix A). • Implementation of existing Allotment Management Plans (AMPs) and development of new AMPs for priority allotments (I and M Allotments) would continue. • BLM would complete assessments for rangeland health on a priority allotment basis with emphasis on allotments with significant acreage of public land, TES species, and resource problems or issues (e.g., I and M category allotments). • BLM would work cooperatively on integrated ranch planning so that ranch operations with a combination of BLM/deeded/other leased lands can be properly planned and coordinated. • Prioritize allotments for AMP development, habitat improvement projects, rangeland health assessments and other range-related activities within sage-grouse priority habitat, riparian areas, and other high priority locations. • Prioritize completion of rangeland health assessments and processing grazing permits/leases within PHMAs. See Appendix V-1 for prioritizing allotments within PHMAs. • New fences would follow BLM specifications (BLM Handbook 1741-1 and WO IM-2010-022) to allow for wildlife passage and located or marked as feasible to minimize collisions and other wildlife issues, except for fences built specifically to keep wildlife out of an area. • Existing fences would be reviewed to identify areas where fence modification or removal could be implemented to improve wildlife movement. • Functional wildlife escape ramps would be installed and maintained on all water tanks on BLM lands. • Temporary stocking rate adjustments would be done in response to changing conditions (drought, fire, etc.) and desired vegetative response (e.g., livestock use to modify vegetation). • Certified weed seed free forage (hay and grains) straw and mulch would be required for all activities when used on BLM lands (exceptions could be made for emergencies when approved by the BLM authorized officer). • Joint cooperative monitoring with grazing lessees would be highly encouraged as outlined in IM No. 2006-100 and IB No. 2010-015. • Requests to divide or combine grazing allotments would be denied when it does not result in proper and efficient management of public rangelands (43 CFR 4110.2-4). • Unless specifically precluded on the lease or permit, administrative use motorized cross-country travel (including aircraft) would be allowed to maintain or repair range improvements, treat or move livestock, spray weeds, monitor animal and range conditions, and complete other management tasks directly associated with livestock and range management. BLM may restrict or prohibit administrative cross-country motorized travel in specific areas to protect resources, address safety issues or limit other conflicts associated with cross-country travel. Adjustments to livestock management practices or livestock numbers would be made based on results of monitoring studies, rangeland health assessments, allotment evaluations, interdisciplinary review and consultation, cooperation and coordination with the affected lessee. Guidelines for Grazing Management include practices which mitigate livestock grazing (Appendix A). Additional site-specific mitigation would be identified and implemented through environmental review that is completed at the implementation phase (project level) when AMPs or grazing lease renewals occur. Applicable BMPs as described in Appendix B would also be used to mitigate impacts.				
Objective 1: For allotments without approved specific management objectives and established grazing strategies, the utilization level as measured at the end of the grazing season would not exceed 50% on herbaceous forage plants on a pasture-wide basis or on selected key areas. Utilization would be monitored (within staffing capabilities and budget) to gauge effectiveness of management. Allotments with approved management plans would establish allowable use levels for				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
grazing allotments through specific management objectives during the management planning process. **Objective 2:** Across the planning area, BLM would allow permitted use levels consistent with the Missouri River Basin surveys as outlined in the Animal Unit Month Allocations portion of the Livestock Grazing section of Chapter 3. The permitted use levels take into account factors of trampled and soiled vegetation, ingestion by livestock, wildlife forage/cover requirements and watershed needs. See the Animal Unit Month Allocations portion of the Livestock Grazing section of Chapter 3 for detailed example of livestock forage allocations.				
Planning Area				
1 Grazing Forage Allocation	Allocation of forage would be based on Missouri River Basin (MRB) surveys with consideration for needs of wildlife and watershed. Adjustments in livestock apportionment would be made if monitoring showed a significant change in the allotment grazing capacity as a result of management actions applied. Vegetation use adjustments would be based on site-specific monitoring as reflected by trend in plant species composition and soil erosion condition. Adjustments would be made when adequate monitoring data was acquired to support an adjustment and after coordination and consultation with the operator.	Allocation of forage would be based on MRB surveys with consideration for needs of wildlife and watershed. Adjustments to AUMs would be based on monitoring. **Adaptive Management:** An increase in AUMs may be allowed (up to 5% within Decision Area). **Threshold:** Allotment Management Plans (AMPs) are implemented and management practices in the AMPs to increase AUMs include improved grazing systems, range improvements, changes in season of use and/or stocking rates etc. An allotment would be monitored for three years following an adjustment. If increased AUM harvest is found to cause a decrease in range condition, then AUMs would be reverted to the number of AUMs	Same as Alternative A except no increase in AUMs would be allowed.	Same as Alternative B.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		prior to the increase. Decreases in original AUMs would occur only after other methods to better distribute and manage livestock have been tried and failed.		
2 Grazing Allocations	Livestock grazing would be allowed on about 271,000 acres. The amount of forage available for permitted use on these lands would be about 73,400 Animal Unit Months (AUMs).	Livestock grazing would be allowed on about 272,000 acres. The amount of forage that could be available for permitted use on these lands would be about 77,300 (AUMs).	Same as Alternative A (No Action).	Same as Alternative B.
3 Grazing Forage Utilization	Allowable utilization by livestock would not exceed 50% by weight.	On allotments found to exceed 50% utilization (by weight) at the end of the grazing season, utilization would be measured or monitored in every pasture of the allotment at the end of the following grazing season. Utilization limits on specific allotments may vary based on site specific conditions and management pending project level environmental review. **Adaptive Management:** Adjustments in livestock grazing management (livestock numbers and kind, seasons of use, rest etc.) may occur with additional monitoring* of livestock grazing effects. **Threshold:** Two consecutive	Adjustments in livestock grazing management (livestock numbers and kind, seasons of use, rest, etc.) would be made if utilization levels were found to exceed 50% utilization (by weight) on a pasture-wide basis or on selected key areas for three consecutive years on any given allotment.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		years of exceeding 50% utilization by weight on a pasture-wide basis. Adjustments would be based on monitoring. *Additional monitoring includes vegetation attributes such as frequency, cover, density, production, structure and composition. Other non-vegetative attributes that could be monitored are hydrologic function and soil and site stability.		
4 Grazing Supple--mental feeding	Supplemental feeding could be authorized for improved livestock and rangeland management on public lands.	Salt, minerals and protein supplements would be used to better distribute livestock grazing use and meet nutritional needs of livestock. Livestock supplements would not be allowed within ¼ mile of riparian areas. Adjustments to supplement locations would be made if found to create excessive disturbance to other resources.	Same as Alternative B.	
5 Grazing Relinquish-ment of Preference	Allotments where grazing preference is relinquished during the life of the plan would remain available for livestock grazing leases or permits.	Same as Alternative A (No Action).	At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives.	Same as Alternative C:

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
6 Grazing Use Dates	There would be no yearlong leases on M or I allotments.	Yearlong leases on M and I allotments would only be allowed where no resource concerns exist, or when an Allotment Management Plan (AMP) or terms and conditions on the grazing lease have been developed to address those concerns.	There would be no yearlong leases on M or I allotments.	Same as Alternative B:
7 Grazing Transfer of preference	All grazing permits/leases requested to be transferred or renewed for grazing allotments would be subject to a site-specific interdisciplinary environmental review.	Livestock grazing permits/leases would be transferred or renewed for Improve (I), Maintain (M) and Custodial (C) category grazing allotments where the AUMs and kind of livestock are the same as the previous permit/lease. A screening criteria checklist (see Appendix K) would be reviewed and documented prior to transfer or renewal. Any subsequent updates or modifications to the direction in the screening checklist would be used. In cases where the use would substantially differ from that authorized in the previous grazing permit/lease, other factors have developed to change the management circumstances, or land health standards are not being met because of livestock grazing, a site-specific interdisciplinary environmental review would be undertaken.	Same as Alternative B, except that only category M and C allotments would be considered for grazing permit/lease transfers through this process. Livestock grazing permits/leases requested to be transferred or renewed for category I grazing allotments would be subject to a site-specific interdisciplinary environmental review.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
8 Grazing Yearling Cattle	Yearling cattle factors would be considered through individual AMPs. The animal unit equivalent would be 0.7 for yearling cattle. Yearling factors would only apply to stocking rates and carrying capacities.	Same as Alternative A (No Action).	Yearling cattle factors would not be considered. The animal unit equivalent would be 1.0 for yearling cattle.	Yearling cattle factors would be considered through individual AMPs. The animal unit equivalent would be 0.7 for yearling cattle. Yearling factors would only apply to stocking rates and carrying capacities.
9 Grazing Use Near Bighorn Sheep	BLM Instruction Memorandum 98-140 (1998) would be followed to protect bighorn sheep. To limit the potential for disease transmission to bighorn sheep, the IM provides guidelines for domestic livestock management as summarized below: Domestic sheep and goat grazing and trailing should be discouraged in the vicinity of native wild sheep ranges; review of grazing permit applications for new domestic sheep or goat grazing permits should consider buffer strips up to 9 miles or as developed through a cooperative agreement to minimize contact between domestic sheep and goats and native wild sheep; domestic sheep and goats should be closely managed and carefully herded where necessary to prevent them from straying	To limit the potential for disease transmission to bighorn sheep, no change in livestock conversions from cattle, horses, or bison to domestic sheep or goats would be allowed in allotments within current occupied bighorn sheep range. Transfer of grazing preference would only be allowed to livestock types other than domestic sheep and goats within current occupied bighorn sheep range. New domestic sheep and goat allotments or conversions from cattle, horses, or bison to domestic sheep or goats would not be permitted within a minimum of 5 miles from known bighorn sheep range. This distance would be greater if deemed necessary through site-specific analysis and additional research findings. To minimize contact with bighorn	Same as Alternative B. Same as Alternative B except 15 mile buffer instead of 5.	To limit the potential for disease transmission to bighorn sheep, no change in livestock conversions from cattle, horses, or bison to domestic sheep or goats would be allowed in allotments within current occupied bighorn sheep range. Transfer of grazing preference would only be allowed to livestock types other than domestic sheep and goats within current occupied bighorn sheep range. New domestic sheep and goat allotments or conversions from cattle, horses, or bison to domestic sheep or goats would not be permitted within a minimum of 15 miles from known bighorn sheep range. This distance would be greater if deemed necessary through site-specific analysis and additional research findings. To minimize contact with bighorn

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	into native wild sheep areas.	sheep, domestic sheep and goats used for weed control within 5 miles of bighorn sheep range would only occur with coordination with SDGFP. If new bighorn sheep introductions are proposed in areas that are currently not occupied by bighorn sheep, BLM would take this information into consideration and analyze the impacts at the project level utilizing the same buffer distances listed above.	Same as Alternative B except 10 mile buffer instead of 5.	sheep, domestic sheep and goats used for weed control within 10 miles of bighorn sheep range would only occur with coordination with SDGFP. If new bighorn sheep introductions are proposed in areas that are currently not occupied by bighorn sheep, BLM would take this information into consideration and analyze the impacts at the project level utilizing the same buffer distances listed above.
10 Grazing Range Improve-ments	An interdisciplinary inspection would evaluate the feasibility and impacts of proposed range improvements before approving projects. Mitigation measures for resource protection would be developed for each project.	Range improvements would be allowed to improve livestock husbandry or to improve land health. Mitigation measures for resource protection would be developed for each project.	Range improvements (such as improving or increasing water sources) would be allowed as part of an overall grazing strategy to benefit watershed and wildlife habitat resources and not solely for animal husbandry. Mitigation measures for resource protection would be developed for each project.	Range improvements (such as improving or increasing water sources) would be allowed as part of an overall grazing strategy to benefit multiple resources. Mitigation measures for resource protection would be developed for each project. Refer to Appendix V-1 for additional details about range improvements.
11 Grazing and Pre-scribed Fire	No similar management action	Areas identified for prescribed burning could be rested from livestock grazing up to one year prior to treatment if necessary to produce fine fuels to carry the burn, and for a minimum of one growing season following treatment to promote recovery of vegetation.	Areas identified for prescribed burning could be rested from livestock grazing up to one year prior to treatment if necessary to produce fine fuels to carry the burn, and for a minimum of two growing seasons following treatment to promote recovery of vegetation.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		Adaptive Management: Prescribed livestock grazing following fire could be implemented prior to the minimum rest period. The prescribed livestock grazing would be used for special management purposes such as reducing annual plant invasion where site-specific interdisciplinary planning and the NEPA process have determined it to be a viable management option. **Threshold:** When an interdisciplinary review has determined that plant communities would move away from those plant communities that support the integrity of the ecological processes (water, energy, and nutrient cycles) without prescribed livestock grazing.	Adaptive Management: Same as Alternative B.	
12 Grazing and Special Status Plants	No similar management action	Grazing in areas with high concentration of Special Status Plant plants would not be allowed unless beneficial or negligible impacts would occur as determined through a review by an interdisciplinary team.	Same as Alternative B.	

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Exemption Area Same as rest of planning area except:				
13 Grazing in Exemption Area	Livestock grazing would only be allowed where tree regeneration is not of importance.	To protect other resource values, no new grazing allotments would be authorized in the Exemption Area unless capability criteria are met for 50% of the proposed allotment acres. The grazing lessee would be required to fence new allotments. Grazing would also be allowed throughout the Exemption Area for beneficial resource uses such as fuels treatments, weed control etc. Any such treatments would be completed following a site-specific interdisciplinary team analysis. Capability criteria are as follows: Capable for cattle grazing; slope less than or equal to 30%, range production above or at 200 lbs/acre, wind/water erodibility at slight to moderate. Sheep grazing capability is the same as cattle except the slope cutoff is 45%. Areas not meeting these criteria are shown in Map 2-24. There would be approximately 1,294 acres capable for cattle grazing outside of existing	New livestock grazing allotments would not be authorized within the Exemption Area. Transfer of grazing preferences on existing allotments would be allowed based on project level planning. Grazing would be allowed throughout the Exemption Area for beneficial resource uses such as fuels treatments, weed control etc. Grazing would be completed on a treatment basis and not set up as an allotment. Any such treatments would be completed following a site-specific interdisciplinary team analysis.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		allotments and approximately 2,435 acres non-capable for cattle grazing. There would be approximately 1,608 acres capable for sheep grazing outside of existing allotments and approximately 2,121 acres non-capable for sheep grazing		

Program: Recreation

Goal 1: Provide for a range of recreational opportunities while minimizing adverse impacts to other resources.
Goal 2: Encourage community partnerships with BLM for the purpose of improving the recreational opportunities in response to the needs of visitors and local communities.

Management Common to All Alternatives:

- Maintain existing recreation facilities and areas in a safe condition.
- Emphasize recreation opportunities not provided by the private sector or other public lands.
- Forage brought onto BLM-administered public land would be required to be certified weed free forage.
- Firearm shooting would be allowed except where specifically restricted or prohibited. Areas may be closed or restricted to firearm shooting if safety issues arise, littering occurs, or conflicts with other resources or resource uses occur. Coordination with user groups and the public would be conducted to resolve conflicts and problems if they are discovered. Closure would be considered only if conflicts or problems cannot be resolved through other means. Notify adjacent local governments of events requiring Special Recreation Use Permits or authorized use.
- Fishing would be allowed under state fishing regulations.
- Issue Special Recreation Use Permits based on evaluation of criteria including but not limited to analyzing natural and cultural resource conditions, visitor safety, conflicting resource uses, and other current conditions or needs.
- Applications for Special Recreation Permits in sage-grouse priority habitat management areas may be denied if approval of the permit would adversely impact sage-grouse or sage-grouse habitat.
- Outfitter/guide hunting activities on public lands within grazing allotments under agreement with the State of South Dakota for wildlife or public access purposes would not be allowed and therefore would be excluded from the issuance of Outfitter/Guide Special Recreation Permits. Exceptions may be allowed in cases where only a portion of the allotment is under agreement with the State.
- Public lands not designated as Recreation Management Areas are managed to meet basic Recreation and Visitor Services and resource stewardship needs. Recreation opportunities are allowed that are not in conflict with the primary uses of these lands.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
• Guidelines and BMPs would be used to mitigate impacts of recreational activities (Appendix B).				
Planning Area **(Additional direction for the Fort Meade ACEC is provided under the Special Designations section of this table.**				
1 Recreation Mgmt.	No similar management action	Approximately 259,936 acres would be Public lands not designated as Recreation Management Areas. Camping limits, recreation permit/fees, conditions of use, travel types and modes may be regulated to achieve or maintain setting characteristics.	Approximately 265,019 acres would be Public lands not designated as Recreation Management Areas. Camping limits, recreation permit/fees, conditions of use, travel types and modes may be regulated to achieve or maintain setting characteristics.	Same as Alternative B.
2 Recreation Mgmt. Areas	No similar management action	Approximately 11,652 acres (Fort Meade ACEC; 6,574 acres and the Exemption Area; 5,078 acres) would be designated Special Recreation Management Areas (SRMA). Fort Meade would be managed under the most current Fort Meade Recreation Area Management Plan. Exemption Area Recreation Management Plan would be developed for RSCs. Fort Meade ACEC and the Exemption Area are shown in Figures 2-2 and 2-3.	Approximately 6,574 acres (Fort Meade ACEC) would be designated as Special Recreation Management Area (SRMA). Fort Meade would be managed under the most current Fort Meade Recreation Area Management Plan. Fort Meade ACEC is shown in Figure 2-2.	Same as Alternative B.
3 Recreation Setting Charact-eristics	No similar management action	**Objective:** The planning area would be managed for approximately 11,652 acres (Fort Meade ACEC and the Exemption Area) of Front Country Recreation Setting Characteristics; 261,325 acres of Middle Country	**Objective:** The planning area would be managed for approximately 6,574 acres (Fort Meade ACEC) of Front Country Recreation Setting Characteristics; 88,539 acres of Middle Country Characteristics; and up to 178,163	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		Characteristics; and 320 acres (Fossil Cycad) of Back Country Characteristics.	acres of Back Country Characteristics.	
4 Camping	a) Camping would be allowed on BLM surface administered lands, with a 16 day stay limit and a minimum ½ mile move on dispersed camping areas. b) Motorized travel cross country for camping purposes would be limited to within 300 feet of existing roads and trails after locating the campsite in a non-motorized fashion. c) Campfires would be allowed unless restricted by fire closure.	a) Same as Alternative A. b) Same as Alternative A. c) Same as Alternative A.	a) Same as Alternative A. b) Motorized travel cross country for camping purposes would be limited to within 100 feet of existing roads after locating the campsite in a non-motorized fashion. c) Same as Alternative A.	a) Same as Alternative A. b) Motorized travel cross country for camping purposes would be limited to within 300 feet of existing roads after locating the campsite in a non-motorized fashion. **c)** Same as Alternative A.
5 Road Designation	Area would be designated as LIMITED for transportation purposes. Motorized travel would be allowed on existing roads and trails.	Area would be designated as LIMITED for transportation purposes. Motorized travel would be allowed on existing roads and trails, or designated roads and trails in TMAs. Designation of roads and trails would be determined in future travel/transportation planning process in accordance with the chosen alternative. Roads and trails may be closed to protect resources. New roads and trails may be developed.	Area would be designated as LIMITED for transportation purposes. Motorized travel would be allowed on designated roads and trails. Designation of roads and trails would be determined in future TMA planning process and follow goals and objectives of the chosen alternative Roads and trails may be closed to protect resources. No new roads or trails would be developed; exceptions would be made where required by law, regulation, or policy. Approval	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			for construction of new roads would be assessed at the project level	
6 Hunting/ Outfitter/ Guide Permits/ Trapping	a) Hunting would be allowed according to state regulation. Outfitter/guide permits would be issued when consistent with management objectives. b) Trapping would be allowed according to state regulation. Traps may be no closer than 100 yards from any road, trail, or trailhead.	a) Hunting would be allowed according to state regulation and Outfitter/guide types of Special Recreation Permits may be issued. Priority for these permits where there is a conflict would be based on a first come basis. b) Trapping would be allowed according to state regulation.	a) Same as Alternative B except no commercial Special Recreation Permits would be issued. b) Same as Alternative B.	a) Same as Alternative B. b) Same as Alternative B.
7 Fisheries	Fish stocking would be allowed.	Game fish stocking would not be allowed in waters with adequate natural reproduction.	Same as Alternative A: Fish stocking would be allowed. Fish stocking would be coordinated with and conducted by the State in accordance with all state laws and regulations.	
8 Special Recreation Events	Special Recreation Use Permits would be issued when consistent with management objectives and would be required for any commercial, competitive, group use and/or vending activities.	Special Recreation Use Permits would be issued when consistent with management objectives; evaluated on a case by case basis, analyzing natural and cultural resource conditions, visitor safety, conflicting resource uses, and other current conditions or needs. SRPs would be required for any commercial, competitive, group use, and/or vending activities. Conflicts between permit applications that are otherwise acceptable will be resolved on a first come priority basis.	No commercial Special Recreation Use Permits would be issued. Other types of SRPs may be issued when consistent with management objectives; evaluated on a case-by-case basis, analyzing natural and cultural resource conditions, visitor safety, conflicting resource uses, and other current conditions or needs. Conflicts between permit applications that are otherwise acceptable will be resolved on a first come priority basis.	Same as Alternative B: Special Recreation Use Permits would be issued when consistent with management objectives; evaluated on a case-by-case basis, analyzing natural and cultural resource conditions, visitor safety, conflicting resource uses, and other current conditions or needs. SRPs would be required for any commercial, competitive, group use, and/or vending activities. Conflicts between permit applications that are otherwise acceptable will be resolved on a

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				first come priority basis.
9 Geocaching	No similar management action	Geocaching would be allowed.	Geocaching would be allowed if it does not create ground disturbance, is not placed in or on historic features, artifacts or structures, and is not commercial in nature.	Same as Alternative C.
10 Recreational Gold Panning	Recreational gold panning would be allowed on all streams except at Fort Meade and in the Fossil Cycad Area.	Recreational gold panning would be allowed except at Fort Meade ACEC, Fossil Cycad ACEC. Recreational gold panning could be restricted if monitoring determined negative effects to resources. Streams may be identified and up to 20 acres could be recommended for withdrawal from mineral entry to provide a recreational gold panning opportunity.	Recreational gold panning would be allowed except at Fort Meade ACEC, Fossil Cycad ACEC. Recreational gold panning could be restricted if monitoring determined negative effects to resources.	Same as Alternative B.
11 Recreation and Gathering of Plant Materials (does not include firewood gathering)	BLM-administered lands would be available for other non-consumptive recreational pursuits such as bird watching, sledding, walking, cross-country skiing (ungroomed), meditation etc. Gathering of plant materials for incidental use, other than forest products, is allowed.	BLM-administered lands would be available for other non-consumptive recreational pursuits such as bird watching, sledding, walking, cross-country skiing (ungroomed), meditation etc. Special Recreation Permits would be required when activities involve groups. Gathering of plant materials for incidental use would be allowed, except only above ground gathering would be allowed in the Fossil Cycad and Fort Meade ACECs.		
12 Recreational Sites	Surface occupancy and use would be prohibited within developed recreation areas	Surface occupancy and use would be prohibited within ½ mile of the SRMAs Fort Meade ACEC and	Surface occupancy and use would be prohibited within 1 mile of the SRMAs Fort Meade ACEC and	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	and undeveloped recreation areas receiving concentrated public use (O&G only).	Exemption Area.	other developed recreation sites.	
13 Special Rec. Mgmt. Areas (SRMAs)	No similar management action	ROWs associated with renewable energy and other uses would be avoided area within ½ mile of SRMAs Fort Meade ACEC and Exemption Area.	ROWs associated with renewable energy and other uses would be excluded within 1 mile of the Fort Meade SRMA and other developed recreation sites.	ROWs for renewable energy would be excluded. ROWs for other uses would be avoided within ½ mile of SRMAs (Fort Meade ACEC, Exemption Area and other developed recreation sites).
14 Travel with Vehicles Equipped to Travel over Snow	No similar management action	Snowmobiles and vehicles specifically equipped to travel over snow would be unrestricted unless adverse impacts to resources or infrastructure occurs, safety issues become evident or snowmobile use in important wildlife use areas increases to the point that it becomes disruptive (refer to glossary) to wildlife. Note that additional snowmobile restrictions in the Fort Meade ACEC and the Exemption Area may apply as shown under the Exemption Area or the Special Designation section (Fort Meade ACEC portion) of this table. Additional restrictions or closures may be developed through travel planning conducted at the implementation level.	Snowmobiles and vehicles specifically equipped to travel on snow would be restricted to designated roads and trails except for the Fort Meade ACEC where such use would not be allowed for recreational use.	Same as Alternative B.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Exemption Area Same as the rest of the planning area except:				
15 Recreation Opportunity Classifica-tion	No identified Recreation Opportunity Spectrum classification.	Objective: Exemption Area would be managed for Roaded Natural recreation opportunities.	Objective: Exemption Area would be managed for Semi-primitive non-motorized recreation opportunities.	Objective: Exemption Area would be managed for Roaded Natural recreation opportunities.
16 Recreation Mgmt. Areas	The Exemption Area would be not be designated as a Recreation Management Area., same as the rest of the planning area.	The Exemption Area would be designated as a Special Recreation Management Area (SRMA). Specific planning document would be developed.	Same as Alternative A.	Same as Alternative B.
17 Camping	Same as the rest of the planning area.	Designated camping areas and associated regulations may be developed.	Same as Alternative A.	Designated camping areas and associated regulations may be developed. Black Hills Fire Protection District rules shall apply to campfires on BLM land.
18 Roads and Trails	The Mickelson Trail and State Snowmobile trail system would be the only maintained trails. Snowmobiling would be restricted to these designated trails. Other motorized travel would be limited to existing roads and trails.	The Mickelson Trail and State Snowmobile trail system would continue to be managed by the State of South Dakota and use on these trails would be regulated by that agency. Snowmobiling would be restricted to these designated trails. Hiking trails around Deadwood and potential OHV trail connecting Deadwood to other trails may be developed. Other motorized travel would be limited to existing trails until the Travel Management Plan designates roads and trails for motorized travel. Roads and trails	Same as A, except motorized travel would be limited to designated roads, which may be closed to protect resources. New roads would not be allowed unless required by law or policy.	The Mickelson Trail and State Snowmobile trail system would continue to be managed by the State of South Dakota and use on these trails would be regulated by that agency. Snowmobiling would be restricted to designated trails. Hiking trails around Deadwood and potential OHV trail connecting Deadwood to other trails may be developed. Other motorized travel would be limited to existing trails until the Travel Management Plan designates roads and trails for motorized travel. Roads and trails may be

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		may be closed to protect resources. New roads would be allowed.		closed to protect resources. New permanent and temporary road construction, maintenance, rerouting, and decommissioning would be allowed.
19 Fisheries	Same as the rest of the planning area.	Fish stocking would be allowed. Increase fishing opportunities by development of ponds, such as a pond near the Homestake Powderhouses, dependent upon water availability and dam constraints.	Same as Alternative A.	Same as Alternative B.
20 Recreation Use Permits	Same as the rest of the planning area.	Recreation Use Permits would be required at developed, designated campgrounds.	Same as Alternative A.	Same as Alternative B.

Program: Travel Management and Transportation

Goal 1: Manage transportation and access to provide for use and enjoyment of the public lands while protecting resource values and providing for user safety.
Goal 2: Access is available to larger blocks of BLM-administered surface lands.
Goal 3: Manage transportation network to enhance a variety of uses of public lands.

Management Common to All Alternatives:

- Fort Meade (Figure 2-2), the Exemption Area (Figure 2-3) and the Center of the Nation (Map 2-1) would be designated as Travel Management Areas (TMAs). Areas are designated as open, closed, or limited to various modes of transportation
- Acquire or retain access to public lands to improve management efficiency.
- Existing mode of travel for accessing private lands through BLM will be continued unless adverse resource impacts are occurring.
- Coordinate with SD Game, Fish, and Parks, the Commissioner of School and Public Lands, lessee(s), and adjacent landowners concerning designation of access including routes on BLM-administered public land that is adjacent or within hunting management areas such as Walk-In areas, etc. (SD Hunting Atlas (printed annually).
- Travel routes through cultural resource sites would be rerouted or mitigated.
- The planning area will be designated as an 'OHV Limited Area', except for the Fort Meade and Fossil Cycad ACECs which will be 'OHV Limited to Designated Routes'. The OHV limitation would ultimately be to 'OHV Limited to Designated Routes' for the planning area as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routes may occur, however no new routes may

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
be created without specific authorization. BLM may restrict or prohibit administrative or authorized cross-country motorized travel in specific areas to protect resources, address safety issues or limit other conflicts associated with cross-country travel. • Temporary travel restrictions would be implemented in emergency situations to comply with fire restrictions or protect the soil and water quality. • Work in coordination with federal, tribal, state, and county agencies, private landowners, and organizations for road maintenance issues for existing and new roads. • As opportunities arise BLM would establish or maintain access easements for administrative and/or for public use with priority on public access to larger blocks of BLM administered lands. • Authorization of cross-country motorized travel for disabled hunter/angler access and game retrieval may be allowed in cooperation with SDGFP by special authorization. • Authorization of cross-country motorized travel for other types of disabled user access would be addressed on a case-by-case basis and would require special authorization. • Back Country Byway designation and management would continue as detailed in the 1996 Fort Meade ACEC Management Plan. • Future National Scenic and Historic Trails may be designated as a Special Designation and management plans developed. Designated transportation /utility corridors would be located along I-90, State Highway 34 and the Bear Butte Road as described in the 1996 Fort Meade ACEC Plan (Figure 2-2). Roads would be constructed at the minimum standard necessary. An environmental review would be completed if an upgrade is proposed for other purposes that require a higher standard. Guidelines and BMPs would be used to mitigate impacts of transportation (Appendix B). Allow no upgrading of existing routes that would change route category (road, primitive road, or trail) or capacity unless the upgrading would have minimal impact on sage-grouse habitat, is necessary for motorist safety, or eliminates the need to construct a new road. **Aircraft Use on BLM-Administered Public Land:** • Approval of permanent or temporary air strips would be determined through project level planning. • Aircraft landings and take-offs would be allowed for the purposes of search and rescue, law enforcement activities, wildfire suppression, military training and operations, or emergency activities and other authorized uses. • A vender would need a Special Recreation Permit to become an air taxi service.				
Planning Area				
1 Travel Mgmt. Areas	Travel would be restricted to existing roads and trails in accordance with the 2003 OHV ROD.	Three Travel Management Areas (TMAs) would be developed: Fort Meade Recreation ACEC, Exemption Area, and Center of the Nation (the large blocks of public lands in Northern Butte and Southern Harding counties). These areas would be considered focus areas when implementation planning for transportation (OHV, including snowmobile use, aerial, and non-motorized travel) is initiated. TMAs are a flexible planning tool and may be changed without a formal decision-making process as circumstances warrant.		
2	OHV cross-country travel to	OHV cross-country travel would	Same as Alternative A. This action may be revised or changed during	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Motorized Cross Country Travel	retrieve big game animals would be prohibited.	be limited to 300 feet from nearest road to retrieve big game animals. This action may be revised or changed during travel management planning and this type of cross-country travel could be prohibited in specific areas pending site-specific environmental review.	travel management planning and this type of cross-country travel could be allowed in specific areas pending site-specific environmental review.	
3 Cross Country Travel to Access Campsites	OHV travel would be allowed within 300 feet of roads to access campsite.	OHV travel would be allowed within 300 feet of roads to access campsite by direct route. This action may be revised or changed during travel management planning and this type of cross-country travel could be prohibited in specific areas pending site-specific environmental review.	OHV travel would be allowed within 100 feet of roads to access campsite by direct route. This action may be revised or changed during travel management planning and this type of cross-country travel could be prohibited in specific areas pending site-specific environmental review.	Same as Alternative B.
4 Travel with Vehicles Equipped to Travel over Snow	No similar management action	Snowmobiles and vehicles specifically equipped to travel on snow would not be limited to designated roads and trails unless monitoring indicates degradation to natural resources, disturbance to wildlife, or safety problems.	Snowmobiles and vehicles specifically equipped to travel on snow would be restricted to designated roads and trails.	Same as Alternative B except this type of equipment use could be restricted in parts of the planning area through subsequent travel management planning.
5 Construct-ion of New Roads	Roads would be constructed at the minimum standard necessary unless an upgrade is needed for other purposes that require a higher standard.	New permanent roads may be built for long-term management of areas where multiple entries would be necessary to meet objectives. New road construction would be kept to the minimum (construction standard, number and length) necessary for multiple use	No new permanent roads would be constructed except as required by law, regulation or policy. Maintenance of existing roads would be allowed. Rerouting of existing roads would not be allowed. Temporary road construction would be kept to a	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		management. Rerouting and maintenance of existing authorized roads would be allowed to reduce impacts to resources. Construction of temporary roads could be authorized through project level planning and would be kept to a minimum, decommissioned and reclaimed as part of the project.	minimum (construction standard, number and length) necessary for the project, and decommissioned and reclaimed as part of the project.	
6 Road and Trail Designa-tions	The planning area would be designated as LIMITED for transportation purposes. Motorized travel would be allowed on existing roads and trails.	The planning area will be designated as an 'OHV Limited Area', except for the Fort Meade and Fossil Cycad ACECs which will be 'OHV Limited to Designated Routes'. The OHV limitation would ultimately be to 'OHV Limited to Designated Routes' for the planning area as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routes may occur, however no new routes may be created without specific authorization. Roads and trails may be closed to protect resources. New roads and trails may be developed.	The planning area will be designated as an 'OHV Limited Area', except for the Fort Meade and Fossil Cycad ACECs which will be 'OHV Limited to Designated Routes'. The OHV limitation would ultimately be to 'OHV Limited to Designated Routes' for the planning area as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routes may occur, however no new routes may be created without specific authorization. Approval for construction of new roads and trails would be assessed at the project level.	The planning area will be designated as an 'OHV Limited Area', except for the Fort Meade and Fossil Cycad ACECs which will be 'OHV Limited to Designated Routes'. The OHV limitation would ultimately be to 'OHV Limited to Designated Routes' for the planning area as determined through a subsequent implementation/activity level Travel Management Plan(s). In the interim OHV use on existing routes may occur, however no new routes may be created without specific authorization. Roads and trails may be closed to protect resources. New roads and trails may be developed.
Exemption Area Same as the rest of the planning area except:				
7 Travel with	Mickelson Trail and State Snowmobile Trail.	Same as Alternative A.	Mickelson Trail and State Snowmobile trail. Snowmobiles	Snowmobile and other vehicles modified for snow travel use

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Vehicles Equipped to Travel Over Snow	Snowmobiles would be allowed on the Mickelson Trail between the Deadwood and Dumont Trailheads, on portions that cross BLM-administered lands. The state snowmobile trail system has additional routes across BLM land. Cross-country travel with snowmobiles would be permitted.		would be allowed on the Mickelson Trail between the Deadwood and Dumont Trailheads, on portions that cross BLM-administered lands. The state snowmobile trail system has additional routes across BLM land. Snowmobiling is restricted to these designated trails.	would be limited to designated routes. Cross-country travel by over snow vehicles would not be permitted.
8 Motorized Vehicle Travel	Other vehicle travel (motorized wheeled vehicles) would be limited to existing roads and trails	Other vehicle travel (motorized wheeled vehicles) would be limited to existing roads and trails until such time that a Travel Management Plan is developed. Travel by the motorized wheeled vehicles would be limited to designated roads and trails after the Travel Management Plan is developed.		
9 Non-Motorized Trails	No specific management action	Non-motorized trails would be developed in coordination with partners and user groups and included in the Travel Management Plan.	No new trails would be authorized.	Same as Alternative B.
Program: Lands and Realty				
Land Use Authorizations **Goal 1:** Address needs of industry, utilities, the public, or government entities for land use authorizations (rights-of-way (ROWs), leases and permits) while minimizing adverse impacts to other resource values. **Goal 2:** Locate new ROW facilities adjacent to existing ROWs to the extent practical. **Management Common to All Alternatives:** • Requests for land use authorizations (ROWs, leases, permits) would be authorized and mitigation applied on a case-by-case basis • No authorizations would be issued for activities that could result in the contamination of the public lands. • Issues in connection with RS 2477 roads would be subject to current guidance. • Follow "Suggested Practices for Avian Protection on Power Lines (APLIC 2006) for all applicable land use authorizations. • ROW avoidance and exclusion areas would be subject to valid existing rights. • No communications site areas will be designated but should any communications sites facilities be authorized, BLM would encourage co-location where				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
possible. • Retain and renew existing Recreation and Public Purposes (R&PP) leases as long as they are compatible with the objectives in this management plan. • All underground ROWs that are terminated will remain buried unless there is a threat to life and degradation of resources. • R&PP and other classifications would be allowed as needed, but no lands would be suitable for DLE or Indian allotment classification and application. • No new ROW corridors will be designated but applicants will be encouraged to use routes with other ROWs. • Utility and transmission line ROWs may be authorized in the Fort Meade ACEC ROW corridor pending environmental review (Figure 2-2). As opportunities arise BLM would establish or maintain access easements for administrative and/or for public use with priority on public access to larger blocks of BLM administered lands. Acres presented below do not include BLM surface estate in eastern South Dakota as BLM surface estate in eastern South Dakota is extremely limited and most lands are under the reservoirs or on islands of the Missouri River. The acres listed below account for the overlap of ROW restrictions. When overlaps of various ROW restrictions were encountered, the acres within the most stringent restriction were tallied first in a trumping order.				
Planning Area				
1 ROWs *The acres and actions represent ROWs not associated with Renewable Energy ROWs. Refer to the Renewable Energy section of this table (pg 175).*	Most areas would be open for ROW actions except for the Fort Meade ACEC. Utility and transmission line ROWs would be allowed in the Fort Meade ROW utility areas (Figure 2-2). Surface Acres affected would be as follows: Open: 267,768 acres Avoidance: 0 acres Exclusion: 5,522 acres Refer to Map 2-15.	There would be no ROWs exclusion areas. ACECs, VRM Class II areas, important wildlife and special status species habitat, floodplains, and soils that are vulnerable to impacts would be ROWs avoidance areas except for the Fort Meade utility corridors which would be open (Figure 2-2). VRM Class III and IV would be open. Refer to summary below. Surface Acres affected would be as follows: Open: 37,040 acres Avoidance: 236,250 acres Exclusion: 0 acres Refer to Map 2-16.	In the Fort Meade and Fossil Cycad ACECs and Greater Sage-Grouse PHMAs/ ACEC, VRM Class II areas, important wildlife and special species habitat, floodplains, and soils that are vulnerable to impacts would be ROWs exclusion areas except for the Fort Meade utility corridors which would be open (Figure 2-2). There would be no ROWs avoidance areas. VRM Class III and IV would be open. Refer to summary below. Surface Acres affected would be as follows: Open: 32,724 acres Avoidance: 0 acres	ACECs would be ROWs exclusion areas except for the Fort Meade utility corridors which would be open (Figure 2-2). Important wildlife, VRM Class II areas and special status species habitat, PHMAs, floodplains, and soils that are vulnerable to impacts would be ROWs avoidance areas. Minor ROWs within 2 miles of leks and Major ROWs would be avoidance in GHMAs. VRM Class III and IV would be open. Surface Acres affected would be as follows: Open: 19,903 acres Avoidance: 247,551 acres Exclusion: 5,836 acres

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			Exclusion: 240,566 acres Refer to Map 2-17.	
Summary of ROW Restrictions (does not include Renewable Energy ROW restrictions)				
ROW restrict-Summary				

Resource	Restriction
Fort Meade ACEC	Exclusion
Fossil Cycad ACEC	Open
Exemption Area	Open
SRMA buffers	Open
Greater Sage-Grouse lek buffers	Open
Greater Sage-Grouse nesting & brood rearing areas	Open
Big game/sage-grouse wintering areas	Open
Sharp-tailed grouse/greater prairie-chicken lek buffers	Open
Spec. Status Species (SSS) raptor nests	Open
Raptor nests	Open
Bighorn sheep range	Open
Least terns/piping plover habitat	Open
Fisheries	Open
VRM Class II	Open
VRM Class III & IV	Open
Streams, water bodies, floodplains wetlands, riparian	Open
Sensitive soils	Open
Slopes over 30%	Open

Resource	Restriction
Fort Meade ACEC/SRMA +buffer	Avoidance
Fossil Cycad ACEC	Avoidance
Exemption Area SRMA +buffer	Avoidance
Greater Sage-Grouse PHMAs	Avoidance
Greater Sage-Grouse nesting & brood rearing areas	Avoidance
Big game/sage-grouse wintering areas	Avoidance
Sharp-tailed/greater prairie-chicken leks buffers	Avoidance
SSS Raptor Nests	Avoidance
Raptors nests	Avoidance
Bighorn sheep range	Avoidance
Least terns/piping plover habitat	Avoidance
Fisheries	Avoidance
VRM Class II	Avoidance
VRM Class III & IV	Open
Streams, waterbodies, floodplains, wetland, riparian	Avoidance
Sensitive soils (including steep slopes)	Avoidance

Resource	Restriction
Fort Meade ACEC/SRMA +buffer	Exclusion
Fossil Cycad ACEC	Exclusion
Exemption Area	Open
Greater Sage-Grouse PHMAs/ACEC	Exclusion
Greater Sage-Grouse nesting & brood rearing areas	Exclusion
Big game/sage-grouse wintering areas	Exclusion
Sharp-tailed/greater prairie-chicken lek buffers	Exclusion
SSS raptor nests	Exclusion
Raptor nests	Exclusion
Bighorn sheep range	Exclusion
Least terns/piping plover habitat	Exclusion
Fisheries	Exclusion
VRM Class II	Exclusion
VRM Class III & IV	Open
Streams, waterbodies, floodplains, wetland, riparian	Exclusion
Sensitive soils (including steep slopes)	Exclusion

Resource	Restriction
Fort Meade ACEC/SRMA +buffer	Exclusion
Fossil Cycad ACEC	Exclusion
Exemption Area SRMA +buffer	Avoidance
Greater Sage-Grouse PHMAs	Avoidance
Greater Sage-Grouse GHMAs/lek	Avoid (Major) Avoid 2mi lek (Minor)
Colonial Nesting Waterbird Colonies	Avoidance ½ mi Exclusion ¼ mi
Greater Sage-Grouse nesting & brood rearing areas	Avoidance
Big game/sage-grouse wintering areas	Avoidance
Sharp-tailed/greater prairie-chicken lek buffers	Avoidance
SSS raptor nests	Avoidance
Raptor nests	Avoidance
Sprague's pipit	Avoidance
Bighorn sheep range	Avoidance
Blackfooted ferret habitat	Exclusion
Prairie dog colonies	Avoidance
Least terns/piping plover habitat	Avoidance
Fisheries	Avoidance
Pallid & SN Sturgeon	Avoidance
VRM Class II	Avoidance
VRM Class III & IV	Open

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Streams, waterbodies, floodplains, wetland, riparian: Avoidance Sensitive soils (including steep slopes): Avoidance Badland/rock outcrop: Avoidance
2 Burial of Utility and Powerlines	No specific management action.	All new power and utility lines (fiber-optic, telephone, powerlines etc.) that can be safely buried would be buried. When burial is not safe or practical, new lines would be sited to have the least impact on resources.	All power and utility lines would be buried.	Same as Alternative B.
3 Unauthorized Use	No specific management action. Addressed through standard procedures.	Unauthorized use, occupancy and development of public lands would be investigated and resolved either through termination and removal of facilities or issuance of an authorization. However, the option will be open to dispose of Category 2 lands by sale to resolve an unauthorized use.		
4 Scattering of cremated remains	No specific management action	Individual, noncommercial requests to scatter cremated remains would be considered casual use and addressed on a case-by-case basis in compliance with state laws and county ordinances. The SDFO may develop guidelines about appropriate scattering procedures and locations if conditions warrant. Commercial projects or events involving scattering of cremated remains would not be allowed.		

Recommended Withdrawals
Goal 1: Utilize withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the required purpose.
Goal 2: Protect significant resources or significant government investments.

Management Common to All Alternatives:
- All withdrawals would be reviewed prior to termination or as otherwise required by law to extend, modify, or retain
- Modification or revocation would be recommended when the purpose for which the lands are withdrawn is no longer applicable to a portion or the entire withdrawal.
- BLM would consider other agency requests for withdrawal relinquishment, revocation, extensions, or modifications.
- New withdrawals would be considered on a case-by-case basis where resource values, protection of agency investments, or management could transfer to another agency.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
• New withdrawal proposals would be considered on a case-by-case basis where management would transfer to another federal agency or when resource values or agency investment are best protected by withdrawal. • New withdrawal proposals would include the minimum area required to meet the purpose of the withdrawal • Those lands having withdrawals revoked would be placed in the appropriate category based on Land Ownership Adjustment criteria found in Appendix I. • Withdrawn lands returned to BLM management, would be managed the same as adjacent public lands; or, if isolated the same as comparable, nearby lands. • The Fort Meade Recreational Area ACEC would remain withdrawn from locatable mineral entry, would remain closed to leasable mineral entry and would be closed to salable mineral entry.				
Planning Area				
1 Recommended Withdrawal Summary	Locatable federal minerals within the Fort Meade ACEC would be recommended for withdrawal. Locatable federal minerals within the Fossil Cycad ACEC are recommended for withdrawal from mineral entry.	Locatable federal minerals under Fort Meade ACEC (6,574 Acres) would be recommended for withdrawal. Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would be recommended for withdrawal from mineral entry.	Locatable federal minerals under Fort Meade ACEC (6,574 Acres) would be recommended for withdrawal. Fossil Cycad ACEC (320 Acres), Bear Butte National Historic Landmark (410 Acres) and Greater Sage-Grouse PHMAs/ACEC would be recommended for withdrawal from mineral entry (refer to Map 2-4). Greater Sage-Grouse PHMAs/ACEC acres would include 93,267 surface acres and 289,288 acres of mineral estate.	Locatable federal minerals under Fort Meade ACEC (6,574 Acres) would be recommended for withdrawal. Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would be recommended for withdrawal from mineral entry.
Land Tenure **Goal 1:** Retain public lands with high resource values in public ownership. **Goal 2:** Adjust land ownership to improve public land pattern and management efficiency. **Goal 3:** Acquire lands that enhance public access, high resource values and meets public and community needs. **Goal 4:** Access is available to larger blocks of the BLM-administered surface lands at locations identified internally or from the public and users **Goal 5:** Achieve a more management efficient and consolidated public land pattern. **Management Common to All Alternatives:** • Lands or interest in lands could be acquired by purchase, exchange, revocation of another agency's withdrawals, administrative transfer from another agency, cooperative agreement, or donation, where they complement existing resource values. All land or mineral ownership adjustments would be with willing partners or exchange proponents and the acquired lands would be managed as similar lands are under the approved RMP.				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
• Evaluate the proposed disposal tracts using the land tenure criteria (refer to Appendix I). • Acquired lands would be managed under the same management prescription as adjacent public lands: or, if isolated, the same as comparable, nearby public lands. • Parcels of land administered by BLM and discovered through land status updates and corrections would be managed as similar lands are managed under the approved RMP. • Lands acquired within or adjacent to administratively designated special management areas, such as ACECs which have valuable resources, would be managed the same as the special management area. • Access would be acquired from willing landowners using all acquisition methods. • Retain existing access to BLM-administered lands in conveyance documents. • Pursue reciprocal rights for public access when granting a BLM ROW, as appropriate. • Management actions needed to protect newly acquired lands would be considered as part of the analysis prior to acquisition. • All proposed land ownership adjustment actions would be evaluated under project level planning. • The BLM will work with partners and willing landowners to proactively secure access to the public lands for the use and enjoyment of the public with consideration of the working landscape and the intermingled landownership pattern that is present. • Acquire or retain public access to public lands within the retention areas.				
Planning Area				
1 Land Ownership Adjust-ments Map 2-2	Consider land ownership adjustments on a case-by-case basis based on the criteria for retention, acquisition and disposal.	Land Ownership Adjustment would be considered on a case-by-case basis based on retention, acquisition, and disposal criteria found in Appendix I. This would result in the following acres within the categories: *Category 1 – Retention area with no disposal (6,894 acres):* Lands managed in Category I – Retention would include all ACECs and lands acquired through LWCF. Category I lands would not be transferred from BLM management by any method for the life of the plan.	Land Ownership Adjustment would be considered on a case-by-case basis based on retention, acquisition, and disposal criteria found in Appendix I. This would result in the following acres within the categories: *Category 1 – Retention area with no disposal (103,273 acres):* Lands managed in Category I – Retention would include all ACECs, and lands acquired through LWCF. Category 1 lands would not be transferred from BLM management by any method for the life of the plan. These lands	Same as Alternative B, except Greater Sage-grouse PHMAs and GHMAs would be Category 2 – Retention with limited disposal Lands classified as habitat for Greater Sage-Grouse (PHMAs or GHMAs) will be retained in federal management unless: (1) the agency can demonstrate that disposal of the lands will provide a net conservation gain to the Greater Sage-Grouse or (2) the agency can demonstrate that the disposal of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		Category 2 - Retention with Limited disposal potential based on specialist review (179,950 acres): Public lands within Category II would be considered for limited land ownership adjustments; however, lands in Category II would not be available for sale under section 203 of FLPMA. *Category 3 – Disposal contingent on specialist review (86,474 acres):* These lands generally are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A map of these disposal parcels can be found by alternative in Map 2-2. These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and could be made available for sale or disposal through any method. Refer to Appendix I for additional details.	would include the Fort Meade, Fossil Cycad, and the Greater Sage-grouse PHMA ACECs. *Category 2 - Retention with Limited disposal potential based on specialist review (91,402 acres):* Public lands within Category 2 would be considered for limited land ownership adjustments; however, lands in Category 2 would not be available for sale under section 203 of FLPMA. *Category 3 – Disposal contingent on specialist review (78,644 acres):* These lands generally are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A map of these disposal parcels can be found by alternative in Map 2-2. These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and could be made available for sale or disposal through any method.	This would result in the following acres within the categories: *Category 1 – Retention area with no disposal (6,894 acres).* *Category 2 - Retention with Limited disposal potential based on specialist review (202,395 acres.* *Category 3 – Disposal contingent on specialist review (64,030 acres)*
2 Jurisdic-	Jurisdictional transfers with other federal or state agencies	Jurisdictional transfers with other federal agencies would be considered.		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
tional Land Transfers	would be considered. Types –consolidated for increased management efficiency or no longer needed by the other agency, decreased cost to federal government of managing lands, and/or would serve the public or National interest.	Types –consolidated for increased efficiency or no longer needed by the other agency and/or would serve the public or National interest.		
3 Disposal of Lands	Lands would be available in the Exemption Area for disposal.	Disposal of lands in the Exemption Area would be considered for sale, exchange or R&PP patent unless the parcel contributes to the designation of an SRMA.	Disposal of lands in the Exemption Area would be considered for sale, or exchange.	Same as Alternative B.
4 Land Transfers	National Cemetery expansion proposal would be accepted if it was consistent with management objectives.	Transfer of up to 170 acres of BLM-administered lands to the Black Hills National Cemetery may be allowed, provided that impacts are minimal and the transfer is consistent with management goals and objectives. If the proposed transfer does not occur the land would remain part of the ACEC.	Transfer of BLM-administered lands to the Black Hills National Cemetery would not be allowed.	Same as Alternative B.
5 Land Transfers	No specific management action	Up to six acres of BLM-administered land in the Fort Meade ACEC (lands adjacent to the sewer lagoons) would be considered for transfer to the City of Sturgis pending additional further environmental review.		
Program: Minerals				
Goal 1: Manage minerals to provide an opportunity for local economic benefits, while protecting the integrity of other resources. **Goal 2:** Minerals are developed while wildlife, cultural resources, air and water quality, and other resource values are maintained. **Goal 3:** As mineral development is completed, surface areas are restored similar to pre-existing conditions.				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*

Goal 4: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA.

Management Common to All Alternatives:

- Minerals are managed with consideration of state laws.
- Allow for needed road access, including new roads for mineral extraction operations with consideration of impacts to other resources.
- Leasing and development decisions also apply to geophysical exploration.
- Mitigation of mineral development and exploration activities would be applied where needed to minimize impacts of mineral development consistent with the management actions and restrictions and stipulations found in this section and the Guidelines and BMPs listed in Appendix B. Mitigation measures would be applied on a case-by-case basis during activity level planning if review of the project area indicates resources would be affected.
- Waivers, Exceptions, and Modifications (WEMs) to lease stipulation requirements may be granted by the authorized officer if an environmental review indicates that the stipulation does not apply (WEMs are described in Appendices E.1, E.2, E.3, and E.4).
- Applicable mitigation and conservation measures described for sage-grouse in Appendix V-1 would apply to mineral development and exploration.
- If a waiver, exception or modification is authorized, applicable portions of 43 CFR 3809 regulations would still apply.
- In areas with known or potential hazardous waste or materials, BLM may defer oil and gas exploration and would not consider proposals to explore or develop other minerals until such time as the risks of these types of activities are fully known. Remedial action would be required as necessary, subject to existing State and Federal laws and requirements prior to proceeding with a project.
- At a minimum, the institutional controls and deed restrictions placed on the abandoned Black Hills Army Depot (BHAD) by the Department of Defense when the surface estate was transferred to private ownership would apply within the BHAD. Other restrictions or closures for the BHAD and the Igloo town site are described under each alternative. Within the limits of BLM's authority, Mitigation, BMPs Guidelines and SOPs (Appendix B) would be applied to locatable mineral development.
- Waste water from coalbed mining operations would not be disposed by spreading onto the ground surface unless the water meets the minimum State water quality standards.

Management Actions Common to Action Alternatives (Alternatives B, C, and D).

- In Greater Sage-Grouse PHMAs, geophysical exploration would be limited to the least disruptive method possible.
- On BLM administered surface and mineral estate outside of Greater Sage-Grouse PHMAs, specific permit limitations may be applied to exploration at the implementation (project) level as needed to protect sensitive or high value resources.
- Prior to authorizing Waivers, Exceptions or Modifications (WEMS) for oil and gas leasing, BLM would coordinate with the State of SD including the SD Game, Fish and Parks and other applicable State agencies or surface owner on any potential decision related to the use of WEMs that would affect resources or activities managed by the State or surface owner.

*****The actions shown below apply only to surface estate and federal minerals that are within the decision space of this RMP/EIS. Refer to Chapter 1, page 2

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
for additional details about the decision space of this RMP/EIS. Refer to Appendix E for lease notices and stipulations. Lease notices and stipulations are periodically updated at http://www.blm.gov/mt/st/en/prog/energy/oil_and_gas/leasing/stipulations.html.				
	No specific objective	**Objective:** Mineral development would be allowed while minimizing restrictions to mineral development.	**Objective:** Mineral development would be allowed while minimizing disruption to resources, local residents and public by minimizing surface-disturbing activities and location of developed sites.	
Federal Minerals – Withdrawal and Closure Summary				
Mineral Withdrawal and Closure Summary	Locatable federal minerals under Fort Meade ACEC (6,574 acres) and Fossil Cycad ACEC (320 acres) /be recommended for withdrawal; while leasable federal minerals and oil and gas would be closed (no lease).	Locatable federal minerals under Fort Meade ACEC (6,574 acres), Fossil Cycad ACEC (320 acres), and Bear Butte National Historic Landmark (410 acres) would remain withdrawn/be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed. An exception would be oil and gas minerals which would be open to leasing with an NSO stipulation in Fossil Cycad ACEC and Bear Butte National Historic Landmark. Within the Abandoned Black Hills Army Depot and Igloo town site all leasable minerals would be NSO and all salable minerals would be closed. Locatable minerals would be open. Refer to Figure 2-4.	Locatable federal minerals under Fort Meade (6,574 Acres), Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would remain withdrawn/be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed (no lease) in these areas. Within the Greater Sage-Grouse PHMAs/ACEC, locatable minerals would be withdrawn and salable and leasable minerals would be closed. Greater Sage Grouse PHMAs for Alternative C are shown in Map 2-4. Greater Sage-Grouse PHMAs/ACEC acres in Alternative C would be 93,267 surface acres and 289,288 acres of mineral estate (subsurface). Within the abandoned Black Hills Army Depot and the Igloo town site all leasable and salable	Locatable federal minerals under Fort Meade (6,574 Acres), Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would remain withdrawn/be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed (no lease) in these areas (same as Alternative C). The Abandoned Black Hills Army Depot would be closed to leasable and salable minerals. Locable minerals would be open. Refer to Figure 2-4.

Table 2-6 Summary Comparison of Alternatives				
Management Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
			minerals would be closed. Locatable minerals would be open. Refer to Figure 2-4.	
Cumulative Acres of Federal Mineral Estate Available or Unavailable for Oil and Gas Leasing				
O&G Closed (includes non-discretionary acres throughout)	Fort Meade and Fossil Cycad Surface: 6,894 acres Subsurface: 7,069 acres	Fort Meade Surface: 6,574 acres Subsurface: 6,749 acres	Greater Sage-Grouse PHMAs, BHAD, Fort Meade, Fossil Cycad, and Bear Butte Surface: 100,160 acres Subsurface: 309,751 acres	Fort Meade, Fossil Cycad, and Bear Butte and BHAD Surface: 6,894 acres Subsurface: 19,378 acres
O&G No Surface Occupancy (NSO)	Surface: 15,489 acres Subsurface: 87,349 acres	Surface: 105,838 acres Subsurface: 404,442 acres	Surface: 99,811 acres Subsurface: 700,398 acres	Surface: 152,100 acres Subsurface: 584,118 acres
O&G Controlled Surface Use (CSU)	Surface: 2,954 acres Subsurface: 19,613 acres	Surface: 39,730 acres Subsurface: 363,692 acres	Surface: 1,051 acres Subsurface: 1,051 acres	Surface: 21,175 acres Subsurface: 250,242 acres
O&G Timing Limitations (TL)	Surface: 115,204 acres Subsurface: 450,032 acres	Surface: 61,186 acres Subsurface: 305,574 acres	Surface: 15,878 acres Subsurface: 92,903 acres	Surface: 1,169 acres Subsurface: 8,616 acres
O&G Standard Lease Terms	Surface: 103,033 acres Subsurface: 798,690 acres	Surface: 30,246 acres Subsurface: 282,296 acres	Surface: 26,674 acres Subsurface: 258,650 acres	Surface: 62,236 acres Subsurface: 500,399 acres
Leasable Minerals				
Oil and Gas				
1 Lands Available for O&G Leasing	Public lands would be open and available for mineral exploration and development unless withdrawn or administratively restricted. Mineral development may occur along with other	Public lands would be open and available for mineral exploration and development unless withdrawn, closed, or administratively restricted. Some acres would be open to oil and gas leasing and development, subject only to the terms and conditions identified on the standard BLM lease form, or subject to additional seasonal or other minor constraints or subject to additional no surface occupancy (NSO) or similar major constraints.		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	resource uses. Programs to obtain and evaluate current energy and mineral data are encouraged. (from SDRA 1985 RMP) The following oil and gas related determinations would apply to federal minerals administered by the BLM within the South Dakota Resource Area. Some acres would be open to oil and gas leasing and development, subject only to the terms and conditions identified on the standard BLM lease form, or subject to additional seasonal or other minor constraints or subject to additional no surface occupancy (NSO) or similar major constraints. Stipulations attached to a lease may be waived, excepted, or modified at the discretion of the authorizing officer. Waivers, exceptions, and modifications are described in Appendix E.1. Some acres would be closed	Stipulations attached to a lease may be excepted, modified, or waived at the discretion of the authorizing officer. Waivers, exceptions, and modifications are described in Appendix E.2, E.3,and E.4. For sage grouse related stipulations in PHMAs in Alternative D, no waivers or modifications to a fluid minerals lease no-surface-occupancy stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation in certain cases. Exceptions based on conservation gain (ii) may only be considered in (A) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) area of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of the Record of Decision for this RMP. See Appendix E.4.		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	to oil and gas leasing and development. (1992 MCFO RMP/EIS Amendment).			
2 O&G Leasing	Federal oil and gas under Fort Meade ACEC (6,574 Acres) and under Fossil Cycad ACEC (320 Acres) closed (no lease). Refer to Map 2-25.	Federal oil and gas under Fort Meade ACEC (6,574 Acres) would be closed (no lease). Federal oil and gas under Fossil Cycad ACEC (320 Acres) and Bear Butte National Historic Landmark (410 Acres) would be open to leasing with an NSO-stipulation. Refer to Map 2-26. Greater Sage-Grouse PHMAs (83,744 surface acres and 253,357 subsurface acres) would be open to oil and gas leasing but would have an NSO stipulation (Map 2-3). All leasable minerals in the abandoned Black Hills Army Depot (BHAD) and the Igloo town site would be NSO.	Federal oil and gas under Fort Meade (6,574 acres), Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would be closed (no lease). The Greater Sage-Grouse PHMAs/ ACEC would be closed to oil and gas leasing (93,266 surface acres and 289,562 subsurface acres). PHMAs in Alternative C are shown in Map 2-4. Oil and gas restrictions are shown in Map 2-27. All leasable minerals in the abandoned Black Hills Army Depot (BHAD) and the Igloo town site would be closed to exploration and development of oil and gas.	Same as Alternative C except Greater Sage-Grouse PHMAs and the abandoned Igloo town site would be open to oil and gas leasing with NSO stipulations and the BHAD would be closed to leasing. Greater Sage-Grouse PHMAs would be expanded to include additional areas as shown in Map 2-5 (123,594 surface acres and 405,849 subsurface acres). Refer to Map 2-28 for oil and gas restrictions.
Summary of O&G Restrictions	Least acres restricted as shown below.	Intermediate acres restricted as shown below.	Most acres closed as shown below.	Acres affected similar to Alternative B.

Restriction Type	Surface Acres	O&G Mineral Acres
Closed	6,894	7,069
NSO stips	15,489	87,349
CSU stips	2,954	19,613
Timing	115,204	450,032

Restriction Type	Surface Acres	O&G Mineral Acres
Closed	6,574	6,749
NSO stips	105,838	404,442
CSU stips	39,730	363,692
Timing	61,186	305,574

Restriction Type	Surface Acres	O&G Mineral Acres
Closed	100,160	309,751
NSO stips	99,811	700,398
CSU stips	1,051	1,051
Timing stips	15,878	92,903

Restriction Type	Surface Acres	O&G Mineral Acres
Closed	6,894	19,378
NSO stips	152,100	584,118
CSU stips	21,175	250,242
Timing stips	1,169	8,616

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	stips Standard Terms 103,033 798,690	stips Standard Terms 30,246 282,296	Standard Terms 26,674 258,650 * Many CSU acres from Alternative B are NSO acres in Alternative C.	Standard Terms 62,236 500,399
3 Summary of O&G Restrictions	103,033 surface acres open to leasing without BLM restrictions other than standard terms and conditions. 798,690 mineral acres open without BLM restrictions other than standard terms and conditions.	30,246 surface acres open to leasing without BLM restrictions other than standard terms and conditions. 282,296 mineral acres open without BLM restrictions other than standard terms and conditions.	26,674 surface acres open to leasing without BLM restrictions other than standard terms and conditions. 258,650 mineral acres open without BLM restrictions other than standard terms and conditions.	62,236 surface acres open to leasing without BLM restrictions other than standard terms and conditions. 500,399 mineral acres open without BLM restrictions other than standard terms and conditions.
4	No similar action	When applicable, stipulations developed for oil and gas development may be applied to other resource uses and activities pending environmental review at the project level (implementation level).		
Coal				
5 Coal Leasing	No specific management action	Refer to Alternatives considered but not analyzed. No interest has been expressed in coal development in South Dakota. An RMP Amendment would be necessary to address future expressions of interest in coal leasing, as well as following other laws relating to the analysis of coal development, such as SMCRA (currently). Selected conservation areas (Fort Meade and Fossil Cycad ACECs, and Bear Butte National Historic Landmark) would be closed to	Same as Alternative B except that in the Greater Sage-Grouse PHMAs/ACEC, the abandoned Black Hills Army Depot (BHAD) and Igloo town site, coal may be closed to leasing pending a suitability study. Greater Sage-Grouse PHMAs in Alternative C are shown in Map 2-4. The BHAD and Igloo town site is shown in Figure 2-4.	Same as Alternative B except t. Greater Sage-Grouse PHMAs and the abandoned Black Hills Army Depot (BHAD) may be closed pending a suitability study. The BHAD is shown in Figure 2-4.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		coal leasing.		
6	No similar management action			At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will determine whether the lease application area is "unsuitable" for all or certain coal mining methods pursuant to 43 CFR 3461.5. PHMA is essential habitat for maintaining GRSG for purposes of the suitability criteria set forth at 43 CFR 3461.5(o)(1).
Leasable Solid Minerals other than Coal (leasable non-energy minerals)				
7 Leasable Non-energy Minerals	No similar management action	Area wide terms, conditions or other special considerations needed to protect other resources or values would be implemented while exploring or developing these types of minerals under the non-energy leasable regulations. Leasable solid Federal minerals other than coal under Fort Meade and Fossil Cycad ACECs, and Bear Butte National Historic Landmark would be closed. NSO restrictions would apply in the sage-grouse PHMAs, the BHAD and abandoned Igloo town site (Figure 2-4) and other sensitive locations. Sage-grouse PHMAs for Alternative B are shown in Map 2-3. Waivers, exceptions,	Same as Alternative B except that leasable minerals other than coal (non-energy leasable minerals) would be closed within Greater Sage-Grouse PHMAs and the sage grouse PHMA ACEC. In addition the BHAD and the abandoned Igloo town site would be closed to exploration and leasing of leasable solid minerals (refer to Figure 2-4). Sage-grouse PHMAs for Alternative C are shown in Map 2-4. Waivers, exceptions, and modifications are described in Appendix E-3.	Area wide terms, conditions or other special considerations needed to protect other resources or values would be implemented while exploring or developing these types of minerals under the non-energy leasable regulations. Leasable solid Federal minerals would be closed under Fort Meade and Fossil Cycad ACECs (Figure 2-1), Bear Butte National Historic Landmark, sage-grouse PHMAs (Map 2-5) and BHAD (Figure 2-4). Igloo town site (Figure 2-4) would be NSO. Waivers, exceptions, and modifications are described in Appendix E-4.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		and modifications are described in Appendix E-2.		
Geothermal				
8 Geothermal Leasing	No similar management action	Leasing and development of federal minerals for geothermal resource development within the planning area would be evaluated and considered if requested unless withdrawn or administratively restricted. Stipulations adapted for oil and gas leasing and operations would be applied to geothermal leasing and operations. Selected conservation areas (Fort Meade and Fossil Cycad ACECs, and Bear Butte National Historic Landmark) would be closed to further consideration for geothermal leasing. NSO stipulations would apply to sage-grouse PHMAs, BHAD, and the abandoned Igloo town site. Alternative B PHMAs are shown in Map 2-3. Waivers, exceptions, and modifications are described in Appendix E-2.	Same as Alternative B except that leasing of federal minerals for geothermal development would be closed within Greater Sage-Grouse PHMAs/ACEC. PHMAs/ACEC in Alternative C are shown in Map 2-4. The abandoned BHAD and Igloo town site would be closed to exploration and leasing of geothermal minerals (refer to Figure 2-4).	Leasing and development of federal minerals for geothermal resource development within the planning area would be evaluated and considered if requested unless withdrawn or administratively restricted. Stipulations adapted for oil and gas leasing and operations would be applied to geothermal leasing and operations. Fort Meade and Fossil Cycad ACECs, Bear Butte National Historic Landmark and BHAD would be closed to further consideration for geothermal leasing. Sage-grouse PHMAs, within 6/10 of a mile around leks in GHMAs and Igloo town site would be NSO. There would also be 2 mile CSU around leks in GHMAs. Greater Sage-Grouse MAs are shown in Map 2-5. No waivers or modifications to a fluid minerals lease no-surface-occupancy stipulation will be granted. The Authorized Officer

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				may grant an exception to a fluid mineral lease no-surface-occupancy stipulation in certain cases. Exceptions based on conservation gain (ii) may only be considered in (A) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) area of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP. See Appendix E.4.
9 Stipulations	No specific management action	Oil and gas stipulations for Alternative B would areas that are open to to geothermal exploration and development. Waivers, exceptions, and modifications are described in Appendix E-2.	Oil and gas stipulations for Alternative C would also apply to areas that are open to geothermal exploration and development. Waivers, exceptions, and modifications are described in Appendix E-3.	Oil and gas stipulations for Alternative D would also apply to areas that are open geothermal exploration and development. No waivers or modifications to a fluid minerals lease no-surface-occupancy stipulation will be granted in PHMAs. The Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation in certain cases. Exceptions based on conservation gain (ii) may only be considered in (A) PHMAs of mixed ownership where federal

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				minerals underlie less than fifty percent of the total surface, or (b) area of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP. See Appendix E.4.
Locatable Minerals				
10 Availability of Locatable Minerals	No specific management action. (Public lands are open to mineral entry by the 1872 Mining Law unless specifically withdrawn from mineral entry.) Locatable federal minerals under Fort Meade ACEC Federal (6,574 acres) and Fossil Cycad ACEC (320 acres) withdrawn.	Locatable Federal Minerals would be open and available for mineral exploration and development subject to special considerations needed to protect other resource values while conducting activities under the operation of the mining laws. Locatable federal minerals under Fort Meade ACEC (6,574 acres), Fossil Cycad ACEC (320 acres), and Bear Butte National Historic Landmark (410 acres of mineral estate) would be recommended for withdrawal from further consideration for locatable mineral development.	Same as Alternative B except that the Greater Sage-Grouse PHMAs/ACEC would be recommended for withdrawal from locatable mineral entry. Greater Sage-Grouse PHMAs in Alternative C are shown in Map 2-4.	Same as Alternative B.
11	Standard mineral restrictions	• Within the limits of the mining laws, applicable management actions or practices, including the		

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Locatable Mineral Develop-ment and Exploration	would apply.	leasable mineral restrictions, conservation actions, BMPs, soil and water mitigation guidelines, and reclamation guidelines (Appendices B, C, D, and V-1 may be applied to a locatable mineral Plan of Operation or Notice as needed to protect resources). In addition to the guidance in these Appendices, other site specific evaluation, mitigation, monitoring and reclamation practices may be required. A phased approach may be required to limit the numbers of acres disturbed at any one given time.		
Salable Minerals				
12 Availability of Salable Minerals	No specific management action - Demand for salable minerals are currently being met through sales or free-use permits on a case-by-case basis.	Salable Federal Minerals would be open and available for saleable mineral exploration and development subject to special considerations needed to protect other resource values while operating under the mineral materials regulations, except The abandoned Black Hills Army Depot (BHAD), the town of Igloo, Fort Meade Recreation Area and Fossil Cycad ACECs, and Bear Butte National Historic Landmark, which would be closed to salable mineral development and exploration (refer to Figure 2-4.	Same as Alternative B except that Greater Sage-Grouse PHMAs/ACEC would be closed to salable minerals. Greater Sage-Grouse PHMAs in Alternative C are shown in Map 2-4.	Same as Alternative B except, PHMAs would be closed to new mineral material sales. However, these areas remain "open" to free use permits and the expansion of existing active pits, only if the following criteria are met: The activity is within the Biologically Significant Unit (BSU) and project area disturbance cap for sage-grouse; the activity is subject to the provisions set forth in the mitigation framework (Appendix B - Mitigation Measures, BMPs and SOPs. and Required Design Features for sage-grouse (Appendix V-1) and the activity is permissible under the sage-grouse subregional screening criteria.
13 Salable Mineral Develop-ment and	Standard mineral restrictions would apply.	Within the limits of the mining laws, applicable management actions or practices, including the leasable mineral restrictions, conservation actions, BMPs, soil and water mitigation guidelines, and reclamation guidelines (Appendices B, C, D, and V-1 may be applied to a salable mineral proposal as needed to protect resources). In addition to the guidance in these Appendices, other site specific evaluation, mitigation, monitoring and reclamation practices may be required. A phased approach may be required to limit the		

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Exploration		amount of disturbance at any one given time.		
Program: Renewable Energy Resources				
Goal 1: Make lands available for renewable energy development, consistent with goals to manage other resources. **Goal 2:** Provide opportunities for renewable energy development, especially for wind energy, while avoiding or minimizing adverse impacts to wildlife, cultural, visual, and other resource values. **Goal 3:** Restore areas to near natural conditions when renewable energy development is decommissioned. **Management Common to All Alternatives:** • Consider proposals for renewable energy development such as wind, biomass, and solar, except where otherwise restricted. • BLM would adopt the BMPs provided in the Wind Energy Programmatic EIS (December 2005) for the planning area, and follow directives on renewable energy development as outlined in BLM policy and guidance. • Develop mitigation measures at the project level based on current science. • Oil and Gas stipulations would be applied to renewable energy when appropriate (Appendix E). **Note:** Renewable energy proposals are authorized by BLM on BLM-administered surface estate only.				
1 Lands Available for Renewable Energy Develop-ment *The acres and actions represent ROWs associated with Renewable Energy.*	267,795 acres (98% of BLM surface acres) in western SD would be open to renewable energy development. 0 acres would be renewable energy ROWs avoidance areas. 5,522 acres would be renewable energy ROWs exclusion areas. Refer to Map 2-20 and Appendix R.	37,040 acres (14% of BLM surface estate in western SD) would be open to renewable energy development. Manage 77,570 acres of the open area as Potential Wind Development Areas. 236,250 acres would be renewable energy ROWs avoidance areas. 0 acres would be renewable energy ROWs exclusion areas. Refer to Map 2-21 and Appendix R.	32,724 acres (12% of BLM surface estate in western SD) would be open to renewable energy development. Manage 69,811 acres of the open area as Potential Wind Development Areas. 0 acres would be renewable energy ROWs avoidance areas. 240,566 acres would be renewable energy ROWs exclusion areas. Refer to Map 2-22 and Appendix R.	19,903 acres (7% of BLM surface estate in western SD) would be open to renewable energy development. These areas would be managed as Potential Wind Development Areas. At the discretion of the Authorized Officer, lands designated as Potential Wind Development Areas could be offered for competitive leasing.Manage 69,811 acres of the open area as Potential Wind Development Areas. 107,147 acres would be renewable energy ROWs avoidance areas.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Refer to the ROWs section of this table for actions for other types of ROWs.				146,240 acres would be renewable energy ROW exclusion areas. Refer to Map 2-23 and Appendix R.
2 Lands Available for Renewable Energy Develop-ment	All areas would be open for Renewable Energy ROW actions except for the Fort Meade ACEC. Refer to summary below. For additional details refer to Appendix R.	There would be no exclusion areas for renewable energy. Fort Meade and Fossil Cycad ACECs, VRM Class II areas, important wildlifespecial status species habitat, PHMAs and 1/2m lek in GHMAs, floodplains , and soils that are vulnerable to impacts would be Renewable Energy ROW avoidance areas. VRM Classes III and IV would be open to Renewable Energy ROWs. Refer to summary below. For additional details refer to Appendix R.	The Fort Meade, Fossil Cycad and Sage-Grouse PHMAs ACECs, VRM Class II areas, important wildlife and special species habitat, floodplains, and soils that are vulnerable to impacts would be Renewable Energy ROW exclusion areas. There would be no ROW avoidance areas. VRM Classes III and IV would be open to Renewable Energy ROWs. Refer to summary below. For additional details refer to Appendix R.	The Fort Meade and Fossil Cycad ACECs, the Exemption Area, VRM Class II areas, Greater Sage-Grouse PHMAs, 1mi of leks in GHMAs, areas near raptor nests and sharp-tailed grouse leks, greater prairie-chicken leks and wintering areas for sage-grouse would be Renewable Energy ROWs exclusion areas. Other important wildlife and special status species habitat, Other portions of GHMAs, floodplains, and soils that are vulnerable to impacts would be ROWs avoidance areas. VRM Classes III and IV would be open to Renewable Energy ROWs. Refer to summary below. For additional details refer to Appendix R.
3 Summary of Renewable	**Resource** / **Restriction** Fort Meade ACEC / Exclusion Fossil Cycad ACEC / Open	**Resource** / **Restriction** Fort Meade ACEC/SRMA / Avoidance	**Resource** / **Restriction** Fort Meade ACEC/SRMA / Exclusion	**Resource** / **Restriction** Fort Meade ACEC/SRMA / Exclusion

Table 2-6
Summary Comparison of Alternatives

Management Action	Alternative A (No Action)		Alternative B		Alternative C		Alternative D (Proposed Action)	
Energy Restrictions (Refer to Appendix R for a more detailed summary)	Exemption Area	Open	+buffer		+buffer		+buffer	
	SRMA buffers	Open	Fossil Cycad ACEC	Avoidance	Fossil Cycad ACEC	Exclusion	Fossil Cycad ACEC	Exclusion
	Greater Sage-Grouse lek buffers	Open	Exemption Area SRMA +buffer	Avoidance	Exemption Area SRMA +buffer	Open	Exemption Area SRMA +buffer	Exclusion
	Greater Sage-Grouse nesting & brood rearing areas	Open	Greater Sage-GrousePHMAs	Avoidance	Greater Sage-Grouse PHMAs/ ACEC	Exclusion	Sage-grouse PHMAs	Exclusion
	Big game/sage-grouse wintering areas	Open	Greater Sage-Grouse GHMAs/ 1/2m lek	Avoidance	Greater Sage-Grouse GHMAs/ 1m lek	Exclusion	Greater Sage-Grouse GHMAs/lek buffers	Exclude 1m lek Avoidance for the rest
	Sharp-tailed grouse/ greater prairie-chicken lek buffers	Open	Big game/sage-grouse wintering areas	Avoidance	Big game/sage-grouse wintering areas	Exclusion	Big game wintering Areas	Avoidance
	Spec. status species (SSS) raptor nests	Open	Sharp-tailed grouse/ greater prairie-chicken lek buffers	Avoidance	Sharp-tailed grouse/ greater prairie-chicken lek buffers	Exclusion	Greater Sage-Grouse wintering areas	Exclusion
	Other raptor nests (non SSS)	Open	Spec. status raptor nests	Avoidance	Spec. status raptor nests	Exclusion	Sharp-tailed grouse/ greater prairie-chicken lek buffers	Avoidance
	Bighorn sheep range	Open	Other raptor nests	Avoidance	Other raptor nests	Exclusion	Prairie dog habitat	Avoidance
	Least terns/piping plover habitat	Open	Bighorn sheep range	Avoidance	Bighorn sheep range	Exclusion	Colonial-nesting waterbirds	Exclusion
	Fisheries	Open	Least terns/piping plover habitat	Avoidance	Least terns/piping plover habitat	Exclusion	Black-footed ferret Habitat	Exclusion
	VRM Class II	Open	Fisheries	Avoidance	Fisheries	Exclusion	Pallid/SN Sturgeon	Avoidance
	VRM Class III & IV	Open	VRM Class II	Avoidance	VRM Class II	Exclusion	Sprague's Pipit	Avoidance
	Streams,waterbodies, floodplains, wetlands & riparian	Open	VRM Class III & IV	Open	VRM Class III & IV	Open	All Raptor nests	Exclusion
	Sensitive soils	Open	Streams, waterbodies, floodplains, wetlands & riparian	Avoidance	Streams, waterbodies, floodplains, wetlands & riparian	Exclusion	Bighorn sheep range	Avoidance
	Slopes over 30%	Open	Sensitive soils (including Slopes over 25%)	Avoidance	Sensitive soils (including Slopes over 25%)	Exclusion	Least terns/piping plover habitat	Avoidance
							Fisheries	Avoidance
							VRM Class II	Exclusion
							VRM Class III & IV	Open
							Streams, waterbodies,	Avoidance

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				floodplains, wetlands & riparian: Sensitive soils (including steep slopes): Avoidance Badland/Rock outcrop: Avoidance
4 Wildlife Study Require-ments for Renewable Energy Projects	No similar management action	Require multi-year preconstruction studies to confirm migration, wintering or breeding season concentrations of raptors and other wildlife in proposed renewable energy development areas.		
Program: Special Designations				
National Scenic and Historic Trails	No similar management action			Stipulation: Surface occupancy and use is prohibited within the National Trail Management Corridor of the designated Lewis and Clark National Historic Trail along the Missouri River. The River Corridor is the designated historic trail for the Lewis and Clark Trail. To protect the Lewis and Clark Trail and associated settings, this stipulation would be applied to the water portion of the Missouri River and its reservoirs and extend out ½ mile from the high water mark of the River and its reservoirs.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Alternatives Specific to the Fort Meade Recreation Area ACEC **(Unless specified otherwise in this section, Alternatives that apply to the entire planning area would also apply)**				
Management Common to All Alternatives: • Fort Meade ACEC would continue to be designated as an ACEC for historical and archaeological relevance and importance. • Fort Meade ACEC would be designated as Travel Management Areas (TMAs). • Motorized travel would be limited to designated routes except for administrative, authorized or emergency use. • Off road travel for game retrieval would not be allowed, exceptions would require written approval by the Field Manager. • Back Country Byway designation and management would continue as detailed in the 1996 Ft. Meade ACEC Management Plan. • Designated transportation /utility corridors would be located along I-90, State Highway 34 and the Bear Butte Road as described in the 1996 Fort Meade ACEC Plan Figure 2-2. • Temporary travel restrictions would be implemented in emergency situations to comply with fire restrictions or protect the soil and water quality • Travel routes through cultural resource sites would be rerouted or mitigated. • Lands within the Fort Meade ACEC would not be considered for disposal except 5.83 acres of the SDM 74900. • Mineral at the Fort Meade ACEC would be withdrawn from mineral entry. • Snowmobiles would be prohibited in the Fort Meade ACEC. • Recreational gold panning would be prohibited. • Camping would be prohibited outside designated campgrounds. • Recreation Use Permits (RUPs) would be required at designated campgrounds. Special Recreation Use Permits (SRUPs) would be authorized where consistent with National BLM SRP policy. • The BLM would continue management of Fort Meade according to the goals and objectives of the 1987 Cultural Resource Management Plan (CRMP) and the 1996 Fort Meade Recreation Area ACEC Management Plan. This includes Management Objectives such as: (1) Inventory and evaluate sites/features on public lands to determine their best use, (2) Protect significant sites/features, and (3) Insure their proper use. • A minimum of 8 to 12 inches of residual herbaceous growth would be maintained on 50 percent of the uplands needed for nesting by ground-nesting birds, particularly sharp-tailed grouse and waterfowl.				
Management of Vegetation in the Fort Meade Recreation Area ACEC				
1 Vegetation	BLM would maintain or improve all rangeland uplands and riparian areas to proper functioning condition. Introduced vegetative species would be decreased while increasing native vegetation.	Vegetative management practices would include Rx fire, integrated pest management, and grazing to maintain health and productivity of native plant species recognizing that some non-native species such as smooth brome and Kentucky bluegrass have become too well	Vegetative management practices would include Rx fire, integrated pest management, grazing, seeding, and mechanical methods to manage strictly for native plants with intent to eliminate or drastically reduce the levels of non-native herbaceous plant	Vegetative management practices would include Rx fire, integrated pest management, and grazing to maintain health and productivity of native plant species recognizing that some non-native species such as smooth brome and Kentucky bluegrass have become too well

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
		established to eradicate. Attempts to conduct large-scale conversion of grasslands back to native species using chemicals, seeding, Rx fire, and mechanical methods, etc. would not occur unless future research determines that a specific course of action has a high probability of success and such methods are within budget and staffing capabilities.	species.	established to eradicate.
Management of Cultural Resources and Traditional Cultural Properties in the Fort Meade Recreation Area ACEC				
2 National Register Historic Places	Continue with present National Register of Historic Places District Boundary for Fort Meade includes 3,200 acres.	Complete a formal nomination of Fort Meade as a National Register Landmark listing of 6,570 acres.	Revise the National Register of Historic Places Fort Meade District nomination to incorporate 3,370 additional acres inside the District Boundary and incorporate the entire Military Reservation. Total acres in Historic District would be changed to 6,570.	Revise the current National Register of Historic Places Nomination for the Fort Meade Historic District site boundary to incorporate all additional acres, approximately 3,370 acres, inside the original Military Reservation that are administered by the BLM. Consider a National Historic Landmark nomination, contingent on other partnering agency cooperation.
Management of Visual Resource Management in the Fort Meade Recreation Area ACEC				
3 VRM	VRM acres were partially classified in the Fort Meade ACEC designation and management plan and would be approximately:	Completing the VRM designation on Fort Meade ACEC would result in the following Visual Resource Management Classification approximate acres would be:	Visual Resource Management Classification designating all of Fort Meade ACEC as VRM Class II except for Recreation Development Zones which would be retained in Class IV would result in:	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	VRM Class / Acres I: 0 II: 1,231 III: 4,993 IV: 218 0 (No Designation): 291	VRM Class / Acres I: 0 II: 1,231 III: 5,284 IV: 218 0 (No Designation): 0	VRM Class / Acres I: 0 II: 6,515 III: 0 IV: 218 0 (No Designation): 0	
Management of Forest and Woodland Products in the Fort Meade Recreation Area ACEC				
4 Roads assoc. with Forest Mgmt.	Same as the rest of the planning area.	Same as the rest of the planning area except no new permanent roads would be allowed.	Same as the rest of the planning area.	Same as the rest of the planning area except no new permanent roads would be allowed. Rerouting and maintenance of existing authorized roads would be allowed to reduce impacts to resources. Temporary roads would be allowed after project level planning, and decommissioned as part of the project.
5 Plant Gathering	Same as the rest of the planning area.	Incidental use of plant materials would be allowed, except that only above ground plant gathering would be allowed in the Fort Meade ACEC.		
Management of Livestock Grazing in the Fort Meade Recreation Area ACEC				
Objectives: • Maintain or enhance proper functioning condition of Bear Butte Creek and the associated riparian zone. • Provide for a diversity of vegetation types across the landscapes including healthy functioning riparian areas, woody draws, pine forests and grasslands. • Perennial grasses make up at least 60% of the vegetative cover in the mid grass association. • Ensure that adequate food and cover will be available for wildlife before, during and after livestock use.				
6 Fort Meade Grazing Bid	A bid process would continue to be conducted to establish vegetative grazing use contracts for the Fort Meade	Same as Alternative A, except the Westside Pasture Allotment(s) could be separate from the Bear Butte Allotment and managed	Same as Alternative A (No Action).	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Process	and the Bear Butte Allotments. (Per 43 CFR 4110.1-1 and previous use administered by the Veterans Administration at time of acquisition.)	under a Section 15 grazing lease(s). Billing for the Westside Pasture Allotment(s) would be conducted in a manner consistent with all other Section 15 grazing leases.		
7 Fort Meade East Pastures	East Pastures would continue to be grazed by SD State University (SDSU) through a Recreation and Public Purpose (R&PP) lease with a set annual fee. .	Same as Alternative A (No Action).		The competitive bid process that is used for Fort Meade may be used for the East Pastures if the current R&PP lease expires or is terminated otherwise the authorization would remain under an R&PP lease.
8 Land Tenure/ Grazing Allocation	No similar management action	Up to 170 acres of public land could be considered for transfer to the Black Hills National Cemetery. There would be 17 to 27 AUMs removed from the Fort Meade Allotment if the transfer was completed. Actual AUMs affected may change depending on actual acres transferred or additional carrying capacity studies.	No public land would be considered for transfer to the Black Hills National Cemetery.	Same as Alternative B.
9 Grazing in Fenced Exclosures	Cattle grazing would not be allowed within campground areas, the Fort Meade cemetery, Bear Butte Creek and Fort Meade Reservoir exclosures (fenced areas that exclude livestock), Camp Fechner, and the two water guzzlers. Currently 138 acres	Same as Alternative A (No Action) except exclosures could be grazed for fuels management or resource benefits. This would also apply to any additional exclosures that may be built.	Grazing would be allowed in Camp Fechner and the Muzzleloader exclosures on an annual basis to reduce the buildup of fine fuels. Periodic grazing of other exclosures may be allowed depending on the purpose of the exclosure. If allowed in other exclosures, grazing would be used only for management of fuels, other resource benefits, or research.	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	within exclosures.			
10 Residual Cover	At least four inches of herbaceous stubble would remain in the riparian areas within the Fort Meade ACEC after the grazing treatment or rotation has been completed to promote sediment filtering. Additional utilization standards would apply as noted in the Allotment Management Plans.		At least six inches of herbaceous stubble would remain in the riparian areas within the Fort Meade ACEC after the grazing treatment or rotation has been completed to promote sediment filtering. Additional utilization standards would apply as noted in the Allotment Management Plans.	Maintain adequate residual cover to support hydrologic function based on current growth of key native plant species.
11 Grazing Use Dates	Livestock grazing would be limited at Fort Meade ACEC to May 15th through October 15th to enhance wildlife habitat.	Livestock grazing would be limited to May 1st through October 31st.	Same as Alternative A (No Action).	Livestock use dates may vary based on actual conditions but would normally occur from May 15 to Oct. 31 for the Bear Butte Allotment and from June 15 to Oct. 31 for the Fort Meade Allotment.
Management of Recreation in the Fort Meade Recreation Area ACEC				
12 Special Recreation Mgmt. Desig-nation	No similar management action	Fort Meade ACEC would be designated a Special Recreation Management Area (SRMA), and would continue as an Area of Critical Environmental Concern (ACEC).	Same as Alternative B.	
13 Recreation Setting Charact-eristics	Objective: Fort Meade ACEC would be managed for Front Country recreation setting characteristics.			

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
14 Camping at Fort Meade ACEC	a) Camping stay limits would be consistent with current BLM policy, and allowed only in two designated campgrounds: Alkali Creek Trailhead Campground; Alkali Creek Horse Camp. b) Motorized travel across country for camping purposes would not be allowed. c) Campfires would be allowed only in established fire pits or grates at designated sites. Additional use restrictions would be implemented under extreme fire conditions.	a) Camping stay limits would be consistent with current BLM policy, and allowed in designated campgrounds: Alkali Creek Trailhead Campground; Alkali Creek Horse Camp; Fort Meade Reservoir, if it is developed. b) Same as Alternative A. c) Same as Alternative A.	Same as Alternative A.	a) Camping stay limits would be consistent with current BLM policy, and allowed in designated campgrounds: Alkali Creek Trailhead Campground; Alkali Creek Horse Camp; Fort Meade Reservoir, if it is developed. b) Motorized travel cross country would not be allowed. c) Campfires would be allowed only in established fire pits or grates at designated sites. Additional use restrictions would be implemented under extreme fire conditions.
15 Non-Motorized Travel at Fort Meade ACEC	a) Same as rest of the planning area except only non-motorized travel would be allowed on existing trails, and snowmobiling would be prohibited. b) Approximately 9 miles of the Centennial Trail would be on BLM-administered lands. Routing and maintenance of the Centennial Trail would be coordinated with the U.S.	a) Same as Alternative A. b) Same as Alternative A. c) Additional local trails may be developed. d) Same as Alternative A.	a) Same as Alternative A. b) Same as Alternative A. c) Same as Alternative B. d) Same as Alternative A.	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Forest Service, the lead agency for the trail. c) No new trails would be proposed. d) Maintenance of existing trails (Nature Trail, Longstone Building Trail, VFW Chapel Trail, Centennial Trail) would be allowed.			
16 Use of Firearms at Fort Meade ACEC	a) Same as the rest of the planning area except hunting with firearms or shooting of firearms would be prohibited on certain portions of Fort Meade ACEC (Figure 2-2). b) No similar management action c) No target shooting would be allowed except in the muzzleloader range utilizing only black powder firearms. d) No traps or snares would be allowed.	a) Same as the rest of the planning area except hunting with firearms or shooting of firearms would be prohibited on certain portions of Fort Meade ACEC (Figure 2-2). b) Pneumatic devices such as pellet guns or air rifles would not be allowed unless authorized in writing. c) No target shooting ranges would be allowed except in the muzzleloader range utilizing black powder firearms or archery. d) No traps or snares would be allowed unless authorized in writing for such purposes as research or problem animal removal.	Same as Alternative B.	a) Same as the rest of the planning area except hunting with firearms or shooting of firearms would be prohibited on certain portions of Fort Meade ACEC (Figure 2-2). b) Same as Alternative B. c) No new permanent target shooting ranges would be allowed. Target shooting ranges would be allowed in the existing muzzleloader range only, utilizing black powder firearms with the following exceptions: Applications for temporary firearm or archery use for education purposes would be considered in areas adjacent to or near the existing muzzleloader range (within the fenced exclosure north of highway 34), if such use is not in conflict with other

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				uses that are authorized at the time of application. d) Same as Alternative B.
17 Plant Gathering at Fort Meade ACEC	No similar management action	Incidental use of above ground plant materials is allowed. .		
Management of Travel and Transportation in the Fort Meade Recreation Area ACEC				
18 Motorized Travel at Fort Meade ACEC	Motorized travel would be limited to designated routes except for administrative, authorized or emergency use.			Motorized travel would be limited to designated routes except for administrative, authorized or emergency use. Temporary road construction would be allowed and decommissioned as part of the project.
19 Vehicles equipped to travel over snow at Fort Meade ACEC	No snowmobiles would be allowed except for emergency or administrative use.	Same as Alternative A, but also prohibits other vehicles specifically modified to travel across snow.		
20 New Roads at Fort Meade ACEC	No new ROWs would be allowed under the 1996 ACEC Plan.	The existing Old Hooper Dairy Road would be authorized as a new ROW.		
21 New roads at Fort	Construction of new roads would not be allowed.	Construction of new permanent roads is not allowed except for rerouting of existing authorized	Same as Alternative B.	Construction of new permanent roads is not allowed except for rerouting of existing authorized

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Meade ACEC		roads to reduce impacts to resources.		roads to reduce impacts to resources. Temporary road construction and decommissioning would be allowed on a project specific basis.
22 Non-Motorized Trails at Fort Meade ACEC	BLM would establish and maintain a system of marked equestrian, hiking and biking trails through partnerships with user groups.	Establish and maintain a system of marked equestrian, hiking and biking trails. Partnerships with user groups would be the preferred method for planning, establishment, and maintenance. New trail establishment would be allowed.	Existing trails would be designated as to a particular use such as foot, horse or bike, horse-drawn wagon (non-motorized). No new trails would be established.	Same as Alternative B.
Management of Lands and Realty in the Fort Meade Recreation Area ACEC				
23 Rec. Public Purposes (R&PP) Leases at Fort Meade	No new R&PP leases.	New R&PP leases could be allowed provided they are compatible with the objectives in the Fort Meade ACEC management plan.		
24 Trespass Abatement at Fort Meade	Trespass would be resolved by removal of structures. Disposal is not an option.	Unauthorized use, occupancy and development of public lands would be investigated and resolved either through termination and removal of facilities or issuance of an authorization where it is compatible with the objectives of the Fort Meade ACEC management plan. Disposal is not an option.		
25 Shooting Ranges at Fort Meade	New firearm or archery ranges would be prohibited.	No target shooting ranges would be allowed except in the existing muzzleloader range utilizing black powder firearms or archery.	Same as Alternative B.	No new permanent target shooting ranges would be allowed. Target shooting ranges would be allowed in the existing muzzleloader range only, utilizing black powder

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
				firearms with the following exceptions: Applications for temporary firearm or archery use for education purposes would be considered in areas adjacent to or near the existing muzzleloader range (within the fenced exclosure north of highway 34), if such use is not in conflict with other uses that are authorized at the time of application.
26 Military Exercises at Fort Meade ACEC	Allow military exercises within the management area with the appropriate authorization.	Allow military exercises that are compatible with the objectives of the Fort Meade ACEC management plan.		
27 ROWs at Fort Meade ACEC	ROW exclusion or avoidance areas would not be designated within Fort Meade ACEC but several restrictions on specific activities. Allow new ROWs through the Fort Meade ACEC subject to the following guidelines: a. Would have minimal impact on existing uses other than temporary disruptions caused by construction activities. b. Utility transmission and transportation ROWs would be restricted to the corridors shown.	The Fort Meade ACEC would be a ROW avoidance area except for Hooper Dairy Road and all other valid existing rights and designated corridors as designated in the Fort Meade ACEC management plan of 1996 as shown in Figures 2-1 and 2-2.	The Fort Meade ACEC would be a ROW exclusion area except for Hooper Dairy Road and all other valid existing rights and designated corridors as designated in the Fort Meade ACEC management plan of 1996 as shown in Figures 2-1 and 2-2.	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	c. Would be compatible with other resource guidelines.			
28 Utility/ Powerlines at Fort Meade ACEC	All new power transmission lines 33KV or less would be buried.	Within the designated Fort Meade ROW corridor, all power/utility lines that can be safely buried would be buried provided that the burial of lines does not conflict with other resource values. Refer to Figure 2-2 for a display of the Fort Meade ROW corridor.	Same as Alternative B.	
29 Utility/ Powerlines at Fort Meade ACEC	Burial of power lines 33 to 69 KV would be required if location allows.	Fort Meade ACEC would be an avoidance area for power/utility lines except for the designated corridor (See Figure 2-2). Refer to management action 6 regarding burial of lines in the designated corridor.	Fort Meade ACEC would be an exclusion area for power/utility lines except for the designated corridor (See Figure 2-2). Refer to management action 6 regarding burial of lines in the designated corridor.	
30 New Roads at Fort Meade ACEC	Construction of new roads would not be allowed.	Construction of new roads is not allowed except for rerouting of existing authorized roads to reduce impacts to resources and address safety issues.		
Land Tenure Adjustments in the Fort Meade Recreation Area ACEC				
31 Land Acquisition at Fort Meade ACEC	No similar management action	When opportunities exist, BLM would consider acquisition of land adjacent or near Fort Meade ACEC to protect or enhance cultural, historic values, and other resource values such as recreation and wildlife.		
32 Land Tenure at	National Cemetery expansion proposal would be accepted if it was consistent with	Transfer of up to 170 acres of BLM-administered lands to the Black Hills National Cemetery	Transfer of BLM-administered lands to the Black Hills National Cemetery would not be allowed.	Same as Alternative B.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
Fort Meade ACEC	management objectives.	may be allowed, provided that impacts are minimal and the transfer is consistent with management goals and objectives. If the proposed transfer does not occur the land would remain part of the ACEC.		
33 Land Tenure at Fort Meade ACEC	No similar management action	Up to six acres of BLM-administered land in the Fort Meade ACEC (lands adjacent to the sewer lagoons) would be considered for transfer to the City of Sturgis pending additional further environmental review.		
Management of Minerals Program in the Fort Meade Recreation Area ACEC				
34 Locatable, leasable and salable Minerals.	Recommended for withdrawal from locatable mineral entry. Closed to leasable mineral and salable mineral exploration and development.			
Management of Renewable Energy in the Fort Meade Recreation Area ACEC				
35 Renewable Energy at Fort Meade ACEC	Renewable energy projects would not be restricted unless projects compromise ACEC values.	The Fort Meade Recreation Area would be a ROW avoidance area for renewable energy projects unless the project is deemed necessary for the management of the Fort Meade ACEC.	The Fort Meade Recreation Area would be a ROW Exclusion area for renewable energy projects unless the project is deemed necessary for the management of the Fort Meade ACEC.	Same as Alternative C.
Management of Special Designations in the Fort Meade Recreation Area ACEC				
36 Land Tenure at Fort Meade ACEC	National Cemetery expansion proposal would be accepted if it was consistent with management objectives.	Transfer of up to 170 acres of BLM-administered lands to the Black Hills National Cemetery may be allowed, provided that impacts are minimal and the transfer is consistent with	Transfer of BLM-administered lands to the Black Hills National Cemetery would not be allowed.	Same as Alternative B.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		management goals and objectives. If the proposed transfer does not occur the land would remain part of the ACEC.		
37 National Register Historic Places and National Landmarks at Fort Meade ACEC	Continue with present National Register of Historic Places District Boundary for Fort Meade includes 3,200 acres.	Complete a formal nomination of Fort Meade as a National Register Landmark listing of 6,570 acres.	Revise the National Register of Historic Places Fort Meade District nomination to incorporate 3,370 additional acres inside the District Boundary and incorporate the entire Military Reservation. Total acres in Historic District would be changed to 6,570.	Revise the current National Register of Historic Places Nomination for the Fort Meade Historic District site boundary to incorporate all additional acres, approximately 3,370 acres, inside the original Military Reservation that are administered by the BLM. Consider a National Historic Landmark nomination, contingent on other partnering agency cooperation.

Alternatives Specific to the Fossil Cycad ACEC
(Unless specified otherwise in this section, alternatives that apply to the entire planning area would also apply)

Goal 1: Protect relevant and important values through Area of Critical Environmental Concern (ACEC) designation (Appendix T) and apply special management where standard or routine management is not adequate to protect the areas from risks or threats of damage/degradation or to provide for public safety from natural hazards.

Goal 2: Paleontological resources are preserved. Sites are interpreted for vulnerability to degradation.

Management Common to All Alternatives:

- Fossil Cycad would be retained in public ownership (land retention category 1).
- All 320 acres within the current ACEC boundary would continue to be managed as an ACEC.
- No sale of forest products would be allowed.
- Casual or commercial collection of invertebrate, vertebrate and plant fossils would not be allowed at the Fossil Cycad ACEC (refer to glossary for definition of casual collection.
- Scientific collection of invertebrate, vertebrate and plant fossils may be allowed on a case-by-case basis through a permit.

Management of Vegetation in the Fossil ACEC		
1 Plant	No similar management action	Incidental use of plant materials would be allowed, except that only above ground plant gathering would be allowed in the Fossil Cycad ACEC.

Table 2-6
Summary Comparison of Alternatives

Manage-ment Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Gathering at Fossil Cycad ACEC				
Management of Visual Resources Management in the Fossil Cycad ACEC				
2 VRM at Fossil Cycad ACEC	Fossil Cycad would be managed as VRM Class IV.	Fossil Cycad would be managed as VRM Class II.		
Management of Renewable Energy in the Fossil Cycad ACEC				
3 Renewable Energy at Fossil Cycad ACEC	No similar management action	The Fossil Cycad ACEC would be an avoidance area for renewable energy development, including testing and monitoring.	The Fossil Cycad ACEC would be an exclusion area for renewable energy development, including testing and monitoring.	Same as Alternative C.
Management of Minerals in the Fossil Cycad ACEC				
4 Avail-ability of Minerals at Fossil Cycad ACEC	Locatable federal minerals under Fossil Cycad ACEC withdrawn. Leasable federal minerals and oil and gas under Fossil Cycad ACEC (320 acres) would be closed (no lease).	Locatable federal minerals under Fossil Cycad ACEC would be recommended for withdrawal. Leasable federal minerals under Fossil Cycad ACEC would be closed (no lease) except for oil and gas which would be open to leasing with an NSO-stipulation. Salable federal minerals would be closed (no lease).	Locatable federal minerals under Fossil Cycad ACEC would be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed (no lease).	Same as Alternative C.
Management of Lands at the Fossil Cycad ACEC				
General ROWs	Fossil Cycad would be open to ROWs.	Fossil Cycad would be an avoidance area for ROWs.	Fossil Cycad would be an exclusion area for ROWs.	

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Alternatives Specific to the Greater Sage-Grouse Priority Habitat Management Areas (PHMAs) ACEC **(Unless specified otherwise in this section, alternatives that apply to the entire planning area would also apply)**				
Goal 1: Protect the Relevance and Importance values as shown in Appendix T. **Management Actions Common to All Alternatives**, as described in the Special Status Species section of this Table, would apply to the Greater Sage-Grouse PHMAs ACEC.				
1 ACEC Designation at Fossil Cycad ACEC	No ACEC designation of Greater Sage-Grouse PHMAs.		Greater Sage-Grouse PHMAs would be designated as an ACEC. Actions specific to Greater Sage-Grouse PHMAs/ACEC as shown in the Special Status Species PHMA section under Alternative C would apply. Refer to the Special Status Species section of this table for details. Summary of major actions specific to Greater Sage-Grouse PHMAs/ACEC in Alternative C include: • Within the PHMAs/ACEC, oil and gas leasing would be closed, locatable minerals would be recommended for withdrawal, and salable and other non-energy leasable minerals would be closed. • The Greater Sage-Grouse PHMAs/ACEC would be excluded from all types of ROWs. • Prescribed fire would not be used in the Greater Sage-Grouse	No ACEC designation of Greater Sage-Grouse PHMAs.

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			PHMAs/ACEC. • All BLM-administered surface estate in the Greater Sage-Grouse PHMAs/ACEC would be managed as a Travel Management Area. Travel would be limited to existing routes until such time as a Travel Plan is written. After a Travel Plan is written, travel would be limited to designated routes.	
Program: Social and Economic				
Goal 1: Provide opportunities for economic sustainability at the national, regional and local level. **Goal 2:** Provide for a diverse array of opportunities that result in social benefits for local residents, businesses, recreationists, visitors, interested citizens and future generations, while minimizing the negative social effects. **Management Common to All Alternatives:** The goals and objectives for social and economic conditions and environmental justice would provide for a diverse array of opportunities that result in social and economic benefits for interested groups and individuals such as local residents, recreationists, permittees, etc. The use of lands and minerals managed by the BLM provide opportunities to contribute to local, state, and economic development and growth. Opportunities to use and develop these lands and minerals, as well as the costs and likelihood of these lands and minerals being used and developed given other management objectives and constraints, vary among the alternatives described and analyzed. The positive and negative social effects to the various groups and individuals are identified in the effects analysis. During social effects analysis, identify disproportionate negative effects to minority or low income populations per Executive Order 12898, Environmental Justice. If negative disproportionate effects are identified, remediate these effects to the extent possible by identifying mitigation to be added to the alternatives where the effects are found.				
Program: Public Safety				
Management Concern: Abandoned Mine Lands				
Goal 1: Reclaim AML sites on public land to improve water quality, plant communities, and diverse fish and wildlife habitat. **Goal 2:** Reduce and/or eliminate risks to human health from hazardous mine openings and other physical and chemical safety hazards. **Goal 3:** Protect historic resources and wildlife habitat commonly associated with AML sites.				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Goal 4: Remove the greatest risks, preserve bat habitat, restore the environment, and preserve representative or significant cultural resources. **Management Common to All Alternatives:** • To the extent possible on BLM lands, BLM would strive to meet state and federal water quality standards in watersheds impacted by historic mining. • BLM would assess level of risks at AML sites and prioritize for reclamation based on standardized risk assessment. Reclamation would be implemented at the highest risk sites first. • Where deemed appropriate by BLM personnel, BLM would restore severely impacted soils and watersheds as close as possible to pre-disturbed conditions that support productive plant communities and ensure properly functioning watersheds. • Closures of dangerous inactive and abandoned mine sites would be designed to reduce to the risks to human health and safety, restore the environment, preserve bat habitat, and protect some mine sites as cultural resources and meet or move toward meeting Land Health Standards. • Restoration and reclamation activities and repositories would be monitored to determine effectiveness of reclamation practices. Repositories would be maintained to assure cap integrity, including maintaining vegetation for stability, yet preventing tree growth to forestall root penetration of the cap. No Specific Alternatives were identified to address Abandoned Mine Lands other than the Management Common to All Alternatives.				
Management Concern: Hazardous Materials				
Goal 1: Mitigate threats and reduce risks to the public and environment from hazardous materials. **Goal 2:** Healthy public lands. **Management Common to All Alternatives:** • Disposal of hazardous materials on public lands would generally not be permitted. When the use or storage of hazardous materials is authorized (i.e., in mining operations, pesticide application or other types of commercial activities) special stipulations would be applied to comply with appropriate laws, regulations, and policies. In the event of hazardous materials incidents on public land, standard operating procedures would be used to respond. Cleanups and reclamation would be conducted in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan and the NEPA or Removal Site Evaluation (RSE) / Engineering Evaluation Cost Analysis (EECA) decision. • BLM would promote and support the appropriate use and recycling of hazardous materials in public facilities and on public land to prevent or minimize the generation and disposal of hazardous wastes. • Environmental Site Assessments would be conducted for land acquisitions, land disposals, and for right-of-ways if applicable. Land uses would be authorized and managed to reduce the occurrence and severity of hazardous materials incidences on public land. • BLM, in cooperation with other agencies and stakeholders would assess the level of risk at hazard sites and conduct remediation at highest priority sites if these sites pose a threat to the public and environment. In areas with known or potential hazardous waste or materials, BLM may defer oil and gas exploration and would not consider proposals to explore or develop other minerals until such time as the risks of these types of activities are fully known. Remedial action would be required as necessary, subject to existing State and Federal laws and requirements prior to proceeding with a project. • BLM may prohibit or limit activities in any area that is found to contain or potentially contain hazardous materials. • In respect to the Black Hills Army Depot (BHAD), management boundaries identified in this RMP/EIS would use the existing boundary fences of the				

Table 2-6
Summary Comparison of Alternatives

Management Action	*Alternative A (No Action)*	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
complex. Management boundaries used to identify closure lands can be modified pending a clearance of public safety concerns in cooperation with Federal, State, and local government.				
1 Abandoned Minuteman Missile Sites	No similar management action	CSU: U.S. Air Force abandoned Minuteman missile sites. Surface-disturbing activity would be restricted on the sites. Subsurface activity would be prohibited under the sites. Proposals for surface disturbance will be assessed on a case-by-case basis.	Same as Alternative B, except that the restrictions will also apply to approximately 1/8 mile (approximately 200 meters) beyond the sites.	Same as Alternative B, except that the restrictions will also apply to approximately 1/8 mile (approximately 200 meters) beyond the sites. This stipulation can be excepted by the authorized officer if it is determined that the disturbance would not intercept and contribute to the spreading of potential residual wastes by a plan that addresses the design of the proposal, stockpiling and respreading of soil materials, and sampling and testing.
2 Abandoned Black Hills Army Depot	**O&G** - No similar management action for the abandoned Black Hills Army Depot (BHAD). Please see figure 2-4. *BLM manages only Fed. Minerals in the BHAD and does not manage surface estate in this area.	Surface disturbing and disruptive activities related to locatable mineral exploration or development would not be allowed in the BHAD unless adequate mitigation measures and conservation actions are provided and the goals of this plan not compromised. **O&G** - NSO within BHAD. Closed to salable mineral and open to locatable minerals.	Surface disturbing and disruptive activities related to locatable mineral exploration or development would not be allowed in the BHAD unless adequate mitigation measures and conservation actions are provided and the goals of this plan not compromised. **O&G** - Closed to leasable and salable minerals. Open to locatable minerals.	Surface disturbing and disruptive activities related to locatable mineral exploration or development would not be allowed in the BHAD unless adequate mitigation measures and conservation actions are provided and the goals of this plan not compromised. O&G – Closed. BHAD would be closed to oil and gas leasing and salable minerals due to public safety concerns. Open to locatable mineral development.

Table 2-6 Summary Comparison of Alternatives				
Manage-ment Action	***Alternative A (No Action)***	***Alternative B***	***Alternative C***	***Alternative D (Proposed Action)***
*Refer to Management Action 4 in Cultural Resources for actions specific to the abandoned Igloo town site and adjacent Eligible Historic Property lands				
Management Concern: Debris Flows				
Goal 1: Prevent debris flows on public lands from occurring if possible. **Goal 2:** Reduce risks from debris flows from public lands. **Goal 3:** Protect the public from debris flows on public land. **Goal 4:** No reasonably preventable debris flow potential caused by management or lack of management. **Management Common to All Alternatives:** • Take action to prevent/mitigate debris flows with available tools (such as Burned Area Emergency Rehabilitation (BAER) teams), and protect the public, if imminent dangers are discovered on public lands.				

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts to Air Resources FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Actions Associated with Fire, Fuels, Oil and Gas Actions and Other Activities.	Air resources would continue to be protected although short-term impacts could occur from ongoing fire events, prescribed fire activities, slash burning, or dust from travel on unpaved roads, and dust and exhaust from oil and gas, construction, or development activities. Air quality standards would be met. It is unlikely that visibility would be adversely affected at Class 1 areas by prescribed burning or other activities, due to distance, prevailing wind direction, and relatively low burn rates and acreages of prescribed burns.	Air resources would continue to be protected although short-term impacts from prescribed burning could be greater due to increase in potential acreage burned. Air quality standards would be met. It is unlikely that visibility would be adversely affected at Class 1 areas by prescribed burning or other activities, due to distance, prevailing wind direction, and relatively low burn rates and acreages of prescribed burns.	Air resources would continue to be protected although short-term impacts from prescribed burning and oil and gas activity would be less than in all other alternatives. Air quality standards would be met. It is unlikely that visibility would be adversely affected at Class 1 areas by prescribed burning or other activities, due to distance, prevailing wind direction, and relatively low burn rates and acreages of prescribed burns.	Air resource impacts would be very similar to Alternative A.
Impacts from Air Quality Standards	The rangeland health air quality standard would apply to all resource uses and activities. Rangeland health air standards are based primarily on State standards. The use of the air quality standard for rangeland health provides a consistent, uniform standard for air quality measures including criteria for individual pollutants. Federal air quality standards would be met, as the State of South Dakota normally adopts the federal air quality standards.			
Impacts from Climate	Potential efforts to address climate change could have a minor positive effect on improving air quality in the planning area.			
Impacts from Soil Resources	Some fugitive dust is naturally produced. Short-term areas of disturbance would slightly increase fugitive dust in some cases while reclamation efforts are taking effect.			
Impacts from Fire Management and Ecology	This alternative would result in the least amount of smoke	This alternative would result in the greatest amount of	This Alternative would result in more smoke than	This alternative would result in the greatest amount of

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	from prescribed (Rx) fires. The smoke would be minor, localized, and would last for a few days each year. Approximately 213 acres would be burned in prescribed fires each year.	smoke from Rx fires. The smoke would be minor, localized, and would last for a few days each year. Approximately 1,000 acres would be burned in prescribed fires each year.	Alternative A, but less than B from Rx fires. The smoke would be minor, localized, and would last for a few days each year. Approximately 500 acres would be burned in prescribed fires each year.	smoke from Rx fires. The smoke would be minor, localized, and would last for a few days each year. Approximately 1,000 acres would be burned in prescribed fires each year.
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals	Low impacts from dust that is generated from travel on gravel or dirt roads. If drilling reaches the upper level of the reasonably foreseeable development scenario, the potential to exceed air quality standard for dust, sulfur dioxide, nitrogen oxides, ozone, and nitrogen dioxide would tend to be moderately increased and would need to be evaluated to find whether measures would need to be taken by the state to ensure that standards are met.			
Impacts from Salable Minerals	Low impacts from dust from gravel crushing operations over the short term.			
Impacts from Locatable Minerals	Low impacts from dust that is generated from travel on gravel or dirt roads. Over the short term, areas undergoing strip mining and the beginning phases of reclamation would contribute moderate amounts of dust for very brief periods.			
Impacts from Livestock Grazing	Fugitive dust levels would remain similar to current low levels.	Fugitive dust levels may tend to increase slightly.	Fugitive dust levels would remain similar to current low level.	Impacts same as Alternative B.
Impacts from Recreation/ Visitor Services	Low impacts from dust that is generated from travel on gravel or dirt roads.			
Impacts from Travel Management	Low impacts from dust that is generated from travel on gravel or dirt roads.			
Impacts from Forest and Woodland Products	Negligible impacts.			
Impacts from Transportation Facilities and Access	Low impacts from dust that is generated from travel on gravel or dirt roads.			
Impacts from Renewable Energy	• Travel associated with development and maintenance of renewable energy on gravel or dirt roads would result in minor increases in dust.			
Areas of Critical Environmental Concern				

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Fort Meade ACEC	Low impacts from dust that is generated from travel on gravel or dirt roads.			
Impacts to Surface Water and Groundwater Resources FROM other resources, resource uses, and special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Water Resources, Riparian and Wetland management actions	NSO stipulations areas would include riparian areas, floodplains, wetlands, and water bodies and areas within 300 feet of these features. There would be little potential for spills or contamination of water and short and long term beneficial impacts to water quality because of NSO stipulations in riparian areas, floodplains, wetlands, and water bodies and NSO or CSU stipulations within 300 feet of these features. Overall 30,487 acres of BLM surface estate and 146,169 acres of BLM-administered mineral estate would receive short and long term beneficial impacts to soils. BMPs and Rangeland Health Standards would benefit water quality by reducing erosion, compaction and maintaining or improving vegetative conditions in these areas			
Impacts from Fisheries habitat management actions including Special Status Species	• Small NSO buffers around reservoirs with fisheries would result in minor beneficial impacts to soils.			
Impacts from Invasive Species management actions, including Noxious Weeds	Control and removal of noxious weeds would create minor to negligible beneficial short and long-term effects to surface water and would have no impact on groundwater.			
Impacts from Soil Resource management actions	Table 4-25 displays the acres that would receive long-term disturbance by each alternative. The total number of acres of surface disturbance would vary slightly between alternatives as shown in Tables 4-25 and 4-26. Short-term surface disturbance would be reclaimed fairly quickly resulting in very low acreages of long-term surface disturbance (maximum of 443 acres). This amounts to roughly 0.1% of the decision area. Very few of these acres would be within 1/4 mile of streams due to stipulations and other mitigation measures, therefore providing vegetation buffers between surface disturbance and streams or other riparian areas. A majority of sediment transport would be mitigated through restrictions on surface-disturbing activities near surface water, which would result in no detectable impact to water quality from surface-disturbing activities for all alternatives.			
Impacts from Vegetative Communities management actions	Vegetation treatments and management activities would create minor short-term disturbances and localized detrimental impacts to surface water quality. These activities would also result in minor to moderate beneficial long-term impacts to water quality due to reduced sedimentation resulting from re-establishing adequate ground cover. The types and magnitude of impacts would be similar under all alternatives. Groundwater impacts would be negligible.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Visual Resources management actions	VRM protective considerations would result in varying effects on potential erosion. Negligible numbers of projects would not be completed, reducing potential erosion. Minor negative erosive effects could occasionally occur due to compromises in project location. Groundwater impacts would be negligible.			
Impacts from Wildlife management actions including Special Status Species	Management decisions designed to protect plant and wildlife species designated as threatened or endangered under the ESA, or considered sensitive species by the BLM in the planning area, would generally have beneficial impacts to water resources. Enhancing wildlife habitat generally assists in improving vegetative communities toward PFC. This would result in reduced erosion throughout the planning area and therefore reduced sedimentation to streams. Wildlife management actions to improve wildlife habitat are generally expected to create minor beneficial short and long-term impacts to water under all alternatives.			
Impacts from Fire Management and Ecology management actions	Alternative A would have an average of 559 acres treated for fuels treatments annually (includes Rx fire and mechanical treatments); therefore having the least amount of short-term adverse impacts on surface water quality from disturbance. Long-term beneficial impacts would be minor. Groundwater impacts would be negligible.	Alternative B would have an average of 1,400 acres treated for fuels treatments annually (includes Rx fire and mechanical treatments); therefore having the greatest amount of adverse short-term impacts on surface water quality from disturbance. Long-term beneficial impacts would be greater than Alternative A. Groundwater impacts would be negligible.	Alternative C would have an average of 850 acres treated for fuels treatments annually (includes Rx fire and mechanical treatments); therefore having more short-term adverse impacts on surface water quality from disturbance than Alternative A and less than Alternative B. Long-term impacts would similar to other alternatives. Groundwater impacts would be negligible.	Impacts same as Alternative B.
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals management actions	Short term negligible to minor localized impacts from salts and sediments mobilized from soils and from higher slopes, before interim and final reclamation are effective. Low risk of	Impacts to ground and surface water would be negligible. Intermediate acres open to leasing as follows: 30,246 surface acres open to leasing without BLM restrictions	The least amount of impacts to ground and surface water would occur under this Alternative. Most restrictive stipulations (highest acres under NSO restriction) and fewest acres open to leasing	Impacts to ground and surface water would be less than under Alternatives A and B but more than Alternative C as fewer acres would be protected under an NSO stipulation. Slightly more

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	ground and surface water contamination from residual chemicals as streams, floodplains, wetlands, riparian areas and water bodies would have NSO stipulations. TMDL standards would not be exceeded because of mineral activity on BLM administered lands. Most acres open to leasing without restrictions as follows: 103,033 surface acres open to leasing without BLM restrictions other than standard terms and conditions; 798,690mineral acres open without BLM restrictions other than standard terms and conditions.	other than standard terms and conditions; 282,296 mineral acres open without BLM restrictions other than standard terms and conditions. Compared to Alternative A, less risk of ground and surface water contamination from residual chemicals as streams, floodplains, wetlands, riparian areas and water bodies would have NSO stipulations along with 300 foot buffer with NSO stipulations.	would occur as follows: 26,674 surface acres open to leasing without BLM restrictions other than standard terms and conditions; 258,650 mineral acres open without BLM restrictions other than standard terms and conditions. Compared to Alternative A, less risk of ground and surface water contamination from residual chemicals as streams, floodplains, wetlands, riparian areas and water bodies would have NSO stipulations along with 300 foot buffer with NSO stipulations.	acres open to leasing than Alternative C as follows: 62,236 surface acres open to leasing without BLM restrictions other than standard terms and conditions; 500,399 mineral acres open without BLM restrictions other than standard terms and conditions. Compared to Alternative A, less risk of ground and surface water contamination from residual chemicals as streams, floodplains, wetlands, riparian areas and water bodies would have NSO stipulations along with 300 foot buffer with CSU stipulations.
Impacts to Total Maximum Daily Load (TMDL) water quality standards	Mineral activity on BLM administered lands would not result in exceedance of TMDL.			
Impacts from surface disturbing and disruptive activities to State-designated source water protection areas	Slight risk of adverse impacts. Few source water protection areas are present.			Impacts are unlikely, since project areas would be reviewed and avoided by drilling operations.
Impacts from Salable Minerals management actions	Short- and long-term adverse impacts to surface water and shallow groundwater would be minor to negligible under all alternatives. Impacts to deep groundwater would be negligible.			
Impacts from Locatable Minerals management	Short- and long-term adverse impacts to surface water and shallow groundwater would be minor to negligible under all alternatives. Impacts to deep groundwater would be negligible.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
actions				
Impacts from Forest and Woodland Products management actions	Short- and long-term adverse impacts to water resources resulting from resource use activities are anticipated to be minor. Groundwater impacts would be negligible.	Short- and long-term adverse impacts to water resources resulting from resource use activities are anticipated to be minor to moderate. Groundwater impacts would be negligible.	Short- and long-term adverse impacts to water resources resulting from resource use activities are anticipated to be minor and lower than under other alternatives. Groundwater impacts would be negligible.	Short- and long-term adverse impacts to water resources resulting from resource use activities are anticipated to be minor. Impacts would be greater than under Alternatives A and C and less than Alternative B. Groundwater impacts would be negligible.
Impacts from Lands and Realty management actions	Impacts would remain negligible as discussed under Impacts Common to All Alternatives in Chapter 4. Right-of-way (ROW) restrictions to other resource uses may provide added protection to water resources by providing an increase to vegetation buffer corridors. A total of 5,522 acres are excluded from ROW development in the Fort Meade ACEC/SRMA (Table 4-29). Groundwater impacts would be negligible.	Impacts would remain negligible as discussed under Impacts Common to All Alternatives in Chapter 4. ROW restrictions to other resource uses may provide added protection to water resources by providing an increase to vegetation buffer corridors. A total of 236,250 acres are avoided from ROW development in Alternative B (Table 4-29). Groundwater impacts would be negligible.	Impacts would remain negligible as discussed under Impacts Common to All Alternatives in Chapter 4. ROW restrictions to other resource uses may provide added protection to water resources by providing an increase to vegetation buffer corridors. A total of 240,566 acres are excluded from ROW development in Alternative C (Table 4-29). Groundwater impacts would be negligible.	Impacts would remain negligible as discussed under Impacts Common to All Alternatives in Chapter 4. ROW restrictions to other resource uses may provide added protection to water resources by providing an increase to vegetation buffer corridors. A total of 5,836 acres are excluded and 247,551 acres avoided from ROW development in Alternative D (Table 4-29). Groundwater impacts would be negligible.
Impacts from Livestock Grazing management actions	Construction of range improvement structures would create minor adverse short-term impacts to surface water quality. Implementation of Rangeland Health Standards would have moderate, beneficial long-term effects on surface water quality. Groundwater impacts would be negligible. Moving 1,400 acres of uplands towards meeting the Standards and improving four miles of stream in FAR towards PFC would reduce sedimentation and improve water quality to a slight degree.			
Impacts from Recreation/ Visitor Services management actions	Recreational gold panning, dispersed and developed camping, and group permits could produce minor, adverse, short-term impacts to surface water resources under all alternatives. Groundwater impacts would be negligible.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Renewable Energy management actions	As shown in Tables 4-25 and 4-26, approximately 1,184 acres of short-term and 296 acres of long-term surface disturbance are expected to result from renewable energy development activities under Alternative A. Impacts to water resources would remain negligible as discussed in Impacts Common to All Alternatives in Chapter 4. Groundwater impacts would be negligible.	As shown in Tables 4-25 and 4-26 approximately 440 acres of short-term and 110 acres of long-term surface disturbance are expected to result from renewable energy development activities under Alternative B. Impact to water resources would remain negligible as discussed in Impacts Common to All Alternatives in Chapter 4. Groundwater impacts would be negligible.	As shown in Tables 4-25 and 4-26, approximately 168 acres of short-term and 42 acres of long-term surface disturbance are expected to result from renewable energy development activities under Alternative C. Impacts to water resources would remain negligible as discussed in Impacts Common to All Alternatives in Chapter 4. Groundwater impacts would be negligible.	As shown in Tables 4-25 and 4-26, approximately 217 acres of short-term and 54 acres of long-term surface disturbance are expected to result from renewable energy development activities under Alternative D. Impacts to water resources would remain negligible as discussed in Impacts Common to All Alternatives in Chapter 4. Groundwater impacts would be negligible.
Impacts from Travel Management actions	Minor, adverse, short-term impacts to surface water would occur under all alternatives. Groundwater impacts would be negligible.			
Special Designations				
Management of lands near or adjacent to National Scenic and Historic Trails	Negligible due to small amount of BLM-manage surface lands adjacent or near National Scenic or Historic Trails			
Impacts from Areas of Critical Environmental Concern				
Fort Meade ACEC	Negligible to minor adverse short- and long-term impacts to water with slightly better protection for water in Alternative C. Groundwater impacts would be negligible.			
Management Concerns				
Impacts from Abandoned Mine Lands management actions	AML restoration would create beneficial, minor to moderate short- and long-term impacts to surface and groundwater. Introduction of contaminants to surface waters could occur due to remobilization of contaminated sediments. Impacts resulting from these actions would need to be evaluated on a case-by-case basis.			
Impacts from management actions potentially affecting Hazardous Materials	Potential impacts to water resources from the inadvertent release of hazardous materials into groundwater at the former Minuteman sites and BHAD	Surface use restrictions would provide greater protection to water resources than Alternative A. Potential short- and long-term adverse impacts to surface and	Greater surface use restrictions would provide the most protection to water resources. Potential short- and long-term adverse impacts to surface and groundwater	Impacts same as Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	would be greatest under this alternative. Potential short- and long-term adverse impacts to surface and groundwater would be minor.	groundwater would be minor, and less than under Alternative A.	would be minor, and less than under other alternatives.	
Refer to Table 2-1 Summary of Restrictions for acreages of surface use restrictions.				
Impacts to Soil Resources FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Climate	Soils could begin a decrease in organic matter content due to long-term climate change. The level of change would likely be negligible during the life of the RMP.			
Impacts from Cultural Resources management actions	Excavations would have negligible adverse effects on soil resources. Avoidance decisions, acquisition of significant cultural resource properties, and listing of sites on the National Register of Historic Places would have minor long-term beneficial effects on soil resources.			
Impacts from Invasive Species management actions, including Noxious Weeds	Invasive weed treatments would result in negligible short-term adverse and minor long-term beneficial impacts to soil slope stability.			
Impacts from Paleontological Resources management actions	Excavations would have negligible short- and long-term adverse effects on small soil resource areas. Avoidance decisions would have minor long-term beneficial impacts to soils.			
Impacts from Vegetative Communities				
Impacts from Rangeland management actions	Management activities would create minor short-term adverse impacts and moderate long-term beneficial impacts to soils.	This alternative would have greater moderate long-term impacts to soils than Alternative A. Short-term adverse impacts would be the same as other alternatives.	This alternative would create the greatest long-term beneficial impacts to soils. Short-term adverse impacts would be the same as other alternatives.	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Water Resources management, Riparian and Wetland management actions	NSO stipulations areas would include riparian areas, floodplains, wetlands, and water bodies and areas within 300 feet of these features. There would be little potential for spills or contamination of water and short and long term beneficial impacts to water quality because of NSO stipulations in riparian areas, floodplains, wetlands, and water bodies and NSO or CSU stipulations within 300 feet of these features. Overall 30,487 acres of BLM surface estate and 146,169 acres of BLM-administered mineral estate would receive short and long term beneficial impacts to soils. BMPs and Rangeland Health Standards would benefit water quality by reducing erosion, compaction and maintaining or improving vegetative conditions in these areas			
Impacts from Visual Resources management actions	VRM protective considerations would have minor beneficial effects on soils.	VRM protective considerations would have slightly greater minor beneficial effects on soils than Alternative A.	VRM protective measures would have the greatest level of minor to moderate beneficial effects on soils.	VRM protective measures would have slightly more minor beneficial effects on soils than Alternative B, but less than Alternative C.
Impacts from Fire Management and Ecology	Prescribed fire and mechanical treatments would have moderate short-term and minor to negligible long-term adverse effects on soil resources and moderate long-term beneficial effects.	Short-term adverse and long-term beneficial effects would be greater than Alternative A due to more mechanical treatment and prescribed burning. Some negative impacts for a moderate period of time would occur due to soil compaction from heavy equipment.	Short-term adverse and long-term beneficial effects would be less than Alternatives B and D, but greater than Alternative A.	Impacts same as Alternative B.
Impacts from Wildlife management actions including Special Status Species (Refer to Table 2-1 Summary of Restrictions, for acreages of wildlife and special status species related restrictions.)	Few protection measures applied for wildlife would result in minor beneficial impacts to soils.	Intermediate acreage under protection measures would result in more minor beneficial impacts to soils than Alternative A and more impact to soils than Alternatives C and D.	Increased acreage under protection measures would result in moderate to major beneficial impacts to soils. Introduction of prairie dogs and moderate adverse impacts to soils would be greatest under this alternative.	Intermediate amount of acreage under protection measures would result in more beneficial impacts to soils than Alternatives A and B and less than Alternative C.
Impacts from Fisheries	Small NSO buffer around reservoirs with fisheries would create minor beneficial impacts to soils.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
management actions including Special Status Species				
Resource Uses				
Impacts from Energy and Minerals				
Impacts from Leasable Minerals management actions	Moderate short- and long-term adverse effects on small to medium areas of soils. The greatest soil compaction would occur from this alternative. Most acres open to leasing without restrictions as follows: 103,033 surface acres open to leasing without restrictions other than standard terms and conditions; 798,690 mineral acres open without restrictions other than standard terms and conditions.	Slightly fewer moderate short- and long-term adverse effects on small to medium areas of soils than Alternative A. Intermediate acres open to leasing as follows: 30,246 surface acres open to leasing without restrictions other than standard terms and conditions; 282,296 mineral acres open without restrictions other than standard terms and conditions. Areas of sensitive soils would be protected. The areas that could be affected by management would be those that are more resistant to detrimental impacts.	Slightly fewer minor to moderate short- and long-term adverse effects on small to moderate areas of soils than Alternative B. Most restrictive stipulations (highest acres under NSO restriction) and fewest acres open to leasing without restrictions other than standard terms and conditions would occur as follows: 26,674 surface acres open to leasing without restrictions other than standard terms and conditions; 258,650 mineral acres open without restrictions other than standard terms and conditions. Areas of sensitive soils would be protected. The areas that could be affected by management would be those that are more resistant to detrimental impacts.	Slightly more short- and long-term adverse effects on small to medium areas of soils than Alternative C, but less than Alternatives A and B. Greater protective measures than Alternatives A and B. Slightly more acres open to leasing than Alternative C as follows: 62,236 surface acres open to leasing without restrictions other than standard terms and conditions; 500,399 mineral acres open without restrictions other than standard terms and conditions. Areas of sensitive soils would be protected. The areas that could be affected by management would be those that are more resistant to detrimental impacts.
Impacts from Salable Minerals management actions	Minor short-term and minor long-term adverse effects on small areas of soils.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Locatable Minerals management actions	Major short-term impacts on moderate areas and major long-term impacts on small areas of soils due to direct impact from mining. Moderate to minor short- and long-term impacts resulting from mining-related activities.			
Impacts from Forest and Woodland Products management actions	Mechanical treatments and burning of thinned forests would cause short-term adverse impacts and long-term beneficial impacts to forest soils. Beneficial long-term impacts would be due to lower risk of severe large-scale wildfires.			
Impacts from Lands and Realty management actions	Small-scale adverse impacts to soils, with slightly less impacts in Alternative C from authorizing less surface-disturbing activity under the lands program.			
Impacts from Livestock Grazing management actions	Range improvements would have minor adverse short-term impacts on soils. Implementation of Rangeland Health Standards would have moderate beneficial long-term effects on soils.	Impacts same as Alternative A.	This alternative would provide the greatest protection of soils and would have fewer adverse short-term impacts from direct disturbance. Long-term impacts would vary depending on type, location of disturbance and improved management of livestock.	Impacts same as Alternative A.
Impacts from Recreation/ Visitor Services	Recreational gold panning, both developed and dispersed recreation, and group permits would cause small localized, and occasionally moderate, adverse short-term impacts to soils.			
Impacts from Renewable Energy management actions (Refer to Table 2-1 Summary of Restrictions, for acreages of restrictions that apply to Renewable Energy [ROWs].)	Few surface use stipulations would create the most acres of surface disturbance and the greatest level of moderate to minor adverse impacts to soils. As shown in Tables 4-23 and 4-24, approximately 1,184 acres of short-term and 296acres of long-term surface disturbance are expected to result from renewable energy development activities under	Intermediate acreage under surface use stipulations would result in fewer minor adverse impacts to soils than Alternative A and more impacts to soils than Alternatives C and D. As shown in Tables 4-23 and 4-24, approximately 440 acres of short-term and 110 acres of long-term surface disturbance are expected to result from renewable energy	Increased acreage under surface use stipulations would result in slightly fewer minor adverse impacts to soils than other Alternatives. As shown in Tables 4-23 and 4-24 approximately 168 acres of short-term and 42 acres of long-term surface disturbance are expected to result from renewable energy development activities under Alternative C.	Most acres under surface use stipulations would result in fewer minor adverse impacts to soils than Alternatives A and B and slightly greater impacts than Alternative C. Acres disturbed would be less than Alternatives A, B and C. As shown in Tables 4-23 and 4-24, approximately 217 acres of short-term and 54 acres of long-term surface

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Alternative A.	development activities under Alternative B.		disturbance are expected to result from renewable energy development activities under Alternative D.
Impacts from Travel Management actions	Restriction on off-road motorized travel would protect soils. Adverse short- and long-term impacts to soils would be minor.	Construction of new trails would create moderate short- and long-term adverse impacts to soils, including compaction.	Increased restrictions on off-road motorized travel and road construction would result in the least adverse impacts to soils.	An intermediate level of restrictions on off-road motorized travel would create fewer adverse impacts to soils than under Alternatives A and B, but more than under Alternative C.
	Allowing leaseholders to travel cross country to administer leases would result in minor, long-term impacts to soil resources.			
Special Designations				
Impacts from Areas of Critical Environmental Concern				
Impacts from ACEC designations	Negligible to minor adverse short- and long-term impacts to soils with slightly better protection for soils in Alternative C.			
Management of lands near or adjacent to National Scenic and Historic Trails	Negligible due to the small amount of BLM-managed land near or adjacent to National Scenic and Historic Trails.			
Management Concerns				
• Impacts from Abandoned Mine Lands management actions	Small areas of soils would be restored via the AML program. This moderate beneficial impact would be short- and long-term.			
Impacts to Vegetation - Forests and Woodlands FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Visual Resources management actions	Lack of VRM designation may provide more flexibility in treatments.	The designation and subsequent management of the visual resource class may affect the layout and treatment intensities in forests and woodlands. Impact would be negligible.		

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Lands with Wilderness Characteristics	None present.			
Resource Uses				
Impacts from Recreation/Visitor Services management actions	Recreation facility development is not as likely as Alternative B, but may still occur under this alternative.	The designation and subsequent management and development of an Exemption Area SRMA may impact the forest vegetation. Possible development of facilities would require the clearing of trees.	Impacts same as Alternative A.	Impacts same as B
Impacts from Forest and Woodland Products management actions	The ability to sell excess material makes forest and woodland treatments more practical and likely. Since treatments are proposed to work towards healthy and resilient conditions any management action that improves the probability of treatment would benefit the forests and woodlands. The differences in levels of sale quantity between the alternatives are minor.			
Impacts to Rangeland Vegetation FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from restrictions used to protect various resources	Surface-disturbing activities would have more of an adverse effect on vegetation in Alternative A than Alternatives B, C, and D. Eliminating surface disturbances in these areas or only allowing activities that would not degrade vegetative communities or other resources would benefit efforts to achieve or maintain the Standards for Rangeland Health.	ROW avoidance areas. Surface-disturbing activities would have less effect on vegetation than Alternative A and a slightly greater effect than Alternative C. Long-term disturbance is expected to occur on at least 244 acres.	Surface-disturbing activities would have the least effect on vegetation of all the alternatives. Long-term disturbance is expected to occur on at least 140 acres.	Surface-disturbing activities would have less of an effect on vegetation than Alternatives A and B and slightly more of an effect than Alternative C. Long- term disturbance is expected to occur on at least 181 acres.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Long-term disturbance is expected to occur on at least 443 acres.			
Impacts from Soil Resources management actions	Approximately 8,575 acres of BLM-administered surface lands would be covered by CSU stipulations in areas with slopes greater than 30% (Table 4-26). This alternative would provide the least protection against excessive soil erosion and degradation as Alternative A only applies to oil and gas activities while the other alternatives apply stipulations to oil and gas, renewable energy, and ROWs resulting in fewer acres of restrictions for Alternative A.	Approximately 122,725 acres of BLM-administered surface would be covered by CSU stipulations for oil and gas production in areas with sensitive soils including slopes greater than 25%. ROW restrictions would include 144,171 acres of avoidance areas for BLM-administered surface (Table 4-26). The stipulations under Alternative B would still provide protection to soil resources, minimizing potential erosion and therefore reducing the number of sites available for noxious weed establishment. This would help maintain a diverse assemblage of native plant communities.	Approximately 122,725 acres of BLM-administered surface would be covered by NSO lease stipulations for oil and gas production in areas with sensitive soils which includes slopes greater than 25%. . ROW restrictions would include 144,171 acres of exclusion areas for BLM-administered surface (Table 4-26). Modifying Alternative B CSU stipulations and ROW avoidance areas to NSO and exclusion, respectfully, would provide a greater level of protection against excessive erosion and sedimentation.	Approximately 122,725 acres of BLM-administered surface would be covered by CSU stipulations for sensitive soils. Badland formations and rock outcrops would have a NSO stipulation and apply to 21,575 BLM-administered surface acres. ROW restrictions would apply to sensitive soils and badlands for a total of 145,829 acres of avoidance areas for BLM-administered surface (Table 4-26). The stipulations under Alternative D would provide more protection to soil resources than Alternative A, but similar to Alternatives B and C); minimizing potential erosion and therefore reducing the number of sites available for noxious weed establishment. This would help maintain a diverse assemblage of native plant communities.
Impacts from Water Resources management actions	Alternative A would provide NSO lease stipulations to oil and gas	Alternative B would provide an NSO lease stipulation to oil and gas	Like Alternatives A and B, Alternative C would provide an NSO lease	Like Alternatives A, B and C, Alternative D would provide an NSO lease stipulation to

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	activity on 13,397 acres of BLM-administered surface acres, and 63,425 acres of federal oil and gas minerals (50,028 additional split estate acres) (Table 4-22) in riparian areas, floodplains, wetlands and water bodies. Alternative A would result in greater adverse impacts to vegetation (primarily riparian vegetation) than Alternatives B, C, and D, where ROW avoidance and exclusion areas apply to more resource uses.	activity in riparian areas, floodplains, wetlands and water bodies, same as Alternative A The application of ROW avoidance areas to more resource uses in Alternative B would result in fewer adverse impacts to vegetation (primarily riparian vegetation) than Alternative A where lease stipulations only apply to oil and gas activity.	stipulation to oil and gas activity in riparian areas, floodplains, wetlands and water bodies. Increased benefits compared to the other Alternatives as the application of a more restrictive ROW exclusion areas to more resource uses in Alternative C. Alternative C would result in the least adverse impacts to vegetation (primarily riparian vegetation).	oil and gas activity in riparian areas, floodplains, wetlands and water bodies. In addition there would be a CSU buffer of 300ft which would result in 17,090 additional acres of BLM surface estate and 82,743 acres of BLM mineral estate protected. Overall 30,487 acres of BLM surface estate restrictions would result in fewer adverse impacts to vegetation from mineral development compared to Alternative A Alternative D would result in similar impacts as Alternative B and would allow slightly higher development of areas for ROWs including renewable energy ROWs than Alternative C. Overall the difference in impacts to vegetation would be minor between Alternatives C and D.
Impacts from Vegetative Communities management actions				
	Under all alternatives, meeting Rangeland Health Standards would ensure healthy sustainable rangelands, including riparian and wetland areas.			
	Managing prairie streams to ensure quality habitat for aquatic and wildlife species would maintain or improve riparian and wetland areas towards proper functioning condition (PFC).			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Gathering of plants and plant parts for incidental use would have a negligible impact on vegetative communities.			
	Mechanical vegetation treatments would be considered at the project level and would not be limited. An average 559 acres of vegetation would be treated mechanically and with prescribed fire with the least short-term impacts to vegetative communities and the least beneficial impacts in the long term.	Mechanical vegetation treatments would be slightly more than Alternatives A and C for fuels treatments. An average 1,400 acres of vegetation would be treated mechanically and with prescribed fire annually with the most short-term impacts to vegetative communities and greater beneficial impacts in the long term than Alternatives A and C.	The options for mechanical vegetation treatments would be more limited than the other alternatives. An average 850 acres of vegetation would be treated mechanically and with prescribed fire annually with the least short-term impacts to vegetative communities and the least beneficial impacts in the long term.	Impacts same as Alternative B.
	Revegetation seed mixes consist mostly of native species. Using native species or non-invasive seed mixes to protect wildlife habitat and watershed resources, on burned areas, and sites with high erosion potential would minimize proliferation of noxious weeds. Perennial non-native species may initiate persistent stands, which can inhibit colonization by native herbaceous species.	Impacts same as Alternative A. Conversion of native pasture could be allowed on up to 8,220 acres in the long term. A potential loss of up to 3% of native plant communities would be possible over the long term.	Using only native species for revegetation of disturbed areas would require intense management for weed control but would provide long-term benefits of little or no maintenance once they are established. Using only native species may stabilize slopes, provide ground cover, and compete with invasive species less quickly than using introduced species.	Impacts same as Alternative A. Conversion of native pasture could be allowed on up to 2,740 acres in the long term. A potential loss of up to 1% of native plant communities would be possible over the long term.
Impacts from Forests and Woodlands management actions	No similar management action	Treatment of poisonous plants using IPM methods would have a low effect on plant diversity within treatment areas and a	Impacts to plant diversity would be slightly less than Alternative B and slightly more than Alternative A.	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		negligible effect on plant communities.		
Impacts from Rangeland management actions	No similar management action	Treatment of noxious weeds would be allowed in designated indigenous plant gathering sites given consideration to time of application and target species. Impacts to target plants within designated gathering sites would be negligible.	No similar management action	No similar management action
Impacts from Riparian and Wetlands management actions	Herbicide treatment around listed T&E and sensitive plant species would be considered on a case by case basis with less protection than Alternative C.	Impacts same as Alternative A.	An herbicide buffer zone of 100 feet around listed T&E and sensitive plant species would provide the greatest protection to T&E and sensitive plant species of all the alternatives.	
Impacts from Noxious and Invasive management actions	Improvement of the fisheries habitat in Bear Butte Creek under Alternative A would improve riparian vegetation structure, diversity and stability.	Improvement of the fisheries habitat in Bear Butte Creek under Alternative B and C would improve riparian vegetation structure, diversity and stability. The improvement to riparian vegetation would be slightly less than Alternative A since feasibility would limit improvement projects.		
Impacts from Wildlife Including Special Status Species	Few protection measures applied for wildlife would result in more acres of surface disturbance than Alternatives B, C, and D with a greater impact to vegetation communities.	Intermediate amount of acres under protection measures would result in less impact to vegetation than Alternative A and more impact to vegetation than Alternative C.	Increased acreage under protection measures would result in less impact to vegetation than Alternatives A and B.	Intermediate amount of acres under protection measures would result in less effect on vegetative communities than Alternatives A and B and slightly more effect on vegetative communities than Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Prairie Dogs management actions	The number of acres of prairie dog colonies treated would be less than Alternative B and more than Alternative C. There would be less vegetation converted to early seral communities in Alternatives A and B due to prairie dog expansion than Alternative C where prairie dogs can only be treated for public health and safety concerns. No limit to annually treated acres.	Greatest number of acres of prairie dog colonies treated where prairie dogs are causing adverse impacts to soil and vegetative resources. No impacts to vegetative communities from this alternative. Annual treatment limit would be 296 acres.	Least number of acres of prairie dog colonies treated where prairie dogs are causing adverse impacts to soil and vegetative resources. Prairie dog reintroductions would have moderate impact to vegetative communities with a noticeable conversion of vegetative communities from mid and later seral to early seral in any area where prairie dogs would be reintroduced on a large scale. Annual treatment limit would be 197 acres.	Same as Alternative B except prairie dog reintroductions would have moderate impact to vegetative communities with a noticeable conversion of vegetative communities from mid and later seral to early seral in any area where prairie dogs would be reintroduced on a large scale. Annual treatment limit would be 296 acres.
Impacts from Fire Management and Ecology management actions (Prescribed fire)	Rest from livestock grazing in grassland/shrubland habitats before and after burning as determined through site specific planning.	Resting areas from livestock grazing in grassland/shrubland habitats up to one year prior to prescribed fire treatment and a minimum of one growing season following treatments (with adaptive management flexibility) would promote vegetative recovery before reapplying grazing.	• Resting areas from livestock grazing in grassland/shrubland habitats up to one year prior to prescribed fire treatment and minimum of two growing seasons following treatments (with adaptive management flexibility) would promote vegetative recovery before reapplying grazing. Vegetative recovery would be greater than Alternatives A, B, and D.	Impacts same as Alternative B.
	Fuels treatments designed to protect and/or improve wildlife habitat and reduce the severity of wildfires would help achieve the vegetation goal of having a variety of habitat present with a diverse assemblage of native plant communities indicative of the Northern Great Plains.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Cultural Resources management actions	Plant material gathering for incidental use would be allowed. Impacts would be slightly more than Alternatives B, C, and D but would still be negligible to plant communities.	Plant material gathering for incidental use would be allowed with the exception that only above ground gathering would be allowed in the Fossil Cycad and Fort Meade ACECs. Impacts would be negligible to plant communities.		
Resource Uses				
Impacts from Energy and Minerals	Mineral development on BLM land can result in the direct removal of vegetation. Rangeland health and forage production can be indirectly affected by mineral development through the introduction and spread of invasive plant species and soil loss. Both the direct and indirect impacts of mineral development are associated with surface disturbance caused by constructing road networks; drilling; installing well pads, pumps, pipelines, and water detention facilities; other associated infrastructure; and ongoing maintenance. The short- and long-term impacts to upland vegetative communities from oil and gas development are expected to be minor to negligible across all alternatives.			
Impacts from Livestock Grazing management actions	Managing for the Montana/Dakotas Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997) would maintain the functionality of all riparian areas and wetlands.			
	Biomass on allotments would be reduced on 271,000 acres available for grazing. Density and production of palatable species may be reduced in localized areas. The reduction in fine fuels would reduce frequency and intensity of wildfires. Fine fuels buildup and some grass species decadence may occur on 3,700 additional acres currently not lease for grazing in the Exemption Area.	Grazing effects would occur on 272,000 acres. Fine fuels buildup and some grass species decadence may occur on 2,100 additional acres unavailable for grazing in the Exemption Area.	Grazing effects would occur on 271,000 acres. Fine fuels buildup and some grass species decadence may occur on 3,700 additional acres unavailable for grazing in the Exemption Area.	Impacts same as Alternative B.
	No similar management	Placement of grazing supplements at least ¼ mile away from riparian areas would improve		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	action	riparian vegetation through more uniform grazing distribution. Only allowing grazing in areas of high concentration of TES plants when the impacts are determined through interdisciplinary team review would ensure sustainability of TES plants. Impacts to riparian vegetation and TES plants from these management actions would be beneficial in the short and long term.		
Impacts from Recreation/Visitor Services management actions	Recreation activities would result in localized effects, such as vegetation disturbance, trampling, and removal due to camping and off-road travel activities. Any effects to vegetation would be minor and mostly temporary.			
Impacts from Travel Management actions	Travel would be allowed within 300 feet of roads to access campsite and cross country travel would be prohibited for big game retrieval. Alternative A would have fewer impacts to vegetative communities than Alternative B and more impacts to vegetative communities than Alternatives C and D.	Travel would be allowed within 300 feet of roads to access campsite and 300 feet to retrieve big game. Alternative B would have the greatest although minimal impacts to vegetative communities compared to Alternatives A, C, and D.	Travel would be allowed within 100 feet of roads to access campsite and cross country travel would be prohibited for big game retrieval. Alternatives C and D would have the least impacts to vegetative communities compared to Alternatives A and B. This action would not be consistent with management of most adjacent Federal lands. Closing and reclaiming roads and trails not necessary for management when water quality or soil health is likely to be impacted would have a minor beneficial impact on vegetation.	Travel would be allowed within 300 feet of roads to access campsite and cross country travel would be prohibited for big game retrieval. Alternatives D and A would have less of an impact than Alternative B, though more than Alternative C to vegetative communities . Alternative D would be consistent with most adjacent Federal land management.
Impacts from Forest and Woodland Products management actions	Least acres of understory vegetation that would receive benefits from forest and woodland product removal.	Greatest number of acres of understory vegetation that would receive benefits from forest and woodland product removal.	Impact same as Alternative A.	Impact same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Lands and Realty management actions	No similar management action	Burial of utility lines would increase the amount of surface disturbance for utility lines compared to above ground lines. Increased surface disturbance would result in short term loss of vegetation, soil erosion, and introduction of invasive species. Impacts to vegetative resources would be negligible across the planning area.		
Impacts from Land Tenure management actions	A land transfer to the Black Hills National Cemetery at Fort Meade ACEC would result in the conversion of native mixed prairie vegetation from the designated number of acres to introduced lawn species.	Land transfers at Fort Meade ACEC would result in the conversion of native mixed prairie and non-native tame pasture to introduced lawn species and pavement on up to 220 acres of land.	No impact to vegetative communities as no land transfers would be approved at Fort Meade ACEC.	Impact same as Alternative B.
Impacts from Renewable Energy management actions	No specific management action. 1,195 acres are expected to be disturbed in the short term and 300 acres disturbed in the long term. Impacts to vegetation would be the highest under Alternative A.	Alternative B would have 236,250 acres of renewable energy ROW avoidance areas, compared to the 240,566 acres of renewable energy ROW exclusion areas in Alternative C (Table 4-26). It is projected that 440 acres of short-term surface disturbance would occur and 110 acres of long-term disturbance from renewable energy development. Impacts to vegetation would be negligible due to the minor small percentage of the decision area receiving long term disturbance.	There would be 240,566 acres of renewable energy ROW exclusion areas in Alternative C compared to the 236,250 acres of renewable energy ROW avoidance areas in Alternative B (Table 4-26). It is l projected that 168 acres of short-term surface disturbance would occur and 42 acres of long-term disturbance from renewable energy development. Impacts to vegetation would be negligible due to the small percentage of the decision area that would be disturbed in the long term.	There would be 146,240 acres of renewable energy ROW exclusion areas and 107,147 acres of avoidance areas in Alternative D compared to the 236,250 acres of renewable energy ROW avoidance areas in Alternative B and 240,566 acres of renewable energy ROW exclusion areas in Alternative C (Table 4-26). It is projected that 217 acres of short-term surface disturbance would occur and 54 acres of long-term disturbance from renewable energy development. Impacts to vegetation would be negligible due to the small percentage of the decision area that would be disturbed

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				in the long term.
Impacts to Noxious Weeds and Invasive Species FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Weed Treatments	Alternative A would allow for the highest number of acres to be treated annually using IPM methods	Alternative B would allow for slightly less acres than Alternative A but more than Alternative C to be treated annually.	Alternative C would allow for least number of acres to be treated annually using IPM methods.	Impacts same as Alternative B
Impacts from Climate	Potential climate changes, i.e. temperature and precipitation, would affect invasive species and noxious weeds. The change would not necessarily be as an increase or decrease of infestation size, rather the species present due to the climate change.			
Impacts from Soil Resources management actions	Surface-disturbing activities remove protective vegetative cover and /or crusts and can alter soil physical, chemical, and biological properties to varying degrees depending on the amount, location and type of disturbance; resulting in increased soil susceptibility to wind and water erosion, decreased soil quality, site productivity, and the potential for the introduction and spread of invasive species and noxious weeds.			
Impacts from Water Resources	No similar management action	This alternative would have a greater impact than Alternative C, but less than Alternative A, on the potential introduction and spread of invasive species or noxious weeds by utilizing road and trail restrictions on routes not necessary for management when water quality is likely to be an issue.	This alternative would have the greatest impact on reducing the potential introduction and spread of invasive species or noxious weeds by closing and reclaiming roads not necessary for management when water quality is likely to be impaired.	Impacts same as Alternative C.
Impacts from Vegetative Communities management actions				
Impacts from Forests and Woodlands management actions	Forests and Woodlands product sales and treatments pose the risk of opening areas to invasive species depending on the amount of disturbance caused by each sale or treatment.			
	PSQ/7000 tons/year. New	PSQ/7000 tons/year. New	PSQ/6000 tons/year. No new	Impacts same as Alternative

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	roads would be constructed to the minimum standard necessary to remove forest and woodland products.	permanent roads may be built for long-term management of areas where multiple entries would be necessary to meet objectives.	permanent roads would be constructed for forest management.	C.
Impacts from Rangeland management actions	Rangeland Improvements pose the risk of opening areas to invasive species or noxious weeds depending on the amount of disturbance caused by each improvement.			
	On Average three Range Improvements would be completed each year.			
Impacts from Noxious and Invasive management actions	This alternative would result in the highest number of weeds acres treated. .	Impacts similar to Alternative A but slightly less acres treated.	This alternative would result in least acres treated during important treatment periods but the difference would be minor compared to the other Alternatives.	Impacts same as Alternative B.
Impacts from Special Status Plants management actions	No similar management action		This alternative has greatest impact (potential to treat the least number of acres) on invasive species/noxious weeds by requiring spot treatments with a 100 foot herbicide buffer zone around listed T&E and sensitive plant species but impact would be minor as few special status species plants are present.	
Impacts from Wildlife: Including Special Status Species management actions				
Bighorn sheep management actions	Alternative A would make control of weeds with domestic sheep and goats more difficult.by requiring a 9 mile buffer distance between domestic sheep and goats and bighorn range. Negligible to minor adverse impacts on weed control over the long term depending on the types of future weed invasions.	Alternative B would provide for the most effective treatment of weeds near bighorn sheep range by allowing domestic sheep and goats within 5 miles of bighorn range. Minor to moderate beneficial impacts on weed control depending on the types of future weed invasions.	Alternatives C and D would make control of weeds with domestic sheep and goats more difficult than Alternatives A and B by requiring a 10 mile buffer between domestic sheep and goats and bighorn range for weed control. Negligible to minor adverse impacts on weed control over the long term depending on the types of future weed invasions.	

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Greater Sage-Grouse management actions	This alternative would have a greatest impact (least number of potential acres to be treated) over Alternatives B or C, as it does not allow treatments within a 2 mile buffer zone of suitable nesting habitat of leks from March 1 – June 30.	This alternative would allow spot treatments of weeds using IPM methods within suitable nesting or brood rearing habitat of known leks from March 1 – June 30 in PHMAs only.	This alternative would have the least impact (higher number of potential acres that could be treated) as it would allow spot treatments of weeds using IPM methods within suitable nesting or brood rearing habitat of known leks from March 1 – June 30.	Impacts same as Alternative C.
Impacts from Prairie dogs management actions	This alternative does not specify the number of acres that can be treated annually. Least potential for weeds as more acres of prairie dogs could be treated.	This alternative (no more than 15% of total acreage) would allow for the highest number of acres to be treated annually. Slightly higher potential for weed infestations compared to Alternative A as least acres treated for prairie dogs. .		
Impacts from Fisheries management actions including Aquatic and Special Status Species	This alternative does not specify any related management action.	Increasing fishing opportunities in Alternative B and C has the potential in increase the introduction and spread of invasive aquatic species.		
	Provide additional water sources that would benefit wildlife would increase the potential for introduction or spread of invasive species or noxious weeds.	Developing additional water sources and opportunities to maintain or increase water levels to benefit wildlife, fisheries, other aquatic species, and livestock in Alternatives B and C would have the potential for the introduction or spread of invasive species or noxious weeds.		
Impacts from Fire Management and Ecology management actions	This alternative would have the least impact on the potential for the introduction or spread of invasive species/noxious weeds with only 559 acres (346 mechanical and 213 acres fire) targeted for treatments.	This alternative would have the greatest impact on the potential for the introduction or spread of invasive species/noxious weeds with 1,400 acres (400 mechanical and 1,000 acres fire) targeted for treatments.	This alternative would have a greater impact than Alternative A, but less than Alternative B, on the potential for the introduction and spread of invasive species or noxious weeds with 850 acres (350 mechanical and 500	Impacts same as Alternative B.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			acres fire) targeted for treatments.	
Impacts from Energy and Minerals management actions				
Impacts from Leasable Minerals management actions	Highest potential from least restriction and most surface-disturbing activities and higher levels of travel associated leasable mineral development.	Intermediate risk of weed infestation and spread.	Slightly lower risk of noxious weed infestation or spread as less acres disturbed and less travel associated with leasable mineral development.	Impacts similar to Alternative B.
Impacts from Salable Minerals management actions	Little difference between Alternatives as little interest or potential for salable mineral development exists.			
Impacts from Locatable Minerals management actions	Highest potential from least restriction and most surface-disturbing activities.	Intermediate level of weed infestation and spread.	Slightly lower risk of noxious weed infestation or spread as less acres disturbed.	Impacts similar to Alternative B.
Impacts from Renewable Energy management actions	Highest potential from least restriction and most surface-disturbing activities.	Intermediate risk of weed infestation and spread.	Lower risk of noxious weed infestation or spread as fewer acres disturbed from projects and less travel associated with projects.	Risk of spread and infestation of noxious weeds lower than Alternative B and C.
Impacts from Livestock Grazing management actions	The impacts to invasive species/noxious weeds from Livestock Grazing are anticipated to be minimal and vary only slightly between alternatives. Potential impacts include utilization, supplemental feeding and range improvements.			
Impacts from Recreation/Visitor Services management actions	This alternative would have the least potential for new infestations introduced by recreational visitation or activities but would be harder to identify because there are no destination areas (exception - Ft. Meade ACEC totaling 6,574 acres).	This alternative would have slightly higher potential for the introduction and spread of invasive species/noxious weeds by designating Ft Meade and the Exemption Area as Special Recreation Management Areas (SRMAs), totaling 11,652	Designating Greater Sage-Grouse PHMAs as an ACEC may result in a slight increase in visitor use, but such increase would not likely result in a measureable increase in the spread of infestation of noxious weeds in the Greater Sage-Grouse	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Invasive species that would be more likely to be transported would be those that occur locally.	acres (Fort Meade ACEC 6,574 acres and the Exemption Area 5,078 acres), thereby slightly increasing the amount of recreational visitation and activities.	PHMAs/ACEC. The impacts for Fort Meade would be the same as Alternative B.	
Impacts from Travel Management actions	Prohibiting motorized wheeled cross-country travel to retrieve big game animals minimizes the potential spread/introduction of invasive species.	This alternative would increase the potential for spread of invasive species by allowing travel within 300 feet from nearest road to retrieve big game animals.	Impacts same as Alternative A	
	This alternative does not specify any related management action.	This alternative would have the greatest potential for the introduction and spread of invasive species/noxious weeds as this alternative provides for the management of 313 acres of Back Country, 261,325 acres of Middle Country, and 11,655 acres of Front Country Recreation Setting Characteristics.	This alternative would have less potential for the introduction and spread of invasive species/noxious weeds than any other alternative. It provides for the management for 178,163 acres of Back Country, 88,539 acres of Middle Country, and 6,591 acres of Front Country Recreation Setting Characteristics.	Impacts same as Alternative B.
Impacts from Forest and Woodland Products management actions	This alternative would have a greater impact than Alternative C, but less than Alternative B, since there is the potential for roads to be constructed to minimum standards.	This alternative would have the greatest impact to noxious weeds, as it allows for the construction of new roads, rerouting of existing authorized roads.	This alternative would have least impact on noxious weeds than Alternatives A and B, since it does not allow for new permanent roads or rerouting of existing roads.	Impacts same as Alternative B.
Impacts from Lands and Realty				

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Land Tenure management actions	Any new acquisition of lands/easements would need to be inventoried for invasive species/noxious weeds to determine the impact and cost of management of that parcel. Any disposal lands would have to be inventoried for the presence of invasive species/noxious weeds in order to disclose this information.			
Impacts from Rights-of-Way management actions	This alternative does not provide any related management action.	• This alternative would have less impact than Alternative C on the potential introduction or spread of invasive species or noxious weeds by requiring all new fiber-optic, telephone and power lines that can be safely buried would be buried or sited to have least impact on resources.	This alternative would have the greatest impact on the potential introduction or spread of invasive species or noxious weeds through ground disturbance by requiring all new fiber-option, telephone, power, and other lines to be buried.	Impacts same as Alternative B.
Impacts from Transportation Facilities and Access management actions	This alternative would have less impact for the potential introduction and spread of invasive species/noxious weeds than Alternative C, but greater than Alternative B, as it would allow construction of roads to minimum standards necessary, unless required to have a higher standard.	This alternative would have the greatest impact for the potential introduction and spread of invasive species/noxious weeds as it allows for construction of new permanent roads, rerouting and maintenance of existing authorized roads.	This alternative would have the least impact for the potential introduction and spread of invasive species/noxious weeds as it would not allow for the construction of new permanent roads except as required by law, regulation or policy.	Impacts same as Alternative C.
Special Designations				
Impacts from Areas of Critical Environmental Concern management actions				
	The impacts to invasive species/noxious weeds from ACECs would be minimal and vary slightly between alternatives, with Alternative B having the least impact by the possible transfer of up to 220 acres from BLM to others.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts to Wildlife FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Climate	Potential changes in climate that would affect temperature precipitation would affect wildlife and their habitat. Changes to seasonal weather patterns, ambient air temperatures, carbon levels, and the timing and amount of precipitation could result in direct, long-term impacts to many species of wildlife. Since the specific type or degree of changes to climatic conditions is not fully understood at this time, determining impacts to individual species over the next 20 years is very difficult. Wildlife may be impacted by changes to vegetation that may occur through climate change. Changes to vegetation would alter habitat quality and quantity and foraging opportunities. Management actions would build resilience to systems, prevent communities from passing thresholds, and allow freedom of movement for wildlife species, improving the ability of wildlife species to adapt to changing conditions Adaptation to changing conditions through adaptive management practices would provide the best means to reduce adverse impacts to wildlife.			
Impacts from Soil Resources management actions	Restrictions to sensitive soils should benefit wildlife and their habitat by diminishing the potential soil erosion.			
Impacts from Water Resources management actions	Development of water sources in appropriate places could be beneficial to wildlife. This alternative is least restrictive on placement of water source and could be the least beneficial to wildlife.	Development of water sources in appropriate places could be beneficial to wildlife.	Development of water sources for wildlife and livestock would be beneficial to wildlife. Improving water quality would be beneficial. This alternative would provide the most direct, positive impact to wildlife as projects would be prioritized based on how well they benefit wildlife and other natural resources.	Development of water sources in appropriate places could be beneficial to wildlife.
Impacts from Vegetative Communities management actions	Providing for diverse vegetation types with a mixture of all seral stages of vegetation would benefit wildlife by creating many different types of habitat and forage.			
Impacts from Forests and Woodlands management actions	Maintaining healthy forests and woodlands would potentially benefit habitat quality which would positively affect wildlife and their habitat.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Rangeland management actions	Maintaining or improving the conditions of rangeland so that the standards for rangeland health are met would benefit wildlife by improving habitat and allowing residual forage.			
Impacts from Riparian and Wetlands management actions	Ensuring that riparian and wetlands are meeting PFC would benefit wildlife species			
Impacts from Noxious and Invasive Species management actions	Utilizing IPM methods for invasive species would help limit the negative impacts, although total eradication of invasive species is not possible, to wildlife species and their habitats.			
Impacts from Special Status Plants management actions	Negligible impacts.			
Impacts from Wildlife management actions including Special Status Species Management	• Provides the least protection of wildlife and special status species habitat but would protect habitat of importance such as riparian areas and areas near grouse leks.	• Provides more protection than Alternative A, but protects fewer acres and fewer or shorter seasonal restriction on BLM-administered lands compared to Alternatives C and D. • • An NSO stipulation in Greater Sage-Grouse PHMAs would shift some oil and gas production from BLM-administered lands onto other lands adjacent or within PHMAs.	This alternative would have the most potential to protect special status species habitat on BLM-administered land due to increased acres protected or high levels of restrictions. A closure of oil and gas leasing would have direct impacts similar to an NSO. Under an oil and gas closure, BLM lands in PHMAs would receive beneficial impacts to wildlife but in some cases, adverse cumulative impacts would occur from the shifting of activity or infrastructure onto other lands. Refer to the cumulative impacts section of wildlife in Chapter 4. Under an oil and gas closure, revenue from the drainage of	Provides slightly higher levels of protection than Alternative B but less than Alternative C. Compared to Alternative C, the balance of resource use and protection would result in more overall control of activities and more opportunity for BLM to mitigate impacts as there would be fewer situations where the proposed use is moved to private or non-federal lands as a result of BLM restrictions or closures.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			oil and gas from federal lands onto operations on other lands would be lost while under an NSO restriction, this revenue would not be lost. Withdrawal of other types of minerals would not increase the level of protection as most high potential locatable minerals such as bentonite are already claimed and these claims would need to be honored as valid existing rights.	
Impacts from Fisheries including Special Status Species management actions	Developing fisheries with certain predatory fish species that could potentially prey on waterfowl, shorebirds and other water related species.			
Impacts from Fire Management and Ecology management actions	Potential for surface-disturbing activities associated with Fire Management and Ecology could impact wildlife species and their habitat depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that would affect water quality. Direct disturbance to wildlife would occur from noise and the presence of people equipment during mechanical or prescribed fire treatments that would be undertaken to reduce pine density or alter vegetative communities. Alterations to vegetative communities in forested areas would result in more forage for the majority of wildlife species as herbaceous and shrubs communities respond positively to the reduction in competition from trees and increased sunlight that reaches understory vegetation. In the short term, hiding and thermal cover would be reduced from treatments. Over the long term, impacts to wildlife and water quality would be beneficial as the potential for large, hot, severe wildfires and the resultant major, long-term negative impacts to soil, water quality and vegetation are reduced. Application of forestry and fire BMPs and guidelines would ensure that disturbed sites would revegetate quickly reducing the water quality impacts to short-term impacts. *Specific impacts to soil, water, and vegetation from large scale fires is also discussed in the soil, water, and vegetation sections.			
	Prescribed fire in certain habitats can be very beneficial.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Cultural Resources management actions	Actions that protect important cultural sites would generally provide minor beneficial impacts to wildlife by protecting habitat at these sites.			
Impacts from Paleontological Resources management actions	Negligible to minor beneficial impacts.	Restrictions to protect paleontological resources in high fossil yield areas would result in minor long-term beneficial impacts to wildlife in these areas. Slightly higher beneficial impacts compared to Alternative A as more acres may be protected.		
Impacts from Visual Resources management actions	This alternative would provide the least level VRM restrictions and would also result in the lowest levels of wildlife protection that would occur by limiting development and disturbance through VRM restrictions. 6,224 acres would receive moderate protection through Class II or III restrictions. 531 acres would receive minor restriction through Class IV restrictions. The rest of the planning area (264,997 acres) would be managed on a case-by-case basis.	Would provide more protection for wildlife than Alternative A but less than Alternative C. Restriction to protect visual resource values would result in moderate long-term beneficial impacts to wildlife and their habitats. 6,828 acres would receive moderate protection through Class II or III restrictions. 264,924 acres would receive minor protection through Class IV restrictions.	This alternative would provide the most protection to wildlife by providing the most acres restricted to visual obstructions and development. 190,212 acres would receive moderate protection through Class II or III restrictions. 80,883 acres would receive minor protection through Class IV restrictions.	This alternative would provide more protection to wildlife than Alternative B but less than Alternative C by providing acres restricted to visual obstructions and development. 11,911 acres would receive moderate protection through Class II or III restrictions. 259,841 acres would receive minor protection through Class IV restrictions.
Resource Uses				
Impacts from Energy and Minerals management actions	Surface-disturbing activities from leasable, locatable, and salable minerals would impact wildlife to varying degrees depending on the amount, location, timing, and type of disturbance. The analysis of impacts described below is a summary of impacts for activities that are expected to occur under each alternative for the life of the plan. Surface-disturbing and disruptive activities mainly vary by alternative for oil and gas activities.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Leasable Minerals management actions	Alternative A would result in the most development of oil and gas resources. Alternative A provides minimal measures of protection for wildlife. •	Alternative B would result in the same level of development of oil and gas resources as Alternative A; however, Alternative B provides more protective measures for wildlife compared to Alternative A, but less than Alternative C.	Oil and gas production would be less than Alternatives A and B because of increased restrictions and fewer exceptions. This alternative would provide the greatest protection for wildlife. Greater Sage-Grouse PHMAs/ACEC would not be managed as NSOs (as in Alternatives B and D) and would be closed to leasing. CSU acres are lower than Alternatives B and D because more acres are managed as NSO.	Oil and gas production would be less than Alternatives A and B because of increased restrictions and fewer exceptions. Oil and gas production may be greater than in Alternative C, since fewer lands are closed, with more open lands with NSO, CSU, and standard lease stipulation categories.
Cumulative Acres of Federal Mineral Estate Available or Unavailable for Oil and Gas Leasing				
Closed	Non-discretionary: National parks, wildlife refuges, wilderness areas, and incorporated cities and towns. Subsurface: 175 acres Fort Meade and Fossil Cycad Surface: 6,894 acres Subsurface: 6,894 acres	Non-discretionary: National parks, wildlife refuges, wilderness areas, and incorporated cities and towns. Subsurface: 175 acres Fort Meade Surface: 6,574 acres Subsurface: 6,574 acres	Non-discretionary: National parks, wildlife refuges, wilderness areas, and incorporated cities and towns. Subsurface: 175 acres Greater Sage-Grouse PHMAs, BHAD and Igloo town site, Fort Meade, Fossil Cycad, and Bear Butte Surface: 100,160 acres Subsurface: 309,576 acres	Non-discretionary: National parks, wildlife refuges, wilderness areas, and incorporated cities and towns. Subsurface: 175 acres BHAD, Fort Meade, Fossil Cycad, and Bear Butte Surface: 6,894 acres Subsurface: 19,203 acres
No Surface Occupancy (NSO)	Surface: 15,489 acres Subsurface: 87,349 acres	Surface: 105,838 acres Subsurface: 404,442 acres	Surface: 99,811 acres Subsurface: 700,389 acres	Surface: 152,100 acres Subsurface: 584,118 acres

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Controlled Surface Use (CSU)	Surface: 2,954 acres Subsurface: 19,613 acres	Surface: 39,730 acres Subsurface: 363,692 acres	Surface: 1,051 acres Subsurface: 1,051 acres	Surface: 21,175 acres Subsurface: 250,242 acres
Timing Limitations (TL)	Surface: 115,204 acres Subsurface: 450,032 acres	Surface: 61,186 acres Subsurface: 305,574 acres	Surface: 15,878 acres Subsurface: 92,903 acres	Surface: 1,169 acres Subsurface: 8,616 acres
Standard Lease Terms (SLT)	Surface: 103,033 acres Subsurface: 798,690 acres	Surface: 30,246 acres Subsurface: 282,296 acres	Surface: 26,674 acres Subsurface: 258,650 acres	Surface: 62,236 acres Subsurface: 500,399 acres
Impacts from Salable Minerals management actions	The limited level of surface-disturbing salable minerals activities would not result in major impacts to wildlife. If activities reach the upper end of projected levels, minor, long-term impacts from surface disturbance would occur. Disturbance from people and equipment would result in minor, short-term impacts to wildlife. Some indirect adverse impacts to wildlife could occur from removal of vegetation and sedimentation into water bodies but such impacts would be negligible provided that BMPs and stipulations are followed.	Same as Alternative A except the abandoned Black Hills Army Depot Site (BHAD) and Igloo town site would be closed (12,802 acres).	Same as Alternative B except Greater Sage-Grouse PHMAs/ACEC would be closed to salable minerals. Affected acres that would be closed include: Surface: 93,266 acres Subsurface: 289,563 acres	Impacts same as Alternative B.
Impacts from Locatable Minerals management actions	Locatable mineral development is not expected to vary by alternative. If activities reach the upper end of projected levels, minor, long-term impacts to wildlife would occur from surface disturbance, noise levels, and disturbance from people and equipment. Some adverse impacts to wildlife could occur from loss of habitat, disturbance and erosion such as sedimentation or infrequent cases of pollution being released into water bodies but such impacts would be minor		Impacts same as Alternatives A and B except Greater Sage-Grouse PHMAs/ACEC would be withdrawn from locatable minerals. Affected acres that would be withdrawn include:	Impacts same as Alternatives A and B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	provided that acreages are kept minimal, and BMPs and stipulations are followed.		Surface: 93,266 acres Subsurface: 289,563 acres	
Impacts from Livestock Grazing management actions	Potential to affect.	Changing livestock fences from woven wire to less restrictive wildlife fence would reduce wildlife mortality and facilitate movement of wildlife.		
	Restrictions discouraging domestic sheep grazing in or near bighorn sheep ranges would be at an adequate level to protect bighorn sheep (9 miles) but such restriction would not be mandatory. This alternative would provide a larger separation distance between bighorn and domestic sheep than Alternative B but would provide less protection than Alternatives C and D.	Restrictions prohibiting domestic sheep grazing on public land in and within a 5 mile radius of bighorn sheep ranges would provide an intermediate level of protection from disease transmission from domestic sheep to bighorn sheep.	Restrictions prohibiting domestic sheep grazing on public land in and within a 15 mile radius of bighorn sheep ranges would provide the highest level of protection of disease transmission from bighorn sheep to domestic sheep.	Restrictions prohibiting domestic sheep grazing on public land in and within a 15 mile radius of bighorn sheep ranges would provide the highest level of protection of disease transmission from bighorn sheep to domestic sheep.
	Lack of adaptive management measures for increasing or decreasing livestock use would result in less proactive management and decreased benefit wildlife compared to Alternative B. Livestock use levels could still be reduced or increased based on current regulations but such changes would take much longer to implement compared to Alternative B.	Adaptive management measures that allow increase or decrease of livestock grazing based on actual conditions would result in the most flexibility to respond to changing conditions.	Lack of adaptive management measures for increasing or decreasing livestock use would result in less proactive management and decreased benefit wildlife compared to Alternative B. Livestock use levels could still be reduced or increased based on current regulations but such changes would take much longer to implement compared to Alternative B.	
	Moderate long-term adverse impacts to wildlife habitat	Adaptive management measures that would allow more flexibility for management of livestock use before and after prescribed fire would benefit wildlife.		

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	could occur as there would be less flexibility for management of livestock use before or after prescribed fire.			
Impacts from Recreation/Visitor Services management actions	Management restrictions on habitat for wildlife species would cause no inconvenience to recreation users.	Management restrictions on habitat for wildlife species could cause negligible inconvenience to recreation users.	Management restrictions on habitat for wildlife species could cause minor inconvenience to recreation users.	Impacts same as Alternative B.
Impacts from Travel Management actions	Potential to affect.	Big game and other wildlife species could be negatively impacted by the use of roads in important wildlife habitat. The impacts would be moderate in the long term.	Big game and other wildlife species could be negatively impacted by the use of roads in important wildlife habitat. The impacts would be moderate in the long term. This alternative would be most beneficial to wildlife as no new permanent roads would be built for forestry and fuels projects and travel and road ROWs around important wildlife habitat would be limited the most.	Impacts same as Alternative B.
Impacts from Forest and Woodland Products management actions	The potential unrestricted use of snag and cavity bearing trees as a forest product would have a negative effect on wildlife species that use this habitat.	Impacts same as Alternative A.	This alternative would restrict the removal of snag and cavity bearing trees the most, positively benefitting wildlife species that use this component of habitat.	Impacts same as Alternative C.
	The disturbance from removing forest products would have a short-term	The disturbance from removing forest products would have a short-term negative impact from the displacement of wildlife. The long-term increase in forage and browse would be a positive benefit to most species of wildlife. Forest product removal completed to enhance wildlife		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	negative impact from the displacement of wildlife. The long-term increase in forage and browse would be a positive benefit to most species of wildlife.	habitat would be beneficial.		
Impacts from Lands and Realty management actions	Most lands and realty actions such as ROWs are surface-disturbing and disruptive activities and would have negative impacts to wildlife to varying degrees depending on the amount, location, timing, and type of disturbance. The impacts described below are for specific realty actions.			
Impacts from Land Tenure management actions	Acquiring lands that meet the land tenure adjustment criteria would benefit wildlife and wildlife habitat.			
Impacts from Rights-of-Way management actions Impacts from Leases and Permits	Lack of protective measures would result in negative impacts to wildlife. This alternative provides the least protection for wildlife. See Table 2-1 "Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected" for affected acres.	Less restrictive requirements including avoidance areas and placement for powerlines, roads and other realty actions would result in less protections and greater impact to wildlife. See Table 2-1 "Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected" for affected acres.	More restrictive requirements including exclusion areas and placement for powerlines, roads and other realty actions would result in greater protections and less impact to wildlife. This alternative would be the most beneficial to wildlife. See Table 2-1 "Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected" for affected acres.	Restrictive requirements including avoidance and exclusion areas and placement for powerlines, roads and other realty actions would result in greater protections and less impact to wildlife. This alternative would be more beneficial to wildlife and their habitats than Alternative B but less than Alternative C. See Table 2-1 "Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected" for affected acres.
Impacts from Withdrawals	Mineral withdrawals 6,894 acres for the ACECs to protect resources and resource extraction could be beneficial to wildlife.	Withdrawals of 7,304 acres to protect resources and resource extraction could be beneficial to wildlife.	Withdrawals of 296,592 acres to protect resources and resource extraction could be direct beneficial to wildlife.	Withdrawals of 7,304 acres to protect resources and resource extraction could be beneficial to wildlife.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		Withdrawals for facilities such as the national cemetery would reduce the amount of wildlife habitat available.	This alternative has the greatest potential for withdraws that would have a positive impact on wildlife habitats and other resources. This action when combined with an ACEC for sage-grouse PHMAs could in result in adverse cumulative impacts in some cases as a result of use shifting from public land and concentrating on other adjacent state and private lands.	Withdrawals for facilities such as the national cemetery would reduce the amount of wildlife habitat available.
Impacts from Transportation Facilities and Access management actions	Potential to affect.	Greater access to public lands would have a greater negative impact on wildlife and their habitat. Through increased disturbance, disruption and hunting pressure.	Access could have a negative impact on wildlife and their habitat. Through increased disturbance, disruption and hunting pressure.	Impacts same as Alternative B.
Impacts from Renewable Energy management actions	Least restrictive requirements for renewable energy facilities placement would have greater negative impact to wildlife and their habitat. 267,768 acres (98% of BLM surface acres in western SD) would be open to renewable energy development. 5,522 acres would be	Less restrictive requirements including avoidance areas for renewable energy facilities placement would have negative impact to wildlife and their habitat. 37,040 acres (13.6%) of BLM surface estate in western SD would be open to renewable energy development.	More restrictive requirements including exclusion areas for renewable energy facilities placement would have greater positive impacts to wildlife and their habitats. This alternative would be most beneficial to wildlife and their habitats. 32,724 acres (12% of BLM surface estate in western SD) would be open to renewable	More restrictive requirements including exclusion and avoidance areas for renewable energy facilities placement would have positive impacts to wildlife and their habitats. This alternative would be more beneficial to wildlife and their habitats than Alternative B but less than Alternative C. 19,903 acres (7.3% of BLM

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	renewable energy ROW exclusion areas.	236,250 acres would be renewable energy ROW avoidance areas.	energy development. 240,566 acres would be renewable energy ROW exclusions.	surface estate in western SD) would be open to renewable energy development. 107,147acres would be renewable energy ROW avoidance areas. 146,240 acres would be renewable energy ROW exclusion areas.
	Impacts as result of development of renewable energy on BLM-administered surface estate in eastern South Dakota would be negligible as those lands are extremely limited (less than 1% of the planning area) and most surface estate in eastern South Dakota is under the reservoirs of the Missouri River or on islands of the Missouri River.			
Special Designations				
Impacts from Fort Meade ACEC designation	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC and would have greater beneficial impacts for wildlife and their habitat.	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC and but less restrictive than Alternative A and would have less beneficial impacts for wildlife and their habitat.	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC and less restrictive than Alternative A and more restrictive than Alternative B and would be more beneficial to wildlife and their habitat than Alternative B.	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC and but less restrictive than Alternative A and would have less beneficial impacts for wildlife and their habitat.
Impacts from Fossil Cycad ACEC designation	Many lands and realty actions are limited or restricted within the 320 acre ACEC and would have greater beneficial impacts for wildlife species and their habitat.			
Impacts from designation of Greater Sage-Grouse PHMAs as an Area of Critical Environmental Concern (ACEC)	No designation. No impact.	No designation. No impact.	ACEC designation would not result in any additional beneficial impacts to wildlife or special status species as numerous protective measures are provided for in PHMAs by Alternatives B and D.	No designation. No impact.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			Some increase in visitor use may occur as a result of ACEC designation but impacts would be minor.	
Impacts from National Trails Protections	Negligible due to the small amount of BLM-managed land adjacent to National Trails.			
Impacts from Social Conditions	Social conditions and needs can affect the determination of how important wildlife and their habitats are. This impact can be negative or positive depending on the need.			
Impacts from Economic Conditions	The economic value of wildlife watching and hunting is a positive impact. Restrictions or avoidances could be positive to wildlife but very costly and time consuming to industry.			
Impacts to Special Status Species FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Climate	Potential changes in climate that would affect temperature precipitation would affect wildlife and their habitat. Changes to seasonal weather patterns, ambient air temperatures, atmospheric carbon levels, and the timing and amount of precipitation could result in direct, long-term impacts to many special status species. Since the specific type or degree of changes to climatic conditions is not fully understood at this time, determining impacts to individual species over the next 20 years is very difficult. Special status species may be impacted by changes to vegetation that may occur through climate change. Changes to vegetation would alter habitat quality and quantity and foraging opportunities. Adaptation to changing conditions through adaptive management practices would provide the best means to reduce adverse impacts to special status species.			
Impacts from Soil Resources management actions	Higher potential for soil erosion and associated impacts to special status species and habitat.	• Restrictions to sensitive soils should benefit special status species and their habitat by diminishing the potential soil erosion.		
Impacts from Water Resources management actions	Impacts to special status species would vary depending on the species present in proposed project areas and the type and	Impacts to special status species would vary depending on the species present in proposed project areas and the type and	Development of water sources for wildlife and livestock would generally benefit special status species.	Impacts same as Alternative B.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	location of the water development. This alternative is least restrictive on placement of water source and could be the least beneficial to wildlife.	location of the water development.	Improving water quality would be beneficial. This alternative would provide the most direct, positive impact to special status species as water development projects would be prioritized based on how well they benefit special status species, other wildlife and other natural resources.	
Impacts from Vegetative Communities management actions	Providing for diverse vegetation types with a mixture of all seral stages of vegetation would benefit wildlife by creating many different types of habitat and forage.			
Impacts from Forests and Woodlands management actions	Maintaining healthy forest and woodlands would potentially benefit habitat quality which would positively affect wildlife and their habitat. Moderate levels of short-term disturbance would occur as stands of forest are thinned or burned.			
Impacts from Rangeland management actions	Rangelands meeting standards would be beneficial by affecting habitat quality which would affect wildlife and their habitats.			
Impacts from Riparian and Wetlands management actions	Riparian and wetlands that are meeting PFC would be beneficial to wildlife species and their habitats.			
Impacts from Noxious and Invasive Species management actions	Utilizing IPM methods for invasive species would help limit the negative impacts to wildlife species and their habitats by limiting completion for resources between native wildlife and noxious and invasive species. Some negative impacts from would remain as total eradication of all noxious and invasive species is not possible.			
Impacts from Wildlife management actions including Special Status Species	• Provides the least protection of wildlife and special status species habitat but would protect habitat of importance such as riparian areas and areas near sage-grouse and sharp-tailed grouse/greater prairie-	• Provides more protection than Alternative A, but protects fewer acres or allows more use to occur on BLM-administered lands compared to Alternatives C and D. •	This alternative would have the most potential to protect special status species habitat on BLM-administered land due to increased acres protected or high levels of restrictions.	Provides slightly higher levels of protection than Alternative B but less than Alternative C. Impacts from the NSO in Greater Sage-Grouse PHMAs would the same as Alternative B.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	chicken leks.	• An NSO stipulation in Greater Sage-Grouse PHMAs would shift some human use and infrastructure tied to oil and gas production from BLM-administered lands onto other lands within PHMAs and in some cases to BLM and other lands directly adjacent to PHMAs but only in areas that are not leased and producing as valid existing rights would be honored. • • The primary areas of mineral value that have little or no valid existing mineral rights are the moderate oil and gas potential areas and about ¼ of the high oil and gas potential as shown in Figure 4-1.	A closure of oil and gas leasing would have similar direct impacts as an NSO. Under an oil and gas closure, BLM lands in PHMAs/ACEC would receive beneficial impacts to wildlife, but in some cases, adverse cumulative impacts would occur from the shifting of activity or infrastructure onto other lands. Refer to the cumulative impacts section of Chapter 4. Under an oil and gas closure, revenue from the drainage of oil and gas from federal lands onto operations on others lands would be lost while under an NSO restriction, this revenue would not be lost. Withdrawal of other types of minerals would not increase the level of protection as most high potential locatable minerals such as bentonite are already claimed and these claims would need to be honored as valid existing rights.	
Impacts from Fisheries management actions including Special Status	Stocking fisheries with certain predatory fish species has the potential of impacting those special status species that are prey to predatory fish or compete for similar resources		Stocking fisheries with certain predatory fish species has the potential of impacting those	Impacts same as Alternatives A and B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Species			special status species that are prey to predatory fish or compete for similar resources. This alternative would have the least potential of stocking predatory fish that would affect special status species.	
Impacts from Fire Management and Ecology management actions	Potential for surface-disturbing activities associated with Fire Management and Ecology could impact special status species and their habitat depending on the amount, location, and type of disturbance. Surface-disturbing activities could remove protective vegetative cover and may alter soil properties. This would increase the probability of erosion that would affect water quality. Direct disturbance to wildlife would occur from noise and the presence of people equipment during mechanical or prescribed fire treatments that would be undertaken to reduce pine density or alter vegetative communities. Alterations to vegetative communities in forested areas would result in more forage for the majority of wildlife species as herbaceous and shrubs communities respond positively to the reduction in competition from trees and increased sunlight that reaches understory vegetation. In the short term, hiding and thermal cover would be reduced from treatments. Over the long term, impacts to special status species and water quality would be beneficial as the potential for large, hot, severe wildfires and the resultant major, long-term negative impacts to soil, water quality and vegetation are reduced. Application of forestry and fire BMPs and guidelines would ensure that disturbed sites would revegetate quickly reducing the water quality impacts to short-term impacts. *Specific impacts to soil, water, and vegetation from large scale fires is also discussed in the soil, water, and vegetation sections. Prescribed fire in certain habitats can be beneficial for some special status species.			
Impacts from Cultural Resources management actions	Potential to affect.	Potential restriction to protect cultural resources would provide minor, long-term beneficial impacts to special status species and their habitats.		
Impacts from Paleontological Resources management actions	Potential to affect.	Restriction to protect paleontological resources would result in minor long-term beneficial impacts to wildlife and their habitats.		
Impacts from Visual Resources management actions	This alternative would provide the least level VRM restrictions and would also result in the lowest levels of special status species	This alternative would provide more protection for special status species than Alternative A but less than Alternative C. Restriction to	This alternative would provide the most protection to special status species by providing the most acres restricted to visual	This alternative would provide more protection to wildlife than Alternative B but less than Alternative C by providing acres restricted to

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	protection that would occur by limiting development and disturbance through VRM restrictions. 6,224 acres would receive moderate restriction through Class II or III restrictions. 531 acres would receive minor restriction through Class IV restrictions. The rest of the planning area (264,997 acres) would be managed on a case-by-case basis.	protect visual resource values would result in moderate long-term beneficial impacts to wildlife and their habitats. 6,828 acres would receive moderate restriction through Class II or III restrictions. 264,924 acres would receive minor restriction through Class IV restrictions.	obstructions and development. 190,212 acres would receive moderate restriction through Class II or III restrictions. 80,883 acres would receive minor restriction through Class IV restrictions.	visual obstructions and development. 11,911 acres would receive moderate protection through Class II or III restrictions. 259,841 acres would receive minor protection through Class IV restrictions.
Resource Uses				
Impacts from Energy and Minerals	Surface-disturbing activities from leasable, locatable, and salable minerals would impact special status species to varying degrees depending on the amount, location, timing, and type of disturbance. The analysis of impacts described below is a summary of impacts for activities that are expected to occur under each alternative for the life of the plan. Surface-disturbing and disruptive activities mainly vary by alternative for oil and gas activities.			
Impacts from Leasable Minerals. Refer to cumulative acres under resource uses for acres affected by stipulations and alternatives.	Alternative A would result in the most development of oil and gas resources. Alternative A provides minimal measures of protection for wildlife.	Alternative B would result in more protective measures for wildlife compared to Alternative A, but less than Alternative C.	Alternative C would provide the greatest protection for wildlife by closing the most acres to leasable minerals. Greater Sage-Grouse PHMAs/ACEC would not be managed as NSOs (as in Alternatives B and D) but would be closed to leasing. CSU acres are lower than Alternatives B and D because more acres are managed as NSO.	Alternative D would provide more protection than Alternative B but less than Alternative C.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Salable Minerals management actions	The limited level of surface-disturbing saleable minerals activities would not result in major impacts to special status species. If activities reach the upper end of projected levels, minor, long-term impacts from surface disturbance would occur. Disturbance from people and equipment would result in minor, short-term impacts to wildlife. Some indirect adverse impacts to special status species could occur from removal of vegetation and sedimentation into water bodies but such impacts would be negligible provided that BMPs and stipulations are followed.	Same as Alternative A except the abandoned Black Hills Army Depot Site (BHAD) and Igloo townsite would be closed (12,802 acres).	Same as Alternative B except Greater Sage-Grouse PHMAs/ACEC would be closed to salable mineral development. Affected acre include: Surface: 93,266 acres Subsurface: 289,563 acres	Impacts same as Alternative B.
Impacts from Locatable Minerals management actions	Locatable mineral development is not expected to vary by alternative. If activities reach the upper end of projected levels, minor, long-term impacts to special status species would occur from surface disturbance, noise levels, and disturbance from people and equipment. Some adverse impacts to special status species could occur from loss of habitat, disturbance and erosion such as sedimentation or infrequent cases of pollution being released into water bodies but such impacts would be minor provided that acreages are kept minimal, and BMPS and stipulations are followed.			
	Fort Meade and Fossil Cycad ACECs would remain withdrawn from mineral entry.	Fort Meade ACEC (6,574 Acres), Fossil Cycad ACEC (320 Acres), and Bear Butte National Historic Landmark (410 Acres) would be withdrawn from locatable mineral development.	Fort Meade ACEC (6,574 Acres), Fossil Cycad ACEC (320 Acres), Bear Butte National Historic Landmark (410 Acres), and Greater Sage-Grouse PHMAs/ACEC would be withdrawn from	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			locatable mineral development. Surface: 93,266 acres Subsurface: 289,563 acres	
Impacts from Livestock Grazing management actions	Changing fences from woven wire to less restrictive wildlife fence and marking fences would reduce wildlife mortality and facilitate movement of wildlife.			
	Lack of adaptive management measures for increasing or decreasing livestock use would result in less proactive management and decreased benefit to special status species compared to Alternative B. Livestock use levels could still be reduced or increased based on current regulations but such changes would take much longer to implement compared to Alternative B.	Adaptive management measures that allow an increase or decrease of livestock grazing based on actual conditions would result in the most flexibility to respond to changing conditions.	Lack of adaptive management measures for increasing or decreasing livestock use would result in less proactive management and decreased benefit special status species compared to Alternative B. Livestock use levels could still be reduced or increased based on current regulations but such changes would take much longer to implement compared to Alternative B.	Same as Alternative B.
	Moderate long-term adverse impacts to special status species habitat could occur as there would be less flexibility for management of livestock use before or after prescribed fire.	Adaptive management measures that would allow more flexibility for management of livestock use before and after prescribed fire would benefit special status species.		
Impacts from Recreation/ Visitor Services management actions	Management restrictions of habitat for special status species would cause no inconvenience to recreation users.	Management restrictions of habitat for special status species could cause negligible inconvenience to recreation users.	Management restrictions of habitat for special status species could cause minor inconvenience to recreation users.	
Impacts from Travel	Potential for moderate, short-	Greater Sage-Grouse and other special status species could be negatively impacted by the use		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Management	and long-term adverse impacts as travel uses increases over time.	of roads in important special status species habitat. Alternatives B, C, and D would result in more coordinated management of travel through the use of Travel Management Areas (TMAs) and implementation travel management planning. Lower adverse impacts compared to Alternative A. Impacts are expected to be minor, short- and long-term adverse impacts.		
Impacts from Forest and Woodland Products management actions	The potential unrestricted use of snag and cavity bearing trees would have a negative effect on special status species that use this component of habitat.		This alternative would restrict the removal of snag and cavity bearing trees the most, positively benefitting special status species that use this component of habitat.	
	The disturbance from removing forest products would have a short-term negative impact from the displacement of special status and other wildlife species. The long-term increase in forage and browse would be a positive benefit to most species of wildlife.	The disturbance from removing forest products would have a short-term negative impact from the displacement of special status and other wildlife species. The long-term increase in forage and browse would be a positive benefit to most species of wildlife. Forest product removal completed to enhance wildlife habitat would be beneficial.		
Impacts from Lands and Realty management actions	Most lands and realty actions such as ROWs are surface-disturbing and disruptive activities and would have negative impacts to wildlife to varying degrees depending on the amount, location, timing, and type of disturbance. The impacts described below are for specific realty actions.			
Impacts from Land Tenure management actions	Acquiring more lands that meet the land tenure year adjustment criteria would have a positive benefit special status species and their habitat.			
Impacts from Rights-of-Way Impacts from Leases and Permits management actions	Least protective requirements for placement and application to powerlines and other ROWs would have potential negative impacts. See Table 2-1 “Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected” and the	Less protective requirements including avoidance areas for placement and application to powerlines and other ROWs would have potential negative impacts. See Table 2-1 “Rights-of-way, Cumulative acres of BLM-Administered Surface	More restrictive requirements including exclusion areas for placement and application to powerlines and other ROWs would have more beneficial impacts on special status species. See Table 2-1 “Rights-of-way, Cumulative acres of	Requirements including exclusion and avoidance areas for placement and application to powerlines and other ROWs would be more restrictive than Alternatives A and B but less than Alternative C which would have more beneficial impacts on special status species than

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Lands section of Table 2-1 and Appendix R.	Acres Affected" and the Lands section of Table 2-1 and Appendix R.	BLM-Administered Surface Acres Affected" and the Lands Section of Table 2-2 and Appendix R.	Alternatives A and B but less than Alternative C. See Table 2-1 "Rights-of-way, Cumulative acres of BLM-Administered Surface Acres Affected" and the Lands Section of Table 2-2 and Appendix R.
Impacts from Withdrawal management actions	Mineral withdrawals of 6,894 acres for the ACECs to protect resources and resource extraction could be beneficial to special status species.	Potential withdrawals for facilities such as the national cemetery would have negative impacts to special status species. Withdrawals of 7,304 acres to protect resources and resource extraction could be beneficial to special status species.	Withdrawals of 296,592 acres to protect resources and resource extraction could be beneficial to special status species.	Potential withdrawals for facilities such as the national cemetery would have negative impacts to special status species. Withdrawals of 7,304 acres to protect resources and resource extraction could be beneficial to special status species.
Impacts from Transportation Facilities and Access management actions	Potential to affect.	Greater access to public lands would have a greater negative impact on special status species and their habitat. Through increased disturbance, disruption and hunting pressure.	Access could have a negative impact on special status species and their habitat. Through increased disturbance, disruption and hunting pressure.	Access could have a negative impact on special status species and their habitat. Through increased disturbance, disruption and hunting pressure.
Impacts from Renewable Energy management actions	Least protective requirements for renewable energy development would result in adverse impacts to	Compared to Alternatives C and D, less restrictive requirements including avoidance areas for	Compared to the other Alternatives, this Alternative would provide the most restrictive requirements for	Requirements including exclusion and avoidance areas and restrictions for renewable development would reduce

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	special status species. 267,768 acres (98% of BLM surface acres) in western SD would be open to renewable energy development. 5,522 acres would be renewable energy ROWs exclusion areas.	renewable energy development would have adverse impacts to special status species but such impacts would much less than Alternative A. 37,040 acres (13.6% of BLM surface estate in western SD) would be open to renewable energy development. 236,250 acres would be renewable energy ROWs avoidance areas.	renewable energy development and largest amount of acres protected through exclusion areas. This Alternative would have the least amount of adverse impacts to special status species. 32,724 acres (12% of BLM surface estate in western SD) would be open to renewable energy development. 240,566 acres would be renewable energy ROWs exclusions.	adverse impacts to special status species. Overall adverse impacts would be less than Alternatives A and B but more than Alternative C. 19,903 acres (7.3% of BLM surface estate in western SD) would be open to renewable energy development. 107,147 acres would be renewable energy ROWs avoidance areas. 146,240 acres would be renewable energy ROW exclusion areas.
	Impacts as result of development of renewable energy on BLM-administered surface estate in eastern South Dakota would be negligible as those lands are extremely limited (less than 1% of the planning area) and most surface estate in eastern South Dakota is under the reservoirs of the Missouri River or on islands of the Missouri River.			
Impacts from Areas of Critical Environmental Concern designations	ACECs are establish to protect certain values and in protecting these values most of the time we restrict certain uses and these restriction can be beneficial to special status species. Listed below are impacts associated with individual ACECs.			
Impacts from Fort Meade ACEC designation	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC under all Alternatives.	Many lands and realty actions are limited or restricted within the 6,574 acre ACEC. Alternatives B and D would result in a loss of up to 220 acres of wildlife habitat as some land would be transferred out of BLM management.	Impacts same to Alternative A.	Impacts same as Alternative B.
Impacts from Fossil Cycad	Many lands and realty actions are limited or restricted within the 320 acre ACEC and would have greater beneficial impacts for			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
ACEC designation	wildlife.			
Impacts from of Greater Sage-Grouse PHMAs /ACEC designation	No designation. No impact.	No designation. No impact.	• ACEC designation would limit development to some degree but ACEC would be ROW avoidance area regardless of ACEC designation.	No designation. No impact.
Impacts from National Historic Trails	Increased use of these trails could cause disruption and displacement of special status species.			
Impacts to Fish and Aquatics FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Climate	Potential changes in climate that would affect temperature and precipitation would affect fish and aquatic species and their habitat.			
Impacts from Soil Resources management actions	Restrictions to sensitive soils would benefit fish and aquatic habitat by diminishing the potential soil erosion.			
Impacts from Water Resources management actions	Potential to affect.	Developing more water sources would potentially increase habitat for certain fish and aquatic species.		
Impacts from Vegetative Communities management actions	Surface-disturbing activities and actions in vegetative communities would impact fish and aquatic habitats depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion. Areas would need to be reclaimed within recommend native species.			
Impacts from Forests and Woodlands management actions	Maintaining healthy forest and woodlands would potentially benefit water quality which would affect fish and aquatic species.			
Impacts from Rangeland management actions	Rangelands meeting standards would be beneficial by reducing sedimentation which would affect fish and aquatic species.			
Impacts from Riparian and Wetlands management actions	Riparian and wetlands that are meeting PFC would be beneficial to fish and aquatic species and their habitats by having less streamside degradation.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Noxious and Invasive	Utilizing IPM methods for invasive species would help limit the negative impacts, but total eradication of them is not possible, to fish and aquatic species and their habitats			
Impacts from Special Status Plants management actions	Potential to affect.			
Impacts from Wildlife including Special Status Species management actions	Negligible impacts.	Protection of wildlife habitats could potentially maintain or improve water quality improving fish and aquatic species habitat.		
Impacts from Fisheries including Special Status Species management actions	Developing fisheries with certain predatory fish species has the potential of impacting the other aquatic species.			
Impacts from Fire Management and Ecology management actions	Potential for surface-disturbing activities associated with Fire Management and Ecology could impact fish and aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that would affect water quality.			
Impacts from Cultural Resources management actions	Potential to affect.	Restrictions to protect cultural resources could affect the placement of new reservoirs for increased fishery opportunities.		
Impacts from Paleontological Resources management actions	Potential to affect.	Restriction to protect paleontological could affect the placement of new reservoirs for increased fishery opportunities.		
Impacts from Visual Resources management actions	Potential to affect.	Visual resource class II could affect the placement of new reservoirs for increased fishery opportunities.		
Impacts from Lands with Wilderness Characteristics	None Present			
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals management actions	Potential for surface-disturbing activities associated with leasable minerals could impact fish and aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that would affect water quality.			
Impacts from Salable Minerals	Potential for surface-disturbing activities associated with saleable minerals could impact fish and aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality.			
Impacts from Locatable Minerals management actions	Moderate potential for surface-disturbing activities associated with locatable minerals could impact fish and aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality.			
Impacts from Livestock Grazing management actions	Livestock grazing that allow riparian and rangelands to meet standards would positively affect water quality which would affect fish and aquatic species.			
Impacts from Recreation/Visitor Services management actions	Little impact	Impact from recreational users of fisheries is the potential to overharvest a fishery.		
Impacts from Travel Management actions	Most potential for adverse impacts from leaving all existing roads and trails.	Less potential for adverse impacts as some roads and trails would be closed.	Lowest potential for adverse impacts by closing some roads and trails.	
Impacts from Forest and Woodland Products management actions	Potential for surface-disturbing activities associated with removal of forest and woodland products could impact fish, lotic systems, wetlands and other aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality. Forest BMP should reduce the amount of erosion.			
Impacts from Lands and Realty management actions	Most lands and realty actions such as ROWs are surface-disturbing and disruptive activities and would have negative impacts to fisheries and aquatic species to varying degrees depending on the amount, location, timing, and type of disturbance. The impacts described below are for specific realty actions.			
Impacts from Land Tenure management actions	Potential to acquire lands that would have existing structures or structures that could be developed.			
Impacts from Rights-of-Way management actions	Potential for surface-disturbing activities associated with rights-of-way could impact fish, lotic systems, wetlands and other aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality.			
	Most potential for impacts when rights-of-way are not prohibited within ¼ mile of designated fisheries.	Less potential for impacts when rights-of-way are prohibited within ¼ mile of reservoirs with fish.		
Impacts from Leases and Permits management actions	Low potential for impacts.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Withdrawals	Withdrawals to protect resources and resource extraction could be beneficial to fisheries and aquatic species.			
Impacts from Transportation Facilities and Access management actions	Potential for surface-disturbing activities associated with transportation facilities and access could impact fish, lotic systems, wetlands and other aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality.			
Impacts from Renewable Energy management actions	Potential for surface-disturbing activities associated with renewable energy could impact fish, lotic systems, wetlands and other aquatic habitat and species depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion that that would affect water quality.			
	Most potential for impacts when renewable energy is not prohibited within ¼ mile of designated fisheries.	Less potential for impacts when renewable energy is prohibited within ¼ mile of reservoirs with fish.		
Special Designations				
Impacts from Areas of Critical Environmental Concern designation				
• Impacts from Fort Meade ACEC designation	ACECs are established to protect certain values and in protecting these values most of the time we restrict certain uses and these restrictions can be beneficial to fish and aquatic species and their habitats. Listed below are impacts associated with individual ACECs.			
Impacts from Fossil Cycad ACEC designation	No impact			
Impacts from Greater Sage-Grouse PHMAs /ACEC designation	• No designation. No impact.	No designation. No impact.	Little additional benefit from ACEC designation.	No designation. No impact.
Impacts to Cultural Resources FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Vegetative Communities management actions	Provides no protection to cultural resources from indigenous plant gathering areas.	Provides moderate protection to cultural resources by designating plant gathering areas and with the restriction to above ground plant	• Provides less protection of cultural resources than Alternative B, more than Alternative A, with restriction to above ground	Provides most protection to high value cultural resources with restriction to above ground plant gathering in the Fort Meade and Fossil Cycad

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		gathering only in the Fossil Cycad ACEC.	plant gathering only in the Fossil Cycad ACEC.	ACEC. Also allows for restrictions in potentially affected areas if needed.
Impacts from Fire Management and Ecology management actions	Forestry and vegetation product management activities would reduce hazardous fuels and the risk of intense, destructive wild fires that can have an adverse effect on cultural resources. Alternative A provides less protection to cultural resources than Alternatives B, C, and D because the least amount of fuels treatments are proposed.	Provides the most protection to cultural resources based on amount of planned fuels treatments.	Provides less protection to cultural resources than Alternatives B and D, more than A, based on amount of treatments planned.	Impacts same as Alternative B.
Impacts from Forests and Woodlands management actions	Provides less protection to cultural resources than Alternative C, more than Alternative B, based on amount of mechanical treatments and minimal new road construction.	Provides less protection to cultural resources than Alternatives A and C and the same as D, based on amount of mechanical vegetation treatments and potential new road construction. There is a potential for indirect or inadvertent affects from the increased access to cultural sites by vandals.	Provides the most protection to cultural resources because mechanical vegetation treatments would be moderately less than Alternatives A, B and D, and it has the most restriction for new road construction and road reroutes.	Impacts same as Alternative B.
Impacts from Riparian and Wetlands management actions	Achieving the goals for Vegetation: Riparian/Wetlands would be positive for cultural resources. Protection of cultural resources that occur in these environments increases proportionally with the increase in the percent improvement towards PFC of riparian/wetland habitats.			
Impacts from Noxious and Invasive management actions	Treatment of noxious and invasive species would increase natural cover allowing for better erosion control on cultural resource sites and enhance experience at Traditional Cultural Properties (TCPs).			
Impacts from Fire	Provides the most protection	Provides less protection for cultural resources because heavy equipment would be allowed off		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Management and Ecology	for cultural resources because use and movement of heavy equipment (earth moving/tillage equipment) for fire suppression activities is the most restricted.	roads and trails except where prohibited. Affects to cultural resources would be negligible based on consultation of identified cultural areas before use of or anticipated use of heavy equipment and avoidance of protected resource areas.		
Impacts from Cultural Resources management actions	Provides adequate protection for cultural resources through the National Historic Preservation Act, Section 106 process.	Inventory of 100 acres of Section 110 survey per year to increase knowledge of cultural resources in need of protection , provides more protection to cultural resources through pro-active management than Alternative A, less than Alternatives C and D.	Inventory of 400 acres of Section 110 survey per year, to increase knowledge of cultural resources in need of protection, would provide the most protection to cultural resources.	
	Provides adequate protection to high value Cultural Resources inside the Fort Meade National Register (NR) Site boundary that is 3,200 acres presently. The BLM is required to do formal consultation with the State Historic Preservation Office and Advisory Council on projects planned inside the 3,200 acres. Major undertakings inside this boundary may require programmatic agreements.	Provides the most protection to cultural resources through a National Designation, allowing opportunities for cooperative agreements and preservation grants. Change would also result in additional protection for 3,370 acres in the Historic Military Boundary that are outside the present (NR) boundary. Additional time for formal consultation on major undertaking on the additional 3,370 acres will be necessary. Would result in more time	To incorporate the additional 3,370 acres of Historic Military Reservation into the NR Site boundary provides better protection to cultural resources than Alternative A. This would result in additional time for formal consultation on major undertaking on the additional 3,370 acres.	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		for consultation than Alternatives A and C.		
Impacts from Visual Resources management actions	This alternative has the lowest number of acres managed at Class II and Class III (6,224 acres), causing less benefit to traditional cultural properties, which often incorporate the quality of the view shed for traditional values.	Increasing the Class II and Class III acreages (6,828 acres) improves the visual quality of traditional cultural properties in those view sheds.	Most beneficial to traditional cultural properties by providing the greatest number of acres (190,869 acres) managed under Class II and III.	Class II and Class III acreages are 11,911, allows better protection to cultural resources than alternatives A and B, less than Alternative C.
Resource Uses				
Impacts from Energy and Minerals management actions	Provides the least protection to cultural resources. Potential impacts would be greatest due to the expectation of the most development.	Moderate amount of development anticipated. Adequate protection of cultural resources through the NHPA Section 106.	Provides more protection to cultural resources than Alternatives A and B, less than Alternative D.	Provides more protection to cultural resources than Alternatives A, B, and C.
Impacts from Leasable Minerals management actions	Lowest level of overall protection to cultural resources due to the fewest restrictions on leasing. There are (6,894) acres closed at the Fort Meade and Fossil Cycad ACECs and (87,349) acres of NSO.	Provides fewer acres closed (6,574) to leasing than Alternatives A, C, and D and provides higher levels of protection than Alternative A with protective lease stipulations for (404,442) acres of NSO that includes the Fossil Cycad ACEC and under Bear Butte National Historic Landmark (Appendix E.5 and E.7).	Provides the most protection to cultural resources by closing 6,894 acres in the Fort Meade and Fossil Cycad ACECs, 12,802 subsurface acres in the BHAD and Igloo, and 410 subsurface acres under Bear Butte National Historic Landmark as well as an additional 93,226 acres of surface estate and 289,563 subsurface acres in Greater Sage-Grouse PHMAs/ACEC.	Provides 19,203 acres closed to leasing and provides 584,118 acres of NSO.
	Bear Butte National Historic	The 410 acres of minerals	The 410 acres of minerals beneath Bear Butte would be closed,	

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Landmark has no restrictions on the 410 acres of minerals beneath it. This alternative offers the least protection to cultural resources.	beneath Bear Butte would be open to leasing with an NSO restriction, offering better protection than Alternative A, less than Alternatives C and D.	offering the best protection.	
Impacts from Locatable Minerals management actions Impacts from Salable Minerals management actions	Provides the least protection to cultural resources based on the lowest number of restricted acres for withdrawal from consideration for mineral leasing.	Provides the same protection to cultural resources as Alternative A, less than Alternatives C and D, as it only withdraws the Fort Meade and Fossil Cycad ACECs, 6,894 acres.	Provides the most protection to cultural resources by providing the highest number of restricted acres. Restricted acres for withdrawal from consideration for mineral leasing and closure to the mining law, in the Fort Meade and Fossil Cycad ACECs (6,894 acres) and the 410 acres of Federal minerals beneath Bear Butte National Historic Landmark, along with all Greater Sage-Grouse PHMAs.	Provides better protection to cultural resources than Alternatives A and B, less than Alternative C. It provides the (7,304) restricted acres for withdrawal from consideration for mineral leasing and closure to the mining law, in the Fort Meade and Fossil Cycad ACECs and Bear Butte National Historic Landmark.
	Bear Butte National Historic Landmark has no restrictions on the 410 acres of minerals beneath it. This alternative offers the least protection to cultural resources.	The 410 acres of minerals beneath Bear Butte would be closed, offering the best protection.		
	Black Hills Army Depot and Igloo townsite (12,302 acres), has no restrictions. This alternative offers the least protection to cultural resources.	No Surface Occupancy to leasable minerals and closed to salable minerals in the Black Hills Army Depot and Igloo (12,802 subsurface acres) would benefit the protection of cultural	Closing the Black Hills Army Depot and Igloo townsite (12,802 subsurface acres) to leasable and salable minerals would benefit the protection of cultural resources the most under Alternative C.	Closing the Black Hills Army Depot to leasable and salable minerals (11,899 subsurface acres) would benefit the protection of cultural resources.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		resources.		No Surface Occupancy to leaseable minerals and closed to salable minerals on the Igloo townsite and adjacent Eligible Historic Property lands would benefit the protection of cultural resources (903 subsurface acres).
Impacts from Livestock Grazing management actions	While direct impacts associated with range improvement projects would be mitigated, other impacts may occur as a result of livestock grazing activities. Livestock congregation and trailing at or across cultural resource site locations can damage artifacts and the contexts in which they occur. Cattle shading and rubbing can damage standing historic structures and prehistoric pictograph panels. Trampling at spring sources and along stream banks, cattle trailing, and overgrazing can all lead to a denuding of protective vegetation cover and create indirect impacts to cultural resources by accelerating natural erosion and exposing artifacts to illegal collection and vandalism. Grazing management which meets established Standards for Rangeland Health and Guidelines for Livestock Grazing would reduce the amount and extent of impacts or damage to cultural resources resulting from grazing on public lands.			
	Provides fewer acres grazed in the Exemption area. Impacts would be less than Alternative B and D but higher than Alternative D.	Larger number of cultural resource sites would be vulnerable to adverse effects due to increased grazing in the exemption area.	Provides the most protection to cultural resources because it has a lower number of grazing acres proposed and no new allotments in ungrazed areas.	Larger number of cultural resource sites would be vulnerable to adverse effects due to increased grazing in the exemption area.
Impacts from Recreation/Visitor Services management actions	Provides the least protection to cultural resources as there would be opportunity for Geocaching to be placed in high value cultural sites.		Provides the most protection to cultural resources as Geocaching is restricted in historic features, artifacts and structures.	
Impacts from Travel Management actions	Provides adequate protection to cultural resources because roads would be constructed to the minimum standard, unless otherwise needed.	The potential to damage cultural resources is highest as new permanent road building promotes direct and indirect effects to cultural resources.	Provides the most protection to cultural resources since no new permanent road building or rerouting of existing roads is allowed, unless required by law.	Impacts same as Alternative B

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Provides the least protection to cultural resources because there are no restrictions to non-motorized.	Provides more protection to cultural resources than Alternative A, with a restriction of non-motorized for the Fossil Cycad ACEC 320 acres.	Provides the most protection to cultural resources with the designation of 184,354 acres Semi-primitive non-motorized travel and only 80,665 acres of Semi-primitive motorized.	Provides more protection to cultural resources than Alternative A, with a restriction of non-motorized for the Fossil Cycad ACEC 320 acres. Provides less protection than Alternative C since no acres are designated as non-motorized.
	Provides less protection to cultural resources than Alternatives C and D, more than Alternative B since wheeled cross country travel is restricted for game retrieval; however, travel is allowed for camping up to 300 feet from a road.	The potential to damage cultural resources is highest since wheeled cross country travel is allowed up to 300 feet from a road for big game retrieval and camping.	Provides the most protection to cultural resources since wheeled cross country travel is prohibited for game retrieval and travel allowed for camping is less, only within 100 feet from a road.	
Impacts from Lands and Realty management actions	Provides adequate protection of cultural resources with allowing for overhead transmission lines, fiber optic, telephone, and other lines, effects would be minimal for ground disturbance and greater for visual effects to cultural view sheds.	Provides the most protection for cultural resources since only lines that can be safely buried would be buried providing better cultural view shed opportunities and only negligible effects from ground disturbance.	Provides the least protection to cultural resources since burying all utility lines may result in more linear feet of ground disturbance than constructing overhead with poles and lines.	Provides the most protection for cultural resources since only lines that can be safely buried would be buried providing better cultural view shed opportunities and only negligible effects from ground disturbance.
Impacts from Land Tenure management actions	Provides adequate protection of cultural resources through case-by-case basis of consideration for land retention, acquisition, and disposal.	Provides the most protection to cultural resources for retention of lands with high cultural resource values and with consideration for acquisition of land adjacent or near Fort Meade ACEC.		

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
• Impacts from Rights-of-Way management actions	Provides the least protection to cultural resource s with no ROW exclusion areas and allowing power lines to be buried within the Fort Meade ACEC.	Designating all of the Fort Meade Recreation ACEC as a ROW exclusion area except for Hooper Dairy Road, all other valid existing rights and corridors and confining power lines to designated corridors only, would offer the most protection of cultural resources from adverse effects.		
Impacts from Land Tenure Transfers management actions	A public land transfer of up to 170 acres to the Veterans Administration would not result in effects to the Fort Meade National Historic District Site. The potential transferis considered an administrative action. The Veterans Administration is a federal agency under the same regulations (NHPA), as BLM.		No land transfer proposed and therefore no potential impact.	A public land transfer of up to acres to the Veterans Administration would not result in effects to the Fort Meade National Historic District Site. The potential transferis considered an administrative action. The Veterans Administration is a federal agency under the same regulations (NHPA) as BLM.
Impacts from Withdrawals	Provides less protection to cultural resources because there are 410 acres of federal minerals available for development beneath Bear Butte National Landmark and Traditional Cultural Property.		Allows the most benefit to Traditional Cultural Properties and the National Landmark Site at Bear Butte with total withdrawal of 410 acres of federal minerals.	
Impacts from Renewable Energy management actions	Development of energy resources would affect cultural resources with direct effects from road construction, use, and maintenance, facility development (i.e. Wind Towers, Solar Panels, Biomass); visual quality impacts and noise increases to Traditional Cultural Properties; fragmentation to Cultural Landscapes and	Provides more protection to cultural resources than Alternative A less than Alternatives C and D based on restrictions.	Provides the most protection to cultural resources with the highest number of acres of surface restrictions.	Moderate amount of development anticipated. Provides more protection to cultural resource than Alternative A, and B less than Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Districts. Provides the least protection to cultural resources because potential impacts would be greatest due to the expectation of the most development and least restrictions.			
Special Designations				
Areas of Critical Environmental Concern				
• Impacts from Fort Meade ACEC designation	Present National Register of Historic Places District Boundary for Fort Meade includes 3,200 acres.	• Upgrade formal nomination of Fort Meade as a National Historic Landmark for a National Register Landmark listing of 6,570 acres. Potential for higher visitor use compared to Alternatives A or C.	• The National Register of Historic Places Fort Meade District would incorporate a nomination addition of 3,370 acres. Total acres in Historic District would be changed to 6,570.	The current National Register of Historic Places would be revised to incorporate, approximately 3,370 additional acres. Consider a nomination for the National Historic Landmark, contingent on other partnering agency cooperation will offer potential for higher visitor use compared to Alternatives A or C.
Impacts from Fossil Cycad ACEC designation	The continued designation of the Fossil Cycad ACEC affords the best protection to the cultural and paleontological values.			
Impacts from Sage-Grouse PHMAs/ACEC designation	No designation. No impact.	No designation. No impact.	Some minor long term additional benefits to cultural resources within the ACEC.	No designation. No impact.
Impacts from National Historic Trails	Lewis and Clark National Historic Trail is located inside the Missouri River Corridor and would be afforded the same protection under all the alternatives based on Section 106 of the NHPA, consultation with the SHPO, Interested Tribes, and the Advisory Council for any potential affects. NSO: Surface occupancy and use is prohibited within 1/2-mile of the high water mark of the Missouri River and its reservoirs.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts to Paleontological Resources FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Under the Potential Fossil Yield Classification (PFYC) system, geologic units are classified based on the relative abundance of vertebrate fossils or uncommon invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. The classification system is intended to provide baseline guidance to assessing and mitigating impacts to paleontological resources. BLM administered surface acres of Potential Fossil Yield Classes • Class 1: 3,038 Acres Class 2: 18,183 Acres Class 3: 21,299 Acres Class 4: 199,905 Acres Class 5: 30,893 Acres				
Impacts from Paleontological Resources management actions	This alternative has the lowest number of acres considered for Paleontological Survey and therefore would not offer much opportunity for additional paleontological resource finds and protection of the resource.	Increasing Paleontological Survey would allow better opportunities of finding previously unknown locations of paleontological resources. Alternative B includes survey of more acres than Alternative A, less than Alternative C.	This Alternative is the most beneficial to paleontological resources because it provides the largest number of acres for Paleontological Surveys and resource Monitoring based on survey finds. (This provides the best opportunity for finding previously unknown resources.	More protective of paleontological resources because it promotes pro-active field surveys in known potential fossil yield areas and in a sample of unknown areas to determine if they have potential to bear important fossil finds. On site spot checking during project construction in areas conducive to important fossil finds would allow for a greater protection measure of the resource.
• Impacts from Vegetative Communities management actions	Provides no protection to paleontological resources for unrestricted plant gathering.	Provides the most protection to paleontological resources based on a restriction of incidental plant gathering to above ground limits inside the Fossil Cycad ACEC.		
Impacts from Riparian and	Achieving the goals for Vegetation: Riparian/Wetlands would be positive for paleontological resources. Protection of			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Wetlands management actions	paleontology resources that occur in these environments increases proportionally with the increase in the percent improvement towards PFC of riparian/wetland habitats.			
Impacts from Visual Resources management actions	Provides least protection of paleontological resources.	Provides more protection to the paleontological resources with the designation of VRM Class 2 (promotes more ground surface restrictions) in the Fossil Cycad ACEC.		
Impacts from Lands with Wilderness Characteristics management actions	None Present			
Resource Uses				
Impacts from Energy and Minerals management actions	Provides least protection of paleontological resources because restrictions are significantly less than other Alternatives.	Provides moderate protection to paleontological resources because potential impacts would be greatest due to the expectation of the most development and less restrictions than Alternatives C and D.	Moderate amount of development anticipated with more surface restrictions. Provides more protection to paleontological resources than Alternatives A, B and D, less than Alternative A.	Moderate amount of development anticipated with the most surface restrictions. Provides the most protection to paleontological resources of all the alternatives.
Impacts from Leasable Minerals management actions	Provides the least protection of Paleontological resources through a No Surface Occupancy for known paleontological sites inside the Fossil Cycad ACEC.	Provides protection to paleontological resources with a No Surface Occupancy for the entire Fossil Cycad ACEC.	Provides the most protection through closure of the entire Fossil Cycad ACEC. Closure of leasable mineral development in the Greater Sage-Grouse PHMAs would result in a beneficial impact to paleontological sites especially in the higher levels of fossil classification areas in the portions of the PHMAs that extend into Harding County.	Provides protection of Paleontological resources through a closure of leasable minerals in the Fossil Cycad ACEC.
Impacts from Salable Minerals management actions	Provides the least protection to Paleontological resources based on the lowest number	Provides protection to Paleontological resources by recommending that these	Provides the most protection through a recommended withdrawal of these minerals	Provides the same level of protection as Alternative B by recommending closure of

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Locatable Minerals management actions Impacts from Geothermal management actions	of restricted acres for withdrawal of these minerals.	mineral be withdrawn in the entire Fossil Cycad ACEC.	in the entire Fossil Cycad ACEC and withdrawal of these mineral in the Greater Sage-Grouse PHMAs. Withdrawal of these minerals would result in improved protection of paleontological sites on BLM especially in the higher levels of fossil yield areas in the portions of the PHMAs that extend into Harding County (NW SD). Refer to Maps 2-4 and 2-7.	salable and leasable minerals and withdrawal of the locatable minerals in the Fossil Cycad ACEC.
Impacts from Livestock Grazing management actions	Overgrazing can all lead to a denuding of protective vegetation cover and create indirect impacts to paleontological resources by accelerating natural erosion and exposing fossils to illegal collection and vandalism. Grazing management which meets established Standards for Rangeland Health and Guidelines for Livestock Grazing would reduce the amount and extent of impacts or damage to paleontological resources resulting from grazing on public lands.			
Impacts from Travel Management actions	Provides the least protection to paleontological resources because there are no restrictions to non-motorized and no restriction in the Fossil Cycad ACEC.	Provides more protection to paleontological resources than Alternative A, with a restriction of non-motorized for the Fossil Cycad ACEC 320 acres.	Provides the most protection to paleontological resources with the designation of 184,354 acres Semi-primitive non-motorized travel and only 80,665 acres of Semi-primitive motorized.	Provides more protection to paleontological resources than Alternative A, with a restriction of non-motorized for the Fossil Cycad ACEC 320 acres. Provides less protection than Alternative C since no acres are designated as non-motorized.
	Provides moderate protection to paleontological resources because off-road motorized game retrieval is restricted. However, motorized access of camp sites to 300 feet off road is allowed.	Provides the least protection to paleontological resources because off-road motorized game retrieval and motorized off road access to camp sites is allowed to 300 feet.	Provides the most protection to paleontological resources because it restricts motorized game retrieval and limits motorized access of camp sites to 100 feet off road.	
Impacts from Forest and	Forest product removal is prohibited in the Fossil Cycad ACEC providing the most protection of paleontological resources in			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Wood Products management actions	the ACEC.			
Lands and Realty				
Impacts from Land Tenure management actions	Provides less protection of significant paleontological resources with no consideration of land retention in Fossil Cycad ACEC.	Provides land retention for the Fossil Cycad ACEC offering the most protection of significant paleontological resources.		
Impacts from Right-of-Way management actions	Provides the least protection for paleontological resources.	Provides the most protection to paleontological resources with an exclusion area in the Fossil Cycad ACEC.		
Impacts from Renewable Energy management actions	Provides the least protection for paleontological resources with no restrictions for Fossil Cycad ACEC.	Alternative B provides the most protection for significant paleontological resources with a restriction for all renewable energy development inside the Fossil Cycad ACEC. It also offers a moderate amount of surface-disturbing restrictions but less than Alternatives C and D. Alternative B is more protective than Alternative A, less than Alternatives C and D.	Alternatives C and D have more surface-disturbing restrictions; however, they do not offer as much protection to significant paleontological resources inside the Fossil Cycad ACEC (only restrict commercial renewable energy development projects). With the restriction of commercial renewable energy development and the amount of restrictions Alternatives D offers the best protection.	
Special Designations				
Areas of Critical Environmental Concern				
Impacts from Fossil Cycad ACEC designation	The designation of the Fossil Cycad ACEC affords the best protection to the paleontological values. The Fossil Cycad ACEC is a right-of-way exclusion area and has restrictions for Oil & Gas and Renewable Energy.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Fort Meade ACEC designation	• The Fort Meade ACEC contains many restrictions to protect significant cultural resources that would inadvertently offer the best protection for paleontological resources with less surface-disturbing activities.			
Impacts from Greater Sage-Grouse PHMAs /ACEC designation	• No designation. No impact.		Designation would have little impact.	No designation. No impact.
Impacts to Visual Resources FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Fire Management and Ecology management actions	Wildfire has the potential for major modification to the landscape, from the fire itself and from suppression activities. All alternatives provide for full suppression strategies.			
Impacts from Fuels Treatments	Impacts from wildfire would be greatest in this Alternative, assuming that the fewer acres treated would inversely affect wildfire severity and acres.	Less risk than Alternative A or Alternative C for wildfire due to more acres of treatment. Treatments are designed to reduce fire severity (thus reducing the term of impacts). Treatments are also designed to improve ease of suppression and limiting wildfire acres, so there would be fewer acres and less severe wildfire impact.	Impacts would be slightly higher than Alternative B, but similar to Alternative A, due to the acres treated.	Same as Alternative B - Less risk than Alternative A or Alternative C for wildfire due to more acres of treatment. Treatments are designed to reduce fire severity (thus reducing the term of impacts). Treatments are also designed to improve ease of suppression and limiting wildfire acres, so there would be fewer acres and less severe wildfire impact.
Impacts from Visual Resources management actions	Retention of existing VRM class designation would provide some direction for management of the visual resources. The Fossil Cycad ACEC would retain the Class IV designation, allowing major modifications. Only portions of the Fort Meade ACEC	Designation of VRM classes would provide a system for managing visual resources. The Fossil Cycad ACEC would be designated the more protective Class II. The Fort Meade ACEC VRM designations would be completed with additional	Designation of VRM classes would provide a system for managing visual resources. The Fossil Cycad ACEC, Fort Meade ACEC (except for Recreation Development Zones, which would retain Class IV designation), and other areas in the planning	Designation of VRM classes would provide a system for managing visual resources. The Fossil Cycad ACEC would be designated the more protective Class II. The Fort Meade ACEC would have designation completed by designating Class III on the

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	would have specific VRM direction. Visual Resource management on the rest of the planning area would be on a case by case basis and has the potential for major modifications to the landscape. • *Inventory Acres* / *VRM Class* / *VRM Acres* 313 / I / 0 6,060 / II / 1,231 5,284 / III / 4,993 260,095 / IV / 531 0 (No Designation) / 264,997	Class III. The rest of the planning area could have major modifications to the landscape, including the proposed SRMA in the Exemption Area. *VRM Class* / *Acres* I / 0 II / 1,544 III / 5,284 IV / 264,924 0 (No Designation) / 0	area that were inventoried Class II would be designated Class II, providing for minor changes. Most of the planning area would be designated Class III, providing for moderate change. Major changes to the landscape would be possible under Class IV on approximately 80,000 acres. *VRM Class* / *Acres* I / 0 II / 11,657 III / 179,212 IV / 80,883 0 (No Designation) / 0	undesignated portion. The Exemption Area (SRMA) would be designated Class III. The rest of the planning area could have major modifications to the landscape. *VRM Class* / *Acres* I / 0 II / 1,544 III / 10,367 IV / 259,841 0 (No Designation) / 0
Resource Uses				
Impacts from Energy and Minerals management actions	Potential impacts from oil and gas leasing could be major changes in the characteristic landscape. Surface Occupancy and Use is only prohibited within developed recreation sites and sites receiving concentrated public use. Visual resource considerations are on a case-by-case basis. Short-term impacts from salable	Potential visual impacts from oil and gas leasing would be slightly decreased compared to Alternative A, since occupancy and use are prohibited within ½ mile of SRMAs (Exemption Area and Fort Meade ACEC). Designation of VRM class provides a system to manage the changes to the characteristic landscape.	Impacts to the visual resources are likely to be the least. Nearly 12,000 acres would be managed with VRM Class 2, allowing only minor changes to the characteristic landscape. For developed recreation, the prohibited occupancy and use distance is increased to 1 mile from SRMAs, but only 1 SRMA is designated. Short-term impacts from salable minerals	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	minerals would continue until vegetation and excavation are reclaimed.		would be the same as Alternative A.	
Impacts from Livestock Grazing management actions	Minor potential to impact visual resources (changes in line and color) from livestock grazing and related activities. No consideration for visual resources is currently formally required on fence or water developments.	Slightly higher potential impacts from grazing and its associated activities than Alternative A, due to a higher AUM level allowed. However, VRM would be formally considered for all activities.	Impacts same as Alternative A.	Slightly higher potential impacts from grazing and its associated activities than Alternative A, due to a higher AUM level allowed. However, VRM would be formally considered for all activities
Recreation/Visitor Services				
Impacts from Fort Meade ACEC designation	Current VRM class designations on the Fort Meade ACEC allow varying levels of modification to the characteristic landscape, allowing various recreation opportunities and services. Undesignated areas have no formal protection for visual resources.	Completion of VRM designation affords protection to the visual resources on the whole Fort Meade ACEC; level of protection would still vary by designation.	Recreation based development such as trails and interpretative sites would be more difficult to fit into the low modification VRM Class II designation in Fort Meade ACEC. Opportunities for increasing or improving visitor services would be least in this alternative.	Impacts same as Alternative B.
Impacts from Exemption Area VRM management actions	Lack of VRM designation provides no formal protection for visual resources.	Recreation–related development in the Exemption Area SRMA may impact visual resources; however the designation of VRM Class IV in this area would allow major modifications.	Designation of VRM Class II in some of the Exemption Area would protect visual resources allowing only minor modifications to the characteristic landscape.	Recreation–related development in the Exemption Area SRMA may impact visual resources; however the designation of VRM Class III in this area would allow moderate modifications, including recreation development.
Impacts from Recreation	Does not establish RSC and	More protection for visual	Greatest protections for visual	Impacts same as Alternative

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Setting Characteristics	would therefore be least protective of visual resources of all alternatives.	resources than Alternative A, due to the designation of 261,325 acres as Middle Country, 11,655 acres designated as Front Country, and 313 acres as Back Country.	resources of all alternatives since the highest acreages (178,163 acres) are managed for Back Country characteristics.	B.
Impacts from Travel management actions	Highest potential for impacts to visual resources as impacts are evaluated on a project level basis, without an overall strategy. Motorized travel is limited to existing roads and trails on 95% of the planning area, and limited to designated roads and trails on 5%.	More protection for visual resources than Alternative A, due to the designation of 259,936 acres as semi-primitive motorized, and 11,817 acres designated as Roaded Natural. Motorized travel is limited to existing roads and trails on 95% of the planning acres, and to designated roads and trails on 5%. Motorized access for game retrieval has potential to adversely affect visual resources.	Greatest protections for visual resources of all alternatives since the highest acreages (184,354 acres) are managed as semi-primitive non-motorized. In addition, no new road construction is allowed for forest product removal. Motorized travel is limited to existing roads and trails on 53% (143,224) acres, and limited to designated roads and trails on 47% (128,224 acres).	Impacts same as Alternative B.
Impacts from Forest and Woodland Products management actions	Low potential to impact visual resources from harvesting activities. Highest potential for impacts from timber salvage given least restrictions imposed.	Same impacts from harvesting forest products as Alternative A. Slightly lower potential to impact visual resources from timber salvage.	Lowest potential to impact visual resources from timber harvesting as harvesting is estimated to be slightly lower than Alternatives A or B. Potential timber salvage impacts would be lowest due to more restrictions.	Impacts same from harvesting forest products as Alternative A. Slightly lower potential to impact visual resources from timber salvage.
Impacts from Lands and Realty management actions				
Impacts from Land Tenure management actions	Land transfers that consolidate BLM surface acres improve the ability of the BLM to manage the visual resources.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Rights-of-Way management actions	Burial of utility lines is not addressed in the planning area, but may be required in Fort Meade ACEC.	Burial of utility lines helps retain the visual characteristics once the soil disturbance heals over. Line burial is required only where it would have the least impact on all resources.	Burial of utility lines helps retain the visual characteristics once the soil disturbance heals over. Line burial is required in all cases.	Burial of utility lines helps retain the visual characteristics once the soil disturbance heals over. Line burial is required only where it would have the least impact on all resources.
Special Designations				
Areas of Critical Environmental Concern				
Impacts from Fort Meade ACEC designation	Uncompleted designation of VRM class affords little protection to the ACEC.	Completion of VRM classification provides direction for visual resource management across the ACEC. Provides for a variety of classes to meet management objectives.	Designation of ACEC as VRM Class II protects the visual resource, but may limit management options in treatment types, return of fair market value, and interpretation opportunities.	Impacts same as Alternative B
Impacts from Fort Meade ACEC designation	Transfer of BLM-administered public land for the proposed Black Hills National Cemetery expansion would be less likely as such transfer would need to consider ACEC goals and direction, including Visual Resource objectives.	Transfer and development of up to 170 acres of BLM-administered public land to the Veterans Administration for expansion of the Black Hills National Cemetery may create visual contrasts that are inconsistent with VRM objectives.	No transfer of BLM-administered public land for the proposed Black Hills National Cemetery expansion would maintain 100 acres of BLM-administered public land including administration of the visual resource objectives.	Impacts same as Alternative B.
Impacts from Fossil Cycad ACEC	Current designation of VRM Class IV affords little protection to the visual resources.	Provides more protection for visual resources by changing to VRM Class II, allowing only minor change to the characteristic landscape.	Impacts same as Alternative B.	Impacts same as Alternative B.
Impacts from sage-grouse PHMAs/ACEC designation	No designation. No impact.		No impact from designation	No designation. No impact.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts to Fire Management and Ecology FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Fire Management and Ecology management actions	Forestry, rangeland, and hazardous fuels treatment average acres per year: Mechanical - 346 Prescribed fire - 213	Forestry, rangeland, and hazardous fuels treatment average acres per year: Mechanical - 400 Prescribed fire - 1000	Forestry, rangeland, and hazardous fuels treatment average acres per year: Mechanical - 350 Prescribed fire - 500	Forestry, rangeland, and hazardous fuels treatment average acres per year: Mechanical - 400 Prescribed fire - 1000
Impacts from Vegetative Communities -Forests and Woodlands -Rangelands -Riparian and Wetlands -Noxious and Invasive -Special Status Plants	Rest periods before and after burning would be determined and implemented at the project level.	Rest periods from livestock grazing up to one year prior to treatment and up to two growing seasons following treatments may be desirable in some circumstances and would benefit fire and fuels management. Adaptive management at the project level would allow livestock grazing prior to recommended rest periods when determined such action is needed.		Rest periods from livestock grazing up to one year prior to treatment and up to one growing seasons following treatments may be desirable in some circumstances and would benefit fire and fuels management. Adaptive management at the project level would allow livestock grazing prior to recommended rest periods when determined such action is needed.
	Land treatments would be implemented to meet watershed, grazing management, and wildlife objectives.	In addition to watershed, grazing management, and wildlife objectives, land treatments would be used to achieve, maintain, and/or improve fire regimes and condition classes, which specifically benefits fire and fuels management.		In addition to watershed, grazing management, and wildlife objectives, land treatments would be used to achieve, maintain, and/or improve fire regimes and condition classes, which specifically benefits fire and fuels management.
Impacts from Noxious Weeds management actions	Actively managing noxious and invasive vegetative species utilizing IPM methods, including early spring grazing and prescribed fire, could benefit fire suppression efforts by reducing fuel load and the rate of fire spread in the event of wildfire.			Actively managing noxious and invasive vegetative species utilizing IPM

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				methods, including early spring grazing and prescribed fire, could benefit fire suppression efforts by reducing fuel load and the rate of fire spread in the event of wildfire.
Impacts from Wildlife management actions including Special Status Species management actions	No similar management action	Prescribed burning would be allowed in Greater Sage-Grouse PHMAs if the activity would benefit sagebrush communities. More acres would be available for prescribed burning for vegetation treatments than Alternative C. This would allow more flexibility and opportunities to meet fire management and other resource objectives.	Prescribed burning would not be allowed in Greater Sage-Grouse PHMAs/ACEC. Fewer acres (96,379 acres) would be available for prescribed burning for vegetation treatments. This could limit the flexibility for designing, planning, and implementation of fuels projects in these areas.	Prescribed burning would be allowed in Greater Sage-Grouse PHMAs if the activity would benefit sagebrush communities. More acres would be available for prescribed burning for vegetation treatments than Alternative C. This would allow more flexibility and opportunities to meet fire management and other resource objectives.
	No similar management action	Buried power lines would benefit fire management activities by reducing hazards during fire and fuels activities.		Buried power lines would benefit fire management activities by reducing hazards during fire and fuels activities.
Impacts from Visual Resources management actions	Fewest amount of acres (approx. 1,204 acres) designated in VRM Class II, which may affect the extent of some fire management actions and fuels treatments.	Second fewest acres (approx. 1,517 acres) designated in VRM Class II. This would provide more flexibility for designing, planning, and implementation of fuels projects than Alternative C.	Highest amount of acres (approx. 11,579 acres) designated in VRM Class II. This could limit the effectiveness and flexibility for designing, planning, and implementation of fuels projects than Alternatives A and B.	Second fewest acres (approx. 1,517 acres) designated in VRM Class II. This would provide more flexibility for designing, planning, and implementation of fuels projects than Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Resource Uses				
Impacts from Livestock Grazing management actions	Minor increase in fine fuels compared to Alternative from lower AUMs (grazing level).	Within the Exemption Area, an increase of AUMs and acres capable for cattle grazing could reduce fire behavior and intensity of wildfires by reducing the amount of fine fuels available to burn.	Impacts same as Alternative A.	Within the Exemption Area, an increase of AUMs and acres capable for cattle grazing could reduce fire behavior and intensity of wildfires by reducing the amount of fine fuels available to burn.
	Within the Fort Meade ACEC, not extending the grazing period from October 15th to October 31st could increase the number of acres and days that are available to utilize prescribed fire as a treatment tool.	Within the Fort Meade ACEC, extending the grazing period from October 15th to October 31st could reduce the number of acres and days that are available to utilize prescribed fire as a treatment tool.	Impacts same as Alternative A.	Within the Fort Meade ACEC, extending the grazing period from October 15th to October 31st could reduce the number of acres and days that are available to utilize prescribed fire as a treatment tool.
Impacts from Recreation/Visitor Services management actions	No similar management action	Managing the Fort Meade Recreation Area and Exemption Area as SRMAs would likely not affect forest health/hazardous fuels treatments.	Managing the Fort Meade Recreation Area as a SRMA would likely not affect forest health/hazardous fuels treatments.	Impacts same as Alternative B.
Impacts from Travel Management actions	Off-road game retrieval and permitted OHV activities could present potential for human caused fire starts.			Off road game retrieval and permitted OHV activities could present potential for human caused fire starts.
Impacts from Forest and Woodland Products management actions	Allowing for vegetation and forestry product management activities would allow for the improvement and maintenance of ecosystem functionality. Improvements or maintenance of vegetation that contribute to a reduction of hazardous fuels on the landscape would, in the short term and long term, benefit the Fire Management and Ecology program through reduced risk to firefighters and the public. Forest health and vegetative treatments alter fire behavior/severity by reducing ladder fuels and decreasing canopy cover; thereby inhibiting			Allowing for vegetation and forestry product management activities would allow for the improvement and maintenance of ecosystem functionality. Improvements

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	vertical fire spread and reducing the risk of crowning, spotting, and high intensity fire.			or maintenance of vegetation that contribute to a reduction of hazardous fuels on the landscape would, in the short term and long term, benefit the fire management and ecology program through reduced risk to firefighters and the public. Forest health and vegetative treatments alter fire behavior/severity by reducing ladder fuels and decreasing canopy cover; thereby inhibiting vertical fire spread and reducing the risk of crowning, spotting, and high intensity fire.
Impacts from Transportation Facilities and Access management actions	Permanent road construction would be allowed and could cause delays in implementing forest health and fuels reduction activities. Alternatively, new roads or increased maintenance of existing roads would improve access for fire suppression and fuels management activities and would create barriers to fire spread, especially in grass/shrubland areas.		No new permanent road construction would be allowed which could potentially limit forest health treatments, fuels reduction treatments, and fire management activities.	Permanent road construction would be allowed and could cause delays in implementing forest health and fuels reduction activities. Alternatively, new roads or increased maintenance of existing roads would improve access for fire suppression and fuels management activities and would create barriers to fire spread, especially in grass/shrubland areas.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts to Forest & Woodland Products FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Wildlife management actions Including Special Status Species	Wildlife habitat treatments provide an opportunity for the sale of forest products.			
Impacts from Forests and Woodlands management actions	Snag and cavity bearing tree use (salvage) is unrestricted, except in Fort Meade ACEC, where only dead trees in groups of 10 or more may be salvaged.	Snag and cavity bearing tree use (salvage) would be allowed. This alternative provides at least as much opportunity to salvage forest products as Alternatives A and D.	Snag and cavity bearing tree use (salvage) of forest products is allowed only in cases where immediate public safety is the concern and existing road access is available. Limits on salvage opportunities decrease the potential for salable products.	Snag and cavity bearing tree use (salvage) would be allowed. This alternative provides at least as much opportunity to salvage forest products as Alternatives A and B.
Impacts from Fire Management and Ecology management actions	Fuel hazard treatments provide an opportunity for the sale of forest products and reduction of Mountain Pine Beetle risk.			
Impacts from Fire Management and Ecology management actions	Sale of forest products from fuel hazard treatments is more likely with the ability to build roads for access.		Inaccessibility, due to road restrictions, may limit the opportunity to effectively manage fuel loads by selling and removing forest products.	Sale of forest products from fuel hazard treatments is more likely with the ability to build roads for access.
Impacts from Cultural Resources management actions	Sale of forest products would be designed to protect and maintain cultural resources.			
Impacts from Paleontological Resources management actions	Sale of forest products is prohibited on the Fossil Cycad ACEC.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Visual Resources management actions	Sale of forest products would be designed to meet the visual resource objectives under all alternatives.			
Resource Uses				
Impacts from Livestock Grazing	Developments such as fences, gates, and water developments associated with grazing must be protected during forest product removal, adding to the base cost of operations.	Increase in number of pastures increases developments such as fences, gates, and water developments that must be protected during forest product removal; increasing the cost compared to Alternative A.	Impacts same as Alternative A.	Increase in number of pastures increases developments such as fences, gates, and water developments that must be protected during forest product removal; increasing the cost compared to Alternative A.
Impacts from Recreation/Visitor Services	Lack of designation leaves the management to a project specific basis, but usually few restrictions would be placed on motorized access, including mechanized forest product removal.	ROS designations retain the opportunity for motorized travel, including mechanized forest product removal, increasing the likelihood of the sale of forest products.	The designation and subsequent management of non-motorized areas (184,354 acres) may limit the feasibility of the sale of forest products.	ROS designations retain the opportunity for motorized travel, including mechanized forest product removal, increasing the likelihood of the sale of forest products.
Impacts from Travel Management	New roads could be built, so the sale of forest products would be more likely to be feasible than Alternative C.		No new roads would be built under this alternative, potentially limiting the sale of forest products. Treatment financed through the sale of products would be reduced and may be unavailable for dealing with disease and insect infestations. Travel management plans may eliminate cross country travel for any reason, including forest product removal.	New roads could be built, so the sale of forest products would be more likely to be feasible than Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Forest and Woodland Products management actions				
Average Sawtimber Sales (Special Forest Products)	190 ccf/yr	190 ccf/yr	180 ccf/yr	190 ccf/yr
Average Sawtimber Sales (Traditional and Stewardship Sales)	1600 ccf/yr	1600 ccf/yr	1500 ccf/yr	1600 ccf/yr
Average Annual Sawtimber Sales (Total estimate)	1790 ccf/yr	1790 ccf/yr	1680 ccf/yr	1790 ccf/yr
Average Firewood Sales	33 cords/yr	33 cords/yr	30 cords/yr	33 cords/yr
Average Christmas Tree Sales	3 trees/yr	3 trees/yr	3 trees/yr	3 trees/yr
Average number of Posts (line and corner)	400 posts/yr	400 posts/yr	400 posts/yr	400 posts/yr
Probable Sale Quantity (rounded estimate)	7000 Tons/yr	7000 Tons/yr	6000 Tons/yr	7000 Tons/yr
Lands and Realty				
Impacts from Land Tenure management actions	There would be a negligible impact from the sale or exchange of BLM-administered lands on the forest product resource. Some gains or losses may be expected in product amounts, quality, and accessibility; estimating these changes would occur with project specific analysis.			
Impacts from Rights-of-Way management actions	Rights-of-Way would be pursued to access forest products when project specific analysis identifies this need.			
Impacts from Transportation Facilities and Access management actions	The requirements for road maintenance under timber sale contracts increase the likelihood the used roads would be kept in good shape.			
Special Designations				
Areas of Critical Environmental Concern				
Impacts from continued designation of Fort Meade ACEC	Fort Meade ACEC would be available for forest product removal for wildlife habitat improvement and fuel hazard concerns. The opportunity to sell forest products is the same under all alternatives.			
Impacts from continued	Forest product removal would be prohibited on the Fossil Cycad ACEC. Products could not be sold from these 320 acres under			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
designation of Fossil Cycad ACEC	any alternative.			
Greater Sage-Grouse PHMAs /ACEC new designation	• No designation. No impact.		Designation would not result in an impact as forests or woodlands are not present in PHMAs/ACEC.	No designation. No impact
Impacts to Grazing FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Water Resources management actions	No Surface Occupancy (NSO) within riparian areas on 30,487 acres would have negligible impacts on livestock grazing.			
• Impacts from actions Vegetative Communities management actions	Greater improvement to livestock forage than Alternative C, but less than Alternatives B and D. A short-term increase in forage quantity would be expected on the average 559 acres of BLM land treated mechanically and with prescribed fire annually. Conversion of pastures from native species to tame pastures would be allowed with possible increases in forage quantity and quality.	Greatest improvement to livestock forage would occur. A short-term increase in forage quantity would be expected on the average 1,400 acres of BLM land treated mechanically and with prescribed fire annually. Conversion of pastures from native species to tame pastures would be allowed with possible increases in forage quantity and quality.	Least improvement to livestock forage would occur. A short-term increase in forage quantity would be expected on the average 850 acres of BLM land treated mechanically and with prescribed fire annually. No conversion of pastures from native species to tame pastures would be allowed.	Greatest improvement to livestock forage would occur. A short-term increase in forage quantity would be expected on the average 1,400 acres of BLM land treated mechanically and with prescribed fire annually. Conversion of pastures from native species to tame pastures would be allowed with possible increases in forage quantity and quality.
	Allotments that are not meeting riparian habitat or water quality standards due to current livestock grazing management would be required to make management changes to move towards meeting the standards. Management changes would address the guidelines in the Montana/Dakotas Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997). Impacts to livestock grazing would be negligible across the planning area with minor impacts to individual allotments.			
Impacts from Rangeland	Livestock distribution would	Livestock would be better distributed throughout a pasture where supplements would not be		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
management actions	be minimized where guidelines are not used for supplement placement away from riparian areas.	allowed within ¼ mile of riparian areas.		
Impacts from Riparian and Wetlands management actions	No impact.		Changes to livestock grazing levels would be minor at Fort Meade ACEC with six inch stubble height requirement.	Same as Alternative A.
Impacts from Noxious and Invasive management actions	Noxious weed impacts to livestock grazing would be negligible across the planning area.			
Impacts from Special Status Plants management actions	No similar management action	A negligible impact to livestock grazing would occur where grazing would be restricted in areas with high concentration of TES plants due to negative impacts from livestock grazing as determined through a review by an interdisciplinary team.		
Impacts from Wildlife including Special Status Species management actions	Fence modification or removal could be implemented to improve wildlife movement. Grazing management would become less effective where fences would be removed. Impact to livestock grazing would be negligible across the planning area.			
	Maintaining 8 to 12 inches of residual herbaceous growth on 50% of the uplands at Fort Meade needed for nesting by ground-nesting birds would have no impact to livestock grazing.			
	An estimated 1,058 AUMs involving the 17 allotments would be recommended as not available for domestic sheep and goat grazing. A negligible impact on grazing would result from any of the alternatives related to domestic sheep and goat grazing allotments within bighorn sheep range.	An estimated 904 AUMs involving 11 allotments would not be available for domestic sheep and goat grazing. Impacts to livestock grazing would be negligible.	An estimated 2,051 AUMs involving 32 allotments would not be available for domestic sheep and goat grazing. They would continue to be available for cattle, horse, or bison grazing. Currently, no allotments are authorized for domestic sheep or goats within 15 miles of bighorn sheep range. Impacts to livestock grazing would be negligible.	
	Livestock grazing would be limited at Fort Meade ACEC to May 15th through October 15th to enhance wildlife habitat. There would be a	Livestock grazing season would be extended to May 1st through October 31st at Fort Meade ACEC. There would be a negligible impact to the	Impacts same as Alternative A.	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	minor impact to the three allotments at Fort Meade ACEC.	three allotments at Fort Meade ACEC.		
	Additional water sources provided for wildlife would increase livestock water and improve livestock distribution where livestock are allowed access to new water sources. Benefits would be slightly less than Alternative B.	Same as Alternative A. Benefits would be greater since water sources would be provided for wildlife and fisheries and opportunities to increase water level on existing water sources would be developed.		
Impacts from Prairie Dogs management actions	Prairie dog treatment is least restrictive in Alternatives A and B with no impact to livestock grazing.	Impactsame as Alternative A.	Reintroduction of prairie dogs could be considered on large tracts of public land (10,000 acres. The impacts to livestock grazing and AUMs would be moderate with a decrease in total authorized AUMs in potential reintroduction sites.	Reintroduction of prairie dogs could be considered on historic colonies or large blocks of public land. There would be a moderate impact with a decrease in total authorized AUMs in any area where prairie dogs would be reintroduced on a large scale.
Impacts from Big Game management actions	No impact.		Prohibited livestock grazing between December 1 and March 31 on allotments within crucial winter range for big game that are not meeting Standards for Rangeland Health (BLM 1997) would have negligible impacts across the planning area while impacts could be substantial for individual allotments.	No impact.
Impacts from Fire Management and Ecology	Short-term impacts would vary by individual allotment	Short-term impacts to individual allotments would	Short-term impacts to individual allotments would	Impacts same as Alternative B.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
management actions	with an estimated 58 AUMs temporarily unavailable for grazing on 213 acres each year following prescribed burning depending on site conditions.	occur as livestock grazing would not occur on an estimated 1,000 acres each year following prescribed burning treatment with 270 AUMs temporarily unavailable for grazing.	occur as livestock grazing would not occur on an estimated 1,000 acres with 270 AUMs temporarily unavailable for grazing each year following prescribed burning treatment on 500 acres annually for the previous two seasons. Impacts to individual grazing lessees would be slightly greater than Alternatives A, B, and D as the lessees would be required to provide alternative feed sources for their livestock for two years instead of one.	
	Aside from temporary loss of forage, fire can benefit livestock grazing by improving quality, quantity, and availability of forage in the long term.			
Impacts from Cultural Resources management actions	Range improvement location and design may be restricted to avoid cultural resources. Impacts to livestock grazing would be minor for individual allotments and negligible throughout the planning area. Cultural Resources Protection condition would be placed on all grazing leases.			
Impacts from Paleontological Resources management actions	No impact to livestock grazing as paleontological reviews would be carried out on a case by case basis.	Minor impact to livestock grazing as surveys for paleontological resources would be considered prior to approval of surface-disturbing range improvements. More impacts to livestock grazing than Alternative A, and fewer impacts than Alternative C.	Minor impact to livestock grazing as surveys for paleontological resources would be completed for all PFYC 3, 4, and 5 geologic formations prior to approval of surface-disturbing range improvements. More impacts to livestock grazing than Alternatives A, B, and D.	Impacts same as Alternative B.
Impacts from Visual	No impacts.	CSU special design on facilities on 274,000 acres within all VRM classes may be required		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Resources management actions		which would have minor impacts on livestock grazing as it would require additional surveys and design changes to projects.		
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals management actions	Oil and gas mineral development and bentonite mining would reduce AUMs locally through surface disturbance. The impact on AUM allocations could be substantial for individual allotments, but the overall impact in the planning area is expected to be negligible.			
Impacts from Salable management actions Minerals				
Impacts from Locatable Minerals management actions				
Impacts from Livestock Grazing management actions	Alternative A and C provide the fewest acres (approximately 271,000) available for livestock grazing supporting approximately 73,400 AUMs.	Alternatives B and D provide the greatest opportunity for livestock grazing with approximately 272,000 acres available supporting approximately 77,300 AUMs.	Impacts same as Alternative A.	Impacts same as Alternative B.
	There would continue to be 428 Custodial (C) category allotments, 21 Improve (I) category allotments, and 55 Maintain (M) category allotments. No impact to livestock grazing.	There would be 324 Custodial (C) category allotments, 21 Improve (I) category allotments, and 159 Maintain (M) category allotments. Impacts to livestock grazing would be negligible.		
	There would be no impact to livestock grazing where BLM would use a yearling factor of 0.7 AU for yearling cattle.		There would be a negligible impact to livestock grazing where BLM would use a factor of 1.0 AU for yearling cattle. There would be 28 grazing lessees permitted to	Impacts same as Alternative A.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			run yearling cattle that would be authorized to run fewer cattle under their grazing lease.	
	AUMs remain available on allotments where grazing preference is relinquished.		AUMs could be reduced, suspended, or eliminated where grazing preference is relinquished during the life of the plan to protect other resource values. There could be a negligible decrease in overall AUMs.	
	Range improvement projects would continue to be developed across the planning area. Short-term impacts would include soil exposure to erosion and noxious weed invasion and a shift in plant communities to earlier seral vegetation. Typically regeneration of vegetation occurs within two to three growing seasons. Rangeland improvement projects allow livestock managers and lessees to better implement grazing management practices and manage the distribution and movement of livestock within allotments. Overall, the long-term impacts from these facilities would be beneficial to livestock grazing.			
	Livestock grazing within the Fort Meade ACEC would continue under a vegetative grazing use contract through a bidding process. There would be no impacts to livestock grazing from this action.			
	No impact.	Splitting the Westside pasture from the Bear Butte allotment to make a separate Section 15 grazing allotment would have a negligible impact on livestock grazing.	Impacts same as Alternative A.	Impacts same as Alternative B.
Impacts from Recreation/Visitor Services management actions	Impacts to livestock grazing would be negligible.			
Impacts from Travel Management actions	Changes to OHV use and travel management areas would not affect livestock grazing as lessees would continue to be allowed wheeled cross country travel for the management of their animals and allotment unless specifically precluded on the lease. This would have no impact to livestock grazing.			
Impacts from Forest and Woodland Products management actions	Silvicultural practices used to reduce hazardous fuels or meet other resource objectives would improve the quality and quantity of forage, thereby improving flexibility in managing livestock. The number of grazing allotments in forest and woodland areas is limited throughout the planning area; therefore the impacts to livestock grazing would be negligible.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Lands and Realty management actions	Lands actions would likely occur throughout the planning area with a no net change in AUMs expected across the planning area. Lands actions frequently have a greater impact on specific allotments than on the total number of AUMs in the planning area.			
Impacts from Rights-of-Way management actions -Impacts from Leases and Permits • -Withdrawals management actions	Lands actions would be considered at the project level with undetermined acres available. Livestock grazing could be minimally impacted by lands actions.	150 acres and 37 AUM would not be available for livestock grazing on the Fort Meade ACEC due to lands actions. A slight reduction in livestock number or grazing season would be implemented.	No net change in AUMs due to lands actions.	Impacts same as Alternative B.
Impacts to Recreation and Visitor Services FROM other resources, uses, special designations for each alternative				
Impacts from Wildlife management actions including Special Status Species	Few protection measures applied to the least acres results in potential for fragmentation of the landscape, leading to decreased recreation opportunities incorporating solitude, reliance on self, and few management controls.	Intermediate amount of acres under protection measures results in potential for some retention of recreation opportunities for solitude, reliance on self, and few management controls. Hunting quality may improve due to decreased disturbance.	Increased protection acres results in retention of dispersed recreation opportunities. Hunting quality and degree of difficulty may increase.	Intermediate amount of acres under protection measures results in potential for some retention of recreation opportunities for solitude, reliance on self, and few management controls. Hunting quality may improve due to decreased disturbance.
Impacts from Fisheries management actions including Special Status Species	Fishing opportunities may be enhanced by stocking programs.	Impacts same as Alternative A.	Supplemental stocking of game fish would not be allowed where there is adequate natural reproduction. Fishing opportunities may be reduced since the natural reproduction may not be in an appropriate size class.	Fishing opportunities may be enhanced by stocking programs.
Impacts from Fire	Treatments to reduce fire hazard and restore ecosystem function have the potential to disrupt recreation activities, however it is			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Management and Ecology management actions	anticipated the impacts would be minor and short-term.			
Visual Resources	Lack of VRM designation results in less protection for visual resources, potentially affecting the quality of recreation experiences.	Majority of the planning area would be managed for VRM Class IV, which may potentially result in changes to the characteristic landscape, reducing the quality of recreation experiences.	Majority of the planning area would be managed for VRM Class III, which may potentially result in moderate changes to the characteristic landscape, reducing the quality of recreation experiences. Retention of the characteristic landscape in VRM Class II would be highest in this alternative.	Majority of the planning area would be managed for VRM Class IV, which may potentially result in changes to the characteristic landscape, reducing the quality of recreation experiences.
Resource Uses				
Impacts from Energy and Minerals management actions -Leasable Minerals -Salable Minerals -Locatable Minerals	Development of energy resources would affect recreation quality through visual quality impacts, noise increases, fragmentation from roads (both positive from increasing access, and negative from disturbance).	Potential impacts would be greatest due to the expectation of the most development.	Potential impacts would be more than Alternative A, but less than Alternative B, due to the intermediate amount of development anticipated.	Impacts less than Alternative A, slightly less than Alternative B but more than Alternative C.
Impacts from Livestock Grazing management actions	Livestock Grazing and associated practices may have a detrimental impact to recreation from manure and its associated scent, fragmentation due to fences, and permittee activities. The impact on recreation from livestock grazing activities would be negligible.			
Impacts from Recreation/Visitor Services management actions	One SRMA (Fort Meade ACEC) would be designated, indicating a commitment to funding for recreation.	Fort Meade ACEC and the Exemption Area would be administratively designated as SRMAs, indicating a commitment to funding for recreation. The rest of the planning area would not be designated as a Recreation	One SRMA (Fort Meade ACEC) would be designated, indicating a commitment to funding for recreation similar to Alternative A. The rest of the planning area would not be designated as a Recreation Management Area.	Fort Meade ACEC and the Exemption Area would be administratively designated as SRMAs, indicating a commitment to funding for recreation. The rest of the planning area would not be designated as a Recreation

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		Management Area.		Management Area.
Impacts from Travel Management actions	Motorized travel limited to existing roads on 264,706 acres and limited to designated routes on 7,046 acres (Fort Meade and Fossil Cycad ACECs).	Motorized travel limited to existing roads on approximately 143,528 acres, and limited to designated routes on approximately 128,224 acres (TMAs and ACECs) after travel management planning is completed.		
	No RSC classes are identified.	The planning area would be managed for approximately 261,325 acres of Middle Country characteristics, approximately 11,655 acres (Fort Meade ACEC and the Exemption Area) of Front Country, Fossil Cycad ACEC (320 acres) would be managed for Back Country characteristics recreation.	Middle Country characteristics would be available on approximately 88,539 acres. Management for Back Country characteristics on approximately 178,163 acres would shift the recreation type use and quality. Hunting would be most impacted, increasing solitude and perhaps hunting success for the fewer people who would walk to interior hunting spots. Front Country characteristics would be available on approximately 6,574 acres (Fort Meade ACEC).	Impacts same as Alternative B
Impacts from Travel Management associated with game retrieval	Game retrieval is not allowed so motorized travel is restricted to existing or designated roads.	Allowing off road motorized game retrieval would negatively impact the recreation resource by increasing travel off roads, creating new trails and disturbance, and creating an enforcement challenge. A slight positive impact would	Impacts same as Alternative A.	Game retrieval is not allowed so motorized travel is restricted to existing or designated roads.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		be the retention of users that otherwise would not hunt.		
	Motorized travel allowed to campsites within 300 feet of road.	Motorized travel allowed to campsites within 300 feet of road.	Motorized travel allowed to campsites within 100 feet of road. Previous (2001) Region-wide decision allowed up to 300 feet. Potential for confusion and conflict.	
Impacts from Forest and Woodland Products management actions	The sale and removal of forest products may impact recreation through addition and maintenance of roads and the disturbance caused by harvesting equipment. Impacts are expected to be minor and short-term.	Slightly more forest acres are proposed to be treated, however the difference between Alternatives A and B is negligible. Impact to recreation from the sale of forest products is expected to be minor and short-term.	New roads would not be added in the Exemption Area, limiting the road use impacts to the current roads. The impacts to recreation are still expected to be minor and short-term.	Slightly more forest acres are proposed to be treated, however the difference is negligible. Impact to recreation from the sale of forest products is expected to be minor and short-term.
Impacts from Lands and Realty -Land Tenure -Rights-of-Way --Leases and Permits -Withdrawals	Disposal would impact the recreation resource through reduction in available land. Associated roads would cause fragmentation and increase motorized accessibility. Exchanges that result in a larger block (as opposed to scattered parcels) improve recreation opportunities.			
Special Designations				
Areas of Critical Environmental Concern				
Impacts from continued Fort Meade ACEC designation	The continued designation and management of the Fort Meade ACEC affords a unique recreation opportunity for the community of Sturgis as well the region. The natural appearing open space, maintained native surface trails and rustic development campgrounds provide a diversity of recreation choices compared to the City of Sturgis and the abundance of developed campgrounds. Formal designation of the Fort Meade ACEC as a Special Recreation Management Area would help assure funding and coordinated management of the area.			
	No BLM-administered land would be transferred. Alternatives A and B would provide the greatest protection to the Fort Meade ACEC by providing the most	If BLM-administered land is transferred, the boundaries of the ACEC would be changed to match the retained BLM portion. Alternatives B and D would provide the least	Impact would be the same as Alternative A: No BLM-administered land would be transferred. Alternatives A and B would provide the greatest protection to the Fort	If BLM-administered land is transferred, the boundaries of the ACEC would be changed to match the retained BLM portion. Alternatives B and D would provide the least

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	acres in ACEC status.	protection by allowing a potential reduction in the size (up to 226 acre reduction) of the Fort Meade ACEC.	Meade ACEC by providing the most acres in ACEC status.	protection by allowing a potential reduction (up to 226 acre reduction) in the size of the Fort Meade ACEC.
Impacts from continued Fossil Cycad ACEC designation	The designation of the Fossil Cycad ACEC affords protection to the paleontological values. Recreation opportunities may be increased with a different designation, but it would be at the cost of the unique resource.			
Impacts from new Greater Sage-Grouse PHMAs /ACEC designation	No designation. No impacts.		A slight increase in visitor use during sage-grouse mating season (March/April) may occur as a result of ACEC designation in PHMAs.	No designation. No impacts.
Impacts to Lands & Realty FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Soil Resources management actions	Low potential that right-of-way and other land use authorization applicants' proposals may be denied when located where impacts to sensitive soils cannot be effectively controlled or mitigated and reclamation to BLM standards would likely be unsuccessful.	Potential that right-of-way and other land use authorization applicants' proposals may be denied when located where impacts to sensitive soils cannot be effectively controlled or mitigated and reclamation to BLM standards would likely be unsuccessful.	More potential that right-of-way and other land use authorization applicants' proposals may be denied when located where impacts to sensitive soils cannot be effectively controlled or mitigated and reclamation to BLM standards would likely be unsuccessful.	
Impacts from Water Resources management actions	Surface-disturbing activities associated with lands and realty actions would impact water resources depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion which would negatively affect water quality. Disturbed areas would need to be reclaimed to BLM standards and prescriptions. Right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with water resources protection guidelines.			
Impacts from Vegetative Communities management	Surface-disturbing activities associated with lands and realty actions would impact vegetative communities depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
actions	soil properties. This would increase the probability of erosion. Areas would need to be reclaimed within recommended native species. Disturbed areas would need to be reclaimed to BLM standards and prescriptions. Right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with protection guidelines for vegetative communities.			
Impacts from Forests and Woodlands management actions	Surface-disturbing activities associated with lands and realty actions would impact forest and woodlands depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion. Areas would need to be reclaimed with recommended native species. Disturbed areas would need to be reclaimed to BLM standards and prescriptions. Right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with forest and woodland protection guidelines.			
Impacts from Rangeland management actions	Surface-disturbing activities associated with lands and realty actions would impact rangelands depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion. Areas would need to be reclaimed with recommended native species. Disturbed areas would need to be reclaimed to BLM standards and prescriptions. Right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with rangeland protection guidelines.			
Impacts from Riparian and Wetlands management actions	Potential to affect.	Potential that right-of-way and other land use authorization applicants' proposals may be relocated or denied when located where impacts to riparian and wetlands cannot be effectively controlled or mitigated and reclamation to BLM standards would likely be unsuccessful.		
Impacts from Noxious and Invasive Species management actions	Invasive Species Management guidelines may result in increased expense to right-of-way applicants.			
Impacts from Wildlife management actions including Special Status Species	Potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with wildlife resource and special status species protection guidelines.	Less potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with wildlife resource and special status species protection guidelines.	High potential that right-of-way and other land use authorization applicants may see their proposed projects denied in order to comply with wildlife resource and special status species protection guidelines.	Moderate potential that right-of-way and other land use authorization applicants may see their proposed projects delayed, denied and/or become less cost effective in order to comply with wildlife resource and special status species protection

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Only 2% of BLM would be excluded. There would be no avoidance areas and the remaining 98% would be open. Refer to Table 2-1 for details and Map 2-15.	No BLM would be excluded. 86% of BLM would be an avoidance area and 14% would be open. Refer to Table 2-1 for details and Map 2-16.	88% of BLM would be excluded. There would be no avoidance areas and 12% would be open. Refer to Table 2-1 for details and Map 2-17	guidelines.For general types of ROWs 2% of BLM would be excluded, 91% would be avoidance and 7% open. For Renewable Energy ROWs: 54% would of BLM be excluded, 39% would be avoidance areas and 7% would be open. Refer to Table 2-1 for details and Map 2-19.
3% disturbance cap in Greater Sage-Grouse PHMAs	No PHMAs designated, and no management action – would have no effect on right-of-way actions.	No specific management action – would have no effect on right-of-way actions beyond those already described for PHMAs designated under Alternative B.	No specific management action – would have no effect on right-of-way actions beyond those already described for PHMAs designated under Alternative C.	All lands in PHMAs would be analyzed to determine percent of area disturbed by anthropogenic activities. If the 3% cap is reached, no surface disturbing projects will be permitted on BLM surface or subsurface estates. Disturbance will also be evaluated within a 4 mi radius of a project if disturbance throughout PHMAs is <3%. The project area analyzed may also include a 4 mi buffer around active leks within 4 mi of the project site, and where that buffered area falls within the PHMA. A project will not be permitted if the 3% cap is met or exceeded within the identified project area.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Disturbance density exceeding 1 facility /640 acres may cause projects to be deferred. This will affect some right-of-way actions on BLM estates. Right-of-way actions occurring on non-federal estates within PHMAs may preclude further right-of-way actions on BLM estates if ongoing development exceeds the 3% disturbance cap.
Impacts from Fisheries management actions including Special Status Species	Potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with fisheries resource and special status species protection guidelines.	Less potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with fisheries resource and special status species protection guidelines.	Moderate potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with fisheries resource and special status species protection guidelines.	
Impacts from Fire Management and Ecology management actions	Fire management would generally be beneficial to help protect facilities authorized under the lands and realty program by reducing hazardous fuel loads.			
Impacts from Cultural Resources management actions	Potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply	Less potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to	Moderate potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with cultural resource protection guidelines.	

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	with cultural resource protection guidelines.	comply with cultural resource protection guidelines.		
Impacts from Paleontological Resources management actions	Least potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with resource paleontological protection guidelines.	Less potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with paleontological resource protection guidelines.	Moderate potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with paleontological resource protection guidelines.	Less potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with paleontological resource protection guidelines.
Impacts from Visual Resources management actions	Potential of right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with visual resource protection guidelines.	Less potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with visual resource protection guidelines.	Most potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with visual resource protection guidelines.	Moderate potential that right-of-way and other land use authorization applicants may see their proposed projects delayed and/or become less cost effective in order to comply with visual resource protection guidelines.
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals management actions	Potential for requests for rights-of-way for utilities, access and other facilities for the management of leasable minerals	More potential for increased requests for rights-of-way for utilities, access and other facilities for the management of leasable minerals.	Potential for increased requests for rights-of-way for utilities, access and other facilities for the management of leasable minerals.	Potential for increased requests for rights-of-way for utilities, access and other facilities for the management of leasable minerals.
Impacts from Salable Minerals management actions	Potential for increased requests for rights-of-way for utilities, access and other facilities for the management of salable minerals			
Impacts from Locatable	Potential for requests for	More potential for increased	Potential for increased	Potential for increased

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Minerals management actions	rights-of-way for utilities, access and other facilities for the management of leasable minerals.	requests for rights-of-way for utilities, access and other facilities for the management of leasable, salable, and locatable minerals.	requests for rights-of-way for utilities, access and other facilities for the management of leasable, salable, and locatable minerals.	requests for rights-of-way for utilities, access and other facilities for the management of leasable, salable, and locatable minerals.
Impacts from Livestock Grazing management actions	Potential for additional infrastructure as a result of livestock grazing use; however, most infrastructure associated with grazing would be authorized as a range improvement and not ROWs. In a few cases, some requests for ROWs associated with roads or other infrastructure to link ranch operations would occur.			
Impacts from Recreation/Visitor Services management actions	This alternative provides the least potential for ROWs and other land use applications to be delayed.	A slight increase in potential for right-of-way and other land use authorization applicants to have their proposed projects delayed and/or become less cost effective in order to comply with recreation/visitor services protection guidelines.	This alternative has the highest potential of right-of-way and other land use authorization applicants to have proposed projects delayed and/or become less cost effective in order to comply with recreation/visitor protection guidelines as more ACECs would be proposed.	Impacts same as Alternative B.
Impacts from Travel Management actions	Low potential to be affected.	Potential to acquire or improve access to public lands.		
Impacts from Forest and Woodland Products management actions	No impact	Potential to acquire or improve access to forest products.		
Lands and Realty				
Impacts from Land Tenure management actions	Potential for increased land and reality workloads if the disposal of small, isolated tracts of BLM-administered land.is implemented. Little difference in Alternatives except Alternatives B, C and D may result in slightly less land disposed or transferred due to transfer criteria (refer to Appendix I).			
Impacts from Rights-of-Way management actions -Leases and Permits	Lowest potential to be affected as most areas would be open.	Actions associated with the protection of wildlife and special status species including sage grouse would have the most impact and are described in these sections (above). ROW restrictions are summarized in Table 2-1 and in Table 2-2 under the Lands and Realty section. The cost of the infrastructure associated with ROWs may increase as ROWs may need to be longer to avoid areas or may require special design features to be approved to limit impacts to wildlife or special status species.		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Withdrawals	The lack of defined corridors across the public land, could lead to various rights-of-way crisscrossing the public land in a scattered pattern.	Two designated utility and transportation corridors would confine future rights-of-way to areas that already contain visual intrusions, such as roads or railroads, rather than crossing the public land in a scattered pattern		
Impacts from Transportation Facilities and Access management actions	Limited potential to be affected.	Acquiring access and transportation facilities to public lands would be beneficial to the public but could have negative impacts to other resources.		
Impacts from Renewable Energy management actions	Highest number of acres open to renewable energy ROWs would result in the highest number of acres affected by lands and realty authorizations associated with Renewable Energy development. Two percent of BLM surface would be ROW exclusion areas and 98% would be open. There would be no ROW avoidance areas. Refer to the ROW section of Table 2-1 for more details.	Highest number of avoidance areas would result in a moderate to high number of acres affected by ROW authorization for Renewable Energy projects. Avoidance areas would include 86% of BLM surface. There would be no ROW exclusion areas in Alternative B. Open areas would include 14% of BLM surface.	Highest number of acres excluded from ROW actions would result in the fewest acres affected by lands and realty authorizations for Renewable Energy projects and the least number of renewable energy projects that would be implemented on BLM surface. Exclusion areas would include 88% of BLM surface. Open areas would include 12% of BLM surface. There would be no avoidance areas in Alternative C.	More areas restricted as exclusion areas compared to Alternatives A and B but less than Alternative C. Acres affected by Renewable Energy Lands and Realty Actions would be more than Alternative C but less than Alternative A or B. Avoidance areas would include 39% of BLM surface. Renewable Energy ROW Exclusion areas would include 54% of BLM surface. Renewable Energy Open areas would include 7% of BLM surface.
Special Designations				
• Impacts from Areas of Critical Environmental Concern				
Impacts from continued Fort Meade ACEC designation	Potential to be affected.	Potential that construction costs to applicants may increase due to ACEC exclusion restrictions, while maintenance costs may decrease due to improved access of corridors for ROW		
Impacts from continued Fossil Cycad ACEC designation	Potential to be affected.	Potential that construction costs to applicants may increase due to ACEC exclusion restrictions.		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from new Greater Sage-Grouse PHMAs /ACEC designation	No designation. No impact.		Less potential for lands to be transferred from BLM to other parties as a result of ACEC designation.	No designation. No impact.
Impacts from National Historic Trails	Potential to be affected.			
Impacts to Leasable Minerals FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Total projected new oil well numbers over next 20 years (BLM admin. lands only)	94	76.5	55.5	60
Total projected new CBNG gas wells number over next 20 years (BLM admin. lands only)	4	2.9	1.4	2.3
Impacts from Soil Resources	Least restrictive Alternative. Sensitive Soils Stipulation: Open with standard oil and gas stipulations. Slopes 30% or greater would have a CSU stipulation. Acres Affected: Surface: 8,575 acres Subsurface: 40,476 acres	CSU restriction would result in delay of some projects or additional cost from proposed wells being moved to less sensitive locations in some cases.. Acres affected: Surface: 122,725 acres Subsurface: 719,649 acres	NSO restriction on sensitive soils would result in more expense than Alternative A, B and D, because additional horizontal drilling would be required to access oil and gas minerals in sensitive soils in all cases. Some opportunities to develop gas would not occur because the additional expense would exceed the production potential. . Acres Affected:	Impacts same as Alternative B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			Surface: 122,725 acres Subsurface: 719,649 acres	
	No similar management action.			Stipulation: NSO on Badland formations and rock outcrops. Acres affected: Surface: 24,222 acres Subsurface: 136,146 acres
Impacts from Water Resources restriction	NSO in floodplains (flooded soils), wetlands, waterbodies & riparian areas. Acres Affected: Surface: 13,397 acres Subsurface: 63,426 acres Low potential for adverse impacts to producers.	NSO in floodplains (flooded soils), riparian areas, wetlands and waterbodies Acres Affected: Surface: 13,397 acres Subsurface: 63,425 acres Higher potential for producers to have applications denied or use moved to alternate location but still low impacts as only less than 5% of BLM surface and less than 1% BLM of mineral would be NSO to protect these features.		
	NSO restriction would result in minor adverse impacts to oil and gas development within 300 ft of floodplains, riparian areas, wetlands and waterbodies.			CSU within 300 ft of floodplains, riparian areas, wetlands and waterbodies Adverse impacts to oil and gas production are expected to be slight to minor. Acres Affected: Surface: 17,090 acres Subsurface: 82,745 acres
Wildlife				
Impacts from wildlife stipulation: Sharp-tailed grouse and greater prairie-chicken leks	NSO Surface-disturbing and disruptive activities prohibited ¼ mile Low impacts to oil and gas. Acres Affected: Surface: 0 acres		NSO Surface-disturbing and disruptive activities prohibited ½ mile Low impacts to oil and gas. Acres Affected:	No NSO Limitation.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Subsurface: 163 acres		Surface: 27 acres Subsurface: 805 acres	
	TL Timing Limitation: 2 miles 3/1-6/15 Low impacts to oil and gas. Acres Affected: Surface: 1,316 acres Subsurface: 15,378 acres	TL Timing Limitation: 2 miles 3/1-6/30 • Low impacts to oil and gas. Acres Affected: • Surface: 1,316 acres Subsurface: 15,378 acres	TL Timing Limitation: 3 miles 3/1-6/30 Greater impacts to oil and gas. Acres Affected: • Surface: 2,736 acres Subsurface: 34,605 acres	No Timing Limitation. .
	No specific management action for structures of 10 feet in height. Open with standard stipulations.	CSU: Limits on structures 10 feet or greater in height within 2 miles of sharp-tailed grouse and greater prairie-chicken nesting habitat would have low impact on oil and gas development. Such structures would be allowed if no practical alternative exists provided they have anti-perching devices. . Acres Affected: Surface: 1,316 acres Subsurface: 15,378 acres		CSU: on all development activities within 2 miles of leks. Limits on structures over 10 feet would be the same as Alternative B. Low impacts to oil and gas development. Acres Affected: Surface: 1,316 acres Subsurface: 15,378 acres
	No specific management action for buried powerlines– no effect on oil and gas.		New power lines would be buried, eliminated designed or sited in a manner which does not impact sharp-tailed grouse or greater prairie-chickens. This would increase costs of oil and gas development near leks.	
Impacts from wildlife stipulation: Big game winter range	TL Surface use is prohibited from December 1 to March 31 within winter range for big game. This stipulation does not apply to the operation and maintenance of production facilities. (This applies to oil and gas only.) – would have the least	TL Surface disturbance and disruptive activities would be prohibited from December 1 to March 31 within winter range for big game. This stipulation does not apply to the operation and maintenance of production facilities and would have a moderate adverse impact on leasable minerals. Acres Affected: Surface: 106,382 acres Subsurface: 411,150 acres		CSU within big game winter range. This stipulation would have a moderate adverse impact on leasable mineral development. Timing limit would not apply to production. Acres Affected:

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	effect on leasable minerals. Acres Affected: Surface: 106,382 acres Subsurface: 411,150 acres			Surface: 106,382 acres Subsurface: 411,150 acres
Impacts from wildlife stipulation: Raptor nest sites buffer (that are not special status species) - based on 7 years of past nest occupancy	No specific management action	NSO around nests: ¼ mile Surface: 544 acres Subsurface: 3,059 acres	NSO around nests: ½ mile Surface: 2 258 acres Subsurface: 13,674 acres	NSO around nests: ¼ mile Surface: 544 acres Subsurface: 3,059 acres TL Surface use prohibited within ½ mile of nest from March 1 through July 31. Surface: 2,258 acres Subsurface: 13,674 acres Adverse impacts are expected to be minor except for individual cases where nests are close to proposed wells. Timing limit would not apply to production.
Impacts from wildlife stipulation: NSO bighorn sheep range stipulation	No specific management action	Surface occupancy is prohibited in the designated Bighorn sheep range. Low impact to O&G Surface: 788 acres Subsurface: 58,072 acres		
Impacts from wildlife stipulation: Colonial nesting waterbirds	No similar management action.			NSO within ¼ mile of nesting colonies. TL Surface use prohibited within ½ mile of nesting colonies from April 1 through July 15.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Impacts would be limited as few colonies are present on public land.
Wildlife – Special Status Species (SSS) Raptors				
Impacts from SSS raptor stipulation: Bald eagle nest sites active within 5 years	Most restrictive NSO ½ mile around nests Surface: 0 acres Subsurface: 259	Least restrictive NSO ¼ mile around nests Surface: 0 acres Subsurface: 80 acres	Same as Alternative A.	
Impacts from SSS raptor stipulation: Peregrine Falcon aeries	Most restrictive: NSO 1 mile around aeries Surface: 0 acres Subsurface: 0 acres	Intermediate restriction: NSO ½ mile around aeries Surface: 0 acres Subsurface: 0 acres	Imapcts same as Alternative A.	
• Impacts from SSS raptor stipulation: Other federal sensitive and other special status raptor species nest sites (bald eagles and peregrine falcon addressed separately)	NSO ½ mile. Based on 7 years of past nest occupancy. Minor impacts Surface: 1,837 acres Subsurface: 10,636 acres	NSO ¼ mile. Based on 7 years of past nest occupancy. Minor impacts Surface: 499 acres Subsurface: 7,510 acres	Impacts same as Alternative A.	Same as Alternative B except a Timing Limit would prohibit surface use surface use within ½ mile of a nest from March 1 through July 31. Surface: 1,837 acres Subsurface: 10,636 acres Adverse impacts are expected to be minor except for individual cases where nests are close to proposed wells. Timing limit would not apply to production.
Wildlife – Special Status Species (SSS) Greater Sage-Grouse General Habitat Management Areas (GHMA)				
General Management Areas	None	GHMA outer perimeter boundary would remain the	GHMA outer perimeter boundary would remain the	GHMA outer perimeter boundary would remain the

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		same under Alternatives B, C and D. Acres in GHMA would be larger than Alternative C and D as PHMAs would be smaller in Alternative B. Refer to Map 2-3. Surface: 67,035 Subsurface: 425,118	same under Alternatives B, C and D. Acres in GHMA would be less than Alternative B and more in Alternative D. Refer to Map 2-4. Surface: 55,040 Subsurface: 388,912	same under Alternatives B, C and D. Acres in GHMA would be the least as PHMAs in Alternative D are the largest in comparison to all the Alternatives. Refer to Map 2-5. Surface: 23,684 Subsurface: 247,771
Impacts from NSO stipulation: Sage-grouse lek outside PHMAs.	No general habitat identified, however a NSO stipulation ¼ from leks would apply across the planning area. Minor adverse impacts to oil and gas development. Surface: 997 acres Subsurface: 2,766 acres	NSO ½ mile from leks in PHMA Minor adverse impacts Surface: 509 acres Subsurface 2,072 acres	NSO 1 mile from leks in GHMA Minor adverse impacts Minor impacts Surface: 767 acres Subsurface: 1,846 acres	NSO 6/10 mile from leks in GHMA. Less impact from this stipulation as fewer leks in GHMA as PHMAs are larger. Adverse impacts slight to negligible. Surface: 76 acres Subsurface: 170 acres
Impacts from Timing Limit: Sage-grouse winter range	TL: Surface Use prohibited Dec 1 to March 31. Surface 50,791 acres Subsurface: 103,553 acres			NSO on Crucial sage-grouse winter range. Acres Affected: Surface 50,791 acres Subsurface: 103,553 acres
Impacts from Timing Limit stipulation: Sage-grouse brood rearing/nesting habitat, outside PHMAs.	No GHMAs identified. Stipulations apply in sage-grouse habitat across the planning area.TL:3/1-6/30 2 miles from leks N/A to operation and maintenance. Surface: 5,109 acres Subsurface: 23,584 acres	TL:3/1-7/15 3 mi. from leks, outside of PHMAs in GHMA Surface: 14,749 acres Subsurface: 31,522 acres	TL:3/1-7/15 4 mi. from leks; outside of PHMAs/ACEC, in GHMA Surface: 19,926 acres Subsurface: 60,528 acres	No Timing Limit Proposed. Most of the leks in GHMA in Alternative C would be in PHMAs in Alternative D and protected through NSO stipulations.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from requirement to bury new power lines within 1 to 2 mile of sage-grouse leks and winter range	No specific management action – would have no effect on oil and gas.	All new power lines within 1 mile of sage-grouse leks and within sage-grouse winter range would be buried, eliminated, designed or sited in a manner which would not impact sage-grouse on public lands. – would have a greater effect on oil and gas in GHMA.	All power lines within 2 miles of sage-grouse leks and within sage-grouse winter range would be buried or eliminated on public lands. – would have the greatest effect on oil and gas, in GHMA.	Impacts same as Alternative C.
Wildlife – Special Status Species (SSS) Greater Sage-Grouse Priority Habitat Management Areas (PHMAs)				
Greater Sage-Grouse PHMAs	No PHMAs identified, however ¼ miles NSO lek buffer would apply affecting 81 surface acres and 816 mineral acres in the planning area.	PHMAs would include 83,744 surface acres and 253,357 subsurface acres	PHMA would be larger than Alternative B and smaller than Alternative D. Acres would include: Surface: 93,266 acres Subsurface: 289,563 acres	PHMAs would be the same as the State of South Dakota sage-grouse core areas. Largest number of acres protected through Greater Sage-grouse PHMAs including 127,735 surface and 412,822 subsurface acres. .
3% disturbance cap in Greater Sage-Grouse PHMAs	No PHMAs designated, and no management action – would have no effect on leasable minerals.	No specific management action – would have no effect on leasable minerals beyond those already described for PHMAs designated under Alternative B.	No specific management action – would have no effect on leasable minerals beyond those already described for PHMAs designated under Alternative C.	All lands in PHMAs would be analyzed to determine percent of area disturbed by anthropogenic activities. If the 3% cap is reached, no surface disturbing projects will be permitted on BLM surface or subsurface estates. Disturbance will also be evaluated within a 4 mi radius of a project if disturbance throughout PHMAs is <3%.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				The project area analyzed may also include a 4 mi buffer around active leks within 4 mi of the project site, and where that buffered area falls within the PHMA. A project will not be permitted if the 3% cap is met or exceeded within the identified project area. Disturbance density exceeding 1 facility /640 acres may cause projects to be deferred. This will affect leasable minerals development on BLM estates. Leasable mineral development occurring on non-federal estates within PHMAs may preclude further development of leasable and other minerals on BLM estates if ongoing development exceeds the 3% disturbance cap.
Impacts from Greater Sage-Grouse PHMAs stipulation: open with NSO, or closed to leasing	No PHMAs identified. Stipulations apply in sage-grouse habitat across planning area. NSO: ¼ mile from sage-grouse leks	PHMAs would be open to oil and gas leasing, but surface disturbance and disruptive activities would be avoided and an (NSO) stipulation would be applied.	Entirety of PHMAs/ACEC closed to oil and gas leasing Most restrictive to oil and gas development by closing PHMAs to oil and gas.	PHMAs would be open to oil and gas leasing, but surface disturbance and disruptive activities would be avoided and an (NSO) stipulation would be applied.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	Surface: 997 acres Subsurface: 2,766 acres Minimal impacts to oil and gas. 15 wells would be drilled on BLM managed surface, and 79 wells would be drilled on split estate lands. A total of 94 wells would be drilled on federal minerals, in the South Dakota Resource Area.	Moderate impacts to oil and gas. Smaller acres identified as PHMAs compared to Alternative C and D. PHMA acres would include: Surface: 83,744 acres Subsurface: 253,357 acres 12 wells would be drilled on BLM managed surface, and 64.5 wells drilled on split estate lands. A total of 76.5 wells would be drilled on BLM administered Federal minerals, in the South Dakota Resource Area.	PHMA acres closed would be Surface: 93,266 acres Subsurface: 289,563 acres 9 wells would be drilled on BLM managed surface, and 46.5 wells would be drilled on split estate lands. A total of 55.5 wells would be drilled on federal minerals, in the South Dakota Resource Area. A closure of oil and gas leasing in PHMAs/ACEC combined with a ROW exclusion in PHMAs/ACEC would create a tendency for project proponents to move the location of proposed infrastructure or use to private or non-federal lands within the Greater Sage-Grouse PHMAs/ACEC. When this occurs, BLM would lose control over project design features, mitigation of site specific impacts and BLM would not be able to require disturbed areas to be reclaimed. In some cases proposed projects would be moved to areas outside of PHMAs. Closure of leasing would result	Largest PHMA areas. Major effect on oil and gas by placing NSO restrictions on large PHMAs areas. PHMA acres would include:Surface: 127,735 acres Subsurface: 412,822 acres 10 wells would be drilled on BLM managed surface, and 50 wells would be drilled on split estate lands. A total of 60 wells would be drilled on federal minerals, in the South Dakota Resource Area.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			in major impacts to producers with limited benefit to sage-grouse across the landscape as a closure would force and concentrate oil and gas activity and infrastructure onto private and non-federal lands within the PHMA ACEC and onto private and non-federal lands directly outside of the PHMA boundary. Oil and gas production activity in areas already leased and producing in the northern portion of the PHMAs would not likely move or shift to other areas as these leases would be honored as valid existing rights.	
Impacts from Greater Sage-Grouse PHMAs requirement to bury or modify existing powerlines	No specific management action except guidelines and recommendations for mitigation – would have little effect on oil and gas development.	Within PHMAs existing power lines would be buried, eliminated, designed or sited in a manner which would not impact sage-grouse on public lands. The flexibility would provide results in less adverse impacts to producers than Alternatives C and D.	Within PHMAs/ACEC existing power lines would be buried or eliminated on public lands. Most restrictive to oil and gas development.	Same as Alternative C
Special Status Species (SSS) Grassland and Migratory Birds (GAMB)				
Impacts from NSO stipulation: Piping plover within ¼ mile of habitat	NSO ¼ mile of wetlands and associated habitats Low impacts to oil and gas development			
Impacts from NSO	NSO			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Stipulation: Interior least tern within ¼ mile of habitat	¼ mile of wetlands and associated habitats Low impacts to oil and gas development			
Impacts from Sprague's Pipit	No similar management action.			Lease Notice would be applied to all projects within Sprague's Pipit potential habitat. Impacts to oil and gas could be minor if habitat is identified. It would depend on the location of proposed wells.
Other Special Status Wildlife Species				
Impacts from Prairie Dog stipulations	No similar management action.			CSU on prairie dog colonies. Impacts to oil and gas would be minor.
Impacts from Black-footed Ferret stipulations	No similar management action.			NSO within ¼ mile of black-footed ferret habitat. No adverse impacts as no known habitat is present. Future impacts likely to be slight to negligible.
Impacts from Pallid Sturgeon stipulations	No similar management action.			NSO within ¼ of the waters edge of the Missouri River. Minor adverse impact as limited oil and gas potential is present near habitat.
Impacts from Aquatic and Fisheries Resources, Cultural, Paleontological, and Visual Resources management actions Note: refer to end of wildlife related impacts				
Impacts from NSO stipulation: Reservoirs with fisheries	NSO within ¼ mile of Reservoirs with fisheries Surface: 551 acres Subsurface: 12,548 acres			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Cultural Resources management actions: Withdrawal of 410 acres Bear Butte National Historic Landmark (410 Acres) would be recommended for withdrawal, while leasable federal minerals and salable federal minerals would be closed (no lease).	No similar management action..	Leasable federal minerals within Bear Butte National Historic Landmark (410 acres) would be closed (no lease) except for oil and gas which would be open to leasing with an NSO-stipulation. This would have a negligible effect on oil and gas.	Leasable federal minerals within Bear Butte National Historic Landmark (410 acres) – would be closed (no lease) This would restrict the opportunity for leasable mineral development in a very small area and have a minor effect on oil and gas.	Impacts same as Alternative C
Impacts from Paleontological Resources management actions	A small number of well sites could only be developed after a paleontological survey is completed and evaluated. This would have a negligible effect on leasable mineral operations.	A moderate number of well sites could only be developed after a paleontological survey is completed and evaluated. This would have a negligible effect on leasable mineral operations.	The largest number of well sites could only be developed after a paleontological survey is completed and evaluated. This would have a negligible effect on leasable mineral operations.	A moderately large number of well sites could only be developed after a paleontological survey is completed and evaluated. This would have a negligible effect on leasable mineral operations.
Impacts from Visual Resources management actions	Efforts would be necessary to camouflage mineral operations, relocate sites, and/or orient and limit the size of equipment in some cases, which would have a minor effect on leasable mineral operations.			
	NSO on developed recreation areas and undeveloped recreation areas receiving concentrated public use would make a small quantity of oil and gas resources unavailable to development. This would have a negligible effect on leasable mineral operations.	NSO on and within ½ mile of designated SRMAs would make a small quantity of oil and gas resources unavailable to development. This would have a negligible effect on leasable mineral operations.	NSO on and within 1 mile of designated SRMAs and other developed recreation sites would make a small quantity of oil and gas resources unavailable to development. This would have a negligible effect on leasable mineral operations.	Impacts same as Alternative B
Resource Uses				

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Energy and Minerals				
Impacts from Salable Minerals management actions	Activities associated with salable minerals could impact leasable mineral projects and potential depending on the amount, location, and type of disturbance.			
• Impacts from Locatable Minerals management actions	Activities associated with locatable minerals could impact leasable mineral projects and potential depending on the amount, location, and type of disturbance.			
• Livestock Grazing management actions	Reclaimed areas would need to be fenced from livestock grazing for a few years.			
Lands and Realty				
Impacts from Rights-of-Way management actions --Leases and Permits	No similar management action.	Burial of powerlines would increase costs to leasable mineral mining companies	Burial of all powerlines would increase costs the most to leasable mineral mining companies.	Impacts same as Alternative B
Impacts from Renewable Energy management actions	Activities associated with renewable energy could impact leasable mineral projects and potential depending on the amount, location, and type of disturbance.			
Special Designations				
Areas of Critical Environmental Concern				
Impacts from continued Fort Meade ACEC designation	6,574 acres closed to leasable mineral development. No buffer around Fort Meade ACEC. This would be a negligible restriction to oil and gas.	6,574 acres closed to leasable mineral development. NSO on 544 additional acres for oil and gas development within ½ mile of SRMA would be a negligible existing, plus new, restriction.	6,574 acres closed to leasable mineral development. NSO on 1,499 additional acres for oil and gas development within 1 mile of SRMAs would be a negligible existing, plus, still very small new restriction.	Impacts same as Alternative B.
Impacts from continued Fossil Cycad ACEC designation	320 acres closed to leasable mineral development	320 acres to be leased NSO which would be a lesser restriction to oil and gas resources than currently.	Impacts same as Alternative A.	
Impacts from new Greater	No designation. No impact.		Compared to Alternatives B	No designation. No impact.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Sage-Grouse PHMAs ACEC designation			and D there would be little impact from an ACEC designation as PHMA restrictions including NSO restrictions would limit development regardless of ACEC designation. Compared to Alternative A, an ACEC designation of PHMAs or core use areas could result in more stringent requirements and less development when an ACEC plan is developed at the implementation level.	
Impacts to Locatable Minerals FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Soil Resources management actions	Requirement to save topsoil during operations and re-spread during reclamation efforts would result in a minor increase in costs.			
Impacts from Water Resources management actions	Limits on surface disturbing and disruptive activities would include perennial and intermittent streams, riparian areas, floodplains, wetlands, and water bodies and areas within 300 feet of these features. These areas would also be ROW avoidance areas. Overall 30,487 acres of BLM surface estate and 146,169 acres of BLM-administered mineral estate would be affected. These restrictions would result in high to moderate adverse impacts for bentonite mining in areas that are not already claimed. Most high potential areas are already claimed so overall impacts would be low to moderate.			
Impacts from Wildlife-sharp-tailed grouse/greater prairie-chicken management actions	No specific management action – This would affect locatable minerals the least.	Limits on disturbance within 2 miles of a sharp-tailed grouse or greater prairie-chicken lek, and brood rearing habitat would have the greatest effect on locatable minerals.		
Impacts from Special Status	No specific management	PHMAs would not be	PHMAs/ACEC would be	Impacts same as Alternative

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Species – sage-grouse management actions	action – This would affect locatable minerals the least.	withdrawn, however, many of the BMPs in leasable minerals could be applied to a locatable mineral plan of development or notice	withdrawn but the withdrawal would not change bentonite production as most high potential areas in PHMAs are claimed and would honored as valid existing rights. Future bentonite mineral exploration and development would shift to areas adjacent to PHMAs or to private or non-federal lands within PHMAs.	B
3% disturbance cap in Greater Sage-Grouse PHMAs	No PHMAs designated, and no management action – would have no effect on locatable minerals.	No specific management action – would have no effect on locatable minerals beyond those already described for PHMAs designated under Alternative B.	No specific management action – would have no effect on locatable minerals beyond those already described for PHMAs designated under Alternative C.	All lands in PHMAs would be analyzed to determine percent of area disturbed by anthropogenic activities. If the 3% cap is reached, no surface disturbing projects will be permitted on BLM surface or subsurface estates. The 3% cap does not prohibit or inhibit locatable mining development. However, locatable development is calculated in caps for other activities. Disturbance will also be evaluated within a 4 mi radius of a project if disturbance throughout PHMAs is <3%. The project area analyzed may also include a 4 mi buffer around active leks within 4 mi of the project site, and where that buffered area falls within the

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				PHMA. A project will not be permitted if the 3% cap is met or exceeded within the identified project area. Disturbance density exceeding 1 facility /640 acres may cause projects to be deferred. This will affect locatable minerals development on BLM estates. Locatable mineral development occurring on non-federal estates within PHMAs may preclude further development of locatable and other minerals on BLM estates if ongoing development exceeds the 3% disturbance cap.
Impacts from Cultural Resources management actions	No specific management action – This would have no effect on locatable minerals.		Mineral withdrawal of 410 acres of federal minerals beneath Bear Butte would have negligible impacts on locatable mineral development.	
Impacts from Paleontological Resources management actions	Some locatable minerals could only be developed after a paleontological survey is completed and evaluated. This would negligibly increase costs of development.			
Impacts from Visual Resources	Efforts would be necessary to camouflage mineral operations, relocate sites, and/or orient and size equipment in some cases, which would have a minor effect on mineral operations.			
Resource Uses				
Energy and Minerals				
Impacts from Leasable	Activities associated with leasable minerals would have negligible impacts on locatable mineral projects and potential			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Minerals	depending on the amount, location, and type of disturbance.			
Impacts from Salable Minerals management actions	Activities associated with salable minerals would have negligible impacts on locatable mineral projects and potential depending on the amount, location, and type of disturbance. Since there is little interest or potential in salable minerals in the planning areas, the potential impact would be minimal.			
Impacts from Livestock Grazing management actions	Reclaimed areas would usually need to be fenced from livestock grazing during production and during reclamation for a few years. This would result in negligible increases in development and reclamation costs.			
Impacts from Recreation/Visitor Services management actions	No similar management action.	An unknown acreage could be affected - Recreational gold panning could be restricted if monitoring determined negative effects to resources. If gold panning is outside a recreational area, it would be considered Casual Use under Mining Law, and need to meet undue unnecessary degradation standards of 3809.5, 3809.415 Up to 20 acres could be recommended for withdrawal from mineral entry to be used for recreational gold panning opportunity.	An unknown acreage could be affected - Recreational gold panning could be restricted if monitoring determined negative effects to resources. Impacts similar to Alternative B. If gold panning is outside a recreational area, it would be considered Casual Use under Mining Law, and need to meet undue unnecessary degradation standards of 3809.5, 3809.415	Impacts similar to Alternative B. If gold panning is outside a recreational area, it would be considered Casual Use under Mining Law, and need to meet undue unnecessary degradation standards of 3809.5, 3809.415
Lands and Realty				
Impacts from Rights-of-Way management actions Impacts from Leases and Permits	No similar management action.	Burial of powerlines would result in minor increased costs to locatable mineral mining companies	Burial of all powerlines would result in moderate increased costs to locatable mineral mining companies.	Impacts same as Alternative B.
Impacts from Renewable Energy management actions	Activities associated with renewable energy could negligibly impact locatable mineral projects and potential depending on the amount, location, and type of disturbance.			
Special Designations				

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Areas of Critical Environmental Concern				
Impacts from Fort Meade ACEC designation	6,574 acres closed to locatable mineral development			
Impacts from Fossil Cycad ACEC designation	320 acres closed to locatable mineral development			
Impacts from Greater Sage-Grouse PHMAs ACEC designation	No designation. No impact.		Compared to Alternative B and D, there would be a minor increase in adverse impact to locatable mineral development from an ACEC designation. Under Alternative B, C and, PHMA restrictions including limits of surface disturbance and disruption would limit development in PHMAs regardless of ACEC designation. Compared to Alternative A, an ACEC designation of PHMAs could result in more stringent requirements and less development when an ACEC plan is developed at the implementation level.	No designation. No impact.
Impacts to Salable Minerals FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Water Resources management actions	Limits on surface disturbing and disruptive activities would include perennial and intermittent streams, riparian areas, floodplains, wetlands, and water bodies and areas within 300 feet of these features. These areas would also be ROW avoidance areas. Overall 30,487 acres of BLM surface estate and 146,169 acres of BLM-administered mineral estate would be affected. These restrictions would result in moderate adverse impacts for salable mineral development; however these areas are low potential areas for these types of minerals.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Wildlife	No similar management action.	Limits on disturbance within 2 miles of a lek, piping plover restrictions, interior least tern restrictions, and roosting restrictions would have a negligible effect on salable minerals.		
Impacts from Special Status Species – sage-grouse management actions	No similar management action.	Little development expected in PHMAs – negligible impact	PHMAs closed - negligible impact	Impacts same as Alternative B.
Impacts from Cultural Resources management actions	No similar management action.		Mineral withdrawal of 410 acres of federal minerals beneath Bear Butte would restrict the opportunity for salable mineral development in a very small area.	
Impacts from Paleontological Resources management actions	Some salable minerals could only be developed after a paleontological survey is completed and evaluated. This would negligibly increase costs of development.			
Impacts from Visual Resources	Efforts would be necessary to camouflage mineral operations, relocate sites, and/or orient and size equipment in some cases, which would have a minor effect on mineral operations.			
Resource Uses				
Energy and Minerals				
Impacts from Leasable Minerals management actions	Activities associated with leasable minerals could impact salable mineral projects and potential depending on the amount, location, and type of disturbance.			
Impacts from Locatable Minerals management actions	Activities associated with locatable minerals could impact salable mineral projects and potential depending on the amount, location, and type of disturbance.			
Lands and Realty				
Impacts from Rights-of-Way management actions Impacts from Leases and Permits management actions	No similar management action.	Burial of powerlines would result in minor increased costs to salable mineral mining companies	Burial of all powerlines would result in moderate increased costs to salable mineral mining companies.	Impacts same as Alternative B.
Impacts from Renewable Energy management actions	Activities associated with renewable energy could impact salable mineral projects and potential depending on the amount, location, and type of disturbance.			
Special Designations				

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Areas of Critical Environmental Concern				
Impacts from continued Fort Meade ACEC designation	6,574 acres closed to salable mineral development			
Impacts from continued Fossil Cycad ACEC designation	320 acres closed to salable mineral development			
Impacts from new Greater Sage-Grouse PHMAs ACEC designation	No designation. No impact.		Compared to Alternative B and D, there would be a minor increase in adverse impacts to salable mineral development from an ACEC designation. Under Alternative B, C and D PHMA restrictions including limits of surface disturbance and disruption would limit development in PHMAs regardless of ACEC designation. Compared to Alternative A, an ACEC designation of PHMAs could result in more stringent requirements and less development when an ACEC plan is developed at the implementation level.	No designation. No impact.
Impacts to Renewable Energy FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Air management actions	Amount of wind potential would affect development potential.			
Impacts from Climate	Climate change could affect temperature or wind and may affect renewable energy potential.			
Impacts from Soil Resources	Soils restriction on sensitive soils and steep slopes could affect the location of structures and associated facilities.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
management actions				
Impacts from Water Resources management actions	Rain and snow could affect types of foundation and placement of such structures to depending on the permeability of the soil.			
Impacts from Vegetative Communities management actions	Surface-disturbing activities associated with renewable energy development could impact vegetative communities depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion. Areas would need to be reclaimed within recommend native species.			
Impacts from Forests and Woodlands management actions	Forest and woodlands could affect the location of structures and associated facilities.			
Impacts from Renewable Energy management actions	Potential to affect.	Protection of sagebrush habitat would exclude renewable energy facility development within ¼ mile of sage-grouse leks and would have a negative impact on development.	Protection of sagebrush habitat would exclude renewable energy facility development within 1/2 mile of sage-grouse leks and would have a negative impact on development.	Protection of sagebrush habitat would exclude renewable energy facility development within ¼ mile of sage-grouse leks and would have a negative impact on development.
Impacts from Riparian and Wetlands management actions	Riparian areas and wetlands could affect the location of structures and associated facilities.			
Impacts from Noxious and Invasive	Invasive Species Management guidelines may result in increased expense to renewable energy developer.			
Impacts from Special Status Plants management actions	Special status plants could affect the location of structures and associated facilities.			
Impacts from Wildlife management actions including Special Status Species	Little adverse impact to Renewable Energy development. Most areas would be open to development except ACECs. Refer to Map 2-20, the ROW section near the end of Table 2-1 and the Lands and Realty	Intermediate level of adverse impact to Renewable Energy development as most important wildlife and special status species areas would be avoidance areas rather than exclusion areas and more acres are open to	This Alternative would result in major, adverse impacts to Renewable Energy Development as most of the planning area would be ROW exclusion areas to protect important wildlife and special status species. In most of	This Alternative would limit Renewable Energy development more than Alternatives A and B but would allow higher levels of development by allowing more avoidance areas compared to Alternative C.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	section of Table 2-2 for details. Summary of affected areas: Two percent of BLM surface would be ROW exclusion areas and 98% would be open. There would be no ROW avoidance areas.	development. Less impact to development than Alternatives C and D. Compared to Alternative A, some delay or additional expense to project proponents could occur. Refer to Map 2-21, the ROW section near the end of Table 2-1 and the Lands and Realty section of Table 2-2 for details. Summary of affected areas: Avoidance areas would include 86% of BLM surface. There would be no ROW exclusion areas in Alternative B. Open areas would include 14% of BLM surface.	these areas, applications would be denied. Refer to Map 2-22, the ROW section near the end of Table 2-1 and the Lands and Realty section of Table 2-2 for details. Summary of affected areas: Exclusion areas would include 88% of BLM surface. Open areas would include 12% of BLM surface. There would be no avoidance areas in Alternative C.	Refer to Map 2-18, the ROW section near the end of Table 2-23 and the Lands and Realty section of Table 2-2 for details. Summary of affected areas: Avoidance areas would include 39% of BLM surface. Renewable Energy ROW Exclusion areas would include 54% of BLM surface. Renewable Energy Open areas would include 7% of BLM surface.
Impacts from Wildlife studies management actions	Studies could cause delays or if dangers to wildlife are not mitigated would no development would be allowed which would negatively affect development.			
Impacts from Greater Sage-Grouse PHMAs	No PHMAs proposed. No effect.	PHMAs would be avoided from development unless habitat would be maintained or mitigated off-site. This alternative would have a moderate long-term negative effect on renewable energy. Affected acres: Surface: 84,384 acres	Greater Sage-Grouse PHMAs/ACEC would be excluded from development. This alternative would have more potential for major long-term negative effect on renewable energy Affected Acres: Surface: 96,379 acres	PHMAs would be excluded from development unless habitat would be maintained or mitigated off-site. This alternative would have a potentially major long-term negative effect on renewable energy. Affected acres:

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				Surface: 127,735 acres
3% disturbance cap in Greater Sage-Grouse PHMAs	No PHMAs designated, and no management action – would have no effect on salable minerals.	No specific management action – would have no effect on salable minerals beyond those already described for PHMAs designated under Alternative B.	No specific management action – would have no effect on salable minerals beyond those already described for PHMAs designated under Alternative C.	All lands in PHMAs would be analyzed to determine percent of area disturbed by anthropogenic activities. If the 3% cap is reached, no surface disturbing projects will be permitted on BLM surface or subsurface estates. Disturbance will also be evaluated within a 4 mi radius of a project if disturbance throughout PHMAs is <3%. The project area analyzed may also include a 4 mi buffer around active leks within 4 mi of the project site, and where that buffered area falls within the PHMA. A project will not be permitted if the 3% cap is met or exceeded within the identified project area. Disturbance density exceeding 1 facility /640 acres may cause projects to be deferred. This will affect salable minerals development on BLM estates. Salable mineral development occurring on non-federal estates within

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				PHMAs may preclude further development of salable and other minerals on BLM estates if ongoing development exceeds the 3% disturbance cap.
Impacts from winter range restrictions	Winter range would be open. No effect.	Winter range areas would be avoided by renewable energy development, except if winter range would be maintained or mitigated off-site. This alternative would have a moderate long-term negative effect on renewable energy.	Winter range areas would be excluded from renewable energy development. This alternative would have more potential for major long-term negative effect on renewable energy.	Winter range areas for big game would be avoided from development, while crucial winter range for sage-grouse would be excluded. More potential for development compared to Alternatives C but less potential than Alternatives A and B.
Impacts from Fisheries management actions including Special Status Species	Fisheries and other aquatic habitats could affect the placement of renewable energy structures and associated facilities and have a minimal effect.			
Impacts from Fire Management and Ecology management actions	Wildfire could affect or destroy transmission and other related facilities and have a negligible effect.			
Impacts from Cultural Resources management actions	Cultural properties or sites could affect the placement of renewable energy structures and associated facilities and have a minimal effect.			
Impacts from Paleontological Resources management actions	Paleontological resource sites could affect the placement of renewable energy structures and associated facilities and have a minimal effect.			
Impacts from Visual Resources management actions	Visual Resource Class II areas would be open to development but VRM Class II requirements would affect	• Visual Resource Class II areas would be ROW avoidance areas for renewable energy	Visual Resource Class II areas would be renewable energy ROW exclusion areas. Renewable energy	Impacts same as Alternative C.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	the type and placement of renewable energy structures and associated facilities on 1,203 acres in VRM Class II areas. Impacts would be negligible due to the low number of acres affected and the limitations of development in the steeper terrain features that are prevalent in Class II areas.	development on 1,517 acres. Impacts would be negligible due to the low number of acres affected and the limitations of development in steeper terrain features that are prevalent in Class II areas.	development would be excluded on 11,579 acres of VRM Class II areas. Impacts would be minor as most VRM Class II areas contain steep terrain features that limit development.	
Energy and Minerals				
Impacts from Leasable Minerals	Surface-disturbing activities associated with leasable minerals could impact renewable energy depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion.			
Impacts from Salable Minerals management actions	Surface-disturbing activities associated with saleable minerals could impact renewable energy depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion.			
Impacts from Locatable Minerals	Surface-disturbing activities associated with locatable minerals could impact renewable energy depending on the amount, location, and type of disturbance. Surface-disturbing activities would remove protective vegetative cover and can alter soil properties. This would increase the probability of erosion.			
Impacts from Livestock Grazing management actions	Would be affected by the loss of AUMs from disturbance.			
Impacts from Recreation/Visitor Services management actions	Potential to affect.	No commercial wind energy within ½ mile of SRMAs could negatively affect development.	No commercial wind energy within 1 mile of SRMAs could negatively affect development more than Alternative B.	
Impacts from Travel Management	Would have a minimal affect renewable energy development by closing certain roads and trails.			
Impacts from Land Tenure management actions	Land tenure acquisition or disposals could change or eliminate development potential for some previously available lands.			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Right-of-way management actions	Potential to affect.	ROW avoidance and exclusion areas could negatively affect renewable energy development.		
Impacts from Leases and Permits management actions	Potential to affect.	Approval or denial of leases and permits would negatively affect renewable energy development.		
Impacts from Withdrawals	Withdrawals of public lands for varying reasons could eliminate some areas from renewable energy development if authorization of the development would impact resources protected by the withdrawal. This would have a negative impact on development.			
Impacts from Transportation Facilities and Access management actions	Decisions on transportation facilities and access could influence the development of renewable energy if lands become inaccessible due to loss of legal access, road systems, etc.			
Special Designations				
Areas of Critical Environmental Concern				
Impacts from continued Fossil Cycad ACEC designation	Potential to affect.	Would not allow any renewable energy authorizations. This is a negative impact.	Would not allow any commercial renewable energy authorizations. This is a negative impact.	
Impacts from continued Fort Meade ACEC designation	Potential to affect.	Would not allow any renewable energy authorizations. This is a negative impact.	Would not allow any commercial renewable energy authorizations. This is a negative impact.	
Impacts from new Greater Sage-Grouse PHMAs /ACEC designation	No designation. No impact.		Compared to Alternatives B and D, an ACEC designation would result in little difference in impact to Renewable Energy development as these Alternatives would treat PHMAs as ROW exclusion in Alternatives C and D and treat PHMAs as avoidance areas in Alternative B regardless of ACEC designation.	No designation. No impact.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			Compared to Alternative A, an ACEC designation of PHMAs could result in more stringent requirements and less development when an ACEC plan is developed at the implementation level.	
Impacts from National Historic Trails	Potential to affect.			
Impacts to Public Safety FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Soil Resources management actions	CSU on 30% slopes and greater would decrease the possibility of mass wasting/debris flows.	CSU stipulations for sensitive soils with slopes 25% and greater would decrease the possibility of mass wasting/debris flows to a greater degree.	NSO stipulations for sensitive soils with slopes greater than 25% would decrease the possibility of mass wasting/debris flows to the greatest extent.	CSU stipulations for sensitive soils would include slopes 25% and greater would decrease the possibility of mass wasting/debris flows to a greater degree.
Impacts from Wildlife management actions including Special Status Species	Preservation of some abandoned mine features, especially adits and other openings as bat habitat, while making them safer to the public, would in some cases, increase the complexity and expense of mitigating the physical and chemical hazards of abandoned mined lands, which would have a minor impact.			
Impacts from Fire Management and Ecology management actions	Vegetative treatments, including prescribed fire, to reduce fuel loading would decrease the possibility of intense fires and excessive removal of vegetation and plant debris, thus decreasing the danger of debris flows.			
Impacts from Cultural Resources	Preservation of some abandoned mine site features as cultural resources, while making them safer to the public, would in some cases, increase the complexity and expense of mitigating the physical and chemical hazards of abandoned mined lands.			
Impacts to Special Designations FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Vegetative	Potential for impacts to	Restriction of incidental plant gathering to above ground limits potential adverse impacts to		

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Communities management actions	ACEC values from unrestricted plant gathering that extends into the ground.	historical and paleontological ACEC values.		
Impacts from Fire Management and Ecology management actions	Treatments designed to retain the character and historic resources would benefit the ACEC values.			
Impacts from Visual Resources management actions • Impacts from continued Fossil Cycad ACEC designation	Designation of VRM Class IV on Fossil Cycad ACEC allows for major modification to the characteristic landscape, which may negatively affect the ACEC resources.	Designation as VRM Class II would allow only minor changes to the characteristic landscape, providing more protection to the visual as well as paleontological resources.	Same impacts as Alternative B	Designation as VRM Class II would allow only minor changes to the characteristic landscape, providing more protection to the visual as well as paleontological resources.
Impacts from continued Fort Meade ACEC designation	Incomplete VRM designation leaves management actions subject to case by case analysis. On the majority of the ACEC a variety of VRM designations subject the ACEC values to a variety of potential modifications; though the protection of the ACEC values still prevail.	Completion of the VRM designation identifies modification limits on the whole ACEC. A variety of VRM designations subject the ACEC values to a variety of potential modifications; though the protection of the ACEC values still prevail.	Designation of all of the ACEC as VRM Class II allows minor modification to the characteristic landscape, more fully protecting the ACEC historical and cultural values than Alternative A or Alternative B.	Completion of the VRM designation identifies modification limits on the whole ACEC. A variety of VRM designations subject the ACEC values to a variety of potential modifications; though the protection of the ACEC values still prevail.
Impacts from Fort Meade ACEC Historic Places or Landmark designation.	Present National Register of Historic Places District Boundary for Fort Meade includes 3,200 acres.	Upgrade formal nomination of Fort Meade as a National Historic Landmark for a National Register Landmark listing of 6,570 acres. Potential for higher visitor use compared to Alternatives A or C.	The National Register of Historic Places Fort Meade District would incorporate a nomination addition of 3,370 acres. Total acres in Historic District would be changed to 6,570.	The current National Register of Historic Places would be revised to incorporate, approximately 3,370 additional acres. Consider a nomination for the National Historic Landmark, contingent on other partnering agency cooperation will offer potential for higher visitor use

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				compared to Alternatives A or C.
Resource Uses				
Impacts from Livestock Grazing management actions	Fencing, weed control, and monitoring would reduce any minor potential impacts to ACEC features. Livestock were a historic use of the area.			
Impacts from Recreation/Visitor Services management actions	Visitor services/recreation development is not proposed at the Fossil Cycad ACEC.			
	Recreation/visitor services would be developed in coordination with the ACEC values at the Ft. Meade ACEC. Specific project planning would identify measures to ensure ACEC value retention.			
Impacts from Travel Management	Motorized travel is restricted to designated roads and trails.			
Impacts from Forest and Woodland Products management actions	Forest product removal is prohibited in the Fossil Cycad ACEC.			
	Forest product removal is allowed in the Fort Meade ACEC. Activity level planning would identify measures to retain values of the ACEC.			
Lands and Realty				
Impacts from Land Tenure management actions	The decision to transfer from Ft. Meade ACEC up to 170 acres to the National Cemetery would depend on project level planning. If approved, the acreage and boundary of the ACEC would change.	Transfer from Ft. Meade ACEC of up to 170 acres to the National Cemetery subsequent development would change the acreage and boundary of the ACEC.	Fort Meade ACEC acreage and boundaries would not be changed.	Upon land transfer, the boundaries of the ACEC would be changed to match the retained BLM portion.
Impacts from Transportation Facilities and Access	Motorized travel limited to designated roads.			
Special Designations				
Areas of Critical Environmental Concern				
Impacts from continued Fossil Cycad ACEC	Boundaries and protection would remain the same under all Alternatives.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
designation				
Impacts from continued Fort Meade ACEC	Upon land transfer, the boundaries of the ACEC would be changed to match the retained BLM portion. The size of the ACEC could be reduced by up to 220 acres or less than 1%.		No land transfers to other agencies would occur and the boundaries of the ACEC would remain the same.	Same impacts as Alternatives A and B.
Impacts from Scenic Byway -Back Country Byway	Back Country Byway designation and management is proposed to be continued on the BLM road in the Fort Meade ACEC. Maintenance, repair, and safety projects would be completed as needed and funded.			
Impacts from Greater Sage-Grouse PHMAs /ACEC	No ACEC. Beneficial impact through management flexibility and continuity of management on a landscape scale.	No ACEC. Beneficial impact through management flexibility and continuity of management on a landscape scale.	An ACEC designation would not provide additional protection in the Greater Sage-Grouse PHMAs as the level of activity associated with mining and oil and gas leasing would not change as a result of ACEC designation because most high potential, locatable mineral ownership in the PHMAs is already claimed, and most high potential oil and gas potential areas are held by production. In addition, the NSO protection provided by Alternatives B and D already limits oil and gas development in lower potential areas. An ACEC designation would not provide any additional, meaningful, practical protection to sage-grouse and other resources as protective	No ACEC. Beneficial impact through management flexibility and continuity of management on a landscape scale.

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
			measures including restrictions or withdrawal/closures are already provided for within the PHMAs by Alternatives B, C and D. Intensive signing of BLM parcels within the ACEC would be needed to manage and identify BLM-administered lands in the PHMAs ACEC as a separate management unit. ACEC management would also be difficult to implement as numerous holdings of private and state lands are intermingled with BLM-administered lands within the ACEC (Figure 2-1).	
Impacts to Facilities FROM other resources, uses, special designations for each alternative				
Physical, Biological & Cultural Resources				
Impacts from Paleontological Resources management actions	Maintenance of existing facilities would be impacted if resources were found	Location of future developments or projects would have to be moved if resource were found		
Impacts from Visual Resources management actions	No similar management action.	No Impact.	Location, type and design of future developments would be effected by VRM	Facilities proposed for areas with more restrictive VRM objectives would be designed and sited to retain scenic qualities, which may create additional costs associated

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
				with planning and construction of the facilities, and may prohibit development of some facilities that cannot be mitigated to achieve standards.
Impacts from Lands with Wilderness Characteristics	None Present.			
Resource Uses				
Impacts from Livestock Grazing management actions	No effect.	New facilities would have a negligible effect on the grazing program since they would still be in existing enclosures.	Impacts same as A.	Impacts same as B.
Impacts from Recreation/Visitor Services management actions	No similar management action.	Additional Facilities and improved roads.	Impacts same as A.	Present facilities would be maintained or upgraded and additional facilities could be authorized on the project level if needed.
Impacts from Travel Management actions	No similar management action.	More designated trails and small parking areas or pull-outs.	Designated trails but less mileage as some unnecessary or redundant trails are closed.	Designed trails are planned in cooperation with local governments, users, and private parties. Some trails are rerouted to better locations and unnecessary trails are closed.
Impacts from Forest and Woodland Products management actions	No similar management action.	Logging trails could become motorized or non-motorized trails if properly situated and necessary for travel	Trails are decommissioned after use	Impacts same as B.

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
		management.		
Lands and Realty				
Impacts from Land Tenure management actions	No similar management action.	New facilities such as buildings, roads, and dams may be obtained as the result of land exchanges. Any loss of existing facilities is not anticipated.	Impacts same as B	
Special Designations				
Impacts from designation of Areas of Critical Environmental Concern	Fort Meade ACEC No change anticipated to existing facilities. Unless they need to be replaced or repaired due to deterioration or damage.	Road improvements for public safety and more sites with interpretive signage. Possible expansion of existing camping.	Additional interpretive signage. Facilities would be maintained in a safe, functional condition. Adequate signing of public lands within the Greater Sage-Grouse PHMAs/ ACEC would be very difficult because of the intermingled land ownership pattern.	Same as B except additional camping would not be added at the Alkali Creek sites until present capacity in reached. Fee camping could be developed at Fort Meade Reservoir if feasible.
Impacts to Social Conditions FROM other resources, uses, special designations for each alternative				
Resource Uses				
Impacts of all Alternatives	Continuation of current management would enhance the quality of life of permittees, those who favor resource use and residents of local communities; Those who favor resource protection would not feel these resources would	This alternative would enhance the quality of life of permittees, those who favor resource use, OHV enthusiasts, and residents of local communities; Those who favor resource protection would not feel these resources would	This alternative would enhance the quality of life of those who favor resource protection and recreation that provides solitude. Permittees, those who favor resource use, OHV enthusiasts, and residents of local communities would not feel their concerns	This alternative could enhance the quality of life of those who favor resource protection and permittees, those who favor resource use, OHV enthusiasts, and residents of local communities because many of the needs of all these groups

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	receive adequate protection.	receive adequate protection.	were adequately addressed and may experience a decline in quality of life.	and individuals would be addressed.
Impacts to Environmental Justice FROM other resources, uses, special designations for each alternative				
Resource Uses				
Impacts of all Alternatives (common)	No disproportionate adverse impacts to minority or low income populations considered under environmental justice guidance would occur.			
Impacts to Economics FROM other resources, uses, special designations for each alternative				
Resource Uses				
Impacts from Agricultural and Livestock Use	BLM would continue to provide about 1% of the total livestock forage needs in the local economy where economic dependency of livestock producers on BLM forage would remain unchanged. About 440 operators would continue to have grazing leases. About 10% of the farms/ranches in the local economy would hold grazing permits. The amount of authorized use would remain unchanged; dependency on BLM forage would remain relatively unchanged; and BLM forage would continue to provide a critical element of some livestock producers' complement of grazing, forage, and hay production. An annual average of 62,270 AUMs of authorized livestock grazing would support approximately 177 total full and part-time jobs and $1.5 million in labor and proprietor's income. Annual federal revenues from livestock grazing fees would be about $148,000 annually, of which about $74,000 would be distributed to the counties. The difference between market prices for livestock grazing and the fee charged by the BLM represents an annual average consumer surplus to the BLM grazing operators of an estimated $1.3 million for each alternative.			
Impacts from Minerals Development (common) management actions	Under all alternatives, mineral development (mostly oil and gas) would continue to be the land/mineral use that has the most influence on the local economy. It would contribute more employment, income, and public revenue than any other major category of BLM activity. Most of the oil and gas activity and production would continue to occur in Harding County. Federal minerals leased for oil/gas exploration, development, and production would increase from 80,743 acres to about 267,600 acres when areas deferred from leasing would be available after the RMP revision. Estimated annual leasing and rental revenues would increase from $108,787 to $463,443. An estimated 19,380 short tons of bentonite and 12,610 lbs. of uranium would be produced annually.			
Impacts from Minerals Development management	Federal mineral production would increase from current	Federal oil/gas production would increase more than	Federal oil/gas production would increase by less than	Federal oil/gas production would increase more than

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
actions	levels. Average annual production of 3,876,915 MCF of natural gas, 418,709 bbl of oil, 19,380 short tons of bentonite, and 12,610 lbs. of uranium would support about 484 local jobs and $21.8 million in wage and proprietors' income. Total annual federal revenues from leases, rents, production royalties, and sales would be about $7.7 million; of which about $3.8 million would be distributed to the state and counties of production.	alternatives C and D. Annual production of 3,157,360 MCF of natural gas, 340,997 bbl of oil, 19,380 short tons of bentonite, and 12,610 lbs. of uranium would support about 397 local jobs and $17.9 million in wage and proprietors' income. Total annual federal revenues from leases, rents, production royalties, and sales would be about $6.3 million; of which about $3.1 million would be distributed to the counties of production.	Alternatives A, B and D. Annual production of 2,291,257 MCF of natural gas, 247,457 bbl of oil, 19,380 short tons of bentonite, and 12,610 lbs. of uranium would support about 292 local jobs and $13.1 million in wage and proprietors' income. Total annual federal revenues from leases, rents, production royalties, and sales would be about $4.7 million; of which about $2.3 million would be distributed to the state and counties of production.	Alternative C, but less than Alternatives A and B. Annual production of 2,469,983 MCF of natural gas, 266,760 bbl of oil, 19,380 short tons of bentonite, and 12,610 lbs. of uranium would support about 315 local jobs and $14.2 million in wage and proprietors' income. Total annual federal revenues from leases, rents, production royalties, and sales would be about $5 million; of which about $2.5 million would be distributed to the counties of production.
Impacts from Recreation (common) management actions	An annual average of 186,900 recreation visits would support about 76 full and part time jobs and $2 million in labor income. The willingness to pay for recreation opportunities would represent an estimated annual consumer surplus of $11.0 million to the recreation visitors. Annual revenues from recreation use permits, campground receipts, and outfitter/guide receipts would be about $3,000. None of these revenues would be distributed to the local counties.			
Impacts from Forests and Woodlands management actions	Average annual timber harvest of about 1,930 CCF of sawtimber would support an estimated 21 jobs and about $762,000 in wage and proprietors' income. This activity would also generate about $31,000 in federal revenues and about $1,200 in state/local revenues.	Average annual timber harvest of about 1,790 CCF of sawtimber would support an estimated 19 jobs and about $707,000 in wage and proprietors' income. This activity would also generate about $29,000 in federal revenues and about $1,100 in state/local revenues.	Average annual timber harvest of about 1,680 CCF of sawtimber would support an estimated 18 jobs and about $664,000 in wage and proprietors' income. This activity would also generate about $27,000 in federal revenues and about $1,000 in state/local revenues.	(Same as Alternative B) Average annual timber harvest of about 1,790 CCF of sawtimber would support an estimated 19 jobs and about $707,000 in wage and proprietors' income. This activity would also generate about $29,000 in federal revenues and about $1,100 in state/local revenues.
Impacts from Lands and Realty (Common)	Existing use authorizations (e.g. rights-of-way, permits, and lease rentals) would continue to generate an estimated annual average $2,000 of revenue to the federal government. Payments in Lieu of Taxes (PILT) from the federal government to 11			

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
management actions	counties would continue to be approximately $570,000 with all alternatives. The development of renewable wind energy on public lands would stimulate economic activity from the construction and operation of the towers and related infrastructure. Rights-of-way payments would increase from current levels.			
Impacts from Lands and Realty (Wind Energy) management actions	More wind energy development would be anticipated with Alternative A than with the other alternatives. A total of 218 towers (capacity of 763 MW) on BLM lands would support up to 3,353 local jobs and an estimated $156.4 million in labor income during construction. After construction, average annual operation and maintenance would contribute about 110 jobs and $5.2 million in wage and proprietors' income. It would generate about $3.2 million in annual federal rights-of-way rent revenues.	A total of 81 towers (capacity of 284 MW) on BLM lands would support up to 1,244 local jobs and an estimated $58 million in labor income during construction. After construction, average annual operation and maintenance would contribute about 41 jobs and $1.9 million in wage and proprietors' income. It would generate about $1.18 million in annual federal rights-of-way rent revenues.	A total of 31 towers (capacity of 109 MW) on BLM lands would support up to 492 local jobs and an estimated $23 million in labor income during construction. After construction, average annual operation and maintenance would contribute about 17 jobs and $800,000 in wage and proprietors' income. It would generate about $453,000 in annual federal rights-of-way rent revenues.	A total of 40 towers (capacity of 140 MW) on BLM lands would support up to 630 local jobs and an estimated $29.4 million in labor income during construction. After construction, average annual operation and maintenance would contribute about 22 jobs and $1 million in wage and proprietors' income. It would generate about $582,000 in annual federal rights-of-way rent revenues.
Government	Average annual BLM labor and non-labor expenditures ($2.9 million) would support an estimated 52 full and part time jobs and about $2.6 million in wage and proprietor's income. The influence of BLM labor and operations contributions would be most apparent in Belle Fourche (Butte County) where the BLM office is located. Employment and income effects of mechanical treatments, prescribed burning, invasive species treatments, and timber management (fuels treatments) would be included in government operations. Treating hazardous fuels would tend to reduce the threat to life and property nearby.			
Combined Effects	The combined effect of Alternative A would contribute an average annual 1,291 local full and part-time jobs and $51 million in wage and proprietors' income.	The combined effect of Alternative B would contribute an average annual 822 local full and part-time jobs and $33.9 million in wage and proprietors'	The combined effect of Alternative C would contribute an average annual 711 local full and part-time jobs and $24.2 million in wage and proprietors' income.	The combined effect of Alternative D would contribute an average annual 755 local full and part-time jobs and $26.3 million in wage and proprietor's

Table 2-7
Summary Comparison of Impacts

	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
	This would be less than 1% of current local employment and income. Annual program revenues to the federal government would be about $11 million; payments to the state and counties would be about $4.4 million, most of which would be related to oil and gas production and PILT payments. Employment would increase by about 838 jobs; income would increase by about $40.2 million; federal revenues would increase by about $8.6 million; and local revenues would increase by about $2.6 million compared to current average annual levels. The local population would increase by an estimated 1,300 people and the number of households would increase by an estimated 578.	income. This would be less than 1% of current local employment and income. Annual program revenues to the federal government would be about $7.7 million; payments to the state and counties would be about $3.8 million, most of which would be related to oil and gas production and PILT payments. Employment would increase by about 369 jobs; income would increase by about $23.1million; federal revenues would increase by about $5.3 million; and local revenues would increase by about $2 million compared to current average annual levels. The local population would increase by an estimated 567 people and the number of households would increase by an estimated 255.	This would be less than 1% of current local employment and income. Annual program revenues to the federal government would be about $5.3 million; payments to the state and counties would be about $2.9 million, most of which would be related to oil and gas production and PILT payments. Employment would increase by about 258 jobs; income would increase by about $13.5 million; federal revenues would increase by about $2.9 million; and local revenues would increase by about $1 million compared to current average annual levels. The local population would increase by an estimated 397 people and the number of households would increase by an estimated 178.	income. This would be less than 1% of current local employment and income. Annual program revenues to the federal government would be about $5.8 million; payments to the state and counties would be about $3.1 million, most of which would be related to oil and gas production and PILT payments. Employment would increase by about 302 jobs; income would increase by about $15.5 million; federal revenues would increase by about $3.4 million; and local revenues would increase by about $1.1 million compared to current average annual levels. The local population would increase by an estimated 465 people and the number of households would increase by an estimated 209.
Other Combined Effects	BLM management that would generate the most employment and income would be mineral development (mostly oil and gas development). The employment, income, and revenue effects of BLM resource management would be spread unequally among the counties and communities within the planning area and the 11 counties that make up the local economy. Most of BLM land and minerals base and land/mineral uses are in Butte, Harding, and Meade counties. Much of the economic impacts would also occur in those counties. The influence of resource management on BLM-administered lands would not change local economic diversity (as indicated by the number of economic sectors), dependency (i.e. where one or a few industries dominate the economy), or stability (as indicated by seasonal unemployment, sporadic population changes, and fluctuating income rates). The population density and average income per household would continue to be about the same as current levels.			

Table 2-7 Summary Comparison of Impacts				
	Alternative A (No Action)	*Alternative B*	*Alternative C*	*Alternative D (Proposed Action)*
Impacts from Soil and Water management actions	Economic benefits from soil and water management and costs (from lost agricultural production, additional costs for municipal water treatments, shortened life of dams and reservoirs, additional cost of water for industrial purposes, reduced water recreation use, reduced soil productivity, and water pollution) associated with resource use are unknown.			
Cumulative Effects	The description of the Affected Environment found in Chapter 3 summarizes the past and present activities that influenced cumulative economic conditions. The economic impacts summarized above for each alternative would be combined with those demographic and economic trends to provide an idea of the cumulative economic effects. In addition, construction of wind energy developments with towers on BLM lands would be anticipated.			

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