



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Casper Field Office
2987 Prospector Drive
Casper, Wyoming 82604-2968



In reply refer to: 8300

Dear Interested Party,

The Bureau of Land Management (BLM) has completed an environmental assessment (EA) for a Resource Management Plan amendment and The Sand Hills Comprehensive Travel & Transportation Plan. The Sand Hills are located 10 miles northeast of Casper, Wyoming in Natrona and Converse counties. The EA provides a description and analysis of different alternatives including the preferred alternative. Each alternative provides management prescriptions for motorized and non-motorized travel and designates a transportation system that would be open for motorized use.

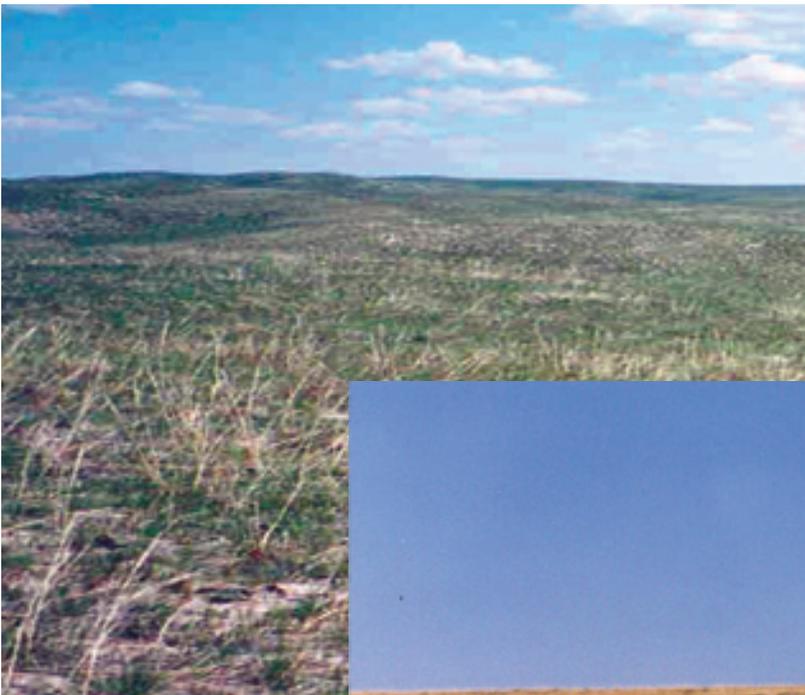
The BLM has completed the scoping process and is providing a 30 day comment period prior to signing the Finding of No Significant Impact and Decision Record. All valid comments will be considered and addressed prior to publication of the Decision Record.

If you have comments or concerns or need further information, please contact the Outdoor Recreation Planner for the Casper Field Office, Eve Bennett at (307) 261-7517 or email Eve_Bennett@blm.gov before February 15, 2009.

Sincerely,

Assistant Field Manager
Resources

The Sand Hills Coordinated Travel and Transportation Management Plan and Associated Resource Management Plan Amendment



January 2009

MISSION STATEMENT

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

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WY-060-EA09-4

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INTRODUCTION

The Sand Hills transportation management area (TMA) is located northeast of Casper, Wyoming encompassing approximately 17,633 acres of BLM-administered lands (map 1). The area is comprised of large stabilized sand dunes and the associated vegetation communities. The ecosystem is easily impacted by ground-disturbing activities. Comprehensive travel management plans have been completed for areas like the Sand Hills, because they require more intensive management practices to preserve natural resources and ecosystems.

Comprehensive travel and transportation management plans (CTTMPs) strive to balance transportation and access needs with resource concerns. An interdisciplinary approach ensures that differing and potentially conflicting uses are represented during the planning process. CTTMPs include management prescriptions for motorized and non-motorized travel, designate transportation routes, set maintenance levels, and include any seasonal closures that may be necessary. Baseline data collection, implementation strategies, and monitoring protocols are also included in this effort.

In order to complete the Sand Hills CCTMP, the established transportation network was evaluated for suitability and active off-highway vehicle (OHV) management. All existing roads and trails including any new routes must meet resource needs and the management objectives outlined in the Casper Field Office's resource management plan (RMP; BLM 2007) in order to be considered for inclusion. This process takes into account the following factors.

1. Access needs for all BLM-administered programs and resource activities, including but not limited to access associated with mineral and energy development, rights-of-way and utility corridors, grazing management, wildlife, vegetation management, fire, lands, and recreation.
2. Mitigation measures including seasonal restrictions to avoid on-site and off-site impacts to important natural resources from current and future land uses. Examples of resource concerns include, among other issues, erodible soils, listed and sensitive species habitats, historic and archeological sites, and habitat fragmentation.
3. Consistency with resource program goals and objectives.
4. Trail suitability for different categories of OHVs including but not limited to dirt bikes, ATVs, dune buggies, 4-wheel drive vehicles, and over snow vehicles as well as opportunities for joint trail use.
5. Opportunities to enhance non-motorized trail and off-trail recreational use.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The Sand Hills TMA has no legal motorized public access, limiting public recreation and motorized travel in the area. User groups include land owners whose properties border the planning area, developers, and professional hunting guides who have obtained land access agreements. This restricted access has limited the potential for negative environmental impacts resulting from off-

route and cross-country vehicle travel. Recently private ownership patterns have changed. The historic BB Brooks Ranch, one of the larger ranches near the Sand Hills TMA has been subdivided. As more people move into the area it is reasonable to assume that motorized travel on public lands would increase, escalating the importance of active travel and transportation management.

The purpose of this plan is not to further restrict access, but to manage travel in such a manner as to protect the natural characteristic and important resource values. The overarching objectives of this plan are to:

1. Protect resources;
2. Designate a transportation network;
3. Define the maintenance standards for all designated travel routes;
4. Promote the safety of public land users;
5. Minimize conflicts among the various users of public lands;
6. Minimize resources damage from both motorized and non-motorized travel; and,
7. Provide for appropriate recreational opportunities and other uses.

CONFORMANCE WITH LAND USE PLANS

The completion of the CTTMP complies with decision 6075 in the current RMP (BLM 2007) which states that motorized travel within the Sand Hills management area (17,633 acres of public surface) would be limited to “a designated network of roads and trails.” Decision 6078 designates all historic trails ruts are to be “closed” to motorized and non-motorized modes of travel. This decision will be applicable if the any remnants of the Bozeman Trail which is located within the TMA are found to be historically significant. The Sand Hills management area was established in order to maintain the integrity of vegetation and to protect highly erosive soils and watershed values. The completion of this plan comports with the Casper Field Office RMP and must be completed within five years of the signing of the record of decision. RMP decisions specific to the Sand Hills management area are listed below.

7046 The Sand Hills management area is established on 17,633 acres, all of which are BLM-administered public surface.

7047 The area is administratively unavailable for oil and gas leasing and geophysical exploration.

7048 The area is withdrawn. The withdrawal segregates from operation of the public land laws, including the mining laws.

7049 The area is closed to disposal of mineral materials.

7050 Time would be allowed for land-tenure adjustments (consistent with management objectives).

7051 No new corridors are established in the Sand Hills management area; rights-of-way (ROWs) will be allowed when management objectives for the area can still be achieved.

7052 BLM would pursue acquisition of lands in the Sand Hills area.

7053 A watershed plan would be developed for the area in coordination with wildlife and range resources. The plan would clarify any special mitigation required to reduce impacts associated with surfacing disturbing activities.

The boundaries for the Sand Hills management area and the Sand Hills transportation management area as defined in the Casper Field Office RMP are identical. Alternatives B and C described in this environmental assessment (EA) explore the option of changing the boundary of the transportation management area. The extended boundary described in these alternatives would include additional public lands to the west and to the southwest of the existing Sand Hills TMA increasing the public surface by 2,460 acres for a total of 20,090 acres of BLM-administered land. The total analysis area is 24,836 acres including 4,772 acres of Wyoming state trust lands. This boundary change would require an amendment to the RMP but would improve the likelihood of management success. It also addresses comments received during the public scoping process. The amendment described under the alternatives would apply only to transportation and OHV use. The proposed changes would not affect any other decisions or boundaries described in the RMP. All decisions related to the Sand Hills management area would still apply as mapped in the 2007 Casper RMP. Appendix A lists RMP decisions that apply to public land parcels inside the proposed TMA boundaries described for the alternatives.

STATUTES, REGULATIONS, AUTHORITY, AND OTHER GUIDANCE

- *Federal Land Policy and Management Act (FLPMA)*, 43 U.S.C 1701. Land use plans and revisions should be based on principles of multiple use and sustained yield.
- *National Environmental Policy Act (NEPA)*, 42 U.S.C. 4321.
- *Archeological Resources Protection Act (ARPA)*, 1979, as amended.
- *National Historic Preservation Act*, as amended, 1966.
- *National Trails System Act*, 16 U.S.C. 1241.
- *Taylor Grazing Act*, 43 U.S.C. 315a.
- *Endangered Species Act*, 16 U.S.C. 1531. Federal agencies shall give consideration to ensure agency actions do not jeopardize the continued existence of any endangered species.
- *Land and Water Conservation Fund Act*, 16 U.S.C. 460 1-6a.
- OHV. National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands, USDI, BLM, January 2001.
- Executive Order No. 11644, Feb 8, 1972. This order established criteria by which federal agencies were to develop regulations for the management of ORVs on lands under their management. Agencies are to monitor the effects of ORV use on their public lands and on the

basis of the information gathered; they shall from time to time amend or rescind designation of areas for ORV use as necessary to further its policy.

- Executive Order 11644 (as amended by Executive Order 11989) and regulation 43 CFR 4340 states that all RMPs would designate public lands as open, closed or limited to OHV use.
- Executive Order No. 12898, 1994. Indicates that federal planning efforts should give consideration to how plans would affect local economies.
- Washington Office Instruction Memorandum No. 2007-030, Clarification of Cultural Resource Considerations for Off-Highway (OHV) Route Designation and Travel Management.
- Washington Office Instruction Memorandum No. 2004-005, Clarification of OHV Designations and Travel Management in the BLM Land Use Planning Process.
- BLM Land Use Planning Handbook H-1601-1. Outlines exceptions by which the BLM can complete land use planning without including all designations.
- Washington Office Instruction Memorandum No. IM 2006-173, Implementation of Roads and Trails Terminology Report.
- Washington Office Instruction Memorandum No. 2008-104, Guidance and Integration of Comprehensive Travel and Transportation Management (CTTM) Planning into Land Use Planning.

THE EXISTING ENVIRONMENT

Soil Resources

The Sand Hills makes up the northeastern extension of the Kill Pecker Dunes. This massive dune complex originates from the Big Sandy and Little Sandy creeks located at the southern end of the Wind River Mountains. Here in central Wyoming the dunes have stabilized, becoming the foundation for this unique ecosystem (Knight 1984). The majority of soils are classified as Orpha loamy sands and Highland loamy sands. Both of which are highly susceptible to wind and water erosion (NRCS 1985). Cut banks are not stable and are subject to slumping. Disturbed areas and those with minimal vegetation at are at high risk due to shifting sands. Blow-outs are common in disturbed areas. The terrain is gentle to sloping.

These deep and well-drained soils provide low to moderate water availability, effecting plants with root systems up to 60 inches. This availability varies based on annual precipitation, depth of sand, and types of substrate.

Vegetation Resources

Plant communities on stabilized sites include needle-and-thread grass, prairie sand reed, sand bluestem, and Indian ricegrass. Silver sagebrush, rabbitbrush, and Wyoming big sagebrush are typical of shrubs located here. Forbs are numerous and include annuals and perennials. As the range conditions deteriorates unpalatable forbs and annuals increase in abundance.

Heavy grazing, recreational activities, wildland fire suppression efforts, and motorized travel impact sand dune environments by loss of ground cover and the high potential for blow-outs. Under harsh conditions, plant vigor deteriorates quickly in this ecosystem. As the range further deteriorates, non-native plant species (cheatgrass brome and other invasive annuals) replace the more productive vegetative communities. Once ground cover is lost, the Orpha loamy sands are subjected to high winds and water erosion increasing the initial area of disturbance. Reestablishment of native plant communities is difficult at best and often unsuccessful.

Current range conditions vary based on grazing allotment, location, and season of use. In general, the northeastern portion of the Sand Hills management area has better range conditions. The potential plant community produces between 1,700 pounds of air-dry matter in a favorable year to approximately 900 pounds in unfavorable conditions. Due to seepage, livestock watering ponds are not well-suited for much of the area. Annual precipitation for the area is approximately 10 to 14 inches.

Water Resources

Sand Creek flows south and to the west of the analysis area and is entirely on private and state land. Lone Tree Gulch is located to the east of the analysis area. Both streams are intermittent. The majority of the surface water is located on private lands. Available water is a vital part of wildlife habitat as well as part of any livestock grazing operations. Therefore, water wells and reservoirs are

common range improvement projects. There are currently five water wells on public lands within the Sand Hills management area. No wells are located on public lands within the extended boundary of the TMA. Several reservoirs have been developed east of the analysis area.

Wildlife Resources

The Sand Hills TMA is within two big game herd units: the North Converse mule deer herd unit (755) and the North Converse antelope herd unit (748). According to the Wyoming Game and Fish Department (WGFD), the mule deer herd unit is approximately 8% above the population objective of 9,100 animals (WGFD 2005). Management issues identified for this herd unit include:

- Hunter access to private and land-locked public lands;
- Increasing mineral development and the associated impacts of habitat fragmentation;
- Lack of information regarding seasonal distribution and the lack of delineated crucial winter range;
- The impacts of chronic wasting disease on the mule deer herd; and,
- The impacts of extended drought on range conditions.

According to the WGFD, the antelope herd unit is approximately 15% above the population objective of 28,000 animals (WGFD 2005). However, the WGFD believes the model may actually be overestimating the population. Apart from the questionable population estimation, management issues identified for this herd unit are similar to those identified for the North Converse mule deer herd unit.

Sage grouse in Wyoming are considered a BLM state director-listed sensitive species. In accordance with the BLM 6840 manual, sensitive species are afforded the same level of protection as candidate species under the Endangered Species Act (ESA). Three sage grouse leks occur within the vicinity of the Sand Hills: BLM No. 117, Blue Hill No. 1, and Sand Spring Creek No. 1. All the leks occur in WGFD upland game management unit 35. Lek activity data for all of these leks and the management unit overall is very limited due to the inaccessibility of the area. Additionally, much of the Sand Hills may provide sage grouse seasonal habitat, including nesting, brood rearing, and winter habitat.

The analysis area also provides habitat for numerous raptor species. Some of the species that have been observed through anecdotal observations in the area include: ferruginous hawk, bald eagle, golden eagle, red-tailed hawk, Swainson's hawk, American kestrel, burrowing owl, and prairie falcon. Presently, there is only one documented raptor nest, a ferruginous hawk, within the management area. The management area lies between two bald eagle winter communal roosts. The North Fork of the Cheyenne River roost is located approximately 4 miles northeast of the TMA and the Cole Creek bald eagle roost is located approximately 9 miles to the south. The analysis area may provide some foraging opportunities for eagles using these roost locations.

Black-tailed prairie dog colonies are present in areas along the periphery of the Sand Hills where suitable soils allow colonization. The majority of the area contains sandy soils which naturally limits colonization into the area.

In addition to the wildlife discussed above, a variety of non-game wildlife including several species of songbirds, small mammals, and predators occur throughout the area.

Threatened and Endangered Species

The TMA was evaluated for the presence of all federally threatened, endangered, candidate, and proposed species as identified on the United States Fish and Wildlife Service (FWS 2007). Based on field visits to the area and a review of historical data, no threatened or endangered species occur within the project area. Suitable habitat does not exist for the endangered black-footed ferret, threatened Ute ladies-tresses, or the threatened Colorado butterfly plant. Suitable habitat is present for the endangered blowout penstemon; however, surveys conducted throughout the area had negative findings (WYNDD 2004).

Cultural Resources

Cultural resource inventories have been conducted in the Sand Hills for over 30 years. Most of the projects are linear surveys related to oil and gas exploration. Block surveys for well pads and other developments account for additional inventory coverage. The majority of the cultural resources recorded to date are of prehistoric origin (lithic workshop areas, camp sites, stone circles, etc.) with a smattering of historic materials related to the homesteading period. Livestock management (shepherd's camps, for example) and a long history of oil and gas development have left a thin overlay of historic debris in most places. The 1864 route of the Bozeman Trail running from Richeau's Bridge (just east of present-day Casper) passes north-south through the eastern side of the planning area, generally overlain with modern two-tracks. A second route originating at Fort Caspar passes through the northeastern corner of the analysis area.

Altogether, 24 inventories have been conducted in the study area. Of these, 15 were linear inventories for which acreage is not reported (geophysical exploration and oil/gas access road; these projects may have resulted in recording sites beyond the scope of this review) and nine were 10- to 40-acre blocks amounting to 260 acres of coverage. This is a very small percentage of the TMA and cannot be definitive in terms of explaining cultural processes in the area. Nine sites have been reported, one of which is the Bozeman Trail (recorded in two counties), two stone circles, four cairn sites thought to be prehistoric in origin, and one locality identified as a hunting blind. For the most part, these sites were recorded off-survey, and no evaluation was made. Additionally, those sites reported during inventories for geophysical exploration were avoided and left unevaluated. The Bozemen Trail is a significant cultural resource, but it remains to be seen whether any segment contained in the study area would contribute to that significance.

The Sand Hills complex in other locations has produced numerous prehistoric activity areas. The low number of sites in the study area is more likely due to limited survey coverage than a low site density. It may also be that the lack of reliable water would have been a factor in directing prehistoric activities elsewhere in the area. An extensive inventory in the Sand Dunes oil and gas unit to the east of the study area produced a significantly high site density. Dunal areas generally contain a variety of resources exploitable by prehistoric people, so the absence of procurement or camp sites in the study area is at odds with the general trend.

Paleontological Resources

To date, no paleontological localities are known in the project area (personal communication Dale Hanson, BLM Regional Paleontologist, BLM-WSO).

Review of the BLM's potential fossil yield classification system (PFYCS) maps indicates that most of the project area falls within fossil yield class 2. This class (low potential) includes lands with surfaces that have little (but not zero) potential to contain significant paleontological materials. In this case, potential fossil-bearing bedrock is buried beneath a mantle of soil and earth. The Sand Hills planning area lies almost completely on Quaternary sand dunes and loess (mapping symbol 'Qs' in Love and Christianson 1985). This recent unconsolidated material overlies the Upper Cretaceous Lance Formation which has proven to be a rich source of invertebrate and vertebrate fossils. Significant finds include the first *Tyrannosaurus rex* and many other dinosaur and early mammalian fossils. The formation takes its name from the type site at Lance Creek, Niobrara County, Wyoming. This area is known to be fossil-rich. No named localities are known for the Lance Creek exposures adjacent to the Sand Hills planning area. The terminus of the Lance Formation coincides with the great Cretaceous-Tertiary extinction some 65 million years ago. Approximately 320 acres in the extreme northeastern part of the study area is included in the Lebo Member of Tertiary-aged Fort Union Formation. This is classified as PYFC-3 which is a somewhat higher sensitivity than the remainder of the study area.

Socioeconomics

The Wyoming Economic Outlook 2007 published by the Wyoming State Government and the *2006 Impact Report* published by the Wyoming Board of Tourism show a continued growth and dependence on extractive industries such as oil and gas production and mining. Energy production is a key component of the Wyoming economy and paralleled by employment increases in other industries such as construction, trade, and transportation. However, low diversification often results in a cyclic economy. Wyoming tourism is becoming increasingly important. In 2006, tourism accounted for 8.3% of Wyoming's total sales tax revenue. In addition, 29,950 full- and part-time jobs were directly related to this industry. According to state economists, travel and tourism are vital to long-term economic stability for the state.

The Wyoming Business Council reports a population of 69,799 for Natrona County for 2005. The average household income was \$49,566 per year and is projected to reach \$55,672 per year by 2010. The service industry employs the highest percentage of wage earners for the county at 35.28%, followed by retail trade with 21.88%. Agriculture, forestry, and fishing have a combined percentage of .88% of the total employment for the Natrona County.

The economic value of BLM-administered surface and split estate properties within the Sand Hills project area are related to non-renewable and renewable energy development, livestock grazing, and tourism. There are 15 oil/gas leases, 5 ranch allotments, and 4 permitted big game outfitters operating in the area. Map 2 displays ranch boundaries and pasture fences.

The Sand Hills management area is administratively unavailable for new oil and gas leasing. However, all valid and existing rights would be maintained. The additional BLM surface that has

been included in the TMA under some alternatives is currently available for lease. Within the analysis area, there is approximately 7,491 acres of public surface leased for oil and gas production, of which 2,847 acres are held by production. These leases are part a larger units, which extend beyond the boundary of the TMA. Leases not held by production are set to expire between 2011 and 2017. Map 3 shows current oil and gas leases and the corresponding expiration dates. The area is considered to have a moderate potential for oil and gas production. Other energy-related activities that may occur in the vicinity on private or public lands outside the TMA include wind and solar power.

Discussions with the private landowners reveal that the significance of these public lands is related more to the intrinsic values than to the economic returns. Large private in-holdings have preserved a rural social structure. The open space, a relatively undisturbed landscape, and wildlife provide the backdrop to a highly valued way of life. The recent subdivision has had a negative impact on the quality of life for long-term residents and has the potential to effect monetary gains related to ecotourism in the Sand Hills.

Recreation

The Sand Hills are approximately 12 miles northeast of Casper and near a major county road. Rural developments on private lands such as ranch homes and newly constructed roads diminish the feelings of remoteness normally associated with large blocks of public land. Inside the management area, the natural landscape dominates the view. The sights and sounds of the natural environment are common, while management presence is low. This normally takes the form of rangeland improvement projects, pasture fences, and informational signs. Other man-made structures are isolated and rarely seen from the commonly used travel routes. There is always some on-site presence of other people, and motorized use on the main corridor changes from low to moderate during the hunting season. Opportunities for solitude, self-reliance, and personal challenge are generally over-stated, and interactions with other groups are common. The existing transportation network, along with the large blocks of open space, provides a roaded natural recreational experience.

The most popular activity in the Sand Hills TMA is deer hunting. The large local deer population and restricted access creates a prime opportunity for hunters that do not want to compete with the public. Big game outfitters in the area provide all necessary amenities. Some private landowners do allow access for a fee. Other recreational opportunities for the public within the Sand Hills TMA are significantly restricted by the lack of legal motorized or reasonable public access.

Off-Highway Vehicles

All existing routes were inventoried using standards developed for the Casper Field Office. The inventory begins with the use of digital-ortho photo quads. All linear disturbances are digitized using Arc map technology. This ensures that all potential routes are verified and improves the accuracy of fence line data. Volunteers use GPS technology to ground-truth travel routes within the planning area, a 1-mile buffer, and blocks of public lands located immediately to the southwest. This inventory assessed the condition and included anecdotal information on levels of motorized use.

Map 4 shows baseline information for existing transportation routes within the Sand Hills TMA. Inventory protocols are located in appendix B.

Until the subdivision of the BB Brooks Ranch, there were only two built and maintained roads in the vicinity of the Sand Hills, neither of which provided motorized public access into the planning area. The road network constructed for the subdivision was not included in the road inventory as these routes are entirely on private lands. The majority of the existing transportation network within the analysis area consists of primitive roads. These roads are linear routes that do not meet BLM road standards and do not receive any annual maintenance. Most primitive roads have been user created and adopted into the transportation system over time. Less intrusive transportation routes are defined as “ways.” All ways have been user created and are normally used to maintain rangeland improvement projects. These types of routes receive little to no use on an annual basis and normally have a moderate to high degree of vegetative cover. There is no guarantee that a specific way would be available from year to year. Ways represent less than 10% of the travel routes located within the area. For simplification purposes, primitive routes and ways would be grouped and referred to as primitive roads or as travel routes.

Most of the 1-mile analysis area on the southern boundary was not inventoried because of time limitations related to the high number of newly constructed roads. Additionally, the BLM did not acquire permission to inventory these routes from the land owner. There are numerous crowned and ditched roads in the area, and it is difficult to estimate how many more would be built. A total of 209 miles of linear travel routes within the analysis area located on BLM, Wyoming state trust lands, and private properties.

Visual Resources

The Sand Hills are characterized by open space and panoramic views. The rounded forms created by the dunes are repeated throughout this environment and are mirrored by minor changes in vegetative communities. The entire area is considered a visual resource class IV which allows for large-scale visual intrusions that not only draw the viewer’s attention but also dominate the view. Currently, visual intrusions are limited to small rural developments, rangeland improvement projects, and the existing transportation system. The basic elements of the natural environment include line, form, color, and texture and are reflected in the existing structure. Travel routes on public lands within the area follow the slope, creating a low to moderate contrast with the surrounding environment.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

The following travel management guidelines and mitigation measures are common to all alternatives.

1. Designated roads and trails would be available for use by both motorized and non-motorized means of transportation unless otherwise indicated at site location (*RMP decisions 6041, 6075*).
2. Cross-country or off-route travel *is allowed* to occur in the Sand Hills area for the following activities, so long as new routes are not created and resource damage does not occur.
 - a. Motorized travel up to 300 feet from roads for camping, recovering game animals, collecting firewood, picnicking, or other uses that do not require specific authorizations or permits (*RMP decisions 6038, 6075*).
 - b. During the hunting season, individuals possessing a valid WGFD “Disabled Hunter Permit” or “Disabled Hunter Companion Permit” would be allowed to use an OHV to hunt and retrieve harvested big game and trophy game animals beyond 300 feet without additional authorization (*RMP decision 6041*).
 - c. Muscle-powered activities such as hiking, back-packing, and snow-shoeing are allowed to occur off existing routes (*RMP decision 6040*).
 - d. Over-snow vehicles are allowed when snow cover is sufficient to prevent resource damage (*RMP decision 6041*).
 - e. Other necessary tasks that require OHV off-route travel would be allowed as long as resource damage does not occur. These tasks include, but are not limited to, activities such as maintaining range improvements, animal husbandry activities by grazing lessee and his or her agents, and surveying ROW or other work-related tasks authorized by, or which lead to the issuance, of a permit or authorization. The authorized officer may allow necessary tasks without issuance of a formal permit (*RMP decision 6075*).
3. All permitted surface-disturbing activities and permits which include off-road travel would include the mitigation measures outlined in appendix C.
4. Travel on roads designated as limited to authorized use only would be restricted to those grazing lessees that own and maintain the rangeland improvement projects associated with the route and maintenance of those improvements.
5. All historic trail ruts on BLM-administered public lands (historic trails will be inventoried and closed to OHV use as they are identified as having integrity of trail) (*RMP decision 6075*).

NO ACTION ALTERNATIVE

The Casper RMP (BLM 2007) requires that motorized travel be limited to designated roads and trails. These designations have never been completed. OHV travel is occurring on all existing roads and trails within the Sand Hills planning area. This alternative is not viable because it does not conform to national OHV standards nor with current management plan; therefore, it is not analyzed further.

THE DEVELOPMENT ALTERNATIVE (A)

Alternative A consists of designating all existing roads and trails into the transportation system. New motorized routes would be integrated into the system to allow legal access for new landowners. Under this alternative, there could be up to 25 new access points. The boundary of the planning area would not be adjusted to include public lands to the southwest, limiting the planning area to a total of 17,630 acres.

Primitive roads cross the majority of the Sand Hills TMA at several locations and would be made available for all manner of OHV use. These roads would not be required to meet minimum BLM road standards, although repairs would be made where necessary to prevent further erosion.

The BLM would seek to obtain walk-in area agreements and if successful would construct a trailhead and parking area on the public land near the access location. Non-motorized transportation would be allowed on all designated routes within the TMA and would not be restricted to the developed routes. Cross-country travel would be allowed as long as resource damage does not occur. Additionally, the BLM would seek suitable locations for a new non-motorized trail system.

ROWs authorized for the development of existing leases would be approved at the lowest maintenance level necessary to protect soils and existing vegetation and to maintain consistency with safe vehicle operation. Rights-of-way would be shared whenever possible and would be reclaimed to the lowest standard required for facility management.

In order to accurately analyze the impacts of alternative A, all inventoried routes have been included in the totals regardless of surface ownership. The vast majority of all routes were described as primitive roads with a total distance of 207 miles. There are 97 miles of roads on private land, 29 miles on Wyoming state lands, and 83 miles on public lands. Alternative A would designate the entire 83 miles of BLM-administered routes for OHV use. These designated routes would remain available to adjacent landowners and persons obtaining permission to cross private lands. Traces of the Bozeman Trail identified within the analysis area, would be closed. Map 5 depicts the transportation system as described under alternative A.

Under this alternative, the BLM would not make any recommendations to the state of Wyoming related to the transportation network. The existing road network would be maintained.

THE PREFERRED ALTERNATIVE (B)

The preferred alternative strives to provide a transportation system that would meet the needs of the users while removing unnecessary routes in order to preserve natural resources. Under this alternative, the planning area boundary would be adjusted to include public lands located to the west and southwest increasing the TMA by 2,460 acres for a total of 20,090 acres of public surface. This would include an RMP amendment as TMA boundaries are defined at that level.

Alternative B designates specific routes that are commonly used and provides adequate transverse motorized access to all persons having legal admittance into the area. Designated routes would be available to all and would be signed accordingly. Repairs would be made to sections of designated routes with drainage or other erosion problems. Improvements would be as minimal as possible in order to preserve the natural appearing landscapes. Primitive routes necessary for maintenance of livestock and habitat improvement projects would be designated for authorized use only. Authorized use would be limited to those persons responsible for the project and use would be limited to project maintenance purposes only.

The BLM would seek to obtain right-of-way agreements across private land to allow non-motorized access through the Sand Hills TMA. If successful, the BLM would construct a trail head and parking area on the public land near the access location. Non-motorized transportation would be allowed on all designated routes within the planning area.

Rights-of-way authorized for the development of existing leases would be approved at the lowest maintenance level necessary to protect soils and existing vegetation and would use the designated transportation system to the greatest extent possible. Rights-of-way would be shared whenever reasonable to do so and would be reclaimed when no longer necessary.

On public surface, this alternative would designate 28 miles of primitive roads open to motorized use. The BLM would designate 12 miles of primitive roads as limited to authorized use only. A total of approximately 8 miles of existing travel routes on BLM lands would be closed. There would be a total of 34 miles of primitive roads within the analysis area that would not be impacted by this alternative. Traces of the Bozeman Trail identified within the analysis area, would be closed.

The BLM would work with the Wyoming state land board to reduce the overall number of roads on adjoining state trust lands. The intention of working more closely with the state land board would be to maintain the integrity of the transportation network, meet user needs, and reduce the overall impacts to the existing environment. Recommendations for motorized travel on state lands would include limiting motorized travel on 1 mile of ways to authorized users only, designating 11 miles of existing routes as open to motorized travel, and closures on 9 miles. BLM would provide no recommendations on a total of 9 miles of existing routes on state lands. Map 6 depicts the transportation system as described under alternative B.

THE PRESERVATION ALTERNATIVE (C)

As described in alternative B, the planning area boundary would be adjusted to include public lands located to the southwest extending the total public surface to 20,090 acres.

Alternative C would reduce the total number of miles designated for motorized use within the transportation network. The major access roads would be upgraded to meet minimum BLM road standards and would be made available for use by all persons with legal access to the area. The remaining primitive roads would not be required to meet minimum BLM road standards and would be designated for authorized use only. Authorized use would be limited to persons responsible for maintaining rangeland improvement projects. Alternative C does not provide motorized access across the planning area.

The BLM would seek to obtain right-of way agreements through private lands to provide walk-in access. If successful, the BLM would construct a trail head and parking area on the public land nearest to the access location. Walk-in access would be allowed throughout the planning area.

Rights-of-way authorized for the development of existing leases would be approved at the lowest maintenance level necessary to protect soils and existing vegetation and still be within proper safety levels. Rights-of-way would be shared whenever possible and would be reclaimed as soon as possible.

On public surface, alternative C would designate 16 miles of existing routes as open to motorized travel. Additionally, 10 miles of primitive roads would be limited to authorized use only, and 27 miles of the existing transportation system would be closed. Reclamation efforts would be initiated when adequate re-growth does not occur naturally. A total of 35 miles would not be impacted by this alternative. Traces of the Bozeman Trail identified within the analysis area, would be closed.

The BLM would work with the Wyoming state land board to reduce the overall number of roads on adjoining state trust lands. The intention of working more closely with the state land board would be to maintain the integrity of the transportation network, meet user needs, and reduce the overall impacts to the existing environment. Recommendations for motorized use of Wyoming state lands, under alternative C would include 4 miles of ways being limited to authorized use only, 7 miles of existing routes being open to motorized use, and 13 miles of existing routes being closed. There is an additional 7 miles of existing routes on the state properties for which the BLM would provide no recommendations. Map 7 depicts the transportation system as described under alternative C.

The boundaries of the Sand CTTMP area are based on land status and management responsibility. For the most part, transportation systems extend beyond derived boundaries. Therefore, any changes to the transportation system would impact the area as a whole regardless of land ownership. To provide a fair assessment of the alternatives and to better understand the cumulative impacts, the analysis area extends approximately ½ mile beyond the boundaries of the analysis area and as shown on maps 4 through 7.

THE DEVELOPMENT ALTERNATIVE (A)

Alternative A would have the largest impact to the natural environment. This alternative maintains the most miles of linear disturbance and does not close any existing travel routes. This is the only alternative that provides additional motorized access points. The number of additional access points would depend on the number of requests. If all requests were granted, additional access points could exceed 15 new entry locations and would include an estimated 5 miles of new linear disturbance. These new routes would be connected to the closest existing road, follow fence lines and topographic features, and would be interconnected to other access locations. In some cases, these new primitive roads would not be the shortest distance between two points. Sensitive locations, such as areas containing unstable sands or important habitats, would be avoided whenever possible. These routes would be designed in such a manner as to create the least possible impacts to the natural environment. This alternative would increase the number of people with motorized access into the analysis area, but the area would remain inaccessible to the public.

In addition to access points, new primitive roads may be authorized for development and maintenance of other allowable resource uses. This is common to all alternatives and provides for development of temporary or long-term motorized routes for maintenance of rangeland improvement projects (new water wells, fence line alterations) and energy-related activities. These routes would most often be temporary and would be reclaimed as soon as they are no longer needed. Appendix C includes the mitigation measures that would be included as part of the transportation process.

Soil and Vegetation Resources

The majority of private lands surrounding the Sand Hills TMA are undeveloped. Motorized recreational use by those persons with access is limited. Travel on the existing roads and trails are primarily for livestock management and maintenance of rangeland improvement projects, with the exception of the routes located in and around the existing oil field. The majority of the primitive roads inventoried had some vegetative cover and showed only light to moderate use. Primitive roads that were considered to have light use had no apparent signs of motorized travel, while moderate use was identified on commonly used roads that were not main throughways. Even the more heavily used routes appeared to be in good condition. Only a few of the existing routes showed marked erosion or paralleling roads. The relatively stable condition of the existing transportation network is most likely a result of the seasons, levels, and types of motorized use. The privately controlled access restricts the number of users. Moreover, the existing routes are primarily used to manage livestock. Early spring and winter use is not common. Limiting motorized use during the spring

allows the native plant communities to establish within roadways that receive light to moderate use. This vegetative cover generally remains throughout the summer season. There is an increase in motorized use during the hunting season (September through November), when many of the private land owners use the area for private and commercial hunts. These seasonal traffic patterns mitigate vegetation loss and reduce the potential for erosion.

As people construct homes on private lands in the general area, the number of requests for motorized access would increase. This would result in an increased number of users and significantly broaden the scope of motorized use. Recreational use of the area would include non-motorized/muscled-powered (mountain biking, horseback riding) and motorized (ATV, motorcycles) trail riding. These types of recreational use are popular throughout the spring and summer. Motorized use in the fall would increase substantially because of increased competition among hunters. Motorized winter use is also likely but reduced when compared to the rest of the year. Snowmobile use would be permitted but is limited by the available snow cover. Substantial changes to the existing use patterns as described above would redistribute traffic among all the existing routes. Primitive roads that are rarely used would become a more structured part of the transportation network. Lesser used primitive routes (ways), which by definition are protected by a vegetative cover, would be used into a more permanent existence. Year-long use would prevent vegetation from establishing on light to moderately used roads. Increased erosion would be likely and parallel roads would be established as certain areas become difficult to transverse. These increases in surface disturbance and vegetative losses would result in a significant impact to the existing environment.

Cheatgrass and other invasive non-native plant species have flourished in several areas within the Sand Hills. This is especially apparent in the southwest corner of the planning area where the majority of the new access points would be created and the potential for energy development would be the greatest. Impacts under this alternative include the increased distribution of invasive non-native species. Seeds would be carried throughout planning area by OHVs. These plants adapt to surface disturbance, often out-compete native plant species, generally have less nutritional value, and are difficult to eradicate.

Wildlife Resources

The Sand Hills CCTMPA represents the largest block of federally administered surface within the natural boundaries of the two existing big game herd units. Decisions 7047, 7048, and 7049 in the 2007 Casper RMP limit future development of this area. Existing leases would be developed with site-specific mitigation measures in order to control the potential for negative environmental impacts. Sawyer et al. (2005) found that mule deer avoided otherwise suitable habitat within 2.7km of natural gas field development. This study further documented shifts of deer distribution to less preferred habitats. It is possible that development of existing oil and gas leases could also result in similar effects. Development of the magnitude and density documented during this study is not likely; however, similar results may occur from recreationists if 25 new access points were developed. Naugle et al. (2006) found like results with sage-grouse in the Powder River Basin. This study found that sage-grouse avoid developed areas, moving to adjacent undeveloped areas. It has also been documented that “boom town” areas experience more wildlife violations per capita than agrarian-based population centers (Berger 1988). If increased access were permitted, it is likely that wildlife law violations would increase substantially.

Rights-of-way, including access roads to federal leases, would be developed to the lowest possible safe standards in order to maintain existing vegetation communities. Disturbed areas would be reclaimed as quickly as possible and would be recontoured to follow the natural lines, helping to preserve the existing environment. Moreover, the area is administratively unavailable for new oil and gas leases. Other types of development have also been limited or otherwise excluded from the planning area. These decisions are listed on page 2 under the Land Use Conformance and in appendix A. Even with these protective measures in place negative impacts to wildlife habitats would result from this alternative. Given the magnitude of surface-disturbing activities that have already occurred on private land in the vicinity, alternative A would increase the likelihood of habitat fragmentation.

This alternative would be contrary to the goals and objectives outlined for this area. Habitat fragmentation would result from a greater number of miles dedicated to the transportation system, the existence of well-established roads, higher erosion rates, and increased dispersion of invasive non-native plant species when compared to the other alternatives. Additionally, the analysis area has suitable habitat for the endangered blowout penstemon. Adoption of this alternative, the potential creation of 15 new access points, and changes in OHV use patterns could result in a “may affect” determination for this species.

Cultural/Paleontological Resources

Affects to cultural and paleontological resources under current management are moderate, and stem from open use of an extensive network of major and minor trails that have the potential to disrupt soil-stabilizing vegetation. In turn, the loss of vegetation promotes wind erosion thus disturbing shallowly buried cultural resources. Impacts to the Bozeman Trail will remain the same unless previously unused traces are added to the informal road network. As deep sand dunes cover paleontological resources over most of the TMA, only the most extreme disturbance would extend deep enough to dislocate them.

Socioeconomics

A direct economic impact would result from this alternative. The impact would be localized, affecting only those private land owners that provide big game outfitting and guide services. These companies are successful because they have the unique opportunity to provide access to public lands that would otherwise be inaccessible. This area is desirable for hunters because competition between hunters is low compared to other public lands, and the area is well known for producing trophy game animals. Alternative A would provide additional motorized access to the Sands Hills, thus increasing competition among hunters and reducing the need for guide services. However, since the Sand Hills management area would remain inaccessible to the public, only a limited number of individuals would gain legal motorized access. Outfitting and guide services would still be the most desirable way to hunt this area

Alternative A would not have an impact on the boundary of the TMA and would therefore not have an impact on any activities that would be authorized on public lands located in the extended boundary proposed in alternatives B and C. The mitigation measures in appendix C would be applied to all surface-disturbing activities within the Sand Hills management area. Increased

production costs resulting from the increased mitigation measures would be minor and would not be likely to affect energy development. No affect to county or state level economic systems are expected to result from this alternative.

The recent changes in land patterns have increased user conflicts. Many of the long-term land owners are genuinely concerned for the environment and the resulting impacts to their way of life. Historical land owners would feel a sense of loss. Many of these families have lived here for generations and see this landscape as an essential piece of their life style. They have expressed concern over the impacts of increased use of the Sand Hills. However, new land owners purchased properties for many of the same reasons as these original owners. Rural living, open space and access to public lands draw people to the area. Many of the newer landowners have expressed the desire to have a motorized access point from their individual parcel. Alternative A would entail the greatest degree of change to the existing social structure. This alternative would appease the new land owners but would serve to fuel the conflicts among the groups and would require the longest adjustment period. It is unlikely that agreements with landowners for non-motorized access points would be successful with the growing conflicts among user groups.

Recreation

The roaded natural recreation setting of the Sand Hills would shift as a result of changes in the transportation network, OHV use patterns, and increased development on private lands. As the rural developments on nearby private lands grow, the need for electricity, phone lines, and a well-maintained road network would follow, removing any sense of remoteness. Inside the management area, the natural landscape would still dominate the view; however, the well-established travel routes would detract from the view, and the need for management presence would increase. The current low profile signs would be replaced with larger informational kiosks. It is also likely that rangeland improvement projects and pasture fences would be signed by ranch managers on private parcels and on public lands depending on BLM approval.

The on-site presence of other people would be more obvious, and the majority of motorized use would not be restricted to the main corridor. Year-round use would be common with a dramatic spike seen during the hunting season. Deer hunting would remain the most popular recreational activity, and professional guides would remain the primary method for out-of-area hunters. However, the quality of the experience would be impacted. Spring and summer use would draw the attention of trail enthusiasts. Motorized OHV use would include ATVs, dirt bikes, and 4X4s. Horseback riding would be the favorite choice for the non-motorized user groups. Opportunities for solitude, self-reliance, and personal challenge would be nominal and interactions with other groups, commonplace. The recreation setting would be changed from roaded natural to roaded-modified.

Off-Highway Vehicles

The environmental impacts resulting from changes in OHV use has been described previously for this alternative. Alternative A also creates new opportunities. Expanding the number of entrance points allows more people to explore and to better appreciate the unique ecosystem sustained by the Sand Hills. This alternative increases recreational opportunities and expands access. Moreover, the

well established roads that would result from increased use could reduce the costs to leaseholders as they seek to develop energy-related resources.

Visual Resources

Changes to the overall transportation network would not affect visual resources to a level that would exceed the objectives set for the area. New visual intrusions would be from an increased contrast with the natural lines. The roads would draw the attention of the viewer and detract from the natural setting but would remain within the objectives set for VRM class IV, which allows visual intrusions to dominate the view.

The increased motorized OHV use on the primitive roads under this alternative would result in negative impacts to wildlife habitats, sensitive soils, cultural resources, and visual resources, as well as social and economic interests. Once impacted, these resources would be difficult to restore.

Under this alternative, the boundary of the planning area conforms to the current RMP, but it is not marked on the ground by indicators such as roads, streams, or fence lines. Moreover, it does not include BLM-administered surface divided by Wyoming state lands within the analysis area. It is likely that new primitive roads would continue to grow within these areas. Scoping comments suggest increasing the boundary as far west as County Road 705, would help to control access points and increase the probability of management success. This alternative would have the greatest need for law enforcement personnel.

THE PREFERRED ALTERNATIVE (B)

Alternative B would reduce negative impacts to the natural environment. This alternative would reduce the overall miles of linear disturbance and would provide motorized access to public lands within the planning area for current grazing lessees and permitted outfitters. New motorized access points would not be authorized, and the total number of OHV users would remain near existing levels.

General motorized travel would be from main access roads and would be restricted to designated roads. Motorized use on lesser used routes would be more restrictive. Specific routes used primarily to maintain rangeland improvement projects would be designated for authorized use only, helping to preserve and, in some cases, increase vegetative cover. The closure of unnecessary roads would increase vegetative cover; slow erosion rates, and reduce habitat fragmentation within a larger area.

As described under the development alternative (A), new travel routes would be authorized. The majority of the new routes would be short term and would be reclaimed as soon as reasonable to do so. Due to restrictions on surface-disturbing activities within the boundary of the Sand Hills management area, it is likely the majority of these new routes would be located within the extended portion of the Sand Hills TMA.

Soil and Vegetation Resources

This alternative would reduce the impacts to the natural environment when compared to alternative A. It maintains the integrity of the transportation network while closing many of the unnecessary routes. This alternative does not provide additional motorized access points. New linear disturbances would be limited to the development of existing leases and would be temporary. Non-motorized access agreements would be sought by the BLM.

OHV use would be limited to primitive roads designated open to motorized use. Limiting the number of primitive roads would funnel OHV use onto the main throughways. These roads would become more developed over time. The increased vehicle traffic on these routes would result in soil compaction and would prevent vegetation from establishing within roadways. Vegetation cover would be non-existent and some increase in erosion rates would be expected. Maintenance would be required on some stretches of these roads to prevent blow-outs and parallel routes. Impacts that would result from increases in non-motorized recreational use would be minimal.

Changing designated routes from limited to authorized use only would result in slight improvements over the existing conditions. Motorized use would be reduced on the primitive roads under this designation. It would be sporadic and seasonal as the routes would be used only when necessary to maintain fences and other rangeland improvement projects. Travel on many of these routes would not be required on an annual basis, and some minor travel routes may receive several years of rest. Seasonal use and rest periods would be conducive to healthy plant communities. The vegetative cover would mitigate the potential for erosion. Closed routes would further benefit soils, vegetation, and wildlife habitat.

Cheatgrass and other invasive non-native plant species have flourished in several areas within the Sand Hills. This is especially apparent in the southwest corner of the planning area where the majority of users would enter the Sand Hills TMA. Potential for distribution of these species would be greatest within 300 feet of primitive roads where OHV users are allowed to retrieve game. Other areas may also be affected to a lesser extent. These plants are adapted to surface disturbance, often out-compete native plant species, generally have less nutritional value, and are difficult to eradicate. This alternative would decrease distribution of these invasive non-native species when compared to alternative A.

Wildlife Resources

The Sand Hills CTTMPA represents the largest block of federally administered surface within the natural boundaries of the two existing big game herd units. Decisions 7047, 7048, and 7049, in the 2007, Casper RMP limit future development of this area. Existing leases would be developed with site-specific mitigation measures in order to control the potential for negative environmental impacts. Rights-of-way, including access roads to federal leases, would be developed to the lowest possible safe standards in order to maintain existing vegetation communities; disturbed areas would be reclaimed as quickly as possible and would be recontoured to follow the natural lines, helping to preserve the existing environment. Moreover, the area is administratively unavailable for new oil and gas leases. Other types of development have also been limited or otherwise excluded from the planning area (appendix A). With these protective measures in place, the Sand Hills management

area would have a reduced potential for habitat fragmentation when compared to private lands in the same vicinity.

Alternative B would provide additional protective measures which would decrease the risk of habitat fragmentation. No new roads would be constructed, and approximately 6 miles of existing travel routes would be closed. This alternative would reduce impacts to wildlife habitats while maintaining access along existing routes. Travel along these routes would be restricted as designated. The impacts to wildlife would be similar to those discussed in alternative A, although comparatively less under this alternative.

Alternative B allows travel only on existing routes, and no new routes would be constructed. Therefore, this alternative would have a “no effect” on the endangered blowout penstemon.

Cultural/Paleontological Resources

Under this alternative, threats to cultural and paleontological resources would be less than those under alternative A, as no new access points would be allowed and travel would be restricted to the main roads. Apart from roads related to authorized activities, such as oil and gas production, few new roads would be expected thus reducing the potential for primary disturbance (e.g. from construction). Traces of the Bozeman Trail are closed to vehicular travel. Secondary disturbance in the form of wind erosion would be reduced. As deep sands cover paleontological resources over most of the TMA, only the most extreme disturbance would extend down far enough to dislocate them.

Socioeconomics

No direct economic impact would result from this alternative. Private land owners authorized to provide big game outfitting and guide services would see very little change from this alternative. The number of access points is the primary factor affecting the social economic resources of the area. Under this alternative, additional access points would be limited to a non-motorized trail head. This should not increase competition among hunters and guide services. Outfitting and guide services would still be the most desirable way to hunt this area. The most successful companies would also provide access to the large parcels of private lands in the area.

This preferred alternative includes the RMP amendment that increases the size of the TMA. The amendment is limited to transportation management and does not affect the development of non-renewable resources such as oil, gas, or other mineral materials. The mitigation measures described in appendix C would be implemented at the project level and would be applied regardless of the alternative chosen. Increased production costs resulting from the increased mitigation measures would be minor and would not be expected to affect energy development. No affect to county or state level economic systems are expected to result from this alternative. Indirect economic impacts would be localized and would result from damage to range lands. This impact is harder to estimate but tends to be more long-term.

User conflicts have increased in this area because of recent changes in land ownership patterns and are described under the “Socioeconomic” section of alternative A. Alternative B would reduce the

environmental impacts and provide some additional access, helping to mitigate tension between hunters and outfitters. However, new private land owners would not receive the motorized access requested during the scoping process. A period of adjustment would be required regardless of the alternative chosen. Agreements with landowners for non-motorized access points are more likely to be successful under this alternative.

Recreation

The current recreation opportunity spectrum (ROS) category for the entire the Sand Hills TMA has been identified as roaded-natural. As rural developments on nearby private lands grow, the need for electricity, phone lines, and a well-maintained road network would follow, removing any sense of remoteness. However, inside the TMA the natural landscape would still dominate the view. A natural appearing setting would be seen from the main corridor. Other designated routes would remain relatively the same in appearance and would detract from the view. Management presence would be low, with some increase in the number of signs.

The on-site presence of other people would remain at current levels, and the majority of motorized use would be derived from the main corridor. Deer hunting would remain the most popular recreational activity, and professional guides would remain the primary method for out-of-area hunters. A spike in motorized use would occur during the hunting season. However, if walk-in access was obtained, spring and summer use would draw the attention of trail enthusiasts. Horseback riding would be the favorite choice for the non-motorized user groups. This type of recreational use is popular throughout spring and summer. Opportunities for solitude, self-reliance, and personal challenge would be moderate and interactions with other groups, commonplace. The recreation setting on public lands would remain unchanged even as the scope of the opportunities is broadened. Some nearby privately owned parcels would shift from a roaded-natural to a roaded-modified recreational setting.

Off-Highway Vehicles

The majority of changes that would result from this alternative have been previously described. The number of OHV users, types of OHV use, and distinct variations in travel patterns would have a nominal impact to the natural resources.

Successfully negotiated right-of-way agreements for non-motorized access would not result in changes to the overall traffic patterns within the Sand Hills TMA. However, improving access would broaden the scope of recreational use when compared to the existing conditions.

Visual Resources

Changes to the overall transportation network would not affect visual resources to a level that would exceed the objectives set for the area. New visual intrusions would be from increased contrast with vegetation color. Well-developed roads would draw the attention of the viewer in many circumstances but would not detract from the natural setting. No new visual intrusions would be created. Closed routes and those that are limited to authorized use only would tend to blend with the natural environment, reducing their contrast to the existing landscape.

The boundary of the TMA as described for alternative B does not conform to the current RMP. This would be addressed with a plan amendment. The new boundary would be easier to enforce if it is clearly marked by fence lines. Moreover, BLM-administered surface interspersed with Wyoming state lands are included within the analysis area. This alternative is likely to slow the creation of new primitive roads within the area. It is also more in line with scoping comments that suggest increasing the boundary in order to control access points and increase the probability for management success.

THE PRESERVATION ALTERNATIVE (C)

This alternative would result in positive impacts to the natural environment. However, it would not provide equal access to public lands for each of the current grazing lessees and permitted outfitters. No new motorized access points would be authorized, and the total number of OHV users would remain at existing levels. The likelihood of successfully obtaining agreements for non-motorized public access would be difficult to predict.

New routes would be authorized for the development and maintenance of other authorized uses. The impacts of these routes would be similar to those described for the preferred alternative (B).

Soil and Vegetation Resources

OHV use would be limited to primitive roads designated open to motorized use. Limiting the number of primitive roads under this designation would funnel OHV use onto the main roads. These roads would become more developed over time. The increased use along these routes would impede vegetation from establishing within roadways. Vegetation cover would be non-existent on these main routes, and erosion rates would be expected to increase. Maintenance would be required on some stretches of these roads to prevent blow-outs and parallel routes. Impacts that would result from increases in non-motorized recreational use would be minimal.

Changing routes designated as limited to authorized use only would result in slight improvements over the existing conditions as motorized use would be reduced under this designation. Use would be sporadic and seasonal as the routes would only be used when necessary to maintain fences and other rangeland improvement projects. Travel on many of these routes would not be used on an annual basis, and some minor routes may receive several years of rest. Seasonal use and rest periods would be conducive to the healthy plant communities. The vegetative cover would mitigate the potential for erosion. The benefit to soils, vegetation, and wildlife habitat by closing routes is greatest under this alternative.

Cheatgrass and other invasive non-native plant species have flourished in several areas within the Sand Hills. This is especially apparent in the southwest corner of the planning area where the majority of new users would enter the Sand Hills TMA. Potential for distribution of these species would be greatest within 300 feet of primitive roads that would be open to motorized use. Alternative C reduces the potential for dispersal of this species when compared to all other alternatives as it reduces the number of OHV users within the TMA. This would be most apparent in the northeastern portions of the planning area, as there are no connective routes.

Wildlife Resources

The Sand Hills CTTMPA represents the largest block of federally administered surface within the natural boundaries of the two existing big game herd units. Decisions 7047, 7048, and 7049, in the 2007, Casper RMP limit future development of this area. Existing leases would be developed with site-specific mitigation measures in order to control the potential for negative environmental impacts. Rights-of-way, including access roads to federal leases, would be developed to the lowest possible safe standards in order to maintain existing vegetation communities; disturbed areas would be reclaimed as quickly as possible and would be recontoured to follow the natural lines, helping to preserve the existing environment. Moreover, the area is administratively unavailable for new oil and gas leases. Other types of development have also been limited or otherwise excluded from the planning area (appendix A). With these protective measures in place, the Sand Hills management area would have a reduced potential for habitat fragmentation when compared to private lands in the same vicinity.

General motorized travel would be limited to specific primitive roads and would be restricted to those with legal access to designated routes within the area. This alternative would greatly restrict motorized travel in the area. Upgrades of designated roads would reduce soil erosion. Limiting use on certain routes to authorized personnel only would help to preserve, and in some cases increase, vegetative cover along fence lines and access routes used primarily for maintenance purposes. An increased number of road closures would be required and would result in increased vegetative cover and reduction of habitat fragmentation. Alternative C would provide greatest protective measures, would decrease the risks of habitat fragmentation, and would do the most to benefit wildlife habitats.

This alternative proposes upgrading major access routes. A portion of the upgrades would occur within potential habitat for the endangered blowout penstemon. Therefore, this alternative “may affect” the blowout penstemon, and consultation with the FWS would be required.

Cultural/Paleontological Resources

Impacts to cultural and paleontological resources would be lower than those described for alternatives A and B, as the number and lengths of travel routes would be more limited in this alternative. Fewer access points would result in less surface disturbance thus lowering the potential to disrupt known and unknown cultural resources. Restricting travel on primitive roads would help ensure the vegetative cover remains intact, which is the most effective means to reduce wind erosion. Physical evidence of the Bozeman Trail would be closed to vehicular traffic.

Paleontological resources are relatively immune to surface disturbance since the bulk of the TMA is covered in aeolian deposition, and the fossil materials are protected. Where natural erosion or project disturbance extends to bedrock, fossils may be exposed to weathering or other destructive forces. Under this alternative, the probability of this occurring is reduced.

Socioeconomics

A direct economic impact would result from this alternative. The impact would be localized, affecting only those private land owners that provide big game outfitting and guide services. The

number of access points is the primary factor affecting the socioeconomic resources of the area. Under alternative C, the additional access points would be from walk-in access only. General motorized travel would be limited to specific roads, none of which cross the entire area. Anyone who currently has motorized access would have access to the TMA, but it would not be equal for all users. Competition and conflicts among existing permit holders may increase slightly as a result. Increased production costs resulting from the increased mitigation measures would be moderate and would not significantly affect energy development. This alternative is not likely to affect county or state level economic systems.

User conflicts have been described under the “Socioeconomic” section of alternative A. Alternative C would result in increased tension among the two groups as new private land owners would feel excluded from full access to the area. A period of adjustment would be required regardless of the alternative chosen. Moreover, new land owners would have other options to negotiate access into the planning area.

Recreation

The current ROS category for the entire the Sand Hills TMA is roaded-natural. The impacts to recreational resources in the area are similar to those described under alternative B. As the rural developments on nearby private lands grow, the need for electricity, phone lines, and a well maintained road network would follow, removing any sense of remoteness. However, inside the TMA the natural landscape would still dominate the view. A natural appearing setting would be seen from the main corridor. Other designated routes would remain relatively the same in appearance and would detract from the view. Closed roads would improve the natural landscape. Management presence would be low, with some increase in the number of signs.

The presence of other people would remain at current levels, and the majority of motorized use would be from the main corridor. Deer hunting would remain the most popular recreational activity, and professional guides would remain the primary method for out of area hunters. Spikes in motorized use would occur during the hunting season. However, if walk-in access was obtained spring and summer use would draw the attention of trail enthusiasts. Horseback riding would be the favorite choice for the non-motorized user groups. These types of recreational use are popular throughout spring and summer. Opportunities for solitude, self-reliance, and personal challenge would be moderate and interactions with other groups likely. The recreation setting on public lands would remain unchanged even as the scope of the opportunities is broadened. Some nearby privately owned parcels would shift from roaded-natural to a roaded-modified recreational setting.

Off-Highway Vehicles

The environmental impacts resulting from changes in OHV use has been described in the previous sections for this alternative. Alternative C strives to mitigate impacts to the natural environment. Reducing the number of primitive roads along with well-developed mitigation measures does not fully protect this unique ecosystem, but it does temper the impacts that would otherwise occur. Moreover, this alternative increases recreational opportunities and expands non-motorized access. The transportation network designated by this alternative provides minimal access for management

of resources in the area. All valid and existing rights are maintained with a moderate increase in production costs to lease holders as they seek to develop energy-related resources.

Visual Resources

Changes to the overall transportation network would benefit visual resources. Many of the existing visual intrusions would be mitigated. Closed routes and those that are limited to authorized use only would tend to blend with the natural environment, reducing their contrast to the existing landscape.

The boundary of the planning area as described for alternative C does not conform to the current RMP. However, it is clearly marked on the ground by fence lines. Moreover, it includes BLM-administered surface divided by Wyoming state lands within the analysis area. It is likely to reduce the creation of new primitive roads within the area. This alternative is more in line with scoping comments that suggest increasing the boundary in order to control access points thus increasing the probability of management success. The boundary would be addressed with a plan amendment.

CUMULATIVE IMPACTS

The development alternative (A) does not provide the minimal environmental protections required to meet BLM objectives for the Sand Hills planning area. While, the preservation alternative (C) meets resource objectives, it would not provide adequate access to current users and would be cost prohibitive. Therefore, these alternatives will not be analyzed further. This section of the document focuses on the preferred alternative which strives to balance resource objectives with users needs.

Soil Resources

The soils within the analysis area are highly susceptible to wind and water erosion and any disturbance to vegetative communities would increase the potential for blow-outs and loss of top soil. Cross-country motorized travel damages vegetative cover, while shifting sands can also result in loss of forage as plant communities are buried. Limiting motorized travel to designated routes would reduce the scope of the impacts related to OHV use within the analysis area.

Many of the primitive roads that would be limited to authorized use only currently have vegetative cover. Restricting use of these routes would reduce the potential for damage to plant communities and would allow for some natural revegetation. Road closures would have the greatest benefit to soils and plant communities.

The implementation of the preferred alternative would benefit natural resources on public lands within the analysis area. It would have a minimal benefit to lands administered by agencies and land owners other than the BLM. Some road closures on public lands would result in roads and trails on state and private lands being unviable; some natural revegetation would occur.

Vegetation Resources

Livestock grazing would continue within the Sand Hills and has the greatest potential to affect natural resources. No other single authorized land use has the potential to benefit or to negatively

impact natural resources to the same degree. Vegetation communities within the Sand Hills are highly susceptible to grazing practice. Nothing within the proposed alternatives would effect change in this practices.

Non-native invasive plant species have the potential to change the entire composition of plant communities. Annual plants such as cheatgrass are well adapted to the natural fire regime and tend to override native species. These non-native plants are commonly distributed throughout areas by OHVs. Limiting motorized travel reduces the spread of these species.

The reestablishment of native plant species is extremely difficult in this environment. However, in areas when continual disturbance by OHV use is removed, native and non-native annual species would eventually stabilize soils. Over time, perennials that are more productive would replace many of these species thus increasing the quality of wildlife habitat.

Water Resources

No long term or cumulative impacts to water resources are expected from the preferred alternative.

Wildlife Resources

The preferred alternative for the Sand Hills CTTMP would have very little impact on the existing wildlife habitats. Wildlife habitats are far more likely to be impacted by activities such as oil and gas, housing, and wind energy development. Many of these activities would occur on private lands and are outside the scope of this project. In the long term, the public surface in the Sand Hills would provide open space and important vegetation communities that may be lost to housing construction and long term development projects such as wind farms on the surrounding private lands.

Cultural/Paleontological Resources

Due to limited access, there are a fixed number of OHV users within the Sand Hills planning area. Moreover, the preferred alternative (alternative B) would not result in new travel routes or disturbances without additional NEPA documentation. Therefore, additional detrimental impacts to cultural or paleontological resources would not result from the implementation of this plan. Existing erosion would continue to degrade cultural resources, although it is likely that limiting the spread of new roads and trails would help to preserve undiscovered artifacts.

Socioeconomics

The preferred alternative maintains a transportation system which allows for the management of renewable and non-renewable resources within the analysis area. All existing rights are protected in order to allow lease holders to develop their existing holdings. Mitigation measures serve to protect the quality of ecotourism opportunities and would not result in long-term negative impacts to the social economics of the analysis area.

Recreation

The preferred alternative expands opportunities for non-motorized recreational activities. Additional access is common to all alternatives and depends on agreements with private landowners being met. It is unlikely that the preferred alternative would have any significant impact on public recreational activities in the area.

The only increases in motorized use in the long term would result from private land owner agreements in which the land owners association obtains access to one of the designated egress points along the boundary. If this type of agreement was reached, motorized and non-motorized use would continue to be limited to designated routes but the scope of use and seasonal transportation patterns would change, having limited impacts to the natural resources within the Sand Hills TMA. The recreational setting is unlikely to have a significant shift because of the TMA.

Visual Resources

The preferred alternative would have a slight beneficial impact to visual resources from road closures. The cumulative benefits are derived from the preservation of open space. As private lands are developed, the majority of public lands within the Sand Hills would remain undisturbed and provide a natural appearing landscape.

SCOPING AND CONSULTATION

In order to encourage public involvement and to ensure that all interested parties were given an opportunity to participate in this planning process, the BLM, Casper Field Office mailed 128 letters and sent 32 email notifications requesting scoping comments. A public scoping meeting was held at the Casper Field Office on April 12, 2007. A total of 15 letters, emails, and completed comment forms were received prior to the end of the public scoping period on April 29, 2007. Comments available for public viewing are on file at the Casper Field Office.

The following issues represent a summary of comments received and were addressed in the development of the alternatives

- Maintaining all existing roads and trails
- Maintaining specific road networks
- Prohibiting the development of new roads
- Restricting OHV use, including ATVs, to a specific road network
- Signing all closed and user-created roads
- Preserving wildlife habitats
- Preserving available forage for livestock
- Preserving open space
- Preserving social and economic resources
- Allowing additional access points for newly acquired private lands
- Preserving historic OHV use in the area
- Considering off-road use for disabled hunters
- Damage caused by off-road vehicle use and the creation of new trails
- Reasons for prioritizing the Sand Hills TMA over oil and gas development areas where road construction is having a greater impact on wildlife habitat areas and visual resources.

The following comments are outside the scope of this document and were not considered further for the reasons provided:

- Closing public access to public lands.

The BLM does not control public access into the Sand Hills. This area is surrounded by private lands. There is no legal or reasonable public access; therefore, no public lands would be closed by implementation of any of the alternatives.

- Lack of law enforcement.

While the BLM agrees that additional law enforcement would be beneficial, this is beyond the scope of this document.

- The need to sign all public and private roads and access points.

This is an unreasonable expectation in intermixed land patterns. The BLM signs public access points as is reasonable to do so.

- Increase penalties for noncompliance of OHV regulations.

Penalties are set in the Federal Code of Regulations and are outside the scope of this document.

- Removal of existing gates and not allowing new ones to be constructed.

The fence in which the gates are being constructed does not belong to the BLM, and therefore is beyond the authority of this document.

- Acquiring additional motorized public access to increase hunting opportunities.

The current land use plan for the Casper Field Office limits additional public access for the Sand Hills to non-motorized access.

- Catering to specific social and economic groups.

That community defines the user groups in any given area. All publics with legal and/or existing rights are considered during the NEPA process. No exceptions have been made in the development of this document.

- The need to permit OHV use on the Bozeman Trail.

The Casper Field Office RMP (2007) prohibits motorized use on historic trail ruts. Therefore, permitting this use would not be in conformance with the existing land use plan.

- Preserving the Bozeman Trail.

Historic trail ruts are closed to motorized use through-out the Casper Field Office. No further analysis is needed.

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Appendix A

Casper Field Office
Resource Management Plan, 2007

DECISIONS AFFECTING THE SAND HILLS TRANSPORTATION MANAGEMENT PLAN

GOALS AND OBJECTIVES FOR MANAGEMENT DECISIONS

CODE #	GOALS/OBJECTIVES
BR:1	Manage for the biological integrity of terrestrial and aquatic ecosystems to sustain vegetation, fish, wildlife, and special status species, while providing for multiple uses of BLM-administered lands.
BR:1.2	Maintain a diversity and distribution of plant species, habitats, seral stages, and types (e.g., age, structure, cover classes, density), including forests and woodlands, grasslands, mountain shrublands, sagebrush (all subspecies), riparian/wetland areas, and desert shrublands.
BR:1.5	Emphasize the use of mechanical, chemical, and biological methods, as well as fire and livestock grazing, to achieve DFC.
BR:1.7	Continue coordination of INPS detection and control activities across jurisdictional and political boundaries and include provisions for INPS management for all BLM-funded or authorized actions.
BR:1.8	Maintain adequate baseline information regarding the extent and control of INPS to make informed decisions, evaluate effectiveness of management actions, and assess progress toward goals to improve INPS management.
BR:1.14	Maintain or improve the continuity and productivity of wildlife habitats to support the WGFD wildlife population objectives.
BR:1.15	Maintain and improve seasonal habitats (e.g., concentration areas, migration corridors, etc.) of fish, wildlife, and special status species on a landscape scale.
BR:2	Manage all BLM actions or authorized activities to sustain plant, fish, and wildlife populations and their habitats and to avoid contributing to the listing of or jeopardizing the continued existence or recovery of special status species and their habitats.
BR:2.1	Minimize adverse impacts and mitigate unavoidable impacts to plant, fish, wildlife, and special status species and their habitats from BLM actions and authorized activities.
BR:3	Manage environmental risks and associated impacts in a manner compatible with sustaining plant, fish, wildlife, and special status species populations. Environmental risks include, but are not limited to, parasites, diseases, insect outbreaks, catastrophic fires, contamination, pesticides, rodenticides, herbicides, and other hazards.
BR:3.1	Minimize adverse impacts of environmental risks on plant, fish, wildlife, and special status species.

CODE #	GOALS/OBJECTIVES
BR:3.2	Manage pesticide, rodenticide, and herbicide application in a manner compatible with fish, wildlife, and special status species' health.
BR:3.3	Coordinate with other agencies to prevent or control diseases that threaten the health of humans, wildlife, livestock, and vegetation.
BR:4	Manage terrestrial and aquatic ecosystems to provide sustainable recreational and educational benefits to the public.
BR:4.1	Improve public awareness and support, including partnerships, for the conservation, restoration, and management of vegetation, fish, wildlife, and special status species programs.
FM:1	Manage wildland fire and fuels for the protection of public health, safety, property, and resource values.
FM:1.2	Maintain a desired mix of seral stages within the following vegetation communities: ... • Grasslands, • Sagebrush (all subspecies)
HR:1	Preserve and protect cultural and paleontological resources and ensure that they are available for appropriate use by present and future generations.
HR:1.1	Develop project or site-specific treatment plans or other protective measures for special areas or cultural resources in areas of high risk for development or at high risk for adverse impacts.
HR:5	Manage public lands in a manner that will maintain the overall scenic (visual) quality of these lands.
HR:5.2	Class III: Partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
HR:5.3	Class IV: Provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the focus of the viewer's attention; however, every attempt should be made to minimize the impacts of these activities through careful location, minimizing disturbance, and repeating elements.
LR:1	Manage the acquisition, disposal, withdrawal, and use of public lands to meet the needs of internal and external customers and to preserve important resource values.

CODE #	GOALS/OBJECTIVES
LR:1-1	Develop and maintain a land-ownership pattern that will provide better access for managing and protecting public lands.
LR:3	Manage public lands to meet transportation and ROW needs.
LR:3.2	Make public lands available to meet the needs for smaller ROW (e.g., roads or pipelines for oil fields).
LR:3.3	Maintain and acquire public access to meet resource management needs.
LR:3.4	Maintain a transportation management system to meet resource management needs.
LR:4	Manage the use of OHVs in partnership with other land-managing agencies, local governments, communities, and interest groups through a balanced approach, so as to protect public lands and resources while providing opportunities for the safe use and enjoyment of OHVs.
LR:4.1	Conduct an assessment of current and future OHV demand and plan for and balance the demand for OHV use with other multiple uses (or users) when developing the planning area transportation plan.
LR:4.2	Locate and manage OHV use to conserve soil functionality, vegetative cover, and watershed health. Manage OHV use to minimize the impact to the land while maintaining OHV access.
LR:4.3	Engineer, locate, and relocate roads and trails to accommodate OHV activities while minimizing resource impacts.
LR:4.4	Integrate concepts of habitat connectivity into OHV planning to minimize habitat fragmentation.
LR:4.5	Manage OHV use by type, season, intensity, distribution, and (or) duration to minimize the impact on plant and wildlife habitats. If seasonal closures become appropriate to minimize adverse OHV impact(s) on public lands resources, strive to preserve public access by designating alternative routes.
LR:4.6	Clearly identify route and area designations.
LR:4.7	Maintain an inventory of existing road and trail systems.
LR:5	Protect public land resources, promote safety for all public land users, and minimize conflicts among OHV users and various other uses of public lands.

CODE #	GOALS/OBJECTIVES
LR:5.2	Cooperatively develop and improve public outreach programs to promote trail etiquette, environmental ethics, and a responsible-use stewardship ethic (e.g., tread lightly, leave no trace, etc.).
LR:6	Improve and (or) maintain rangeland health while providing opportunities for livestock grazing to support and sustain local communities.
LR:6.1	Whenever possible, maintain the opportunity to avoid net loss of AUMs within the planning area, and identify and implement opportunities for vegetation improvements to increase the number of AUMs available for livestock grazing to support and sustain local communities.
LR:6.3	Maintain existing desirable rangeland conditions or improve rangeland health utilizing best grazing management practices.
LR:7	Manage recreation resources on public lands to provide a diverse array of benefits to the public, including economic, environmental, personal, and social benefits.
LR:7.1	Manage recreation resources on public lands to provide a diverse array of benefits to the public, including economic, environmental, personal, and social benefits.
LR:7.2	Support and collaborate with local governments and service providers in adjoining communities to provide recreational opportunities for visitors and local residents to achieve health and fitness goals and quality-of-life benefits from public lands.
LR:9	Issue Special Recreation Permits in an equitable manner for specific recreational uses of public lands and related waters as a means to minimize user conflicts, control visitor use, protect recreation resources, and provide for private and commercial recreation use.
LR9.1	Complete processing requirements for requested Special Recreation permits.
MR:1	Manage salable mineral permitting and development on BLM-administered lands within the planning area while minimizing impacts to other resource values.
MR:2	Manage conservation of leasable mineral resources without compromising the long-term health and diversity of public lands.
MR:2.1	Maintain oil and gas leasing, exploration, and development, while minimizing impacts to other resource values.
MR:2.3	Maintain opportunities to lease other solid leasable minerals, while minimizing impacts to other resource values.

CODE #	GOALS/OBJECTIVES
MR:2.4	Facilitate the evaluation of public lands for oil and gas potential.
MR:3	Support the domestic need for energy resources.
MR:3.1	Maintain opportunities to explore and develop federal oil and gas resources and other leasable minerals.
PR:1	Minimize the impact of management actions in the planning area on air quality by complying with all applicable air quality laws, rules, and regulations.
PR:2	Implement management actions within the scope of the BLM's land-management responsibilities to improve air quality as practicable.
PR:4	Maintain or improve soil health (e.g., chemical, physical, and biotic properties) and prevent or minimize soil erosion and compaction.
PR:4.1	Identify, develop, and interpret soil information to prevent or limit soil loss and to identify potential pollutant source areas.
PR:4.2	Participate in a Wyoming BLM effort in coordination with the State of Wyoming to establish guidelines in a handbook to evaluate BMPs for highly erosive soils in arid lands.
PR:4.3	Monitor and evaluate reclamation in disturbed areas and modify BMPs as needed to achieve successful reclamation.
PR:6	Provide for physical and legal availability of water to facilitate authorized uses on public lands and to protect and provide conservation of those waters.
PR:6.1	Develop new water-supply sources (e.g., wells, springs, reservoirs, stream and lake access) for BLM authorized actions (e.g., grazing, wildlife, recreation, etc.) with minimum impact to the water source as a priority.
SD:10	Manage the Sand Hills MA to maintain the integrity of soils and vegetation and to protect highly erosive soils and watershed values.
SD:14	Manage historic trails for long-term heritage and educational values and to enhance the public experience.
SD:14.1	Sites associated with historic trails will be interpreted and developed as needed.
SD:16	Reduce imminent threats from natural or human-caused deterioration or potential conflicts with other resource uses.

CODE #	GOALS/OBJECTIVES
SR:1	Provide opportunities to develop national energy resources on BLM-administered lands within the planning area.
SR:2	Provide opportunities to develop resources other than those that are energy-related (e.g., grazing, recreation, wildlife, fisheries, tourism, and others) on BLM-administered lands within the planning area.
SR:3	Provide opportunities to sustain the cultural, social, and economic viability of local and regional communities by using decision-review processes that include considerations of various potential impacts of BLM decisions, including housing, employment, population, fiscal impacts, social services, cultural character, and municipal utilities.
SR:4	Protect public health and safety and environmental resources through complying with federal and state hazardous materials laws and regulations; maintaining the health of ecosystems through assessment, cleanup, and restoration of contaminated sites; and integrating environmental protection and compliance into all BLM activities.

RESOURCE MANAGEMENT PLAN DECISIONS

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
1013	PR:1 PR:2	Enhance existing criteria pollutant and AQRV monitoring on a project-specific or as-needed basis. Locations of AQRV monitors will be determined through a cooperative process. Suggest Wyoming DEQ AQD consider adding new criteria pollutant monitors.
1017	PR:4.1	On BLM-administered surface, conduct onsite soil investigations on highly controversial projects, or in areas of highly erosive soils, to evaluate the impacts of surface-disturbing activities. Onsite soil investigations may include mapping the soils to a series level, evaluating current erosion conditions, and prescribing mitigation and reclamation practices.
1018	PR:4.1	Conduct assessment of soil limitations analysis using automated soil survey or field investigations on any surface-disturbing activity causing more than 20 acres of disturbance per year. Surface-disturbing activities causing less than 20 acres of disturbance per year will be assessed as warranted.
1019	PR:4.3	Inspect disturbed and reclaimed areas for signs of accelerated erosion on projects disturbing more than 20 acres per year. Surface-disturbing activities causing less than 20 acres of disturbance per year will be assessed as warranted.

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
1020	PR:4.2	Minimize the disturbance to highly erosive soils (575,788 acres of BLM federal mineral estate of which 256,240 acres are BLM surface). Proposed surface-disturbing activities will be modified (located) to avoid areas of highly erosive soils to the greatest extent practicable.
1021	PR:4.2	The requirement to use temporary protective surface treatment on disturbed areas is applied on a case-by-case basis as project conditions warrant.
1022	PR:4.2	Surface disturbance or development on slopes greater than 25 percent is prohibited, unless individual site plans are submitted to and approved by the authorized officer meeting the following requirements. Engineered drawings for construction, site drainage design, and final rehabilitation contours with a written rationale describing how the proposed controls will prevent slope failure and erosion, while maintaining viable site topsoil for final reclamation. This plan should also include a timeline identifying the actions that will be applied during the construction, production and rehabilitation phases of the plan so appropriate monitoring protocols can be developed by the BLM to ensure that the plan is meeting the objectives described in its rationale.
1023	PR:4.2	Limit the use of prescribed fire on highly erosive soils to seasons and fire intensity that limit impacts.
1024	PR:4.3	Complete reclamation activities (final contouring, replacing topsoil, reseeding, and surface treatment) on all disturbed areas within three growing seasons.
1025	PR:4.3	Re-seed all disturbed areas with native species adapted to the site conditions and capable of providing protective soil cover. All seed must be certified weed-free. Nonnative species may be used on a case-by-case basis when resource objectives will not be met through the use of native species and the nonnative plants have no invasive properties. When practical, reseeding of disturbed areas should include the use of locally harvested seed from comparable areas in Wyoming and surrounding states.
1026	PR:4.3	Re-treat reclaimed areas that do not have at least 30 percent of predisturbance vegetative cover three growing seasons after final reclamation. Re-treating will vary by site and initial reclamation success, but may include invasive species control, reseeding the site with other native species or the same native species under more favorable environmental conditions. Re-treatment also may involve additions of fertilizers or soil amendments and protective cover, such as mulch, matting, or netting. Livestock grazing also may be limited until reclamation success has been established. Grazing controls will vary by site, but might include herding, fencing, deferred use, or

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		supplemental feeding. Re-treat reclaimed areas that do not have at least 50 percent of predisturbance vegetative cover five growing seasons after final reclamation.
1027	PR:4.2	Allow limited or no topsoil salvage when alternative soil-handling methods may be appropriate. Some examples include salvage of topsoil on the pipeline trench only, instead of full ROW salvage, or scalping temporary work areas leaving the soil in place, followed by soil ripping when the work is completed.
1028	PR:4.2	Limit total long-term surface disturbance from all BLM-authorized activities to no more than 80 acres per square mile. Applies to BLM surface only.
1029	PR:4.2	Evaluate existing road and trail use in the planning area. Close and reclaim all roads and trails on BLM-administered surface that are in areas designated as highly erosive soils and that are not being utilized to meet public demand.
1030	PR:4.1	The requirement to measure cumulative annual short- and long-term disturbance is applied on a case-by-case basis as project conditions warrant.
1034	PR:5.3 PR:6.1	On BLM-authorized drilling activities, require use of pitless drilling technology where there is potential for adverse impact to surface water, groundwater, or soils.
1036	PR:7.2	CSU within 500 feet of water wells, springs, or artesian and flowing wells.
1037	PR:6.2	Install flow-control devices on all new wells and spring developments on BLM-administered lands within the planning area.
1038	PR:7.3 PR:7.4	Where resource damage is occurring due to ungulate use and where management and project plans have been developed, drill new water supply wells, develop new seeps and springs, and construct new reservoirs to BLM and state standards to disperse livestock and wildlife use on all BLM-administered lands in consultation with WGFD personnel and affected grazing lessees. Exceptions will be granted on a case-by-case basis by the authorized officer.
1039	PR:5.1 PR:5.3 PR:6.1 PR:6.3	To protect water sources and associated investments, fence all wells (new and existing) and developed springs. Fencing of reservoirs will be considered on a case-by-case basis.
1041	PR:5.3 PR:6.1 PR:6.2	Use alternative energy sources (e.g., solar and [or] wind power) on new water resource developments on all BLM-administered lands where existing traditional electric power is not present and where

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
	PR:7.1 PR:7.2	economically and physically feasible. Convert existing water-well developments currently using generators to alternative energy sources (e.g., solar and [or] wind power) with propane generator power as a backup only, as needed, on all BLM-administered lands where economically and physically feasible and where the current operator will maintain equipment. If gasoline- or diesel-powered generators are used in place of preferred propane powered generators, periodic inspections will be made to detect fuel spills and the operator will be responsible for cleanup costs.
1042	PR:5.1 PR:6.1 PR:6.4 PR:7.1	Convert suitable abandoned oil and gas development water-supply wells and suitable abandoned oil and gas wells where there is a need for additional water supplies to livestock and wildlife water supply use on BLM administered lands.
1043	PR:5.1 PR:5.2 PR:5.3 PR:5.4 PR:6.1	Evaluate the impacts and mitigate the adverse impacts of all proposed and existing oil- and gas-produced water discharge on stream channel and stream bank stability on all BLM-administered lands.
2002	MR:2.1 MR:3.1	Parcels nominated for potential oil and gas leasing will be reviewed. Any stipulations attached to these parcels will be the least restrictive needed to protect other resource values.
2003	MR:2.1 MR:3.1	Stipulations to protect important resource values will be based on interdisciplinary review in conformance with land use planning decisions.
2004	MR:2.3 MR:3.1	The Casper Field Office is open to mineral leasing, including solid leasables and geothermal, unless specifically identified as administratively unavailable for the life of the plan for mineral leasing. These open areas will be managed on a case-by-case basis.
2006	MR:2.3 MR:3.1	Those areas open to oil and gas leasing also are open to leasing of other leasable minerals.
2007	MR:1	Where possible, the routing of access roads will be made in conjunction with the surface owner.
2008	MR:1	Mineral material sales are discretionary actions; therefore, disposal will be considered on a case-by-case basis. Stipulations to protect important resource values will be based on interdisciplinary review of individual proposals.
2011	MR:4	BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open for prospecting for and development of locatable minerals. Under this

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		plan, 458,661 acres are withdrawn from locatable mineral entry. Of these 458,661 acres, 409,707 acres are BLM withdrawals and 48,954 acres are other federal agency withdrawals.
2017	MR:2.1 MR:3.1	226,568 acres of federal oil and gas lease mineral estate are administratively unavailable for leasing for the life of the plan (map 3).
2019	MR:2.1 MR:2.4	Those lands currently open to oil and gas leasing will continue to be open to geophysical operations. Those lands open to oil and gas leasing, but subject to an NSO restriction, may be open to geophysical operations should site specific NEPA analysis discloses a finding of no significant impact. No geophysical operations are allowed in areas administratively unavailable for oil and gas leasing.
2020	MR:2.3 MR:3.1	BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open to leasing of other solid leasable minerals. Under this plan, 226,568 acres are administratively unavailable for leasing of other solid leasable minerals.
2021	MR:1	BLM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, is open to the disposal of mineral materials. Under this plan, 257,017 acres are not available for disposal of mineral materials.
3001	FM:1 FM:2	National Fire Suppression Guidelines and the current Fire Management Plan for the Eastern Wyoming Zone will guide fire suppression on public lands.
3002	FM:1 FM:1.2	During fire suppression, a resource advisor will be consulted or be assigned to all wildland fires that involve or threaten public lands.
3004	FM:1.1 FM:1.2	<p>Appropriate management response will be used on all wildfires in the planning area. Full protection strategies and tactics will be used in the following areas:</p> <ul style="list-style-type: none"> • WUI • Wildland industrial interface • Developed electronics sites of all types <p>In all other areas appropriate management response strategies and tactics will be determined by (but not limited to) the following:</p> <ul style="list-style-type: none"> • Firefighter and public safety • Resource values at risk • Proximity to private land • Firefighting resource availability <p>Tactical constraints follow:</p> <ul style="list-style-type: none"> • The use of retardant within 300 feet of surface water (standing or running) is prohibited. • No heavy equipment will be used within the following areas, except

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		<p>when human safety is at risk:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Areas of cultural resource sensitivity <input type="checkbox"/> Riparian/wetland habitats <input type="checkbox"/> Greater sage-grouse leks <input type="checkbox"/> Areas of highly erosive soils <p>In areas not identified as full protection, heavy equipment usage will be limited to existing roads and trails or immediately adjacent to them.</p>
4003	BR:1.2 BR:1.5 BR:1.7 BR:2.1	<p>Apply, where surface development or disturbance occurs, appropriate mitigation measures to minimize impacts to vegetative resources. Emphasize the use of native plants appropriate to the site for reclamation activities. Nonnative species may be used on a case-by-case basis when resource objectives will not be met through the use of native species.</p>
4008	BR:1.6 BR:1.7 BR:1.8	<p>Manage actively, where INPS occurs, to contain or eradicate them using an integrated management approach and cooperative agreements with county weed and pest control districts, industry, and private landowners across all vegetative communities.</p>
4009	BR:1.2 BR:1.5 BR:1.7 BR:1.14 BR:1.15	<p>Utilize an integrated management approach (i.e., mechanical, chemical, biological, prescribed fire, or livestock grazing) to manipulate seral stages within vegetative communities to achieve objectives defined by the range, forestry, wildlife, watershed, and INPS programs.</p>
4010	BR:1.6 BR:1.7 BR:4.1	<p>Modify identified hazard fences and construct new fences in accordance with the BLM Fencing Handbook 1741-1.</p>
4011	BR:1.6	<p>Work with APHIS to control outbreaks of grasshoppers and Mormon crickets on public lands in the planning area in accordance with the MOU between USDI and APHIS.</p>
4013	BR:1.15	<p>Prohibit surface development on public lands in an area from 1/2- to 1-mile of known or discovered bald eagle nests. The specific distance and dimensions of the area on which surface development will be prohibited will be determined on a case-by-case basis after consultation with the USFWS in accordance with the ESA.</p>
4021	BR:1.14 BR:2.1 BR:3.1 BR:3.2 BR:4.1	<p>Utilize a full range of mitigation options (including offsite mitigation) when developing mitigation for project-level activities in order to reduce impacts to wildlife and special status species habitats.</p>
4041	BR:1.6 BR:1.7 BR:1.8	<p>Develop a comprehensive INPS management program consistent with “Partners Against Weeds” and include the following:</p> <ol style="list-style-type: none"> 1) Develop situational and site-specific mitigation measures 2) Designate Weed Management Areas <ul style="list-style-type: none"> • Level I Weed Management Area – Emphasis is on containment of

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		<p>heavily infested areas and stopping the spread of weeds to uninfested areas.</p> <ul style="list-style-type: none"> • Level II Weed Management Area – Emphasis is on the eradication of small patches and isolated infestations, and stopping the spread of weeds to uninfested areas.
4047	BR:1.15 BR:2.1 BR:4.1	<p>Avoid surface disturbance or occupancy within a ½-mile buffer of raptor nests, except for the species listed below, for which a ¼-mile buffer will be required:</p> <p>Red-tailed hawk Swainson’s hawk American kestrel Osprey Great horned owl Long-eared owl Northern saw-whet owl Common barn owl Western screech owl</p> <p>The seasonal restriction will be February 1 to July 31, or until young birds have fledged (TLS).</p> <p>The authorized officer, on a case-by-case basis, may grant exceptions to seasonal stipulations.</p>
4054	BR:1.15 BR:2.1 BR:4.1	<p>Avoid surface disturbance or occupancy within ¼ mile of the perimeter of occupied sage-grouse leks. Avoid human activity between 8 p.m. and 8 a.m. from March 1 to May 15 (TLS) within ¼ mile of the perimeter of occupied sage-grouse leks.</p>
4055	BR:1.15 BR:2.1 BR:4.1	<p>Avoid surface-disturbing and disruptive activities in suitable sage-grouse nesting and early brood-rearing habitats within 2 miles of an occupied lek, or in identified sage-grouse nesting and early brood-rearing habitats outside the 2-mile buffer from March 15 to July 15 (TLS).</p>
5005	HR:5.1 HR:5.2 HR:5.3	<p>Facilitate VRM mitigation in areas that do not meet class objectives as the need or opportunity arises.</p>
5008	HR:1.1	<p>Cultural resource inventories and site evaluations within the planning area are in direct response to specific land-use proposals in accordance with Section 106 of the NHPA. Additional inventory is carried out, when resources permit, to comply with Section 110 of the NHPA. Block inventories will be applied when full field development occurs at a spacing of one well per 80-acres or less.</p>
5019	HR:5.2 HR:5.3	<p>Visual resource values will be managed under the VRM classes defined as mapped in the Casper Field Office GIS database. Changes in the number of acres within each VRM class depict a balance between development activities and protection of visual resources.</p>

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
6011	LR:3.3	Easements will be acquired only from a willing landowner.
6012	LR:3.3 LR:3.4	Access will be acquired by easements, reciprocal ROW, exchange, purchase, and donation. Cooperative agreements can be used in some instances to provide access to public lands. Where practical, new road construction on federal land will be utilized to avoid the cost of acquisition.
6013	LR:3.3 LR:3.4	Routing and construction standards will be adjusted based on route analysis and engineering design. Construction of new roads on federal land will be utilized, where practical, to reduce acquisition costs. Once an easement is acquired or a road is constructed on federal land, a ROW grant under Section 507 of the FLPMA will be executed to record the road and commit it to the road maintenance program.
6014	LR:3.3 LR:3.4	Roads constructed under other initiatives (e.g., oil and gas exploration) will be evaluated for inclusion in the BLM transportation system. Those roads that meet BLM resource program needs will be considered for cooperative development. When such roads are no longer needed for the original purposes, and prior to termination and obliteration of the road, BLM will assess its utility for addition to the BLM transportation system.
6015	LR:3.3 LR:3.4	All BLM road easements will be maintained to at least minimum BLM roads standards. Where a trail will be included in the transportation system, design and maintenance standards will be developed based on the specific objectives for that trail.
6016	LR:3.3 LR:3.4	Within the life of the plan, all roads on public land will be inventoried and a transportation plan will be developed to identify roads/trails for closure or maintenance. The plan will include goals, objectives, and maintenance standards for roads/trails to be retained for public use, as well as specific measures to accomplish road closure. Roads/trails that are eroding beyond a reasonable level will be fixed or closed.
6020	LR:6.3	Maintenance feeding of forage will not be authorized on public lands.
6021	LR:6.3	Emergency feeding will be authorized to prevent livestock from declining in health or condition when unforeseen events limit forage available to them. Emergency feeding will be for short periods while the emergency exists or until the livestock can be moved. Require that feed supplement is "weed-free by process" or "certified weed-free," and that instructions for placement and use are stipulated.
6025	LR:6.1 LR:6.3	Water developments will be constructed by BLM or constructed by the lessee to BLM standards. Funding and maintenance responsibilities of the water developments will be determined on a case-by-case basis and detailed in the Cooperative Agreement.

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
6027	LR:7.1	The entire planning area will remain open to dispersed recreation. The camping limit on public lands is set by BLM policy and is currently limited to 14 days. Emphasis will be placed on providing interpretive and information signs and materials for public land visitors, maintaining existing facilities to a high standard consistent with the recreational setting, and limiting development of additional facilities to those areas where public recreational use of surrounding public lands requires. Work with state, local groups, and adjacent landowners will be conducted to identify and develop recreational trails, both motorized and nonmotorized, when the opportunities presents themselves. SRPs will be allowed for commercial, noncommercial, and competitive events on a case-by-case basis. Cooperation will be maintained with a variety of user groups, especially in the local area, to provide diverse recreational opportunities for enjoyment of public lands. BLM will pursue acquisition of lands and interest in lands in the Rattlesnake Range and Pine Ridge areas, as well as promote and support recreation-based tourism.
6037	LR:7.1	Those areas selected as SRMAs are managed as described in Appendix O, Recreation Management Matrices. Those areas not identified as SRMAs are managed as an ERMA as described in Appendix O.
6039	LR:4.1 LR:4.6 LR:4.7	TMAs are delineated for those areas with an OHV designation of Limited to Designated Roads and Trails, Open, and Closed. Travel management has been addressed at the site-specific planning level for some areas of the field office. These areas are identified in the OHV section of this table and are within the defined TMAs. Transportation and travel management in these areas will be reevaluated for compliance with new BLM policies and to ensure user and program needs are met. Existing transportation plans will remain in effect until the reevaluations are completed. CTTMP will be completed for each TMA within 5 years of signing of the ROD for the RMP Revision. See Appendix R for interim management guidelines.
6040	LR:7.2	Muscle-powered activities such as hiking, back-packing, and snowshoeing are allowed to occur off existing routes in all OHV use areas except those designated as open.
6041	LR:4.3 LR:4.6	In areas limited to existing or designated roads and trails, the following is allowed: (1) both motorized and non-motorized transportation on existing and designated roads and trails, unless indicated otherwise at site location; (2) non-motorized cross-country or off-route travel as long as new routes are not created and resource damage does not occur; (3) cross-country or off-route travel by over-snow vehicles when snow cover is sufficient to prevent resource damage; and (4) cross-country or off route travel during hunting season by individuals possessing a valid WGFHD disabled hunter permit or disabled hunter companion permit.

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
6043	LR:4.3 LR:4.6	In areas closed to OHV use, the following applies: (1) both motorized and non-motorized transportation along National Historic Trails is not allowed; (2) non-motorized transportation is allowed on other existing trails unless otherwise indicated at the site; and (3) new non-motorized trails will be considered on a case-by-case basis.
6072	LR:3.2	When placement of a major facility within a designated corridor is not possible, and for smaller ROW facilities, placement will be adjacent to existing facilities or disturbances. Cross-country ROW placements will be allowed only when placement in a designated corridor or adjacent to an existing facility is not practical or feasible (from the ROD, resource management units ¹⁴ , March 8, 2004 version).
6073	LR:1.1	Negotiate and acquire easements to public lands where legal access is needed for resource management and public access purposes. This will be an ongoing effort for the life of the RMP. Access needs will be identified on a case-by-case basis.
6074	LR:4.2 LR:4.3 LR:4.7 LR:5.2	<p>OHVs are limited to existing roads and trails (approximately 1,162,244 acres). Transportation planning will be ongoing:</p> <ul style="list-style-type: none"> • Off-road travel will be allowed up to 300 feet from roads for camping, recovering game animals, collecting fire wood, picnicking, or other uses that do not require specific authorizations or permits as long as resource damage does not occur or new routes are not created. • Other necessary tasks that require ORV travel may be allowed, as long as resource damage does not occur or new routes are not created. These tasks include, but are not limited to, such activities as geophysical exploration, maintaining range improvements, animal husbandry activities by the grazing lessee and his or her agents, and surveying ROW or other work-related tasks authorized by, or which lead to the issuance, of a permit or authorization. The authorized officer may allow necessary tasks without issuance of a formal permit.
6075	LR:4.1 LR:4.2 LR:4.3 LR:4.4 LR:4.5 LR:4.6 LR:4.7 LR:5.2	<p>Motor vehicle travel in the following areas is limited to a designated network of roads and trails (196,824 acres):</p> <ul style="list-style-type: none"> • Sand Hills MA • Jackson Canyon ACEC • Alcova Fossil Area ACEC • Portions of the South Bighorns/Red Wall area, as mapped in the Casper Field Office GIS database. • Portions of the Bates Hole area, as mapped in the Casper Field Office GIS database. <p>To determine the authorized road network for the area, the Casper Field Office will complete a Transportation Plan within 5 years of completing this RMP.</p>

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		<ul style="list-style-type: none"> • Off-road travel will be allowed up to 300 feet from roads for camping, recovering game animals, collecting fire wood, picnicking, or other uses that do not require specific authorizations or permits as long as resource damage does not occur. • Other necessary tasks that require ORV travel may be allowed, as long as resource damage does not occur or new routes are not created. These tasks include, but are not limited to, such activities as geophysical exploration, maintaining range improvements, animal husbandry activities by the grazing lessee and his or her agents, and surveying ROW or other work-related tasks authorized by, or which lead to, the issuance of a permit or authorization. The authorized officer may allow necessary tasks without issuance of a formal permit. • Designation is effective upon approval of this RMP/ROD and the associated Federal Register notice. • New roads and trails will be approved on a case-by-case basis until completion of the Casper Field Office Transportation Plan.
6078	LR:4.3 LR:5.3 LR:5.2	<p>2,224 designated acres in the following areas are closed to OHV use:</p> <ul style="list-style-type: none"> • Natural area of the Muddy Mountain EEA (including snowmobile use) • Historic trail sites along the Oregon Trail, except the Ryan Hill and Bessemer Bend sites which are designated as limited to designated roads and trails. • Historic trail sites along the Bozeman Trail • All historic trail ruts on BLM-administered public lands (historic trails will be inventoried and closed to OHV use as they are identified as having integrity of trail).
6082	LR:6.1	<p>Approximately 1,355,561 acres continue to be open to livestock grazing. 6,016 acres continue to be not available for livestock grazing (see Appendix H). Additional areas may be not available for livestock grazing for the protection and management of specific resource values or uses; e.g., sensitive status species on the campgrounds and additional OHV parks. The areas not available for livestock grazing include:</p> <ul style="list-style-type: none"> • Grave Springs Campground • Buffalo Creek Campground • Muddy Mountain Environmental Education Area • Trappers Route #1 • Bolton Creek Environmental Education Area/Wildlife Habitat Management Unit • Spring/Bump-Sullivan Wildlife Management Unit • Clarkson Hill (760 Ranch) Acquisition • Poison Spider Off-Highway Vehicle Park

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		<ul style="list-style-type: none"> • Bessemer Bend Historic Site • Goldeneye Wildlife Habitat Management and Recreation Area • Aspen Highlands Urban Interface Area – Garfield Peak • Scattered Tracts – Grazing Use Cancelled or Grazing Applications Denied Primarily Due to Suitability
6083	LR:6.3	Manage livestock grazing to maintain a protective cover of vegetation and litter with emphasis on the condition of allotments with acreages of highly erosive soils. Target forage utilization levels will be established for highly erosive soils and grazing management objectives will be developed to meet those objectives. Management techniques may include herding, fencing, rotational grazing, or limiting season of use to meet the target utilization levels on highly erosive soils.
6088	LR:6.3	Placement of salt, mineral, or forage supplements for livestock is not allowed within ¼ mile of water, wetlands, and riparian areas, unless written analysis shows that watershed, riparian, wetland, wildlife, and vegetative values will not be adversely impacted. Forage supplements are required to be “certified weed-free.”
6093	LR:1-1	Negotiate easements, where needed, to meet program needs. These needs will be identified on a case-by-case basis.
7046	SD:10	The Sand Hills MA is established on 17,633 acres, all of which is BLM surface.
7047	SD:10	The area is administratively unavailable for oil and gas leasing and geophysical exploration is not allowed.
7048	SD:10	The area is withdrawn. The withdrawal segregates from operation of the public lands laws, including the mining laws.
7049	SD:10	The area is closed to disposal of mineral materials.
7050	SD:10	Time will be allowed for land-tenure adjustments (consistent with management objectives for the area).
7051	SD:10	No new corridor corridors are established in the Sand Hills MA; ROWs will be allowed when management objectives for the area can still be achieved.
7052	SD:10	BLM will pursue acquisition of lands and interest in lands in the Sand Hills area.
7053	SD:10	A watershed plan will be developed for the area in coordination with wildlife and range resources. The plan will clarify any special mitigation required to reduce impacts associated with surface-disturbing activities.

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
7054	SD:10	Pursue obtaining legal public access and limit use to nonmotorized.
7055	SD:10	Negotiate easements, where needed, to meet program needs. These needs will be identified on a case-by-case basis.
7072	SD:14.1 SD:16	<p>A. NHTs and Other Historic Trails Where Setting Does Not Contribute to NRHP Eligibility.</p> <ol style="list-style-type: none"> 1. Existing physical features and associated sites will be protected from physical impacts. There will be no surface disturbance on trail traces. As mapped in the Casper Field Office GIS database. 2. CSU within ¼ mile or the visual horizon, whichever is closer to ensure that surface-disturbing activities avoid trail remains and the lands immediately surrounding them. The protective zones are as mapped in the Casper Field Office GIS database. 3. ROW crossings at previously disturbed areas at right angles. 4. The setting associated with these historic trails will be managed in accordance with objectives for the VRM Class established for the areas (as mapped in the Casper Field Office GIS database). <p>B. Where Historic Setting Contributes to NRHP Eligibility</p> <ol style="list-style-type: none"> 1. Existing physical features and associated sites will be managed so that the trail trace and associated sites will be protected from physical impacts. 2. CSU will extend to the viewshed foreground (out to a maximum of 3 miles) or the visual horizon, whichever is closer to ensure that surface-disturbing activities avoid trail remains and the lands immediately surrounding them. The protective zones are as mapped in the Casper Field Office GIS database. Management guidelines are summarized below: <ul style="list-style-type: none"> • ROW crossings at previously disturbed areas at right angles • Mineral leasing will continue with a CSU stipulation • Fences and range improvements will be permitted if impacts mitigated. 3. The historic setting associated with these trails will be managed to maintain the existing character of the landscape. Accordingly, the viewshed foreground (out to a maximum of 3 miles) will be managed as follows: <ul style="list-style-type: none"> • VRM Class II • Mineral leasing will continue with CSU stipulation. 4. NHTs will be managed as VRM Class II until inventories are completed. Segments not contributing overall eligibility will be managed as Class III.
7078	SD:14.1	No surface development will be permitted on selected parcels along the Bozeman Trail in Converse County. Refer to Appendix W for legal locations. Additional parcels or segments will be added as inventory

NUMBER	GOAL/OBJECTIVE	DECISION/MANAGEMENT ACTION
		and evaluation disclose suitable trail segments.
8008	SR:1 SR:2 SR:3	Quantify the impacts associated with site-specific and programmatic actions and provide that information to the impacted parties and overlapping jurisdictions for the purpose of having a better common understanding of the impacts of BLM actions with the explicit goal of mitigating impacts through collaborative management where possible.

Appendix B

Casper Field Office
Resource Management Plan, 2007

CASPER FIELD OFFICE STANDARDS FOR ROAD AND TRAIL INVENTORIES

Casper Field Office Standards for Road and Trail Inventories

The following data collection techniques outline procedures used to collection baseline information for Travel and Transportation Plans in the Casper Field Office.

1. Travel Management Areas as defined by the preferred alternative in the Casper Field Office RMP. Mapped boundaries are buffered based on ownership patterns, public access and staff recommendations. These buffers provide an understanding of access needs of the TMA.
2. Linear disturbances are on-screen digitized at a 1:3,000 scale the current orthophoto quads available. It is understood that many of linear disturbances will reflect other features (such livestock trails, drainages and rills).
3. The linear disturbances shape file will be compared to known valid and existing rights through and overlay process. These overlays used will include fence lines, rights-of-way, oil and gas wells, biologic improvement projects, and rangeland improvement projects.
4. Ground-truthing will be completed to the greatest extent possible using BLM and volunteers. To insure consistent methodology all road and trail data collection will be completed using the same data dictionaries. The following information will be collect.
 - Primary and secondary road and trail systems.
 - Condition of travel route and evidence of use
 - Erosion levels. parallel roads, drainages issues or other problems
 - water crossings ; type and condition
 - fences, gates
 - photo points
 - rangeland improvement projects, and mineral and salting areas
5. BLM Resource Specialists will be given an opportunity to review travel data set. Additionally information that may be assimilated will be recorded at this time. Information may include user types, reasons and frequencies on specific travel routes, recommended changes to transportation system or trail closure or relocation as areas identified as needed increased maintenance levels or other improvements (parking areas).
6. Interested parties outside the BLM with on the ground knowledge will be given an opportunity to review transportation data sets and to provide information on existing transportation networks and to provide suggestions for improvement.
7. After all data is compiled and attributed, metedata will be established and the data set will be archived the Casper Field Office.
8. BLM specialists will validate the road and trail inventory by reviewing random locations and travel routes within the TMA.
9. Completed data sets will be used as base line information and be used to create alternatives for the Travel and Transportation Planning.

Appendix C

Casper Field Office
Sand Hills Management Area,

MITIGATION MEASURES FOR ALL SURFACE DISTURBING ACTIVITIES

MITIGATION MEASURES FOR AUTHORIZED SURFACE DISTURBING ACTIVITIES

Due to the fragile nature of the Sand Hills, specifically the presence of both stabilized and un-stabilized sand dunes and slopes greater than 25 percent, mitigation are a critical component of any project in area. Mitigation measures specific to surface impacts will include:

- Development of existing leases should require the establishment of consolidated production facilities to reduce the overall footprint and disturbance associated with the activity
- Wells developed within the Sand Hills Management Area should be remote monitored to reduce unnecessary travel in the area.
- All pipelines and power lines constructed within the Sand Hills Management Area shall be buried and should follow established roads
- To minimize the miles of road within the Sand Hills Management Area, operators shall utilize and share use of existing roads to the extent possible
- To avoid excessive soil movement, no new roads shall be established in areas of active dunes or where destabilizing sand dunes would likely cause active movement
- All new roads shall follow the natural topographic contour to the extent possible
- All new roads shall remain as primitive as possible to allow permitted activities
- To minimize erosion, road crossing shall be constructed at a right angle to all drainages
- All surface disturbing activities should be constructed in a manner to retain the existing natural character to the extent possible
- To prevent loss and degradation of important habitats, surface disturbing activities should be sited in a manner to avoid habitat for sensitive species
- All drainage ditches and culverts shall be kept clear and free flowing, and shall also be maintained in accordance with the original construction standards. If any additional erosion occurs during the life of the project, the company needs to control it through additional culverts or wing ditches.
- The existing and new access roads shall be maintained in a safe and usable condition. A regular maintenance program may include, but is not limited to: grading, repairing, and maintaining the road surface, ditches, culverts, and cattle guards. Weeds shall be controlled on disturbed areas within the limits of the road corridor.
- Culverts shall be located, and aligned as specified in the plan. Culverts shall have a

minimum of 12" of fill or 1/2 the pipe diameter, whichever is greater, placed on top of the culvert, and shall be of length sufficient to allow at least 24" of culvert to extend from the fill slope face. The inlet & outlet shall be set at the gradient of the native ground or aligned with the existing channel. The entire length of pipe shall be bedded on native material before backfilling. Backfilling shall be completed using unfrozen material & rocks no larger than two inches in diameter. Care shall be exercised to thoroughly compact the backfill around and under the culvert. The backfill shall be brought up evenly in 6" lifts on both sides of the culvert and compacted. A permanent marker shall be installed at both ends of the culvert to help prevent traffic from damaging the culvert.

- Cattleguards shall be a minimum of 16 feet wide and 8 feet long and shall be designed to minimum AASHTO H-20 standards. Cattleguards will be set on either timber, precast concrete, or cast-in-place concrete bases at right angles to the roadway. Backfill around the cattleguard shall be thoroughly compacted. A 16 foot wide bypass gate shall be built adjacent to the cattleguard structure. Fence end panels on either side of the cattleguard shall be constructed using 3 posts with braces.
- If soils along the access road route are dry during road construction, water shall be applied to the road surface to minimize soil loss as a result of wind erosion.
- Surface disturbance is prohibited in any of the following areas or conditions. Construction with frozen material or during periods when the soil material is saturated, or when watershed damage is likely to occur. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the BLM Authorized Officer, with an acceptable plan for mitigation of anticipated impacts.
- Construction-related traffic shall be restricted to routes approved by the BLM Authorized Officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the BLM Authorized Officer.
- When off-route UHV use is approved for development or operation of a project the following mitigation measures will apply:
 - When motorized off-route travel is required, OHVs must be safely operated in such a manner as to insure that no undue environmental damage is caused. Should the Authorized Officer determine that any vehicle operations are causing undue vegetative or soil disturbance, such operations shall be immediately suspended.
 - Vehicle traffic shall be directed toward the interdunal valley bottoms as opposed to stabilized sand dunes.
 - The operator shall avoid damaging or removal of stabilizing vegetation on sand dunes (via spinning tires) through the use of 1) the environmentally appropriate staking and 2) suitable equipment. Tire slippage is a definite problem and should be avoided. If undue or excessive damage to vegetation/sand dunes occurs all operations shall be suspended by the Authorized Officer.

- The operator shall conduct no vehicle operations during periods of saturated ground conditions when surface rutting could occur except in sand dune areas where soil may be more stable when wet.
- Off-road vehicle traffic shall be minimized and no new roads or trails shall be established solely as a result of off-route vehicle use.
- The operator shall reclaim and reseed any areas where their operations have caused surface rutting or have otherwise removed all of the surface vegetation as directed by the Authorized Officer.
- No vehicle traffic shall be allowed within 100 feet of sparsely vegetated sand (less than 20% vegetative cover) associated with active wind redeposition near active sand dunes.
- All buggy and/or conventional drill operations shall be limited to slopes of 25% or less where vegetative cover is sparse, less than 30% ground cover.
- The operator shall ensure that off-road vehicle traffic does not drive the same track as another vehicle, terrain permitting.