

**BUREAU OF LAND MANAGEMENT**  
**LANDER FIELD OFFICE**  
**RESOURCE MANAGEMENT PLAN REVISION**

**Areas of Critical Environmental Concern Report**



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## **ACRONYMS AND ABBREVIATIONS**

ACEC	Areas of Critical Environmental Concern
AML	Abandoned Mine Lands
BLM	Bureau of Land Management
CDNST	Continental Divide National Scenic Trail
CFR	Code of Federal Regulations
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
GMCA	Green Mountain Common Allotment
GMSR	Granite Mountains – Sweetwater Rocks
ID	Interdisciplinary
INNS	Invasive nonnative species
LFO	Lander Field Office
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NLCS	National Landscape Conservation System
NNL	National Natural Landmark
NSO	No surface occupancy
NTSA	National Trails System Act
OHV	Off-highway vehicle
PFC	Proper Functioning Condition
RMP	Resource Management Plan
ROW	Right-of-way
SHPO	State Historic Preservation Officer
SRMA	Special Recreation Management Area
T&E	Threatened and endangered
TCP	Traditional Cultural Property
U.S.	United States
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WGFD	Wyoming Game and Fish Department
WHMA	Wildlife Habitat Management Area
WSA	Wilderness Study Area
WUI	Wildland urban interface

## **1.0 Executive Summary**

As part of the Department of the Interior, Bureau of Land Management (BLM), Lander Field Office (LFO) Resource Management Plan (RMP) revision, the LFO Interdisciplinary (ID) Team followed federal guidelines and determined that sixteen (16) proposed Areas of Critical Environmental Concern (ACEC) satisfy the relevance and importance criteria, and special management practices necessary for ACEC designation.

These are:

- National Register Historic Trail (existing) with expanded boundaries
- Continental Divide National Scenic Trail (new)
- Lander Slope (existing)
- Red Canyon (existing)
- Whiskey Mountain (existing)
- East Fork (existing) with expanded boundaries
- Dubois Badlands (existing)
- Beaver Rim (existing) with expanded boundaries
- Green Mountain (existing) with expanded boundaries
- South Pass Historic Mining Area (existing) with expanded boundaries
- Cedar Ridge (new)
- Castle Gardens (new)
- Regional Historic Trails (new)
- Sweetwater Rocks (new)
- Government Draw-Upper Sweetwater Sage-Grouse (new) (the Blackjack Lek, which is nominated as a separate ACEC, is located within the physical boundaries of the Government Draw-Upper Sweetwater Sage-Grouse ACEC.
- Twin Creek (new)

For the areas found not to meet the relevance and importance criteria or do not require special management, the range of alternatives will include prescriptions to protect the identified values as required by guidance: the “management prescriptions which are eventually established in the plan for such areas shall reflect consideration of the identified values” (BLM Manual 1613.2.21).

In addition to the proposed ACEC, the following ID Team received and evaluated the following nominations:

- Upper Willow Creek
- Sweetwater River Watershed
- Shallow or High-Risk Aquifers
- Riparian-Wetlands

- Schoettlin Mountain was considered by the ID Team, but not fully evaluated. The proponent was not able to provide enough information for the BLM to identify the values or resources to be protected. The proponent withdrew the nomination.

This Draft ACEC Report presents each of the proposed ACEC and provides individual reports to explain why each area satisfied or failed to satisfy criteria for special consideration as an ACEC.

## **2.0 Introduction**

Under the Federal Land Policy and Management Act (FLPMA), 43 Code of Federal Regulations 1610.7-2, and BLM Manual 1613 (1988a), the BLM must give priority to the designation and special management of Areas of Critical Environmental Concern (ACEC). The BLM Lander Field Office (LFO) is currently revising the 1987 Lander Resource Management Plan (RMP). The Approved Lander RMP will provide an updated comprehensive federal land use plan to guide the management of BLM lands within the Lander planning area.

The Lander planning area is located in Fremont County, Wyoming (as shown in Map 1) and the BLM administers approximately 2.4 million acres of public surface land and 400,000 acres of federal mineral estate where the surface is owned by other entities.

## **3.0 Requirements for ACEC Designation**

A potential ACEC must meet two factors: the relevance and importance criteria defined in federal law and regulations, and requires a showing of special management. This Report explains the relevance and importance criteria for each proposed ACEC and identifies the need for special management attention. For those areas that did not satisfy the special management attention factor, this Report addresses management of those areas in the alternatives.

The Federal Land Policy and Management Act (FLPMA) defines ACEC as:

*areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems and processes, or to protect life and safety from natural hazards*

(Section 103(a) [43 U.S.C. 1702] and in 43 C.F.R. 1601.0-5(a). In practice, an ACEC is an area of BLM-administered land that requires special management practices to protect the relevant and important values specific to that land from irreparable harm. FLPMA Section 202 [43 U.S.C. 1712(c)(3)], 43 C.F.R. 1610-7.-2, and BLM Manual 1613.

### 3.1 Relevance Criteria

An area meets the relevance criteria if it contains one or more of the following:

- *A significant historic, cultural, or scenic value including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans.*
- *A fish and wildlife resource including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity.*
- *A natural process or system including but not limited to endangered, threatened or sensitive plants species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.*
- *A natural hazard including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs. A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.*

### 3.2 Importance Criteria

An area meets the importance criteria if it meets one or more of the following:

- *More than local significance qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.*
- *Qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.*
- *Recognized as warranting protection in order to satisfy national priority concerns or to carry out mandates of FLPMA.*
- *Qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.*
- *Pose a significant threat to human life and safety or property.*

### 3.3 Need for Special Management

In addition to a finding of important and relevant resource values, a potential ACEC “must require special management attention to protect” those identified values. (BLM Manual 1613.12).

Special management attention requires the formulation of management practices expressly developed for the area to protect the important and relevant values from uses permitted by the RMP. For example, the BLM might implement a seasonal use stipulation on permits or prohibit seasonal access to protect the important and relevant value(s) occurring on that area. The LFO is required to provide a detailed explanation of any special management attention and often includes consultation and coordination with stakeholders having an interest or specialized expertise in the identified value(s).

These are management measures which “would not be necessary or prescribed if the critical and important features were not present.” ACEC manual part .12, middle of the paragraph.

BLM Manual 1613 includes the following guidance on incorporating management prescriptions for potential ACECs into appropriate alternatives:

*During the formulation of alternatives, management prescriptions for potential ACECs are fully developed. Management prescriptions will generally vary across the plan of alternatives. ... Designation is based on whether or not a potential ACEC requires special management in the selected plan alternative (i.e., the preferred alternative). Pg. 22A4 and .22B1 Parts B and c.23.*

“Special management” is in contrast with “standard management” – in other words, the management that is applied by the BLM unless other management is identified. The “standard” management authorizes activities (oil and gas development, motorized vehicle use, etc.) subject to “standard stipulations” that are generally applied by the BLM throughout at least Wyoming.

The standard stipulations identified in the Resource Management Plan (RMP) are generally:

- Open to oil and gas leasing.
- Open to mineral material sales.
- Open to locatable mineral entry. A Plan of Operations must be submitted and the BLM’s approval must be obtained before beginning operations greater than casual use except for exploration activities causing surface disturbance of 5 acres or less of public lands on which reclamation has not been completed. In the latter case, the exploration activity requires the submittal of a “notice” to the BLM, which meets specific content requirements, a minimum of 15 calendar days before commencing operations. In addition, any bulk sampling operation removing 1000 tons or more of presumed ore, or any operations conducted in special status areas, such as but not limited to ACECs, areas in the National Wild and Scenic Rivers System and areas designated for potential addition to the system, and areas “closed” to off-road vehicle use, regardless of the amount of associated surface disturbance.
- Open to major (pipelines, transmission lines, industrial wind energy development, etc.) and minor (access roads, signage, filming permits) rights-of-ways (ROWS).
- Open to motorized vehicle use on roads and trails.
- Limited surface disturbance during identified wildlife seasonal restrictions such as big game winter range and raptor nesting periods.
- Limited surface disturbance on slopes greater than 25%.
- Limited surface disturbance on soils during certain times such as frozen or wet soils.

These standard stipulations are applied in the absence of more restrictive RMP decisions, such as that an area is open to oil and gas leasing subject to a No Surface Occupancy (NSO) requirement. This list is not intended to be all inclusive but merely to provide the reader with a general understanding of what the management would be in specific area if “special management” were not applied. There are many types of additional restrictions on activities on public lands that are applied regardless of RMP decisions, such as the provisions of the Migratory Bird Treaty, the Endangered Species Act, and the National Historic Preservation Act (NHPA). Since these regulations apply under all circumstances, they are considered part of the “standard” management.

## 4.0 Evaluation Process

In compiling a list of areas to be analyzed, the ID Team followed the guidance in BLM Manual 1613 and considered:

- Existing ACECs
- Areas recommended in internal and external scoping/nominations
- Areas identified through inventory and monitoring
- Adjacent designations of other federal and state agencies

The following table summarizes the proposed ACECs evaluated, the values assessed, and whether the criteria were met.

The discussions of the individual ACECs which follow the table address only the relevance and importance criterion that the ID team determined to apply.

NOTE: Some of the ACEC boundaries overlap. There are a total of 1,492,990 acres of ACECs which the BLM ID has determined to meet the relevance and importance criteria and recommend analysis in the Environmental Impact Statement (EIS).

**Table 1. Relevance and Importance Criteria Determinations**

<b>Relevance Criteria</b>	
1	A significant historic, cultural, or scenic value including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans.
2	A fish and wildlife resource including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity.
3	A natural process or system including but not limited to endangered, threatened or sensitive plants species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.
4	A natural hazard including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs. A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.
<b>Importance Criteria</b>	
1	More than local significance qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2	Qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3	Recognized as warranting protection in order to satisfy national priority concerns or to carry out mandates of FLPMA.
4	Qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
5	Pose a significant threat to human life and safety or property

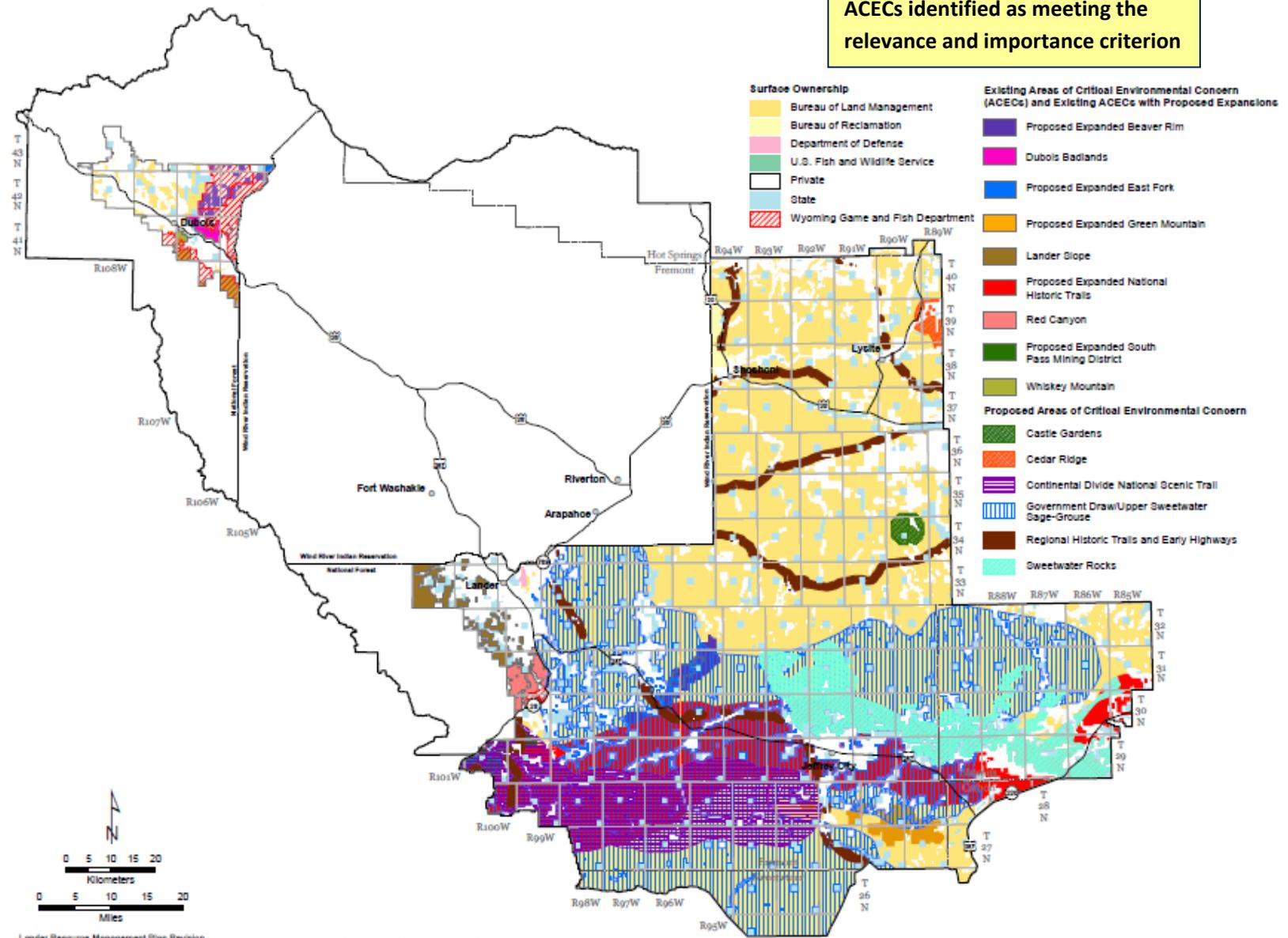
**Table 2. Summary of ACECs Reviewed in this Report**

Name	Values Considered	Summary of Findings
Lander Slope	Sensitive and fragile scenic resource for the town of Lander and surrounding community. Fragile/irreplaceable big game winter and parturition area.	Existing ACEC-Carried forward for analysis
Red Canyon	Sensitive, fragile, and nationally important scenic resource. Fragile/irreplaceable big game winter and parturition area. Designated National Natural Landmark due to exemplary displays of unique geologic features.	Existing ACEC- Carried forward for analysis
Whiskey Mountain	Fragile winter range for nationally significant Bighorn Sheep population. Sensitive/fragile scenic resource contributing to the existing Whiskey Mountain WSA and the Forest Service’s Fitzpatrick Wilderness.	Existing ACEC- Carried forward for analysis
East Fork	Fragile and irreplaceable winter range habitat for big game. Important Bighorn Sheep habitat.	Existing ACEC and Proposal for Expansion– Carried forward for analysis
Dubois Badlands	Fragile scenic resource comprising the backdrop landscape for the community of Dubois. Also contains fragile year round habitats for bighorn sheep.	Existing ACEC – Carried forward for analysis
Beaver Rim	Fragile raptor nesting concentration area and sensitive scenic resource. Also contains exemplary geologic features and unique plant communities.	Existing ACEC and Proposal For Expansion – Carried forward for analysis
Green Mountain	Encompasses winter and parturition range for non-migratory herd of elk.	Existing ACEC and Proposal for Expansion – Carried forward for analysis
South Pass Historic Mining District	Regionally significant historical resources. Several geologic hazards also exist in the area.	Existing ACEC – Carried forward for analysis
National Historic Trails	Nationally significant historical resources and irreplaceable scenic resources associated with the trails.	Existing ACEC and Proposal For Expansion – Carried forward for analysis
Continental Divide National Scenic Trail	Fragile and nationally significant scenic resources associated with the Congressionally-designated Trail.	New Proposed ACEC – Carried forward for analysis
Cedar Ridge	Fragile Native American spiritual resources	New Proposed ACEC – Carried forward for analysis
Castle Gardens	Fragile and regionally significant prehistoric rock art site.	New Proposed ACEC – Carried forward for analysis
Regional Historic Trails	Fragile and regionally significant historical resources	New Proposed ACEC – Carried forward for analysis
Sweetwater Rocks	Irreplaceable/unique geologic and scenic resources associated with prominent granite domes, spires, and peaks surrounded by shrub lands.	New Proposed ACEC – Carried forward for analysis
Government Draw-Upper Sweetwater Sage-grouse	Yearlong seasonal habitats for a large population of Greater Sage-Grouse, a Wyoming BLM designated Sensitive Species.	New Proposed ACEC – Carried forward for analysis

**Table 2. Summary of ACECs Reviewed in this Report**

Name	Values Considered	Summary of Findings
Sweetwater River Watershed	Riparian, scenic, wildlife, and vegetation resources	New Proposed ACEC – Carried forward for analysis as part of the Government Draw-Upper Sweetwater Sage-Grouse ACEC
Twin Creek	Wildlife	New Proposed ACEC – Carried forward for analysis
Pathfinder Prairie Dog Complex	Area containing habitat for the White-tailed Prairie Dog, a BLM sensitive species.	New Proposed ACEC – Not Carried forward for analysis
Upper Willow Creek	Riparian community	New Proposed ACEC – Not Carried forward for analysis
Blackjack Lek	Sage Grouse breeding area containing very high individual male grouse census counts.	New Proposed ACEC – Not Carried forward for analysis
Water Quality	Water quality	New Proposed ACEC – Not Carried forward for analysis.
Schoettlin Mountain	Unidentified cultural resources	New Proposed ACEC – Not Carried forward for analysis

**ACECs identified as meeting the relevance and importance criterion**



Lander Resource Management Plan Revision  
 Draft Resource Management Plan and  
 Draft Environmental Impact Statement - September 2011

NO WARRANTY IS MADE BY THE BUREAU OF LAND MANAGEMENT  
 FOR USE OF THE DATA FOR PURPOSES NOT INTENDED BY BLM.

## **Lander Slope ACEC**

**Status: Existing** – The 1987 Lander RMP designated the Lander Slope as an ACEC.

A citizens' proposal nominated this area as an ACEC and recommended closing the area to livestock grazing due to overgrazing concerns and the presence of invasive plant species. Preliminarily, the ID Team determined that grazing management issues could be addressed through intensive monitoring and evaluation of the impacts of livestock grazing and did not justify a separate Lander Slope ACEC for livestock grazing to address grazing management. Adjustments to livestock grazing could be made as necessary to the analysis of livestock grazing authorizations to enhance wildlife habitat and alleviate the spread of invasive species.

**Location of proposed ACEC:** BLM-managed surface lands south and west of the Town of Lander.

**General description:** The majority of the area consists of high elevation slopes and drainages covered by mountain shrub communities. Within this area are dispersed lesser acreages of limberpine, juniper, lodgepole pine, Douglas fir, aspen, and wet meadow communities.

**Acreage of proposed ACEC:** Approximately 25,000 acres. ACEC designation applies only to federal surface and mineral estate and not to private or state lands within the geographical outline of the ACEC. The federal mineral estate is managed in conformity with ACEC surface management.

**Primary values considered:** Important winter wildlife habitat, scenic viewsheds, and rare geological features. The proposed ACEC is part of the wildland urban interface (WUI), which is the zone where urban/suburban areas meet undeveloped land.

### **RELEVANCE CRITERIA**

**Wildlife:** The Lander Slope provides crucial winter habitat range for elk and mule deer. The wind-swept Slope provides accessible forage for elk, which summer in the Shoshone National Forest including the Popo Agie Wilderness Area, during the winter months and isolation from human stresses (homes, pets, vehicles). Mule deer utilize the upper slopes year-round, but much of their traditional winter range is on the lower slopes in the foothills.

Although not meeting the relevance and importance factors required for ACEC designation, there are other important wildlife values in the area. Peregrine falcons, a Wyoming BLM Sensitive Species, use the steep canyon walls for nest sites. In the 1990s, a peregrine falcon reintroduction site was established within the ACEC that contributed to the increase in peregrine falcon numbers throughout their range, resulting in the delisting of the species under the Endangered Species Act. Several of the steep canyons also provide habitat for a small number of bighorn sheep. Many of the streams within the ACEC support populations of fish, which are locally important.

**Scenic:** The 1987 RMP identified the Lander Slope as a Class II visual resource, which provides the scenic backdrop to the Town of Lander. The 2009 Visual Resources Inventory (prepared by the BLM in partnership with the University of Wyoming) shows that these values exist today. The scenic value associated with Lander Slope is strongly correlated to the areas diverse landforms and vegetation. The mountainous slopes provide visually appealing contrast to the rolling plains and meadows within the valley. The strong canyon features on the slope create diversity in landforms that appears in a sequence

or repeated pattern. The color, form, and texture of the vegetation in this area represent a visually appealing diversity that is found in edge habitats. Behind the Slope are the towering peaks of the nationally recognized Wind River Mountains.

**Natural Process or System/Rare Geologic Features:** The Lander Slope is a crucial part of the watershed contributing to the domestic water supply for the town of Lander. Management of the upper Popo Agie River watershed is critical, because it is the source of water used by the Town of Lander.

In Sinks Canyon, the North Fork and Middle Fork of the Popo Agie River have cut down to bedrock forming steep canyon walls. A unique, regionally important feature of Sinks Canyon occurs where the Middle Fork disappears below ground and resurfaces downstream and is managed by the State of Wyoming as a park. There is a small sink in Baldwin Creek that is interesting but not more than locally significant.

The sinks are part of the karst features of the ACEC which contribute to the vulnerability of the water quality for the Lander domestic water system.

**Natural Hazard:** The Lander Slope is part of the wildland urban interface (WUI) with high potential for fires in inhabited areas. Historic suppression of natural fire coupled with increasing subdivision of formerly open lands has increased the risk to human safety and property from wildland fire. Management of the upper Popo Agie River watershed is additionally critical because the potential for flooding in Lander, most recently experienced in 2010 with resulting loss of private and public property and improvements.

## **IMPORTANCE CRITERIA**

**Wildlife:** The area supports a large percentage of the Lander portion of the South Wind River elk and mule deer herds. During winter, the wind-swept slopes provide the majority of the accessible forage for elk and mule deer that summer on the Shoshone National Forest that is not suitable as winter habitat because of deep snow that makes forage inaccessible to animals.

According to Wyoming Game and Fish survey data, this area is significant as a high-value regionally important winter range for elk and mule deer, and supports more animals than the acreage would indicate. Without un-fragmented access to the Lander Slope area, herds would have less available forage and suitable winter habitat which would likely impact the health of individual animals, increase mortality rates, and reduce genetic variation within the herds. Elk would likely shift their use patterns and come to rely heavily on private lands to meet their forage demands, which will increase conflicts with landowners.

The ACEC is winter habitat for approximately 60% of the mule deer that winter in the area. Quality mule deer habitat is being incrementally eliminated as private lands around Lander are subdivided and developed, which highlights the importance of retaining the ACEC designation for this area.

The mule deer and elk herds provide hunting opportunities for both resident and non-resident hunters and the loss of hunting revenues could affect the local and regional economies, especially because many residents rely on local hunting to supplement their families' food needs. The area provides undisturbed winter range, which is necessary to support these herds and maintain animal numbers.

Peregrine falcons utilize the area for nesting sites. However, this use is only locally important because only limited suitable nesting habitat for peregrine falcons occurs. Loss of the local range would probably not result in significant reduction in overall population numbers throughout the species' range but important locally because of the area's limited amount of suitable habitat.

**Scenic:** The proximity of the Slope to Lander and surrounding areas as far away as Riverton causes the Slope feature to dominate the view of residents and travelers. The Lander Slope is within view of homes and businesses and travelers heading towards the National Parks, which increases the time and frequency the feature is viewed by observers. Additionally, the Lander Valley is located in an observer-inferior position; this means observers are forced to view the landscape from below, necessitating the observer to look upwards at the feature. Looking up at a feature causes the observer to focus on a zone within the middle to the top portions of the feature. In the case of Lander slope, this sensitive and fragile visual focal point is encompassed by BLM public lands. Any change to the characteristic landscape in this focal point zone would be highly controversial and easily noticed by observers from the Lander Valley.

Additionally, BLM lands within the Lander Slope ACEC are adjacent to and forms the scenic background of the nationally known Sinks Canyon State Park. The landscape within this canyon is enclosed and heavily used by climbers and hikers who would be especially sensitive to major vegetation changes and the slightest modifications to the landform. Because of the geologically unique sinks, the park receives higher visitation than is the case for other state parks. The park is also utilized by many local residents who would notice and object to serious disturbances to the landforms.

**Natural Process or System/Rare Geologic Features:** The Slope is regionally important because of its unique geological features. The Slope constitutes the foothills of the Wind River Range and the back side of the Slope has eroded away to form a trough in front of the Wind River Range. The Slope is part of the watershed of the Middle Fork of the Popo Agie River, which is the source of drinking water for the town of Lander. The sink is an important natural process. Because Lander sits in the foothills of the Wind River Mountains, a nationally recognized hiking, hunting, fishing, and climbing destination, the Lander Slope is a geologic feature that is an important component to the regional and local economies.

**Risk of Fire in the WUI:** There are many areas of fuels build up in the planning area. The WUI along the Lander Slope is particularly at risk because the high level of, subdivided properties put people and homes in close proximity to forest and woodlands, and fuels build up presents a significant and important risk to human safety and protection of property.

## **NEED FOR SPECIAL MANAGEMENT**

The need for special management of this area was recognized in the 1987 Lander RMP and management prescriptions limiting ROWs and mineral development were incorporated. Factors that influenced the continued need for special management prescriptions included: increased urbanization of private lands, energy and phosphate development, rights-of-ways (access roads, transmission corridors), increased recreational pressures including off-highway vehicle use, and actions under the general mining law. Without the special protection for the relevant and important values of this area, these actions would likely be authorized.

The Lander Slope area includes considerable privately-owned tracts, many of which have been subdivided and are undergoing urbanization including the introduction of fences, development of roads and private drives, powerlines, and the introduction of suburban types of landscaping in place of native forage and un-fragmented habitat. The BLM-managed lands in the area have become increasingly important habitat refuges, a trend that is expected to continue (see BLM's Management Situation Analysis, 2009). Currently, public lands provide the majority of the winter habitat and forage for these herds that have limited other opportunities to find needed winter forage. Development activities that result in the loss of habitat corridors and crucial winter range on the public lands would have an irreversible impact on the herds. Standard seasonal protections on crucial winter range that would be in place without special management would protect animals only during the winter months but would not prevent surface-disturbance to the habitat during the remainder of the year. Special management is needed to prevent the loss or fragmentation of habitat such that it is available during the winter months when elk and mule deer are dependent on it.

Standard management of the area would allow major ROWs including transmission lines, wind energy development, and other surface disturbance with little regard to adverse impacts to wildlife and visual resources.

The consequences of the application of standard visual resource management would be adverse and immediate. As more and more homes are built in the Lander community and surrounding area, a parallel trend occurs where these property owners become more aware and sensitive to changes to public lands within view or adjacent to their property. The urbanization creates a situation where more homes are in view of the BLM public lands contained on the slope, which increases visual fragility and sensitivity in the area both as viewed from the Town and from the new homes to enjoy the view. Due to the close proximity of the area to residential neighborhoods and rural subdivisions, the Lander Slope is viewed from hundreds of differing perspectives. Such diverse viewing perspective causes the implementation of standard visual management mitigation measures to be nearly impossible and ineffective. Activities associated with ROWs would affect the wildlife and scenic values of the Lander Slope. With ROWs such as transmission lines and communication towers comes the maintenance requirements that require road development and year-round access.

Standard seasonal limitations on surface disturbance (such as for big game, raptors, and greater sage-grouse) would not limit other motorized use of the area, which would stress the wildlife at the time of the year when they are most vulnerable. These standard stipulations would allow motorized access throughout the winter and would not limit motorized travel to designated roads. Moreover, standard seasonal limitations apply only to development such as oil and gas drilling. Once wells are drilled and installed, standard seasonal limits do not apply and activities related to mineral production (operation) and maintenance would occur year-round. Due to the importance of the area to wintering wildlife, road development and seasonal use limitations beyond standard stipulations are necessary to reduce animal stress and maintain habitat quality. Although a small portion of the Slope would be protected by the standard stipulation prohibiting soil disturbance on slopes in excess of 25%, most of the Slope is less steep. Surface disturbance on the steep slopes less than 25% would likely cause increased erosion, resulting in negative impacts to habitat quality and the Lander domestic water supply.

High visibility developments such as ROWs would introduce a high level of contrast to the Lander Slope as viewed from the town of Lander and surrounding community. This contrast would be in view for long periods of time and scrutinized from multiple viewpoints. Since the slope is in view from so many diverse perspectives, and typically viewed from an observer inferior position standard visual management mitigation (sighting, coloring, reducing size etc) measures would not adequately mitigate the visual impacts associated with ROWs.

The public lands in general have experienced a growth in off-highway vehicle (OHV) use, but typically this trend is more intense in the desirable mountainous terrain such as present on the Slope. Additionally OHV use in the west is often centered around wildlife viewing, hunting, and antler collecting activities. These activities can occur year-round but are a concern during the period in which wildlife are restricted to winter ranges. Standard management of OHV use typically does not limit seasonal uses. Instead, standard management typically allows for year-round use on roads and trails. The lack of seasonal restrictions associated with such management creates a situation where wintering wildlife is increasingly stressed and habitat quality is degraded due to trail proliferation.

The ACEC has areas of existing weed infestations and is susceptible to additional weed problems due to the increase in urbanization and OHV use. Livestock and vehicles can spread weed seeds into native vegetation areas, resulting in an increase the amount of weed-infested lands and a decline in wildlife habitat health.

Perhaps the greatest risk that standard management does not address is that the Slope contains a thin layer of phosphate that could be strip mined. Even if underground mining, rather than strip mining, was used to remove the over burden, the visual landscape and habitat would be fragmented by the heavy use by mining vehicles, access roads, and supporting utilities. Standard management does not preclude phosphate leasing. Even phosphate exploration results in pock marking that would have irreversible consequences to wildlife, groundwater, and scenic resources. Although standard mining management requires that exploration and mining efforts be reclaimed, the relative low precipitation levels and thin topsoil would mean that the stabilized disturbance would be visually obvious for many years and may not support native forage. ROW development in support of mineral activities many decades ago are still visible on the Lander foothills suggesting that the damages resulting from standard (non-ACEC management) would continue for decades.

The actions associated with phosphate exploration on the Lander Slope would irreversibly alter the view of the mountain landscape from the community. Regardless of reclamation success it is anticipated that changes to the land form of the Lander Slope would be in view from all parts of the community. The action would introduce a high amount of change to the characteristic landscape that could be seen from long distances. Standard visual mitigation measures may reduce some of this impact, but these measures may not be practical in that they may cause the activity to be moved to an area where phosphate mining is not economically feasible.

Without special management, the BLM does not have the authority to require Plans of Operations for locatable mining activities on areas smaller than five acres. In the absence of special management, the BLM would not have the authority to limit locatable mineral activities so long as each activity was less than five acres, a pock marking that would have irreversible consequences to the wildlife, groundwater, and viewshed.

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**Lander Slope ACEC**

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ACEC management, including non-locatable mineral prescriptions such as limits on phosphate development and avoidance for majors rights-of-way (ROW) rather than standard stipulations has proven to be very successful in that it allows continued recreational use, livestock grazing, and other uses while protecting the wildlife, viewshed, water, and geologic resources.

The spread and increase of invasive nonnative species (INNS) described above under OHV use would be accelerated by the surface disturbance associated with mineral development activities. Permitted mining use under standard stipulations require the applicant to implement a weed prevention plan; even when vigilantly enforced (which the BLM lacks the staff to do), drought conditions and other factors that may be outside of the applicant’s ability to control, can lead to a spread of INNS even with the best of efforts. Neither the BLM nor the Fremont County Weed and Pest Department have the staff resources to ensure that the best efforts would be applied.

Standard management that allows major surface disturbance would not protect the sole source domestic water for Lander because of the probability of mining and ROW caused pollution. Use of pesticides to control INNS and the pollutants associated with development, along with increased sedimentation and run off from surface disturbance would be carried down from the slopes through the Popo Agie watershed with long term adverse consequences to the Town of Lander’s water supply, a portion of which is already impaired with e-coli contamination.

Standard management would be adequate to address WUI concerns but through ACEC designation, the area’s priority for treatment increases in importance. With many areas now in the WUI (and increasing with urbanization), there are limited resources to address WUI needs. Designation of the area as an ACEC helps to focus and prioritize WUI treatments.

The unique feature of the sinks in Sinks canyon, described above, is not on BLM managed surface, although BLM surrounds the area. Thus, a change to standard management would not be likely to disturb that geologic feature itself. However, much of its significance as a tourism and climbing focal point is derived from its rugged and undeveloped setting in an area very close to the Town of Lander. Development that contrasted with the visual setting of this economically important geographic feature would likely result in short and long term adverse impacts to the local and regional tourism economies. Moreover, it may adversely affect a locally important recreation area, the Sinks Canyon Park, and the adjoining BLM and Forest Service managed lands.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Fish and Wildlife	Yes	Yes	Yes
Scenic	Yes	Yes	Yes
Natural Process/System	Yes	Yes	Yes
Natural Hazard	Yes	Yes	Yes

## **RECOMMENDATIONS**

The existing ACEC meets the required relevance and importance criteria for wildlife, scenic, and natural process/system values. **The Lander Field Office Interdisciplinary Team recommends that the existing Lander Slope ACEC be carried forward for analysis in the RMP revision as to whether the area should be designated as an ACEC in the RMP and with what management prescriptions.**

Prescriptions to maintain relevant and important values need to address: activities under the 1872 Mining Law, other mineral development, management of rights of ways, oil and gas development, management of Off Highway Vehicles, invasive weeds, and renewable energy development.

The 1987 RMP states the following: “When locating major utility systems, the Lander Slope Management Unit will be avoided. Major utility systems will be allowed only when no feasible alternative route or designated right-of-way corridor is available. The lowlands near Highway 28 and 789 will be considered for utility systems before allowing utility systems on the slopes of the mountain.” Without this existing prescription for rights-of-ways, transmission lines and wind development that would affect the viewshed could be built on the Lander Slope. Therefore, it is essential that the RMP revision carry forward at least this same prescription to prevent this kind of disturbance on the slope.

Non-standard management for the protection of all ACEC values includes limitation over locatable mineral entry through a Plan of Operations, control of the development of other mineral resources, including phosphate, oil and gas, and mineral material sales, limits on ROWs, and seasonal limits on motorized travel.

## **Red Canyon ACEC**

**Status: Existing** – The 1987 Lander RMP designated Red Canyon as an ACEC.

A citizen's proposal nominated this area and recommended limiting or closing the area to livestock grazing because of overgrazing of the wildlife habitat and the presence of weeds. Preliminarily, the LFO ID Team determined that the livestock grazing management issues raised in the citizens' proposed management for the ACEC could be addressed by close monitoring of the impacts of livestock grazing on wildlife habitat and invasive species and to allow grazing unless livestock grazing management could not avoid degrading habitat or introducing invasive species.

**Location of proposed ACEC:** BLM managed surface lands south and west of the Town of Lander.

**General description:** The area encompasses the foothills of the Wind River Mountains with high elevation slopes and drainages about 12 miles south of the Town of Lander. The area is bounded on the west by the Shoshone National Forest, on the east and south by Wyoming State Highway 28 and on the north by the Little Popo Agie River (which is also the southern boundary of the Lander Slope ACEC).

**Acreage of proposed ACEC:** Approximately 15,100 acres of BLM managed surface. ACEC designation applies only to federal surface and mineral estate and not to private or state lands within the geographical outline of the ACEC.

**Primary values considered:** Visual resources, important winter wildlife habitat, sensitive plant species, and geologic features.

### **RELEVANCE CRITERIA**

**Fish and Wildlife:** Red Canyon provides critical winter habitat for elk, mule deer and moose as well as calving habitat for elk. The wind-swept slopes provide accessible forage for wintering big game especially elk. The area surrounds the Wyoming Game and Fish Department's Red Canyon Habitat Management Unit that was established to ensure reliable high-quality winter habitat for a part of the elk herd and to alleviate elk depredation on private lands. The public lands within the Red Canyon ACEC and the adjacent Lander Slope ACEC, in conjunction with the Game and Fish Department land, provide winter range for a significant portion of the Lander segment of the South Wind River elk herd. Elk use higher elevation Forest Service lands as calving habitat. Lower elevation lands are used extensively by mule deer and habitat adjacent to rivers and streams are used by moose. Public lands along the Little Popo Agie River and Cherry Creek also support a trout population, making these lands popular fishing destinations.

**Sensitive Plants:** The area supports several Wyoming BLM Designated Sensitive plant species, including Barneby's clover, Rocky Mountain twinpod, Beaver Rim phlox, Fremont bladderpod, and Nelson's milkvetch. These plants are found on sparsely vegetated rocky slopes and in crevices.

**Scenic:** The ACEC is currently managed primarily as VRM Class II and III because of its highly scenic vistas. The existing National Natural Landmark in Red Canyon is a Class I visual resource.

**Unique Geologic Features:** The Red Canyon Area offers one of the most accessible and dramatic examples of Laramide-age range-front structures in the Rocky Mountains. The Canyon was formed some 60 million years ago during the uplift of the Wind River Range to the west. The Wind River Range

was uplifted during the Laramide orogeny (a period of mountain building) along a reverse fault that bounds the range on the southwest. During uplift, the strata on the north flank, represented by Paleozoic and Mesozoic rocks, were tilted to the northeast. As the mountains were uplifted, the Wind River Basin was down-warped so that the total structural relief between the granitic ridge crest of the Wind River Range and the basement below the basin floor is 30,000 feet. Subsequent erosion by the Wind River and its tributaries removed much of the sedimentary basin fill and incised deep east-west canyons and sculptured the hog backs along the range front. At Red Canyon, the more easily erodible rocks were removed by the action of water, leaving more resistant rocks as hogbacks, creating the Canyon as it is seen today. The southern part of the ACEC was designated as a National Natural Landmark because of its excellent geologic characteristics.

The view of Red Canyon from the State of Wyoming maintained and signed Highway 28 scenic overlook is one of the most iconic pictures of Wyoming (along with the individual cultural sites along the National Historic Trails such as Split Rock), and the most identifiable regional images of west-central Wyoming. The Red Canyon overlook is a well visited tourist stop making an important contribution to the tourist routes to Lander and thereafter to the national Parks.

### **IMPORTANCE CRITERIA**

**Fish and Wildlife:** The ACEC supports a large percentage of the Lander portion of the South Wind River elk herd. During winter, the wind-swept slopes within the Red Canyon ACEC and the adjacent Lander Slope ACEC provide the majority of the accessible forage for elk that summer on the Shoshone National Forest. The public lands provide the majority of the winter habitat and forage for these herds that have limited other opportunities to find needed winter forage. The establishment of the Wyoming Game and Fish Department's Red Canyon Habitat Management Unit and the operation of the Red Canyon Ranch by The Nature Conservancy demonstrate recognition of the area's importance for wintering elk beyond the local area.

Open, wind-swept slopes such as those found in the Canyon are essential for winter forage for elk, as the high elevation summer areas in the Shoshone National Forest does not support winter use due to deep snow accumulation in the heavily forested areas. According to the Wyoming Game and Fish Department survey data, this area is significant as a high-value, regionally important winter range for primarily elk and secondarily mule deer, and supports more animals than the acreage would indicate. Without the availability of adequate amounts of forage on suitable winter habitat and unfragmented access to the Red Canyon area, the herd would likely suffer high mortality rates and less genetically diverse herd. Elk would likely shift their use patterns and come to rely heavily on private lands to meet their forage demands, resulting in increased conflicts with landowners.

The lands also support a significant number of mule deer that winter in the area. Mule deer habitat is increasingly being lost or fragmented as private lands around Lander and Atlantic City are subdivided and developed. The BLM lands are essential for providing adequate winter range for mule deer. According to Wyoming Game and Fish survey data, lands within the ACEC support a much larger percentage of the total number wintering elk and mule deer than the amount of acreage would indicate, meaning that this is extremely high value winter range.

The mule deer and elk herds provide hunting opportunities for both resident and non-resident hunters and the loss of hunting revenues could affect the local and regional economy. Many local residents rely upon the hunting of big game to supplement their yearly food supply. The BLM lands provide undisturbed winter range for elk and mule deer, which is necessary to support these herds and maintain animal numbers.

The locally significant fisheries in the area contribute to the overall importance of the ACEC. Surface disturbance on the steep slopes could cause excessive erosion, affecting the quality of the Little Popo Agie River and Cherry Creek fisheries.

**Sensitive Plants:** The five sensitive plant species found in the area have been identified as sensitive due to limited number of known populations or limited amount of suitable habitat available, making the Red Canyon area an important focus for management; of the five sensitive species, Barneby's clover is known to occur only in this general area.

Special management of sensitive species is paramount to maintaining healthy reproducing populations to preclude species declines that can result in the listing under the Endangered Species Act (ESA). One of the principal reasons The Nature Conservancy purchased private lands within the ACEC boundary was the rarity of these plants and their desire to ensure their protection as part of the ACEC management.

**Scenic:** The viewshed within the Red Canyon ACEC is nationally regarded by visitors, artists, and photographers. The Red Canyon viewshed is nationally regarded as being highly scenic. The communities of Lander and Fremont County market this landscape to visitors; in addition, the Bureau of Land Management Lander Field Office maintains a scenic overlook off of U.S. Highway 28 in this area. This landscape also generates revenue nationally for numerous private artists and photographers.

Red Canyon has the highest visual sensitivity of any landscape within the Lander Field Office because of its status, as a result of the National Natural Landmark, as Visual Resources Class I. Local and National publics would readily notice any changes to the landscape character. Any management action that distracted the attention of the casual observer would be highly controversial with local and national publics. Highway 28 (a major observation route through the Red Canyon viewshed) carries an estimated annual average daily traffic level of 1,650 vehicles; many of these visitors visit the BLM overlook. The Highway 28 observation route and scenic overlook are positioned above the landscape or in an observer superior location. Therefore these observation points are highly sensitive to any management action that may occur or change the character of the landscape.

**Unique Geologic Features:** The Red Canyon area is unique for several reasons. The area offers a unique three-dimensional perspective of the processes described above. While the style of deformation along the Wind River Range is fairly uniform, it is very unusual that the deformation is exposed in such a way that it can be simultaneously viewed along both the strike and dip of the uplifted rocks. In addition, the particular rocks exposed have a wide range in origin (depositional environment), texture, color, and erodibility, which also has bearing on the resulting geomorphic landforms. The result is an excellent example of differential erosion of sedimentary layers, the harder, more resistant layers of sandstone and limestone form cliffs and benches, while the soft, easily eroded shales and siltstones form valleys and gulches. The variability in color also lends to an in-depth understanding of stratigraphy and structure to the untrained eye as the geometry of particular beds are easily traced and differentiated

from numerous vantage points. All of the above qualities led to the designation of the southern portion of Red Canyon ACEC as a National Natural Landmark.

### **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized the need for special management of the ACEC, and this is still relevant. The Red Canyon area is becoming increasingly important for wintering elk and mule deer due to the urbanization of many of the privately owned land in the foothills. Wildlife habitat is becoming fragmented as large blocks of private land are subdivided and developed. The public lands provide the majority of the winter habitat and forage for these herds; the loss of habitat corridors and crucial winter range on the public lands would have an irreversible impact on the herds.

Without special management, the BLM would apply standard seasonal protections on crucial winter range which would limit surface disturbance seasonally, but not preclude surface disturbance such as ROW or mineral development outside the seasonal protection dates. Standard management measures would allow habitat fragmentation and degradation from the development of mineral resources, roads, and other rights of ways.

Standard management would open Red Canyon to soil disturbance, roads, transmission lines and other ROWs, resulting in the permanent disfigurement of the area as viewed from the surrounding communities, or protect the geologic resource. ROW avoidance under current ACEC management has prevented the intrusion of discordant elements that would degrade the visual resources. The area already has non-native, invasive weed infestations. Additional ROWs could expand those infestations, affecting the ability of sensitive plant populations to maintain their current size. Weed infestations that increase and cause a significant decline in the number of individual plants or populations could adversely impact the BLM designated Sensitive Species.

Standard management would allow the area to be subject to unlimited mining operations less than five acres without BLM control or management prescriptions. Only ACEC special management prescriptions can control locatable mining operations under Plans of Operation.

Special management would allow other kinds of mineral activities including oil and gas and solid mineral leasing such as phosphate. Phosphate development and exploration would be authorized under standard management. Whether through surface occupancy (strip mining) or underground mining, habitat would be fragmented and degraded by roads, powerlines, and high volume year-round vehicular traffic and human presence. It is likely that such impacts would last for generations due to the difficulty of establishing successful re-vegetation and the likely spread of INNS.

The consequences of the application of standard visual resource management would be adverse and immediate. The most immediate consequence would be the intrusion into the VRM Class I National Natural Landmark, a highly visited scenic stop on an important tourism route.

As more homes are built in the area (including the subdivisions of the nearby private lands, a parallel trend occurs where these property owners become more aware and sensitive to changes in public lands within view or adjacent to their property. The urbanization creates a situation where more homes are in view of the BLM public lands, which increases visual fragility and sensitivity in the area both as viewed from the road and also from the new homes to enjoy the view. Activities associated with ROWs would

affect the wildlife and scenic values of the Red Canyon area. With ROWs such as transmission lines and communication towers comes the maintenance requirements that require road development and year-round access. High visibility developments would introduce a high level of contrast to Red Canyon as viewed from the surrounding community including the highway. This contrast would be in view for long periods of time and scrutinized from multiple view points, many of which are from an observer inferior position, standard visual resource management mitigation (sighting, coloring, reducing size, etc.) measures would not adequately mitigate the visual impacts that result from development, especially ROWs.

Standard seasonal limitations on surface disturbance (such as for big game, raptors, and greater sage-grouse) would not limit other motorized use of the area, which would stress the wildlife at the time of the year when they are most vulnerable. These standard stipulations would allow motorized access throughout the winter and would not limit motorized travel to designated roads. Moreover, standard seasonal limitations apply only to development such as oil and gas drilling. Once wells are drilled and installed, standard seasonal limits do not apply and activities related to mineral production (operation) and maintenance would occur year-round. Due to the importance of the area to wintering wildlife, road development and seasonal use limitations beyond standard stipulations are necessary to reduce animal stress and maintain habitat quality. Although a small portion of Red Canyon would be protected by the standard stipulation prohibiting soil disturbance on slopes in excess of 25%, most of the Slope is less steep. Surface disturbance on the steep slopes less than 25% would likely cause increased erosion, resulting in negative impacts to habitat quality, including aquatic habitat.

The public lands in general have experienced a growth in OHV use, but typically this trend is more intense in the desirable mountainous terrain such as present in Red Canyon. Additionally OHV use in the west is often centered around wildlife viewing, hunting, and antler collecting activities. These activities can occur year-round but are a concern during the period in which wildlife are restricted to winter ranges. Standard management of OHV use typically does not limit seasonal uses. Instead, standard management typically allows for year-round use on roads and trails. The lack of seasonal restrictions associated with such management creates a situation where wintering wildlife are increasingly stressed and habitat quality is degraded due to trail proliferation. Due to the proximity of the Red Canyon area to Lander, there is a desire to by recreationists to snow machine in the area which is disruptive and dangerous to wintering elk. The adverse impact of such year-round access was identified in the 1987 RMP and the Red Canyon areas was closed to human presence, as opposed to the unrestricted impacts that would come with standard management.

The ACEC has areas of existing weed infestations and is susceptible to additional weed problems due to the increase in urbanization and OHV use. Livestock and vehicles can spread weed seeds into native vegetation areas, resulting in an increase in the amount of weed-infested lands leading to a decline in wildlife habitat health and the development of and trails into heretofore inaccessible areas.

The potential for spread and increase of INNS would be accelerated by the surface disturbance associated with mineral development activities. Permitted mining use under standard stipulations require the applicant to implement a weed prevention plan; even when vigilantly enforced (which the BLM lacks the staff to do), drought conditions and other factors that may be outside of the applicant's ability to control, can lead to a spread of INNS even with the best of efforts. Neither the BLM nor the

Fremont County Weed and Pest Department have the staff resources to ensure that the best efforts would be applied.

Red Canyon, as a new and expanding WUI, would benefit from the priority emphasis that comes from recognition of the high value of resources in the ACEC. Treatment dollars are limited, but allocation of funds is improved when the resource values (including both the relevant and important values as well as the other, locally important values) are recognized through special management.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Fish and Wildlife	Yes	Yes	Yes
Sensitive Plants	Yes	Yes	Yes
Scenic	Yes	Yes	Yes
Unique Geologic Features	Yes	Yes	Yes

**RECOMMENDATIONS**

The existing ACEC meets the required relevance and importance criteria for wildlife, sensitive plants, scenic, and geologic values. **The Lander Field Office Interdisciplinary Team recommends that the existing Red Canyon ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.**

Prescriptions to maintain relevant and important values need to address activities under the 1872 Mining Law, management of rights-of-ways, Oil and Gas development, management of Off Highway Vehicles, and renewable energy development.

The 1987 RMP states the following: “The Red Canyon Management Unit will be avoided when locating major utility systems because of potential adverse effects to the high scenic values, wildlife habitat and watershed values. Rights-of-way for major utility systems may be granted only when no feasible alternative route or designated corridor is available.”

Without this existing prescription for rights-of-ways, Red Canyon could ultimately be covered with transmission lines and potential wind development affecting the visual and habitat quality of the area. Therefore, it is essential that the RMP revision carry forward at least this same prescription to prevent this kind of disturbance.

Non-standard management for the protection of all ACEC values includes limitation over locatable mineral entry through a Plan of Operations, control of the development of other mineral resources, including phosphate, oil and gas, and mineral material sales, limits on ROWs, and seasonal limits on motorized travel.

## **Whiskey Mountain ACEC**

**Status: Existing** – The 1987 Lander RMP designated Whiskey Mountain as an ACEC.

**Location of proposed ACEC:** Wind River Mountain foothills south/southeast of Dubois.

**General description:** High elevation, wind-swept slopes and rocky cliffs.

**Acreege of proposed ACEC:** Approximately 8,800 acres of BLM managed surface.

**Primary values considered:** Crucial winter habitat for bighorn sheep.

### **RELEVANCE CRITERIA**

**Wildlife:** The area provides crucial winter range for the Whiskey Mountain bighorn sheep herd, one of the largest and most visible herds in North America. The Wyoming Game and Fish Department (WGFD) has identified Bighorn sheep as a Species of Greatest Conservation Need. The Whiskey Mountain area falls within the WGFD's Whiskey Mountain Wildlife Habitat Management Unit and is cooperatively managed by the BLM, U.S. Forest Service, and WGFD for the protection of bighorn sheep and their habitat. Lands managed by each agency are located on the unit and together support a population objective of 1,300 bighorn sheep.

Bighorn sheep utilize summer alpine habitats on the Shoshone National Forest Wilderness and winter on lands within the ACEC. Bighorn sheep use the open, wind-swept grassy slopes within the ACEC for forage and the adjacent steep rocky cliffs as escape cover.

**Scenic:** The 1987 RMP allocated lands within the ACEC as a Visual Resource Management Class II - IV. Recent inventories conducted by the BLM in partnership with the University of Wyoming have found that the ACEC encompasses visual resource inventory Classes 1 - III. This change is due to the establishment of a Wilderness Study Area (WSA) as well as an increase in use and popularity of the area which has increased the visual sensitivity with which the area is regarded.

### **IMPORTANCE CRITERIA**

**Wildlife:** The Whiskey Mountain bighorn sheep herd is nationally recognized as the source of Rocky Mountain bighorn sheep transplanted to establish new or supplement existing populations in Wyoming and other western states. The BLM, Forest Service, and WGFD have a priority on protecting and enhancing bighorn sheep habitat on their managed lands. WGFD and the BLM have made significant monetary investments on land acquisitions, habitat improvement projects, bighorn sheep research, and interpretive materials and facilities. Since the completion of the 1987 RMP, the BLM acquired 3,892 acres through land exchange to provide additional habitat and protection for the bighorn sheep herd and incorporated management of these lands into the ACEC. The Nature Conservancy purchased several conservation easements on adjacent lands to ensure protection of adjoining habitat and to minimize human generated stress to the sheep.

The National Bighorn Sheep Interpretive Center in Dubois provides tourism and an educational tool. The ACEC protects the bighorn sheep and increases their high profile, thus contributing to the local economy through visitation at the Bighorn Sheep Center and its tours, and bighorn sheep hunting and outfitting.

Because of the ACEC's proximity to Dubois and U.S. Highway 26/287, it provides unique opportunities to view, film, and study bighorn sheep.

Bighorn sheep rely on the area's windblown slopes for winter forage. The habitat is critical in providing the necessary forage and escape cover for bighorn sheep, and without this habitat the herd would not be able to maintain itself nor achieve WGFD's population objectives. Bighorn sheep are highly sensitive to human caused stress, which can result in low reproduction rates or population die-offs. Sheep numbers in this area declined in the early 1990s and each management agency has taken actions to improve herd health and habitat conditions throughout the unit. The herd is slowly rebuilding, but due to the representative age of the population, it is still vulnerable to another die-off.

**Scenic:** The visual resources within the Whiskey Basin WSA have been recognized as warranting protection to satisfy national concerns so that the area can be considered for inclusion into the wilderness preservation system. The Wilderness Act requires the BLM to maintain the area so as not to impede Congress's ability to designate the area as wilderness. The interim Wilderness Study Area designation means that the area is included in the BLM's National Landscape Conservation System (NLCS).

Another sensitivity factor that is associated with lands in this area is that they are within view and adjacent to the Congressionally designated Fitzpatrick Wilderness area on the adjoining Shoshone National Forest. Visitors to the Fitzpatrick Wilderness would be especially sensitive to changes to the characteristic landscape; the undeveloped nature of the BLM lands adjacent to the Wilderness Area add to the wilderness context.

## **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures would not be sufficient to protect bighorn sheep habitat in the Whiskey Mountain area. The ID Team recognizes that special management prescriptions are still relevant.

Special management is needed to prevent the loss or fragmentation of habitat such that it is available during the winter months when bighorn sheep are dependent on it for forage and cover. Standard seasonal protections on winter range would protect animals from surface disturbance during the winter months, but would not prevent surface disturbance to the habitat during the remainder of the year. Any resulting habitat fragmentation would likely prove devastating by further stressing a population at risk. The public lands provide a significant portion of the winter habitat and forage for this herd; the loss of habitat corridors and crucial winter range on the public lands would have an irreversible impact on the herd. Even with ACEC management and the limitation on the grazing of domestic sheep, the population losses in the 1990 reveal how fragile the population is and the need to take extraordinary measures to ensure survival of the population. Special management is also needed to protect the substantial investments made by many agencies/groups (USFWS, USFS, BLM, WGFD, the Town of Dubois) for bighorn sheep and the ACEC.

Bighorn sheep are dependent on the forage produced within the ACEC boundary and on surrounding WGFD and Forest Service lands. The 1987 RMP closed the majority of the ACEC to domestic livestock use to ensure adequate forage is available for bighorn sheep which is outside the scope of standard

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management. The only authorized grazing occurs on BLM Ridge, which currently has authorized horse use during the spring and fall. To address concerns of the remaining authorized grazing on public lands, a cooperative agreement was developed for the grazing permittee to utilize WGFD lands in lieu of public lands. This arrangement ensures that the forage produced on public lands is available for bighorn sheep.

Non-standard travel management and road seasonal use limitations are necessary to prevent undue stress to wintering bighorn sheep. Standard management measures would allow habitat fragmentation by roads and other rights of ways, which facilitate the loss of winter habitat, forage and cover.

No additional special management for the protection of the visual resources is necessary since protection of the primary value, bighorn sheep habitat, in most cases provides for adequate protection of visual resources; standard management measures are adequate to protect visual values. Finally, the Interim Management Policy and Guidelines for Lands under Wilderness Review provide for adequate protection of the visual resources of the lands contained within the WSA.

The usual ACEC value of requiring a Plan of Operations for mining activities is relevant only to those portions of the ACEC that were not withdrawn from mineral entry. The importance of this habitat has been clearly recognized such that the locatable mineral withdrawal currently in place is in the process of being renewed for another 20 years.

An entire suite of management prescriptions not available under standard management are needed to prevent the loss of habitat and adverse impacts to viewshed. Without limitations on ROWs including transmission lines, roads, and communication sites, these activities could be authorized under standard management. Similarly, mineral activities including oil and gas and solid mineral leasing would be authorized, although the lower potential for mineralization in this area reduces the long-term potential adverse impacts. Standard stipulations regarding motorized vehicle use would not preclude winter use, the very time when the risk to adverse impacts to the sheep is the greatest.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	Yes
Scenic	Yes	Yes	Yes

**RECOMMENDATIONS**

The existing ACEC meets the required relevance and importance criteria for wildlife and scenic resources. The Lander Field Office Interdisciplinary Team recommends that the existing Whiskey Mountain ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to protect these resources need to address activities under the 1872 Mining Law, management of rights-of-ways, oil and gas development, management of OHV and roads, management of livestock grazing, and development of renewable energy.

The 1987 RMP states the following: “When locating major utility systems, the Whiskey Mountain Management Unit will be avoided. Rights-of-way might be granted if no feasible alternative route or designated right-of-way corridor is available.” Without this existing prescription for rights-of-ways, Whiskey Mountain could ultimately be covered with transmission lines and potentially wind development. Therefore, it is essential that the RMP revision carry forward at least this same prescription to prevent this kind of disturbance.

Non-standard management for the protection of all ACEC values includes limitation over locatable mineral entry through a Plan of Operations, control of the development of other mineral resources, including phosphate, oil and gas, and mineral material sales, limits on ROWs, closing the area to livestock grazing, and seasonal limits on motorized travel.

## **East Fork ACEC**

**Status: Existing** – The 1987 Lander RMP designated East Fork as an ACEC. Internal and external nominations were received to expand the ACEC boundary to include BLM lands in the adjacent Wyoming Game and Fish Department’s Spence/Moriarity Wildlife Management Area.

**Location of proposed ACEC:** Approximately five miles northeast of Dubois in the East Fork of the Wind River, Wiggins Fork, Bear Creek, and Alkali Creek drainages.

**General description:** High elevation slopes and sagebrush draws adjacent to timber.

**Acreeage of proposed ACEC:** Approximately 4,431 acres of federal surface (which includes lands managed by the USFWS) are within the existing ACEC. The proposed Expanded ACEC (public lands in the Spence/Moriarty Wildlife Management Area) has approximately 3,313 additional acres. ACEC designation applies only to federal lands and not private or state lands within the geographical outline of the ACEC. The value of the lands in the proposed expansion and the threats to those lands are the same as for the existing ACEC so the following analysis does not address them separately.

**Primary values considered:** Crucial winter habitat for elk.

### **RELEVANCE CRITERIA**

**Wildlife:** The lands in the ACEC are designated as crucial winter range for elk and are interspersed with lands managed by the Wyoming Game and Fish Department (WGFD). Due to the area’s importance to wintering elk, a Cooperative Agreement with the U.S. Fish and Wildlife Service put 3,400 acres of public land under the control of the WGFD through provisions of the Fish and Wildlife Coordination Act of 1934.

The existing ACEC lies within the Inberg/Roy Wildlife Habitat Management Area (WHMA) which is approximately 17,400 acres in size and includes the BLM administered land, WGFD lands and the Coordination lands. These lands are managed in conjunction with WGFD lands for winter elk habitat. The lands proposed for inclusion into the East Fork ACEC are also crucial winter range for elk. To provide additional elk habitat, the WGFD acquired approximately 28,800 acres of deeded land adjacent to the Inberg/Roy Wildlife WHMA and established the Spence/Moriarity Wildlife Management Area. Within the boundary of Spence/Moriarity Wildlife Management Area are approximately 3,313 acres of BLM lands. Prior to WGFD’s purchase, all lands in the Spence/Moriarity area were fenced from elk use to prevent depredation on the private lands. Since the purchase of those private lands, elk fencing has been removed and all lands, including those managed by the BLM, are now heavily utilized by wintering elk.

The winter range supports approximately 5,000-6,000 elk that have summer range on the Shoshone National Forest as far away as Yellowstone National Park. This herd is one of the largest in the country that is not supported by a state or federal feed ground. The area also supports a wintering herd of bighorn sheep of which a small herd resides in the area on a year-round basis.

## **IMPORTANCE CRITERIA**

**Wildlife:** The area is considered one of the most outstanding managed elk winter ranges in the West due to the large number of animals it supports without having a supplemental winter feeding program. Elk normally avoid an area with unfamiliar sights, sounds, vehicular traffic, and proximity to human activity and due to the isolation of the summer range, this herd is particularly wild and susceptible to disturbance. A road density of greater than 1 mile per square mile eliminates habitat effectiveness in non-forested landscape (Lyon 1979) such as found in this ACEC. It has been observed that unusual activity on the winter range causes elk to flee to surrounding private lands, often causing conflicts. Bighorn sheep also use this area on a year-round basis, but congregate in larger numbers during the winter. Both elk and bighorn sheep depend on the wind-swept areas for exposed forage. During winter, these wind-swept slopes provide the majority of the accessible forage for elk that summer on the Shoshone National Forest that is not suitable as winter habitat because of the deep snow that makes forage inaccessible to animals.

Elk and bighorn sheep are significant contributors to the local economy as a result of the visitors and hunters they bring to the area. Due to East Fork's proximity to Dubois and easy access from U.S. Highway 26/287, it offers quality hunting, fishing, outfitting, and other recreational opportunities. Significant labor and monetary investments have been made by the WGFD to secure and protect this regionally important elk and bighorn sheep habitat, as well as to complete numerous capital improvements to benefit the public and to protect the habitat. WGFD and the BLM have conducted many habitat improvement projects to ensure adequate forage is available for the large number of elk that migrate to this winter range.

In recognition of the importance of this elk herd and its habitat, the WGFD and the State of Wyoming purchased lands in the Spence/Moriarity Wildlife Management Area and completed numerous visitor enhancement projects. The BLM has cooperated with WGFD and the U.S. Forest Service to conduct extensive habitat improvement projects and habitat and herd monitoring. Livestock grazing is not authorized on WGFD lands in accordance with the terms and conditions of the land sale so that all forage is available for wintering wildlife.

## **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures would not be sufficient to protect wildlife values in the East Fork area. The ID Team recognizes that special management prescriptions are still relevant and necessary to protect wildlife habitat in the area. Special management since 1987 has been successful in protecting elk and bighorn sheep habitat on lands within the existing ACEC. Continued special management prescriptions are needed to protect the public land habitat in the proposed ACEC and protect the investments made by the WGFD and Wyoming sportsmen to secure lands within the Spence/Moriarity Wildlife Management Area.

An entire suite of management prescriptions outside of standard stipulations are required to provide the resource protections needed. The identified threats are ROWs including transmission lines, wind energy development and new roads and access routes as well as development of mineral resources especially oil and gas and secondarily other leasable minerals and salable. Additionally, the standard mitigation measures such as limitation of surface disturbing activities occurring during the winter

months would not prevent surface-disturbance from occurring during the remainder of the year, which would cause habitat loss and fragmentation. The public lands provide important winter habitat and forage for the elk and bighorn sheep herds; the loss of habitat corridors and crucial winter range on the public lands would have an irreversible impact on the herd.

Special management over and above standard stipulations is needed because of the growth of Dubois and the subdivision of private lands. As habitat is increasingly focused on public and state lands, protecting that habitat increases in importance. Management as an ACEC for more than 20 years has resulted in a stable herd, notwithstanding the growing subdivisions and ranchettes in the surrounding area. This progress would be undermined if the existing ACEC protections were lost and the area was made available to mineral leasing, ROWs, and other authorized activities that would be allowed under standard management.

Extensive public funds have been invested to secure the lands for the management area. An interagency group manages the lands to protect and enhance habitat. Habitat fragmentation that could occur without special management would have irreparable impacts to the elk herd in particular.

The need for special management and a national recognition of the area’s importance has been demonstrated by the withdrawal of existing ACEC lands from mineral entry under the 1872 mining law. Under standard management, the locatable mineral withdrawal would be allowed to expire and the area would be made available to mining.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	Yes

### **RECOMMENDATIONS**

The existing and proposed expanded ACEC meet the required relevance and importance criteria for wildlife values. The Lander Field Office Interdisciplinary Team recommends that the existing and proposed expanded East Fork ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address activities under the 1872 Mining Law, management of rights-of-ways, Oil and Gas development, management of Off Highway Vehicles, and renewable energy development.

The 1987 RMP states the following: “The area will be avoided when locating major utility systems. Rights-of-way for major utility systems might be granted if no feasible alternative route or designated right-of-way corridor is available.”

Without this existing prescription for rights-of-ways, the area could be open to transmission lines and wind development. Therefore, it is essential that the RMP revision carry forward at least this same prescription to prevent this kind of disturbance. Non-standard management for the protection of all

ACEC values includes limitation over locatable mineral entry through a Plan of Operations, control of the development of other mineral resources, including phosphate, oil and gas, and mineral material sales, limits on ROWs, and seasonal limits on motorized travel.

## **Dubois Badlands ACEC**

**Status: Existing** – The 1987 Lander RMP designated Dubois Badlands as an ACEC.

**Location of proposed ACEC:** The badlands occur at the northwest corner of the Wind River Indian Reservation and extend along the north bank of the Wind River, and are several miles wide terminating approximately two miles west of Dubois. The badland geology extends nearly to the Dunoir Creek on non-federal Lands.

**General description:** Badlands with extensive erosion patterns and colorful soil banding.

**Acreage of proposed ACEC:** Approximately 4,900 acres of BLM managed surface.

**Primary values considered:** Important bighorn sheep habitat and high scenic values.

### **RELEVANCE CRITERIA**

**Wildlife:** The area provides year-round habitat for a resident herd of bighorn sheep. The area is relatively small and has lower forage-producing sites than in other bighorn sheep areas; however, the area produces trophy rams that attract hunters and wildlife viewing. Bighorn sheep utilize this area in conjunction with lands in the East Fork ACEC and lands within the Spence/Moriarity Wildlife Management Area. The rough topography of the area supports yearlong use. Suitable hiding cover is present within the rugged badlands and the ridgetops and slopes provide winter forage.

**Scenic:** The 1987 RMP allocated the Dubois Badlands as a visual resource management Class III and IV. Recent inventories of this area more accurately allocate this area as follows: within the WSA classes I, II, and III. The visual management allocation reflected the need to maintain or enhance the sheep habitat; therefore providing flexibility to alter the characteristic landscape.

The Dubois Badlands are highly visible from the town of Dubois and along an important travel route to Yellowstone and Grand Teton National Parks. The Badlands represent a stark contrast to the surrounding landscape, particularly to the intensely green spring and summer vegetation in a band along the Wind River and this contrast adds exceptional appeal to a diverse visual landscape. The diversity in the form and color of the Dubois Badlands creates an extraordinary backdrop for residents of the Town of Dubois and travelers who are utilizing this southern route to the National Parks. For many travelers from east of this area, the Dubois Badlands are the first encounter of the badland type of erosional soil that can be found in other areas of the west.

**Fragile and sensitive soils:** The Dubois Badlands are comprised of variegated claystones, silt stones, and sandstones from the Wind River and Indian Meadows Formations. The badland soils have inherently high rates of natural or geologic erosion. Even small summer rain events quickly turn the Wind River reddish with eroded badland sediment below while the area above the badlands runs clear.

### **IMPORTANCE CRITERIA**

**Wildlife:** The bighorn sheep herd in the Dubois Badlands contributes significantly to the overall number of bighorn sheep using the BLM and other habitats around Dubois. The National Bighorn Sheep Interpretive Center was constructed in Dubois to generate tourism and as an educational tool. Bighorn

sheep are significant contributors to the local economy through the visitation/tours at the Bighorn Sheep Center and bighorn sheep hunting and outfitting. Due to the area's proximity to Dubois and U.S. Highway 26/287, the ACEC provides unique opportunities to view, film, and study bighorn sheep.

The ACEC makes up a significant portion of the Badlands hunt area for bighorn sheep. Actions that degrade or fragment habitat would result in the area being able to support fewer bighorn sheep and subsequently provide less hunting or viewing opportunities. Because the majority of the ACEC is also designated a Wilderness Study Area, the amount of habitat disturbance that can occur is currently limited. Lands within the ACEC but outside the WSA boundary would not have the same protection.

**Scenic:** The proximity of the Dubois Badlands to the town of Dubois makes this area a highly sensitive scenic landscape. The town of Dubois is directly adjacent to the scenic badlands; therefore, the public would easily notice major changes to this "backyard" landscape. The scenic resource represents some of the last BLM lands seen before visitors enter the south gates of Yellowstone and Grand Teton National Parks. Any activity that would change the characteristic landscape of this area would be highly controversial.

**Soils:** The badlands are often the first, and biggest, example of such geology for most of the tourists on their way to Yellowstone Park from the eastern United States. Areas of sedimentary badlands do not exist in the east. The combination of the red, gray, and purple banding and the steep slopes, with contrasting vegetation along the river, are a scenic and singular attraction along this major tourist thoroughfare.

### **NEED FOR SPECIAL MANAGEMENT**

As was recognized in the 1987 Lander RMP, standard management measures are not sufficient to protect wildlife and scenic values in the Dubois Badlands area. Seasonal protections (which prohibit surface disturbance during winter) are not adequate since the bighorn sheep occupy the area year-round and would be adversely impacted by surface disturbances authorized outside the winter avoidance period. Oil and gas development or roadways and power lines constructed after the winter season would adversely impact the bighorn sheep and would sharply contrast with the visual resources thereafter.

While the standard limitation of disturbance on steep slopes combined with the BLM guidance to avoid soils with low reclamation might protect the face of the badlands, the tops of the badlands would not be protected and could be made available for ROWs and other visually intrusive disturbances. Any surface disturbing activity would have the potential to cause a highly noticeable contrast with the badlands, particularly from the viewpoint of an observer looking up at the badlands. Due to the nature of the soils, surface disturbance would have a permanent and irreversible degradation of the area. Lands that are within the WSA are protected from additional disturbance under the Interim Management Plan, but lands outside the WSA would not have such protection without ACEC designation.

Moreover, bighorn sheep are highly susceptible to stress which can result in disease, poor lamb production, or a population crash. Limiting exposure to disturbance is essential for maintaining the health of this herd, something that could not be accomplished with standard management.

Standard stipulation management would not prevent mineral development activities, ROWs, and locatable mineral exploration and development. In addition, motorized vehicle use would not be precluded, even seasonally.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	Yes – outside the WSA
Scenic	Yes	Yes	Yes – outside the WSA
Soils	Yes	Yes	Yes – outside the WSA

### **RECOMMENDATIONS**

The existing ACEC meets the required relevance and importance criteria for wildlife, scenic, and soil values. The Lander Field Office Interdisciplinary Team recommends that the existing Dubois Badlands ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address activities under the 1872 Mining Law, management of rights-of-ways, Oil and Gas development, management of Off Highway Vehicles, and renewable energy development.

The 1987 RMP states the following: “The Dubois Badlands will be avoided when routing major utility systems. Rights-of-way might be granted if no feasible alternative route or designated right-of-way corridor is available.”

Without this existing prescription for rights-of-ways, transmission lines and wind development could be constructed in the Dubois Badlands, significantly altering the viewshed. Therefore, it is essential that the RMP revision carry forward at least this same prescription to prevent this kind of disturbance as well as address the potential for mineral development.

## **Beaver Rim ACEC**

**Status: Existing** – The 1987 Lander RMP designated Beaver Rim as an ACEC. The ID Team considered recommendations to expand the boundaries to include additional geologic and visual resources.

**Location of proposed ACEC:** In south-central Fremont County, north and west of Sweetwater Station.

**General description:** The Beaver Rim ACEC is a major east-west trending escarpment that separates the Sweetwater River drainage basin from the Wind River drainage basin. Beaver Rim marks the point where the Sweetwater Plateau abruptly ends. The area below the steep slope of the Rim is the southern edge of the Wind River Basin.

**Acreege of proposed ACEC:** The 1987 Lander RMP designated 6,421 federal surface acres for the Beaver Rim ACEC. External nominations to expand the 14,111 acres in the area of Highway 287 to near Sand Draw Highway and in the area from near Findley Lakes to Dry Lakes.

**Primary values considered:** Scenic resources, Native American sites, unique geological/paleontological exposures, and unique plant communities.

### **RELEVANCE CRITERIA**

#### Existing ACEC:

**Scenic Value:** The 1987 Resource Management Plan allocated Beaver Rim as VRM Class II. The 2009 Visual Resources Inventory by the Bureau of Land Management in partnership with the University of Wyoming shows that these values exist today. The scenic value associated with Beaver Rim is strongly correlated to the feature's strong lateral horizon line that contains a strong smooth texture. The slopes of the Rim also provide contrasting colors and land forms that add to the quality of the scenery.

**Wildlife:** Beaver Rim provides excellent nesting habitat and hunting perches for many raptor species including golden eagles, red-tailed hawks, prairie falcons, and American kestrels. Sites typically used for nesting are rock wall cavities, rock ledges, and trees located above, below or within the Rim. The steep cliff walls along the Rim are inaccessible for most animals, therefore provide the protection raptors seek to ensure their nest, eggs, and chicks are safe from predation. Raptors also utilize key observation points along the Rim as perch sites when hunting prey.

**Plant Communities:** The 1987 RMP recognized the important plant communities on Beaver Rim, which continues to play an important role in the area's ecosystem. Several Wyoming BLM sensitive plant species occur within the area. There are populations of Cedar Rim thistle, Beaver Rim phlox, Fremont bladderpod, and Rocky Mountain twinpod found on the shallow soils and rocky slopes along the Rim.

In addition to the sensitive plant species, the topographical and soil characteristics of the area creates a unique micro-climate that causes the plant community on the face of the Rim to take on the character and composition of a moister regime. This produces unique vegetative communities, including isolated stands of Douglas fir on small upland benches and water birch in the draws. Although these ancient Douglas fir stands are small in size, they are scattered in numerous locations along the Rim. Aspen and peachleaf willow tend to be concentrated in areas with water, thus creating wooded riparian/wetland communities.

**Significant Cultural Value:** The Beaver Rim ACEC area contains numerous archeological sites, some of which are important to local Indian tribes. Stone circle sites, cairns, open campsites, and prayer sites have been identified along Beaver Rim. Several of these sites have been determined to be eligible for National Register nomination by the BLM and the State Historic Preservation Officer (SHPO). Tribal elders have also identified at least one site within the ACEC as important for spiritual values and they also regard Beaver Rim as an important feature for praying and fasting.

**Rare Geologic Features:** The current Beaver Rim ACEC encompasses the proposed Beaver Rim National Natural Landmark (NNL). This area was proposed in the 1980s as an NNL because of the unusually complete sequence of Tertiary<sup>1</sup> geologic deposits exposed along the slopes of the Rim. This sequence includes representative exposures of virtually complete Early Eocene Epoch (~53 million years ago) through Middle Miocene Epoch (~10 million years ago) stratigraphy. This nearly-complete sequence is rarely exposed as a unit and is important to the understanding of Wyoming Tertiary geology. Its significance is increased by its proximity to U.S. Highway 287, where the most intact section occurs near Green Cove. The area is also highly representative of the deflational and erosional boundary between the degrading Wind River Basin to the north and west, and the stable upland Sweetwater Plateau. In addition, rare fossil remains within the exposed stratigraphy along Beaver Rim have attracted professional paleontological expeditions to this area for over a century.

Proposed Expanded ACEC:

**Scenic Value:** A proposal suggested expanding the Beaver Rim ACEC to encompass a larger area of Beaver Rim that also inventoried as a Class II visual resource. The proposed expansion includes the entire portion of this scenic feature as viewed from Highway 287; a sensitive observation route. Traffic counts conducted by the Wyoming Department of Transportation in 2005 found that the estimated annual average daily traffic level on U.S. Highway 287 as 2,173 vehicles, which makes this route a significant tourist approach to Grand Teton and Yellowstone National Parks. In 2007, the Wyoming Department of Transportation constructed an interpretive and scenic overlook that provides an excellent view of the western portion of the proposed expanded area.

**Wildlife:** The availability of suitable nesting habitat for raptors in the proposed expanded portion would be the same as that described in the existing ACEC area.

**Plant Communities:** Similar to the existing ACEC, populations of Cedar Rim thistle, Beaver Rim phlox, Fremont bladderpod, and Rocky Mountain twinpod which are all Wyoming BLM designated Sensitive Plant Species, occur within the ACEC expansion area.

Vegetative communities in the proposed expanded ACEC change as one moves east along Beaver Rim. The north facing aspect tends to create a micro-climate which hosts unique and important plant communities along the Rim face. The base of Beaver Rim marks the southern end of the Wind River Basin.

The vegetative significance of the expanded Beaver Rim area is that much of the vegetation there is more typical of an area with a 15-19" moisture zone. The increase in moisture and the unique plant community that exists is a result of added snow through extensive drifting coupled with the north

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<sup>1</sup> A description of the Tertiary deposits is given in the Geology section of the Analysis of the Management Situation.

aspect that the rim exhibits. Snowdrifts upwards of 100' build out from the Rim providing a moister and wetter environment than the existing ACEC area which has a southwest aspect. The plants that are found along this expanded area are important as they tend not to exist in either of the landscapes above or below the Rim. These areas contain grasses such as Columbia needlegrass, Idaho fescue, and bluebunch wheatgrass. The north and east facing ridges contain forbs such as lupine, scarlet globemallow and columbine. Trees common along the expanded area of the Rim include quaking aspen, juniper and limber pine. The aspen and limber pine areas provide habitat for elk, mule deer and occasionally moose.

As indicated above, other unique plants that would not be predicted because of precipitation are old growth stands of Douglas fir and water birch. Important shrub communities consisting of sagebrush and mountain shrub types are exhibited throughout the Rim. Areas of black sagebrush and mountain big sagebrush dot the landscape within the Rim. Inclusions of Western snowberry and Bitterbrush line the draws adjacent to patches of basin wildrye and rhizomatous wheatgrass. While these vegetative communities are not unique in the planning area, their location here is unique.

The area's moisture pattern coupled with the geology in Beaver Rim provide for a vast number of springs, seeps and streams that run off the face of Beaver Rim. Numerous riparian/wetland areas such as springs and seeps are "salt and peppered" along its face. This scattering of riparian areas throughout the expanded Beaver Rim ACEC area provides for a vast array of richness and character that are unique in the community. The areas east from the Rim provide important contributions to the Sweetwater River watershed with the potential of impacting downstream threatened and endangered species (T&E).

**Significant Cultural Value:** Cultural resource information for the area within the proposed expanded ACEC is lacking. Local sources indicate that cultural resource sites are common and diverse within the expanded ACEC area, but this information has not yet been confirmed by the BLM. The topography of the proposed expansion area is similar to that of the existing ACEC although in places less dramatic, so that it is likely that a thorough search of the expanded area would reveal similar types of cultural properties in similar types of concentrations.

**Rare Geologic Features:** The proposed expanded ACEC also displays an excellent sequence of Tertiary geologic deposits exposed along the slopes of the Rim, which constitutes one the most complete sequences of non-marine rock of Tertiary age in the Rocky Mountain region. The sequence in the expanded ACEC area includes representative exposures of virtually complete Early Eocene Epoch (~53 million years ago) through Middle Miocene Epoch (~10 million years ago) stratigraphy. This area is also highly representative of the deflational and erosional boundary between the degrading Wind River Basin to the north, and the stable upland Sweetwater Plateau to the south. The proposed expanded ACEC area is also significant for the preservation of volcanic deposits derived from the Yellowstone-Absaroka volcanic field to the northwest, and the Rattlesnake volcanic field to the east.

## **IMPORTANCE CRITERIA**

### Existing ACEC:

**Scenic Value:** The scenic feature of Beaver Rim provides a focal point for travelers along the Highway 287 corridor and residents of the Wind River Basin. Recent public input has demonstrated that a portion of the public regards this viewshed as being sensitive to adverse change.

Because Beaver Rim presents a smooth skyline that dominates the landscape, the skyline value is especially sensitive to vertical changes that are not to scale with the surrounding natural environment. Additionally, the scenic features below the Rim are highly erosive and vulnerable to activities that could reduce critical vegetation that currently stabilize the soil. The State of Wyoming has recognized Beaver Rim's scenic values by establishing a scenic and interpretive highway pull off area just before the highway descends the Rim, with interpretation of the geologic features to the west and north along the ACEC and proposed expanded area.

**Wildlife:** Beaver Rim is important raptor nesting habitat due to the quantity and quality of available nest sites. The Rim supports a higher density of nesting raptors than in adjacent habitats due to the variety of nesting mediums. Raptors prefer to nest along the Rim because its topography offers protection from predation.

**Plant Communities:** The majority of suitable habitat and documented populations of Cedar Rim thistle and Beaver Rim phlox occurs along Beaver Rim. Fremont bladderpod and Rocky Mountain twinpod are also found in suitable habitats along Beaver Rim; however these plants are known to occur in suitable habitat in other areas within the Lander Field Office.

The vegetative values within Beaver Rim display unique characteristics for this area as a plant community of high foothill or low mountain moisture. Hunting, sightseeing, bird watching, and wildlife forage and cover are common in the area as a result of this unique vegetative resource in the area. It is an oasis within a desert with unique stands of Douglas fir on the benches and limber pine on the ridges. The riparian values that exist in this area go unsurpassed in quality vegetation. The willow and water birch communities exist in and around the very wet sites, providing cover for neo-tropical birds and other wildlife species. This area has a distinctive placement in the landscape with special vegetative features in and amongst the sagebrush steppe that surrounds it. These vegetative features are importantly locally.

**Significant Cultural Value:** No cultural resources within the existing Beaver Rim ACEC are anticipated to be more than locally significant. However, these cultural resources are fragile, sensitive, and vulnerable to adverse change.

**Significant Geologic Value:** These values are addressed above in the importance section.

### Proposed Expanded ACEC:

**Scenic:** The proposed Expanded ACEC would encompass more of the important scenic values described for the existing ACEC. The portion of the proposed expanded ACEC outside of the viewshed of highway 287 is scenic; however public sensitivity in this area is lower here than within the immediate highway corridor.

**Wildlife:** Quality nesting and hunting habitats for raptors exists in similar amounts and integrity within the expanded area. These habitats are also similar in importance to those contained in the existing ACEC.

**Plant Communities:** The proposed expanded ACEC would encompass a larger area of the unique plant communities discussed above. There are populations of the four BLM sensitive plant species previously discussed that occur in the expanded area. This area is equally important in providing habitat for these species as is the existing ACEC.

**Significant Cultural Value:** No cultural resources within the expanded ACEC area are anticipated to be more than locally significant. However, these cultural resources are fragile, sensitive, and vulnerable to adverse change.

**Rare Geologic Features:** The expansion of the Beaver Rim ACEC was primarily proposed because of its unique geological characteristics. The proposed expanded area, along with the existing ACEC area, is an unusual example of one of the most complete Tertiary non-marine rock sequences in the Rocky Mountain region. This sequence also provides abundant information about sedimentation and depositional environments in this part of Wyoming. The expanded ACEC area is also an excellent example of regional geologic uplift of surrounding mountain ranges, the down warping of the Wind River Basin, and the later differential uplift where the area south of the Rim failed to rise, thus preserving this area from erosion. Because of their fragile natures, the geologic features within the ACEC are also sensitive, rare, exemplary, unique, and vulnerable to adverse change.

## **NEED FOR SPECIAL MANAGEMENT**

Current special management for the Beaver Rim ACEC includes a requirement for plan of operations for mineral entry, no surface occupancy for oil and gas leasing, Off Highway Vehicle travel limited to existing roads and trails, and major utility systems avoided unless no feasible alternatives are available. This management is more restrictive of development than standard management and needed to protect the unique resources in the ACEC.

Standard mitigation such as seasonal limitations on surface disturbance would not protect raptors, which are present yearlong, as habitat loss and fragmentation could occur outside the seasonal protective period. Standard limits on slope would protect the steep face of Beaver Rim but not the flat top of the Rim or its visual resources and setting. Site avoidance of identified cultural and paleontological resources would not protect negative impacts to the sacred site of the Rim as a whole.

Standard stipulations would not limit mineral or realty development such as ROWs for transmission lines, pipelines, and wind energy development; there is moderate to high potential for wind development in the existing and expanded ACEC. Standard management would allow locatable mineral exploration and development without any meaningful BLM involvement unless more than 5 acres of disturbance would occur.

Any visually intrusive development that contrasted with the viewshed of the geological features would reduce their unique value of being a full range of geologic epochs that is easily seen and appreciated from the highway corridor (rather than in a remote location inaccessible to the public). Standard stipulations would allow such intrusions to occur.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Wildlife	Yes	Yes	Yes
Plant Communities	Yes	Yes	Yes
Rare Geologic Features	Yes	Yes	Yes
Scenic	Yes	Yes	Yes
Significant Cultural Values	Yes	No	Not Applicable

**RECOMMENDATIONS**

The existing and proposed expanded ACEC meet the required relevance and importance criteria for wildlife, sensitive and unique plant communities, rare geologic features, and scenic values. **The Lander Field Office Interdisciplinary Team recommends that the existing and proposed expanded Beaver Rim ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.**

Prescriptions to maintain relevant and important values need to address: activities under the 1872 mining law, management of rights-of-way, Oil and Gas development, management of Off Highway Vehicles, etc.

The 1987 RMP states the following: “Except for three areas (the Oregon/Mormon Pioneer Trail corridor, the Sweetwater Canyon and the Sweetwater Rocks), construction of major utility systems throughout the Beaver Creek Management Unit will be allowed. Rights-of-way might be granted within the three high-resource value areas mentioned above if no feasible alternative route or designated corridor were available. Utility systems will be concentrated in existing corridors whenever possible.”

The 1987 Resource Management Plan designed Beaver Rim as VRM Class II. Without this existing prescription, Beaver Rim could ultimately be covered with transmission lines, pipelines, communication sites, and wind development that creates a harsh contrast to the geologic resources. With this same prescription being carried forward, this area will be avoided to prevent this kind of disturbance.

The scenic value associated with Beaver Rim is strongly correlated to the feature’s strong lateral horizon line that contains a strong smooth texture.

## **Green Mountain ACEC**

**Status: Existing and nominated for expansion** – The 1987 Lander RMP designated a portion of Green Mountain and Crooks Mountain as an ACEC. Nominations recommend the expansion of the ACEC and/or modification to include the elk parturition areas to the south of the existing ACEC boundary on Green Mountain.

**Location of proposed ACEC:** Extreme southeast Fremont County, south of Jeffrey City.

**General description:** North slopes of Green Mountain and Crooks Mountain.

**Acreage of proposed ACEC:** Existing: Approximately 14,600 acres federal surface.

**Proposed for expansion:** Additional 10,248 acres federal surface.

**Primary values considered:** Important elk habitat and a historical resource.

### **RELEVANCE CRITERIA**

#### Existing ACEC:

**Wildlife:** The ACEC follows the boundary of WGFD designated elk crucial winter range on Green and Crooks Mountains which constitutes most of the winter range for the Green Mountain elk herd. This herd is predominantly non-migratory and spends the summer and winter on the same mountain. The crucial winter range lies on the north side of the mountain which offers more wind protection and shallower snow depths than on the timbered top and south slopes where most of the elk summer. The areas to the south of the ACEC are the more open areas that provide habitat for parturition.

**Significant Cultural Value:** The Sparhawk Cabin historic site area was a component of the 1987 Green Mountain ACEC. It has since been determined that the site is not more than locally significant; by current standards, the Sparhawk Cabin alone would not meet the relevance criteria. No other significant historic or cultural values are known to exist in the ACEC. The Sparhawk Cabin, however, contributes to the resource values of the area.

#### Proposed Expanded ACEC:

**Wildlife:** The area nominated for expansion includes the elk parturition area located south of the existing ACEC near the top of Green Mountain. A small portion of the WGFD identified parturition habitat lies within the existing ACEC, but the majority of the habitat is outside, but adjacent to, the existing ACEC boundary.

### **IMPORTANCE CRITERIA**

#### Existing ACEC:

**Wildlife:** The Green Mountain elk herd is unique because the herd summers and winters in the same general area. This is uncharacteristic for most elk herds, which typically summer in higher elevation woodland habitats and then migrate to lower elevation winter ranges. The area contains the majority of identified crucial winter range for this elk herd. Snow depths force elk out of the timber into the more

open areas that typically consist of sagebrush-mixed grass habitats. If this crucial winter range were unavailable, elk would move into other areas, including private lands near the Sweetwater River, which are used as livestock winter grazing and feeding pastures. Landowner conflicts would increase as private land forage depredation by elk would likely occur.

The ACEC area receives a great deal of public use from hunting, fishing, camping, and firewood gathering. Hunting permits for elk on the Green Mountain area are highly sought after due to the quality of the elk, including many trophy animals, the large amount of public lands, and the extensive access in the area including opportunities for hunting camps.

**Significant Cultural Value:** The Sparhawk Cabin historic site area was a component of the 1987 Green Mountain ACEC. The cabin is fragile and vulnerable to adverse change and a feature that is locally interesting. No other significant historic or cultural values are known to exist in the ACEC.

Proposed Expanded ACEC:

**Wildlife:** The expanded ACEC area encompasses the only WGFD identified parturition habitat for the Green Mountain elk herd (except for the very small portion in the existing ACEC). These areas are important for elk calf survival, as habitats must have dense enough timber to offer adequate hiding cover, but be close to open areas that provide suitable forage.

**Cultural Resources:** There are no identified cultural resources in the expanded ACEC.

## **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures are not sufficient to protect wildlife values in the Green Mountain area, and this situation is still relevant. Elk numbers have increased in the Green Mountain herd, which shows the success of the special management prescriptions which include special seasonal timing restrictions, limits on surface occupancy limits, limits on new roads and ROW, and the requirement for Plans of Operation for locatable mineral development as well as oil and gas management as NSO.

The area has historically undergone intensive exploration and development for uranium and, to a lesser degree, oil and gas. The resurgence of the uranium market has resulted in renewed mining activity in the area. There has also been increased interest in drilling for oil and gas within and surrounding the ACEC. In addition, the area is the subject of much interest by companies looking to develop wind power projects. Energy development activity could result in the loss or significant alteration of the elk crucial winter range that could threaten the viability of the Green Mountain herd.

Unlimited mineral development and unregulated mining operations under standard management prior to 1987 imperiled the elk herd to the point that special management was required to prevent the loss of the herd or forcing the herd north on to private lands for forage. Standard seasonal protections prohibiting surface disturbance on crucial winter range would protect animals from disturbance during the winter months but would not prevent surface-disturbance to the habitat during the remainder of the year that would thereafter fragment habitat and facilitate motorized vehicle entry into the area. Special management is needed to prevent the loss or fragmentation of habitat such that it is available

during the winter months when elk are dependent on it, during the spring parturition time, and thereafter for forage and habitat.

For both the existing ACEC and the proposed expanded ACEC, standard management would allow mineral exploration and development that could significantly affect the quality of these parturition areas by changing the forage-to-cover ratio of the habitat. Human presence and the loss or reduction in available calving habitat could result in elk avoidance of the area. Calving occurring in unsuitable habitat could result in herd recruitment rates lower than needed to maintain herd population objectives.

Standard management would allow ROWs including wind energy development (the area is moderate to high wind potential), ROWs including pipelines and transmission lines to facilitate mineral development, and extensive new roads for uranium and oil and gas development. Standard management would allow motorized access to the existing and expanded ACEC which would be particularly adverse during the winter and parturition seasons when elk are the most vulnerable.

The ACEC and expanded ACEC both have at least moderate potential for uranium development. ACEC designation does not preclude that development but would allow the BLM to require a Plan of Operations for the exploratory and small development activities that have the most potential for adversely impacting elk. Prior to the creation of the ACEC in 1987, the elk herd was adversely impacted by the proliferation of tracks created by uranium exploration activities. Since many of these actions disturbed less than 5 acres, the BLM had little opportunity to require more protective measures to reduce impacts. Many of these impacts resulted in destructive erosion and subsequent sedimentation of riparian areas from mining exploration. Erosion throughout the Green Mountain area was extensive enough that beaver dominated streams were silted in and lost, resulting in long-term adverse impacts to the aquatic ecosystem. If the BLM had been able to require a Plan of Operations, these destructive disturbances could have been avoided.

With the tool of a Plan of Operations that comes with ACEC designation, the BLM can also avoid disturbance during the most critical seasons for the elk. Without that special management tool, disturbance could proceed with very adverse effects to the elk. The BLM’s approval of a Plan could also avoid the type of spider-net type of road development that occurred before ACEC designation.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	Yes
Cultural	No	No	Yes

**RECOMMENDATIONS**

The existing and proposed expanded ACEC meet the required relevance and importance criteria for wildlife values. The Lander Field Office Interdisciplinary Team recommends that the existing and proposed expanded Green Mountain ACEC be carried forward for analysis in the RMP revision including

whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address activities under the 1872 Mining Law, management of rights-of-ways, Oil and Gas development, seasonal use of motorized vehicles, and renewable energy development.

The 1987 RMP states: “Public lands will be open for location of utility and transportation systems. These systems will be concentrated in existing utility corridors whenever possible. No significant impacts are anticipated from major utility systems, especially if located in existing corridors.”

Major utility system projects are becoming more prevalent in the Green Mountain area. These projects include, but are not limited to: natural gas pipelines, CO<sub>2</sub> pipelines, and fiber optic lines. Green Mountain will be avoided whenever possible for authorizing of rights-of-ways. Major utility systems will only be authorized in areas of previous surface disturbance.

## **National Historic Trails ACEC**

**Status: Existing** – The 1987 Lander RMP designated the National Historic Trails (NHTs) corridor as an ACEC. As originally created this ACEC consisted of the Oregon/Mormon since then, two other National Historic Trails (the California and Pony Express NHTs) have been incorporated into the ACEC and follow the same route. The existing ACEC protects these Congressionally-designated National Historic Trails with a protection corridor (sometimes called a buffer) extending ¼ mile on each side of the trails. During scoping for the new RMP revision, both internal and external nominations recommended expanding the width of the existing ACEC to protect more of the historical settings around the NHTs. The purpose of the expansion is to protect more of the excellent historic and scenic settings along the Trails.

**Location of proposed ACEC:** A linear resource running east-west, in southwestern Natrona County and southern Fremont County. This trails corridor follows the Sweetwater River for most of its length turning to the southwest at the western part of the field office.

**General description:** The existing ACEC is approximately 27,700 acres. The National Historic Trails corridor consists of four congressionally designated National Historic Trails: the Oregon, Mormon Pioneer, California, and Pony Express Trails. These trails essentially follow the same route across the southern part of the Lander Field Office. This trail corridor mostly follows the Sweetwater River, from near Independence Rock to Burnt Ranch. The ACEC contains primarily rolling sagebrush plains, with riparian vegetation along the river, creeks, and springs.

**Acreage of proposed ACEC:** The proposed expanded ACEC would cover more lands that contribute to the historical setting of the NHTs, and several different buffers have been proposed as appropriate to best preserve the intact historic and visual settings of the Trails; analysis of the Trails indicates that a five mile buffer would be adequate to prevent high contrast visual intrusion, would include approximately 440,455 additional acres. ACEC designation applies only to federal surface and minerals and not private or state lands within the geographical outline of the ACEC. The federal mineral estate is managed in conformity with ACEC surface management.

### **RELEVANCE CRITERIA (both existing ACEC and the proposed expanded)**

**Primary values considered:** Relevance criteria #1: Significant historic and scenic values.

**Significant Historic Values:** In 1981, Congress designated the Oregon and Mormon Pioneer Trails as National Historic Trails (“NHTs”), and directed land managing agencies to protect their values. In 1999, Congress also designated the California and Pony Express Trails as NHTs. These Congressionally-designated NHTs all run through the Lander Field Office, and with a few exceptions, these trails follow the same route through the Lander Field Office. This trail corridor also contains several highly significant historical sites, including Independence Rock, Devil’s Gate, Martin’s Cove, Split Rock, Ice Slough, Sixth Crossing, Rocky Ridge, and Burnt Ranch. The National Park Service has determined that the landscape surrounding the trails corridor is relatively unchanged from when it was being used by emigrants, and retains excellent historical integrity across almost all of the Lander Field Office-the most intact in the State of Wyoming and among the most pristine in the nation.

**Scenic Values:** The existing ACEC trail corridor (¼ mile on either side of the trail) was designated a Visual Resource Management Class I and II to protect historical and scenic values along the NHTs. New information collected through the RMP scoping process and the 2009 Visual Resources Inventory (BLM and University of Wyoming) documented changes to the scenic environment. The new inventory shows the trail corridor having moderate scenic values or rating at a scenic quality class “b”. The true difference or change from the 1987 RMP is that visual sensitivity within 3-5 miles of the trail (or the foreground/middleground zone) has increased exponentially. This increase in visual sensitivity can be attributed to several factors including: the increase in popularity of trail-oriented recreation activities, and the increase in overall trail preservation interests. The class “b” scenic quality combined with the high visual sensitivity causes the viewshed of the trail to inventory out at a class II level.

### **IMPORTANCE CRITERIA (both existing ACEC and proposed expanded)**

**Primary importance qualities considered:** Importance criteria #1, 2, and 3: More than local significance; qualities that make it fragile, sensitive, rare, irreplaceable, unique, and vulnerable to adverse change; and has been recognized as warranting protection to satisfy national priority concerns.

**Significant Historic Values:** The congressionally-designated Oregon, Mormon, California, and Pony Express National Historic Trails are nationally significant and are four of the most historically-important overland emigrant trails in the United States. They are also part of the National Landscape Conservation System. The Trails corridor in the LFO is in excellent condition as determined by the BLM and National Park Service analyses, and contains several nationally-significant sites including, Independence Rock, Devil’s Gate, Martin’s Cove, Split Rock, Ice Slough, Sixth Crossing, Rocky Ridge, and Burnt Ranch. The landscape surrounding the trail corridor also retains excellent historical integrity over almost all of its length.

Because of all of these factors, the segment through LFO has been identified, through the National Trails System Act (NTSA), as a “High Potential Segment” (the highest rating), and has been identified as worthy of special management and protection. In order to satisfy national priority concerns, the NTSA requires land managing agencies such as the BLM to protect and preserve these trails and their historical settings. Modern development, including oil and gas exploration, mining, and realty actions within view of the NHTs could have a highly adverse effect on them. Because of this, the NHTs are considered fragile, sensitive, rare, irreplaceable, exemplary, unique, and vulnerable to adverse change.

**Scenic:** The University of Wyoming Ruckleshaus Institute of Environment and Natural Resources (2008) states that 60% of surveyed Wyoming voters felt it was extremely or very important to preserve historic trails and ranches. This public sensitivity is a factor of the level of use the trail receives and the level of public concern for the area. Additionally, the physical nature of the landscape makes it very fragile. The trail landscape is characterized as having a low absorption rate, or ability to hide changes. This low absorption rate is due to the fact that the topography and vegetation of the area do not readily screen an observers view. This means that any change to the characteristic landscape would be easily noticed by an observer from the trail. These factors create a challenging environment for land managers to maintain a class II viewshed.

The national importance of the viewshed lies in the fact that the landscape surrounding the trail remains in a state similar to that which was witnessed by the original travelers across the trail corridor. This

landscape is mentioned in countless journals of pioneers who were amazed at the landscapes vast wide open prairies and noted the passage through the area by reference to some of the geologic features noted by travelers today, including Devil's Gate and Split Rock. Today this landscape consists of the viewshed of several National Historic Trails, including the Oregon, Mormon Pioneer, California, and Pony Express NHTs, the only components of the National Landscape Conservation System in the Lander Field Office other than the Wilderness Study Areas.

### **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures are not sufficient to protect historic values along the National Historic Trails' corridor and this determination is still relevant. The congressional designation of the trails as National Historic Trails and the incorporation of the trails into the NLCS did not identify a management buffer around the actual ruts that constitute the trails or mandate specific management prescriptions. The buffer and prescription decisions were left to the individual land management agencies to identify. However, both Land Use Planning regulations and the NTSA require that federal land managers must protect intact Trails and their settings from surface disturbance and focus modern development in ways that do not degrade important Trail resources.

The NHTs track over approximately 90 miles in the southern portion of the field office, and surface disturbing projects and activities across or near the corridor are frequently proposed. The standard protections that are generally afforded by the NHPA (usually thought to be ¼ mile unless a different buffer is needed) are not adequate to protect the excellent historical setting and context of the NHTs, and do not control surface disturbing activities under the 1872 Mining Law ("locatable mineral entry).

Modern development such as wind farms, transmission lines, pipelines, and other rights-of-way could easily cause irreversible adverse effects through the introduction of modern intrusions into highly intact historical settings. Since Congress has made it a national priority to protect and manage the NHTs and their intact surroundings, management beyond standard measures is necessary to protect the historical and scenic values of the NHTs and their related sites.

Standard stipulations would allow these modern intrusions outside of a ¼ mile buffer even though the topography of the trails' setting is so relatively flat that developments in the foreground-middle ground would present a high contrast if sited within 3-5 miles of the trails. (This relatively flat, rolling sage-brush steppe through which the Sweetwater River flows is, of course, the reason it was selected by the emigrants as the most suitable east west route across Wyoming and the Continental Divide.)

Oil and gas and other mineral developments and realty actions would be authorized if only standard stipulations were applied. Oil and gas exploration in southwestern Wyoming is a good example: numerous wells placed outside the existing ¼-mile corridor have had a highly adverse effect on the historic and scenic settings around the trails.

Locatable mineral entry of less than five acres would proceed with only Notice to the BLM; no approval would be required. These mining entries could occur on the ruts themselves or on or near particularly important trail sites and the BLM would be without authority to prevent it, since standard stipulations do not require that the claimant file a Plan of Operations for BLM approval.

Since Congress has made it a national priority to protect and manage the NHTs and their intact surroundings, management beyond standard measures is necessary to protect the historical and scenic values of the NHTs and their related sites.

### **JUSTIFICATION FOR PROPOSED EXPANDED ACEC**

GIS analysis identified the areas where the trails could be seen the most and, alternatively, where disturbances could be seen from the trails. This band almost entirely follows a five mile buffer on each side of the trails and incorporates all of the identified individual historical sites and all of the segments of the NHTs in the planning area that are in mostly excellent condition.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Scenic Values	Yes	Yes	Yes
Significant Historic Values	Yes	Yes	Yes

### **RECOMMENDATIONS**

Both the existing and proposed expanded ACEC meet the required relevance and importance criteria for significant historic values and scenic values. **The Lander Field Office Interdisciplinary Team recommends that the existing and proposed expanded National Historic Trails ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.**

Prescriptions to maintain relevant and important values need to address include activities under the 1872 Mining Law smaller than five acres, authorization of, rights-of-ways, oil and gas and other leasable and salable mineral development, recreational activities management, management of Off Highway Vehicles and motorized vehicle use, and other surface disturbing activities.

## **South Pass Historic Mining Area ACEC**

**Status: Existing** – The 1987 Lander RMP designated the South Pass Historic Mining Area as an ACEC to protect significant historical mining sites dating from the 1800s and early 1900s. During scoping for the new RMP revision, internal nominations recommended expanding this ACEC in order to protect similar historic mining resources southeast of Atlantic City along Rock Creek; southeast of South Pass City along Willow Creek; and east of Rock Creek near Smith, Omera, and Jones Gulches.

**Location of proposed ACEC:** In southwestern Fremont County, on the south end of the Wind River Range. The towns of South Pass City and Atlantic City are within this ACEC.

**General description:** The existing ACEC is approximately 12,600 acres. The South Pass Historic Mining Area is a historic gold mining region located in west-central Wyoming, on the southern end of the Wind River Mountain Range. Prospecting and mining for gold began in the mid-1800s and continues to the present; although never at a large scale. The remains of numerous mining operations and settlements still exist in the area. The ACEC has a combination of sagebrush steppe and forested areas, with steep to rolling hills.

**Acreage of proposed expanded ACEC:** Expanded ACEC: The proposed expanded ACEC would include consist of approximately 125,000 acres, including the 1987 12,600 acre ACEC. The ACEC designation applies only to federal surface and minerals and not private or state lands within the geographical outline of the ACEC. The federal mineral estate is managed in conformity with ACEC surface management.

### **RELEVANCE CRITERIA**

**Primary values considered:** Significant historic values and geologic hazards.

#### Existing ACEC:

**Significant Historic Values:** The South Pass Historic Mining Area contains numerous historic sites, dating from the 1860s to the 1930s. These sites and the surrounding settings are largely intact and make the area historically significant at a regional level. In addition, women’s right to vote was first established at South Pass City, which makes the area even more significant, particularly in light of the State of Wyoming’s motto as “the Equality State” based upon female suffrage and early elected women officials. The South Pass Historic Mining Area includes the National Register-eligible sites of Miner’s Delight, South Pass City, and Atlantic City. Many of the area’s sites are still in their natural and historical settings, and evoke much of the time periods for which they are historically significant. The South Pass Historic Mining Area is still largely undeveloped and adds to the historical significance and integrity of the area.

The importance of the South Pass Historic Mining Area has been confirmed by the State of Wyoming in making it an historical state park consisting of state lands (including some transferred by the BLM to the state park) as well as managing remaining federal lands.

The South Pass area is a national tourist destination often visited by National Historic Trail buffs as well as those interested in the early mining history of Wyoming.

**Natural/Human Caused Hazards:** Abandoned mines and prospects are found throughout the existing and proposed expanded ACEC. Under the Abandoned Mine Lands Act more than 100 abandoned mines (called Abandoned Mine Lands [AML]) have been reclaimed. According to the Wyoming Division of Reclamation, approximately 15% of the identified AML have been made safe. However, more sites exist and are often found by recreationists and workers conducting natural resource extraction.

Many individuals find an abandoned mine or prospect to be attractive to explore and may be exposed to hazards at these sites. Features that could pose public safety hazards at abandoned mining sites include open and unstable shafts, drifts, pits, tailings piles, wells or other excavations, mining implements or construction debris, or hazardous or toxic materials. By the very nature of the district, mining, AML are extensive. The BLM has identified some of the risks from AML:

- **Open Shafts** are vertical mine openings that can extend hundreds of feet to the lower level of a mine. Open shafts can be concealed by mine debris, dirt, rock, and even water.
- **Unstable Rock and Decayed Support** includes once solid beams and frameworks that have been decaying for more than a hundred years. In many cases, there may be no support beams at all and the fractured roof or walls of the mine tunnel eventually collapse in response to vibrations and/or the force of gravity.
- **Deadly Gases and Lack of Oxygen** can be present in abandoned mines that are not ventilated. Pockets of methane, carbon dioxide, and other deadly gases can form or simply displace oxygen with no visible sign. When these gases enter the body, muscles stop responding normally, thinking becomes clouded, and unconsciousness and death can occur.
- **Explosives and Toxic Chemicals** were often left behind when an active mining operation was abandoned. Explosives such as dynamite and blasting caps become very unstable over time, and can explode if disturbed. Storage containers, boxes, barrels, and drums deteriorate allowing toxic chemicals to leak or combine into highly dangerous mixtures.
- **Horizontal and Vertical Openings** can be miles of openings that randomly follow the original ore veins. Within a short distance of the entrance there is no light, and these openings can be the cause of becoming lost and disoriented inside a mine.
- **Highwalls and Open Pits** are located where large areas of the surface have been disturbed to get at minerals near the surface. Open pits can be filled with water that can be highly acidic or laden with harmful chemicals. Highwalls can be unstable at the top and the bottom and are prone to collapse. When approached from the top, the vertical edge of a highwall may not be seen in time or may crumble, leading to a fatal fall.

#### Proposed Expanded ACEC:

**Significant Historic Values:** Several significant sites related to and historically contributing to the South Pass Historic Mining Area extend outside of the existing ACEC. These sites include parts of the Granier Ditch, parts of the Rock Creek dredgings, and several other historic gold mining and dredging sites. Many of these additional sites are still largely in their natural and historical settings, and evoke much of the time periods for which they are historically significant. The proposed expanded ACEC is also still largely undeveloped, which contributes to the historic significance and integrity of the area. The

proposed expanded ACEC is also part of the visual setting of the National Historic Trails and the Continental Divide National Scenic Trails.

**Natural/Human Caused Hazards:** The entire expanded ACEC area contains extensive AML. As in the existing boundaries, the AML in the expanded area pose a threat to human safety. The BLM is working cooperatively with the State of Wyoming to address the safety issues. However, the very historic nature of the mining district increases the likelihood of AML, since most were built before the modern day requirements for reclamation and safety during mining operations.

### **IMPORTANCE CRITERIA**

**Primary importance qualities considered:** Historic sites and settings which are nationally important and geologic hazards threatening health and human safety which are regionally to national important because of the high tourist visitation. Both the ACEC and the expanded ACEC have cultural/historic sites and settings that are fragile, sensitive, rare, irreplaceable, unique, and vulnerable to adverse change. There are many AML sites in the State of Wyoming requiring remediation. Because of the high visitation to the South Pass area, the State of Wyoming and the BLM have identified it as being high priority on the remediation list.

#### Existing ACEC:

**Significant Historic Values:** The South Pass Historic Mining Area is the largest and most significant historic gold mining region in Wyoming; therefore, it is more than locally significant at a regional level. In addition, a woman's right to vote was first established at South Pass City, which makes the area even more significant. Several sites in the ACEC, including South Pass City and Miner's Delight, have been developed or preserved for public enjoyment and appreciation. Due to the fragile nature of the historic remains within the ACEC, made more so by decades of inattention and lack of repair, these historic resources are sensitive, rare, exemplary, unique, and vulnerable to adverse change. Many of the sites and the settings have been identified as eligible for listing on the National Register of Historic Places.

Both the BLM and the State of Wyoming have recognized the importance of the South Pass area as historical sites worthy of protection and as tourist destinations that are important contributors to at least the regional economies.

**Natural/Human Caused Hazards:** AMLs are attractive risks, appealing to those who wish to explore the cave like structures. Still others fall into the AMLs unaware, during their use of the public lands. The BLM and the State of Wyoming are not funded to fill in all of the AMLs or alleviate all hazards; in most cases, the best that can be achieved is fencing and warning signs. Consequently, the priority assigned by the State AML department to the South Pass area is indicative of its importance in the state. In addition, some of the tailings are toxic or hazardous and most of the construction debris is unstable. The widespread location of this mining detritus and the high risk of human injury or death make it extremely important. Control and management of the toxic residue of the historic mining is within the jurisdiction of the State of Wyoming but the BLM manages its surrounding lands within the ACEC to support this management.

Proposed Expanded ACEC:

**Significant Historic Values:** The proposed expanded ACEC area includes lands beyond the originally designated South Pass Historic Mining Area, to include additional lands that were part of the largest and most significant historic gold mining region in Wyoming. At the time of investigating the area as part of the 1987 designation, less was known and understood about the expanded area. In the mid-eighties, the State of Wyoming had not developed the extensive historical state park properties and had not invested the funds in such structures as the Carissa Mine site, purchased by the State of Wyoming including 9 historic structures, 17 significant mine features and 201 acres. Since that time, the dangerous features of the mine have been mitigated and the 1929 head from, shaft house and trestle have been restored “in an effort to restore the historic view shed associated with the Carissa Mine” (webpage of the South Pass City historical site). Historic preservation such as the Carissa Mine project and other AML projects have increased the need for protecting the historic properties in the expanded area.

Like the properties found in the existing ACEC, the sites in the expanded area are also fragile in nature as well as sensitive, rare, exemplary, unique, and vulnerable to adverse change.

**Natural/Human Caused Hazards:** The nature of the risks posed by the AML in the expanded area are perhaps even more important than in the existing ACEC because these areas are more remote and the risks potentially less known with less AML work proposed.

## **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures were not sufficient to protect historic values in the South Pass Historic Mining Area; this situation is still relevant. Standard protections from the NHPA are not adequate to protect the historical settings and context of the mining area, because oil and gas and other leasable mineral activities could occur which would adversely impact the historic setting of the sites (the physical sites themselves would probably be protected by the NHPA, but the settings would not). Similarly, the area, which has moderate or higher wind energy development would be open to industrial wind energy development including turbines and related structures.

Because of the ease of passage through South Pass among otherwise mountainous areas (as the name South Pass would indicate), it is a high demand area for linear ROWs including high power transmission lines which would be authorized under standard management. Without limits on the visual contrast allowed by modern intrusions, the historical setting would be severely impacted.

As an area with locatable mineral potential –thus its reason for existence and the source of much recreational gold activities – both the original ACEC and the expanded area are at high risk for damage to the historic setting and even the historic sites, with only standard management, the BLM has only limited ability to control surface disturbance less than five acres in size, since no Plan of Operations is required. Most of the intrusion into the historic setting has occurred by small size exploration activities that were not reclaimed or were done in without mitigating the impacts to the historic sites.

With ACEC designation comes the ability of the BLM to require that any mining activity under the 1872 Mining Law file a Plan of Operations. A Plan does not preclude mining but allows the BLM to consider

the proposed development for purposes of determining if undue or unnecessary degradation would result. This tool would allow the BLM to require the claimant to place development in a way that was sensitive to the historical resources and their settings, as well as to require better and more timely reclamation. These tools are not available for managing smaller exploratory projects to avoid adverse impacts to the historic resources and their settings.

While the AML features of the existing and proposed expanded ACEC meet both the relevance and importance criteria, a national program is in place to manage AML in cooperation with the states (in this case, the State of Wyoming). However, AML are an integral part of the historic mining district and the existing AML management both will work in tandem with ACEC management and will also benefit from the increased visibility that ACEC designation brings. Identification of the importance of the area (currently through the existing ACEC and subsequently to the expanded ACEC) allows the BLM and the State AML to prioritize the South Pass area for remediation.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Significant Cultural Values	Yes	Yes	Yes
Natural/Human Caused Hazards	Yes	Yes	No

**RECOMMENDATIONS**

Both the existing and proposed expanded ACEC meet the required relevance and importance criteria for significant historic values and for natural/human caused hazards. **The Lander Field Office Interdisciplinary Team recommends that the existing and proposed expanded South Pass Historic Mining District ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.**

Prescriptions to maintain relevant and important values need to address and prevent adverse impacts from: activities under the 1872 Mining Law, rights-of-ways, travel management including motorized vehicle use, oil and gas and other mineral activities and other proposed land uses.

The geologic hazards presented by historic mining operations are a contributing component of the ACEC but could be managed under the AML program, without ACEC designation. However, the recognition of the importance of the area as a whole helps to prioritize the remediation efforts in South Pass.

The 1987 RMP states: “When locating major utility systems, the South Pass Management Unit will be avoided. Rights-of-ways for major utility systems might be granted if no feasible alternative route or designated right-of-way corridor is available. The rationale is that historical and cultural values will be adversely impacted by major utility systems. The area is also very scenic, with fairly intensive recreational use, and it is important to maintain these values.”

Avoidance of the area is no longer seen as adequate to protect the historic setting because of wind energy potential and the increased demand for major ROWs through the pass.

## **Castle Gardens Proposed ACEC**

**Status: Proposed** – The 1987 Lander RMP specified special management prescriptions for 80 acres around the Castle Gardens Rock Art Site, but did not designate it as an ACEC. Citizen and internal proposals for the Lander RMP revision recommend designating the Castle Gardens Rock Art site and surrounding area (approximately two mile radius) as an ACEC to protect the natural and spiritual setting of the area.

**Location of proposed ACEC:** In east-central Fremont County, a little north of the Gas Hills Uranium District.

**General description:** The Castle Gardens area is a northwest-southeast trending uplift located in central Wyoming. The landscape is characterized by rock outcrops surrounded by sage and grass covered rolling plains. The east end of Castle Gardens has a concentration of regionally-significant prehistoric rock art. The BLM developed this area in the 1970s by constructing an access road, parking area, pit toilets, picnic tables, and protective fences around the rock art.

**Acreage of proposed ACEC:** External nominations recommend a 25,263 acre area surrounding the Castle Gardens Rock Art Site as the boundary of the ACEC. This translates into a two (2) mile circle surrounding the site. This boundary was identified after Native American consultation as part of the RMP revision process in response to the proposed ACEC.

**Primary values considered:** Cultural values (Archeological and Native American religious values), scenic values, and unusual plant communities.

### **RELEVANCE CRITERIA**

**Significant Cultural Values:** The Castle Gardens Rock Art Site is listed on the National Register of Historic Places. It contains a large number of painted and incised prehistoric rock art, and is recognized as one of the best shield motif rock art sites in the Northwestern High Plains. Researchers have associated this rock art site with Plains tribal groups such as the Kiowa, Kiowa-Apache, or other Athapaskan groups. The site is also considered sacred by several tribes because of the spiritual nature of the rock art. Tribal elders have often indicated their desires to have the site and its surroundings off-limits to modern disturbances. The 1987 RMP recognized the important cultural values contained at Castle Gardens but did not make it an ACEC choosing to adopt other site-specific management prescriptions.

**Unique/Rare Plant Communities:** The Castle Gardens area is unusual, with a very rugged and broken landscape. Uplifted layers of sandstone, shale, and coal are exposed along a northwest-southeast trending anticline. As a result, soils within this area are shallow and the terrain is broken, supporting a unique vegetative community. Limber pine, a BLM sensitive species and juniper trees are interspersed with areas of Horizontal Juniper and Buckwheat. Grasses, such as bluebunch wheatgrass, needle-and-thread and Indian ricegrass are also common in the Castle Gardens Area. Plants such as needle-and-thread and Indian ricegrass were used by Native Americans as a food source. While these plants, particularly, juniper, occur in other parts of the field office, their persistence in this area is unusual. Many of the vegetative sites within the immediate area are at their full potential and are considered a relic plant community.

**Scenic Values:** The 2008 visual resources inventory identified the Castle Gardens inventory as Class II and Class III. The viewshed is importantly locally, and contributes to the visual setting of the rock art.

### **IMPORTANCE CRITERIA**

**Primary importance qualities considered:** More than local significance with qualities that make it fragile, sensitive, rare, irreplaceable, unique, and vulnerable to adverse change.

#### Core Area:

**Significant Cultural Value:** The Castle Gardens Rock Art Site has been recognized as regionally significant from an archeological perspective. Researchers from across the nation have studied it, and since the 1930s, the site has been used as a baseline for study of prehistoric rock art of the West. Castle Gardens is also considered sacred to several tribes, including the Northern Arapaho and Eastern Shoshone. It has special spiritual significance that makes it important to traditional tribal practitioners. It is a rare and well done example of Plains shield motif rock art that is fragile, sensitive, rare, irreplaceable, threatened, and vulnerable to adverse change. The core area of 80 acres has been under special management since the 1970s.

**Unique/Rare Plant Communities:** Although the Castle Gardens area contains unique vegetative characteristics which likely contributed to its development as a rock art/sacred site location, it is not considered at this time to be of more than local significance.

#### Proposed ACEC area:

**Significant Cultural Values:** Several tribes have identified the Castle Gardens site and its surroundings as having spiritual importance to their members. Some additional rock art has been discovered in the general area, and the tribes feel that the general area should be shielded from modern development, to protect the spiritual nature of the area. The combined opinion of several tribes (Eastern Shoshone, Northern Arapaho, Sioux, Crow and Northern Cheyenne) that this area is important shows that it is of more than local significance.

### **NEED FOR SPECIAL MANAGEMENT**

The 1987 Lander RMP recognized that standard management measures were not sufficient to protect historic values in the Castle Gardens area. Restrictions on oil and gas, mining, grazing, rights-of-way, etc., were instituted on the main property (the 80 acres) in 1987, and continue to be necessary. The same restrictions would be necessary to protect any ACEC area around the main property as well. Under standard management, development actions such as oil and gas exploration and production, pipelines, roads, transmission lines, and industrial wind and other developments could be implemented in the ACEC area, and these modern developments could easily cause irreversible adverse effects through the introduction of modern intrusions into intact archeological and spiritual settings. Special management in the form of the restriction or modification of certain modern impacts and installations is needed to preserve the important qualities of the general Castle Gardens area.

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**Castle Gardens Proposed ACEC**

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In a pre-FLPMA action, the Castle Gardens main site was withdrawn from locatable mineral activity. Accordingly, there is no need for a Plan of Operations on the 80 acre site. In the entire proposed ACEC, 25,183 acres outside of the 80 acre site, locatable mineral activities with less than five acres of surface disturbance such as exploration could occur under Notice without the BLM's authorization, including destruction of rock art and viewshed.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Significant Cultural Values	Yes	Yes	Yes
Vegetative Resources	Yes	No	N/A
Scenic Resources	Yes	No	N/A

**RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for significant cultural values. The Lander Field Office Interdisciplinary Team recommends that the proposed Castle Gardens ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address: protecting the site from adverse impacts from oil and gas and other leasable and salable mineral development, recreational management, management of motorized vehicle use, management of rights-of-ways, and activities under the 1872 Mining Law, etc.

## **Cedar Ridge ACEC**

**Status: Proposed** – The nature and importance of Cedar Ridge was not understood until the 1990s, when it was identified as a Traditional Cultural Property (TCP). Cedar Ridge is located both in the Casper Field Office and the Lander Field Office. External nominations for the RMP revision recommend that designating the lands on and surrounding Cedar Ridge within the Lander Field Office as an ACEC. Cedar Ridge was not designated an ACEC in the most recent Casper Field Office RMP (2007).

**Location of proposed ACEC:** In northeastern Fremont County, a little east of the town of Lost Cabin.

**General description:** Cedar Ridge is a northwest-southeast trending ridge located in central Wyoming. It is on the southwestern edge of the Bighorn Mountain Range, and overlooks a large part of the Wind River Basin to the south. Because of its location, Cedar Ridge has been utilized as a ceremonial site by Native American groups for millennia. The ridge is characterized by a long, narrow crest flanked by juniper-covered slopes. Most of this ridge feature is within the Casper BLM Field Office, but a small part of it is within the Lander BLM Field Office.

**Acreage of proposed ACEC:** The recently approved Casper RMP approved special management for the Cedar Ridge Traditional Cultural Property and its periphery. External nominations recommended designating 7,039 acres on and around Cedar Ridge as an ACEC.

**Primary values considered:** Significant cultural value from Native American religious values and archeological values.

### **RELEVANCE CRITERIA**

**Significant Cultural Values:** As is typically done when a site that could be considered an important Native American site, in 1997, the Cedar Ridge site was identified as a Traditional Cultural Property after consultation with the Eastern Shoshone and the Wyoming State Historic Preservation Officer; that consultation is not mandatory but helps the BLM to understand issues of importance to identified Native American sites. This site has been utilized for over 5,500 years as a ceremonial site for prayers and rituals. It represents a highly sacred place for the Eastern Shoshone to conduct religious observances. The site's qualification as a TCP is based on the fact that this area is integral in the proper functioning of contemporary Shoshonean lifeways, and changes to it could create conflicts with traditional Eastern Shoshone religious beliefs or practices. Executive Order 13007, the American Indian Religious Freedom Act and elements of the National Historic Preservation Act enjoin the government to work to prevent disturbance and provide access to such sites. In addition, the site is archaeologically significant in that it contains a vast number of stone circles and other rock alignments, and extensive evidence of prehistoric activity. These materials are also associated with a very high site density in the lowlands to the south of the ridge. Archaeological and cultural values are highly significant both on Cedar Ridge proper and in its peripheral outlying areas.

The site has been identified as eligible for listing on the National Register of Historic Places; see below.

## **IMPORTANCE CRITERIA**

**Primary importance qualities considered:** The area is more than locally significant and has qualities that make it fragile, sensitive, rare, irreplaceable, unique, and vulnerable to change.

**Significant Cultural Values:** The BLM and SHPO determined the Cedar Ridge area is eligible to the National Register as a Traditional Cultural Property and a prehistoric archeological resource. Very few sites in Wyoming have been accepted as Traditional Cultural Properties – fewer than ten. Cedar Rim is highly important to the cultural continuity of Eastern Shoshone Tribe, and is still part of their traditional religious and spiritual identity. The site is also considered sacred by several other tribes, giving it even more special worth. Due to the fragile nature of the remains within this TCP, these resources are sensitive, rare, unique, and vulnerable to adverse change.

## **NEED FOR SPECIAL MANAGEMENT**

Standard management measures are not sufficient to protect significant cultural values on and around Cedar Ridge. Under standard management, Cedar Ridge and its viewshed/historical setting would be open to development such as oil and gas exploration, pipelines, roads, mining exploration, and other actions that could be implemented on or near Cedar Ridge, and these modern developments would cause irreversible adverse effects through the introduction of modern intrusions into intact archeological and spiritual settings. Special management in the form of the restriction or modification of certain modern impacts and installations is needed to preserve the important qualities of Cedar Ridge and its surroundings.

The Lander Field Office is open to rights-of-ways unless precluded by another program, i.e., cultural, wildlife, VRM, etc. In the case of Cedar Ridge, cultural is the major program that would preclude rights-of-ways from being issued. The CFO RMP says that the ridge itself (the dog bone) is a NSO area for oil and gas. The periphery is a right-of-way avoidance area - the entire northwest corner of Natrona County is a right-of-way avoidance area.

The management of the “dog bone” as NSO for oil and gas leasing will protect the TCP itself but would not protect its visual setting for the area around it, which is often considered important to the tribes. There is moderate potential for oil and gas in the area and considerable existing development, particularly to the west and north.

To be consistent with the Casper Field Office RMP and the cultural program, the LFO side should also be a right-of-way avoidance area with the ridge itself being a right-of-way exclusionary area. Any right-of-way applications would be addressed on a case-by-case basis and would be evaluated taking all resource values into consideration.

This management does not address the potentially adverse consequences of locatable mineral entry of less than five acres (primarily exploration). Cedar Ridge and the area around it could be disturbed under Notice without the requirement for review by the BLM for undue or unnecessary degradation. Although the Cedar Ridge area is not considered as having even low potential for locatable minerals, only ACEC designation could require that exploratory activities be approved ahead of time by the BLM.

**SUMMARY OF FINDINGS**

For each described resource, indicate whether relevance and importance criteria were met, and what special management would be required to protect and prevent irreparable damage to these resources.

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Significant Cultural Values	Yes	Yes	Yes

**RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for significant cultural values. The Lander Field Office Interdisciplinary Team recommends that the proposed Cedar Ridge ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address mineral development including oil and gas,, management of rights-of-ways, mineral materials explorations and development, motorized vehicle use, activities under the 1872 Mining Law, and other modern development that could adversely impact the site itself.

## **Continental Divide National Scenic Trail ACEC**

**Status: Proposed** – The citizen/external proposal received by the Lander Field Office recommended considering the viewshed of the section of the Continental Divide National Scenic Trail (CDNST) from Crooks Gap to the Forest Service boundary for consideration as an ACEC. The CDNST route through the Lander Field Office was not fully established in the 1987 Lander Field Office RMP. Initially the area was allocated as a Special Recreation Management Area (SRMA). In 1987 the SRMA land use allocation did not carry contextual guidance for crafting appropriate management for the trail and surrounding area. To date no specific guidance exists for managing resource uses along the trail and surrounding of the trail.

**Location of proposed ACEC:** In Southwest Fremont County.

**General description:** The portion of trail from Wyoming Highway 28 to the Forest Service boundary is encompassed in the Rocks Springs FO planning area, therefore this relevance and importance review will be conducted on the portion from Crooks Gap to the Field Office Boundary on Highway 28.

**Acreage of proposed ACEC:** Approximately 260,000 acres.

**Primary values considered:** Scenic and Historic Resources.

### **RELEVANCE CRITERIA**

**Scenic Values:** The National Trails System Act (P.L. 90-543) or the enabling legislation for the CDNST provides for the designation of national scenic trails “so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.”(SEC.3(a)(2)).

The portion of the CDNST through the area proposed for consideration for ACEC designation travels through numerous differing landscapes. In the Crooks Gap area the trail travels through a more industrialized zone with numerous development activities including: major pipeline ROWs, communication sites, reclaimed uranium mining, major motorized travel routes, and an oil field on top of Crooks Mountain. Continuing in Northwesterly direction the trail travels into a zone with very little development or resource use activity. This zone contains some of the most wide-open and undeveloped landscapes available on the entire CDNST. After crossing the Bison Basin road the trail connects to the National Historic Trail. Here the trail travels across an area known as the Antelope Hills. Within the Antelope Hills landscape are numerous granite outcrops and features that draw the observers’ attention. Continuing the trail eventually crosses the Sweetwater River at the Phelps Dodge Bridge, here the trail travels toward South Pass City State Historic Park. This section contains numerous cross country sections and eventually drops the user into South Pass City. Continuing on from the Willow Creek trailhead the traveler heads cross country for some time before returning to a primitive two track and eventually encountering Highway 28.

The diversity of landscapes and features encountered on this section of trail obviously coincides with numerous visual resource classes. The existing RMP visual resource allocation for the trail encounters classes II-IV. The current visual resource classes were established several years before the trail was established; therefore it is important to note that the Visual Resource classes do not reflect the location

of the trail corridor. The current visual resource inventory conducted by the Lander Field Office in partnership with the University of Wyoming accounts for the sensitive CDNST corridor; as a result inventory classes displayed a higher visual value than those considered in 1987. The new inventory found that the trail travels through inventory classes II-IV, with a very high amount in III or higher.

**Significant Historic Values:** Within the Lander Field Office, the CDNST utilizes significant historic trail routes, and runs next to a significant historic mine. The CDNST uses about seven miles of the route of the Seminoe Cutoff of the California National Historic Trail in the Antelope Hills area, and it also crosses the main route of the Oregon/Mormon/California/Pony Express National Historic Trail near Willow Creek. The national scenic trail also uses about five miles of the route of the Rawlins-Fort Washakie Stage Trail, a significant late 1800's-era historic trail. Finally, the CDNST runs next to the Carrie Shields Mine, a significant historic property. All of these properties are historically intact and are currently managed to retain their physical and historical integrity and setting.

## **IMPORTANCE CRITERIA**

**Scenic Values:** After the passage of the National Trails System Act the Bureau of Outdoor Recreation (in accordance with the act) conducted a study that endorsed designation of the CDT as a national scenic trail. The overall vision for the Continental Divide National Scenic Trail, as stated in the 1976 Study Report follows:

“The primary purpose of this trail is to provide a continuous, appealing trail route, designed for the hiker and horseman, but compatible with other land uses...To provide hiking and horseback access to those lands where man's impact on the environment has not been adverse to a substantial degree and where the environment remains relatively unaltered. Therefore, the protection of the land resource must remain a paramount consideration in establishing and managing the trail. There must be sufficient environmental controls to assure that the values for which the trail is established are not jeopardized.... The basic goal of the trail is to provide the hiker and rider an entrée to the diverse country along the Continental Divide in a manner which will assure a high quality recreation experience while maintaining a constant respect for the natural environment.”

Similarly the Comprehensive Management Plan for the CDNST established the following goal:

“Provide users with opportunities to view, experience, and appreciate examples of prehistoric and historic human use of the resources along the Continental Divide; examples of the ways these resources on public lands are being managed in harmony with the environment, as an asset to the existing character of the Continental Divide, and which will not detract from the overall experience of the trail.”

In recognition of the above, the Comprehensive Management Plan recognized the importance of visual management as a key factor to ensure user enjoyment of the CDNST. The plan directed the BLM to consider the trail a high sensitivity travel route. Importantly the trail corridor across the LFO encompasses diverse landscapes. A portion of this trail landscape encompasses areas of high absorption capacity, meaning activities along these portions of the trail could be easily located out of view of the trail observer. Conversely another portion of the trail crosses a landscape that does not readily absorb activities, observers traveling along this section of trail would be particularly sensitive to activities that altered the characteristic landscape.

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**Continental Divide National Scenic Trail ACEC**

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**Recognized as warranting protection:** Congress identified the scenic trail as warranting protection by including it in the National Lands Conservation System.

**Historic and scenic values:** This area contains the NHT and Sweetwater Rocks and the analysis of those proposed ACECs is relevant here.

**Significant Historic Values:** As stated above, the CDNST affects two historic trails and a historic mine. The Seminole Cutoff is part of the Congressionally-designated Oregon, Mormon, California, and Pony Express National Historic Trails, which are nationally significant. These NHTs are four of the most historically-important overland emigrant trails in the United States, and the historic settings of these trails are in excellent shape in the LFO. In order to satisfy national priority concerns, the National Trails System Act requires land managing agencies such as the BLM to protect and preserve these trails and their historical settings.

The CDNST also affects the Rawlins-Fort Washakie Stage Trail, which is Statewide-significant historic trail that was in use from the 1870’s to 1906. The scenic trail also affects the Carrie Shields Mine, a Statewide-significant historic mining site that was operated from the late 1860’s until the early 1900’s.

All of these properties are historically intact and are currently managed to retain their physical and historical integrity and setting. Due to the fragile nature of the historic remains within the proposed ACEC area, these resources are fragile, sensitive, rare, irreplaceable, exemplary, unique, and vulnerable to adverse change.

**NEED FOR SPECIAL MANAGEMENT**

A change in management is needed along the CDNST in order to provide a diversity of trail landscapes that meet the demands of: the National Trails System Act, the Comprehensive Report, and the subsequent Comprehensive Management Plan. This National Conservation System landscape is not currently protected under standard mitigation guidelines because the viewshed and recreational protections are not in place.

**SUMMARY OF FINDINGS**

A variety of resources may have met the relevance criteria. However, only two resources met the importance criteria based on the definition provided.

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Scenic Resources	Yes	Yes	Yes
Significant Historic Values	Yes	Yes	Yes

**RECOMMENDATIONS**

The proposed ACEC meet the required relevance and importance criteria for Scenic and historic values. The Lander Field Office Interdisciplinary Team recommends that the proposed Continental Divide National Scenic Trail ACEC be carried forward for analysis in the RMP revision including whether or not

the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address: activities under the 1872 Mining Law, management of rights of ways, Oil and Gas development, management of Off Highway Vehicles, historical resource protection, etc.

## **Sweetwater Rocks ACEC**

**Status: Proposed** – The Sweetwater Rocks ACEC is an external nominated ACEC. The 1987 Lander RMP designated four Wilderness Study Areas (WSAs) within the lands now nominated for ACEC consideration. The new citizen nominated ACEC cited cultural, visual, and geologic resources as values warranting protection. The 1987 RMP did not provide protection for the lands outside of the WSAs. The WSAs are protected by interim management legislation that governs WSAs.

**Location of proposed ACEC:** The area is located in Fremont, Natrona, and Carbon Counties.

**General description:** The Granite Mountain Range from Long Creek Mountain east to the Sentinel Rocks.

**Acreage of proposed ACEC:** The proposed Sweetwater Rocks ACEC is 152,347 acres.

**Primary values considered:** Geologic, Historic, and Scenic Resources. This area is crucial winter range for pronghorn and mule deer.

### **RELEVANCE CRITERIA**

**Rare Geological Features:** The Granite Mountains – Sweetwater Rocks (GMSR) Area of Wyoming is located in south-central Wyoming, and make up a major up-warp, exposing Precambrian-age rocks in a belt about 85 miles long and 30 miles wide. The GMSR occupy much of the divide between the Wind River Basin and the Great Divide Basin to the south.

The Precambrian rocks in the GMSR are primarily composed of granite with lesser amounts of older meta-sedimentary black and green schists, slate, phyllite and quartzite in the Black Rock-Long Creek area and also along the south margin of the Rattlesnake Hills. The most conspicuous physical feature of the granite rocks is that much of the surface has weathered into a series of massive domes, knobs, and peaks, and an almost ubiquitous system of joints and fractures which gives rise to such landmarks as Split Rock.

Granite is defined as a plutonic rock, consisting essentially of alkali feldspar and quartz and often lesser amounts of sodium feldspar and other accessory minerals such as mica or hornblende may be present. Such granitic rocks are formed at depth in the earth's crust by the ascent and subsequent cooling of magma while buried, hence the term "plutonic." The relatively slow rate of cooling while emplaced in the earth's crust results in a coarse-grained texture, and allows individual mineral grains to be readily identified by the naked eye.

At some time after solidification, these rocks were uplifted and exposed to the surface by erosion. The massive and smooth surfaces exhibited by much of the GMSR granite is attributed to the phenomenon known as exfoliation, which results from the relaxation of residual stress after initial exposure to the elements at the earth's surface. Other well-known examples of this rock type and resultant geomorphology include the Sierra Nevada in California, various parts of the Idaho Batholith, and Stone Mountain, Georgia.

This rugged mountain range with its granite spires, domes, and peaks lies within the Wyoming Basin Physiographic Province. The Wyoming Basin Province is a zone that mostly consists of rolling hills containing shrub/grasslands. The Granite Mountain Range is comprised of exposed granite outcrops

that strongly contrast with the surrounding landscape. These granite outcrops are the remnant of a portion of the Rocky Mountain Range that, at one time, extended from present day Canada to Mexico. The Rocky Mountain Range dropped as a result of plate tectonic activity. Eventually, this subdued basin filled in with sedimentary material, leaving only the Granite Mountain tops or cores visible.

This geologic activity which filled in the basin resulted in an easier east to west passage across the Rocky Mountains which allowed Euro-American immigrant trails to avoid dangerous high alpine passes or extensive north/south deviations.

**Scenic Values:** The 1987 Lander RMP allocated the Granite Mountain Range as a visual resource classes II-IV. New inventories conducted by the LFO in partnership with the University of Wyoming show the area as classes I-III. This inventory discrepancy is no doubt due to the considerations of new requirements for WSAs to be managed as a class 1 visual resource, increased public awareness of the scenic quality of the landscape, and a more thorough visual quality inventory. Importantly, the scenic quality inventory found the Sweetwater Rocks portion of the proposed ACEC to be of high scenic value, ranking out as one of the most scenic areas in the Lander Field office.

**Significant Historic Values:** The Sweetwater Rocks were identified in contemporary materials such as diaries as major landmarks for mid-19th century emigrants passing through the area on their way to Oregon, California, Utah, or other parts of the West. The Rocks were highly unusual to these pioneers, who came from the gentler, more vegetated homesteads and towns of the East and the Midwest. Significant landmarks for the emigrants within or immediately adjacent to the proposed Sweetwater Rocks ACEC area include: Devil's Gate, Split Rock, Three Crossings, and Independence Rock. These important historic values contribute to the proposed ACEC area as intact symbols of our nation's past. From Highway 287, the Rocks are an important feature to travelers going to the National Parks.

While first written about by the Euro-American immigrants, there is little doubt that the Rocks, as highly distinctive geologic features, were important landmarks to the indigenous populations just as they are today to travelers along Highway 287, a major travel route for both local residents and tourists heading to the national parks.

**Wildlife Values:** The area encompassed by the proposed ACEC contains crucial pronghorn and mule deer winter range. While only locally significant, it is a contributing value to the importance of the area.

## **IMPORTANCE CRITERIA**

**Rare Geological Features:** The GMSR area is unique in Wyoming because the mountain tops remain partially buried by upper Tertiary sedimentary deposits whereas other mountain ranges have been almost entirely exhumed and the Tertiary sedimentary record destroyed by erosion. Preservation of Tertiary strata in the area of the GMSR is made possible by subsidence of almost the entire uplift during late Tertiary time, either prior to or contemporaneous with regional uplift that launched the cycle of regional degradation operating today. Rocks associated with these erosive cycles are thought to be the sources of uranium found in strata such as the Wind River Formation, an important source of uranium ore in the Gas Hills area.

The landscape preserved today at the GMSR evolved through several steps. The withdrawal of the last extensive sea covering much of central Wyoming in Late Cretaceous time (about 65 million years ago),

was disrupted by the many disruptions in the earth crust during the Laramide orogeny (orogeny means mountain building; Laramide is named for the Laramie Mountains in eastern Wyoming). An uplift in central Wyoming roughly coinciding with the GMSR area was flanked by two down-warped areas (Wind River Basin to the north and Great Divide Basin to the south). The incipient GMSR area was uplifted and thrust to the south. The combination of deposits resulting from the retreating sea and sediments shed from uplifted areas filled these two basins while sediments eroded from adjacent mountain ranges blanketed the area around the GMSR, eventually covering the central portion of the GMSR by the end of the Miocene epoch (about 5-6 million years ago). Then, in late Tertiary time, the roof of the GMSR collapsed along a series of normal faults, which down-dropped the area into a large trough or graben that is more-or-less delineated by west-northwest trending major down-warp called the Split Rock syncline. Regional uplift and erosion over the past several million years stripped much of the Tertiary-age sediment off the Rocky Mountains, but a landscape of earlier times was protected from such erosion and thus preserved in the graben of the GMSR.

This scenario had unique effects on the development of drainages in the region over the past couple of million years. One might wonder how a flat, meandering river such as the Sweetwater could cut a path through the resistant outcrops of Granite in the GMSR. The easterly course of the Sweetwater River was established across the trough line of the Split Rock syncline, but the continued sagging of the GMSR reduced the ability of this stream to erode. The Sweetwater River was thus trapped along a course established on young sediments burying the older granitic rocks. With uplift, the course was maintained as the stream cut down through the young rocks into the older granites, resulting in what is referred to as a “superposed” drainage. Devil’s Gap, a notable landmark along the pioneer trail, is an excellent example of this phenomenon.

In addition, the differential uplift in this area caused the Wind River to divert northward and its gradient to increase several times that of the east flowing Sweetwater River. Headward erosion of the Wind River and its tributaries resulted in the development of Beaver Rim, and in doing so, captured many segments of streams in the Sweetwater River drainage system. As time goes on, this headward erosion will eventually also capture the Sweetwater River and cause it to become a tributary of the Wind River. Also because of differential tilting of the area, north-flowing tributaries of the Sweetwater, such as Crooks Creek, were not everywhere, therefore, they were not able to reach the river and were cut off.

Rockhounding for jade and agate is a long-lived custom in the GMSR area; jade was first recognized in the GMSR area in the 1930’s. The hunt for jade in this area intensified and thousands of people participated in the jade collecting each summer. These jade deposits occur as boulders in alluvial deposits or as pods or veins in various locations in Precambrian rocks. Colors range from apple-green to olive-green, dark green, black, and the most prized of all, emerald green.

Agates locally known as “Sweetwater moss agates” are also found in abundance in the GMSR area. These occur principally in gravel deposits weathering out of the Split Rock Formation on about 50 square miles of dip slopes in the north-central part of the GMSR. Closely related are the so-called “Angel agates” which are found in sandstones of the Split Rock Formation. These are translucent and pale greenish grey, and fluorescent brilliant greenish yellow.

In summary, the GMSR area provides a unique insight to Wyoming Natural History and geologic development. The rocks exposed here are important for recreation such as rock climbing, which values

the combination of abundant joints and fractures with the smooth and competent surface of the exposed granites. Rock hounds find much in the way of entertainment collecting jade and agate and searching for the more elusive deposits of rubies and sapphires. Finally, the backdrop of the partially buried granitic domes and knobs of the GMSR is a reminder of a different time in Wyoming's geologic past, the history of which is preserved in those rocks.

**Scenic Values:** The proposed ACEC is highly scenic. The large granite spires, domes, and peaks create a landscape that is unique to the Wyoming Basin Physiographic province. The new LFO visual resource inventory found this landscape to be one of the most scenic areas in the field office.

The majority of the Granite Mountains are a focal point of travelers along U.S. highways 220 and 287. These highways contain several rest areas, scenic pullouts, and interpretive facilities where observers can pull-off and observe the viewshed for a longer period of time. Observers from these highways and the multiple scenic rest areas would be especially sensitive to changes to the form, color, and texture of the landscape. Additionally, numerous recreational users who enjoy the undeveloped nature of the Granite Mountains would also readily notice changes to the characteristic environment.

The Sweetwater Rocks portion of the Granite Mountain Range is encompassed by four Wilderness Study Areas: Lankin Dome, Savage Peak, Miller Springs, and Split Rock WSAs. These WSAs are part of the BLM's National Landscape Conservation System and have been recognized as warranting protection to satisfy national priorities. Citing the visual quality and undeveloped nature groups of interested publics have also proposed several Non-WSA portions of this ACEC to be managed for wilderness characteristics.

Growing recreational use and interest in the area has coincided with an increase in visitor sensitivity toward the landscape. Climbing in the Granite Mountain area is a rapidly increasing activity; numerous individuals and recreational outfitters site the undeveloped nature of the area and the visual quality as a value that draws national interest to this landscape. While not a value in and of itself to consider for ACEC management, recreational use is an important economic driver in the community. It is easy to understand how climbers participating in activities on some of the highest points on the Granite Mountain Range would be especially sensitive to any change to the visual landscape surrounding the use area. The National Outdoor Leadership School sites this landscape as being one of the more important BLM landscapes to their entire operation, which includes national and international trips and visitors. The undeveloped and scenic nature of the area facilitates an outdoor learning environment in a seemingly wild setting.

**Significant Historic Values:** Just as the Sweetwater Rocks are important visual references for modern day travelers, the Sweetwater Rocks were even more important major landmarks for mid-19th century emigrants passing through the area on their way to Oregon, California, Utah, or other parts of the West. The Rocks were highly unusual to these pioneers, who came from the gentler, more vegetated homesteads and towns of the East and the Midwest. Significant landmarks for the emigrants within or immediately adjacent to the proposed Sweetwater Rocks ACEC area include: Devil's Gate, Split Rock, Three Crossings, and Independence Rock. The historic remains within the proposed ACEC area are rare, irreplaceable, exemplary, unique, and vulnerable to adverse change. As noted above, the filling in of the basin made the westward route through the planning area possible.

### **NEED FOR SPECIAL MANAGEMENT**

A change in management in this area is necessary to ensure protection of the scenic and geologic features that create this area. Adequate protections to ensure maintenance of the spires, peaks, and domes would ensure overall maintenance of the visual, historic, and geologic qualities of this area. Major modifications to the characteristic landscape could be avoided through ACEC designation; without the designation, actions under the 1872 mining law and interests in large scale granite quarries would eventually compromise the relevant and important values discussed above.

Although the WSA designation protects the individual WSAs, the lands between and immediately adjacent to them are not protected, although they contribute to the visual setting. The area between the two WSAs is closed to any further right-of-ways.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Geologic	Yes	Yes	Yes
Visual	Yes	Yes	Yes
Significant Historic Values	Yes	Yes	Yes

### **RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for scenic, geologic, and cultural values. The Lander Field Office Interdisciplinary Team recommends that the proposed Sweetwater Rocks ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address mineral exploration and development under the 1872 mining law, oil and gas development, management of rights-of-ways, and management of locatable/salable materials.

## **Government Draw-Upper Sweetwater Sage-Grouse ACEC**

**Status: Proposed** – Two external nominations were received for this area; one nomination proposed an area that was a subset of the area proposed in the other nomination. For the purpose of this review, the larger area is analyzed.

**Location of proposed ACEC:** Area east of Lander and south of the Wind River Reservation to the boundary with the Sweetwater River. It includes public lands in all or parts of Townships 28-34 and Ranges 95-101.

**General description:** Sagebrush-steppe habitat intermixed with riparian/wetland habitats ranging in elevation from approximately 5080 feet to 8760 feet.

**Acreage of proposed ACEC:** Approximately 1,246,791 acres of federal surface. The proposed ACEC boundary was delineated using the Wind River-Sweetwater River Sage-Grouse Local Working Group's proposal and the Governor's Core Population Areas map for this section and incorporated a nomination made by the Wyoming Game and Fish Department (WGFD).

**Primary values considered:** Sage-grouse habitats.

### **RELEVANCE CRITERIA**

**Wildlife:** The area contains breeding, nesting, brood-rearing, and winter habitats for sage-grouse. There are currently 37 occupied and 2 unoccupied leks that have been identified within the proposed boundary of the ACEC (identification of leks often times is not made until wildlife surveys are undertaken as part of a proposed project involving surface disturbance.). Breeding and nesting occurs throughout sagebrush-grass habitats in the area and brood-rearing occurs predominantly in riparian habitats south of Highway 287, which roughly bisects the area east-west. Winter use areas are found throughout the proposed ACEC area, however a greater concentration of wintering occurs in the taller sagebrush stands located in the northern half of the area. The area proposed for ACEC designation encompasses all of the seasonal and life cycle habitats required by sage-grouse during the year.

Sage-grouse population declines throughout the west have caused serious concern for the species. Scoping has identified concerns for the sage-grouse to be an important issue for many people. Sage-grouse have been petitioned for listing under the Endangered Species Act (ESA) and is a Wyoming BLM designated Sensitive Species. Sage-grouse are often used as a representative species of the health of the sagebrush ecosystem and as an indicator of other sagebrush obligate species that are more difficult to inventory and monitor.

While sagebrush communities exist throughout the West, sagebrush range has been limited and fragmented by the development including oil and gas, fuels treatments, rights of ways, conversion to agricultural lands, livestock grazing and other factors identified by the USFWS (2010). The pressures on sage-grouse habitat have threatened to cause the species to be listed under the ESA. The USFWS determined that such listing was warranted under the ESA but precluded by other priorities. The area contained within the proposed ACEC is not only some of the best intact habitat, it is also an area for which the most information exists to support special management and which remains relative unleased for oil and gas development. The specific boundaries proposed by the WGFD were based, in part, upon

the unleased character of these lands which would allow the BLM to manage the lands without regard for pre-existing lease rights.

**Plant Communities:** The area covers a wide diversity of habitats throughout the proposed ACEC. The northern portion of the proposed ACEC is within the 5-9" precipitation zone of the Wind River Basin. This area is characterized by a vegetative community consisting of sagebrush-grass type communities. Grasses such as Indian ricegrass, needle and thread grass and western wheatgrass are the dominant species here. Forbs such as phlox, scarlet globe mallow and wild onion are important forbs in the area. The shrub community is dominated by Wyoming big sagebrush on the uplands and inclusions of greasewood and Gardner saltbush in the higher pH (alkaline) soils. These upland vegetative types are very important for winter and spring habitats for sage grouse. The draws and stream bottoms are riparian in nature with Nebraska sedge, Baltic rush, cottonwoods, willows and basin wildrye in them. Sage grouse use these areas for hiding cover, drinking water and foraging for insects in these systems within the Wind River Basin.

As one moves south in the proposed ACEC, the elevation climbs and the precipitation changes to one of a 10-14" Foothills and Basins East type. This area is dominated again by Wyoming Big sagebrush on the slopes and flat benches within this area. Black sagebrush is common on the shallow soils and rocky ridges throughout, along with some Limber Pine and Juniper. Basin wildrye, Bluebunch wheatgrass and Indian ricegrass are very important herbaceous species in the southern part of the proposed ACEC. However, one of the most important plant types in this area is the perennial forb community that exists as sage grouse require forbs to meet their dietary requirements. Indian paintbrush, salsify, larkspur and hawksbeard are common perennial forbs to the area.

This description of the plant communities is provided to explain the sagebrush habitat in the proposed ACEC, not to suggest that the habitat itself is unique so that it supports ACEC designation. However, the vastness of the proposed ACEC without current oil and gas leasing is unique, particularly in the context of other areas identified as important for the sage-grouse's survival such as near Pinedale and in the Rawlins Field Office.

## **IMPORTANCE CRITERIA**

**Wildlife:** The proposed ACEC area has one of the greatest densities of male sage-grouse per square mile documented in Wyoming and contributes significantly to the conservation of sage-grouse throughout its range. The area nominated as an ACEC has been identified as a stronghold for breeding populations of sage-grouse by the Western Association of Fish and Wildlife Agencies in their Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats. The area supports vast expanses of sagebrush habitat which is required for sage-grouse forage and nesting cover. Recent sage-grouse telemetry studies have documented sage-grouse movements and their use of the area on a year-round basis. Birds tend to concentrate during winter primarily on the north end and then breed and nest in roughly the same area. This part of the proposed ACEC area mainly contains tall and fairly dense sagebrush stands that sage-grouse depend on for forage and nesting cover. Soon after hatching, hens with their chicks begin moving south toward the Sweetwater River to higher elevation riparian habitats. Riparian habitats are the source of forbs and insects essential for chick survival. After brood-rearing is complete and with the onset of cooler temperatures, sage-grouse migrate to the north again to winter. Sage-grouse habitats

are mainly intact as the area is currently not experiencing intensive energy exploration or development and presently there is limited large infrastructure located within the boundary. There has been increased interest in wind power and coal bed natural gas projects within the area in recent years which could affect the sage-grouse population and their seasonal habitats.

Sage-grouse is a species of great concern across the west. Sage-grouse habitat loss/alteration and population decline has prompted several petitions to list the species as threatened or endangered under ESA. Listing the species would significantly affect the management of public lands as the BLM manages the majority of sagebrush habitats in the U.S. The BLM's multiple use objectives would likely be constrained due to the focused management prescriptions developed for sage-grouse and their habitats which would have a significant adverse affect on the economy to the state of Wyoming. The area falls within a Core Population Area established by the Governor of Wyoming to conserve sage-grouse in Wyoming. The Governor issued an Executive Order stating that management should "focus on the maintenance and enhancement of those Greater Sage-Grouse habitats and populations within the Core Areas identified by the Sage Grouse Implementation Team".

**Plant Communities:** The quality of the vegetative community within this ACEC is critical for sage grouse survival. The northern portion of the proposed ACEC is part of the Wind River Basin, where vegetation is highly important for providing winter habitats for birds. Plant species in this area provide nesting, hiding and winter cover for sage grouse. These plant communities play an important role right after the chicks hatch as the forbs are at their highest productivity.

As spring turns into early summer, a large number of grouse migrate south across the ACEC to the upper boundaries of the Sweetwater River and South Pass. Vegetation in this area greens up a little later in the spring and has riparian habitats that provide cover, forbs, and insects for sage grouse. Maintaining a diverse plant composition in this area is important for sage-grouse reproductive success and survival.

## **NEED FOR SPECIAL MANAGEMENT**

Standard management measures are not sufficient to protect the wildlife values in the Government Draw/Upper Sweetwater Sage Grouse proposed ACEC. Standard protection measures are limited to no surface disturbance within 0.25 miles of a sage-grouse lek and a seasonal protection for the area within 1.75 miles from the lek boundary, but most recent scientific data suggests that these prescriptions are not adequate. There is no current protection for sage-grouse migration corridors. Seasonal protections will not allow nesting habitat to be altered or lost during the rest of the year when the area is open to authorized activities. Recent research has indicated that sage-grouse nest further than the lek area currently being protected. Management needs to focus on protecting and enhancing sage-grouse and their habitats in this area to assist in the statewide conservation efforts to preclude listing. Special management prescriptions on public land need to address management of authorized surface disturbing activities and the maintenance of quality habitats for survival of the species.

Little research has been done about the effects of non-oil and gas development such as roads, powerlines, pipelines, and wind energy development. The USFWS 2010 determination found that all of these types of actions at a minimum fragmented habitat and potentially offered perches for raptors and other predators. There is some indication that even when lek fidelity is maintained despite nearby

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development (sage-grouse generally exhibit strong lek fidelity), long term survival rates are lower because habituation lowers natural alertness to predation.

Standard management allows oil and gas and other mineral leasing, mineral material sales, rights of ways including transmission lines and industrial wind energy development as long as the ¼ mile buffer around the lek is excluded and minimum season protections from development activities are applied. Once the seasonal protection period closes, roads, powerlines, well developments and other activities could occur within ¼ mile of buffers.

Only ACEC management will provide the control of surface disturbance on a year-round basis that is needed to protect this important habitat. Without ACEC designation, an 1872 Mining Law claim could be filed directly on top of a lek and the BLM would have no ability to require any surface accommodation or even seasonal restrictions if the disturbance would be less than five acres.

One of the factors that is considered in determining whether a species should be protected under the ESA is management that is in place to prevent the need for listing. ACEC management will allow both reasonable development of the area but stricter grouse protections than is available under standard management. ROWs, including wind energy applications, and other surface disturbing activities threaten the sage-grouse habitat in a way that would cause irreparable fragmentation and year-round protections.

Vegetation management is crucial for successful sage grouse habitat. Grazing would need to be managed, so that we maintain a healthy plant community for the northern and southern portions of the proposed ACEC. Upland and riparian plant communities provide forage and hiding/nesting cover for grouse are essential for sage-grouse survival. Riparian systems that are not meeting PFC should be managed to meet PFC and vegetation utilization levels should be managed to ensure adequate nesting/hiding cover is available. Livestock grazing management needed to support sage-grouse habitat can be required without ACEC designation but the designation helps to prioritize the area for management. In addition, it prioritizes sage-grouse habitat when considering the construction of new range infrastructure.

Managing plant communities through proper grazing management, off-road vehicle and motorized use and strategically placed energy developments is critical in providing the quality vegetative habitat that these birds require.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Wildlife	Yes	Yes	Yes
Plant Communities	Yes	No*	N/A
*Healthy plant communities are extremely important and perhaps key to the sage-grouse’s survival although not unique enough to meet ACEC requirements.			

## **RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for wildlife values. The Lander Field Office Interdisciplinary Team recommends that the proposed Government Draw-Upper Sweetwater Sage-Grouse ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address mineral exploration and development under the 1872 mining law, oil and gas and other mineral development, management of rights-of-way, management of Off Highway Vehicles and motorized vehicle use, and actions that impact forage quality and quantity including vegetative manipulation activities.

Issuance of any rights-of-way authorizations will be precluded by other programs including, but not limited to: wildlife, cultural, and recreation (VRM).

## **Regional Historic Trails and Early Highways ACEC**

**Status: Proposed** – Internal nominations for the current RMP revision have recommended that these historic trails and highways be made an ACEC to expedite management. The purpose of the ACEC would be to make management of these historic trails and early highway more consistent and understandable. Regionally-significant historic trails and early highways located on BLM-administered lands have been managed on a haphazard, case-by-case basis since the 1987 Lander RMP was approved; this situation has caused confusion for land users and extra work and confusion for the BLM.

**Location of proposed ACEC:** These linear resources are of two types: They either enter the LFO from various directions end at up at Fort Washakie, Lander, or South Pass City; or they pass through the Field Office on their way to other parts of Wyoming. Altogether, these historic trails and early highways run through several different parts of LFO.

**General description:** Regionally significant historic trails and early highways run through various parts of the Lander Field Office. These trails and highways include the Bridger Trail, the Casper to Lander Stage Road, the Rawlins-Fort Washakie Stage Trail, the Green River-Fort Washakie Stage Road, the Birdseye Pass Stage Trail, the Point of Rocks to South Pass Stage Trail, the Yellowstone Highway, and the National Park to Park Highway. The trails and early highways were in use from the 1860's until the 1920's, and were important components of the efforts to settle and expand business activities in early Wyoming.

**Acreage of proposed ACEC:** An approximation of Regional Historic Trails and Highways ACEC is 89,106 acres.

**Primary values considered:** Relevance criteria #1: Significant historic values.

### **RELEVANCE CRITERIA**

**Significant Historic Values:** The various historic trails and early highways are eligible for nomination to the National Register of Historic Places, and have had a significant effect on the historical development of Wyoming. These historic resources are the remains of earlier eras in Wyoming's history, and evoke these time periods through their physical remains and historic settings. Substantial portions of each of these trails and highways are intact in both in their physical remains and in their historical settings.

### **IMPORTANCE CRITERIA**

**Primary importance qualities considered:** Importance criteria #s 1 and 2: More than local significance; and qualities that make it fragile, sensitive, rare, irreplaceable, unique, and vulnerable to adverse change.

**Significant Historic Values:** The various historic trails and highways all had a significant effect on the historical development of Wyoming, both before and after it became a state, and all are of at least Statewide significance. Substantial portions of each of these historical resources are intact in both in their physical remains and in their historical settings. Modern development, including oil and gas exploration, mining, and realty actions across or within view of these trails and highways could have a

highly adverse effect on them. Because of this, the regional historic trails and early highways are considered fragile, sensitive, rare, irreplaceable, exemplary, unique, and vulnerable to adverse change.

### **NEED FOR SPECIAL MANAGEMENT**

Standard management measures are not sufficient to protect significant cultural values on and around the regional historic trails and early highways. Under standard management, expected actions such as oil and gas exploration, pipelines, roads, mining exploration, and other developments could be implemented on or near these resources, and these modern developments could easily cause irreversible adverse effects through the introduction of modern intrusions into intact historical remains and settings. Many of the trail segments are near or in areas of high development potential, including oil and gas and realty actions. Wind energy has been proposed near many of the trails; with the height of current turbines – some approaching 500 feet – the impacts on the visual setting of the trails could be extensive. Special management in the form of the restriction or modification of certain modern impacts and installations is needed to preserve the important qualities of these trails and early highways.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Significant Historic Values	Yes	Yes	Yes

### **RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for significant historic values. The Lander Field Office Interdisciplinary Team recommends that the proposed Regional Historic Trails ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address: Oil and Gas development, management of rights-of-way, activities under the 1872 Mining Law, recreational management, management of Off Highway Vehicles, etc.

## **Pathfinder Prairie Dog Complex ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** North of Muddy Gap near Pathfinder Reservoir; complex is located in both Lander and Rawlins Field Offices.

**General description:** White-tailed prairie dog complex occurring in sparsely vegetated area encompassing approximately 12,000 acres.

**Acreage of proposed ACEC:** Approximately 12,000 acres of federal surface.

**Primary values considered:** Wildlife – prairie dogs and as a possible black-footed ferret re-introduction site.

### **RELEVANCE CRITERIA**

**Wildlife:** The Pathfinder white-tailed prairie dog complex is a large complex that meets the habitat suitability criteria as a potential reintroduction site for the black-footed ferret, an endangered species. Prairie dogs are the primary prey species for black-footed ferrets, which also reside in the burrow system.

The white-tailed prairie dog is on the Wyoming BLM Sensitive Species list, which is a list of species warranting protection to prevent these species from becoming listed as threatened or endangered. In addition, prairie dog complexes provide habitat for other Sensitive Species including mountain plover and burrowing owl. These species live in burrows or are dependent on the bare ground or plants associated with prairie dog complexes.

**Natural System:** White-tailed prairie dog complexes are unique natural systems. The Pathfinder complex is of adequate size (greater than 1,000 acres) to serve as a reintroduction site for the T&E listed black footed ferret. Burrows constructed by prairie dogs are natural systems that provide shelter for other species. Burrows can also change plant community composition.

### **IMPORTANCE CRITERIA**

**Wildlife/Natural System:** The white-tailed prairie dog complex exceeds the minimum required acreage size of 1,000 acres for a potential reintroduction site of the endangered black-footed ferret. Protection of this complex is in compliance with the Endangered Species Act and the mandates of FLPMA.

The white-tailed prairie dog is a Sensitive species and this complex contributes to overall population numbers. Sensitive Species are to be managed so that declines in species numbers and habitat do not result in listing. Protection of this unique habitat also can provide protection for the other sensitive species associated with the complex, such as the burrowing owl and mountain plover.

### **NEED FOR SPECIAL MANAGEMENT**

Although the Rawlins Field Office determined that the Pathfinder Complex met both the relevance and importance criteria, the Rawlins FO determined in its RMP revision that special and adequate management of the complex was already provided by the prairie dog's status as a sensitive species.

Conservation measures have been developed in conjunction with the U.S. Fish and Wildlife Service and have been incorporated into the existing RMP. These measures include ensuring there is no unauthorized killing of white-tailed prairie dogs on BLM lands. Best Management Practices are implemented where feasible and include avoidance of surface-disturbing activities in the complex. Prescriptions to address white-tailed prairie dog protection and habitat management have been developed under the various alternatives for the revised RMP.

The Lander Field Office agrees with the decision made by the Rawlins Field Office, that ACEC management is not needed for protection of the prairie dog. T&E clearances and avoidance can be managed on a site-specific basis without ACEC designation and without causing unreasonable public confusion.

### **SUMMARY OF FINDINGS**

For each described resource, indicate whether relevance and importance criteria were met, and what special management would be required to protect and prevent irreparable damage to these resources.

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	No

### **RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for wildlife resources, but does not meet the need for additional special management. **The Lander Field Office Interdisciplinary Team recommends that the proposed Pathfinder Prairie Dog Complex ACEC not be carried forward for analysis in the RMP revision.**

## **Blackjack Lek ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** East of the Agate Flat Road northeast of Jeffery City.

**General description:** Sparsely vegetated area surrounded by sagebrush-steppe habitat.

**Acreege of proposed ACEC:** Approximately 82 acres.

**Primary values considered:** Sage-grouse breeding ground.

### **RELEVANCE CRITERIA**

**Wildlife:** The proposed ACEC area is a sage-grouse strutting ground that supports a large number of breeding males. The Blackjack lek supports the largest number of males attending a single lek documented in the Lander Field Office. The lek has supported approximately 350 male sage-grouse in recent years.

Sage-grouse population declines throughout the west have caused serious concern for the species which has resulted in it being identified by the USFWS as warranted for listing under the Endangered Species Act (ESA) but precluded by higher priority species. Sage-grouse is a Wyoming BLM designated Sensitive Species and a species of Conservation Concern for the Wyoming Game and Fish Department.

### **IMPORTANCE CRITERIA**

**Wildlife:** The Blackjack lek has the largest number of male sage-grouse attending a lek known within the Lander Field Office. Due to their smaller size and cryptic coloration, sage-grouse hens are difficult to count, but it is expected that there is an equally large number of hens attending this lek as well. Due to its sheer size, this lek contributes significantly to the overall population of sage-grouse in this part of the Lander Field Office and throughout the state. The loss of a lek of this size would likely impact population numbers, adding to the reasons for listing the species.

Potential threats to the Blackjack lek include authorizing actions which would alter the physical aspects of the lek or cause birds to avoid or abandon the area. These types of actions include authorizing ground disturbing activities, placing structures on or adjacent to the lek, and allowing human disruptive activities near the lek during the breeding season. These types of activities could result in a reduction in breeding attempts, decreased nest success in the surrounding nesting habitat, and/or lower chick survival which ultimately determines overall population numbers.

The proposed ACEC area falls within the Greater Sage-Grouse Core Area established by the Governor of Wyoming as a strategy to conserve sage-grouse in Wyoming. The Governor has issued an Executive Order stating that management should “focus on the maintenance and enhancement of those Greater Sage-Grouse habitats and populations within the Core Areas identified by the Sage Grouse Implementation Team”. The Wyoming BLM has adopted this strategy and the RMP revision will identify sage-grouse specific management. Sage-grouse is a species of great concern across the west. Listing the species under the ESA would significantly affect the management of public lands as the BLM manages the majority of sagebrush habitats in the U.S. The BLM’s multiple use objectives would likely be

constrained due to the focused management prescriptions developed for sage-grouse and their habitats which would have a significant adverse affect on the economy to the state of Wyoming.

**NEED FOR SPECIAL MANAGEMENT**

Standard management would not protect the Lek from disturbance under the 1872 Mining Law and the BLM would have no ability to require approval of a Plan of Operations for mining activities including exploration that disturbed less than five acres of surface, activities that can be done under a Notice. The potential for locatable minerals on the lek or within a distance around it is low or no potential.

Standard management (under the 1987 RMP) does not allow authorized surface disturbing activities within a 0.25 miles radius from the lek. The BLM has proposed extending this radius from 0.25 to 0.6 mile and to prohibit disruptive activities near the lek during seasonal periods. These proposed changes are needed to more adequately protect the lek based on recent sage-grouse research. The BLM in conjunction with the State of Wyoming has determined that the greater buffers offered by the Core Area Strategy will prevent the overall population of greater sage-grouse to decline so that its “warranted” status under the ESA moves up in priority. Although management outlined in the Core Area Strategy protects individual leks, its primary purpose is to conserve sage-grouse habitat and the overall survival of the species.

The Blackjack Lek is contained within the proposed larger sage-grouse ACEC. If the full area proposed by that ACEC is designated, a stand-alone Blackjack Lek ACEC would not be needed, although special management within the larger ACEC for the Blackjack Lek might be appropriate because of the heavy use by sage-grouse.

The potential threats to the greater sage-grouse identified by the USFWS included livestock grazing, wind energy and development and other ROWs such as transmission lines and roads, mineral development and fire and fuels management. Management prescriptions contained within the Core Area strategy provide prescriptions to prevent adverse impact from many of these authorized activities.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Wildlife	Yes	Yes	No

**RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for wildlife values, but does not meet the need for additional special management. Existing management protects the lek and a surrounding buffer from surface disturbing activities. **The Lander Field Office Interdisciplinary Team recommends that the proposed Blackjack Lek ACEC not be carried forward for analysis in the RMP revision.**

## **Upper Willow Creek ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** In the southeast portion of the Lander Field Office in the Green Mountain Common Allotment livestock grazing allotment.

**General description:** The Willow Creek drainage that flows from between Whiskey Peak and Green Mt. The drainage flows into the Sweetwater River.

**Acreege of proposed ACEC:** Approximately 1,700 acres.

**Primary values considered:** Hydrologic and wetland/riparian ecosystems, along with wildlife, fishery and avian values. The Willow Creek drainage is contained within the proposed Sweetwater River Watershed ACEC and that analysis is incorporated by reference here.

### **RELEVANCE CRITERIA**

**Plant Communities:** The most unique and important plant community in this area is the riparian/wetland systems that are scattered throughout the proposed ACEC. Many systems have a series of old beaver dams which aided in the development of wet meadow complexes within this proposed ACEC. These hydrophytic systems host a variety of plants consisting of tufted hairgrass, Nebraska sedge, Baltic rush, horsetail, arrowgrass, willows and water birch. These systems are quite small in size ranging from small stringer streams up to Willow Creek itself. Other moist and wet vegetative systems include aspen colonies scattered in the draws and benches that have active water seeps surrounding Willow Creek.

This area is currently under an allotment management plan for livestock grazing. Under this plan, plant communities in the proposed ACEC have responded to the managed grazing program and make up a healthy functioning system. The area currently is an example of a successful livestock grazing management plan for public land riparian/wetland systems.

This area is contained within the Sweetwater River Watershed proposed ACEC.

### **IMPORTANCE CRITERIA**

**Natural Process/Systems - Plant Communities:** Riparian/wetland communities throughout the west and particularly in the Green Mountain Common Allotment (GMCA) are unique in that they provide food and cover for a multitude of wildlife and neo-tropical bird species. Riparian areas such as Willow Creek provide vegetative cover and habitat for wildlife species (mammals, amphibians, and birds) as well as a water source for livestock and wild horses in the area. Quality vegetation equates to quality drinking water. A system with good vegetative composition and cover provides a natural filter for improved drinking water. These plant communities in the riparian areas receive a great deal of use from the public in that they fish in these areas, hunt, sightsee, and generally recreate here. These areas are fragile systems that can be lost from overuse by the public, livestock grazing and uncontrolled wild horse numbers. The riparian system is an intact ecosystem that could be lost if not managed properly. The development of roads from surface activities such as mining and energy development can be detrimental as can unmanaged livestock grazing and unregulated numbers of wild horses.

While extremely important locally as a well managed area of a grazing allotment with important riparian/wetlands resources as part of a functioning ecosystem, the area might not meet the relevance and importance criteria. However, this issue is not addressed because the current management is meeting the requirements of protecting the important values. Although various challenges to other areas of the GMCA argue that rangeland health standards are not being met including riparian proper functioning condition (PFC), the proposed ACEC is an example of successful, non-ACEC management achieving desire goals.

**NEED FOR SPECIAL MANAGEMENT**

Management of this area is important that we maintain and or continue to improve the riparian plant communities in this proposed ACEC. Proper compliance with the grazing management plan will continue to reduce the impact that can be associated with unmanaged grazing. By assuring continued monitoring and compliance with the AMP, the public can be assured that riparian/wetland vegetative values will be managed to protect those values. Since current management is meeting resource objectives, the ACEC is not recommended for designation.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Functioning ecosystem	Yes	No	No
Riparian	Yes	No	No

**RECOMMENDATIONS**

The proposed ACEC does meet the required relevance criteria but does not meet the importance criteria or the need for special management. **The Lander Field Office Interdisciplinary Team recommends that the proposed Upper Willow Creek ACEC not be carried forward for analysis in the RMP revision.**

## **Sweetwater River Watershed ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** The area bisects the Lander Field Office on the southern portion.

**General description:** The Sweetwater River Watershed includes those lands draining into the Sweetwater River which flows across the southern part of the field office and is part of the Platte River system.

**Acreage of proposed ACEC:** Approximately 1,858,374 acres.

**Primary values considered:** Hydrologic and wetland/riparian ecosystems, along with wildlife, fishery and avian values as well as values addressed in other ACECs.

### **RELEVANCE CRITERIA**

**Historic and scenic values:** This area contains the four National Historic Trails (NHTs) and Sweetwater Rocks (including four Wilderness Study Areas [WSAs]) as well as much of the proposed greater sage-grouse ACEC and the analyses of those proposed ACECs are relevant here and incorporated by reference.

**Fish and T&E resources:** The proposed ACEC contains the only Class 1 water, as designated by the State of Wyoming, in the Lander Field Office. It is an important fishery and frequently fished by locals and nonresidents and has been identified as a “Red Ribbon” river because of the quality of its fish. The Sweetwater River is part of the Platte River System and subject to limitations on reducing flows into the system for the protection of downstream T&E aquatic species. Almost the entire watershed is within greater sage-grouse Core Area.

**Rare geologic feature:** The Sweetwater Canyon was carved “down” through erosive action of the river. It is unusual in the arid setting this ecology site area and is an extraordinary site appearing “out of nowhere” in the rolling sage-grouse steep. This area contains a WSA and is also nominated for inclusion in the Wild and Scenic River system.

### **IMPORTANCE CRITERIA**

**Historic and scenic values:** This area contains portions of the NHTs and Sweetwater Rocks and the analyses of those proposed ACECs are applicable here and incorporated by reference.

**Fish and T&E resources:** The watershed provides a significant component to the Platte River system and contributes to the maintenance of downstream T&E species. The segment that the State of Wyoming determined to be Class 1 waters is unique in the field office and rare in the state.

**Geologic feature:** The Sweetwater River Canyon is highly valued by recreationists but is probably not of more than local significance except as a contributing feature to the historic values, as the NHTs followed the Sweetwater River as the source of water for the emigrant pioneers trekking across this section of Wyoming. Many of the important historic sites along the NHTs are in the Sweetwater River drainage.

**NEED FOR SPECIAL MANAGEMENT**

The vast majority of the riparian areas in the Lander Field Office assessed as “not functioning,” “functioning at risk,” and “functioning with a downward trend” are located in the Sweetwater River watershed. The Green Mountain Common and Split Rock Allotments are primarily located in the Sweetwater Watershed were determined as not meeting the riparian standard under the Wyoming Standards of Rangeland Health. These are large allotments that have received much scrutiny for the condition of their riparian- wetland areas.

The ACEC nomination identified as its goals to “restore the natural water storage capability of the riparian systems, restore wildlife and fisheries habitats and restore native plant communities.” While the BLM fully supports these goals – indeed, this is a summation of the Standards of Rangeland Health - properly implemented standard management that should achieve them. The BLM considered the riparian resources and overall requirements of the Standards of Rangeland Health and determined that, properly implemented, standard management could achieve the Standards. Although the Sweetwater drainage is extremely important and clearly presents management issues, special designation is not necessary to achieve rangeland health.

**SUMMARY OF FINDINGS**

Resource	Relevance Criteria Met	Importance Criteria Met	Special Management Required to Avoid Effects
Historic and scenic values	Yes	Yes	Yes, but achieved through other ACECs
Fish and T&E resources	Yes	Yes	No
Geologic feature	Yes	No	N/A

**RECOMMENDATIONS**

The proposed ACEC does meet the required relevance and importance criteria for historic, scenic, fish and T&E resources but does not meet the need for special management. **The Lander Field Office Interdisciplinary Team recommends that the proposed Sweetwater River Watershed ACEC not be carried forward for analysis in the RMP revision.**

The BLM recommends identifying the Sweetwater River watershed as a specially managed watershed that needs “...special protection from the standpoint of human health concerns, ecosystem health, or other public uses” (Handbook 1601-1 App. C, page 2) and not designating it as an ACEC.

## **Water Quality ACEC**

**Status: Proposed** – A Cooperating Agency nominated this area for ACEC designation.

**Location of proposed ACEC:** Field Office wide.

**General description:** Protection for all shallow or high-risk aquifers in the field office to protect water quality.

**Acreage of proposed ACEC:** Undetermined.

**Primary values considered:** Water Quality.

### **RELEVANCE CRITERIA**

**Natural Process or System:** The shallow or high-risk aquifers are part of natural processes and systems.

### **IMPORTANCE CRITERIA**

The BLM determined that the water resources meet Importance Criteria 2, 4, and 5. These waters are fragile, sensitive, and vulnerable to adverse change. The waters have qualities that warrant highlighting to satisfy concerns about safety and public welfare. They can pose a significant threat to human life.

### **NEED FOR SPECIAL MANAGEMENT**

Water quality is addressed in multiple places including the Clean Water Act, the Onshore Orders regarding oil and gas development and in the Standards for Healthy Rangelands but is specifically Standard 5: “Water quality meets State standards.” The BLM is mandated to comply with state and federal water quality laws and to require that water quality not be degraded by any of its authorized activities (unless exempted by federal law). Standard management must meet Standard 5; if it is not doing so, then the management must be revised to do so.

The degree to which water quality is emphasized in authorizing activities increases with high-risk or shallow aquifers, such as the management on BLM lands that contribute to the Popo Agie which supplies the drinking water for the town of Lander. However, the protection of these waters is directly addressed by standard management.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Water resources	Yes	Yes	No

### **RECOMMENDATIONS**

The proposed ACEC does meet the required relevance and importance criteria but does not meet the need for special management. The Lander Field Office Interdisciplinary Team recommends that the proposed Water Quality ACEC not be carried forward for analysis in the RMP revision.

The BLM recommends rigorous enforcement of all water quality requirements in authorizing activities, giving careful consideration of water quality issues in general and the requirements of Standard 5 in particular, and using National Environmental Policy Act (NEPA) documents as a method of educating the public of the importance of water quality and not designating the riparian-wetlands as an ACEC.

## **Riparian-Wetlands ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** Field Office wide.

**General description:** Protection for all riparian-wetlands in the field office to protect water quality.

**Acreege of proposed ACEC:** Undetermined.

**Primary values considered:** Water Quality.

### **RELEVANCE CRITERIA**

**Natural Process or System:** The riparian-wetland water resources together form natural processes and systems: the Wind River, Sweetwater, and Red Desert watersheds.

### **IMPORTANCE CRITERIA**

The BLM determined that the water resources meet Importance Criteria 1-5 in various parts of the field office. For example, a small portion of BLM lands contribute to the drinking water of the town of Lander and thus have the potential to “pose a significant threat to human life and safety or property”. The Sweetwater watershed is part of the Platte River system and subject to limits on water depletion and is therefore “more than local significance”. Throughout the West and certainly in Wyoming, water availability is an increasingly important issue and “recognized as warranting protection in order to satisfy national priority concerns.”

### **NEED FOR SPECIAL MANAGEMENT**

Water quality is addressed in multiple places in the Standards for Healthy Rangelands but is specifically Standard 5: “Water quality meets State standards.” The BLM is mandated to comply with state and federal water quality laws and to require that water quality not be degraded by any of its authorized activities (unless exempted by federal law). Standard management must meet Standard 5; if it is not doing so, then the management must be revised to do so.

### **SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Riparian-Wetland resources	Yes	Yes	No

### **RECOMMENDATIONS**

The proposed ACEC does meet the required relevance and importance criteria but does not meet the need for special management. The Lander Field Office Interdisciplinary Team recommends that the proposed Riparian-Wetlands ACEC not be carried forward for analysis in the RMP revision.

The BLM recommends rigorous enforcement of all water quality requirements in authorizing activities, giving careful consideration of water quality issues in general and the requirements of Standard 5 in particular, and using NEPA documents as a method of educating the public of the importance of water quality and not designating the riparian-wetlands as an ACEC.

### **Schoettlin Mountain ACEC**

**Status: Proposed** – The Lander Field Office received an external nomination for the area.

**Location of proposed ACEC:** East and south of Lander.

**General description:** Protection for significant cultural resources.

**Acreeage of proposed ACEC:** Unknown.

**Primary values considered:** Cultural resources.

The BLM did not have sufficient information to evaluate this ACEC. The nomination did not provide any specifics regarding the cultural resources or their location. The BLM has no data for any important cultural resources on Schoettlin Mountain. After the BLM requested additional information regarding the resource, the proponent withdrew the nomination.

## **Twin Creek ACEC**

**Status: Proposed** – An internal nomination was received for this area which is wholly contained in the Government Draw-Upper Sweetwater Sage-Grouse ACEC.

**Location of proposed ACEC:** Area is east of Lander and south of the Wind River Reservation to the boundary with the Sweetwater River. It includes public lands in all or parts of Townships 28-34 and Ranges 95-101.

**General description:** Sagebrush-steppe habitat intermixed with riparian/wetland habitats.

**Acreage of proposed ACEC:** Approximately 36,300 acres of federal surface.

**Primary values considered:** Sage-grouse habitats and important migration corridor in an area for which the BLM has four season data regarding sage-grouse migration and use. The proposed ACEC boundary was delineated using geology resources that are likely to have bentonite found in the Mowry Shale and the Lower Frontier formations.

### **RELEVANCE CRITERIA**

**Wildlife:** The area is an important part of the migration corridor for greater sage-grouse which winter, breed, and nest in the Government Draw area and summer in the upper Sweetwater River area. The areas to the north and south of the proposed ACEC boundary encompass all of the seasonal and life cycle habitats required by sage-grouse during the year. The BLM has participated in research regarding the habits of the sage-grouse in the area and know that the proposed ACEC is key to health and survival of the large population in the area.

Sage-grouse population declines throughout the west have caused serious concern for the species. Scoping has identified concerns for the sage-grouse to be an important issue for many people. The listing of the greater sage-grouse under the Endangered Species Act (ESA) has been determined by the USFWS to be warranted but precluded by higher priority work and the species a Wyoming BLM designated Sensitive Species. The area contained within the proposed ACEC connects some of the most intact habitat and is an area for which the most data exists to support special management.

**Plant Communities:** The proposed ACEC consists of rugged hills including Blue Ridge and Cedar Ridge with precipitation in the 10-14" Foothills and Basins East type. This area is dominated by Wyoming big sagebrush on the slopes and flat benches within this area. Black sagebrush is common on the shallow soils and rocky ridges throughout, along with some limber pine, a Wyoming BLM sensitive species, and juniper. Basin wildrye, bluebunch wheatgrass and Indian ricegrass are very important herbaceous species in the southern part of the proposed ACEC. This area also supports an abundant perennial forb community that sage-grouse depend on to meet their nutritional requirements.

This description of the plant communities is provided to explain the sage-brush habitat in the proposed ACEC, not to suggest that the habitat itself is unique enough to support ACEC designation.

**Historic Values:** The proposed ACEC contains extent sections of the Rawlins-Ft. Washakie Road, a regionally important historic trail and part of the Regional Trails and Early Highways proposed ACEC. The analysis in that ACEC is relevant here and incorporated by reference.

**Visual Resources:** The proposed ACEC contains resources inventoried as meeting the criteria of Visual Resource Class II. The southern/western portions of the ACEC are immediately adjacent to the VRM Class I Red Canyon National Natural Landmark and make up the southern or eastern area of the scenic highway route between South Pass (including South Pass City and Atlantic City) and Lander/Muddy Gap.

## **IMPORTANCE CRITERIA**

**Wildlife:** The areas to the south and north of the proposed ACEC have one of the greatest densities of male sage-grouse per square mile documented in Wyoming and contribute significantly to the conservation of sage-grouse throughout its range. The proposed ACEC has been identified as a stronghold for breeding populations of sage-grouse by the Western Association of Fish and Wildlife Agencies in their Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats. The area supports vast expanses of sagebrush habitat which is required for sage-grouse forage and nesting cover.

Recent sage-grouse telemetry studies have documented sage-grouse movements and their use of the area on a year-round basis with birds migrating upwards of 60 air miles from their winter range to access their brood-rearing habitats. Birds tend to concentrate during winter primarily on the north end and then subsequently breed and nest in roughly the same area. Soon after hatching, hens with their chicks begin moving south toward the Sweetwater River to higher elevation riparian habitats. Riparian habitats are the source of forbs and insects essential for chick survival. After brood-rearing is complete and with the onset of cooler temperatures, sage-grouse migrate back to the north to winter. Sage-grouse habitats are mainly intact as the area is currently not experiencing intensive energy exploration or development and presently there is limited large infrastructure located within the boundary. There has been increased interest in wind power and coal bed natural gas projects within the area in recent years which could affect the sage-grouse population and their seasonal habitats. The mining of the lands in the migration corridor would likely disturb the early summer and fall movement necessary for the survival of the population.

Sage-grouse is a species of great concern across the west. Sage-grouse habitat loss/alteration and population decline has led the USFWS to make a determination that listing of the species as threatened or endangered under the ESA was warranted but precluded. Listing the species would significantly affect the management of public lands as the BLM manages the majority of sagebrush habitats in the U.S. The BLM's multiple use objectives would likely be constrained due to the focused management prescriptions developed for sage-grouse and their habitats which would have a significant adverse affect on the economy to the state of Wyoming. The area falls within the Core Area established by the Governor of Wyoming to conserve sage-grouse in Wyoming. The Governor issued an Executive Order stating that management should "focus on the maintenance and enhancement of those Greater Sage-Grouse habitats and populations within the Core Areas identified by the Sage Grouse Implementation Team".

**Plant Communities:** The quality of the vegetative community within this ACEC is critical for sage grouse survival. To the north of the proposed ACEC is part of the Wind River Basin, where vegetation is highly important for providing winter habitat for birds. Plant species in this area provide winter forage and nesting cover for sage grouse as well as forage and hiding cover for chick survival.

As spring turns into early summer, a large number of grouse migrate south across the ACEC to the upper boundaries of the Sweetwater River and South Pass. Vegetation in this area greens up a little later in the spring and has riparian habitats that provide cover, forbs, and insects for sage grouse. Maintaining proper plant composition in this area is important not only in the northern portion of the ACEC, but the southern as well. The transition zone of the ACEC is important not only to support populations during migration but also to prevent fragmentation and to maintain connectivity.

**Historical Resources:** The Rawlins-Ft Washakie Road segments still extent in the proposed ACEC are regionally significant as determined by National Register eligibility standards. Much of the regional trail has been lost, rendering more important segments such as this which is close to Lander. Given the degradation of the majority of the trail in areas close to urban locations or in areas where agriculture is prevalent, these extent sections have an increased importance. The Museum of the West, located in Lander, has determined that remnants of an historical bridge located in the ACEC were threatened due to the elements and vandalism and has undertaken an effort to relocate the bridge as part of its pioneer collection.

**Visual Resources:** The inventory determination that an area is VRM Class II is not sufficiently unique so as to justify ACEC management. The proposed ACEC, however, has more importance because it is near to Lander, on one of the major tourist routes to the national parks, adjoins the Beaver Rim ACEC which is an important visual resource, and constitutes part of other area visible from the Red Canyon overlook – one of only two Natural National Landmarks in the Lander Field Office and the only such landmark actually designated.

### **NEED FOR SPECIAL MANAGEMENT**

Standard management measures are not sufficient to protect the wildlife values in the proposed Twin Creek ACEC. Standard protection measures include no surface disturbance within 0.25 miles of a sage-grouse lek and a seasonal protection for the area within 1.75 miles from the lek boundary, but most recent scientific data suggests that these prescriptions are not adequate. There is no current protection for sage-grouse migration corridors. Seasonal protections will not ensure that nesting habitat will be not be altered or lost during the time when the area is open to authorized activities. Recent research has indicated that sage-grouse nest further than the area currently being protected. Management needs to focus on protecting and enhancing sage-grouse and their habitats in this area to assist in the statewide conservation efforts to preclude listing. Special management prescriptions on public land need to address management of authorized surface disturbing activities and the maintenance of quality habitats for survival of the species.

The proposed ACEC area likely contains bentonite in the Mowry Shale and Lower Frontier formations. Bentonite is a locatable mineral and subject to claim in accordance with the 43 CFR 3809 regulations; without ACEC designation, exploratory activities of up to five acres of disturbance could be conducted under notice without BLM review. Exploration could destroy or fragment sage-grouse habitat and impede migration to seasonal ranges.

Only ACEC management will provide the control of surface disturbance on a year-round basis that is needed to protect this important habitat. Without ACEC designation, an 1872 Mining Law claim could

be filed directly on top of a lek and the BLM would have no ability to require any surface accommodation.

One of the factors that is considered in determining whether a species should be protected under the ESA is whether management is in place to prevent the need for listing. ACEC management will allow reasonable development of the area but with stricter sage-grouse protections than is available under standard management. ROWs, including wind energy applications, and other surface disturbing activities threaten the sage-grouse habitat in a way that would cause irreparable fragmentation and year-round protections.

Vegetation management is crucial for maintaining suitable sage grouse habitat. Diverse upland and riparian plant communities are essential for sage-grouse survival in that they provide the necessary forage and hiding/nesting cover requirements. Managing these plant communities through proper grazing management, off-road vehicle use, and strategically placed energy developments is critical in providing the quality vegetative habitat that these birds require.

While NHPA management limits adverse mineral, ROWs, and other developments within ¼ mile of the historic Rawlins to Ft. Washakie Road, these protections would not limit development beyond the ¼ mile buffer and would likely prove inadequate to prevent surface disturbance which would adversely impact the historic setting of the trail. Coupled with the important visual resources in the area as identified in the most recent inventory, modern intrusions could adversely impact the setting.

Special management is required to protect the proposed ACEC as the adjacent Red Canyon and Beaver Rim ACECs are closed (or avoided) for major ROWs and has a NSO stipulation for oil and gas development and leasable minerals which could lead to a greater demand for these activities in the proposed ACEC. Without ACEC management that encompasses all of the identified values, the area could be adversely impacted through piece-meal management that allows some development that would adversely impact all resources.

Perhaps most significantly, without ACEC designation, mineral activities of less than five acres of disturbance could be conducted under a Notice of Intent that would not allow the BLM to control or influence the activities. The boundaries of the ACEC have been identified to follow the likely bentonite (a locatable mineral) potential. ACEC designation does not preclude development but allows the BLM, through its review and approval of a Plan of Operations, to limit the adverse impacts to ACEC values.

**SUMMARY OF FINDINGS**

<b>Resource</b>	<b>Relevance Criteria Met</b>	<b>Importance Criteria Met</b>	<b>Special Management Required to Avoid Effects</b>
Wildlife	Yes	Yes	Yes
Plant communities	Yes	No	N/A
Historic values	Yes	Yes	Yes
Visual resources	Yes	Yes	Yes

## **RECOMMENDATIONS**

The proposed ACEC meets the required relevance and importance criteria for wildlife, historic, and visual resources. The Lander Field Office Interdisciplinary Team recommends that the proposed Twin Creek ACEC be carried forward for analysis in the RMP revision including whether or not the area should be designated as an ACEC in the RMP and what management prescriptions should be identified for the area.

Prescriptions to maintain relevant and important values need to address mineral exploration and development under the 1872 mining law, oil and gas development, management of rights-of-way, management of Off Highway Vehicles, and actions that impact forage quality and quantity including vegetative manipulation activities.

Issuance of any rights-of-way authorizations will be precluded by other programs including, but not limited to: wildlife, cultural, and recreation (VRM).

## 5.0 List of Preparers

<b>Continental Divide National Scenic Trail:</b>	Jared Oakleaf
<b>Cultural:</b>	Craig Bromley
<b>Geology:</b>	Jon Kaminsky
<b>National Historic Trails:</b>	Craig Bromley
<b>Vegetation:</b>	Scott Fluer
<b>Visual Resources:</b>	Jared Oakleaf
<b>Wildlife and Special Status Species:</b>	Sue Oberlie
<b>Team Lead:</b>	Kristin Yannone