U.S. Department of the Interior
Bureau of Land Management

Environmental Assessment

August 2011 Lease Parcel Review

January 2011

PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management
Wind River / Bighorn Basin District
101 S. 23rd St
Worland, WY 82401
307–347–5100

BLM

NATIONAL SYSTEM OF PUBLIC LANDS

Environmental Assessment: August 2011 Lease Parcel Review

January 2011

Table of Contents

List of Tables

Chapter 1. Introduction

1.1. Identifying Information:

As required by 43 CFR 3120.1-2, the BLM Wyoming State Office conducts a quarterly competitive lease sale to sell available oil and gas lease parcels. A Notice of Competitive Lease Sale (NCLS), which lists lease parcels to be offered at the auction, is published and posted by the BLM State Office at least 45 days before the auction is held. Lease stipulations applicable to each parcel are specified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations may be necessary, based on information available at the time, is made during the land use planning process. Surface management of non-BLM administered land overlaying federal minerals is determined by BLM in consultation with the appropriate surface management agency or the private surface owner.

In the process of preparing a lease sale the BLM State Office sends a draft parcel list to each field office where the parcels are located. Field Office staff then review the legal descriptions of the parcels to determine if they are in areas open to leasing; if appropriate stipulations have been included; if new information has become available which might change any analysis conducted during the planning process; if appropriate consultations have been conducted, and if there are special resource conditions of which potential bidders should be made aware.

On rare occasions, additional information obtained after the publication of the NCLS, may result in withdrawal of certain parcels prior to the day of the lease sale.

The following Environmental Assessment (EA) documents the review of the parcels that were nominated. All parcels addressed in this EA are under the administration of the Wind River / Bighorn Basin District (Cody Field Office, Worland Field Office, and Lander Field Office). It serves to verify conformance with the approved land use plans, addresses new information, and provides the rationale for offering parcels to be sold and subsequently issued during the aforementioned lease sale.

1.1.1. Title, EA number, and type of project:

August 2011 Lease Parcel Review, DOI-BLM-WY-R000-2011-0001-EA

1.1.2. Location of Proposed Action:

All parcels addressed in this EA are under the administration of the Wind River / Bighorn Basin District (Cody Field Office, Worland Field Office, and Lander Field Office).

1.1.3. Name and Location of Preparing Office:

Lead Office - Wind River - Bighorn Basin DO and number LLWYR00000

1.1.4. Identify the subject function code:

Subject Function Code – 1310 EI

1.1.5. Applicant Name:

Parcels were nominated through Expressions of Interest for the August 2011 Oil and Gas Competitive Lease Sale.

1.2. Purpose and Need for Action:

Public lands within the Wind River / Bighorn Basin District have been evaluated through the land use planning process, and in compliance with other laws, management actions were identified within these documents, which reflect the intent of the Federal Land Policy and Management Act of 1976 (FLPMA); stating, "goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple use and sustained yield unless otherwise specified by law."

The Wind River / Bighorn Basin District further acknowledges the intent of FLPMA in managing multiple use lands for protection of these resources; "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use". However the management of multiple use lands through FLPMA also states that "the public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 (84 Stat. 1876, 30 U.S.C. 21a) as it pertains to the public lands."

It is the policy of the Bureau of Land Management (BLM) as derived from various laws, including the Mineral Leasing Act of 1920, as amended [30 U.S.C. 181 et seq.] and the Federal Land Policy and Management Act of 1976 (FLPMA), to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs. The purpose of this document is to verify conformance with the Land Use Plans, address new information, and determine which stipulations are appropriate for the nominated parcels. This EA will analyze the impacts of offering these lease parcels nominated for the August 2011 competitive oil and gas lease sale, to provide access to federally managed oil and gas resources to allow exploration for and development of oil and gas resources on lands with Federal Mineral Reserves while meeting the needs of other resource values.

The need is established by the Federal Oil & Gas Leasing Reform Act of 1987 to respond to Expressions of Interest, the Federal Land Policy Management Act, and Mineral Leasing Act of 1920, as amended. The sale and issuance of oil and gas leases is needed to meet the growing energy needs of the United States public. Wyoming is a major source of oil and natural gas for heating and electrical energy production in the lower 48 states, especially for markets in the Eastern United States. Continued sale and issuance of lease parcels is necessary to maintain options for production as oil and gas companies seek new areas for production or attempt to develop previously inaccessible or uneconomical reserves.

1.2.1. Decision to be Made

The BLM will decide if, or under what conditions to offer for sale the nominated parcels.

1.3. Scoping, Public Involvement and Issues:

An interdisciplinary team comprised of Worland, Cody, and Lander Field Office resource specialists has reviewed the proposed action and identified impacts and analyzed those impacts in this EA. Consultation with the private land owners, Bureau of Reclamation, and Wyoming Game and Fish was also conducted; comments received have been incorporated into the analysis and mitigation.

This EA was available to the public for review for 30 days, beginning January 7, 2011. Comments received and BLM response to those substantive comments can be found in Appendix E.

Chapter 2. Proposed Action and Alternatives

2.1. Description of the Proposed Action:

A total of 38 parcels were nominated for the August 2011 sale. This section describes the alternatives considered for analysis.

Standard terms and conditions as well as special stipulations would apply. Lease stipulations (as required by Title 43 Code of Federal Registration 3131.3) were added to each parcel as identified by the Field Offices to address site specific concerns.

2.2. Description of Alternatives Analyzed in Detail:

Alternative 1 – Full lease sale with standard stipulations. Under Alternative 1, all nominated parcels would be offered for sale and subsequent oil and gas leasing with the stipulations recommended at the time of nomination, approximately 60,439.07 acres, as detailed in Appendix A.

Alternative 2 – This Alternative analyzes the offer and issuance of the nominated parcels with stipulations recommended at the time of nomination as well as additional stipulations identified through analysis. Lease stipulations (as required by Title 43 Code of Federal Registration 3131.3) were added to each parcel as identified by the Wind River / Bighorn Basin District to address site specific concerns. This alternative also analyzes the deferral of 22,154.89 acres due to resource conflicts or protection measure not addressed in the land use plans. All parcels for Alternative 2, as modified, are listed in Appendix B with the parcel number, acreage, lease number, location, and stipulations.

Parcel Number	Total Parcel Acres	Sage-Grouse Deferred Acres	Lands with Wilderness Characteristics Deferred Acres	Other Resource Conflicts
WY-1108-056	2500.58	2500.58		
WY-1108-060	1233.64		251.92	
WY-1108-069	2270.74	2270.74		
WY-1108-070	2555.04	2555.04		
WY-1108-071	2480	2480		
WY-1108-072	2513.54	2513.54		
WY-1108-073	2240	2240		
WY-1108-074	1920	1920		
WY-1108-075	2551.64	560		
WY-1108-078	1939.38	1939.38		
WY-1108-079	1933.36	1933.36	1373.36	
WY-1108-082	482.04	241.9		
WY-1108-086	1261.48		628.43	
WY-1108-081	120			120

Alternative 3 – This alternative analyzes the effect of not offering lease parcels as nominated. Under the No Action alternative, the BLM would not offer any of the leases that have been nominated. Surface management would remain the same and ongoing oil and gas development could continue on surrounding federal, private, and state leases.

The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the proposed action would not take place. In the case of a lease sale, this would mean that an expression of interest to lease (parcel nomination) would be denied or rejected, and a lease would not be offered for that parcel.

It is not expected that demand for energy oil and gas will go down, and a decision to not offer these leases would not prevent future leasing in these areas consistent with land use planning decisions, and subject to appropriate stipulations, identified in the Resource Management Plan. Therefore, it is anticipated that these parcels may be renominated and offered at a future date. While future leases may contain more restrictive lease terms, it is reasonable to consider that a substantial portion of the development possible under current planning decisions will be possible under future leases. It is likely that not offering or leasing these parcels would not affect regional or national demand for fossil fuels, and alternate sources would likely be developed to meet the demand. It is not possible to predict the impacts that would arise from development of alternate sources; these impacts may be greater than, less than, or equal to development of the nominated parcels for oil and gas.

2.3. Alternatives considered but eliminated from further analysis

Master Leasing Plans are needed where there is a need to reconsider RMP decisions prior to lease issuance. Alternative 2 within this EA does not offer for sale parcels not adequately covered by the RMP EIS's. The proposed leases are not within areas being evaluate by BLM for future MLP analysis based upon the criteria in IM 2010–117. Each parcel was reviewed using the criteria to be followed for the preparation of an MLP. None of the parcels or surrounding areas were determined to meet the MLP criteria.

2.4. Conformance

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this environmental assessment (EA) tiers to and incorporates by reference the information and analysis contained in the Grass Creek RMP 1998; Washakie RMP 1988; Cody RMP 1990; Lander RMP 1986 and Final Environmental Impact Statement and Record of Decision for each RMP. The parcels nominated for the August 2011 lease sale have been identified as available for leasing.

Chapter 3. Affected Environment

This section describes the environment that could be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on relevant major resources and issues. Certain critical environmental components require analysis under BLM policy. Only those aspects of the affected environment that are potentially impacted are described in detail.

3.1. Land Use

There were approximately 60,439.07 acres nominated for the August 2011 lease sale. Parcels 059 ,061, 064, 076, 077, 089, 090, 091 and 092 contain private lands with Federal Minerals. The land owners were notified that these parcels were nominated for the August 2011 lease sale. Parcels 081, 090, 091, 092 and 093 contain lands administered by the Bureau of Reclamation (BOR). Parcel 076 contains lands administered by the State of Wyoming with oil & gas mineral rights retained by the Federal Government. All lands nominated on federally administered lands are open to leasing with resource restrictions, as analyzed in Chapter 4.

3.2. Geology and Paleontological Resources

Eleven surface formations are present within the lease parcels in the Worland FO. The formations have a PFYC (Potential Fossil Yield Classification) rating ranging from 2 or low to 5 or very high, meaning the formations have a low to very high sensitivity for paleontological resources. Significant fossil localities for plants, invertebrates, and vertebrates are known within many of these formations.

Geologically, the three parcels located in the Cody Field Office (parcel 091, 092 and 093), lie primarily on terrace deposits of Quaternary age, associated with the main drainages in the area, as well as on bedrock outcrops of the Paleocene Fort Union Formation. Each parcel includes within their boundaries, areas where the Fort Union Formation crops out on the surface. The Quaternary terrace deposits have a Potential Fossil Yield Classification of 2 (PFYC = 2) meaning a low potential for vertebrate or scientifically significant paleontological resources. However, the Fort Union Formation has a Potential Fossil Yield Classification of 3 (PFYC = 3), meaning a moderate potential for the occurrence of vertebrate or scientifically significant paleontological resources. Potential leasing areas rated with a PFYC= 3 or higher are typically stipulated to protect these types of paleontological resources as a part of the leasing process. Therefore, each of the three parcels located in the Cody Field Office will be so stipulated to mitigate the effects of leasing on such resources.

The Wind River formation is the only geologic formation present within the lease parcel in the Lander FO (parcel 081). This formation has a PFYC rating of 5, meaning it has a very high potential for containing vertebrate fossils and/or scientifically significant nonvertebrate fossils. Although no fossil localities are currently known within parcel 081, significant fossil localities are known to occur in this formation.

3.3. Hydrology/Water Quality (surface and ground)

Surface Water Resources

The lease parcels within the Worland Field Office Boundary lie within the watersheds listed in the table below.

HUC_10	HU_10_Name	Lease Parcel Acres	Acres
1008000708	Nowater Creek	32444	170962
1008000705	Kirby Creek	12506	128529
1008000704	Bighorn River-Coal Draw	11158	194763
1008000802	Buffalo Creek	2364	111765
1008001403	Shoshone River-Coon Creek	1034	201782
1008000709	East Fork Nowater Creek	256	98790
1008001402	Shoshone River-Bitter Creek	244	174973
1008000801	Nowood River-Deep Creek	136	228956
1008000706	Cottonwood Creek	131	267990
1008000703	Owl Creek	93	135116
	Total Acres	60365	1713625

These watersheds are located at varying elevations throughout the Bighorn Basin. They are all located in the Upper Bighorn Basin United States Geological Survey (USGS) level #5 hydrologic unit. The lower elevation watersheds are typically losing stream watersheds and the higher elevation watersheds are generally surface and groundwater recharge areas. The majority of the watersheds, Nowater, Kirby Creek and the Bighorn Coal Draw watersheds have headwaters that are located at elevations less than 6000 feet and contain intermittent or ephemeral flow regimes.

The three of the available Oil and Gas Lease Parcels (091–093) located in the Cody Field Office and are situated within two watersheds and four sub-watersheds as depicted the following table.

Lease Parcel	Watershed	Sub-Watershed (HUC_12)	Sub-Watershed	Sub-Watershed Acres	Acres
091	Shoshone River-Coon Creek	100800140305	Lower Coon Creek	23,985.6	158.5
091	Shoshone River-Coon Creek	100800140303	Lower Whistle Creek	27,203.8	634.1
Sub-Total					793
092	Shoshone River-Coon Creek	100800140303	Lower Whistle Creek	27,203.8	90.6
Sub-Total					91
093	Shoshone River-Coon Creek	100800140303	Lower Whistle Creek	27,203.8	151.2
093	Shoshone River-Bitter Creek	100800140203	Peerless Coulee	35,497.6	32.7
093	Shoshone River-Bitter Creek	100800140205	Roan Wash	13,866.2	211.7
Sub-Total					396
Total					1,280

The following table is a list of potentially impacted riparian segments that have the hydrologic, soil, and vegetative characteristics that have developed from natural flow patterns or as produced water that is made available as a by-product from oil and gas well discharges.

Seg Code	Riparian area	USGS Quadrangle	miles	Hydro code	Primary tributary	Secondary trib	Tertiary trib
E0413X	NOWATER CK	HENRY DRAW	8.01	10080007	BIGHORN R	NOWATER CK	
I0372X	SCORPION DRAW	BADER DRAW	0.42	10080007	BIGHORN R	NOWATER CK	SCORPION DRAW
P0519X	KIRBY CK	RED HOLE	0.2	10080007	BIGHORN R	KIRBY CK	
T0004X	SAND DRAW (nr Kirby) TR	GLOIN RESERVOIR	0.78	10080007	BIGHORN R	SAND DRAW (nr Kirby)	SAND DRAW (nr Kirby) TR
I0394X	ALKALI CK	COYOTE HILL	0.66	10080008	NOWOOD R		
I0378X	ZIMMERMAN DRAW TR	ZIMMERMAN BUTTES	0.2	10080007	BIGHORN R	NOWATER CK	ZIMMERMAN DRAW

According to the BLM Worland Field Office Washakie Resource Management plan, the Nowater and Kirby Creek watersheds are listed as sensitive watersheds that have had experienced various levels of disturbance from various resource historic uses that have impacted the hydrologic regimes.

The Cody Field Office lease parcels do not contain nor do they drain into any Bureau of Land Management Administered riparian, wetland, or aquatic resources. Parcels 091 and 092 both contain significant amounts of riparian, wetland, and aquatic habitat, some of which is found on Bureau of Reclamation Administered lands. All three parcels drain into surface water resources that support flora and fauna that is associated with riparian, wetland, and/or aquatic habitat. Eventually these waters enter Whistle Creek, Roan Wash, Peerless Coulee, and Coon Creek all of which are tributaries to the Shoshone and Bighorn Rivers, both of which support important recreational fisheries.

Coon Creek has an ephemeral-intermittent flow regime at the point where runoff from Parcel 091 enters it. The other three streams Whistle Creek, Roan Wash, and Peerless Coulee all have irrigation water augmented perennial flow regimes at the point where runoff/shallow ground water from the parcels enter them. All four sub-watersheds have ephemeral-intermittent flow regimes upstream of the point where irrigation begins to exert a hydrologic influence. A check of the Wyoming State Engineers Water Rights database indicates that there are hundreds of existing surface water rights within 2–3 miles of these lease parcels. Most of these water rights were issued for irrigation/agriculture, stock water, and/or miscellaneous purposes.

Cody Field Office Parcel 091 is situated on surface that is partly privately owned and partly administered by the Bureau of Reclamation. The parcel contains several hundred feet of Whistle Creek and associated riparian-wetland habitat, flood-irrigated agricultural lands, several acres of riparian-wetland habitat associated with drainage ditches and/or excess or subbing irrigation water, and several hundred acres of that support upland vegetation. The Elk Lovell Irrigation Canal also runs south to north through the parcel. Most of the parcel is within the Whistle Creek watershed, but about 20 percent is within the Coon Creek watershed. Natural runoff and excess surface and sub-surface irrigation water west of the Elk Lovell Irrigation Canal drains into Whistle Creek, which lies about one half mile to the west. Runoff generated by precipitation that falls east of the canal within the Whistle Creek watershed is intercepted by the canal and runoff resulting from precipitation that falls within the Coon Creek watershed flows east towards Coon Creek.

Cody Field Office Parcel 092 is situated on fairly flat private surface that also contains a high percentage of flood-irrigated land. A drainage that supports riparian-wetland vegetation runs more or less east to west through the center of the parcel and the Elk Lovell irrigation canal passes through the northeast part of the parcel. Natural runoff and excess surface and sub-surface irrigation water west of the Elk Lovell Irrigation Canal drains into Whistle Creek, which lies about one half mile to the west. Water runoff that occurs east of the canal is intercepted by the canal.

Cody Field Office Parcel 093 is situated entirely on surface that is administered by the Bureau of Reclamation. A sugar beet weighing and storage pad is situated in the northeast part of the parcel and a power line runs north and south through the parcel. Vegetation in the parcel is dominated by Gardner's saltbush, big sagebrush, and several species of native perennial grasses and forbs. The parcel straddles three sub-watersheds, draining into Peerless Coulee, Roan Wash, and Whistle Creek. An irrigation canal passes near the southeast corner of the parcel and irrigated agricultural land, irrigation/drainage ditches, a small reservoir, and several acres of riparian-wetland habitat is present less than one half mile to the west.

Ground Water Resources

Ground-water resources within two miles of each of the three Cody FO lease parcels support numerous Ground Water Rights for domestic, stock, and miscellaneous purposes. Most these water rights are associated with wells that tap fairly shallow ground water that is likely supported by the irrigation of agricultural land in the area. The Wyoming State Engineers Water Right Database indicates that all the associated wells are less than 200 feet deep and that the majority are less than one hundred feet deep. Most of the static water levels of these wells range from zero to thirty feet deep, but a few of these wells have deeper static water levels, the deepest of which being about 100 feet. Deeper aquifers may also be present under the parcels that could be affected by oil and/or gas development/production.

Parcel 081 is located within proximity to the Town of Shoshoni's municipal water supply.

3.4. Air Quality & Climate Change

Air Quality

The Clean Air Act Amendment of 1970 established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The environmental protection agency (EPA) continues to define and set NAAQS. Ambient air is that which is accessible to the public. National air quality health standards have been set for pollutants called "criteria pollutants." These include ozone, particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide and lead. The Wyoming Department of Environmental Quality has set standards for these criteria pollutants also, called Wyoming Ambient Air Quality Standards (WAQQS). The State of Wyoming has determined through available monitoring that the area is in compliance with WAAQs and NAAQs

The counties that lie within the jurisdictional boundaries of the Wind River / Bighorn Basin District are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1977, as amended. Modeling conducted to date by the WYDEQ does not indicate that air quality is likely to exceed any limits specified by the Clean Air Act in the near future.

Various state and federal agencies monitor air pollutant concentrations, visibility, and atmospheric deposition throughout Wyoming, and there are four monitors in the Lander planning area (Lander, South Pass, South Pass City, and Sinks Canyon). The Wyoming Department of Environmental Quality (DEQ) operates a PM2.5 monitor as part of the State and Local Monitoring Site (SLAMS) network in Lander. The SLAMS monitor at South Pass measures ozone, nitrous oxides, PM10, and SO2. A new air quality monitoring station is being established in the Frenchie Creek area. The USFS operates an IMPROVE monitor in the North Absaroka Wilderness Area in Park County (in the Bighorn Basin Planning Area) and another IMPROVE monitor is operated at Pinedale in neighboring Sublette County. The Sinks Canyon and South Pass City monitors, which the BLM operate as part of the National Acid Deposition Program (NADP), measure atmospheric deposition (wet) of NH4+, sulfate (SO4), and various metals.

With a limited number of air quality monitors in the Lander planning area, it is difficult to accurately assess existing air quality conditions throughout the area. As previously noted, a new monitoring station is being established in the Frenchie Creek 1 area. However, air quality, visibility, and atmospheric deposition are monitored throughout Wyoming, including adjacent

planning areas. Therefore, the assessment of recent air quality conditions in the Lander planning area has been conducted by examining data collected at the monitors within the area supplemented by various monitors in neighboring planning areas. The examination of these data indicates that the current air quality for criteria pollutants in the planning area is considered good overall. Based on measurements within the area, visibility in the planning area is considered excellent.

The Wyoming Department of Environmental Quality (DEQ) operates a PM10 monitor as part of the State and Local Monitoring Site (SLAMS) network in Cody, Wyoming (Park County). Additional SLAMS and Special Purpose Monitoring (SPM) sites operate in nearby counties. Nearby monitoring sites include several IMPROVE monitors and BLM administered sites that are part of the Wyoming Air Resource Monitoring System (WARMS). Atmospheric deposition (wet) measurements of ammonium, sulfate, and various metals are taken at the Sinks Canyon, South Pass and Yellowstone Park sites, which the BLM operates as part of the National Acid Deposition Program (NADP).

With only two air quality monitors in the Bighorn Basin (Cody/PM10 and North Absaroka/IMPROVE), it is difficult to accurately assess existing air quality conditions throughout the area. However, air quality, visibility, and atmospheric deposition are monitored throughout Wyoming, including adjacent planning areas. Therefore, examining data collected at the two monitors in the area, supplemented by various monitors in neighboring planning areas, the analysis of the data indicates that the current air quality for criteria pollutants in the resource area is considered good overall. Based on measurements in the area, visibility in the resource area is considered excellent.

Climate and Climate Change

The climate in the Wind River / Bighorn Basin District is designated as a combination of Intermountain Semi-desert and Southern Rocky Mountain Steppe. With the exception of the mountain areas, the local climate of this area can be described as a semiarid, continental cold desert climate. The mountains have a sub humid continental climate. Temperatures can range from winter lows of almost -50 degrees Fahrenheit to summertime highs of in excess of 100 degrees. Annual air temperatures on the sagebrush-covered rangelands average 33 to 45 degrees Fahrenheit, and, on forested mountain areas, 33 to 38 degrees. The Bighorn Basin is bounded on the northeast by the Pryor Mountains, on the east by the Big Horn Mountains, on the south by Owl Creek and Bridger and Washakie Ranges, on the west by the Absaroka Mountains, and open to the north into Montana. Summers are generally hot and short, and winters long and cold. Precipitation is generally low, though greater at higher elevations, and is generally evenly distributed across the year, with the exception of the drier summer months. Wind speeds are variable and generally strong. The counties that lie within the jurisdictional boundaries of the Lander Field Office are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1977, as amended. Modeling conducted to date by the WYDEQ does not indicate that air quality is likely to exceed any limits specified by the Clean Air Act in the near future.

Climate change refers to any significant change in measures of climate (e.g., temperature or precipitation) lasting for an extended period of time (decades or longer). Climate change may result from natural processes, such as changes in the sun's intensity; natural processes within the climate system (such as changes in ocean circulation); human activities that change the atmosphere's composition (such as burning fossil fuels) and the land surface (such as urbanization) (IPCC 2007).

Greenhouse gases that are included in the US Greenhouse Gas Inventory are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). CO2 and methane (CH4) are typically emitted from combustion activities or are directly emitted into the atmosphere. On-going scientific research has identified the potential impacts of greenhouse gas emissions (including CO2; CH4; nitrous oxide (N2O), water vapor; and several trace gasses) on global climate. Through complex interactions at regional and global scales, these greenhouse gas emissions cause a net warming effect of the atmosphere (which making makes surface temperatures suitable for life on Earth), primarily by decreasing the amount of heat energy radiated by the Earth back into space. Although greenhouse gas levels have varied for millennia (along with corresponding variations in climatic conditions), recent industrialization and burning of fossil carbon sources have caused CO2 concentrations to increase dramatically, and are likely to contribute to overall climatic changes, typically referred to as global warming. Increasing CO2 concentrations also lead to preferential fertilization and growth of specific plant species.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Data indicates that northern latitudes (above 24° N) have exhibited temperature increases of nearly 1.2°C (2.1°F) since 1900, with nearly a 1.0°C (1.8°F) increase since 1970 alone. It also shows temperature and precipitation trends for the conterminous United States. For both parameters we see varying rates of change, but overall increases in both temperature and precipitation. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of greenhouse gases are likely to accelerate the rate of climate change.

In 2001, the Intergovernmental Panel on Climate Change indicated that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) has confirmed these findings, but also indicated that there are uncertainties regarding how climate change may affect different regions. Computer model predictions forecasts indicate that increases in temperature will not be evenly or equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

Currently, the WDEQ-AQD does not have regulations regarding greenhouse gas emissions, although these emissions are regulated indirectly by various other regulations.

Some greenhouse gases such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. The primary greenhouse gases that enter the atmosphere as a result of anthropogenic activities include carbon dioxide (CO2), methane (CH4), nitrous oxide (N20), and flourinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. These synthetic gases are powerful GHGs that are emitted from a variety of industrial processes.

Ongoing scientific research has identified the potential impacts of anthropogenic greenhouse gas (GHG) emissions and changes in biological sequestration due to land management activities on global climate. Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect of the atmosphere,

primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused CO2 concentrations to increase dramatically, and are likely to contribute to overall global climatic changes. The Intergovernmental Panel on Climate Change (IPCC) recently concluded that "warming of the climate system is unequivocal" and "most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

Several activities contribute to the phenomena of climate change, including emissions of GHGs (especially carbon dioxide and methane) from fossil fuel development, large wildfires and activities using combustion engines; changes to the natural carbon cycle; and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs will have a sustained climatic impact over different temporal scales. For example, recent emissions of carbon dioxide can influence climate for 100 years. In contrast, black carbon is a relatively short-lived pollutant, as it remains in the atmosphere for only about a week. It is estimated that black carbon is the second greatest contributor to global warming behind CO2 (Ramanathan and Carmichael, 2008).

The lack of scientific tools designed to predict climate change at regional or local scales limits the ability to quantify potential future impacts. However, potential impacts to air quality due to climate change are likely to be varied. Several activities occur within the planning area that may generate greenhouse gas emissions: oil, gas, and coal development, large fires, livestock grazing, and recreation using combustion engines which can potentially generate CO2 and methane.

Some activities within the Wind River / Bighorn Basin District generate greenhouse gas (GHG) emissions. Oil and gas development activities can generate carbon dioxide (CO2) and methane (CH4). CO2 emissions result from the use of combustion engines, while methane can be released during processing. Wildland fires also are a source of other GHG emissions, while livestock grazing is a source of methane. Other activities in the Resource Area with the potential to contribute to climate change include soil erosion from disturbed areas and fugitive dust from roads, which have the potential to darken snow-covered surfaces and cause faster snow melt. A description of the potential greenhouse gas emissions associated with the proposed leasing activities is included in Section 4.

There are several National Parks, National Forests, recreation areas, and wilderness areas in or adjacent to the Big Horn Basin. National Parks, Monuments and some state designated Wilderness Areas are designated as Class I. The Clean Air Act "declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas . . . from man made air pollution." 42 U.S.C. § 7491(a)(1).25. Under the BLM Manual Section 8560.36, BLM lands, including wilderness areas not designated as Class I, are managed as Class II, which provides that moderate deterioration of air quality associated with industrial and population growth may occur.

3.5. Soils

The soils on the proposed lease parcels are varied and complex, reflecting changes in geology, landscape, elevation and aspect. The table that follows briefly summarizes the soil properties, restrictive features and limitations by soil map unit. The restrictive features and limitations reflect the dominant components (soil series) for a given soil map unit, as such, often do not extend across the entirety of the map unit.

The proposed lease parcels in Bighorn and Park Counties are on private lands for which little soil survey data is available. Based on aerial photograph and topographic map interpretation, the soils in these parcels appear to be deep and moderately well to well drained with slopes less than 4 percent. An exception is for the eastern portion of the parcels in Bighorn County where the slopes approach 15 percent. Restrictive features found on these parcels include moderately steep slopes on the eastern parcels, fine textures, and moderately well drained soils are common on all parcels. Limitations included runoff and erosion hazards, mud hazards and seasonal wetness.

Table 3.1. Soils Properties and Ecological Sites with Restrictive Features and Limitations

Soil Map Unit (County)	*Soil Depth (Inches)*	*Ecological Sites*	*Slope Range (percent)*	*Restrictive Feature*	*Limitations*
102 Rock Outcrop (HS)	N/A	None	0–100	shallow soils, steep slopes	reclamation potential, runoff and erosion
109 Epsie-Rock Outcrop Complex (HS)	0–20	Saline Upland 10–14” pz.	3–60	shallow soils, erosivity, steep slopes, fine textures	reclamation potential, runoff and erosion
111 Rock Outcrop-Shingle-Tassle Complex (HS)	0–20	Shallow Loamy 10–14” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
112 Oceanet-Persayo-Rock Outcrop Complex (HS)	0–20	Shallow Loamy 10–14” pz. Saline Upland 10–14” pz. Shallow Clays 10–14” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
190 Epsie-Shingle Complex (HS)	10–20	Saline Upland 10–14’ pz.	6–45	shallow soils, steep slopes, fine textures	reclamation potential, runoff and erosion, mud hazard
243 Kim Alkali— Kim Loams (HS)	40–60	Saline Lowland 10–14” pz. Loamy 10–14” pz. Clayey 10–14” pz.	0–6	none	few
247 Torriorthents, Severely Eroded	20–40	none assigned	all	thin top soil	reclamation potential
345 Vona-Otero Sandy Loams (HS)	20–60	Sandy 10–14” pz.	3–15	none	few
346 Nelson-Terry-Otero Complex (HS)	20–40	Sandy 10–14” pz.	3–20	none	few
360 Stoneham-Kim Association (HS)	40–60	Loamy 10–14” pz. Clayey 10–14” pz.	0–6	none	few
372 Tassel-Nelson Sandy Loams (HS)	20–40	Shallow Sandy 10–14” pz. Sandy 10–14” pz.	3–45	shallow soils, steep slopes	reclamation potential, runoff and erosion

382 Rock Outcrop-Tassel Complex (HS)	20–40	Shallow Sandy 10–14” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
389 Spearfish- Neville Association (HS)	10–60	Shallow Sandy 10–14” pz. Sandy 10–14” pz.	0–6	shallow soils, sandy textures	reclamation potential, blowing hazard
398 Tassel-Bowbac-Terry Complex (HS)	10–40	Shallow Sandy 10–14” pz. Sandy 10–14” pz.	3–30	shallow soils, moderately steep slopes	reclamation potential, runoff and erosion
445 Rekop-Gystrum Loams (HS)	10–40	Shallow Loamy 10–14” pz. Loamy 10–14” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
446 Rock Outcrop-Travessilla-Spearfish Complex (HS)	0–20	Shallow Loamy 10–14” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
448 Torrifluvents, Saline (HS)	40–60	none assigned	0–6	depth to water, salinity	seasonal wetness, reclamation potential
46 Petrie-Kim Alklali (HS)	40–60	Saline Upland 10–14” pz. Saline Lowland 10–14” pz.	3–15	none	few
490 Shingle-Thedalund Loams (HS)	10–40	Shallow Loamy 10–14” pz. Loamy 10–14” pz.	3–45	shallow soils, steep slopes	reclamation potential, runoff and erosion
572 Worland-Oceanet Sandy Loams (HS)	10–40	Shallow Sandy 5–9” pz. Sandy 10–14” pz.	3–15	shallow soils	reclamation potential
60 Cadoma-Kim Complex (HS) (HS)	20–60	Saline Upland 10–14” pz. Loamy 10–14” pz. Clayey 10–14” pz.	1–10	salinity, fine textures	reclamation potential, mud hazard
606 Hoot-Rock Outcrop Complex (HS)	0–20	Shallow Loamy 10–14” pz.	6–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
671 Rock Outcrop-Persayo Complex (HS)	0–20	Shale 5–9” pz.	3–60	shallow soils, steep slopes	reclamation potential, runoff and erosion
68 Cadoma-Epsie Complex (HS)	20–40	Saline Upland 10–14” pz.	3–45	steep slopes, fine textures	runoff and erosion, mud hazard
69 Kim Loam (HS)	40–60	Loamy 10–14” pz. Clayey 10–14” pz.	0–10	none	few

70 Cadoma Silty Clay Loam (HS)	20–40	Saline Upland 10–14" pz.	1–15	salinity, fine textures	reclamation potential, mud hazard
701 Fort Collins-Kim Loams (HS)	40–60	Loamy 10–14" pz. Clayey 10–14" pz.	3–15	none	few
703 Fort Collins-Cushman Loams (HS)	20–40	Loamy 10–14" pz. Clayey 10–14" pz.	3–15	none	few
705 Kim-Thedalund Loams (HS)	40–60	Loamy 10–14" pz. Clayey 10–14" pz.	3–15	none	few
75 Arvada-Kim Alkali (HS)	40–60	Saline Upland 10–14" pz Saline Lowland 10–14" pz.	0–10	none	few
752 Epsie Silty Clay Loam (HS)	10–20	Saline Upland 10–14" pz	3–15	shallow soils, fine textures	reclamation potential, mud hazard
90 Persayo-Bributte-Chipeta Complex (HS)	10–20	Saline Upland 5–9" pz	0–10	shallow soils, fine textures	reclamation potential, mud hazard
902 Samsil-Shingle-Rock Outcrop Complex (HS)	0–20	Shallow Clayey 10–14" pz. Shallow Loamy 10–14" pz.	3–45	shallow soils, steep slopes, fine textures	reclamation potential, runoff and erosion, mud hazard
910 Cadoma-Thedalund-Epsie Complex (HS)	20–40	Saline Upland 10–14" pz Loamy 10–14" pz.	3–45	steep slopes, fine textures	runoff and erosion, mud hazard
1 Absted-Forkwood-Shingle Association (Washakie)	40–60	Loamy 10–14" pz. Shallow Clayey 10–14" pz.	1–25	moderate steep slopes, sandy textures	runoff and erosion, blowing hazard
21 Forkwood-Haverdad-Arvada Association (Washakie)	40–60	Loamy 10–14" pz. Saline Lowland 10–14" pz. Saline Upland 10–14" pz.	1–10	sandy textures	blowing hazard
22 Forkwood-Kishona-Haverdad Association	40–60	Loamy 10–14" pz. Lowland 10–14" pz.	1–10	sandy textures	blowing hazard
23 Fruita-Neiber-Muff Association (Washakie)	20–60	Loamy 5–9" pz. Saline Upland 5–9" pz	1–30	moderately steep slopes	runoff and erosion
33 Hoot-Rock Outcrop-Persayo Complex (Washakie)	0–20	Shallow Sandy 5–9" pz. Saline Upland 5–9" pz.	3–45	shallow soils, steep slopes	reclamation potential, runoff and erosion

34 Kishone-Shingle-Rock Outcrop Association (Washakie)	10–60	Loamy 10–14” pz. Shallow Clayey 10–14” pz.	3–40	shallow soils, steep slopes	reclamation potential, runoff and erosion
35 Kishone-Shingle Association (Washakie)	10–60	Saline Upland 10–14” pz Shallow Clayey 10–14” pz.	6–30	shallow soils, steep slopes	reclamation potential, runoff and erosion
46 Muff-Neiber Fine Sandy Loams (Washakie)	20–40	Saline Upland 5–9” pz. Sandy 5–9” pz.	3–30	steep slopes	runoff and erosion
57 Persayo-Rock Outcrop Association (Washakie)	0–20	Shale 5–9” pz.	15–40	shallow soils, steep slopes, fine textures	reclamation potential, runoff and erosion, mud hazard
61 Rock Outcrop-Persayo (Washakie)	0–20	Shale 5–9” pz.	15–70	shallow soils, steep slopes, fine textures	reclamation potential, runoff and erosion, mud hazard
84 Youngston-Uffens-Lostwells Complex (Washakie)	40–60	Saline Upland 5–9” pz. Loamy 5–9” pz.	1–10	salinity, fine textures	reclamation potential, mud hazard
BCS Birdsley-Pavillion Association, sloping (Fremont)	10–40	Saline Ipland 5–9” pz. Loamy 5–9” pz.	5–16	shallow soils, steep slopes, fine textures, sodic	reclamation potential, runoff and erosion, mud hazard
CRF Clifterson-Rock land association, steep (Fremont)	>60	Gravelly 5–9” pz.	20–60+	shallow soils, steep slopes, fine textures, alkalinity	reclamation potential, runoff and erosion
Cw (Fremont) loam, nearly level (Fremont)	>60	Saline Subirrigatied 5–9” pz.	0–3	high water table, sodic	reclamation potential. wettness
TUB Trook-Apron association, gently sloping (Fremont)	>60	Sandy 5–9” pz.	1–8	low water holding capacity	reclamation potential, runoff and erosion
WSC Worland-Oceanet complex (Fremont)	10–40	Sandy 5–9” pz Shallow Sandy 5–9” pz	0–40	low water holding capacity	reclamation potential

3.6. Grazing

The proposed action occurs in 40 allotments in the Worland Field Office Area. These allotments are permitted for various grazing seasons and types of livestock. There are no grazing allotments affected in the parcels nominated in the Cody Field Office area since they are located on BOR and private lands. The portion of the parcel in Lander Field Office area (081) located on BLM administered lands is not permitted for grazing.

Allotment Name	Allotment Number
Neiber	00048
Antelope Draw	00074
West Cottonwood	00535
East Cottonwood	00534
Nelson	00665
Nowater	00105
Little Sand Draw	00590
Lower Nowater	00015
Pistol Draw	00603
Big Trails Group	00012
Lower Walker	00076
Upper Nowater	00018
East Waugh Dome	00538
Hamilton Dome	00504
Sand Draw	00656
Zimmerman Springs	00591
Waugh Dome	00554
Coal Draw	00574
Little Mud Creek	00193
Zimmerman Buttes	00571
South Lucerne Group	00502
North Murphy Dome	00080
King Dome	00638
Scorpion	00118
Gardner Badlands	00562
Kirby Creek	00589
Red Springs Draw	00570
Blue Springs	00501
South Coal Draw	00645
Middle Walker	00077
Rock Springs Draw	00602
Meeteetse Draw	00566
Lower Black Mountain Draw	00191
Freudenthal Draw	00561
Seaman	00158
Lower Arnold	00081
Upper Black Mountain Draw	00192
Farley	00051
Upper Arnold	00082
Major Basin	02546

3.7. Vegetation

3.7.1. Native Vegetation and Invasive Species

Worland Field Office Parcels—The primary native vegetation communities in the project area are mapped as Wyoming Big Sagebrush, Juniper Woodland, Annual Brome/Exotic Brome, Saltbush Fans and Flats, and Desert Shrub. Vegetation associated with these communities were identified during site visits to the parcels. This vegetation includes: Western wheatgrass, Bluebunch wheatgrass, Sandberg bluegrass, Green needlegrass, Indian ricegrass, needleandthread, Phlox, Woody aster, Wyoming big sagebrush, Rubber rabbitbrush, saltbush, Greasewood and Juniper. Blue gramma and Prickly pear cactus was also documented. Downy brome was documented on the majority of the sites at various levels of dominance.

Multiple populations of several noxious weed species are documented in the project area. The Worland BLM Weed Database shows the following species: Canada thistle, common burdock, field bindweed, hoary cress (whitetop), houndstongue, musk thistle, perennial pepperweed, Russian knapweed, Russian olive, downy brome and tamarisk (saltcedar).

Cody Field Office Parcel 091- is situated on surface that is partly privately owned and partly administered by the Bureau of Reclamation. The parcel contains several hundred feet of Whistle Creek and associated riparian-wetland habitat, flood-irrigated agricultural lands, several acres of riparian-wetland habitat associated with drainage ditches and/or excess or subbing irrigation water, and several hundred acres of that support upland vegetation.

Cody Field Office Parcel 092 – is situated on fairly flat private surface that also contains a high percentage of flood-irrigated land. A drainage that supports riparian-wetland vegetation runs more or less east to west through the center of the parcel and the Elk Lovell irrigation canal passes through the northeast part of the parcel.

Cody Field Office Parcel 093- is situated entirely on surface that is administered by the Bureau of Reclamation. A sugar beet weighing and storage pad is situated in the northeast part of the parcel and a power line runs north and south through the parcel. Vegetation in the parcel is dominated by Gardner's saltbush, big sagebrush, and several species of native perennial grasses and forbs.

Lander Field Office Parcel 081 –The vegetation in this parcel is best described as weedy and poor. Halogeton is the most common species found. It covers the wide floodplain of Poison Creek and the expanse of uplands from Water Tank Hill to the edge of the Poison Creek drainage. A buffer of sorts exists on this edge and is comprised of low chalky hills which are topped by sandstone rock outcrops and flanked by sandier upland sites. This buffer grows plants common to saline or poor range sites including greasewood, rubber rabbit brush, saltbush, three-awn and alkali sacaton. In the sandier areas the vegetation is comprised of Wyoming big sage, blue gramma (the most common grass in the area), and occasionally, an Indian rice grass or needle and thread grass plant. Down in the flood plain, the halogeton gives way first to Russian knapweed, then to a dense tamarisk thicket. Other weeds, such as white-top can also be found here. Annual weeds such as Russian thistle and various mustards are distributed throughout.

3.7.2. Threatened, Endangered, BLM Sensitive Species – Plants

There were no threatened, or endangered plant species identified on any of the nominated parcels. There is potential, on parcel 081, for three (3) BLM sensitive species ; Artemisia porteri (Porter's sagebrush); Cryptantha subcapitata (Owl creek miner's candle); Rorippa calycina (Persistent sepal yellowcress), but these species are not known to occur at present.

3.8. Wildlife—including Threatened, Endangered, BLM Sensitive Species

Worland Field Office (Grass Creek Resource Area) The proposed lease parcels are all located in the southwestern portion of the Bighorn basin, and occupy saline upland, Wyoming sagebrush, and juniper and limber pine habitats. Topography ranges from gentle to rolling saline upland sites to the broken ridges and rim rock along the juniper/limber pine areas. All the proposed parcels, except one, involve some portion of big game winter range. Parcels 084, 085, 086, 087, 088, and 090 are all within, or contain some portion of crucial mule deer winter range, and parcels 086, 089 and 090 are within, or contain some portion of crucial antelope winter range as well. Both mule deer and antelope could be expected at any time of the year, with larger concentrations during harsh winter weather conditions. These parcels or portion thereof also provide habitat for chukar, Hungarian partridge, and a variety of non-game birds, small mammals, predators, and reptiles.

There are no known threatened or endangered species that occur within these proposed parcels, but there are several on the Wyoming BLM's Sensitive Species list. Portions of parcels 089 and 090 provide habitat for a rather large white-tailed prairie dog colony. A golden eagle nest is located within parcel 089. Even though none of the Wyoming sagebrush habitats within these proposed parcels provides habitat for the sage-grouse, they likely do provide some nesting and foraging habitat for some other sagebrush obligate sensitive species like the sage thrasher, sage sparrow, and Brewer's sparrow.

Worland Field Office (Washakie Resource Area) The proposed parcels in the southeastern portion of the Bighorn Basin generally occupy saline upland sites and are characterized by a Wyoming sagebrush dominated vegetative community with additional perennial grasses, cheat grass, prickly pear cactus, and various forbs. The topography varies from gently sloping to rolling landscape with shallow surface drainages flowing into various smaller tributaries of Nowood Creek or the Bighorn River. There is considerable surface disturbance associated with past and present oil and gas production in some parts of the area.

Wildlife habitat exists in the area that supports numerous species such as pronghorn antelope, mule deer, numerous small mammals and predators, sage grouse, passerines, raptors, as well as chukar and gray partridge. Parcels 056 through 066, 069 through 075, 078, 079, and 082 are completely or partially within a sage grouse core area. Parcels 067, 068, 076, 077, 080, and 083 are outside sage grouse core areas. Most of the area described is designated as crucial big game winter habitat for mule deer and is utilized on a year-long basis by pronghorn antelope.

There are no known threatened or endangered species that occur within these proposed parcels, but there is one species on Wyoming BLM's Sensitive Species list, the white-tailed prairie dog that known to exist in the area. Suitable habitat also exists for Mountain plover, burrowing owl, and Ferruginous hawk.

Cody Field Office – Parcels 091, 092, and 093 are within white-tailed prairie dog towns and within 3/4 miles of raptor nests. They are within winter range of deer and pronghorn. There are no known threatened or endangered species that occur within these proposed parcels. Black-footed ferrets would be the only listed species possibly present, although the prairie dog towns here are smaller than 200 acres and would not be a likely area for ferrets to occur. There have been no reports of black-footed ferrets since their removal from the Meeteetse area in the Bighorn Basin. These parcels do contain mountain plover nesting and foraging habitat. There is also riparian habitat within these parcels, which drain or contain northern leopard frog and Yellowstone cutthroat trout (BLM Sensitive Species).

Lander Field Office - Parcel 081 is within pronghorn crucial winter range. Both mule deer and pronghorn antelope could be expected at any time of year on this parcel with concentrations of pronghorn during winter. The Wyoming sagebrush habitat within this parcel likely provides habitat for a variety of other sagebrush obligate sensitive species such as sage sparrow, and Brewers sparrow. However, the majority of the plants in this parcel are those that grow in saline or poor range sites.

There are no known threatened or endangered species that occur within the proposed parcel. There is potential habitat for two (2) BLM sensitive species; the white-tailed prairie dog and mountian plover, but these species are not known to occur at present.

3.9. Recreation and Visual Resources

Recreation

The lease parcels located within BLM-administered public lands are managed as an extensive recreation management area (ERMA), where recreation use is custodial and addresses resource protection, use and user conflicts, and public health and safety. The recreation settings character range from middle country to rural. Abundant recreational opportunities exist within and surrounding the area, which mostly consists of hunting, fishing, 4-wheel and ATV use, driving for pleasure, hiking, rock hounding, sightseeing, wildlife viewing, and general dispersed recreation. Most of the lease parcels are located within BLM-administered public lands limiting motorized use to existing roads and trails. Two lease parcels (056, 084) fall within BLM-administered public lands managed as motorize use limited to designated roads and trails.

Recreational use of the available parcels and the surrounding areas is typically for hunting, fishing, camping, sightseeing, driving for pleasure, off-highway vehicle use, and other recreational activities. In the national survey of fishing, hunting and wildlife-associated recreation for activities in 2006, expenditures from fishing and hunting significantly increased. In Wyoming, more than 320,000 people participated in fishing and hunting activities in 2006. Additionally, 716,000 people participated in some form of wildlife watching activity (USFWS 2006 National Survey of Fishing, Hunting, and Wildlife Associated Recreation). The total of hunting and fishing recreation days in Wyoming in 2008 was 3,683,371. Based on the number of recreation days and average expenditure per day, hunters, anglers and trappers expended approximately $685 million in pursuit of their sport (WGFD Annual Report 2008). Non-consumptive users provided about $420 million through wildlife watching, wildlife photography, etc. In total, wildlife associated recreation accounts for over $1 billion dollars in income to the state for the year 2008 (WGFD Annual Report 2008).

Visual Resource Management

The project area is located in an area managed under Visual Resource Management (VRM) Class II, III, and IV objectives. Approximately 590 acres of the lease parcels (083) are located in Class II, and the rest is located in III and IV, with the majority in VRM Class IV. The scenic quality rating units contain different landscapes exhibiting high and low degrees of natural elements of form, line, color, and texture; all of the rating units are inventoried as front country, and rated as low to high sensitivity levels. All rating units contain landscape modifications that impair the natural scenic quality. Such modifications include power lines, roads, and structures. The Class II area is located directly west of Cedar Mountain WSA and along portions of the Bighorn River, and Class III along the major transportation corridors and west of U.S. Highway 20. VRM Class IV encompasses the remainder of the lease parcels.

3.10. Cultural and Historical Resources

The lease parcels within the Wind River / Bighorn Basin District contain sixty-four known cultural sites. Thirty-one of the sites are eligible or unevaluated for the National Register of Historic Places. These historic properties include historic trails, prehistoric rock art sites, prehistoric open camps, and historic mines. In addition, the historic Lander to Thermopolis Road is located less than half a mile from parcel 081. Cultural resource studies indicate that the general area has been occupied for at least 12,000 years and additional cultural resource sites should be anticipated within the parcels. In accordance with the Wyoming State Protocol Appendix B.2, issuance of leases is exempt from class III inventory. Prior to conducting surface disturbance on these parcels a Class III cultural resource inventory would be completed.

Wind River / Bighorn Basin District archaeologists gathered and evaluated existing cultural and historic resource data and determined there were no cultural features identified that would require Native American consultation as directed in BLM Handbook H-8120 for Native American Consultation.

3.11. Socioeconomics

Local communities depend heavily upon oil, gas, and mining activities. Agriculture and tourism also support local economies. The State of Wyoming receives a percentage of the lease sales receipts as well as a portion of the royalties should a lease begin production. Furthermore, the county where the lease is located receives monies from the State of Wyoming's allocation.

3.12. Special Management Areas (WSA, ACEC, Multiple Use Lands with Wilderness Characteristics)

Wilderness Characteristics

Wilderness characteristics are resource values that include naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation. Areas evaluated for wilderness characteristics generally occur in undeveloped locations 5,000 contiguous acres and greater, or of sufficient size to be practical to manage for these characteristics. The BLM Land Use Planning Handbook (H.1601-1) states that the BLM must consider the management of lands with wilderness characteristics during the land use planning process. The criteria used to identify these lands are essentially the same criteria used for determining wilderness characteristics for wilderness study areas (WSA). However, the authority set forth in Section

603(a) of FLPMA to complete the three part wilderness review process (inventory, study, and report to Congress) expired on October 21, 1993; therefore, FLPMA does not apply to new WSA proposals and consideration of new WSA proposals on BLM-administered public lands is no longer valid. As required by FLPMA, Section 201, as well as consistent with Secretarial Order 3310, the lease parcels were evaluated and screened in accordance with the SO 3310 and the Draft Manuals. Upon the wilderness characteristics inventory, three parcels from the August, 2011 lease list fall within or intersect with LWCs; Parcels 060, 079, and 086. Refer to Appendix C for a complete inventory list of parcels and wilderness characteristics.

Cedar Mountain WSA is located within proximity to parcels 082 and 083.

Areas of Critical Environmental Concern

There are no Areas of Critical Environmental Concern (ACEC) found within the lease parcels.

3.13. Wastes, Hazardous Or Solid

There are no identified hazardous or solid waste sites on the parcels addressed in this EA.

3.14. Environmental Justice

Executive Order 12898 requires Federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety impacts on minority and low income populations. A review of the parcels offered for lease indicates there are no impacts on minority or low-income populations.

3.15. Public Health and Safety

Oil and gas development, as well as other industrial use such as mining has been occurring in the Wind River / Bighorn Basin District for many decades. Due to the industrial safety programs, standards, and state and federal regulations, offering these parcels is not expected to materially increase health or safety risks to humans, wildlife, or livestock. Leasing of the parcels analyzed in this EA would present no new or unusual health or safety issues not covered by existing state and federal laws and regulation.

Chapter 4. Environmental Effects

4.1. Land Use

4.1.1. Alternative 1

Leasing would not have a direct impact to land use as proposed. Public lands are currently managed with multiple-use objectives. There are approximately 5,913.84 acres on split estate lands. Should the leases be issued and developed, those parcels containing private lands and split estate minerals would be subject to surface agreements and/or additional bonding requirements to compensate the private land owners for use of their property.

There are approximately 1069.4 acres on Bureau of Reclamation Lands and 120 acres on State of Wyoming lands.

4.1.2. Alternative 2

All other land uses would continue under current management goals and objectives.

4.1.3. Alternative 3

Under the No Action Alternative, the proposed Action would not occur. No resulting effects would be expected to occur beyond the current situation.

4.2. Geology and Paleontological Resources

4.2.1. Alternative 1

The surface formations within the lease parcels in the Wind River / Bighorn Basin District have produced paleontological localities. Sale of the leases will have no effect on paleontological resources. Development of the leases without additional mitigation could have an effect on these resources.

4.2.2. Alternative 2

Surface formations within the lease parcels in the Wind River / Bighorn Basin District have produced paleontological localities. Sale of the lease will have no effect on paleontological resources. However, construction as a result of the lease sale could damage or destroy surface and buried paleontological resources. As all parcels include surface outcrops of a minimum of a PFYC 3 rating, stipulations to mitigate the effects of such leasing would be added to each lease parcel that is offered for sale. Mitigation measures would be developed at the site specific APD application stage. Although the amount and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development, an inventory or monitoring may be necessary prior to surface disturbing activities.

4.2.3. Alternative 3

Under the No Action Alternative, the Proposed Action would not occur. No resulting effects on paleontological localities would be expected to occur beyond the current situation.

4.3. Hydrology/Water Quality (surface and ground)

4.3.1. Alternative 1

Hydrology

While the act of leasing a parcel would produce no impacts, subsequent development of the lease would result in long term and short term changes to the hydrologic regime. Because of reduced water infiltration rates on well pads and roads, surface flows would move more quickly to stream channels, causing peak flow to occur earlier and to be higher than normal. Such an increase in runoff volumes and magnitude of the peak flow has the potential cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. These potential effects would be dependent on the density of pad and road development within a watershed. Low density development may only affect the smaller tributary streams but not the larger ones, whereas more concentrated development within a watershed or catchment would tend to create potential effects further downstream to larger channels. Increased runoff volumes of water to streams and washes may actually increase groundwater recharge volumes. Long-term direct and indirect impacts to the watershed and hydrology would continue for the life of wells and would decrease once all well pads and road surfacing material has been removed and reclamation of well pads, access roads, pipelines, and power lines has taken place. Short-term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

The direct impacts would be analyzed and mitigated at the APD level on a site specific basis. BLM specialists would verify the presence/absence of surface water and/or riparian habitat within 500 feet of any proposed oil or gas well location(s) and would determine the need for any location adjustments or additional stipulations/BMPs if and when APDs are submitted. The lessee should take the presence of surface water and/or riparian habitat and the potential 500 foot setback stipulation (Lease Order No. 1) into account when selecting potential well site locations within each of these parcels to minimize environmental and economic costs associated with avoiding/mitigating potential impacts to surface and ground water and/or riparian-wetland habitat.

The parcels may have existing ground water rights in the vicinity, that are used for municipal purposes, including drinking water. Any development and subsequent operation of oil or gas wells within any of these parcels should be done in as responsible a manner as possible to minimize potential impacts to drinking water sources, surface and ground water resources, riparian-wetland habitat, and other associated resources.

Water Quality

In the Wind River / Bighorn Basin District there is commonly produced water in association with oil and gas development. All produced water from federal leases must be disposed of by injection into the subsurface, into pits, or other acceptable methods approved by the authorized officer, including surface discharge under Natural Pollutant Discharge Elimination System (NPDES)

permit. Injection is generally the preferred method of disposal. No surface water or ground water problems have been identified on the proposed leased parcels.

While the act of leasing the parcels would produce no impacts, subsequent development of the lease could lead to surface disturbance from the construction of well pads, access roads, pipelines, and power lines and could result in degradation of surface water quality and groundwater quality from non-point source pollution, especially from potentially increased soil erosion and sedimentation. Potential direct impacts could be brought about by soil disturbance due to construction of well pads, access roads, pipelines, and power lines, and may include increased surface water runoff, erosion, off-site sedimentation and dissolved constituents (salt loading) to downstream waters. Such hydrologic effects may cause changes in downstream channel morphology such as bed and bank erosion or accretion. The magnitude of these potential impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures. Direct impacts would likely be greatest shortly after the start of construction activities and would decrease in time due to proper implementation of Best Management Practices (BMP's) that would include proper design of facilities along with effective temporary stabilization measures that would promote permanent natural vegetative stabilization and reclamation of disturbed areas. Construction activities would occur over a relatively short period, and therefore the majority of the disturbance would be evident but short lived. Impacts to surface water quality could be managed (minimized) through the implementation, monitoring, and necessary adjustment of BMP's prescribed. However, short-term and minor impacts may occur during storm flow events. Petroleum products and other chemicals, accidentally spilled, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of development projects would require compliance with BLM directives and stipulations that relate to surface and groundwater protection.

Parcel 081 is located near the town of Shoshoni's municipal water supply and part of the Boysen State Park Recreation Area. Should this lease be offered for sale and development occur, there could be risk of impacts from undesirable events to the Town of Shoshoni's municipal water supply from operations related to exploration and extraction of hydrocarbon resources.

4.3.2. Alternative 2

Under this alternative, Parcel 081 (60 acres BOR and 60 acres BLM) will be deferred. This parcel is located near the town of Shoshoni's municipal water supply and part of the Boysen State Park Recreation Area. This parcel has also been recommended by the Wyoming Game and Fish Department to not be leased at this time for the same reasons stated. No additional impact beyond those analyzed in Alternative 1.

4.3.3. Alternative 3

Under the No Action Alternative not offering the lease parcels for sale would have no direct effect on the watershed hydrology or other water resources. The potential for changes in watershed conditions from development of lease parcels in the future would be withdrawn.

The removal of the lease parcels from the August 2011 Oil and Gas Competitive Lease Sale would eliminate any activities that would occur as a result of issuing them. Increased human activity/presence, related vehicle use, surveying, staking, etc. would not occur nor would any subsequent road, wellpad, pipeline, power line, or any other related construction occur. As a result, watershed function, hydrologic relationships, and surface/ground water quality present in and around the parcels would continue to be influenced by the activities presently occurring and those that have occurred in the past.

4.4. Air Quality

4.4.1. Alternative 1

Issuing leases for the subject tracts would have no direct impacts to air quality. Any potential effects to air quality would occur if and when the leases were developed.

Potential impacts of development could include increased air borne soil particles associated with the construction of new well pads, pipelines, or roads, exhaust emissions from drilling equipment, compressors, vehicles, and dehydration and separation facilities, as well as potential releases of GHG and volatile organic compounds during drilling or production activities. The amount of increased emissions cannot be quantified at this time since it is unknown how many wells might be drilled, the types of equipment needed if a well were to be completed successfully (e.g. compressor, separator, dehydrator), or what technologies may be employed by a given company for drilling any new wells. The degree of impact will also vary according to the characteristics of the geologic formations from which production occurs. Emissions of all regulated pollutants (including GHGs) and their impacts will be quantified and evaluated at the time that a specific development project is proposed.

Alternative 1 proposes the most amount of land available for leasing and subsequent exploration and development and would therefore have the greatest impact to air resources among the three alternatives.

4.4.2. Alternative 2

Impacts associated with Alternative 2 would be similar to Alternative 1. However, constraints on disturbance size and distribution may reduce PM10 particulate matter. Increased timing restrictions would limit the number of days available for well pad construction and development compared to Alternative 1 and may result in concentration of emissions associated with these activities. Concentration of ozone precursors namely, VOCs, CO, and NOx, may incease ozone formation more than Alternative 1.

The issuance of leases in itself would not result in any direct greenhouse gas emissions. However, in regard to future development, the assessment of GHG emissions and climate change is in its formative phase. While it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of making the proposed tracts available for leasing, some general assumptions however can be made: issuing the proposed tracts may contribute to drilling new wells. The Center for Climate Strategies (CCS) prepared the Wyoming Greenhouse Gas Inventory and Reference Case Projection 1990-2020 (Inventory) for the Wyoming Department of Environmental Quality (WYDEQ) through an effort of the Western Regional Air Partnership (WRAP). This inventory report presents a preliminary draft greenhouse gas (GHG) emissions

inventory and forecast from 1990 to 2020 for Wyoming. This report provides an initial comprehensive understanding of Wyoming's current and possible future GHG emissions. The information presented provides the State with a starting point for revising the initial estimates as improvements to data sources and assumptions are identified.

The inventory report discloses that activities in Wyoming accounted for approximately 56 million metric tons (MMt) of gross carbon dioxide equivalent (CO2e) emissions in 2005, an amount equal to 0.8% of total US gross GHG emissions. These emission estimates focus on activities in Wyoming and are consumption-based; they exclude emissions associated with electricity that is exported from the State. Wyoming's gross GHG emissions increased 25% from 1990 to 2005, while national emissions rose by only 16% from 1990 to 2004. Annual sequestration (removal) of GHG emissions due to forestry and other land-uses in Wyoming are estimated at 36 MMtCO2e in 2005. Wyoming's per capita emission rate is more than four times greater than the national average of 25 MtCO2e/yr. This large difference between national and State per capita emissions occurs in most of the sectors – Wyoming's emission per capita significantly exceed national emissions per capita for the following sectors: electricity, industrial, fossil fuel production, transportation, industrial process and agriculture. The reasons for the higher per capita intensity in Wyoming are varied but include the State's strong fossil fuel production industry and other industries with high fossil fuel consumption intensity, large agriculture industry, large distances, and low population base. Between 1990 and 2005, per capita emissions in Wyoming have increased, mostly due to increased activity in the fossil fuel industry, while national per capita emissions have changed relatively little.

Wyoming's gross GHG emissions are expected to continue to grow to 69 MMtCO2e by 2020, 56% above 1990 levels. As shown in Figure ES-3 of the Inventory, demand for electricity is projected to be the largest contributor to future emissions growth, followed by emissions associated with transportation. Although GHG emissions from fossil fuel production had the greatest increase by sector in the period 1990 to 2005, the growth from this sector is projected to decline due to assumption of decreased carbon dioxide emissions from venting at processing plants.

There are approximately 6475 existing Federal oil and gas wells in the Wind River / Bighorn Basin District, which account for approximately 18.3 percent of the total Federal wells in Wyoming. Therefore, GHG emissions from all wells within the Wind River / Bighorn Basin District amount to approximately 1.4896 metric tons annually (mt) (19.6 mt X 0.183 = 3.5868 mt).

Subsequent development of any leases issued, would contribute a small incremental increase in overall hydrocarbon emissions, including GHGs. When compared to total national or global emissions, the amount released as a result of potential production from the proposed lease tracts would not have a measurable effect.

Based on this emission factor, each potential well that may be drilled on these parcels, if issued, could emit approximately 0.00059 mt of CO2. It is unknown what the drilling density may be for these parcels, if they were to be developed; therefore, it is impossible to predict what level of emissions could occur from development at this stage under the proposed action.

Existing Federal Oil & Gas Wells per Field Office	Percent of total Federal wells in Wyoming	GHG emissions from all wells within the field office
Worland - 2688 wells	7.6%	1.4896 metric tons annually (mt) (19.6 mt X 0.076 = 1.4896 mt) assuming steady production and emission venting
Lander – 887	2.7%	.5292 metric tons annually (mt) (19.6 mt X 0.027 = 0.5292 mt) assuming steady production and emission venting
Cody – 2900	8%	1.57 metric tons annually (mt) (19.6 mt X 0.08 = 1.568 mt) assuming steady production and emission venting

The BLM holds regulatory jurisdiction over portions of natural gas and petroleum systems, identified in the EPA Inventory of US Greenhouse Gas Emissions and Sinks document. Exercise of this regulatory jurisdiction has led to development of "Best Management Practices (BMPs)" designed to reduce emissions from field production and operations. Analysis and approval of future development on the lease parcels would include applicable BMPs as conditions of approval (COAs) in order to reduce or mitigate GHG emissions. Additional measures developed at the project development stage may be incorporated as COAs in the approved APD, which are binding on the operator.

Such mitigation measures may include, but are not limited to: Flare hydrocarbon and gases at high temperatures in order to reduce emissions of incomplete combustion through the use of multi-chamber combustors; "Green" (flareless) completions, Water dirt roads during periods of high use in order to reduce fugitive dust emissions; Require that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored; Installation of liquids gathering facilities or central production facilities to reduce the total number of sources and minimize truck traffic, Use of natural gas fired or electric drill rig engines, The use of selective catalytic reducers on diesel-fired drilling engines; and, Re-vegetate areas of the pad not required for production facilities to reduce the amount of dust from the pads.

The EPA Inventory data show that adoption by industry of the Best Management Practices proposed by the EPA's Natural Gas Energy Star program has reduced emissions from oil and gas exploration and development (Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006). The Worland Field Office will work with industry to facilitate the use of the relevant BMPs for operations proposed on federal mineral leases where such mitigation is consistent with agency policy.

4.4.3. Alternative 3

Due to demand for oil and gas, it is expected that these parcels may be re-nominated in the future, consistent with appropriate land use planning decisions, and would be offered for sale with additional stipulations. There is no way to accurately predict what level of restrictions future

leasing may require, but it can be assumed that a substantial portion of the development that would occur under Alternative 1 would still be permitted under future leases. Nominations of parcels for lease under future land use plans and decisions would be screened for consistency with the land use plan in effect at the time, and the appropriate environmental review would be conducted to determine associated air quality impacts. Impacts to air quality from leases issued from any future sales would be analyzed in the appropriate environmental documents for those sales.

4.5. Soils

4.5.1. Alternative 1

The act of leasing these parcels would have no impact to the soil resource. Where development and production does occur, the impacts to the soil resource cannot be predicted until the site-specific APD stage development. For the purposes of protecting soil and water resources, surface disturbance will not be allowed on slopes greater than 25 percent. For the purposes of protecting soil and water resources, surface disturbance will not be allowed on slopes greater than 25 percent. Where development and production does occur, the impacts to the soil resource cannot be predicted until the site-specific APD stage development. Soils vary in their suitability for well pad and road development, and following disturbance, in their reclamation potential. Subsequent development of the lease would physically disturb the soil. The vegetation would be removed and the soil would be exposed to the erosive forces of rain drop impact and overland flow. The direct impacts from the construction of well pads, access roads and reserve pits include removal of vegetation, exposing the soil to the erosive forces of rain drop impact and overland flow, mixing horizons, compaction, loss of topsoil productivity and susceptibility to wind and water erosion. These could result in indirect impacts such as runoff, erosion, and off-site sedimentation. Contamination of soil from drilling and production wastes mixed into the soil or spilled on the soil surface could cause short–term and long-term reduction in site productivity. Some impacts can be avoided or mitigated through proper design, construction, and maintenance, and implementation of best management practices, required in the Conditions of Approval (COA). Upon abandonment wells or when access roads are no longer in service, the Authorized Officer would issue instructions for surface reclamation and restoration of the disturbed areas as described in the COA.

4.5.2. Alternative 2

The application of additional Conditions of Approval and stipulations for the conservation and protection of the soil resource would not take place until on-the-ground activities are proposed; therefore, their impacts to the soil resource cannot be predicted as part of the leasing analysis. Nonetheless, impacts to the soil resource would be similar to those discussed under Alternative 1.

4.5.3. Alternative 3

Since no parcels would be leased under this alternative, there would be no effects to the soil resource beyond that of the current situation.

4.6. Grazing

4.6.1. Alternative 1

At the lease stage there are no impacts to livestock grazing. Indirect impacts to grazing would occur through vegetative disturbance with construction of access roads, well sites or pipelines. However, should development occur, impacts associated with surface disturbance would be monitored and adjustments made to allotment management would be considered on a case-by-case basis.

4.6.2. Alternative 2

Same as Alternative 1.

4.6.3. Alternative 3

Since no parcels would be leased under this alternative there would be no impacts to the grazing.

4.7. Vegetation

4.7.1. Alternative 1

Native Vegetation – There are no direct impacts from leasing parcels. Indirect impacts would be associated with any future development occurring should the proposed leases be issued. Leasing Terms and Conditions; in addition to laws, regulations, and policy, require that reclamation be completed in a timely manner that best represents pre-disturbance conditions. Best Management Practices would be implemented upon site-specific development to ensure proper reclamation is occurring that supports land management goals and objectives.

Invasive Species – Any surface disturbance can increase the probability of establishment of new populations of invasive non-native species, or increase of an existing weed population. At the APD stage, BLM requirements for use of weed control strategies would minimize the potential for spread of these species.

Threatened, Endangered, and BLM Sensitive Species – There are no direct impacts from leasing parcels. Indirect impacts would be associated with any future development occurring should the proposed leases be issued. There is potential for parcel 081 to contain three BLM sensitive species. At present these species are not known to occur. The lease could be issued as nominated without additional stipulations regarding these species, and COA's later applied at the site specific stage of development.

4.7.2. Alternative 2

Native Vegetation and Invasive Species –For those areas offered for sale, there would be no additional effects beyond those discussed in Alternative 1. For those areas to be deferred there would be no change from current existing probability for new invasive/noxious weed infestations to occur, or for increase of existing populations on those parcels.

Threatened, Endangered, and BLM Sensitive Species– No effects beyond those identified in Alternative 1 would be associated with Threatened, Endangered, and BLM Sensitive Species. However, a Controlled Surface Use stipulation would be added to parcel 081 to identify that the parcel may contain BLM sensitive species and special site specific mitigation may be required for future development.

4.7.3. Alternative 3

No change from current existing probability for new invasive/noxious weed infestations to occur, or for increase of existing populations. No resulting effects vegetation would be expected to occur beyond the current situation.

4.8. Wildlife—including Threatened, Endangered, BLM Sensitive Species

4.8.1. Alternative 1

Should the parcels be leased, post-lease development (pad/road/pipeline construction, and well drilling/completion/production operations) would likely cause temporary disruption of wildlife in the area. Post- lease actions (construction and drilling) during breeding and nesting periods for raptors, Mountain plover, burrowing owl, and the sagebrush obligates mentioned above, may cause disruption of breeding activities and impacts to nesting birds, such as egg or hatchling abandonment, or actual nest destruction for those species nesting on or near the ground. Construction, drilling, and/or completion operations on the parcels during the crucial big game wintering period could cause impacts to wintering mule deer and antelope, such as displacing animals to less suitable winter habitat and conceivably the displacement could result in increased stress and predation levels and decreased pregnancy rates and therefore population levels. Well-pad, road, and pipeline development into areas currently void of surface disturbing or disruptive activities may result in loss of habitat; which, depending on the intensity of the development, vegetative cover and terrain, could affect the habitat viability for all species mentioned above. Unless otherwise stated above, as prescribed by the Grass Creek and Washakie, Cody and Lander RMP's, wildlife impacts would be mitigated through seasonal restrictions.

Leasing parcels 091, 092, and 093, there would be no effect on black-footed ferret and all other listed species in the Cody Field Office. In addition to the specific stipulations for lease parcels, for these parcels there would be at the APD stage seasonal timing mitigation which would allow the construction and drilling without causing take under MBTA. There could be impacts to the wetlands on these leases which include increased erosion into the Shoshone River drainage which could impact Yellowstone cutthroat trout and northern leopard frog, however, these impacts may be minimized through BMPs and erosion control. Since there are raptor nests in the lease parcels, mitigation would be required to not cause take under MBTA.

See Appendix A for the specific wildlife stipulations applied to each parcel.

4.8.2. Alternative 2

Only specific parcels deferred from leasing because of wildlife resources. Additional stipulations or mitigations are recommended for specific parcels as well. Depending on the parcel and related

wildlife habitats of concern, should specific parcels be deferred from leasing for other resource concerns, those impacts to wildlife and wildlife habitats described in Alternative 1 would not occur. For those remaining parcels to be leased, impacts to wildlife would be the same as was described in Alternative 1.

Pertaining to parcels in the southeastern portion of the Bighorn basin, additional stipulations consistent with IM No. WY-2010-013 are as follows; Based on their inclusion in a sage grouse core area where sage grouse habitat exists in contiguous blocks of 11 or more square miles of manageable unleased federal land, parcels 056, 069–075, 078, 079, and 082 are deferred or partially deferred. The additional controlled surface use stipulation for the protection of sage grouse breeding, nesting, and early brood-rearing habitat within a sage grouse core area will be applied to the remaining parcels. The seasonal stipulation for the protection of sage grouse wintering areas will be applied to parcels 059, 062, and 068. Additional stipulations for the protection of raptor nests will be applied to parcels 057, 067, and 068.

Additional stipulations would be added to parcel 081, 089, 090 for protection of White-tailed prairie dog habitat. Additional stipulations would be added to parcel 081 for protection of Charadrius montanus (Moutain plover). These stipulations would be applied for notification that should these species be identified on the parcel that further mitigation may be required for future development activities.

4.8.3. Alternative 3

Under this alternative none of the parcels would be leased. There would be no subsequent surface disturbing or disruptive activities to the wildlife or their habitats caused by the post-lease development activities, and therefore no environmental consequences can be identified, analyzed or mitigated. No resulting effects on wildlife habitat would be expected to occur beyond the current situation.

4.9. Recreation and Visual Resources

4.9.1. Alternative 1

Recreation

While the act of leasing Federal minerals produces no direct impacts; subsequent development of a lease could generate impacts to recreation activities. Recreational use could be impacted by post-lease oil and gas development activities. The quality of the recreational experience would likely be altered by oil and gas development operations. Recreation on split estate lands would be at the discretion of the private landowner.

Oil and gas development in areas providing for exceptional semi-primitive recreational opportunities may compromise these experiences, and interfere with those desiring such experiences. Altering the settings could introduce goal interference, which may increase the amount of conflicts (from industry vs. recreationists, and recreation uses vs. recreation uses), reduce user satisfaction levels, alter experiences, and result in non-beneficial outcomes.

Impacts to other resources could also impact recreational opportunities and associated recreational resources. Construction and drilling operations could potentially cause game animals and birds

to move away from the activity. If such post-lease development operations coincide with hunting season, it is expected that hunters may experience reduced success rates due to the additional human presence within the immediate and surrounding areas. In addition to facilitating mineral extraction, new oil and gas roads would also provide better access to the lease areas for recreational opportunities. However, the presence of oil and gas facilities could diminish the recreational experience.

Visual Resource Management

Leasing the Federal minerals will not impact visual resources, but the subsequent development of the leases will generate impacts to visual resources. Development of the leases will introduce contrasting elements of line, form, color, and texture against the surrounding natural elements. Contrasting linear elements will be observed in the distinct lines generated by facilities, powerpoles, well pads, and access routes. Contrasting elements of form, color, and texture will be observed in the ancillary facilities, access routes, and the well pads. These contrasting elements could interfere with the casual observer and take the attention away from the natural elements. Most of the BLM-administered public lands within the lease parcels are managed as VRM Class IV, which allows for a high degree of change in the elements in the landscape. Mitigation will need to be applied to development within the Class II areas in order to maintain the Class II objectives. Mitigation may need to be applied to Class III areas, although Class III allows for more visible intrusions on the landscape.

The VRM Class II objective is to retain existing landscape character. The level of change to the characteristic landscape should be low. Management activities should not attract the attention of the casual observer. Changes would be required to repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Modifications to a proposal could be required if the proposed change cannot be adequately mitigated to retain the character of the landscape.

The VRM Class III objective is to partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Facilities, such as produced water, condensate or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access road, well pad and other ancillary facilities, other than facilities greater in height than thirteen feet, would slightly modify the existing area visual resources. Facilities, such as condensate and produced water or oil storage tanks that rise above thirteen feet, could provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line.

The VRM Class IV objective is to provide for management activities which require major modification of the existing landscape character. However; project modifications could be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements. Facilities, such as condensate and produced water or oil storage tanks, that rise above eight feet, could provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access road, well pad and other ancillary facilities could slightly modify the existing area visual resources.

Since well locations cannot be accurately determined at the leasing stage, it is not possible to accurately predict the visual impacts. Development intensity, terrain, and proximity to visual receptors (e.g., main travel corridors, towns, recreation facilities, etc.) will influence the VRM impacts. For example, a single well pad screened by terrain at an area absent of visual receptors would have low to negligible impacts in Class III or IV areas; whereas well pads developed next to a major travel route in the viewshed town or recreation facility may have substantial impact. It is possible that post-lease industrial development could result in portions or all of a VRM area to be downgraded to a lower classification.

Parcel 083 is located within an area managed for VRM Class II characteristics. A CSU stipulation has been applied for this alternative and site specific mitigation would be developed should the parcel be sold and developed. The Standard Environmental Colors Chart would be used on all facilities to closely approximate the vegetation within the setting. All above ground facilities would be painted one of these colors as determined during a site-specific review. If the proposed area is in a scenic corridor use of landscape features for screening, use of low profile and/or offsite production facilities may be recommended.

4.9.2. Alternative 2

Recreation

Impacts to recreation would be the same as those analyzed in Alternative 1, with the exception of impacts not present in the deferred parcels.

Visual Resource Management

Impacts to VRM would be the same as those analyzed in Alternative 1, only to a lesser degree because the deferred parcels will not introduce contrasting elements of form, line, color, and texture.

4.9.3. Alternative 3

The lease parcels nominated would not be available for sale. No resulting effects on recreation, travel and transportation management, or visual resources would be expected to occur beyond the current situation.

4.10. Cultural and Historical Resources

4.10.1. Alternative 1

Cultural resource sites are known to occur within the lease parcels within the Wind River / Bighorn Basin District. There are no direct impacts from leasing to cultural resources. However, subsequent development after lease issuance could damage or destroy surface and buried cultural sites if they are discovered and not properly protected. A Class III cultural resource inventory would be completed prior to surface disturbance at the site—specific application stage. Avoidance, project modifications or mitigation measures would be developed once the site-specific inventory is completed.

If parcel 081 were sold and subsequently developed, there could be an impact to visual effects to the historic Lander to Thermopolis Road.

4.10.2. Alternative 2

Same as Alternative 1; however under alternative 2, parcel 081 would be deferred to protect other resource conflicts. As such, there would be no visual effects to the historic Lander to Thermopolis Road.

To provide protection to the Meeteetse Draw Rock Art Area a No Surface Occupancy stipulation is added to parcel 084 and the North half of Section 1 in parcel 087 per the Grass Creek RMP (September 1998, Map 6).

4.10.3. Alternative 3

Under the No Action Alternative, the proposed Action would not occur. No resulting effects on cultural resources would be expected to occur beyond the current situation.

4.11. Socioeconomics

4.11.1. Alternative 1

Under this alternative all parcels would be offered for lease. This would allow the most revenue for the Federal and State government. In addition, subsequent development and production is anticipated to be highest under this alternative. This would result in the greatest amount of royalties among the three alternatives.

4.11.2. Alternative 2

Under this alternative, not all parcels would be offered for lease. This would result in a reduction in revenue compared to Alternative 1 for the Federal and State government. The actual amount of the reduction is not known. Subsequent development and production would result in fewer royalties than Alternative 1.

4.11.3. Alternative 3

Under this alternative, no leases would be issued and no development under those leases would occur. As primarily rural communities that rely heavily on energy development revenue and agricultural uses, the communities in the leasing areas are likely to be negatively impacted by loss of potential revenue from subsequent development of these parcels. It is an assumption that the No Action Alternative (no lease option) may result in a slight reduction in domestic production of oil and gas. This would likely result in reduced Federal and State royalty income, and the potential for Federal land to be drained by wells on adjacent private or state land.

4.12. Special Management Areas (WSA, ACEC, Multiple Use Lands with Wilderness Characteristics)

4.12.1. Alternative 1

Leasing all parcels, including those within the areas inventoried as containing wilderness characteristics and analyzed in the Bighorn Basin RMP revision, will not impact wilderness characteristics, but subsequent development of the leases within these areas may impact the characteristics of naturalness, size, solitude and recreation. If access routes to proposed oil and gas projects dissect through the areas it would dramatically decrease the 5,000 acre or sufficient size criteria, which may ultimately eliminate the area from future wilderness characteristics inventory maintenance. The access roads, facilities, and oil and gas activities would eliminate the characteristics of naturalness, and outstanding opportunities for solitude and primitive recreation. The facilities, routes, and activities will introduce unnatural and contrasting elements to the surrounding environment, which will compromise these characteristics. Mitigation measures from other resources will maintain a more subordinate presence, but will not eliminate these contrasting elements.

Parcel 082 is located within proximity to Cedar Mountain WSA. There would be no direct impacts to the WSA from the sale of the lease. Development of the lease may influence the wilderness characteristics of naturalness and solitude within the WSA.

Measures to reduce visual impacts and/or avoidance would be imposed wherever areas with wilderness characteristics are affected. Should parcels 060, 079, and 086 be sold, the leases would be managed in accordance with mitigation measures or best management practices prescribed in the supporting RMPs Record of Decision.

4.12.2. Alternative 2

All parcels were screened for resource values potentially containing wilderness characteristics. Under this alternative 35 parcels and 3 partial parcels would be offered. Lands within the three (3) parcels would be partially deferred from the August 2011 sale (refer to Appendix C) since portions of these lease parcels were inventoried as potentially containing wilderness characteristics.

4.12.3. Alternative 3

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on special management areas, multiple use lands with wilderness characteristics or WSAs would be expected to occur beyond the current situation.

4.13. Wastes, Hazardous or Solid

4.13.1. Alternative 1

Should a parcel be leased and developed, generation and temporary storage of waste materials (solid and liquid) would likely occur. Any potential for waste impact would not occur until post-lease development activities are initiated. Impacts could be in the form of drilling fluid spills,

solid chemical spills, trash scatter on and off the well pads, and hydrocarbon or gas releases. They would be managed in accordance with Onshore Orders 1 & 7, Resource Conservation and Recovery Act (RCRA), applicable Wyoming Department of Environmental Quality (WDEQ) regulations, and Wyoming Oil and Gas Conservation Commission (WOGCC) rules. As well as, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which that provides for the exclusion of petroleum (including crude oil or any fraction thereof) from the definition of hazardous substance, pollutant, or contaminant. Additionally, waste management requirements are included in the 13 point surface use plan and the 8 point drilling plan attached to the APDs. Fluids associated with any subsequent drilling and/or production would either be treated, evaporated, or transferred to an approved WDEQ treatment facility; solids would be treated on site or transferred to a WDEQ approved facility.Companies would be required to have approved Spill Prevention Control and Countermeasure Plans and comply with NTL-3A for reporting of undesirable events.

The lease parcels fall under environmental regulations that impact exploration and production waste management and disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges.

4.13.2. Alternative 2

Same as Alternative 1.

4.13.3. Alternative 3

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on resources from wastes would be expected to occur beyond the current situation.

4.14. Environmental Justice

4.14.1. Alternative 1

No minority or low income populations would be directly affected in the vicinity of the proposed actions from subsequent proposed oil or gas projects. Indirect impacts could include impacts due to overall employment opportunities related to the oil and gas and service support industry in the region, as well as the economic benefits to State and County governments related to royalty payments and severance taxes.

4.14.2. Alternative 2

No further impacts are expected beyond those analyzed in Alternative 1.

4.14.3. Alternative 3

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on Environmental Justice would be expected to occur beyond the current situation.

4.15. Public Health and Safety

4.15.1. Alternative 1

Public Health and Safety would not be impacted by the leasing of the parcels. Vehicle and equipment operations associated with the subsequent construction, drilling, and production operations could affect members of the public using the same roads and general areas. Releases of gas from the well bore and spills could also affect members of the public in the vicinity. The level of affect would depend on the product released or spilled and the receptors susceptibility.

The operator may be required to prepare and implement safety contingency plans and comply with NTL-3A.

4.15.2. Alternative 2

Same as Alternative 1.

4.15.3. Alternative 3

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on public health and safety would be expected to occur beyond the current situation.

4.16. Cumulative Effects

There are approximately 2,688 Federal producing wells in the Worland Field Office; there are no producing coalbed methane production wells. Analysis of cumulative impacts for reasonably foreseeable development (RFD) of oil and gas wells on public lands in the Worland Field Office was published in 2009 for the Bighorn Basin RMP revision. Potential development of all available federal minerals in the field office, including those in the proposed lease parcels, was included as part of the analysis.

There are approximately 877 federal producing wells in the Lander Field Office; of which 15 wells are coalbed natural gas wells. Analysis of cumulative impacts for reasonably foreseeable development (RFD) of oil and gas wells on public lands in the Lander Field Office is presented in the 1987 Lander Resource Management Plans (RMP). Potential development of all available federal minerals in the planning area, including those in the proposed lease parcels, was included as part of the analysis.

There are approximately 2,900 Federal producing wells in the Cody Field Office, which are predominately oil and gas production wells. Analysis of cumulative impacts for reasonably foreseeable development (RFD) of oil and gas wells on public lands in the Cody Field Office was published in 2009 for the Bighorn Basin RMP revision. Potential development of all available federal minerals in the field office, including those in the proposed lease parcel, was included as part of the analysis.

In accordance with Wyoming Oil and Gas Conservation Commission (WOGCC) rules, well spacing in the Big Horn and Wind River Basins is 40 acres for oil wells and 40 acres for gas wells.

Operators could request variances to these spacing rules through the WOGCC. It is unknown what the drilling density may be for these parcels, if they were to be developed; therefore, it is impractical to predict what level of surface disturbance could occur from development at this stage under the proposed action.

The direct and indirect impacts identified in this EA are unlikely to be individually significant. Ongoing multiple use actions within the Wind River / Bighorn Basin District will not add to the impacts associated with this analysis.

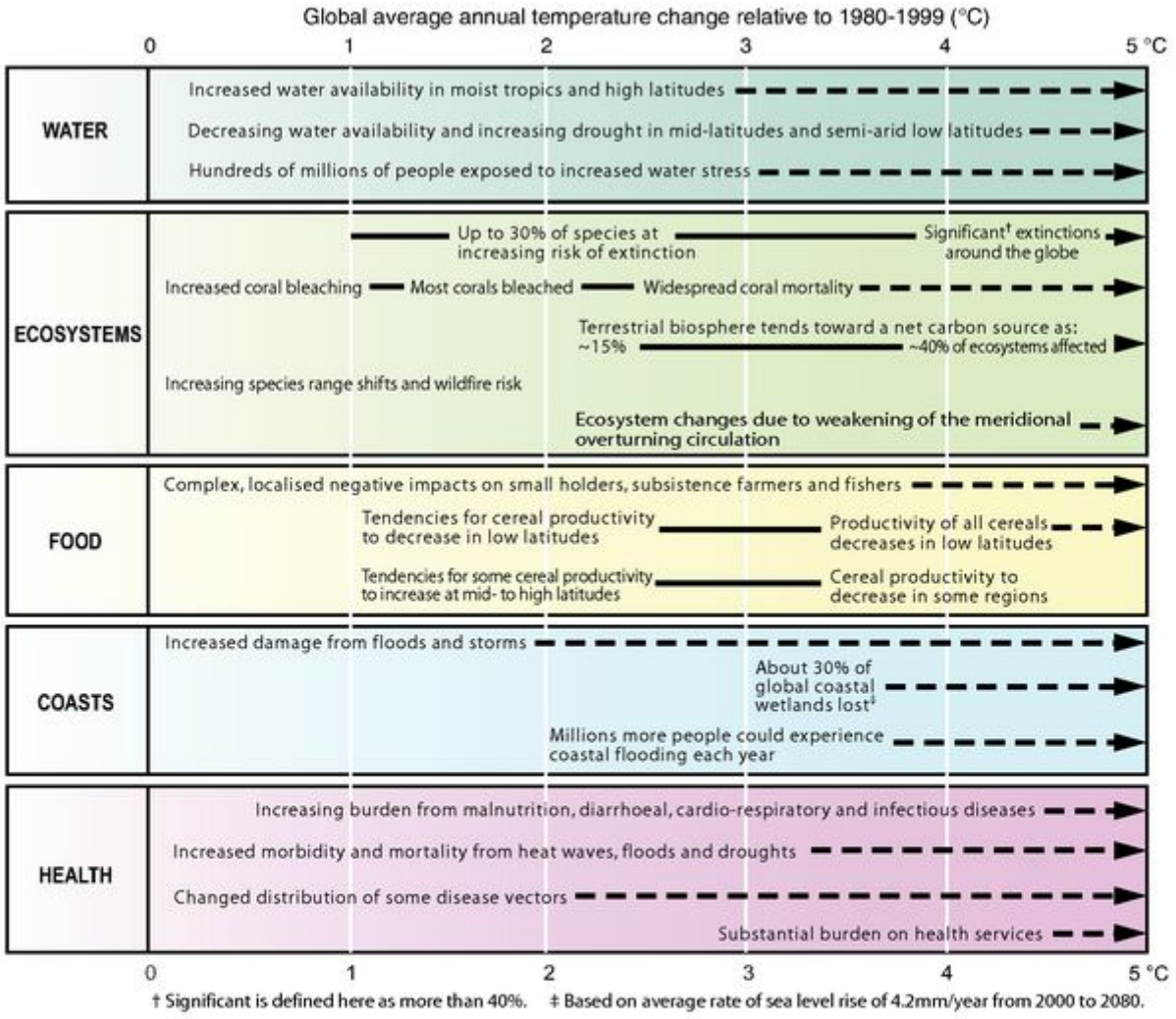
Green House Gas Emissions

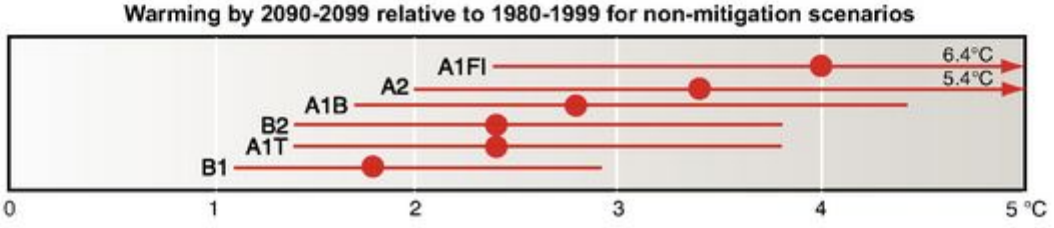
As described in the analysis of environmental consequences, the proposed action and/or the alternative may contribute to the effects of climate change to some extent through GHG emissions. However, it is not currently possible to associate any of these particular actions with the creation of any specific climate-related environmental effects. The lack of scientific tools designed to predict climate change at regional or local scales limits the ability to quantify potential future impacts.

The assessment of greenhouse gas (GHG) emissions and climate change is still in its formative phase; therefore, it is not yet possible to know with confidence the net impact on climate. However, the Intergovernmental Panel on Climate Change (IPCC 2007) recently concluded that "warming of the climate system is unequivocal" and "most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic [man-made] greenhouse gas concentrations." As the temperatures of the land and sea change, environmental factors such as weather patterns, sea levels, precipitation rates, the timing of the seasons, desert distribution, forest cover, and ocean salinity will also change. These changes influence the world's climate systems and will have different impacts to different areas. Some agricultural regions may become more arid while others become wetter; some mountainous areas will experience greater summer precipitation, yet experience disappearing snowpack.

The average number of oil and gas wells drilled annually in the Wind River / Bighorn Basin District and probable GHG emission levels, when compared to the total GHG emission estimates from the total number of Federal oil and gas wells in the State, represent an incremental contribution to the total regional and global GHG emission levels. This incremental contribution to global GHG gases cannot be translated into incremental effects on climate change globally or in the area of these site-specific actions. As oil and gas and natural gas production technology continues to improve in the future, one assumption is that it may be feasible to further reduce GHG emissions.

Based on research compiled for the International Panel on Climate Change Fourth Assessment Report, 2007, potential effects of climate change on resources in the affected environment are likely to be varied. Figure 4.1, taken from the Fourth Assessment Report indicates varying responses of the natural world to increasing temperatures as a result of increasing global temperatures.





Within North America, the report specifically forecasts that: Warming in western mountains is projected to cause decreased snowpack, more winter flooding and reduced summer flows, exacerbating competition for over-allocated water resources; in the early decades of the century, moderate climate change is projected to increase aggregate yields of rain-fed agriculture by 5 to 20%, but with important variability among regions; major challenges are projected for crops that are near the warm end of their suitable range or which depend on highly utilized water resources; cities that currently experience heat waves are expected to be further challenged by an increased number, intensity and duration of heat waves during the course of the century, with potential

for adverse health impacts and coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution. Specific modeling and/or assessments of the potential effects for the Worland Field Office and for the State of WY currently do not exist.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) pointed out that by the year 2100, global average surface temperatures would increase 2.5 to 10.4°F above 1990 levels (IPCC 2007). The National Academy of Sciences (2006) has confirmed these findings, but also indicated that there are uncertainties regarding how climate change may affect different regions. Computer model forecasts indicate that increases in temperature will not be evenly or equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

Regarding the linkage between climate change related warming and associated impacts, an assessment of the IPCC states that difficulties remain in attributing observed temperature changes at smaller than continental scales. Therefore, it is currently beyond the scope of existing science to predict climate change on regional or local scales resulting from specific sources of GHG emissions. Emissions of all regulated pollutants (including GHGs) and their impacts will be quantified and evaluated at the time that a specific development project is proposed.

IPCC also discloses that significant uncertainties remain with respect to the estimates of the current level of emissions and projections of future production of fossil fuels as the oil and gas industry is difficult to forecast with the mix of drivers: economics, resource supply, demand, and regulatory procedures. The assumptions used for the projections, based on recent trends or State production trends in the near-term, and AEO2006 growth rates through 2020, do not include any significant changes in energy prices, relative to today's prices. Large price swings, resource limitations, or changes in regulations could significantly change future production and the associated GHG emissions. Other uncertainties include the volume of GHGs vented from gas processing facilities in the future, any commercial oil shale or coal-to-liquids production, and potential emissions-reducing improvements in oil and gas production, processing, and pipeline technologies.

There are currently no proposals for renewable energy projects in the Cody or Worland Field Office that could potentially contribute additional GHG emissions.

One wind development project has been proposed that encompasses a portion of both the Lander and Casper Field Offices. The proposed project, "Black Mountain", is a 105 MW wind energy facility comprised of: 3,880 acres of BLM administered public lands (2,600 acres or 67% in the Casper Field Office and 1,280 acres or 33% in the Lander Field Office), 50 turbine towers approximately 260' in height (43 on BLM and 7 on private), 14.6 miles of 3-phase overhead transmission line (14.1 on BLM and 0.5 on private), 16.6 miles of road (14.3 on BLM 2.3 on private), 2 substations (both located on BLM), and 28.1 acres of underground collector electrical system (23.6 on BLM and 4.5 on private). The estimated acres of ground disturbance for all project features is 224.9 temporary acres (205.1 on BLM and 19.8 on private) and permanent acres is 40.7 (36.3 on BLM and 4.4 on private). None of the parcels nominated for the August 2011 sale would be impacted by this proposed wind development project.

Chapter 5. Tribes, Individuals, Organizations, or Agencies Consulted:

In addition to BLM Interdisciplinary Team review of the parcels in relationship to the decisions set forth in the RMP's, BLM has also coordinated the review of the list with the local Wyoming Game and Fish Department personnel.

Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination
Wyoming Game & Fish Dept. Cody and Lander Regional Office Review Teams	WGFD/BLM MOU Appendix G
Wyoming State Historical Preservation Office	Section 106 Wyoming State Protocol

Chapter 6. List of Preparers

Table 6.1. List of Prepares

Name	Title
Stuart Cerovski	Lands & Minerals Resource Advisor
Jim Wolf	Resources Advisor
Holly Elliott	NRS – Worland Team Lead
David Seward	NRS – Cody Team Lead
Debra Larsen	LLE — Lander Team Lead
Caleb Hiner	District P&EC
Worland Field Office ID Team Members	
Paul Rau	Outdoor Rec. Planner
Steve Kiracofe	Soil Scientist
Tim Stephens	Wildlife Biologist
Ted Igleheart	Wildlife Biologist
Mike Tietmeyer	Supervisory Rangeland Management Specialist
Karen Hepp	Rangeland Management Specialist
CJ Grimes	NRS/Invasive Species
Jared Dalebout	Hydrologist
Marit Bovee	Archaeologist
Lander Field Office ID Team Members	
Jared Oakleaf	Outdoor Rec. Planner
Greg Bautz	Soil Scientist
Tim Vosburgh	Wildlife Biologist
Judi Mott	Rangeland Management Specialist
Karina Bryan	Archaeologist
Cody Field Office ID Team Members	
Destin Harrell	Wildlife Biologist
Kierson Crume	Archaeologist
Gretchen Hurley	Geologist
Jerry Jech	Natural Resource Specialist
Wyoming State Office Review Team	
Travis Bargsten	Natural Resource Specialist

Chapter 7. References

EPA Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006. Environmental Protection Agency, Washington, D.C.

EPA, Natural Gas Star Program (2006 data) at: http://www.epa.gov/gasstar/accomplish.htm. Environmental Protection Agency, Washington, D.C.

Goddard Institute for Space Studies. 2007. Annual Mean Temperature Change for Three Latitude Bands. Datasets and Images. GISS Surface Temperature Analysis, Analysis Graphs and Plots. New York, New York. (Available on the Internet: http://data.giss.nasa.gov/gistemp/graphs/Fig.B.lrg.gif.)

Ramanthan V. and G. Carmichael. 2008. Global and regional climate changes due to black carbon. Nature Geoscience. 1, pp. 221-227.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Basis (Summary for Policymakers). Cambridge University Press. Cambridge, England and New York, New York. (Available on the Internet: http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf)

IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

National Academy of Sciences. 2006. Understanding and Responding to Climate Change: Highlights of National Academies Reports. Division on Earth and Life Studies. National Academy of Sciences. Washington, D.C. (Available on the Internet: http://dels.nas.edu/basc/Climate-HIGH.pdf.)

U.S. Department of the Interior, Bureau of Land Management Instruction Memorandum, WY-2010-012, dated December 29, 2009, " Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands including the Federal Mineral Estate"

U.S. Department of the Interior, Bureau of Land Management Instruction Memorandum, WY-2010-013, dated December 29, 2009, "Oil and Gas Leasing Screen for Greater Sage-Grouse"

U.S. Department of the Interior, Bureau of Land Management.1998 Grass Creek Resource Management Plan and Final Environmental Impact Statement. Worland, Wyoming.

U.S. Department of the Interior, Bureau of Land Management. 1988. Washakie Resource Management Plan and Final Environmental Impact Statement. Worland, Wyoming.

U.S. Department of the Interior, Bureau of Land Management. 1990. Cody Resource Management Plan and Final Environmental Impact Statement. Cody, Wyoming.

U.S. Department of the Interior, Bureau of Land Management. 1986. Lander Resource Management Plan and Final Environmental Impact Statement. Lander, Wyoming.

7.1. Authorities

The Federal Land Policy and Management Act, as amended. Public Law 94-579.

The Mineral Leasing Act of 1929, as amended.

Code of Federal Regulations (CFR) 3100

40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.

43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001.

Appendix A. Alternative 1 – Lease Parcels as Nominated for Aug. 2011 Lease Sale

Worland Field Office Nominated Parcel List

WY-1108-056 2500.580 Acres
T.0440N, R.0880W, 06th PM, WY
Sec. 008 LOTS 1;
008 N2,SW,N2SE,SWSE;
009 LOTS 1-4;
009 N2,N2S2;
010 ALL;
011 LOTS 1-5;
011 N2NE,SWNE,W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-057 1996.540 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 004 LOTS 5,6;
004 S2NW,S2;
004 TR 38D,38E,38F,38G,38H;
004 TR 38I,38N,38O;
005 LOTS 5-8;
005 S2N2,S2;
006 LOTS 8-15;
006 S2NE,E2SW,SE;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.

TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-058 1234.940 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2,E2W2;
008 E2,NW,W2SW;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-059 2486.580 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 019 LOTS 5-8;
019 E2,E2W2;
020 ALL;
029 ALL;
030 LOTS 7;
030 E2,E2W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-060 1233.640 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 001 LOTS 5-8;
001 S2;
002 LOTS 5-8;
002 S2;
003 LOTS 5-8;
003 S2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-061 1967.950 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2;
007 TR 37A,37B,37C,37D,37E;
007 TR 37F,37G,37H;
008 ALL;
018 LOTS 5-8;
018 E2;
018 TR 37I,37J,37K,37L,37M;
018 TR 37N,37O,37P;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation

TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-062 1920.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 010 ALL;
011 ALL;
012 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-063 2240.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 017 ALL;
020 SE;
021 N2;
025 S2N2,S2;
026 ALL;
Washakie County
Worland FO

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-064 1880.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 028 ALL;
032 W2NE,SENE,NW,S2;
033 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-065 1280.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 034 ALL;
035 ALL;
Washakie County

Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-066 1228.230 Acres
T.0420N, R.0920W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1-3,8-11;
006 S2NE,SENW,E2SW,SE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-067 1797.180 Acres
T.0430N, R.0920W, 06th PM, WY
Sec. 005 LOTS 7-16;
005 S2N2;
006 LOTS 17-20;

007 LOTS 5-8;
007 E2,E2W2;
008 LOTS 1,2;
008 SENE,W2E2,W2,NESE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-068 1319.810 Acres
T.0430N, R.0920W, 06th PM, WY
Sec. 031 LOTS 5-11;
031 NE,E2NW,NESW,N2SE;
032 LOTS 1-6;
032 TR 61;
033 W2NE,SENE,NW,N2SW,NWSE;
033 TR 61;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-069 2270.740 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 003 LOTS 5-8;
003 S2N2,S2;
004 LOTS 5-8;
004 S2N2,S2;
005 LOTS 5-8;
005 S2N2,S2;
006 LOTS 8-14;
006 S2NE,SENW,E2SW,SE;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-070 2555.040 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2,E2W2;
008 ALL;
020 ALL;
021 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-071 2480.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 009 E2,NW,W2SW;
010 ALL;
011 ALL;
012 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-072 2513.540 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 013 N2,SW,W2SE,SESE;
017 ALL;
018 LOTS 5-8;
018 E2,E2W2;
019 LOTS 5-8;
019 E2,E2W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2

Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-073 2240.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 022 ALL;
023 ALL;
025 S2;
026 SWNE,NW,S2;
035 N2NE,NENW;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-074 1920.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 027 ALL;
028 ALL;
033 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2

Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-075 2551.640 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 029 ALL;
030 LOTS 5-8;
030 E2,E2W2;
031 LOTS 5-8;
031 E2,E2W2;
032 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-076 1599.640 Acres
T.0430N, R.0930W, 06th PM, WY
Sec. 001 LOTS 1,2;
001 SWNE,SW,W2SE,SESE;
001 SENE (INCL THAT PART OF
001 TRACT 37E LYING IN THE
001 SENE)
001 NESE (INCL THAT PART OF
001 TRACT 37E LYING IN THE
001 NESE);
003 SWSW;
004 LOTS 3,4;
004 S2NW,SW,S2SE,NESE;
005 LOTS 1-4;

005 S2N2,S2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-077 2560.000 Acres
T.0430N, R.0930W, 06th PM, WY
Sec. 009 ALL;
010 ALL;
011 ALL;
012 ALL;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-078 1939.380 Acres
T.0440N, R.0930W, 06th PM, WY
Sec. 001 LOTS 1-7;

001 SWNE,S2NW,SW,W2SE;
002 LOTS 1-4;
002 S2N2,S2;
012 LOTS 1-4;
012 W2E2,W2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-079 1933.360 Acres
T.0440N, R.0930W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
009 LOTS 1-4;
009 N2N2,S2;
015 ALL;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.

WY-1108-080 1875.810 Acres
T.0440N, R.0930W, 06th PM, WY
Sec. 026 N2;
027 ALL;
028 N2;
031 LOTS 4;
031 SESW;
032 SESW,S2SE;
034 N2,N2SE;
Hot Springs County
Worland FO
Formerly Lease No.

Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-082 482.040 Acres
T.0440N, R.0940W, 06th PM, WY
Sec. 001 LOTS 1-3,5-7;
001 SWNE,SENW,E2SW,W2SE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.

WY-1108-083 2280.000 Acres
T.0440N, R.0940W, 06th PM, WY
Sec. 013 ALL;
014 NENE,S2N2,S2;
023 NW,SE;
024 NENE;
025 ALL;
026 N2SE,SESE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Worland Field Office GIS database; (3) protecting Class I and/or Class II Visual Resource Management Areas.

WY-1108-084 624.600 Acres
T.0430N, R.0950W, 06th PM, WY
Sec. 006 LOTS 1-4;
006 E2,E2W2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-085 190.220 Acres
T.0450N, R.0950W, 06th PM, WY
Sec. 025 LOTS 2,3,6,7;
025 LOT 1 (EXCL 12.40 AC;
025 LYING WITHIN RR ROW;
025 WYW0119607);
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-086 1261.480 Acres
T.0450N, R.0950W, 06th PM, WY
Sec. 034 LOTS 1-16;
035 LOTS 1-16;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1

Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-087 1120.000 Acres
T.0430N, R.0960W, 06th PM, WY
Sec. 001 ALL;
002 E2,SENW,NESW,S2SW;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

WY-1108-088 311.580 Acres
T.0440N, R.0960W, 06th PM, WY
Sec. 003 LOTS 3-4;
003 S2NW,SW;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation

TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

WY-1108-089 1321.230 Acres
T.0440N, R.0970W, 06th PM, WY
Sec. 001 LOTS 3-7;
001 SWNE,W2SE;
002 S2S2;
003 LOTS 1-4;
003 S2N2,SW,NESE,S2SE;
010 N2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.

WY-1108-090 1923.920 Acres
T.0440N, R.0970W, 06th PM, WY
Sec. 011 ALL;
013 LOTS 1-4;
013 W2E2,W2;
014 ALL;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

Cody Field Office Nominated Parcels

WY-1108-091 790.160 Acres
T.0540N, R.0970W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 9;
006 SENE,E2SE;
Big Horn County
Cody FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use within 500' of riparian areas will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting aquatic, watershed and riparian areas.

WY-1108-092 90.000 Acres
T.0550N, R.0970W, 06th PM, WY
Sec. 029 W2W2NENW,W2NW;
Big Horn County
Cody FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use within 500' of riparian areas will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting aquatic, watershed and riparian areas.

WY-1108-093 399.240 Acres
T.0540N, R.0980W, 06th PM, WY
Sec. 002 LOTS 1-4;
002 S2N2,N2SE;
Park County
Cody FO
BUREAU OF RECLAMATION

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use within 1/4 mile or visual horizon of the trail, whichever is closer, may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting cultural and scenic values of the Bridger Trail.

CSU (1) Surface occupancy or use within 500' of riparian areas will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting aquatic, watershed and riparian areas.

Lander Field Office Nominated Parcel List

WY-1108-081 120.000 Acres
T.0380N, R.0940W, 06th PM, WY
Sec. 029 N2NW,SENW;
Fremont County
Lander FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Lander Field Office GIS database; (3) protecting big game on crucial winter range.

Appendix B. Alternative 2 – Lease Parcels Reviewed and Modified

Worland Field Office Reviewed and Modified Parcel List

WY-1108-056 2500.580 Acres

T.0440N, R.0880W, 06th PM, WY
Sec. 008 LOTS 1;
008 N2,SW,N2SE,SWSE;
009 LOTS 1-4;
009 N2,N2S2;
010 ALL;
011 LOTS 1-5;
011 N2NE,SWNE,W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Grass Creek Planning Area wildlife GIS Database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-056 per IM WY-2010-013

WY-1108-057 1996.540 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 004 LOTS 5,6;
004 S2NW,S2;
004 TR 38D,38E,38F,38G,38H;
004 TR 38I,38N,38O;
005 LOTS 5-8;
005 S2N2,S2;
006 LOTS 8-15;
006 S2NE,E2SW,SE;

Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Grass Creek Planning Area wildlife GIS Database; (3) protecting Greater sage-grouse breeding habitat.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-058 1234.940 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2,E2W2;
008 E2,NW,W2SW;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-059 2486.580 Acres
T.0430N, R.0900W, 06th PM, WY
Sec. 019 LOTS 5-8;
019 E2,E2W2;
020 ALL;
029 ALL;
030 LOTS 7;
030 E2,E2W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the as mapped in the Worland Field Office GIS database;; (3) protecting Greater sage-grouse winter habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-060 981.72 Acres

T.0440N, R.0910W, 06th PM, WY
Sec. 001 S2S2
002 LOTS 5-8;

002 S2;
003 LOTS 5-8;
003 S2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-060 per IM WY-2010–013 and Lands w/Wilderness Characteristics Screen.

WY-1108-061 1967.950 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2;
007 TR 37A,37B,37C,37D,37E;
007 TR 37F,37G,37H;
008 ALL;
018 LOTS 5-8;
018 E2;
018 TR 37I,37J,37K,37L,37M;
018 TR 37N,37O,37P;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-062 1920.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 010 ALL;
011 ALL;
012 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
TLS (1) Nov 15 to Apr 30; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse winter habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-063 2240.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 017 ALL;
020 SE;
021 N2;
025 S2N2,S2;
026 ALL;

Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-064 1880.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 028 ALL;
032 W2NE,SENE,NW,S2;
033 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-065 1280.000 Acres
T.0440N, R.0910W, 06th PM, WY
Sec. 034 ALL;
035 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-066 1228.230 Acres
T.0420N, R.0920W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 1-3,8-11;
006 S2NE,SENW,E2SW,SE;
Hot Springs County
Worland FO

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-067 1797.180 Acres
T.0430N, R.0920W, 06th PM, WY
Sec. 005 LOTS 7-16;
005 S2N2;
006 LOTS 17-20;
007 LOTS 5-8;
007 E2,E2W2;
008 LOTS 1,2;
008 SENE,W2E2,W2,NESE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.

TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-068 1319.810 Acres
T.0430N, R.0920W, 06th PM, WY
Sec. 031 LOTS 5-11;
031 NE,E2NW,NESW,N2SE;
032 LOTS 1-6;
032 TR 61;
033 W2NE,SENE,NW,N2SW,NWSE;
033 TR 61;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped in the Worland Field Office GIS database;; (3) protecting Greater sage-grouse winter habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-069 2270.740 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 003 LOTS 5-8;
003 S2N2,S2;
004 LOTS 5-8;
004 S2N2,S2;
005 LOTS 5-8;

005 S2N2,S2;
006 LOTS 8-14;
006 S2NE,SENW,E2SW,SE;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-069 per IM WY-2010-013

WY-1108-070 2555.040 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 007 LOTS 5-8;
007 E2,E2W2;
008 ALL;
020 ALL;
021 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.

TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-070 per IM WY-2010-013

WY-1108-071 2480.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 009 E2,NW,W2SW;
010 ALL;
011 ALL;
012 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.

CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-071 per IM WY-2010-013

WY-1108-072 2513.540 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 013 N2,SW,W2SE,SESE;
017 ALL;
018 LOTS 5-8;
018 E2,E2W2;
019 LOTS 5-8;
019 E2,E2W2;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-072 per IM WY-2010-013

WY-1108-073 2240.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 022 ALL;
023 ALL;
025 S2;
026 SWNE,NW,S2;
035 N2NE,NENW;
Washakie County
Worland FO

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-073 per IM WY-2010-013

WY-1108-074 1920.000 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 027 ALL;
028 ALL;
033 ALL;
Washakie County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-074 per IM WY-2010-013

WY-1108-075 1991.64 Acres
T.0440N, R.0920W, 06th PM, WY
Sec. 029 SW;
030 LOTS 5-8;
030 S2NE, SE,E2W2;
031 LOTS 5-8;
031 E2,E2W2;
032 ALL;
Washakie County

Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
Partial DEFERRAL of WY-1108-075 per IM WY-2010-013.

WY-1108-076 1599.640 Acres
T.0430N, R.0930W, 06th PM, WY
Sec. 001 LOTS 1,2;
001 SWNE,SW,W2SE,SESE;
001 SENE (INCL THAT PART OF
001 TRACT 37E LYING IN THE
001 SENE)
001 NESE (INCL THAT PART OF
001 TRACT 37E LYING IN THE
001 NESE);
003 SWSW;
004 LOTS 3,4;
004 S2NW,SW,S2SE,NESE;
005 LOTS 1-4;
005 S2N2,S2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation

TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-077 2560.000 Acres
T.0430N, R.0930W, 06th PM, WY
Sec. 009 ALL;
010 ALL;
011 ALL;
012 ALL;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-078 1939.380 Acres
T.0440N, R.0930W, 06th PM, WY

Sec. 001 LOTS 1-7;
001 SWNE,S2NW,SW,W2SE;
002 LOTS 1-4;
002 S2N2,S2;
012 LOTS 1-4;
012 W2E2,W2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
DEFERRAL of WY-1108-078 per IM WY-2010-013

WY-1108-079 560.0 Acres
T.0440N, R.0930W, 06th PM, WY
Sec. 015 NE, SW, SE, S2NW;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
CSU (1) Surface occupancy or use within 1/4 mile of a Greater sage-grouse strutting/dancing ground will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting Greater sage-grouse breeding habitat.

CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

DEFERRAL of WY-1108-079 per IM WY-2010-013 and Lands w/Wilderness Characteristics Screen

WY-1108-080 1875.810 Acres
T.0440N, R.0930W, 06th PM, WY
Sec. 026 N2;
027 ALL;
028 N2;
031 LOTS 4;
031 SESW;
032 SESW,S2SE;
034 N2,N2SE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-082 240.14 Acres
T.0440N, R.0940W, 06th PM, WY
Sec. 001 LOT 3;
001 SENW,E2SW,W2SE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation

TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
Partial DEFERRAL of WY-1108-082 per IM WY-2010-013. The legal description listed above for parcel WY-1108-082 is for the area that is available for lease.

WY-1108-083 2280.000 Acres
T.0440N, R.0940W, 06th PM, WY
Sec. 013 ALL;
014 NENE,S2N2,S2;
023 NW,SE;
024 NENE;
025 ALL;
026 N2SE,SESE;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Worland Field Office GIS database; (3) protecting Class I and/or Class II Visual Resource Management Areas.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-084 624.600 Acres
T.0430N, R.0950W, 06th PM, WY
Sec. 006 LOTS 1-4;
006 E2,E2W2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation

NSO (1) Entire Lease; (2) protecting Meeteetse Draw Rock Art Area.
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-085 190.220 Acres
T.0450N, R.0950W, 06th PM, WY
Sec. 025 LOTS 2,3,6,7;
025 LOT 1 (EXCL 12.40 AC;
025 LYING WITHIN RR ROW;
025 WYW0119607);
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-086 633.05 Acres
T.0450N, R.0950W, 06th PM, WY
Sec. 034 LOTS 13-16;
035 LOTS 1-2, 6-8, 9-11, 13-16;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.

CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
Partial DEFERRAL of WY-1108-086 per Lands w/Wilderness Characteristics Screen.

WY-1108-087 1120.000 Acres
T.0430N, R.0960W, 06th PM, WY
Sec. 001 ALL;
002 E2,SENW,NESW,S2SW;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Mar 15 to Jul 15; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Greater sage-grouse.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
NSO (1) T.0430N, R.0960W, 06th PM, WY Sec. 001 N2; (2) protecting Meeteetse Draw Rock Art Area.

WY-1108-088 311.580 Acres
T.0440N, R.0960W, 06th PM, WY
Sec. 003 LOTS 3-4;
003 S2NW,SW;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1

Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2)as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.

WY-1108-089 1321.230 Acres
T.0440N, R.0970W, 06th PM, WY
Sec. 001 LOTS 3-7;
001 SWNE,W2SE;
002 S2S2;
003 LOTS 1-4;
003 S2N2,SW,NESE,S2SE;
010 N2;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
CSU (1) The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation; (2) as mapped in the Worland Field Office GIS database; (3) Cynomys leucurus (White-tailed prairie dog).

WY-1108-090 1923.920 Acres
T.0440N, R.0970W, 06th PM, WY
Sec. 011 ALL;

013 LOTS 1-4;
013 W2E2,W2;
014 ALL;
Hot Springs County
Worland FO
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Worland Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Worland Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) Surface occupancy or use within the overlapping big game crucial winter ranges will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. This may include development, operations and maintenance of facilities; (2) as mapped on the Worland Field Office GIS database; (3) protecting habitat quality and preventing loss of overlapping big game crucial winter ranges.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped in the Worland Field Office GIS database; (3) protecting paleontological values.
CSU (1) The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation; (2) as mapped in the Worland Field Office GIS database; (3) Cynomys leucurus (White-tailed prairie dog).

Cody Field Office Reviewed and Modified Parcel List

WY-1108-091 790.160 Acres
T.0540N, R.0970W, 06th PM, WY
Sec. 005 LOTS 1-4;
005 S2N2,S2;
006 LOTS 9;
006 SENE,E2SE;
Big Horn County
Cody FO
BUREAU OF RECLAMATION

Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting significant Bighorn Basin paleontological resources.
CSU (1) The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation; (2) entire lease; (3) protecting Species listed under the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq.

WY-1108-092 90.000 Acres
T.0550N, R.0970W, 06th PM, WY
Sec. 029 W2W2NENW,W2NW;
Big Horn County
Cody FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Feb 1 to Jul 31; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Raptors.
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting significant Bighorn Basin paleontological resources.

WY-1108-093 399.240 Acres
T.0540N, R.0980W, 06th PM, WY
Sec. 002 LOTS 1-4;
002 S2N2,N2SE;
Park County
Cody FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1
Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Apr 10 to Jul 10; (2) as mapped on the Cody Field Office GIS database; (3) protecting nesting Long Billed curlew and/or Mountain plover.
CSU (1) Surface occupancy or use within 1/4 mile or visual horizon of the trail, whichever is closer, may be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting cultural and scenic values of the Bridger Trail.
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Cody Field Office GIS database; (3) protecting significant Bighorn Basin paleontological resources.
CSU (1) The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation; (2) entire lease; (3) protecting Species listed under the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq.

Lander Field Office Reviewed and Modified Parcel List

WY-1108-081 120.000 Acres
T.0380N, R.0940W, 06th PM, WY
Sec. 029 N2NW,SENW;
Fremont County
Lander FO
BUREAU OF RECLAMATION
Formerly Lease No.
Stipulations:
Lease Notice No. 1

Lease Notice No. 2
Lease Notice No. 3
Special Lease Stipulation
TLS (1) Nov 15 to Apr 30; (2) as mapped on the Lander Field Office GIS database; (3) protecting big game on crucial winter range.
CSU (1) The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation; (2) as mapped on the Lander RMP lease stipulation overlay; (3) protecting Artemisia porteri (Porter's sagebrush); Cryptantha subcapitata (Owl creek miner's candle); Rorippa calycina (Persistent sepal yellowcress); Cynomys leucurus (White-tailed prairie dog); Charadrius montanus (Moutain plover).
CSU (1) Surface occupancy or use may be restricted or prohibited if paleontological sites exist unless paleontological sites are avoided or the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts; (2) as mapped on the Lander RMP lease stipulation overlay; (3) protecting paleontological values.
DEFERRAL of WY-1108-081 for protection of municipal water.

Appendix C. Multiple Use Lands with Wilderness Characteristics Screen

Sec. 603 (43 USC 1782). The Wilderness Act states: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

Lease Parcel	More than 5000 acres of roadless land	Imprint of man's work substantially unnoticeable	Outstanding opportunity for solitude or primitive recreation	Contains natural features of scientific, educational, scenic, or historical value	In Citizen Proposed Wilderness Area
	(yes/no)	(yes/no)	(yes/no)	(yes/no)	(yes/no) (If yes but dropped during RMP process, state why)
Nominated Parcels – Worland Field Office					
WY-1108-056	no	no	no	no	no
WY-1108-057	no	no	no	no	no
WY-1108-058	no	no	no	no	no
WY-1108-059	no	no	no	no	no
WY-1108-060 T44N, R91W, Sec. 001 LOTS 5–8; Sec. 001 N2S2 **Deferred**	Yes (BLM acres-34487) (CPW acres-21000)	Yes	Yes	Yes (Scenic, fossils, historical values)	Yes
WY-1108-060 Sec. 001 S2S2 Sec. 002 LOTS 5-8; Sec. 002 S2; Sec. 003 LOTS 5-8; Sec 003 S2;	no	no	no	no	no
WY-1108-061	no	no	no	no	no

WY-1108-062	no	no	no	no	no
WY-1108-063	no	no	no	no	no
WY-1108-064	no	no	no	no	no
WY-1108-065	no	no	no	no	no
WY-1108-066	no	no	no	no	no
WY-1108-067	no	no	no	no	no
WY-1108-068	no	no	no	no	no
WY-1108-069	no	no	no	no	no
WY-1108-070	no	no	no	no	no
WY-1108-071	no	no	no	no	no
WY-1108-072	no	no	no	no	no
WY-1108-073	no	no	no	no	no
WY-1108-074	no	no	no	no	no
WY-1108-075	no	no	no	no	no
WY-1108-076	no	no	no	no	no
WY-1108-077	no	no	no	no	no
WY-1108-078	no	no	no	no	no
WY-1108-079 T44N, R93W, Sec. 005 LOTS 1–4 Sec. 005 S2N2, S2 Sec. 009 LOTS 1–4; Sec. 009 N2N2, S2 Sec. 15, N2NW **Deferred**	Yes (8,771 acres)	Yes	Outstanding solitude – No Primitive Rec – Yes	No	No
WY-1108-079 T44N, R93W, Sec. 015, E2, SW, S2NW	no	no	no	no	no

WY-1108-080	no	no	no	no	no
WY-1108-082	no	no	no	no	no
WY-1108-083	no	no	no	no	no
WY-1108-084	no	no	no	no	no
WY-1108-085	no	no	no	no	no
WY-1108-086 T45N, R95W, Sec. 34, Lots 1-12; Sec. 35, Lots 3-5, 12 **Deferred**	Yes (15,688 acres)	Yes	Yes	Yes (Scenic, Unique topo)	No
WY-1108-086 T45N, R95W, Sec. 034 LOTS 13–16 Sec. 035 LOTS 1– 2, 6–8, 11–9, 13–16	no	no	no	no	no
WY-1108-087	no	no	no	no	no
WY-1108-088	no	no	no	no	no
WY-1108-089	no	no	no	no	no
WY-1108-090	no	no	no	no	no
Nominated Parcels – Cody Field Office					
WY-1108-091	no	no	no	no	no
WY-1108-092	no	no	no	no	no
WY-1108-093	no	no	no	no	no
Nominated Parcels – Lander Field Office					
WY-1108-081	no	no	no	no	no

Note

1 "The word 'roadless' refers to the absence of roads which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A 'way' maintained solely by the passage of vehicles does not constitute a road." 2 Examples of manmade features that may be considered substantially unnoticeable in certain cases are: trails, trail signs, bridges, fire towers, fire breaks, fire presuppression facilities, pit toilets, fisheries enhancement facilities, fire rings, hitching posts, snow gauges, water quantity and quality measuring devices, research monitoring markers and devices, radio repeater sites, air quality monitoring devices, fencing, spring developments, overgrown and barely visible two-track ways, and small reservoirs.

Appendix D. Sage Grouse Screen

Sage Grouse Screen for Oil & Gas Lease Parcels – Worland FO						
Parcel #	Within Core Area (v. 3) Yes/No	Habitat Yes/No	11 sq. mi Manageable Fed. Land Yes/No	Drainage Yes/No	Defer Parcel Yes/No	Lease w/Lease Notice #3 Yes/No
WY-1108-056	Yes	Yes	Yes	No	Yes	No
WY-1108-057	Yes	Yes	No	\	No	Yes
WY-1108-058	Yes	Yes	No	\	No	Yes
WY-1108-059	Partial	Yes	No	\	No	Yes
WY-1108-060	Yes	Yes	No	\	No	Yes
WY-1108-061	Yes	Yes	No	\	No	Yes
WY-1108-062	Yes	Yes	No	\	No	Yes
WY-1108-063	Yes	Yes	No	\	No	Yes
WY-1108-064	Yes	Yes	No	\	No	Yes
WY-1108-065	Yes	Yes	No	\	No	Yes
WY-1108-066	Partial	Yes	No	\	No	Yes
WY-1108-067	No	\	\	\	\	\
WY-1108-068	No	\	\	\	\	\
WY-1108-069	Yes	Yes	Yes	No	Yes	No
WY-1108-070	Yes	Yes	Yes	No	Yes	No
WY-1108-071	Yes	Yes	Yes	No	Yes	No
WY-1108-072	Yes	Yes	Yes	No	Yes	No
WY-1108-073	Yes	Yes	Yes	No	Yes	No
WY-1108-074	Yes	Yes	Yes	No	Yes	No
WY-1108-075	Partial	Yes	Yes	No	Yes-Partial	Partial Deferral
WY-1108-076	No	\	\	\	\	\
WY-1108-077	No	\	\	\	\	\
WY-1108-078	Yes	Yes	Yes	No	Yes	No
WY-1108-079	Yes	Yes	Yes	No	Yes	No
WY-1108-080	No	\	\	\	\	\
WY-1108-082	Partial	Yes	Yes	No	Yes-Partial	Partial Deferral
WY-1108-083	No	\	\	\	\	\
WY-1108-084	No	\	\	\	\	\
WY-1108-085	No	\	\	\	\	\
WY-1108-086	No	\	\	\	\	\

WY-1108-087	No	\	\	\	\	\
WY-1108-088	No	\	\	\	\	\
WY-1108-089	No	\	\	\	\	\
WY-1108-090	No	\	\	\	\	\
Sage Grouse Screen for Oil & Gas Lease Parcels – Cody FO						
WY-1108-091	No	\	\	\	\	\
WY-1108-092	No	\	\	\	\	\
WY-1108-093	No	\	\	\	\	\
Sage Grouse Screen for Oil & Gas Lease Parcels – Lander FO						
WY-1108-081	No	\	\	\	\	\

Appendix E. Public Comments and Agency Response

#	Comment	Response
1	Wyoming Outdoor Council (WOC): Lease parcels 1108-057 to -059, -061 to -065 and -083 should not be offered for sale during pending RMP revision. These parcels are located in an area the WOC, GYC, and other groups have asked the BLM to consider for designation as "Unavailable for Future Leasing: pursuant to the revised Bighorn Basin Resource Management Plan (RMP).	Washington Instruction Memorandum 2004-110 and Change 1 is the governing policy for leasing while revising resource management plans. While postponement to preserve alternatives may be desired, NEPA does not compel an agency to postpone taking implementation actions, such as issuance of leases. The State Directors have discretion to temporarily defer leasing on specific tracts of land based on information under review during planning. A decision temporarily to defer could include lands that are designated in the preferred alternative of draft or final RMP revisions or amendments as: 1) lands closed to leasing; 2) lands open to leasing under no surface occupancy; 3) lands open to leasing under seasonal or other constraints with an emphasis on wildlife concerns; or 4) other potentially restricted lands. Deferral, therefore, would not apply to areas designated in the alternative as open to leasing under the terms and conditions of the standard lease form.
2	WOC: BLM has not shown that large, contiguous areas of Sage Grouse habitat could not be protected, making sale of these Lease parcels 1108-057 to -059, -061 to -065 and -083 contrary to the policy in WY-IM 2010-013, Oil and Gas Leasing Screen for Greater Sage Grouse.	In accordance with guidance issued under WY-IM-2010-013, evaluation of the parcels were reviewed as to whether the parcel is wholly or partially inside a Core Area, is within suitable habitat for sage grouse, is part of at least eleven square miles of contiguous, manageable, unleased Federal minerals, and is there any potential oil and gas drainage issues. All of these evaluation criterions were given a hard look by the IDT and were field verified since all proposed parcels were site visited with appropriate staff specialists. The comment does not provide any new information that would require the analysis to be changed and therefore is not contrary to WY-IM-2010-013.

3	WOC: Lease parcels should not be offered for sale in overlapping wildlife crucial ranges.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
4	WOC: Parcels in Citizens' Proposed Wilderness Areas should not be offered for sale. Specifically, parcel -083 is located in the Cedar Mountains CWP. The BLM should reconsider the wilderness values of this parcel and make its leasing decisions accordingly. It should ensure the leasing this parcel is fully is conformance with the new Wild Lands policy established by Secretarial Order 3310 before it offers this parcel for sale. Lease parcels -060 and -082, which would be partially, deferred from sale, also have wilderness characteristics and/or are located in CWPs, and we ask that the entirety of these parcels be deferred from sale.	All CPW proposals were screened for wilderness characteristics prior to initiating the RMP processes for the Lander and Bighorn Basin areas. Any CPW areas that may have contained wilderness characteristics were brought forward in the RMP process and were evaluated in the alternative development. At the time of parcel review, any parcel or portion of a parcel that is located in an area being evaluated in the RMP is deferred. Any parcel or portion of a parcel that is located within a CPW area that was not brought forward into the RMP process was adequately screened to ensure no potential wilderness characteristics are compromised. Since the development of the EA, SO 3310 was signed, therefore, prior to the final of this EA, wilderness characteristics will be evaluated to ensure the screening criterion, as addressed in the SO, is conducted. Concerning parcels -060, -082, and -083, the following is provided. As required by FLPMA, Section 201, as well as consistent with Secretarial Order 3310, The BLM, Worland Field Office, has recently completed an inventory of wilderness characteristics on all BLM-administered public lands. From the wilderness characteristics inventory, approximately 328,000 acres were identified as containing wilderness characteristics and are in the interim managed as Lands with Wilderness Characteristics (LWC) until the revised Bighorn Basin Resource Management Plan is completed, the vehicle used to designate what LWCs will be managed as Wild Lands. Upon the wilderness characteristics inventory, three parcels from the August, 2011 lease list fall within or intersect

		with LWCs; Parcels 060, 079, and 086. Parcels 082 and 083 are not located within or intersect BLM-administered public lands identified as containing wilderness characteristics. Because BLM-administered public lands within 082 and 083 are absent of wilderness characteristics, those parcels are recommended for sale.
5	WOC: Partially deferral parcels should be fully deferred. The three partially deferred parcels are -060, -075, and -082. These parcels fall within an area we have recommended to be unavailable for leasing. Parcel -060 should not be offered for sale given the extremely high values, wilderness characteristics, sage grouse, as well as important raptor, big game crucial winter range, and paleontological values. Parcel -075. BLM needs to attach sage grouse nesting stipulations to the non-deferred portion of the parcel. Or defer the entire parcel due to sage-grouse habitat. Parcel -082 is in proximity to the Cedar Mountains Wilderness Study area and it is within the Cedar Mountains CWP. Attach sage grouse nesting stipulations to the non-deferred portion of the parcel. Or defer the entire parcel due to sage-grouse habitat.	Guidance from SO 3310, wilderness characteristics, directs the BLM that the analysis does not create a setback or buffer from the physical edge of the imprint of man. Therefore, any parcel screened for wilderness characteristics whereby a portion of a parcel falls with an area with wilderness characteristics, that parcels was recommended to be partially deferred in accordance with guidance. The only parcels that were partially deferred were a result of wilderness characteristics screening and review. As analyzed in alternative 2 – parcel -060 was recommended for partial deferral based on Lands with Wilderness Characteristics. In accordance with guidance issued under WY-IM-2010-013, evaluation of the parcels were reviewed as to whether the parcel is wholly or partially inside a Core Area, is within suitable habitat for sage grouse, is part of at least eleven square miles of contiguous, manageable, unleased Federal minerals, and is there any potential oil and gas drainage issues. All of these evaluation criterion were given a hard look by the IDT and were field verified since all proposed parcels were site visited with appropriate staff specialists. At the time of APD, WY IM -2010-012 will be utilized to address project level analysis. As analyzed in alternative 2 – parcel -075 was recommended for partial deferral based on IM-WY-2010-013. Parcel 075 was adequately stipulated for protecting sage-grouse nesting habitat. As analyzed in alternative 2 – parcel -082 was recommended for partial deferral based on IM-WY-2010-013. Parcel 082 was adequately stipulated for protecting sage-grouse nesting

		habitat. Parcel 082 is not located within nor intersects BLM-administered public lands identified as containing wilderness characteristics. Because BLM-administered public lands within parcel 082 are absent of wilderness characteristics, those parcels are recommended for sale.
6	Wyoming Wildlife Federation (WWF): All 27 parcels offered for sale should be deferred as to not improperly prejudice any ultimate decision on the RMP. If the BLM decides not to defer all the parcels until the Bighorn Basin RMP is complete, WWF asks for a no surface occupancy (NSO) stipulation on the twenty seven lease parcels.	See comment response #1.
7	WWF Comment: New and updated scientific research needs to be incorporated into the environmental assessment's analysis instead of relying on out of date resource management plans. Seasonal restrictions are not always sufficient in protecting wildlife and thus to guarantee that the BLM is sufficiently and thoroughly making decisions all new and updated scientific research must be part of the analysis.	Prior to lease offering, additional environmental review is conducted utilizing new information and data. This environmental analysis analyzes the effectiveness of a variety of mitigation measures, to be imposed as lease stipulations, to supplement the RMP's analysis and substantiate the RMP's Record of Decision.
8	WWF: The BLM should not focus solely on timing limitation in crucial winter ranges as the primary mitigation measure for big game.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
9	WWF: WWF believes that the parcels not deferred within Sage Grouse core area (WY-1108-057, WY-1108-058, WY-1108-059, WY-1108-061, WY-1108-062, WY-1108-063, WY-1108-064, WY-1108-065, and WY-1108-066) also be deferred in total or partially until the Bighorn Basin RMP is complete.	In accordance with guidance issued under WY-IM-2010-013, evaluation of the parcels were reviewed as to whether the parcel is wholly or partially inside a Core Area, is within suitable habitat for sage grouse, is part of at least eleven square miles of contiguous, manageable, unleased Federal minerals, and is there any potential oil and gas drainage issues. All of these evaluation criterion were given a hard look by the IDT and were field verified since all proposed parcels were site visited with appropriate staff specialists. At the time of APD, WY IM -2010-012 will be utilized to address project level analysis.

10	WWF: Parcels WY-1108-085 and WY-1108-086 are located near the Upper Bighorn River. Aquatic species of concern are the sauger, brown trout, cutthroat trout, and rainbow trout. WWF would like to see these parcels removed from the sale block until the Bighorn Basin RMP is finalized.	This is in compliance with Lease Notice #1 and will be addressed appropriately at the time of APD; an analysis of this resource will be completed.
11	WWF: WWF believes that the BLM must update its economic analysis of hunting and fishing revenue and the potential loss of this revenue in light of the known impacts that will be experienced by big game.	The national survey and WGFD findings have been added to the Affected Environment, Recreation Section, in the final EA. This language will be added to the Ch. 3 Recreation section: Recreational use of the available parcels and the surrounding areas is typically for hunting, fishing, camping, sightseeing, driving for pleasure, off-highway vehicle use, and other recreational activities. In the national survey of fishing, hunting and wildlife-associated recreation for activities in 2006, expenditures from fishing and hunting significantly increased. In Wyoming, more than 320,000 people participated in fishing and hunting activities in 2006. Additionally, 716,000 people participated in some form of wildlife watching activity (USFWS 2006 National Survey of Fishing, Hunting, and Wildlife Associated Recreation). The total of hunting and fishing recreation days in Wyoming in 2008 was 3,683,371. Based on the number of recreation days and average expenditure per day, hunters, anglers and trappers expended approximately $685 million in pursuit of their sport (WGFD Annual Report 2008). Non-consumptive users provided about $420 million through wildlife watching, wildlife photography, etc. In total, wildlife associated recreation accounts for over $1 billion dollars in income to the state for the year 2008 (WGFD Annual Report 2008).
12	WWF: The record is absent of any evidence that the BLM considered the mandates of Executive Order 13443 (Aug. 16, 2007). The BLM should nonetheless consider the requirements of the order and perform all review necessary to comply with its mandates prior to offering the parcels at the lease sale.	A variety of mitigation measures have been included in the EA to mitigate impacts to hunting and fishing, complying with the Order's purpose to facilitate the expansion and enhancement of hunting opportunities.

13	Powder River Basin Resource Council (PRBRC): The BLM violated NEPA by failing to take a hard look at the environmental impacts of leasing and foreseeable oil and gas development.	BLM complied with NEPA in the preparation of the environmental analysis. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. Reasonably foreseeable development associated with the recommendation to sale the parcels is adequately addressed in the Cumulative Effects section of the EA.
14	PRBRC: These (health of humans and the environment in reference to the issues in Pavillion and reference to Crosby 25-3 gas well blow out) conditions must be carefully evaluated and the worst possible scenarios considered before further leasing occurs.	The occurrences of reasonably foreseeable impacts to the environment were addressed in the EA. Occurrences of issues associated with the Pavillion and Crosby 25-3 cannot be reasonably foreseen and therefore, are not analyzed in detail in the affected environment section of the EA.
15	PRBRC: Generic and over-simplified NEPA review considering air quality and climate impacts. Reference to EA at "Subsequent development of any leases issued, would contribute a small incremental increase in overall hydrocarbon emissions, including GHGs. When compared to total national or global emissions, the amount released as a result of potential production from the proposed lease tracts would not have a measurable effect."	The level of analysis is appropriate for the anticipated impacts. The purpose of the EA is to determine if a significant impact is likely to occur. This analysis is sufficient to make the determination that a significant impact, beyond that analyzed in the RMPs which makes these lands available for leasing, is likely to occur.
16	PRBRC: Air quality, surface water and groundwater conditions should be fully identified and future acute and cumulative impacts considered before leasing.	Potential impacts to air quality, surface water and groundwater were analyzed to the extent possible. Since development cannot be reasonably determined at the leasing stage, the future acute impacts to air quality, surface water and groundwater cannot be realistically analyzed at this time. At the time of APD, an analysis of this resource will be completed.
17	PRBRC: Approved plans for air monitoring including speciated VOC monitoring, along with the most stringent best available control technologies (BACT) controls should be part of lease requirements.	Since development cannot be reasonably determined at the leasing stage, the impacts to air quality and air sheds cannot be realistically analyzed at this time. At the time of APD, an analysis of this resource will be completed.

18	PRBRC: State and federal plans for handling wastes and contaminates, such as the Spill Prevention Control and Countermeasure Plans, groundwater flow mapping must be provided before lands are leased. Hydro geologic mapping will help to provide information on how contaminates and contamination plumes may move when impacts from drilling fluid spills, well stimulation fluids, solid chemical spills, trash scatter on and off the well pads, and hydrocarbon or gas releases occur. In addition, a full list of all fluids that are anticipated to be used during exploration, drilling and through production must be provided to the public and BLM before leasing to allow protections to be put in place to protect public lands and public health.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot be realistically analyzed at this time. At the time of APD, an analysis of this resource will be completed.
19	PRBRC: BLM violated NEPA by leasing under outdated RMPs or alternatively by failing to complete an EIS.	See response to comment #7.
20	PRBRC: NEPA prescribes limitations on the actions that agencies may take while preparing environmental documents. The regulations implementing NEPA require that "[a]gencies shall not commit resources prejudicing selection of alternatives before making a final decision . . . ." and that until a record of decision is issued no action concerning the project can be taken which will "[h]ave an adverse environmental impact" or "[l]imit the choice of reasonable alternatives." 40 C.F.R. §§ 1502.2(f), 1506.1(a)(1)-(2). Additionally, IM 2004-110 Change 1 provides that State Offices "are to consider temporarily deferring oil, gas and geothermal leasing on federal lands with land use plans that are currently being revised or amended." BLM must abide by these policies and regulations.	See response to comment # 1.

21	PRBRC: The Big Horn Basin and the Buffalo Field Office are revising their RMPs in large part because of sage-grouse. No BLM office has issued a draft RMP amendment for sage-grouse yet. Additional leasing in sage-grouse habitat, especially core areas and connectivity areas, may foreclose alternatives that would have been available had leasing not occurred. Considering it is the state's goal to maintain, and in fact enhance, sage-grouse populations in core areas, BLM should not be leasing in core areas with current stipulations (or even with controlled surface occupancy stipulations that do not specifically identify new protective measures).	See response to comment # 1.
22	PRBRC: If BLM wishes to proceed with leasing, it must prepare an EIS because of outdated and inadequate NEPA analysis linked with the existing RMPs.	See response to comment #7
23	PRBRC: Although revenues to the Federal and State governments are considered in the current EA, costs for remediating damages to lands, wildlife, water, air and human health are not. In light of known contaminations, caused by oil and gas development, in both the Bighorn and Wind River basins, these costs must be considered.	Since development cannot be reasonably determined at the leasing stage, prediction of future costs associated with remediating future undisclosed damages cannot be realistically analyzed at this time.
24	PRBRC: Many of the lands currently leased are not being developed. Lands already leased should be developed before further leasing occurs.	This is outside the scope of the purpose and need.
25	Center for Native Ecosystems (CNE): A number of parcels are located within important white-tailed prairie dog habitat. Oil and gas development authorized by the leasing of the protested parcels is likely to have a significant direct, indirect, and cumulative impact on white-tailed prairie dog and other species that rely on white-tailed prairie dogs, including black-footed ferrets. Specifically parcels -089 and -090 were identified by CNE as being within white-tailed prairie dog habitat.	Stipulations have been applied to the parcels thru additional analysis and presented in Chapter 4.
26	CNE: CNE asks the BLM to withdraw all parcels in greater sage-grouse core areas or within 4 miles of an occupied lek.	All parcels were appropriately screened in accordance with WY IM-2010-013, Oil and Gas Leasing Screen for Greater Sage-Grouse, when located within key or core areas and appropriately stipulated if determined to be recommended for sale.

27	CNE: CNE would like to bring to BLMs attention that parcel WY-1108-080 was determined by our internal screen to be in greater sage-grouse area.	Worland Field Office is using newest GIS data, as provided by the Wyoming Game & Fish Department, which does not have this area included in core sage-grouse core habitat, version 3; other appropriate stipulations were applied for the protection of sage-grouse nesting habitat.
28	CNE: Parcels -082 and -083 are located within Cedar Mt. – Citizen's proposed Wilderness; Cedar Mt WSA (BLM).	Parcels 082 and 083 are not located within or intersect BLM-administered public lands identified as containing wilderness characteristics. Because BLM-administered public lands within 082 and 083 are absent of wilderness characteristics, those parcels are recommended for sale.
29	CNE: Oil and gas development authorized by the leasing of the protested parcels will have significant impacts on greater sage-grouse. A number of the protested parcels are located within a four mile buffer around occupied greater sage-grouse leks. Some of the parcels directly overlap with greater sage-grouse leks. In addition, a number of the protested parcels are within greater sage-grouse core areas. (Information on overlap between protested parcels and the above types of sage-grouse habitat was obtained from a GIS overlay of the parcels proposed for leasing and sage-grouse habitat as mapped by the Wyoming Game and Fish Department). Please see Exhibit 1 for details on the overlap between protested parcels and key greater sage-grouse habitat.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed. Oil and gas lease stipulations are developed at the RMP and State Office level. They cannot be changed unless done at that level. Currently the Wind River/Bighorn Basin District Field Offices are developing RMPs. This amendment is analyzing and developing lease stipulations for the Greater Sage-grouse.
30	CNE: We request that all lease parcels with sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat contain stipulations which fully comply with and adhere to the Sage-Grouse Habitat Management Guidelines for Wyoming adopted July 24, 2007. Many if not most of the leases are in sage grouse core areas under the Governor's executive order, yet stipulations that would conform to the state's policy are not applied. We further request that all lease parcels with sage grouse leks, nesting habitats, breeding habitat, wintering habitat and brood-rearing habitat conform to the recommendations offered in the Wyoming Game and Fish Department's "Recommendations for Development of Oil	Oil and gas lease stipulations are developed at the RMP and State Office level. They cannot be changed unless done at that level. Currently the Wind River/Bighorn Basin District Field Offices are developing RMPs. This amendment is analyzing and developing lease stipulations for the Greater Sage-grouse.

	and Gas Resources within Important Wildlife Habitats" (included in the list of relevant documents below).	
31	CNE: This information is essential to adequate NEPA analysis of the likely direct, indirect, and cumulative impacts of oil and gas development on the protested parcels on greater sage-grouse. In addition, this information is crucial to any effort to develop a range of alternatives for oil and gas development, and to develop and analyze the likely effectiveness of lease notices and stipulations applied to the protested parcels to mitigate impacts of oil and gas development on greater sage-grouse to insignificance. The information in these documents constitutes the best available science on greater sage-grouse, and the impacts of oil and gas development on greater sage-grouse. The BLM has not considered the information contained within these documents as part of a National Environmental Policy Act (NEPA) analysis of the impacts of oil and gas development authorized by the leasing of the protested parcels on greater sage-grouse. We hereby incorporate the following documents by reference:	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
32	CNE: (See Exhibits 4, 6, 9, 10, 11, 12, 13, 14, and 15). These Exhibits contain information essential to determining how best to sustain greater sage-grouse populations while allowing other uses of the sagebrush landscape to continue. The recommendations contained within each of these Exhibits should be carefully considered and weighed in Wyoming Bureau of Land Management (BLM) Resource Management plans that dictate how greater sage-grouse habitat will be managed for decades to come, and that will likely determine the fate of the greater sage-grouse in the much of the eastern portion of its range. BLM has not adequately considered any of the information in these Exhibits in the Resource Management Plans that the proposed leasing is tiered to, and have therefore failed to 1) make an informed decision regarding what areas should be open and closed to oil and gas leasing and what lease stipulations should be applied to protect	Exhibits were not attached to comment. Currently the Field Offices in the Wind River/Bighorn Basin District are revising their RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action.

	greater sage-grouse populations within areas that are open to leasing and development, and 2) have failed to take a hard look at the impacts, particularly cumulative impacts that the activities authorized by the Resource Management Plan (including the proposed leasing of the protested parcels) will have on greater sage-grouse.	
33	CNE: The BLM is a signatory to the Greater Sage-Grouse Comprehensive Conservation Strategy, prepared by the Western Association of Fish and Wildlife Agencies in 2006 (Exhibit 17). The stated goal of this strategy is to "maintain and enhance populations and distribution of sage-grouse by protecting and improving sagebrush habits and ecosystems that sustain these populations." (Exhibit 17) The overall objective of this strategy is to, "produce and maintain neutral or positive trends in populations and to maintain or increase the distribution of sage-grouse in each management zone." (Exhibit 17). The document states that the guiding principle of greater sage-grouse management should be to: "1) protect what we have, 2) retain what we're losing, and restore what has been lost." (Exhibit 17). However, despite these commitments made as far back as 2006, BLM has taken very little action to meet these goals. In November of 2004, BLM issued a National Sage-Grouse Habitat Conservation Strategy (Exhibit 18), to guide future actions for conserving sagebrush habitats. The strategy recognizes BLM's key role in the conservation of the species and its habitat, and states that: "one of the BLM's highest priorities is to i9mplement the National Sage-grouse Strategy on BLM-managed lands… All State Directors and Field Managers will take appropriate actions to ensure immediate implementation." (See BLM IM 2005-024). Integral to the BLM habitat strategy are guidance documents intended to ensure that sage-grouse conservation measures are incorporated into all ongoing BLM programs and activities, including land use planning, mineral leasing and other programs. A central element of the	Exhibit was not attached to comment. See response to comment #32.

	strategy is the development of alternatives that must identify and evaluate reasonable, feasible and effective options for conserving sagebrush habitats and associated species as required by BLM's multiple use mandate in FLPMA. Under the Strategy, BLM is required to develop at least one alternative to "maximize conservation of sagebrush habitat through objectives, land use plan decisions and management direction." Id. Further, the strategy requires BLM to: "…ensure that each alternative contains considerations for sagebrush habitat conservation by (1) developing one or more goals related to sagebrush habitat with emphasis on sage-grouse habitat that will apply to all alternatives, (2) including objectives in each alternative that pertain to the goals, and (3) identifying allowable uses or management actions to achieve the objectives. This method will ensure that all alternative, including the preferred alternative, will include sagebrush and sage-grouse habitat considerations." Id. BLM has failed to consider an alternative to maximize conservation of sagebrush and sage-grouse habitat in each of the Resource Management Plans to which the proposed leasing is tiered. Wyoming BLM has failed to live up to its commitments outlined in the WAFWA Greater Sage-Grouse Comprehensive Conservation Strategy and the BLM National Sage-Grouse Habitat Conservation Strategy.	
34	CNE: BLM has systematically failed to take appropriate action to conserve greater sage-grouse habitat at a landscape scale. BLM has failed to include an alternative that maximizes conservation of sagebrush and greater sage-grouse habitat in each of its Resource Management Plans in Wyoming. These RMPs prioritize other uses over sagebrush habitat conservation across virtually all of the remaining greater sage-grouse habitat in Wyoming. Further, these RMPs authorize oil and gas development across a significant proportion of the remaining sage-grouse habitat in Wyoming, without considering setting aside core areas or other key habitat from oil and	Exhibits were not attached to comment. See response to comment #32.

	gas leasing (as recommended in Exhibits 4, 6, 9, 10, 11, 12, 13, 14, and 15); or leasing these areas with NSO stipulations; or stipulations recommended by recommended by Western Association of Fish and Wildlife Agencies, Wyoming Game and Fish Department, U.S. Fish and Wildlife Service, or various other state wildlife agencies and sage-grouse experts (see Exhibits 4, 9, 10,11, 12, 14, 15, 21, 22, 23, and 25). The RMPs in question also systematically fail to adequately consider the cumulative impacts of the human activities authorized over the life of the RMP on greater sage-grouse (see Exhibit 4 for comprehensive assessment of threats to greater sage-grouse and greater sage-grouse habitat that should be considered in each RMP), and fail to take into account the best available science (see all Exhibits), including significant new information (for example, see Exhibits 4, 6, 9, 16, 20, 21, 22, 23, 25).	
35	CNE: Development of energy resources on the federal mineral estate (managed by BLM) poses a major challenge for the conservation of greater sage-grouse (Exhibit 4, Chapter 21). Naugle et al. 2009 (Exhibit 4, Chapter 21) review the best available science documenting the impacts of oil and gas development on greater sage-grouse, examine the potential for landscape-level expansion of energy development within the sage-grouse range, and outline recommended landscape level conservation strategies. This paper constitutes significant new information which BLM should consider prior to authorizing oil and gas development on the protested parcels. Naugle et al. (2009) demonstrate that current and projected impacts from oil and gas development are likely to have severe negative impacts on greater sage-grouse populations. They indicate that severity of impacts will require that management agencies shift from local to landscape-scale conservation, and consider a hierarchy of strategies to conserve greater sage-grouse, including set-aside areas, lease consolidations and more effective mitigation measures and best management practices as creative solutions to reduce losses. BLM has	Exhibits were not attached to comment. See response to comment #32. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

	not considered setting aside key habitat from oil and gas development, has not adequately analyzed cumulative impacts of oil and gas development on the protested parcels (including past, present and reasonably foreseeable energy development, climate change, grazing, other human development, etc.), and continues to use mitigation measures that have been demonstrated to be ineffective (see Exhibit 4, Chapter 21). Another recent study forecasts that future oil and gas development will cause a 7-19% decline from 2007 lek population counts and impact more than 9 million acres of sagebrush shrublands and 2 million acres of grasslands (Copeland et al. 2009 attached as Exhibit 20). This is significant new information that should be considered in an analysis of the cumulative impacts of oil and gas development authorized by the leasing of the protested parcels. A number of past studies have demonstrated that oil and gas development has severe impacts on greater sage-grouse and that the mitigation measures typically applied by BLM are not sufficient to prevent significant impacts (see Exhibits 6, 9, 19, 21, 22, 23, 24, 25). This research is well known amongst resource management professionals, BLM has funded some of the research in question, and it has been brought to the attention of BLM by the Western Association of Fish and Wildlife Agencies, the U.S. Fish and Wildlife Service, and nonprofit organizations on multiple occasions in the past (for example see Exhibits 9, 10, 11, 12, 13, 26. BLM has not adequately considered any of this information in the NEPA documents to which the proposed leasing is tiered.	

36	CNE: The Wyoming BLM's guidance fails to adequately protect sage-grouse on several counts. First, under the guidance no core areas receive complete protection from development (i.e. leasing and eventual development is allowed even within core areas under certain circumstances). It is not clear from the best available science that even the more stringent protections applied to the governor's core areas will be effective. For example, the function of some of the provisions in the guidance is to limit development in core areas to less than 5% surface disturbance. However, we are unaware of any scientific studies that suggest that sage-grouse can tolerate 5% surface disturbance over the long-term. The stated goal of the guidelines regarding the core areas is to maintain or reduce the existing level of development, but if a given core area already has high levels of development activity, this may not prevent further declines. Second, several biologically important areas were excluded from the Wyoming governor's core areas map (which the BLM guidance relies on). This leaves many lek sites and seasonal habitat areas with minimal to no protection from the effects of oil and gas development. Third, the guidance offers very little certainty about what sage-grouse habitat will actually be protected in practice due to a complicated set of exceptions from the standard protections at various stages of the oil and gas development process. There is simply too much wiggle room in the language of the guidelines to provide certainty or comfort about the future status of sage-grouse in Wyoming, even in so-called "core areas." For example, if it is deemed not feasible to develop a lease right within the standard restrictions in the guidelines, an operator is allowed to provide a mitigation and monitoring plan to the Wyoming BLM and the Wyoming Game and Fish Department and then proceed with development unfettered by the standard restrictions. The guidelines state that in such a case the BLM will monitor to evaluate the effectiveness of the individualized	This comment is beyond the scope of this document.

	mitigation plan, but no guidance is offered about what the BLM can or will do if the plan is not effective. Given the constraints of an existing lease right, we fear the BLM could find its hands tied about intervening in an inappropriate project under such circumstances. In addition, the guidance includes options to reduce the restrictions within core areas that are of small patch size (less than 725 acres), are already disturbed (currently more than one disturbance per 640 acres), or which are covered by patchy land ownership. Several types of land features, such as two-track roads (which certainly affect sage-grouse), are not included in the calculation of surface disturbance density. In several places, the guidance includes language that a given disturbing activity will be "restricted or prohibited" (e.g. "surface disturbing/disruptive activity within 0.6 miles of a lek will be restricted or prohibited"). There is a big difference in the likely effectiveness of the measure depending on whether the activity in question is restricted or prohibited. The guidance also includes a goal that anthropogenic features in habitat outside of core areas be consolidated. While this is a welcome acknowledgement of the impact of such features, there is no specific requirement designed to meet this goal. Finally, the Wyoming BLM's guidance for protecting sage-grouse still relies on measures outside of core areas that have been demonstrated to be ineffective. For example, the ¼ mile buffer being applied to leks outside of core areas has been demonstrated to be ineffective and not based on any scientific research. Timing limitations alone do not provide adequate protection because they do not prevent the habitat in question from being harmed or destroyed outside of the season of the timing limitations.	

37	CNE: The BLM should carefully consider the best available science, including recently published research on greater sage-grouse, in determining whether or not to lease the area in question for energy development, and what protective measures to apply if the area is leased for development.	See response to comment #32.
38	CNE: The BLM should carefully consider the following facts in determining whether or not to lease occupied greater sage-grouse habitat for oil and gas development: - There is a scientific consensus that it is necessary to conserve large, intact, interconnected expanses of sagebrush habitat over long time frames in order to conserve sage-grouse. - Maintaining the current abundance and viability of populations will not be sufficient to prevent extinction over the long-term. It is essential that abundance and viability of populations be increased. - The current abundance and viability of populations cannot be maintained (much less increased) if activities that result in further loss, degradation and fragmentation of habitat continue. - Remaining habitat continues to be lost, fragmented and degraded by a variety of human activities and other factors, and these trends are likely to continue into the foreseeable future. - The cumulative measure of the human influence on the landscape may be more important than the impacts of individual projects in predicting lek abandonment and population decline, and BLM and FS have not assessed cumulative impacts at an appropriate scale and considered what conservation measures are necessary in occupied habitat given the results of such an assessment. The appropriate place for this assessment is an RMP amendment or revision.	See response to comment #32. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

	- Recent peer reviewed research on greater sage-grouse suggests that the most effective way to prevent substantial population declines in response to energy development is to set core habitat areas (including all seasonal habitat types) aside as a refuge from energy development. - Recent research on greater sage-grouse also suggests that it is necessary to limit the density of structures on the landscape, and the total amount of surface disturbance, in addition to prohibiting surface occupancy around leks and implementing seasonal timing limitations; in order to prevent significant declines in response to energy development. - In addition, research on greater sage-grouse suggests that placement of an oil and gas well within 3.9 miles of a lek results in significant impacts to leks and nesting habitat. - Declines in male greater sage-grouse lek attendance were reported within 3 km (1.9 mi) of a well or haul road with a traffic volume exceeding one vehicle per day (Holloran 2005, p. 40).	
39	CNE: The BLM doesn't summarize the recent science on impacts of energy development on sage-grouse in the EA, does not cite the relevant recent research in the EA, and clearly did not consider this substantial body of relevant and significant new information. As a result, the BLM's analysis of impacts and proposed lease stipulations and other mitigation measures are inconsistent with the best available science. This is also true of recent science on other relevant threats to greater sage-grouse discussed previously.	Most of the relevant recent research cited involves development. Development cannot be reasonably determined at the leasing stage and the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
40	CNE: The BLM has failed to adequately consider the cumulative effects of the threats discussed previously and the overall human footprint on greater sag-grouse habitat and sage-grouse populations at a landscape scale. See further discussion under section later in this comment letter.	See response to comment #39

41	CNE: The abundance of documents created to help protect the greater sage-grouse must be considered when finalizing this EA. The Colorado Division of Wildlife, the United States Fish and Wildlife Service, and the BLM have all published material recognizing the imperiled status of the greater sage-grouse and declaring that conservation minded actions are needed to ensure protection of this species. These mandates should be strongly considered by the BLM and fully incorporated into the final EA.	Currently the Field Offices in the Wind River/Bighorn Basin District are revising their RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action.
42	CNE: BLM has applied new standards for protecting greater sage-grouse from the impacts of energy development in Wyoming, based on the results of recent science on the impacts of oil and gas development on greater sage-grouse. It is our understanding that the following Wyoming BLM standards are now applied by BLM as the performance standard throughout sage-grouse range. BLM should be applying at least a 0.6 mile buffer in core areas. We would ask that this minimal buffer is applied to all parcels within core areas. These standards are the bare minimum standards that should be applied to protect greater sage-grouse from unavoidable adverse impacts of energy development, and are arguably still inadequate to prevent unavoidable adverse impacts.	The RMP process is the only way to set this type of mitigation including the size of the Sage-grouse lek buffers that can be used. Currently the Field Offices in the Wind River/Bighorn Basin District are revising their RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action.
43	CNE: The recent U.S. Fish and Wildlife Service finding regarding greater sage-grouse includes informative discussion of its status, threats, and the adequacy of the current management of greater sage-grouse on BLM and FS land (we hereby incorporate that document in our comments). Oil and gas development will be harmful to the species because it requires surface exploration, exploratory drilling, field development, and plant construction and operation. Once this species is listed critical habitat will be designated which will most likely include the area covered by these lease parcels. BLM should conference with FWS regarding the impacts of leasing this land on the greater sage-grouse. It would be irresponsible for BLM to approve such a project knowing that	Through the RMP processes, BLM consults with US Fish and Wildlife Service for discussion of Threatened and Endangered species as well as the Wyoming Game and Fish Department concerning sensitive species.

	it may diminish habitat that is essential for the survival of this species. BLM's special status species requires BLM to work to conserve and recover special status species and work to reduce the need for listing under the Endangered Species Act	
44	CNE: The BLM should carefully consider how the management guidance outlined above should be applied in this situation. We suggest that BLM avoid leasing occupied greater sage-grouse habitat for energy development until the following steps have been taken: 1) the agencies have completed priority habitat mapping for greater sage-grouse as outlined in the new IM, 2) the agencies have conducted a Land Use Plan amendment that considers how best to conserve sage-grouse on a landscape scale, and includes alternatives that maximize the conservation of sagebrush habitat and exclude energy development from priority greater sage-grouse habitat, and 3) the U.S. Fish and Wildlife Service has complied with their listing obligations for the greater sage-grouse.	The BLM is working on habitat mapping. The BLM considered deferring all parcels within Sage-grouse habitats. All parcels were analyzed through the Oil and Gas Leasing Screen for Greater Sage-grouse (IM WY-2010-013). Only parcels that fit all the screening criteria were deferred. Other parcels were also deferred for other reasons such as cultural issues and wilderness characteristics. Actions of the USFWS are beyond the scope of this document.
45	CNE: The BLM must consider a range of alternatives as part of the NEPA analysis of the proposed leasing. Federal regulations make clear that discussion of alternatives to the proposed action is "the heart" of the environmental impact statement. We do not feel that the alternatives that have been analyzed in the EA are sufficient to constitute full consideration of the impacts of the leasing and potential development, and adequate alternatives to adequately minimize and mitigate impacts. We ask that the NEPA analysis for this leasing consider a broader range of alternatives as previously described. It is very important that the range of alternatives allow the public to evaluate the trade-offs between the potential for development of energy resources in the area and impacts to greater sage-grouse and other sensitive resources, and evaluation of the broader range of alternatives outlined previously in this comment is necessary in order to adequately evaluate these trade-offs.	The BLM has analyzed a No Action Alternative, a Proposed Action Alternative consisting of deferring some parcels and offering for sale others and an Offer All Parcels for Sale Alternative. This range of alternatives is broad enough for the decision maker to make the informed decision they need. The BLM does not see any benefit to adding alternatives that call out specific resources since the Proposed Action Alternative defers those parcels with resources that may be impacted.

46	CNE: The BLM failed to adequately analyze potential direct, indirect and cumulative impacts of the proposed leasing on greater sage-grouse in the EA. The lease parcels have a significant area of overlap with occupied greater sage-grouse habitat, including leks, brood areas, production areas, winter habitat and severe winter habitat.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
47	CNE: In order to adequately analyze the environmental baseline and the direct, indirect and cumulative impacts of the proposed action in combination with other past, present and reasonably foreseeable actions, the BLM must take the following steps as part of NEPA analysis in an EIS:	Prior to lease offering, additional environmental review is conducted utilizing new information and data. This environmental analysis analyzes the effectiveness of a variety of mitigation measures, to be imposed as lease stipulations, to supplement the RMP's analysis and substantiate the RMP's Record of Decision.
48	CNE: 1) Delineate the appropriate spatial scales that must be considered for analysis of effects of management actions. BLM has failed to use appropriate spatial scales for its analysis of the direct effects of the proposed action….	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
49	CNE: This should be the analysis area for consideration of direct impacts of the proposed action on nesting habitat. BLM has failed to consider the impacts to nesting habitat at an appropriate spatial scale. This is because BLM failed to consider the relevant information contained in scientific literature regarding sage-grouse populations.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed. Relevant new information and research is currently being analyzed in the RMP amendments and revisions for the Greater Sage-grouse within the State.
50	CNE: Beyond the potential adverse impacts on nesting and brood-rearing habitat within 3-6.2 miles of leks, the most recent published scientific literature now makes clear that sage-grouse population persistence is directly influenced by landscape characteristics for distances up to 33.5 miles from a lek (Holloran and Anderson 2005, Walker et al. 2007, Johnson et al. 2009, Knick and Hanser 2009), and that landscape-scale effects also are significant in winter habitat selection by grouse (Doherty et al. 2008). There is no reasonable consideration by BLM of this larger spatial scale in their assessment of direct potential adverse impacts of the proposed action on the greater sage-grouse	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time or scale. At the time of APD an analysis of this resource 60 will be completed.

	population. In fact, there is no evidence in BLM's environmental analysis that the agency even recognizes the potential for adverse impacts of its actions at these larger spatial scales. This is because BLM failed to consider the relevant new information contained in recent scientific literature regarding sage-grouse populations. BLM must consider impacts at an appropriate spatial scale.	
51	CNE: 3) Correlate the amount of past habitat loss and fragmentation in the project area with known population trends and loss of historically active leks. Assess the degree to which past activities in the project area contributed to past population declines in this area.	Since development cannot be reasonably determined at the leasing stage, the impacts and especially cumulative impacts cannot be analyzed at this time. At the time of APD an analysis of this resource will be completed.
52	CNE: 4) Determine the number of greater sage-grouse that the project area supported historically. Determine the degree to which restoration activities could restore habitat in the project area, and the number of birds that could be supported if the habitat in the area was restored to its former condition.	Since development cannot be reasonably determined at the leasing stage, the impacts and restoration activities cannot be determined at this time. At the time of APD an analysis of this resource will be completed.
53	CNE: 5) determine the a) location, density and spatial distribution of surface facilities (e.g. powerlines, wells, etc.) that will be added to the project area as a consequence of the proposed action, b) the amount and spatial distribution of surface disturbance (e.g. roads, well pads etc.) that will result from the proposed action, and c) the amount of habitat that may be degraded or rendered unsuitable for sage-grouse as a consequence of indirect effects of proposed action (e.g. the amount of habitat likely to be invaded by noxious weeds, the amount of habitat that will be rendered unusable due to impacts of noise, the amount that will be avoided by sage-grouse due to proximity to new roads, well pads etc.). Using the best available science on the impacts of energy development on greater sage-grouse, predict how sage-grouse populations in the project area are likely to respond to this level of new infrastructure development and associated habitat loss, fragmentation and degradation.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

54	CNE: 6) determine the a) location, density and spatial distribution of surface facilities (e.g. power lines, wells, etc.) that will be added to the project area as a consequence of reasonably foreseeable future actions, b) the amount and spatial distribution of surface disturbance (e.g. roads, well pads etc.) that will result from reasonably foreseeable future actions, and c) the amount of habitat that may be degraded or rendered unsuitable for sage-grouse as a consequence of direct and indirect effects of reasonably foreseeable future actions (e.g. the amount of habitat that may be degraded by livestock grazing, vegetation treatments, etc., amount of habitat that will be rendered unsuitable by the indirect effects of infrastructure associated with other projects, including increased overgrazing of winter habitat by elk due to projects that reduce the total amount of winter habitat available, increase in predation, spread of noxious weeds, noise, avoidance of structures etc).	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
55	CNE: 7) determine the cumulative a) location, density and spatial distribution of surface facilities, b) the amount and spatial distribution of surface disturbance, and c) the amount of habitat that may be degraded or rendered unsuitable for sage-grouse as a consequence of direct and indirect effects; that will result from the combination of past, present and reasonably foreseeable future actions in the both within the project area and at a appropriate landscape scale (see previous discussion under step 1 above).	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
56	CNE: 8) Assess the potential impacts to sage-grouse at multiple spatial scales that are appropriate for understanding impacts, particularly whether cumulative impacts will exceed thresholds of tolerance for sage-grouse. Use the above information to determine the a) location, density and spatial distribution of surface facilities, b) the amount and spatial distribution of surface disturbance, and c) the amount of habitat that may be degraded or rendered unsuitable at the following spatial scales:	The RMP process is the only way to set this type of mitigation including the size of the Sage-grouse lek buffers that can be used. Currently the Wind River/Bighorn Basin District is revising the Bighorn Basin and Lander RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action.

	- within 2 miles of each active, inactive and unknown lek within this project area - within 4 miles of each active, inactive and unknown lek in the project area - within 5.3 miles of each active, inactive and unknown lek in the project area - within 6.2 miles of each active, inactive and unknown lek in the project area - within each 640 acre block of land within the project area - within 33.5 miles of the project boundary.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
57	CNE: In addition, determine the a) location, density and spatial distribution of surface facilities, b) the amount and spatial distribution of surface disturbance, and c) the amount of habitat that may be degraded or rendered unsuitable with each of the seasonal habitat types in the project area and at an appropriate landscape scale; including brood areas, production areas, winter habitat and severe winter habitat.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
58	CNE: 9) Analyze whether mitigation measures proposed under each alternative are effective to mitigate the above impacts to insignificance. Consider whether the above information combined with the best available science (cite to section) suggests that different mitigation measures (e.g. a larger than 0.6 mi NSO/NGD buffer around leks, a cap on cumulative surface disturbance and density of structures, etc.), might more effectively minimize and mitigate impacts. Disclose unavoidable adverse impacts.	See Proposed Action and Alternatives section of the EA for a discussion of how stipulations are applied in the document. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

59	CNE: The cumulative effects analysis should include thorough analysis of the threats previously discussed in this comment, and cumulative impacts should be assessed in the context of the existing human footprint within greater sage-grouse habitat. Human-footprint models provide a spatial representation of human land uses and delineate both physical and ecological effects (Leu et al. 2008). The physical human footprint is the land surface occupied by anthropogenic features (e.g., agricultural lands, highways, power-line corridors, etc.). The ecological human footprint occurs where the physical human footprint influences ecological processes beyond its physical location. Leu and Hanser (2009) assessed the intensity of the human footprint across the ranges of the greater sage-grouse. The BLM must consider the impacts of the increase in the human footprint that will result from implementation of the proposed action as part of its cumulative effects analysis. In addition, BLM should use readily available GIS data on the extent of the human footprint in its assessment of the current baseline status of greater sage-grouse habitat. This is essential to adequate analysis of cumulative effects.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
60	CNE: Analysis must also be conducted that considers the projects that have previously been approved in and around the project area. The Given the information outlined previously on threats to greater sage-grouse and the importance of understanding cumulative impacts, the BLM should clearly quantify the cumulative impacts that the proposed action and other past, present and reasonably foreseeable activities will have on the both the greater sage-grouse population. In assessing cumulative impacts, the BLM should clearly consider whether the project is consistent with BLM's stated goal of maintaining and increasing greater sage-grouse populations.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

61	CNE: This analysis cannot be deferred till later stages in the process because it is essential to determining whether or not it is appropriate to lease the parcels, and if so, what stipulations must be applied to the lease to mitigate impacts to insignificance. This sage-grouse habitat has already been degraded through both BLM approved activity and activity on private land. However, the EA does not adequately analyze the cumulative impacts of these past, present and reasonably foreseeable future activities.	Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
62	CNE: The NEPA analysis should include a thorough description and analysis of the likely effectiveness of any proposed mitigation measures at mitigating impacts to greater sage-grouse. The BLM must evaluate the effectiveness of the mitigation measures used in leasing with the best available science. "The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1(b) (2009). "For this reason, agencies are under an affirmative mandate to 'insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements[,] identify any methodologies used and . . . make explicit reference by footnote to the scientific and other sources relied upon for conclusions[.]'" Envtl. Def. v. U.S. Army Corps of Eng'rs, 515 F. Supp. 2d 69, 78 (D.D.C. 2007) (citing 40 C.F.R. § 1502.24 (2009)). This analysis should take into account the best available science on the impacts of energy development on greater sage-grouse, as well as the best available science on the status of and threats to greater sage-grouse. The NEPA analysis must acknowledge that the best available science suggests that the mitigation measures proposed in the EA will not prevent unavoidable adverse impacts to greater sage-grouse.	See Proposed Action and Alternatives section of the EA for a discussion of how stipulations are applied in the document. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

63	CNE: The NEPA analysis should include a thorough description and analysis of the likely effectiveness of any proposed mitigation measures at mitigating impacts to greater sage-grouse. This analysis should take into account the best available science on the impacts of energy development on greater sage-grouse, as well as the best available science on the status of and threats to greater sage-grouse. The NEPA analysis must acknowledge that the best available science suggests that the mitigation measures proposed in the EA will not prevent unavoidable adverse impacts to greater sage-grouse.	See Proposed Action and Alternatives section of the EA for a discussion of how stipulations are applied in the document. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.
64	CNE: The proposed action in the EA calls for a 0.25 mile No Surface Occupancy (NSO) buffer around active leks (Exhibit G-9 of EA). A 0.25 mile buffer will not provide sufficient protection for the greater sage-grouse. As outlined previously in this comment, it has been shown that sage-grouse are negatively affected by disturbances up to 4 miles from the lek. The 0.25 mile buffer will allow activity too close in proximity to leks and will cause adverse impacts to breeding and nesting. Sage-grouse exhibit strong site fidelity to seasonal habitats, which include breeding, nesting, brood rearing, and wintering areas, even when the area is no longer of value. The NSO stipulation focuses on only leks and disregards the other seasonal habitats necessary for a healthy sage-grouse population. To ensure that nesting areas are also protected from disturbances resulting from this project the NSO buffer must be larger than 0.25 miles. We would request that the BLM analyze larger buffers to determine the feasibility of this leasing when considering the needs of the sage-grouse. BLM must also consider providing adequate protection to other seasonal habitat types.	The RMP process is the only way to set this type of mitigation including the size of the Sage-grouse lek buffers and NSO that can be used. Currently the Wind River/Bighorn Basin District is revising the Bighorn Basin and Lander RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

65	CNE: This NSO stipulation contains Exception, Modification, and Waiver Criteria that would allow for surface occupancy within this 0.25 mile buffer. These criteria all focus solely on protection of the lek and disregard the other essential habitat within the affected area. NSO stipulations should not contain exception, modification, and waiver criteria. The current exception, modification and waiver criteria will render BLM's the NSO stipulation ineffective and makes BLM's conclusion that this stipulation will mitigate impacts to insignificance arbitrary and capricious.	Stipulations for Oil and Gas Leasing are developed at the RMP stage. These stipulations cannot be changed unless done at that level through a Plan amendment or revision. Currently the Wyoming BLM is amending six RMPs throughout the state and this amendment is analyzing and developing lease stipulations for the Greater Sage-grouse. The other four plans are all going through RMP revisions that will address this issue.
66	CNE: Timing limitations should be implemented to protect important greater sage-grouse habitat during all time of the year. The stipulations in the EA only protect habitat from March 15 to July 15 to protect lekking grounds. However the EA fails to consider protections for other habitat at other times of the year. Winter habitat, nesting habitat, brood rearing habitat, and other essential habitat should also be protected during the pertinent times of the year.	The RMP process is the only way to set this type of mitigation including the size of the Sage-grouse lek buffers and NSO that can be used. Currently the Wind River/Bighorn Basin District is revising the Bighorn Basin and Lander RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action.
67	CNE: For the reasons outlined above, we ask that the BLM avoid leasing and development of occupied greater sage-grouse habitat, including mapped leks (including active, inactive and unknown leks), lands within 4 miles of leks, production habitat, brood rearing habitat, winter habitat, and severe winter habitat, and any other area known to be used by greater sage-grouse. Energy development within greater sage-grouse habitat is likely to have unacceptable impacts to greater sage-grouse. At a minimum, the proposed leasing should be deferred until the BLM has considered whether occupied greater sage-grouse habitat should be managed as a reserve and set aside from energy development through land use plan revisions, and until the U.S. Fish and Wildlife Service has the resources to fulfill their listing obligations and designate critical habitat for the species. This is necessary in light of recent peer-reviewed scientific	The RMP process is the only way to set this type of mitigation including the size of the Sage-grouse lek buffers and NSO that can be used. Currently the Wind River/Bighorn Basin District is revising the Bighorn Basin and Lander RMPs. These projects are considering all current information for the Greater Sage-grouse. Parcels which were found to be in conflict with alternatives within either of the Bighorn Basin RMP or Lander RMP were deferred in Alternative B - the Proposed Action. Since development cannot be reasonably determined at the leasing stage, the impacts cannot realistically be analyzed at this time. At the time of APD an analysis of this resource will be completed.

	studies addressing the impacts of energy development and other human activities on sage-grouse, increasing authorization of renewable energy development on public lands, the small numbers and continuing decline of greater sage-grouse, the scientific consensus that it is necessary to conserve large, intact, interconnected expanses of sagebrush habitat in order to conserve sage-grouse, and new management guidance.	
68	Biodiversity Conservation Alliance, et al (BCA): BLM should consider deferring leasing in the Bighorn Basin due to the active RMP revision currently underway pursuant to IM 2004-110 Change 1.	See comment response #1.
69	BCA: Parcels 82 and 83 fall within the Cedar Mountain South proposed addition to the Cedar Mountain WSA. We recommend these parcels be deferred pending RMP revision.	See comment response #4.
70	BCA: Parcel 60 appears to intersect with the Honeycomb South CP citizens' proposed expansion of The Honeycombs WSA. These parcels, or at least portions of these parcels that intersect with this citizens' proposed wilderness unit, should be removed from the lease sale pending analysis and consideration for "Wild Land" status under the RMP.	Guidance from SO 3310, wilderness characteristics, directs the BLM that the analysis does not create a setback or buffer from the physical edge of the imprint of man. Therefore, any parcel screened for wilderness characteristics whereby a portion of a parcel falls with an area with wilderness characteristics, that parcels was recommended to be partially deferred in accordance with guidance. The only parcels that were partially deferred were a result of wilderness characteristics screening and review. As analyzed in alternative 2 – parcel -060 was recommended for partial deferral based on Lands with Wilderness Characteristics.
71	BCA: Parcels 79 and 86 also appear to occur on lands with wilderness character according to BLM's inventory. These parcels, or at least portions of these parcels that intersect with this citizens' proposed wilderness unit, should be removed from the lease sale pending analysis and consideration for "Wild Land" status under the RMP.	Parcels were adequately screened for wilderness characteristics using criterion provided in Secretarial Order 3310. Any proposed parcels that were identified to be wholly or partially in areas that may contain wilderness characteristics and are being analyzed in the development of the Bighorn Basing RMP were properly recommended to be wholly or partially deferred from the August 2011 lease sale. As analyzed in alternative 2 – parcel -079 and 086 were recommended for partial deferral based on Lands with Wilderness Characteristics.

72	BCA: The impacts to wilderness-quality lands has not been analyzed thoroughly, either in the EA, or in RMP level NEPA documents thus far. Leasing these parcels without No Surface Occupancy (NSO) stipulations could irretrievably destroy the wilderness character of these areas. Therefore, BLM will violate NEPA if these lands are leased in this sale.	Any proposed parcels that were identified to be wholly or partially in areas that may contain wilderness characteristics and are being analyzed in the development of the Bighorn Basing RMP were properly recommended to be wholly or partially deferred from the August 2011 lease sale.
73	BCA: It is imperative that these parcels be withdrawn from the lease sale until such time as BLM has met its legal obligation under FLPMA to re-evaluate these lands for potential inclusion as "Wild Lands." At the very least, BLM should consider a "no action" alternative before selling these leases.	Parcels were adequately screened in accordance with Secretarial Order 3310.
74	BCA: IM 2004-110 Change 1 requires BLM to "evaluate the application of BMPs when taking leasing actions." (See also WO IM 2004-194.) The Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA) prepared by the Field Offices where these parcels are located give no indication there was any evaluation of applying BMPs to the CWP and WSA parcels in order to protect their values. Because neither the DNAs nor the underlying Resource Management Plans (RMPs) evaluated the application of BMPs to these parcels, IM 2004-110 Change 1 (Change IM) was violated.	A Determination of NEPA Adequacy (DNAs) was not written for the August 2011 parcel review. The parcels were reviewed in the Environmental Assessment provided to the public for a 30 day comment period. All stipulations attached to the parcels were based on and supported by the current land use plans.
75	BCA: Additionally, there is no question that BLM has ongoing authority and responsibility to consider the wilderness values of an area, especially where an area has been proposed for wilderness consideration by private citizens. BLMs failure to evaluate BMPs as a way to protect these values violated IM 2004-110 Change 1 and IM 2003-275.	Parcels were adequately screened for wilderness characteristics using criterion provided in Secretarial Order 3310. Any proposed parcels that were identified to be wholly or partially in areas that may contain wilderness characteristics and are being analyzed in the development of the Bighorn Basing RMP were properly recommended to be wholly or partially deferred from the August 2011 lease sale.
76	BCA: The Worland FO should take the hard look at a no-leasing alternative for these parcels and give adequate consideration to the wilderness values and characteristics of the parcels. The parcels should be withdrawn from the sale.	Alternative 3, The No Action Alternative, was evaluated in the document which considered deferring all of the proposed parcels.

77	BCA: Parcels 53, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 69, 70, 71, 72, 73, 74, 78, 79, and 82 are in sage grouse Core Areas according to our maps (note that this differs from the disclosure in BLM's EA, see at 21, and we would like to understand why BLM came up with a different list that we did). It is very clear given the large, blocked-up nature of the proposed leases that this area has few if any oil and gas leases currently in effect which will not soon expire. Under IM WY-2010-013, lands falling within sage grouse Core Areas that are primarily under BLM ownership and are not extensively leased should not be offered for oil and gas leasing.	In accordance with guidance issued under WY-IM-2010-013, evaluation of the parcels were reviewed as to whether the parcel is wholly or partially inside a Core Area, is within suitable habitat for sage grouse, is part of at least eleven square miles of contiguous, manageable, unleased Federal minerals, and is there any potential oil and gas drainage issues. All of these evaluation criterions were given a hard look by the IDT and were field verified since all proposed parcels were site visited with appropriate staff specialists.
78	BCA: We request that all parcels listed above be deferred from the lease sale pending analysis of whether large-block unleased parcels inside Core Areas are being leased, and pending pre-leasing NEPA pursuant to the 2010 Interior Department leasing IM.	All parcels were adequately screened for leasing in accordance with IM WY-2010-013 and were adequately described in the EA. See response to comment #77.
79	BCA: BLM should not issue these sage grouse parcels unless a rigorous set of stipulations, far stronger than those provided in the EA, are applied to the parcels. This should include, at minimum: 2 mile NSO buffers surrounding leks; 3 mile TLS stipulation surrounding leks during the breeding and nesting season prohibiting not just construction and drilling activities but also production related vehicle traffic and human presence; and no overhead power lines within 5 miles of leks.	See response to comment #77.
80	BCA: The vague stipulations included in BLM's Notice of Competitive Oil and Gas Lease Sale for particular parcels do little to clarify to the interested public or potential lessees what restrictions might actually apply to protect sage-grouse populations. Without site-specific review and opportunity for comment, neither the public nor potential lessees can clearly gauge how restrictive or lax "acceptable plans for mitigation" might be, and whether they comply with federal laws, regulation, and agency guidelines and policies. The, absent such review, the leases should not issue at all.	Appropriate stipulations have been applied to the parcels thru additional analysis and presented in Chapter 4.

81	BCA: BCA recommends against the sale of any lease parcels which contain sage-grouse leks, nesting habitat, breeding habitat, wintering habitat and brood rearing habitat. We request that these parcels be withdrawn from the lease sale.	Recommendation to sale or defer parcels is in compliance with guidance found in IM WY-2010-013.
82	BCA: Parcels 56, 57, 58, 59, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 80, 83, 90, appear to involve antelope crucial winter range. In addition, Parcels 57, 59, 60, 61, 62, 63, 64, 65, 67, 68, 69, 72, 84, 85, 86, 87, 88, are mule deer crucial winter range. Given that an RMP revision is underway. It would be prudent for BLM not to commit these lands for a 10 year period during which the leaseholders would possess some right to explore and produce oil and gas on their leaseholds. Committing these lands to leasing forecloses the option that the BLM could exercise to designate big game crucial winter ranges for no new leasing or No Surface Occupancy. It therefore restricts the range of reasonable alternative that the BLM could choose from in the RMP revision. A comprehensive analysis of the level co crucial winter range conservation necessary to maintain herd populations at or above targets needs to be undertaken in the context of the RMP revisions.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
83	BCA: The Parties recommend against selling the lease parcels listed above because BLM has again failed to comply with the Memorandum of Understanding between the BLM and WGFD and therefore has not provided a rational basis for its decision to offer lease parcels in areas with big game crucial winter range and parturition areas. Until such time as BLM complies with the MOU it has no rational basis for its decision and the decision is arbitrary and capricious. We request that the parcels be withdrawn from the April 2009 lease sale.	The EA was written to address the August 2011 lease sale and not the April 2009 lease sale.

84	BCA: While BCA strongly recommends against the offering of any of these lease parcels for sale, at the minimum, all such parcels in big game crucial winter range and parturition areas should have No Surface Occupancy (NSO) stipulation applied to them.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
85	BCA: A further noteworthy factor is that timing limitations apply only during oil and gas development, not during the production phase. Once production begins, there are no stipulations in place for the protection of big game. It is therefore imperative that stipulation adequate to protect big game be applied at the leasing stage, not the APD stage.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
86	BCA: The parties also recommend against the sale of the Crucial Winter Range Parcels on the basis that their sale would cause unnecessary or undue degradation of public lands.	Wildlife crucial winter range is addressed in the governing resource management plans, as well as subsequent EAs. This EA did not come to any findings that would dispute the current RMP decisions nor compel the agency to postpone taking implementation actions, such as issuance of leases, for ongoing RMP revisions.
87	BCA: Portions of Parcels 89 and 90 fall within a large white-tailed prairie dog colony, and also contain nesting and/or foraging habitat for mountain plover, burrowing owl ferruginous hawk, and golden eagle. Due to the multitude of sensitive habitats in these two parcels, we recommend deferral until the new RMP can establish the most up-to-date habitat protections, to be applied in the form of lease stipulations. To move forward with leasing of these two parcels would unduly restrict the range of alternative management prescriptions available to BLM in the RMP process.	Stipulations have been applied to the parcels thru additional analysis and presented in Chapter 4.