2.0 ALTERNATIVES

One of the goals of the Draft Resource Management Plan Amendment/Environmental Assessment (Draft RMPA/EA) process is to ensure a consistent, coordinated approach to land management in accordance with all regulatory guidance and standards. Management goals and objectives are described for each resource, resource use, and special designation area. Major themes and management actions for the most important issues addressed by the three alternatives are presented in the following sections. All management actions that comprise the alternatives are summarized in Table 2-1 and listed in detail in Table 2-2.

In contrast to Alternative I, the No Action Alternative, Alternatives II and III are referred to as the action alternatives. Some management actions would be the same under all alternatives.

2.1 Alternative Development

The development of the alternatives for the Fortification Creek Planning Area (FCPA) included a public scoping process that allowed interested members of the public, special interest groups, and resource and land use agencies to comment on the appropriate scope of issues to consider in the planning process. The formal scoping period began on August 20, 2007 with the publication of the Notice of Intent (NOI) to Prepare a Resource Management Plan Amendment/ Environmental Assessment in the Federal Register (FR). Written comments on the proposal for the RMPA/EA were accepted through November 30, 2007. Bureau of Land Management (BLM) staff and cooperators reviewed the issues identified during scoping and collected pertinent resource information for the FCPA. This resource information is summarized in the Analysis of the Management Situation (AMS) (BLM 2008a).

Scoping issues described in Chapter 1, along with all appropriate laws, guidance, and standards, were used to establish management goals and objectives. A reasonable range of management actions (alternatives) were created to address these goals and objectives. In developing and refining alternatives, BLM sought to accomplish two objectives: (1) create a reasonable range of implementable alternatives, in accordance with National Environmental Policy Act (NEPA) and Federal Land Policy and Management Act (FLPMA) guidance; and (2) comply with applicable Federal, State, and local laws and regulations.

2.2 General Description of Each Alternative

Under NEPA, for an alternative to be considered reasonable, it should meet the purpose and need statement (as outlined in Chapter 1). For this RMPA/EA, two action alternatives were identified in addition to the No Action Alternative. Given the purpose and need of the RMPA, both action alternatives would change BLM's management of coal bed natural gas (CBNG) development within the overall goal of protecting the elk herd, preserving visual resources, and minimizing soil erosion and impacts to water quality.

Under the No Action Alternative, BLM would manage the FCPA according to existing planning decisions. Alternatives II and III provide modest changes to existing management.

Table 2-1 Summary of Alternatives			
Resource/Issue	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
Soils	Surface-disturbing activities may be controlled or excluded on areas of highly erosive soils and/or slopes greater than or equal to 25 percent.	Surface disturbance will not be allowed on areas of highly erosive soils and/or slopes of 25 percent or more.	Surface-disturbing activities may be authorized on areas of highly erosive soils and/or slopes greater than or equal to 25 percent with an acceptable disturbance and reclamation plan.
Water Management Facilities	Not restricted by elk range.	Reservoirs and water management facilities would be located outside crucial winter and parturition ranges.	Reservoirs and water management facilities would be located to meet performance-based objectives.
Water Discharge	Discharge to drainages permissible, no subsequent monitoring and mitigation of downstream effects.	Surface disturbing activities to support surface water discharge would not be authorized.	Activities permitted by the State of Wyoming would be authorized.
Water Sources (stock tanks)	Replacement of impacted domestic wells.	Summer water sources provided with CBNG projects if current sources become unavailable because of CBNG development.	Summer water sources provided with CBNG projects if current sources become unavailable because of CBNG development.
CBNG Development	Pace not restricted.	Tri-phased development by geographical area. One year of successful interim reclamation before proceeding to next area.	Performance-based development by geographical area with a “bolt-on” approach. In compliance with performance standards before proceeding to the next area.
Crucial Winter Range	Timing Limitations (TLs) for surface-disturbing and disruptive activities from November 15 through April 30.	TLs for surface-disturbing and disruptive activities from November 15 through April 30.	TLs for surface-disturbing and disruptive activities from November 15 through April 30.
Parturition Range	TLs for surface-disturbing and disruptive activities from May 1 through June 30.	TLs for surface-disturbing and disruptive activities from May 1 through June 30.	TLs for surface-disturbing and disruptive activities from May 1 through June 30.
Well Metering and Visitation	Metering and visitation not restricted.	A work activity management plan, including operations and maintenance, acceptable to BLM will be developed	Well metering and all POD visitations would meet performance-based elk standards.

Table 2-1 Summary of Alternatives			
Resource/Issue	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
		during Plan of Development (POD) processing.	
Compressors	Compression facility locations not restricted in elk ranges.	Compression facilities within crucial winter and parturition ranges would be restricted.	Compression facilities would be located to meet performance-based elk and reclamation objectives.
Security Habitat and Road Density	No security habitat or road density standards.	All security habitat would be retained in the overlapping crucial ranges, 75% of elk security habitat would be retained in the non-overlapping crucial ranges and 50% in the yearlong range.	80% of elk security habitat would be retained within the yearlong range.
Overhead Power	Overhead power lines are prohibited on BLM surface within FCPA.	Overhead power lines on BLM surface along drainages and existing corridors and roads.	Overhead power lines on BLM surface along road corridors.
ACEC	An ACEC would not be designated.	Evaluate and establish if warranted, an ACEC (33,757 acres) based on the citizen proposed boundaries (Figure 1-2) management prescriptions are as identified under the individual resource sections for this alternative.	An ACEC (33,757 acres) in the FCPA based on the citizen proposed boundaries (Figure 1-2) would not be designated.
Wildlife Habitat Management Area (WHMA)	No WHMA designation.	Designate a WHMA – elk crucial winter and parturition ranges.	A WHMA would not be designated.

In general, Alternative II would require additional restrictions on development in the FCPA. It would allow overhead power lines, restrict development, establish an Area of Critical Environmental Concern (ACEC) within portions of the FCPA, and designate a Wildlife Management Habitat Area (WHMA). There would be Timing Limitations (TLs) to protect crucial elk ranges, and maintain the prohibition of surface disturbance on steep slopes and erosive soil. Alternative III would be performance-based and allow gas development as long as developers could show that their actions would not cause undue or unnecessary degradation to the environment. TLs would be imposed on development to protect crucial elk ranges. This alternative would allow some overhead power lines; however, 80 percent of elk security habitat would be retained. This section summarizes the three alternatives analyzed in detail.

2.2.1. Alternative I, No Action

Alternative I represents the No Action Alternative required under NEPA and the Council on Environmental Quality (CEQ) regulations. Under this alternative, current management direction would be used to consider CBNG development within the FCPA and this direction was approved in the 1985 Buffalo Resource Area (BRA) Resource Management Plan (RMP) (BLM 1985a), its amendments (BLM 2001a), and the Powder River Basin Oil and Gas Final Environmental Impact Statement (PRB O&G FEIS; BLM 2003a).

There would be TLs for surface-disturbing and disruptive activities for elk crucial winter and parturition ranges. Overhead power lines would be prohibited on BLM surface land in the FCPA. Surface-disturbing activities on slopes greater than 25 percent and on erosive soils would not be allowed, but there could be exceptions. Other standard stipulations would apply.

2.2.2. Alternative II, Prescriptive

Under Alternative II, CBNG development would be managed through a geographically-phased approach. Industry has submitted PODs to the BLM but they have not been included in this analysis. Each phase of development would last three years and would be followed by one year of successful reclamation before proceeding to the next area. This could include livestock grazing restrictions. There would be TLs for the elk crucial winter and parturition ranges applied to surface-disturbing and disruptive activities. Development within elk ranges would be restricted to achieve Wyoming Game and Fish Department (WGFD) goals. Overhead power lines would be allowed on BLM surface land within existing road corridors and along drainages. Development would not be allowed on highly erosive soil or slopes greater than 25 percent. Along with the CBNG and elk management actions, a citizen proposed ACEC of 33,757 acres would be established and ACEC management prescriptions would be identified.

2.2.3. Alternative III, Performance Based

Alternative III calls for performance-based, geographically-phased CBNG development, using a “bolt-on” approach. Industry has submitted PODs to the BLM but they have not been included in this analysis. CBNG development will generally follow the three geographic phases of Alternative II, but any deviations must meet performance standards. Operators will supply a comprehensive development plan for each phase detailing where development is proposed each year within each geographic area.

Performance measures were developed and are included as Appendix B. Overhead power lines would be allowed on BLM surface land within road corridors. Eighty percent of the elk security habitat would be retained. Surface-disturbing activities on slopes greater than 25 percent and on

erosive soils would not be allowed, but there could be exceptions. Exceptions could be granted if the operator proposed an acceptable disturbance and reclamation plan. Neither an ACEC nor a WHMA would be established

2.2.4. Detailed Description of Alternatives

All three alternatives are described in detail in Table 2-2.

2.3 Alternatives Considered but Not Analyzed in Detail

Some issues raised during the scoping process were considered, but not carried forward for further analysis. As discussed throughout the Scoping Report (Appendix C; BLM 2008c), these issues were generally resolved by evaluating whether they met the purpose and need of the plan. These issues are briefly discussed below.

Expanding the Boundary of the WSA

BLM did not recommend the WSA for wilderness in the 1985 RMP because of the area's oil and gas potential, so it would not make sense to expand a non-recommended WSA. It is against current BLM policy to consider expansion of WSAs; this would need to be resolved through policy or administrative actions. As noted in the FR NOI and at all public scoping meetings, BLM stated that all existing rights would be preserved. This included the lease rights that had been granted when the minerals were leased. This issue did not meet the purpose and need of the plan.

Providing Public Access into the WSA

BLM did not consider public access in the RMPA/EA because the WSA is surrounded by private land. Changing land ownership around the WSA does not address the purpose and need of the plan. The purpose of this RMPA/EA is not to change land use allocations but to clarify management decisions to allow for orderly mineral development without causing undue or unnecessary damage to the public lands.

Wilderness Characteristics

An alternative managing for the preservation of wilderness characteristics outside the WSA was not included because with the exception of the WSA, no other public lands within the FCPA possess wilderness characteristics. The boundary of the WSA is determined by private lands and road ways (WWA 2004). BLM inventoried 33,280 acres within the Fortification Creek Unit (WY-060-24) in 1978 (BLM 1978) and re-inventoried 28,100 acres in 1979 (BLM 1979). The 1979 inventory identified additional roads and intrusions not discovered in the initial inventory, concluded that 12,149 acres possessed sufficient wilderness characteristics to warrant further study, and recommended the 12,149-acre portion to be approved as a WSA (BLM 1979). BLM has managed the WSA to preserve its wilderness characteristics. The remainder of the unit has been managed for multiple uses including mineral development. The BLM has received citizen proposals to expand the WSA in 1994 and 2004 (WWA 2004). The citizen proposal is to expand the WSA by including continuous public surface to the southeast and to the west of the WSA.

A road inventory was conducted in September 2010 in preparation of this RMPA/EA (BLM 2010 unpublished report). The road inventory indicates that the areas determined not to possess wilderness characteristics in 1979 do not possess wilderness characteristics today. Most of the roads in the Fortification Creek area were constructed for conventional oil and gas exploration

during the 1970s. Many continue to be used for livestock management, hunting, and fluid mineral activities.

A road along lower Bull Creek extending to the Little Bull Creek fork (T52N, R76W, Section 12, 13, and 19) has been upgraded to accommodate CBNG activity including seven existing wells and four unauthorized applications to drill (APDs) (Wyoming Oil and Gas Conservation Commission [WOGCC] March 15 data, 2010a). Most of the road and wells are located on private surface. There is a cabin and CBNG monitoring wells on public surface in T52N, R77W, Section 12. The Bull Creek Road continues upstream until Bull Creek enters the WSA (T52N, R76W, Section 20); the road turns south and forms approximately 3.25 miles of the southwestern WSA boundary before connecting with the Fortification Creek Road (T51N, R76W, Section 5). This is a constructed road consistently used for livestock management. There are several salt blocks along the road, a windmill powered stock well (T52N, R76W, Section 19), and a solar powered stock well (T52N, R76W, Section 20). There are also flags and well stakes, evidence of CBNG surveying. The Bull Creek Road divides the citizen wilderness proposal from the WSA with the remaining portion of the citizen proposal comprising approximately 4,300 acres.

A constructed road leaves the Bull Creek Road (T52N, R77W, Section 12) heading south past an abandoned stock water reservoir (T52N, R77W, Section 13). The constructed dam apparently failed. Although there were stakes from CBNG surveying, this section of road has not been maintained and appears to be seldom used. The navigable portion of the road ends in southern T52N, R77W, Section 13 at a landslide. The constructed road continues south, turns west, and connects with a well-used road running north and south through T52N, R77W, Section 14. This road is within the 4,300 acre parcel discussed in the previous paragraph.

Another constructed road with regular and consistent use for livestock management and big-game hunting, and proposed for CBNG development, extends north from Fortification Creek (T51N, R76W, Section 15) forming the WSA boundary in places and terminating at the headwaters of Deer Creek (T52N, R76W, Section 23), also the WSA boundary. This road divides the southeastern portion of the citizen wilderness proposal from the WSA with the remaining portion of the citizen proposal comprising approximately 1,700 acres.

Federal mineral leases have been issued throughout the FCPA outside the WSA including within the citizen wilderness proposal area. CBNG companies have been in the field in recent years actively preparing their APDs. Most non-Federal mineral acreage has ongoing CBNG activity. Lands and resources outside the WSA do not exhibit a high degree of naturalness. There is no opportunity for solitude or primitive unconfined recreation outside of the WSA. Unroaded areas, dissected from the WSA, are of insufficient size for wilderness consideration.

Finally, with the exception of solitude, which is not present outside the WSA, the resources the citizen's proposal is designed to protect (wildlife, vegetation, and hunting) are analyzed across a reasonable range of alternatives within this RMPA/EA.

<u>Canceling or Exchanging Leases in Crucial and Parturition Elk Ranges</u>

As noted in the NOI and throughout the public scoping process meetings, BLM affirmed that all existing rights would be preserved. This included the lease rights that had been granted when the minerals were leased. The purpose of this RMPA/EA is not to change land use allocations but to clarify the management decisions to allow for orderly mineral development. BLM believes that CBNG development can occur without causing undue or unnecessary damage to the public lands

and therefore it is not necessary to cancel the leases. This issue did not meet the purpose and need of the plan.

Requiring Directional Drilling

BLM did not include directional drilling in the alternatives because this is a drilling technique and BLM would evaluate drilling techniques in the site-specific POD. The management decisions being evaluated would still apply to directional drilling, (i.e., soil and slope limitations, elk security habitat/road density thresholds, etc.). Additionally, BLM is not anticipating that directional drilling will be used in the FCPA because this drilling technique has not been proven in the PRB coal beds because it is difficult to maintain well bore integrity in the soft coals.

Citizen Proposal

An alternative was presented to BLM by the Powder River Basin Resource Council in a letter dated October 23, 2009. This alternative called for a number of actions including:

- Burying power lines;
- Using reclamation success as the only criteria for moving to the next phase of development;
- Expanding the planning area to the full yearlong range;
- Expanding the WSA and designating an expanded ACEC;
- Restricting well visitation;
- Adaptive management to protect the elk;
- Locating water management facilities outside the yearlong range;
- Providing year-round water sources for elk; and
- Prohibiting direct produced water discharge.

This alternative was not analyzed in its entirety for several reasons. Foremost, the proposed actions are included in some form within the alternatives being fully analyzed or are beyond the scope of this RMPA. Proposed actions were not included in this RMPA/EA because:

- Power lines are considered to be essential for CBNG development. The current RMP decision does not allow for overhead power lines on BLM surface; thereby, placing an unfair burden on the non-Federal surface owners. Burying power lines often results in more surface disturbance than overhead power lines.
- Reclamation criteria have been included within the action alternatives.
- The FCPA was established in the 1975 framework plan. Many of the RMP-level decisions being evaluated are tied to the planning area boundary. This, therefore, became the planning area boundary used during scoping and only the planning area that has been used in scoping can be used in the RMPA. The entire yearlong range will be further evaluated in the BFO RMP revision.
- The WSA can only be expanded by an Act of Congress. An expanded ACEC will not be evaluated because the relevance and importance evaluation did not include the expanded area.

- Well visitation is addressed within the action alternatives. To meet the purpose and need, a reasonable amount of visitation is necessary.
- Adaptive management based on performance measures is the foundation of Alternative III.
- Location of water management facilities is addressed within the action alternatives. However, an alternative requiring placement of water management facilities outside the elk yearlong range was not considered because 80 percent of the surface outside the yearlong range is private and this would place an unfair burden on private landowners.
- Water availability is an issue only during the summer (not year-round), and the action alternatives address summer water sources.
- BLM cannot prohibit produced water discharge. Wyoming Department of Environmental Quality (WDEQ) has the authority over this action.

2.4 Alternative Comparison

This section summarizes the three alternatives, which are analyzed in detail in Chapter 4. These alternatives were developed to analyze management goals and objectives within a reasonable range of management actions, and to assist decision makers and the public in understanding the potential consequences and benefits of alternative scenarios. Considerations in the formulation of the alternatives include the following:

- The alternatives are intended to represent a reasonable range of alternatives with an associated array of management actions;
- The alternatives are consistent with the purpose and need for the RMPA/EA;
- No alternatives were analyzed that would clearly conflict with existing laws or regulations; and
- CBNG development is consistent with FLPMA.

Not all management actions described under each alternative would specifically be permitted by adoption of that alternative through the planning process. For example, although CBNG development would be allowed under all alternatives, actual development would occur only after proposed well locations, road and pipeline alignments, and other facility plans have gone through permitting and review, including site-specific NEPA analysis. Furthermore, while the assumptions associated with the alternatives represent reasonable projections of what could occur, it is impossible to predict with certainty the precise outcome of any of the alternatives because of the large number of variables involved. Impacts from actual development may differ from the scenarios presented.

Under all of the alternatives, any action or development must be consistent with applicable Federal, State, and local laws and regulations. Nothing presented in the following impact analysis of the alternatives should be construed as exempting activities from applicable legal or regulatory requirements.

The management actions for each of the alternatives are listed in detail in Table 2-2 by resource or resource use. Each resource or resource use includes the BLM goals and objectives from the 2001 BFO RMP (BLM 2001a) and the PRB O&G FEIS (BLM 2003a). Many of the resources or resource uses have management actions that are common to all alternatives and these are listed first. Management actions that differ by alternative are listed under the appropriate alternative.

Table 2-2 Management Actions for Alternatives I Through III		
Air Quality and Climate		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Maintain or enhance air quality, protect public health and safety and sensitive natural resources, and minimize emissions that could result in acid rain, violations of air quality standards, or reduced visibility (BLM 2001a).		
Management Actions Common to All Alternatives: 1. Any BLM-initiated actions or authorizations that result in air quality or visibility deterioration will be conditioned to avoid violating Wyoming and national air quality standards. 2. Dust control measures will be required to increase visibility and reduce particulate impacts for all construction and other surface-disturbing activities. 3. During construction, emissions of particulate matter from well pad and resource road construction will be minimized by application of water, or other dust suppressants, with at least 50 percent control efficiency. Roads and well locations constructed on soils susceptible to wind erosion could be appropriately surfaced or otherwise stabilized to reduce the amount of fugitive dust generated by traffic or other activities, and dust inhibitors (surfacing materials, non-saline dust suppressants, and water) could be used as necessary on unpaved collector, local and resource roads that present a fugitive dust problem. The use of chemical dust suppressants on BLM surface will require prior approval from the BLM-authorized officer (PRB O&G Record of Decision [ROD], p. A-39; BLM 2003c).		

Soil Resources			
Goals: 1. Maintain, improve, or restore soil health and productivity; and prevent or minimize erosion and compaction while supporting multiple use management.			
Management Actions Common to All Alternatives: 1. Management actions on BLM lands would be consistent with achieving or maintaining the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (BLM 1997). 2. BLM would use soil survey interpretations to predict soil behavior, limitation, or suitability for a given activity or action. 3. Prior to authorizing any surface-disturbing activity, BLM would evaluate the activity and, if necessary, apply mitigation measures, relocate the activity to a more suitable soil type, or deny the authorization. 4. Authorized surface-disturbing activities would be subject to an onsite evaluation to develop mitigation (if necessary), apply best management practices (BMPs), and plan for reclamation. Site-specific measures would be developed for soils susceptible to erosion (water and wind), soils with high sodium and salt content, soils with sparse vegetation, areas with low effective precipitation, droughty soils, and/or shallow soils. 5. Areas where the erosion potential cannot be effectively controlled or mitigated for, and reclamation treatments to BLM standards would likely be unsuccessful would be avoided.			
Objective	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
Surface-Disturbance Objective: Conserve soil resources.	Surface-disturbing activities may be controlled or excluded on slopes greater than 25 percent. No surface-disturbing activities on badlands, rock outcrop, and slopes susceptible to mass failure. Surface-disturbing activities may be restricted or excluded on soils with a severe erosion hazard. Standard lease terms and conditions would apply. Exceptions may apply.	No surface-disturbing activities on soils with a severe erosion hazard, badlands, rock outcrop, or slopes susceptible to mass failure. No surface-disturbing activities on slopes greater than 25 percent. Standard lease terms and conditions would apply. No exceptions.	Operators would submit a disturbance and reclamation plan with their APDs when specified by BLM. With acceptable plan, surface disturbing activities may be authorized on slopes greater than 25 percent and on soils with a severe erosion hazard where reclamation goals are achievable.

Water Resources
Goals: 1. Maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable State and Federal water quality standards, provide for availability of water to facilitate authorized uses, and minimize harmful consequences of erosion and surface runoff from BLM-administered public land (BLM 2001a).
Management Actions Common to All Alternatives: 1. The rights to water-related projects on public lands will be filed with the Wyoming State Engineer's Office (WSEO) in order to obtain valid water rights. 2. A Wyoming Department of Environmental Quality (WDEQ) permit is necessary for water discharge. 3. Locate discharge points in areas that will minimize erosion and impacts to the receiving channel, existing improvements, and downstream users (PRB O&G ROD, p. A-30; BLM 2003c). 4. Locate discharge points in stable, low gradient drainage systems and below active headcuts, when possible. If discharge is located above a headcut, mitigation measures will be required by the BLM Authorized Officer on a site-specific basis. Some mitigation measures will require engineering design (PRB O&G ROD, p. A-30; BLM 2003c). 5. All discharge points will require energy dissipation measures (PRB O&G ROD, p. A-30; BLM 2003c). 6. Discharge points, regardless of National Pollutant Discharge Elimination System (NPDES) status or previous use, may not be authorized by BLM. Sites may be moved or otherwise mitigated by the BLM Authorized Officer during onsite inspections where environmental issues exist (PRB O&G ROD, p. A-30; BLM 2003c). 7. Cumulative produced water discharge must not exceed the naturally occurring 2-year peak flow of the receiving channel (PRB O&G ROD, p. A-30; BLM 200c). 8. Discharge points will not be located in playas or enclosed basins unless it can be demonstrated that they will not result in adverse impacts. Discharges into valley bottoms with no defined low-flow channel will generally not be allowed, but will be reviewed on a site-specific basis (PRB O&G ROD, p. A-30; BLM 2003c). 9. Channel Crossings (PRB O&G ROD, p. A-30; BLM 2003c): – Minimize channel disturbance as much as possible by limiting pipeline and road crossings. – Avoid running pipelines and access roads within floodplains or parallel to a stream channel. – Channel crossings by roads and pipelines will be constructed perpendicular to flow. Culverts will be installed at appropriate locations for streams and channels crossed by roads as specified in the BLM Manual 9112 - Bridges and Major Culverts (BLM 2009b) and Manual 9113 - Roads. Streams will be crossed perpendicular to flow, where possible. All stream crossing structures will be designed to carry a 25-year discharge event or other capacities as directed by BLM. – Channel crossings by pipelines will be constructed so that the pipe is buried at least 4 feet below the channel bottom.

Water Resources			
10. Low-water crossings will be constructed at original streambed elevation in a manner that will prevent any blockage or restriction of the existing channel. Material removed will be stockpiled for use in reclamation of the crossings (PRB O&G ROD, p. A-30; BLM 2003c). 11. Concerns regarding the quality of discharged CBNG water on downstream irrigation use may require operators to increase the amount of storage of CBNG water during the irrigation months and allow more surface discharge during the non-irrigation months (PRB O&G ROD, p. A-30; BLM 2003c). 12. The operator will be required to provide a reclamation bond for impoundments over Federal minerals in the amount specified by a qualified Professional Engineer for the impoundments to be used for the management of CBNG water. The bond amount will be submitted within 90 days after POD approval and will be approved by BLM prior to commencing construction (PRB O&G ROD, p. A-30; BLM 2003c). 13. The operator will supply a copy of the complete approved SW-4, SW-3, or SW-CBNG permits to BLM as they are issued by WSEO for impoundments (PRB O&G ROD, p. A-30; BLM 2003c). 14. The operator will supply a copy of the complete approved Chapter 3 permit to construct associated with treatment facilities to BLM as they are issued by WDEQ (PRB O&G ROD, p. A-30; BLM 2003c).			
Objective	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
Water Management Facilities Objective: Manage elk disturbance and displacement.	Location of water management facilities is not restricted in elk ranges.	Reservoirs and water management facilities would be located outside crucial winter range and parturition range.	When water discharge is authorized by the State of Wyoming, location of water management facilities shall meet performance-based objectives (See: Elk and Reclamation Standards, Appendix B).
Water Discharge Objective: Conserve ephemeral and intermittent stream communities.	Authorize activities associated with the surface discharge of produced water when permitted by the State of Wyoming.	Do not authorize activities (roads, pipelines, etc.) associated with water management infrastructure for the direct discharge of produced water into ephemeral or intermittent drainages.	Authorize activities associated with the surface discharge of produced water when permitted by the State of Wyoming.
Water Sources Objective: Protect summer water sources utilized by elk and livestock.	Replacement of impacted domestic wells in accordance with water well agreement. Operators required to offer water well agreements to the owners of record for permitted water wells within 0.5 mile of producing	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be

Water Resources			
	Federal CBNG wells.	provided until those lost sources are again available and/or other permanent sources are developed.	provided until those lost sources are again available and/or other permanent sources are developed.

Vegetation Resources
Goals: Maintain or improve the diversity of plant communities to support livestock needs, wildlife habitat, watershed protection, and acceptable visual resources, and reduce the spread of noxious weeds (BLM 2001a).
Management Actions Common to All Alternatives: 1. Management actions affecting vegetation will be designed to meet overall resource management objectives and will be consistent with the policy to protect or improve biodiversity and water quality. 2. Livestock stocking rates will not be increased. **Noxious Weeds** 1. In cooperation with county weed and pest districts, cooperative integrated weed control programs are being implemented on public land in conjunction with control work on adjoining deeded and State lands. 2. Weed educational material will be reviewed during pre-construction onsite meetings with operators, subcontractors, and landowners and will be attached to approved Applications for Permit to Drill (APDs) and PODs (PRB O&G ROD, p. A-32; BLM 2003c). 3. Moist soils near wetlands, streams, lakes, or springs in the project area will be promptly revegetated if construction activities impact the vegetation in these areas. Revegetation will be designed to avoid the establishment of noxious weeds. 4. Operators in areas with identified weed infestations or suitable Ute ladies'- tresses orchid habitat will be required to submit an integrated pest management plan prior to APD approval. Mitigation will be determined on a site-specific basis and may include measures such as spraying herbicides prior to entering areas and washing vehicles before leaving infested areas. Infestation areas of noxious weeds have been identified through the county Weed and Pest Districts and are available at the Buffalo BLM office. 5. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with the project (well locations, roads, water management facilities, etc.). Use of pesticides will comply with applicable Federal and State laws. Pesticides will be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides on public land, the holder will obtain from the BLM Authorized Officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of container storage and disposal, and any other information deemed necessary by the BLM Authorized Officer to such use.

Fish and Wildlife Resources			
Goals: 1. Maintain biological diversity of plant and animal species (BLM 2001a). 2. Support Wyoming Game and Fish Department (WGFD) strategic plan population objective levels to the extent practical and consistent with BLM multiple-use management requirements (BLM 2001a). 3. Maintain, and where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat (BLM 2001a). 4. Provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the Endangered Species Act (ESA) and approved recovery plans to the extent possible (BLM 2001a). 5. Provide habitat for elk and other big game species (BLM 2001a). 6. Support big game and fisheries management levels identified in the WGFD's 2007–2011 Strategic Plan (WGFD 2006a). 7. Protect the isolated elk herd in the FCPA while allowing CBNG development.			
Management Actions Common to All Alternatives: 1. Surface disturbance and disruptive activities would be restricted within elk crucial winter habitat from November 15 through April 30. 2. Surface disturbance and disruptive activities would be restricted within elk parturition habitat from May 1 through June 30. 3. Preclude new surface-disturbing activities within 0.5 mile of raptor nest sites to prevent increased stress to and/or displacement of animals during the critical period from February 1 through July 31. 4. Stock tanks would be required to be wildlife friendly with ramps to allow escape by small mammals and birds.			
Objective	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
CBNG Development Objectives: Allow for the extraction of mineral resources, while protecting other resources. Minimize elk displacement.	CBNG development pace is not restricted geographically or temporally.	Tri-phased development would be implemented by geographical area. Development to occur over three years followed by one year of successful interim reclamation, which may include livestock grazing deferment before proceeding to next area (original three phases).	Performance-based phased (elk and reclamation standards) development would be implemented geographically with a “bolt on” approach. Grazing management will be a component of the operator submitted disturbance and reclamation plan but livestock grazing deferment will not be a requirement.
Well Metering and Visitation Objective: Manage elk disturbance	Well metering and visitation are not restricted in the FCPA.	A work activity management plan, acceptable to the authorizing officer, shall be developed during POD	Metering and visitation will meet performance-based objectives (elk and reclamation standards).

Fish and Wildlife Resources			
and displacement.		processing. The plan shall include all POD related construction, metering and monitoring, maintenance, and operation activities. Provisions shall be made for emergencies.	
Water Management Facilities Objective: Manage elk disturbance and displacement.	Location of water management facilities is not restricted in elk ranges.	Reservoirs and water management facilities would be located outside crucial winter range and parturition range.	When water discharge is authorized by the State of Wyoming, location of water management facilities shall meet performance-based objectives (See: Elk and Reclamation Standards, Appendix B).
Water Sources Objective: Protect summer water sources used by elk and livestock.	Replacement of impacted domestic wells in accordance with water well agreement. Operators required to offer water well agreements to the owners of record for permitted water wells within 0.5 mile of producing Federal CBNG wells.	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.
Compression Facilities Objective: Manage elk disturbance and displacement.	Location of compression facilities is not restricted within elk ranges.	Compression facilities within crucial winter range and parturition habitat shall be limited to the minimum necessary, non-wellhead facilities to transport CBNG off the Federal lease.	Compression facilities will meet performance-based objectives (Elk and Reclamation Standards, Appendix B).
Elk Security Habitat Objective: Provide sufficient elk habitat.	No elk security habitat standards.	Security habitat standards shall follow WGFD recommendations: all identified security habitat within overlapping crucial winter range (CWR) and parturition range (PR) shall be retained, where crucial ranges (CWR and PR) do not overlap, 75 % of the identified security habitat shall	Retain 80 percent of elk security habitat as measured from roads within all seasonal ranges.

Fish and Wildlife Resources			
		be retained. Fifty percent of security habitat will be retained in the yearlong range outside of the crucial ranges.	

Special Status Species
Goals: 1. Maintain biological diversity of plant and animal species (BLM 2001a). 2. Support WGFD strategic plan population objective levels to the extent practical and to the extent consistent with BLM multiple-use management requirements (BLM 2001a). 3. Maintain and, where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat (BLM 2001a). 4. Provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the ESA and approved recovery plans to the extent possible (BLM 2001a). 5. Protect special status species while allowing CBNG development.
Management Actions Common to All Alternatives: 1. Known populations of threatened and endangered species (plants and animals) will be protected as mandated by law. 2. The operator will locate impoundments to avoid sagebrush shrublands, where practical. 3. Containment impoundments will be fenced to exclude wildlife and livestock. If they are not fenced, they will be designed and constructed to prevent entrapment and drowning. 4. All stock tanks will include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations. 5. Noise mufflers will be installed on the exhaust of compressor engines to reduce the exhaust noise. 6. Where noise impacts to existing sensitive receptors are an issue, noise levels will be required to be no greater than 55 decibels (dBA) measured at a distance of 0.25 mile from the appropriate booster (field) compressor. When background noise exceeds 55 dBA, noise levels will be no greater than 5 dBA above background. This may require the installation of electrical compressor motors at these locations. **Bald Eagle:** 1. Site-specific project areas will be evaluated for suitable bald eagle nesting and roosting habitat prior to permit approval. Suitable nesting habitat (USFWS 2007a) is any mature stand of trees or individual tree capable of supporting a bald eagle nest in association with an adequate food supply. Suitable roosting habitat is defined as any mature stand of conifer or deciduous trees where eagles consistently perch during winter. 2. Special habitats for raptors, including wintering bald eagles, will be identified and considered during the review of Sundry Notices. 3. Surveys for active bald eagle nests and winter roost sites will be conducted within suitable habitat by a BLM-approved biologist. Surface-disturbing activities will not be permitted within 1 mile of suitable habitat prior to survey completion. 4. A disturbance-free buffer zone of 0.5 mile will be established year-round for all bald eagle nest sites. A TL buffer zone of 1 mile will be established for all bald eagle nest sites from February 15 through August 15. 5. A disturbance-free buffer zone of 0.5 mile will be established year-round for all bald eagle roost sites. A TL buffer zone of 1 mile will be

Special Status Species
established for all bald eagle roost sites from November 1 through April 1. 6. Within 1 mile of bald eagle winter roost sites additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 a.m. and 3:00 p.m. may be necessary to prevent disturbance from November 1 through April 1. 7. Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects on bald eagles or their habitat. **Black-footed Ferret:** 1. Prairie dog colonies will be avoided wherever possible. 2. If any black-footed ferrets are located, the U.S. Fish and Wildlife Service (USFWS) will be consulted. Absolutely no disturbance will be allowed within prairie dog colonies inhabited by black-footed ferrets. 3. Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects on black-footed ferrets or their habitat. In the event that a black-footed ferret is located during construction or operation, the USFWS's Wyoming Field Office (307-772-2374) and the USFWS' Law Enforcement Office (307-261-6365) will be notified within 24 hours. **Blowout Penstemon:** 1. Site-specific project areas will be evaluated for suitable habitat prior to permit approval. 2. Suitable habitat will be avoided wherever possible. 3. If suitable habitat cannot be avoided, surveys will be conducted in compliance with USFWS standards by a BLM-approved biologist or botanist. **Mountain Plover:** 1. Site-specific project areas will be evaluated for suitable mountain plover nesting habitat prior to permit approval. Flat areas of shortgrass prairie or low shrubs with a prevalence of bare ground characterize suitable mountain plover nesting habitat. Typically the vegetation height is less than 4 inches, and bare ground is greater than 30 percent. In the event that a mountain plover is located during construction or operation, the USFWS's Wyoming Field Office (307-772-2374) and the USFWS' Law Enforcement Office (307-261-6365) will be notified within 24 hours. 2. A mountain plover nesting survey following USFWS protocol will be conducted prior to permit authorization. Additional measures such as monitoring and activity restrictions may be applied if mountain plovers are documented. 3. A disturbance-free buffer zone of 0.25 mile will be established around all occupied mountain plover nesting habitat between March 15 and July 31. 4. Construction of ancillary facilities (for example, compressor stations and processing plants) will not be located within 0.5 mile of known nesting areas. The threat of vehicle collision to adult plovers and their broods will be minimized, especially within breeding aggregation areas. 5. Where possible, roads will be located outside of plover nesting areas.

Special Status Species
6. Work schedules and shift changes will be set to avoid the periods from 30 minutes before to 30 minutes after sunrise and sunset during June and July, when mountain plovers and other wildlife are most active. 7. BLM will monitor all road-associated carcasses, jackrabbit-sized and larger, along project (operator-maintained) roads. The presence of carrion could attract mountain plover predators. 8. Project-related features that encourage or enhance the hunting efficiency of predators of mountain plover will not be constructed within 0.25 mile of known mountain plover nest sites. 9. Creation of hunting perches or nest sites for avian predators within 0.5 mile of identified nesting areas will be avoided by burying power lines, by using the lowest possible structures for fences and other structures, and by incorporating perch-inhibiting devices into their design. 10. When aboveground markers are used on capped and abandoned wells, they will be no taller than 4 feet with perch-inhibiting devices on the top to avoid creation of raptor hunting perches within 0.5 mile of nesting areas. 11. Reclamation of areas of previously suitable mountain plover habitat will include the seeding of vegetation to produce suitable habitat for mountain plover. **Sage-Grouse:** 1. To minimize adverse effects, activities within 0.25 mile of sage-grouse strutting/dancing grounds will be restricted or prohibited (PRB O&G FEIS, p. P-7; BLM 2003a). 2. Preclude new surface-disturbing activities within sage-grouse nesting habitats that could cause increased stress and/or displacement of animals during the critical time period from March 1 through June 15 by establishing an additional 1.75-mile radius beyond the 0.25-mile lek radius, (PRB O&G FEIS, p. P-8; BLM 2003a). 3. For any surface-disturbing activities proposed in sagebrush shrublands, the operator will conduct clearance surveys for sage-grouse breeding activity during the sage-grouse's breeding season before initiating the activities. The surveys must encompass all sagebrush shrublands within 0.5 mile of the proposed activities. 4. The operator will locate facilities so that noise from the facilities at any nearby sage-grouse or sharp-tailed grouse display grounds does not exceed 49 dBA (10 dBA above background noise) at the display ground. Note: POD-level site specific NEPA analyses will evaluate sage-grouse management actions consistent with Wyoming BLM Policy IM-WY-2010-012. **Sharp-tailed Grouse:** 1. Surface-disturbing activities within 250 yards of a sharp-tailed grouse strutting/dancing ground will be restricted or prohibited. 2. Prohibit surface-disturbing activities within sharp-tailed grouse nesting habitats. An additional 0.5-mile radius would be established beyond the 250-yard lek radius, to prevent increased stress to and/or displacement of animals during the critical time period from April 1 through May 31. Note: The WGFD recommends a 0.25 mile surface use buffer and two mile TL buffer for sharp tailed grouse leks which will be evaluated during POD level site specific NEPA analyses.

Special Status Species			
Raptors: 1. Preclude new surface-disturbing activities within 0.5 mile of raptor nest sites to prevent increased stress to and/or displacement of animals during the critical period from February 1 through July 31. **Ute Ladies'-tresses Orchid:** 1. Site-specific project areas will be evaluated for suitable Ute ladies'-tresses orchid habitat prior to permit approval. Suitable habitat is characterized by moist soils near springs, lakes, or perennial streams; most occurrences are in alluvial substrates along riparian edges, gravel bars, old oxbows, and moist to wet meadows in the floodplains of perennial streams (USFWS 1995). 2. Suitable habitat will be avoided wherever possible. 3. If suitable habitat for Ute ladies'-tresses cannot be avoided, surveys will be conducted in compliance with USFWS standards (USFWS 1995) by a BLM-approved biologist or botanist. Surveys can only be conducted between July 20 and August 31.			
Objective	**Alternative I** **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Overhead Power Objective: Retain visual resources surrounding the WSA.	Overhead power lines are prohibited on BLM surface within FCPA.	Overhead power line network would extend from existing overhead lines along drainages and using existing corridors and roads to minimize cross-country power line construction. Network of parallel lines approximately following drainages and existing roads.	Overhead power on BLM surface limited to within road corridors to manage within the existing visual class.
		The operator will locate aboveground power lines, where practical, at least 0.5 mile from any sage-grouse breeding or nesting grounds to prevent raptor predation and sage-grouse collision with the conductors. Power poles within 0.5 mile of any sage-grouse breeding ground will be raptor-proofed to prevent raptors from perching on the poles.	
		The operator will construct power lines to minimize the potential for raptor collisions with the lines. Potential modifications include burying the lines, avoiding areas of high avian use (for example, wetlands, prairie dog towns, and grouse leks), and increasing the visibility of the individual conductors.	
		The operator will limit the construction of aboveground power lines near	

Special Status Species		
		streams, water bodies, and wetlands to minimize the potential for waterfowl colliding with power lines.

Cultural Resources		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Avoid or mitigate significant impacts to historic properties.		
Management Actions Common to All Alternatives: 1. Require archaeological inventory for all Federal undertakings, regardless of surface ownership. 2. Identify historic properties. 3. Design projects to avoid or mitigate impacts to historic properties prior to approval. 4. Mitigate impacts to historic properties inadvertently discovered during or after construction.		

Geologic Resources		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Maintain or enhance opportunities for mineral exploration and development while maintaining other resource values (BLM 2001a).		
Management Actions Common to All Alternatives: 1. BLM will provide for the efficient use of the mineral resources. 2. The mineral owners are entitled to access their minerals to explore for and develop them and to prudently use an area of the land surface and surface resources that are directly necessary to those exploration and development activities.		

Paleontological Resources		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Protect the scientific value of significant fossils.		
Management Actions Common to all Alternatives: 1. Paleontological inventories will be targeted to specific areas or will be issue-driven, as needed. 2. Large, conspicuous, and/or scientifically significant fossils or localities found during development will be reported to BLM. 3. Evaluation of discoveries during construction will be conducted by a BLM-approved professional paleontologist within five working days. 4. Adverse impacts to paleontological resources will be mitigated as necessary.		

Visual Resources		
Goals: 1. Maintain or improve scenic values, visual quality, and establish visual resource management priorities in conjunction with other resource values (BLM 2001a). 2. Retain visual resources within and surrounding the WSA.		
Management Actions Common to All Alternatives: 1. No activity or occupancy is allowed within 200 feet of the edge of State and Federal highways. 2. Facilities or structures such as power lines, oil wells, and storage tanks are required to be screened, painted, and designed to blend with the surrounding landscape except where safety indicates otherwise. 3. Any facilities or structures proposed in or near WSAs will be designed so as not to impair wilderness suitability. 4. The FCPA is designated and managed as Visual Resource Management (VRM) Class III. 5. The WSA is managed under interim guidance for non-impairment, (i.e., VRM Class I) 6. The operator will complete the following measures where practical: use existing well pads where feasible, use vegetative and topographic screening when siting well locations, and avoid highwall cuts. 7. The operator will mount lights at compressor stations and other facilities on a pole or building and direct them downward to illuminate key areas within the facility while minimizing the amount of light projected outside the facility (PRB O&G ROD, p. A-38; BLM 2003c). 8. The operator will use buried power lines to each well, where feasible, to reduce the linear element in the landscape.		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Overhead power lines are prohibited on BLM surface lands within the FCPA.	Overhead power line network would extend from existing overhead lines along drainages and using existing corridors and roads to minimize cross-country power line construction. Network of parallel lines approximately following drainages and existing roads.	Overhead power on BLM surface limited to within road corridors to manage within the existing visual class.

Fuels and Fire		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. To restore the natural role of fire in the ecosystem (BLM 2001a). 2. To cost-effectively protect life, property, and resource values from wildfire (BLM 2001a). 3. To use prescribed fire to achieve multiple-use management goals (BLM 2001a).		
Management Actions Common to all Alternatives: 1. Unwanted wildland fires will be suppressed. The use of some types of suppression equipment will be restricted in some areas, and fire and suppression damage will be rehabilitated. 2. Wildfires will be managed in all areas of the resource area. Priority will be given to suppressing fires in or threatening higher-value resources (the WSA) and keeping fires from spreading onto private, State, or other Federal lands. Protecting human life will be the highest priority. 3. Heavy equipment (dozers) will be restricted from being used for wildfire suppression in the WSA and areas of known cultural values. 4. Aerial retardant use will be restricted to keep retardant out of water sources. Specific restrictions on retardant use apply to the WSA. 5. Helispot construction is prohibited in the WSA. 6. Firelines that are constructed by heavy equipment or on steep slopes will be rehabilitated to prevent or control erosion. Rehabilitation includes, but is not limited to, water barring and reseeding. 7. Prescribed burns will be used as a tool to reach management objectives planned for areas in conjunction with items such as range and wildlife habitat management projects.		

Rangeland			
Goals: 1. Manage livestock grazing in order to be consistent with Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (BLM 1997); maintain a thriving natural ecological balance, multiple-use relationships, and productive forage resources. 2. Maintain or improve forage production and range condition to provide a sustainable resource base for livestock grazing on the public lands while improving wildlife habitat and the watershed (BLM 2001a).			
Management Actions Common to All Alternatives 1. Livestock grazing is allowed on all public lands in the FCPA. 2. Any permanent increases in the amount of forage produced are considered for wildlife and watershed protection before additional livestock use is authorized. 3. Fences will be constructed to maintain wildlife mobility in important habitat areas. Fences on public land that are hindering natural movement of wildlife will be modified to conform to BLM standards. See BLM Handbook H-1741-1 for fence specifications. 4. Reservoirs, wells, troughs, and pipelines will be constructed to provide water in dry areas and to disperse grazing use. The grazing lessee or other cooperator will be required to maintain water in all troughs located on public land during the frost-free period (April through October) for wildlife. 5. All stock tanks will include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.			
Objective	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
Extraction of Mineral Resources Objectives: Allow for the extraction of mineral resources, while protecting other resources. Minimize elk displacement.	CBNG development pace is not restricted geographically or temporally.	Tri-phased development would be implemented by geographical area. Development to occur over three years followed by one year of successful interim reclamation, which may include livestock grazing deferment before proceeding to next area (original three phases).	Performance-based phased (elk and reclamation standards) development would be implemented geographically with a “bolt on” approach. Grazing management will be a component of interim reclamation but livestock grazing deferment will not be a requirement.
Water Resources Objective: Protect summer water	Replacement of impacted domestic wells in accordance with water well agreement. Operators required to	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the

sources utilized by elk and livestock.	offer water well agreements to the owners of record for permitted water wells within 0.5 mile of producing Federal CBNG wells.	WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.	WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.

Recreation		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Provide outdoor recreational opportunities on BLM-administered public land while providing for resource protection, visitor services, and the health and safety of public land visitors (BLM 2001a).		
Management Actions Common to All Alternatives: 1. Special recreation permits (SRPs) are issued for commercial competitive and large-scale nonprofit organized recreational events on a case-by-case basis.		

Transportation		
Alternative I **No Action**	**Alternative II** **Prescriptive**	**Alternative III** **Performance Based**
Goals: 1. Manage access to CBNG leases to ensure that the BLM non-impairment standard is not violated.		
Management Actions Common to All Alternatives: 1. Long-term occupancy of the public lands for roads, power lines, pipelines, communication sites, and irrigation ditches is authorized by granting a right-of-way (ROW). ROWs are to be removed and reclaimed upon termination of the grant. 2. Transmission lines and transportation facilities will be located within identified corridor areas to the extent feasible.		

Lands and Realty		
Alternative I No Action	**Alternative II Prescriptive**	**Alternative III Performance Based**
Goals: 1. Avoid the potential of inadvertent trespass by people accessing the public lands; and improve access and manageability of the public lands (BLM 2001a). 2. Support the multiple-use management goals of the various BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire access to serve administrative and public needs (BLM 2001a). 3. Provide outdoor recreational opportunities on BLM-administered public land while providing for resource protection, visitor services, and the health and safety of public land visitors (BLM 2001a).		
Management Actions Common to All Alternatives: 1. Long-term occupancy of the public lands for roads, power lines, pipelines, communication sites, and irrigation ditches is authorized by granting a ROW. ROWs are to be removed and reclaimed upon termination of the grant. 2. Transmission lines and transportation facilities will be located within identified corridor areas to the extent feasible. 3. Withdrawals for surface and/or minerals will be considered on a case-by-case basis. 4. Priority is given to acquiring public land in areas adjacent to major blocks of public land, especially in areas of high recreational potential. 5. Easements that will provide access to contiguous blocks of public lands for recreation and administrative purposes will be pursued.		

Fluid Minerals – CBNG

Goals:

1. Allow for the extraction of mineral resources while protecting other resources.
2. Facilitate the extraction of CBNG while minimizing the effects on the landscape that would impact the resource values in the FCPA.
3. Identify stipulations for new leases to ensure that development impacts would not impact resource values in the FCPA.
4. Identify stipulations, Conditions of Approval (COAs) and BMPs for exploration, development, production, and reclamation to ensure that activities would not impact resource values in the FCPA.
5. Minimize elk displacement.

Management Actions Common to All Alternatives:

1. Authorization for activities on existing mineral leases would be governed by valid existing rights.
2. Implement standard lease terms (individual leases).
3. No CBNG or conventional oil and gas development would occur within the WSA.
4. All pipelines will be located in corridors.
5. The operator will locate impoundments to avoid sagebrush shrublands where practical.
6. Containment impoundments will be fenced to exclude wildlife and livestock. If they are not fenced, they will be designed and constructed to prevent entrapment and drowning.
7. Noise mufflers will be installed on the exhaust of compressor engines to reduce the exhaust noise.
8. Where noise impacts to existing sensitive receptors are an issue, noise levels will be required to be no greater than 55 dBA measured at a distance of 0.25 mile from the appropriate booster (field) compressor. When background noise exceeds 55 dBA, noise levels will be no greater than 5 dBA above background. This may require the installation of electrical compressor motors at these locations.
9. All stock tanks will include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.
10. Surface disturbance and disruptive activities would be restricted within elk crucial winter habitat from November 15 through April 30.
11. Surface disturbance and disruptive activities would be restricted within elk parturition habitat from May 1 through June 30.

Special Status Species:

Special Status Species management actions applicable to Fluid Minerals are listed under Special Status Species alternatives.

Objective	Alternative I No Action	Alternative II Prescriptive	Alternative III Performance Based
CBNG Development Objectives:	CBNG development pace is not restricted geographically or	Tri-phased development would be implemented by geographical area.	Performance-based phased (Elk and Reclamation Standards, Appendix B)

Fluid Minerals – CBNG			
Allow for the extraction of mineral resources, while protecting other resources. Minimize elk displacement.	temporally.	Development to occur over three years followed by one year of successful interim reclamation, which may include livestock grazing deferment before proceeding to next area (original three phases).	development would be implemented geographically with a "bolt on" approach. Grazing management will be a component of the operator submitted disturbance and reclamation plan but livestock grazing deferment will not be a requirement.
Well Metering and Visitation Objective: Manage elk disturbance and displacement.	Well metering and visitation are not restricted in the FCPA.	A work activity management plan, acceptable to the authorizing officer, shall be developed during POD processing. The plan shall include all POD related construction, metering and monitoring, maintenance, and operation activities. Provisions shall be made for emergencies.	Metering and visitation will meet performance-based objectives (Elk and Reclamation Standards, Appendix B).
Water Management Facilities Objective: Manage elk disturbance and displacement.	Water management facility locations are not restricted.	Reservoirs and water management facilities would be located outside crucial winter range and parturition range.	When water discharge is authorized by the State of Wyoming, location of water management facilities shall meet performance-based objectives (See: Elk and Reclamation Standards, Appendix B).
Water Source Objective: Protect summer water sources utilized by elk and livestock.	Replacement of impacted domestic wells in accordance with water well agreement. Operators required to offer water well agreements to the owners of record for permitted water wells within 0.5 mile of producing Federal CBNG wells.	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.	Operators will provide summer water sources for livestock and wildlife if current sources (permitted through the WSEO) become unavailable and that loss is directly attributable to development of CBNG. Water will be provided until those lost sources are again available and/or other permanent sources are developed.
Compression Facilities Objective: Manage elk disturbance	Location of compression facilities is not restricted within elk ranges.	Compression facilities within crucial winter range and parturition habitat shall be limited to the minimum	Compression facilities will meet performance-based objectives (Elk and Reclamation Standards,

Fluid Minerals – CBNG			
and displacement.		necessary, non wellhead facilities to transport CBNG off the Federal lease.	Appendix B).
Security Habitat Objective: Provide sufficient elk habitat.	No security habitat standards.	Security habitat standards shall follow WGFD recommendations: all identified security habitat within overlapping crucial winter range (CWR) and parturition range (PR) shall be retained, where crucial ranges (CWR and PR) do not overlap, 75% of the identified security habitat shall be retained. 50% of security habitat will be retained in the yearlong range outside of the crucial ranges.	Retain 80% of elk security habitat as measured from roads within all seasonal ranges.
Overhead Power Objective: Retain visual resources surrounding the WSA.	Overhead power lines are prohibited on BLM surface within FCPA.	Overhead power line network would extend from existing overhead lines along drainages and using existing corridors and roads to minimize cross-country power line construction. Network of parallel lines approximately following drainages and existing roads.	Overhead power on BLM surface limited to within road corridors to manage within the existing visual class.
		The operator will locate aboveground power lines, where practical, at least 0.5 mile from any sage-grouse breeding or nesting grounds to prevent raptor predation and sage-grouse collision with the conductors. Power poles within 0.5 mile of any sage-grouse breeding ground will be raptor-proofed to prevent raptors from perching on the poles.	
		The operator will construct power lines to minimize the potential for raptor collisions with the lines. Potential modifications include burying the lines, avoiding areas of high avian use (for example, wetlands, prairie dog towns, and grouse leks), and increasing the visibility of the individual conductors.	
		The operator will limit the construction of aboveground power lines near streams, water bodies, and wetlands to minimize the potential for waterfowl	

Fluid Minerals – CBNG		
		colliding with power lines.

Special Designations			
Goals: 1. Ensure continued public use and enjoyment of recreational activities while protecting and enhancing natural and cultural values; improve opportunities for high-quality outdoor recreation; and improve visitor services related to safety, information, interpretation, and facility development and maintenance. 2. Allow orderly development of mineral resources while protecting wildlife habitat and watershed areas, and maintaining wilderness values (naturalness, solitude, and primitive and unconfined recreation).			
Management Common to All Alternatives: 1. The WSA will be managed, according to the Interim Management Plan (BLM 1995b), to maintain wilderness characteristics. 2. Vehicle travel is limited to designated roads and vehicle routes.			
Objective	**Alternative I No Action**	**Alternative II Prescriptive**	**Alternative III Performance Based**
ACEC Objective: Retain the relevant and important resource values.	The citizen proposed ACEC (33,757 acres) would not be designated.	Establish the citizen proposed ACEC (33,757 acres). ACEC management prescriptions would be defined in the Decision Record.	The citizen-proposed ACEC (33,757 acres) would not be designated. Performance standards (elk and reclamation) have been determined sufficient to protect resource values.
Wildlife Habitat Management Area Objective: Effectively manage the unique wildlife habitat values.	No Wildlife Habitat Management Area (WHMA) designation.	Establish a WHMA within the elk parturition and crucial winter ranges (extend outside FCPA).	No WHMA designation.