

Draft

CBM Programmatic Wildlife Monitoring and Protection Plan for the Buffalo Field Office

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INTRODUCTION

This Wildlife Monitoring and Protection Plan (WMPP) was prepared to compliment the Powder River Basin Oil and Gas Environmental Impact Statement (EIS) (BLM 2002). The EIS addresses future exploration for and development of Bureau of Land Management (BLM) managed coalbed methane gas (CBM) resources, and conventional oil and gas resources. BLM's responsibilities for special status species management are the same on split estate (i.e. federal minerals/private surface) as they are with federal surface under the Endangered Species Act (ESA), and the Federal Land Policy and Management Act (FLPMA). Participation in this programmatic WMPP is voluntary; cooperators will be sought from the Powder River Basin's principal operators, Petroleum Association of Wyoming, Coalbed Methane Operators group, other state and federal agencies, and landowners. Implementation will occur in conjunction with authorized federal mineral activities. Owners of private mineral estates desiring to incorporate this guidance into management of their CBM activities may partner with the BLM by entering into a Cooperative Agreement.

The goal of the WMPP is to avoid or minimize impacts to wildlife and serve as a communication tool to foster cooperative relationships among the CBM industry (i.e. operators), resource management agencies, and landowners. Because this plan addresses a large geographic area composed of diverse wildlife habitats and unique situations, it must be programmatic in nature. However, the need to provide management recommendations and guidance to conserve species and habitats remains. Regional or site specific monitoring and protection plans which follow the guidance provided in this programmatic document will be required as part of each CBM project Plan of Development (POD). Implementation of this plan should safeguard wildlife populations, productivity levels, and habitats simultaneously with the development of natural gas resources.

PLAN PURPOSE

Oil and gas leasing decisions and lease stipulations were previously analyzed in the Bureau of Land Management (BLM) 2001 Buffalo Resource Management Plan Revision (RMP). Wildlife stipulations attached to leases offer protective measures for certain species, during a particular season, or within a specific area. These stipulations may not address other concerns related to wildlife or water/habitat related issues caused by direct and indirect impacts from CBM exploration and development. In addition, it is purely speculative to predict how all wildlife will react or how development will proceed. It is difficult to develop prescriptive mitigation standards across the entire planning area, and therefore, stipulations will be monitored for

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effectiveness. Although BLM has some adaptive management strategies in place (e.g. conditions of approval and compliance inspections), these mechanisms do not provide the information required to understand cause and effect relationships across a landscape. The WMPP will facilitate the ability to identify problems (including the evaluation of other contributing factors), design PODs which include conservation for special status species, monitor the effectiveness of decisions, and make recommendations to adjust management to address specific problems.

AREA AND OBJECTIVES

The WMPP document is the framework for wildlife monitoring and protection across the Buffalo Field Office and provides a template for regional and/or project specific WMPP development. The BLM, Wyoming Game and Fish Department (WGFD), and US Fish and Wildlife Service (FWS) will enter into a Cooperative Agreement to work cooperatively to implement portions of the WMPP over the planning area. Specific geographic areas may be delineated as Regional Monitoring Units (RMU). As energy development begins, RMU specific WMPPs, following the same template as this document, will be written in cooperation with other agencies, operators, landowners, and other interested parties. The objectives of the programmatic are to:

- Establish a framework for cooperation among agencies, operators, landowners and interest groups;
- Provide a process for data collection, data management and reporting
- Determine needs for inventory, monitoring and protection measures
- Provide guidance and recommendations for the conservation of wildlife species
- Establish protocols for biological clearances of Special Status Species
- Meet the terms and conditions of the Biological Opinion
- Determine if management practices to conserve wildlife species and habitat in lease stipulations and conservation measures contained in the BLM Record of Decision, CBM project plans or Oil and Gas APDs are meeting specified objectives
- Develop recommendations to adjust management actions based on field observations and monitoring.

Implementation of the WMPP will begin following the issuance of the *Record of Decision* and is expected to remain in effect for the life of the project (approximately 20 years). Signatories on an Interagency Cooperative Agreement will serve as the Steering Committee. A *Core Team* of agency biologists will oversee the implementation of the WMPP. *Wildlife Monitoring Review Teams* will write more specific monitoring and protection plans, following the programmatic template, as development is initiated in an identified RMU. *Wildlife Monitoring Review Teams* will consist of resource specialists from the BLM, FWS, WGFD and operator funded biologists. Resource specialists may be on more than one team. Any individual RMU plan may be terminated when there is undeniable evidence illustrating that wildlife populations and productivity have been successfully maintained. The BLM Authorized Officer (AO) can terminate any RMU plan based on recommendation from the *Team*. The programmatic template

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will undergo a major review for effectiveness every 5 years, or as determined by the *Core Team* and *Team* members from RMU project areas. A cooperative agreement among cooperators will be signed on an annual basis to include specific work components of the current year=s work.

IMPLEMENTATION PROTOCOL

This section provides preliminary wildlife inventory, monitoring, and protection protocol, a summary is provided in Table 1. Required actions for inventory, monitoring and protection vary by species and development intensity. Standard protocol for Application for Permit to Drill (APD) and right-of-way (ROW) application field reviews are provided in Table 2. Alternative measures and protocols will be developed as determined by the *Team* in response to specific needs identified in annual reports. Methods are provided by wildlife species/category, and additional species/categories may be added based on needs identified in annual wildlife reports. The wildlife species/categories for which specific inventory, monitoring, and protection procedures will be applied were developed based upon input provided by the public, other agencies, and the BLM during preparation of the EIS.

Considerable effort will be required by agency and operator personnel for plan implementation.

Many of the annually proposed agency data collection activities are consistent with current agency activities. Additionally, agency cost-sharing approaches will be considered such that public demands and statutory directives are achieved.

ANNUAL REPORTS AND MEETINGS

State and federal agencies will enter into a master Cooperative Agreement to implement the programmatic elements of inventory, monitoring and protection actions associated with CBM development within the Buffalo Field Office. A *Core Team* will oversee implementation across the field office and summarize information from work achieved in the various RMUs.

Additional cooperative agreements with cooperators will be established as activity is initiated in a RMU.

During project development (i.e. 10 years), operators will provide an updated inventory and description of all existing project features (i.e., location, size, and associated level of human activity at each feature), as well as those tentatively proposed for development during the next 12 months. Operators will submit this inventory to the BLM by November 1 of each calendar year.

These data will be coupled with annual wildlife inventory, monitoring, and protection data obtained for the previous year and included in annual reports. Annual reports will be prepared by the BLM. When parties other than the BLM gather annual wildlife inventory, monitoring, and protection data, those parties (e.g. operators, WGFD) will be requested to provide the data to the BLM by November 1 of each calendar year. Upon receipt of these data, annual reports will be completed in draft form by the BLM and submitted to the operators, USFWS, WGFD, and

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other interested parties. An annual 1-day meeting of the *Team* and *Core Team* will be organized by the BLM to discuss and modify proposed wildlife inventory, monitoring, and protection protocol for the subsequent year. Additional meetings specific to a RMU will be scheduled as necessary.

Discussions regarding financing and personnel requirements will be made at these meetings. A formula for determining these requirements will be developed (ie, size of development, anticipated impacts, etc.). A protocol regarding how to accommodate previously unidentified development sites will also be determined during the annual meeting. Final decisions will be made by the BLM based on the input of all affected parties.

A final annual report will be issued by the BLM to all potentially affected individuals and groups. Annual reports will summarize annual wildlife inventory and monitoring results, note any trends across years, identify and assess protection measures implemented during past years, specify monitoring and protection measures proposed for the upcoming year, and recommend modifications to the existing WMPP based on the effectiveness and/or ineffectiveness of past years (i.e., identification of additional species/categories to be monitored). Where possible, the data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance. The BLM will be the custodian of the data; BLM's Geographic Information System (GIS) will be used for information storage, retrieval, and planning. Annual GIS data updates will be conducted. Raw data collected each year also will be provided to other management agencies (e.g., USFWS, WGFD) at the request of these agencies. In addition, sources of potential disturbance to wildlife will be identified, where practical (e.g., development activities, weather conditions, etc.).

Additional reports may be prepared in any year, as necessary, to comply with other relevant wildlife laws, rules, and regulations (e.g., black-footed ferret survey reports, mountain plover reports).

ANNUAL INVENTORY AND MONITORING

Inventory and monitoring protocols will be as identified below for each wildlife species/category. These protocols will not change unless authorized by the BLM or specified in this plan. Additional wildlife species/categories and associated surveys may be added or wildlife species/categories and surveys may be omitted in future years, depending on the results presented in the coordinated review of annual wildlife reports. The WGFD will be contacted during the coordination of survey and other data acquisition phases. Opportunistic wildlife observations are encouraged, and should be forwarded to the BLM and included in annual reports.

The frequency of inventory and monitoring will be related to development. In general, inventory

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and monitoring frequency will increase with increased development. The level of effort should also be determined by species presence and development projection. Inventory and monitoring results may lead to further currently unidentified studies (i.e., cause and effect). The following sections identify the level of effort required by the WMPP. Site- and species-specific surveys will continue to be conducted in association with APD and ROW application or CBM project field reviews.

Threatened, Endangered, Sensitive, and Other Species of Concern

Operators should indicate the presence of cottonwood riparian, forest, mature trees, herbaceous riparian or wet meadows, permanent water or wetlands, prairie dog towns, or rock outcrops, ridges or knolls on their application. The presence of sensitive habitats may not indicate that a species may be present. It does, however, alert the company and BLM that a field review and surveys may be required. The level of effort associated with the inventory and monitoring required for threatened, endangered, sensitive, and other special status species (TES) will be commensurate with established protocol for the potentially affected species. Methodologies and results of these surveys will be included in annual reports or provided in separate supplemental reports. As TES species are added to or withdrawn from USFWS and/or BLM lists, appropriate modifications will be incorporated to this plan and specified in annual reports.

TES data collected during the surveys will be provided only as necessary to those requiring the data for specific management and/or project development needs. Site- and species-specific TES surveys will continue to be conducted as necessary in association with all APD and ROW application field reviews. Data will be collected on BLM approved data sheets and entered into the BLM GIS database.

Aquatic Species

Baseline aquatic inventories will be conducted in potentially affected areas by a BLM-approved biologist, to determine occurrence, abundance, and population diversity of the aquatic community. These inventories should be repeated in selected intermittent/perennial streams associated with produced water discharge as well as selected intermittent/perennial streams associated with no produced water discharge (control sample site).

Natural fluctuations in species occurrence, abundance, and population diversity will be determined by comparing changes in control sample sites to baseline inventories. Changes in occurrence, abundance, and population diversity of the aquatic community in streams associated with produced water discharge may then be possible by comparing to the natural fluctuations.

Aquatic groups to be inventoried and monitored will include:

- **amphibians and aquatic reptiles** - Determine population diversity and abundance

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utilizing sampling methodologies being developed for prairie species.

- **macroinvertebrates** - Determine population diversity using Hess/kick net sampling protocol to measure species abundance and establish a diversity index.
- **non-game fish** - Determine population diversity using electrofishing and seining.

Big Game

Elk, mule deer, white-tailed deer, and pronghorn are the common big game species that occur within the CBM planning area. BLM and WGFD will continue to collect annual big game seasonal habitat use data and make it available to operators and landowners. Big game use of seasonal habitats is highly dependent upon a combination of environmental factors including forage quality and snow depth. Therefore, it is very difficult to attribute changes in habitat use to a single factor. Comparisons in trends between big game seasonal habitat reference areas and seasonal habitats associated with CBM development may provide some insight into the response of big game to CBM development.

Black-footed Ferret

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitats does not indicate that black-footed ferrets may be present. It does, however, alert the company and BLM that a field review and surveys may be required. BLM-approved biologists will determine the presence/absence of prairie dog colonies within 0.5 mi of proposed activity during APD and ROW application field reviews. Prairie dog colonies in the area will be mapped to determine overall size following the approved methodology. Colonies that meet USFWS size criteria as potential black-footed ferret habitat (USFWS 1989) will be surveyed to determine active burrow density using the methods described by Biggins et al. (1993) or other BLM- and USFWS-approved methodology.

Project activity will be located to avoid impacts to prairie dog colonies. If avoidance is not possible, all colonies meeting the USFWS size criteria will be surveyed for black-footed ferrets by a USFWS-certified surveyor prior to but not more than 1 year in advance of disturbance to these colonies. Black-footed ferret surveys will be conducted in accordance with USFWS guidelines (USFWS 1989). If a black-footed ferret or its sign are found during a survey, all development activity would be subject to re-initiation of Section 7 Consultation with USFWS.

Black-tailed Prairie Dog

Operators should indicate the presence of prairie dog towns on their application. Active prairie dog towns within 0.5 mi of project areas will be identified, mapped, and surveyed as described in the Black-footed ferret section. In addition, reference prairie dog colonies that are not subject to development will be identified. On an annual basis, a BLM-approved biologist will survey, a

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portion of, the prairie dog colonies, including the reference colonies. Prairie dog populations are subject to drastic population fluctuations primarily due to disease (plague). Therefore, efforts will be made to compare the data from the reference colonies with that obtained from the project areas, in order to monitor the response of prairie dog populations to CBM development.

Mountain Plover

BLM and FWS will estimate potential mountain plover habitat across the CBM planning area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using USFWS guidelines (USFWS 2002) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat within proposed projects plus a 0.25 mi buffer, a BLM-approved biologist will conduct surveys using the USFWS protocol. Sites must be surveyed 3 times, at least one week apart, between May 1 and June 15 to identify active mountain plover nesting locations. Efforts will be made to identify mountain plover nesting areas that are not subject to CBM development to be used as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing CBM development.

Raptors (Including Bald Eagle and Burrowing Owl)

Raptor inventories will be conducted over the entire CBM project area every 5 years by BLM and WGFD. In potentially affected areas, baseline inventory should be conducted prior to the commencement of development to determine the location of raptor nests and their activity status. These inventories should be repeated every 5 years thereafter for the Life-of-the-Project (LOP) to monitor trends in habitat use. These surveys may be implemented aurally (e.g. via helicopter) or from the ground. Data collected during the surveys will be recorded on BLM approved data sheets and entered into the BLM GIS database.

A BLM-approved biologist will conduct nest productivity monitoring. Active nests located within 1/2 mi of project-related disturbance areas will be monitored between March 1 and July 1 to determine nesting success (i.e., number of nestlings/fledglings per nest). These surveys generally will be conducted from the ground. However, some nests may be difficult to observe from the ground due to steep and rugged topography; these may have to be monitored through aerial surveys. Attempts will be made to determine the cause of any documented nest failure (e.g., abandonment, predation).

Inventory/monitoring efforts in developed areas, as well as selected undeveloped reference areas will be conducted annually during April and May, followed by nest productivity monitoring. Site- and species-specific nest inventories will also continue to be conducted as necessary in association with all APD and ROW application field reviews.

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All raptor nest/productivity surveys will be conducted using procedures that minimize potential adverse effects to nesting raptors and include the following:

- Nest visits will be delayed for as long as possible during the nesting season.
- Nests will be approached cautiously, and their status (i.e., number of nestling/fledglings) will be determined from a distance with binoculars or a spotting scope.
- Nests will be approached tangentially and in an obvious manner to avoid startling adults.
- Nests will not be visited during adverse weather conditions (e.g. extreme cold, precipitation events, windy periods, or during the hottest part of the day).
- Visits will be kept as brief as possible.
- All inventories will be coordinated by the BLM.
- The number of nest visits in any year will be kept to a minimum.

Bald Eagle: Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following addition. Operators should indicate the presence of cottonwood riparian areas or forested areas on their application. The presence of sensitive habitats does not indicate that a species may be present. It does, however, alert the company and BLM that a field review and surveys may be required. Prior to CBM development, surveys of the sensitive habitats within 1.0 mi of a project area will be conducted in the winter by BLM-approved biologists to determine the occurrence of winter bald eagle roosts. Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset. Follow-up surveys, if necessary, will be conducted during the same time frame. Surveys will be at least 7 days apart. The location, activity, number, and age class (immature, mature) of any bald eagles observed will be recorded and if a roost or suspected roost is identified, BLM, USFWS, and WGFD will be notified and a GPS record of the roost/suspected roost will be obtained and entered into the BLM GIS database.

Burrowing owl: Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitats does not indicate that a species may be present; it does, however, alert the company and BLM that a field review and surveys may be required. In association with APD and ROW application field reviews, prairie dog colonies within 0.5 mi of a proposed project area will be surveyed for western burrowing owls twice yearly from June through August to determine the presence/absence of nesting owls. Efforts will be made to determine reproductive success (no. of fledglings/nest).

Sage Grouse

BLM and WGFD will conduct sage grouse lek inventories over the entire CBM project area every 5 years to determine lek locations. Surveys of different areas may occur during different years with the intent that the entire CBM project area will be covered at least once every 5 years. Inventories and protocol will be consistent with the *Wyoming Greater Sage Grouse*

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Conservation Plan coordinated by the BLM and WGFD. Inventories will be conducted annually on selected developed areas and undeveloped reference areas. Surveys may be conducted aerially, or on the ground, as deemed appropriate by the BLM and WGFD. Data collected during these surveys will be recorded on BLM and WGFD approved data sheets and entered into the BLM GIS database.

Sage grouse winter use surveys of suitable winter habitat within 2 mi of a project area will be coordinated by the BLM and implemented by the BLM and/or WGFD during November through February as deemed appropriate by these management agencies. These surveys will be conducted to identify sage grouse winter concentration areas. Historical information of winter sage grouse locations will be useful in focusing efforts in areas suspected of providing winter habitat. Sage grouse winter habitat use surveys will be conducted subsequent to snowfall events to identify crucial winter habitat.

Ute-ladies'-tresses Orchid

Operators will indicate the presence of riparian, wet meadow, permanent water, and wetlands on their application. The presence of sensitive habitats does not indicate that orchids may be present. It does, however, alert the company and BLM that a field review and surveys may be required. Survey procedures will follow the recommendations and guidelines developed by the USFWS (USFWS 1995). Ute ladies'-tresses orchid can only be reliably identified when it is flowering, typically from mid-July to mid-September. Surveys are conducted by closely scrutinizing potential habitat looking for flowering stalks. A BLM-approved biologist can perform initial surveys, however; a knowledgeable botanist must confirm identification.

General Wildlife

Any powerline associated avian mortality will be documented, reported to the BLM and USFWS, and measures will be taken to prevent future mortality. CBM field access roads and other roads with project-related traffic increases will be monitored for wildlife mortality so that specific mitigation can be designed and implemented as deemed necessary by BLM, in consultation with WGFD, for areas with high traffic volume and/or increased wildlife/vehicle collisions and mortality.

PROTECTION MEASURES

Wildlife protection measures have been put in place through lease stipulations included in the Buffalo Field Office's RMP and from the terms and conditions included in the FWS's biological opinion. These mandatory measures were developed through research and input from agencies and operators. Seasonal avoidance of important breeding, nesting, and winter habitats is the primary protection measure to reduce oil and gas development impacts on wildlife populations,

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productivity, and habitat use. Additional conservation measures will be incorporated through the project design and/or as Conditions of Approval. Operators and interested parties are encouraged to recommend alternative protection measures. Operators in consultation with the BLM will implement protection measures. Data collected during monitoring efforts will be used to determine the appropriateness and the effectiveness of these measures throughout the CBM project area. The Team will review the monitoring data and the protection measures. As monitoring data are collected over time, it is likely that some protection measures will be added, while others will be modified or removed completely. All changes in these protection measures will be reported, with a justification for the change, in annual reports. A RMP amendment may be required depending on the recommended change.

A. Lease stipulations

The following sections describe stipulations or mitigation that restrict activities through lease agreements. The lease stipulations were approved in the 1991 Buffalo Field Office RMP.

- **Waivers:** A lease stipulation may be waived by the Authorized Officer (AO) if a determination is made by the BLM, in consultation with FWS, that the proposed action will not adversely affect the species in question.
- **Exceptions:** An exception to these protection measures may be granted by the AO, in coordination with USFWS and/or WGFD, if the operator submits a plan which demonstrates that impacts from the proposed action will not be significant, or can be adequately mitigated.
- **Modifications:** Modifications may be made by the AO if it is determined that portions of the area do not include habitat protected by the stipulation.

Bald Eagle Winter Roosts Timing Limitation

New surface disturbing activities are precluded within 1 mile of bald eagle winter roosts, to prevent increased stress and/or displacement during this critical time (November 1 to April 1).

Crucial Elk Winter Range Timing Limitation

New surface-disturbing activities within crucial elk winter range are precluded between November 15 and April 30, to prevent increased stress and/or displacement of animals during this critical time.

Elk Calving Timing Limitation

New surface-disturbing activities within elk calving areas are precluded between May 1 and June 30, to prevent increased stress and/or displacement of animals during this critical time.

Sage Grouse Breeding Areas Controlled Surface Use

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To minimize adverse effects, activities within ¼ mile of a sage grouse strutting/dancing ground will be restricted or prohibited.

Sage Grouse Nesting Habitats Timing Limitation

New surface disturbing activities are precluded within sage grouse nesting habitats an additional 1 ¾ mile radius beyond the ¼ mile breeding area radius, to prevent increased stress and/or displacement during this critical time (March 1 to June 15).

Sharp-tailed Grouse Breeding Areas Controlled Surface Use

To minimize adverse effects, activities within 250 yards of a sharp-tailed grouse strutting/dancing ground will be restricted or prohibited.

Sharp-tailed Grouse Nesting Habitats Timing Limitation

New surface disturbing activities are precluded within sharp-tailed grouse nesting habitats an additional 1/2 mile radius beyond the 250 yard breeding area radius, to prevent increased stress and/or displacement during this critical time (April 1 to May 31).

Raptor Nesting Habitat Timing Limitation

New surface disturbing activities are precluded within 1/2 mile of raptor nests, to prevent increased stress and/or displacement during this critical time (February 1 to July 31).

B. Conservation Measures

The BLM included conservation measures within the Biological Assessment for the Powder River Basin Oil and Gas EIS to address the impacts of oil and gas development on federally listed and proposed species. These measures are as follows:

Bald Eagle

- In the event that a bald eagle (dead or injured) is located during construction or operation, the USFWS' Wyoming Field Office (307-772-2374) and the USFWS' Law Enforcement Office (307-261-6365) will be notified within 24 hours.
- Site-specific project areas will be evaluated for suitable bald eagle nesting and roosting habitat prior to permit approval. Suitable nesting habitat is any mature stand of conifer or cottonwood trees in association with rivers, streams, reservoirs, lakes or any significant body of water. Suitable roosting habitat is defined as any mature stands of conifer or cottonwood trees.
- The BLM shall monitor all take of bald eagle habitat associated with the preferred alternative. The actual measurement of disturbed habitat is the responsibility of BLM but can be delegated to BLM' agent (consultant, contractor, etc.) A written summary will be provided to the USFWS' Wyoming Field Office semi-annually. The semi-annual report will include field survey reports for endangered, threatened, proposed and candidate species for all actions covered under the *Environmental Impact Statement (EIS) for the Powder River Basin Oil and Gas Project* and ROD. The semi-annual reports will include

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all actions completed up to 30 days prior to the reporting dates. The first report will be due 6 months after the signing of the ROD and on the anniversary date of the signing of the ROD. Reporting will continue for the life of the project.

- The BLM shall monitor all road-associated carcasses, jackrabbit sized and larger, along project (operator-maintained) roads.
- All power lines would be built to protect raptors, including wintering bald eagles, from accidental electrocution using methods detailed by the Avian Power Line Interaction Committee (1996).
- Special habitats for raptors, including wintering bald eagles, would be identified and considered during the review of the APD/POD or Sundry Notices.
- 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 one mile of suitable habitat prior to survey completion.
- A minimum disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) would be established year-round for all bald eagle nest sites. A seasonal minimum disturbance-free buffer zone of one mile would be established for all bald eagle nest sites (February 15 – August 15).
- A seasonal minimum disturbance-free buffer zone of 1 mile would be established for all bald eagle winter roost sites (November 1 – April 1). These buffer zones and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.
- Within ½ mile of bald eagle winter roost sites additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 and 3:00 may be necessary to prevent disturbance (November 1 – April 1).
- Maximum design speed on all operator constructed and maintained roads shall not exceed 25 miles per hour to minimize the chance of a collision with a bald eagle, other wildlife, or livestock.
- Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to bald eagles or their habitat.

Black-footed ferret

- Site-specific project areas will be evaluated for suitable black-footed ferret habitat prior to permit approval. Suitable habitat consists of a black-tailed prairie dog town or complex greater than 80 acres (USFWS 1989). A prairie dog town is a group of intact prairie dog holes whose density exceeds 8 burrows/acre; a complex consists of two or more neighboring prairie dog towns each less than 4.34 miles (7 kilometers) from the

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other (USFWS 1989).

- Prairie dog colonies will be avoided wherever possible.
- If suitable prairie dog colonies cannot be avoided, surveys will be conducted in compliance with the USFWS guidelines (USFWS 1989). The entire colony or colony complex affected will be surveyed, even if part of the colony has a burrow density below eight per acre.
- If any black-footed ferrets are located, the USFWS will be consulted. Absolutely no disturbance will be allowed within prairie dog colonies inhabited by black-footed ferrets.
- Additional mitigation measure may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to black-footed ferrets or their habitat.

Mountain Plover

- In the event that a mountain plover is located during construction or operation, the USFWS' Wyoming Field Office (307-772-2374) and the USFWS' Law Enforcement Office (307-261-6365) will be notified within 24 hours.
- Site-specific project areas will be evaluated for suitable mountain plover nesting habitat prior to permit approval. Flat areas of short-grass 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%.
- The BLM shall monitor all take of mountain plover habitat associated with the preferred alternative. The actual measurement of disturbed habitat is the responsibility of BLM but can be delegated to BLM' agent (consultant, contractor, etc.) A written summary will be provided to the USFWS' Wyoming Field Office semi-annually. The semi-annual report will include field survey reports for endangered, threatened, proposed and candidate species for all actions covered under the *Environmental Impact Statement (EIS) for the Powder River Basin Oil and Gas Project* and ROD. The semi-annual reports will include all actions completed up to 30 days prior to the reporting dates. The first report will be due 6 months after the signing of the ROD and on the anniversary date of the signing of the ROD. Reporting will continue for the life of the project.
- No ground-disturbing activities shall occur in suitable nesting habitat prior to surveys for nesting mountain plovers conducted in compliance with the USFWS' Mountain Plover Survey Guidelines (USFWS 2002). A BLM approved biologist will conduct the surveys. Once occupied mountain plover nesting habitat is located, the BLM shall reinitiate section 7 consultation with the USFWS on any project-related activities proposed for such habitat. The amount and nature of ground-disturbing activities shall be limited within identified nesting areas in a manner to avoid the abandonment of these areas.
- Operators and the BLM shall be provided by the USFWS with educational material illustrating and describing the mountain plover, its habitat needs, life history, threats, and gas development activities that may lead to incidental take of eggs, chicks, or adults with requirements that these materials be posted in common areas and circulated in a memorandum among all employees and service providers.

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- A disturbance-free buffer zone of 0.25 mile would be established around all mountain plover nesting locations between March 15 and July 31.
- Project-related features that encourage or enhance the hunting efficiency of predators of mountain plover would not be constructed within 0.25 mile of known mountain plover nest sites.
- Construction of ancillary facilities (e.g., compressor stations, processing plants) shall not be located within 0.5 mile of known nesting areas. The threats of vehicle collision to adult plovers and their broods shall be minimized, especially within breeding aggregation areas.
- Where possible, roads will be located outside of plover nesting areas. Maximum allowed travel speed on roads within ½ mile of identified plover nesting areas shall not exceed 25 mph from March 15 and July 31.
- Maximum design speed on all operator constructed and maintained roads shall not exceed 25 miles per hour.
- Work schedules and shift changes should 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.
- The BLM shall monitor all road-associated carcasses, jackrabbit sized and larger, along project (operator-maintained) roads. The presence of carrion could attract mountain plover predators.
- Creation of hunting perches or nest sites for avian predators within 0.5 mile of identified nesting areas shall be avoided by burying powerlines, using the lowest possible structures for fences and other structures and by incorporating perch-inhibiting devices into their design.
- Capped and abandoned wells shall be identified with markers no taller than four feet with perch inhibiting devices on the top to avoid creation of raptor hunting perches within 0.5 mile of nesting areas.
- Reclamation of areas of previously suitable mountain plover habitat would include the seeding of vegetation to produce suitable habitat for mountain plover.
- To minimize destruction of nests and disturbance to breeding plovers from reclamation activities, no grading, seeding, or other ground-disturbing activities shall occur from April 10 to July 10 unless surveys consistent with the USFWS' Mountain Plover Survey Guidelines (USFWS 2002) find that no plovers are nesting in the area.
- Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to mountain plovers or their habitat.

Ute Ladies'-tresses Orchid

- At the discretion of the surface owner, native species would be planted to re-establish special habitats.
- Site-specific project areas will be evaluated for suitable Ute ladies'-tresses orchid habitat

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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).

- Suitable habitat will be avoided wherever possible.
- 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. Be aware, surveys can only be conducted between July 20 and August 31.
- 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.
- Companies operating in areas identified with weed infestations or suitable Ute ladies'-tresses orchid habitat will be required to submit an integrated pest management plan prior to APD approval. The components of the integrated pest management plans are outlined in the CBM APD and POD Preparation Guide. Mitigation will be determined on a site-specific basis and may include such measures 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.
- Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to Ute ladies'-tresses orchids or their habitat.

C. Terms and Conditions

Terms and conditions are mandatory measures to minimize the likelihood of taking a federally listed species; BLM must comply with these measures to be exempt from ESA Section 9 prohibitions. The terms and conditions are a component of the FWS biological opinion on the EIS. BLM compliance with the above conservation measures is included, additional terms and conditions are as follows:

Bald Eagle

A minimum disturbance free buffer zone of ½ mile will be established for all bald eagle roost sites.

Mountain Plover

No dogs will be permitted at work sites to reduce the potential for harassing plovers.

D. Programmatic Guidance for Plans of Development

Guidance for preparing Plans of Development and/or protective measures applied as Conditions of Approval provide a full range of practicable means to avoid or minimize harm to wildlife species and their habitats. Operators can minimize impacts to wildlife by incorporating applicable WMPP programmatic guidance into PODs. Not all measures may apply to each site-specific development area and means to reduce harm are not limited to those identified in the WMPP. Operators are encouraged to develop alternative measures. This guidance may change over time if new conservation strategies become available for Special Status Species or monitoring indicates the measure is not effective or unnecessary.

BLM and WGFD will work together through a Cooperative Agreement to collect baseline information about wildlife and sensitive habitats possibly containing special status species. During the project development phase, operators will identify potentially sensitive habitats and coordinate with BLM to determine which species or habitats are of concern. In areas where required site-specific wildlife inventory has not been completed, BLM and operators will work cooperatively to achieve completion. BLM's responsibilities under the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), and National Historic Preservation Act (NHPA) are the same on split estate (i.e. federal minerals/private surface) as they are with federal surface. BLM and Operators will seek input from the private surface owner to include conservation measures in split estate situations.

The following guidance and protective measures are considered features or project design criteria to be used during POD preparation. The design of projects can incorporate conservation needs for wildlife species or measures can be added as Conditions of Approval. These types of conservation actions offer flexibility for local situations and help minimize or eliminate impacts to the species of interest.

1. Use the best available information for siting structures (e.g. wells, compressor stations, and monitoring stations) outside of the applicable zone of impact in important wildlife habitats based on the following considerations.
 - a. size of the structure(s),
 1. level/type of anticipated disturbance
 2. life of the operation, and
 3. extent to which impacts would be minimized by topography.
2. Concentrate energy-related facilities when practicable.
3. Develop a comprehensive development plan to minimize road densities.
4. Utilize remote monitoring technologies to reduce site visits thereby reducing wildlife disturbance and mortalities.

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5. To reduce additional surface disturbance, existing roads and two-tracks on and adjacent to the CBM project area will be used to the extent possible and will be upgraded as necessary.
6. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have minimal disturbance. Time construction activities to protect fisheries and water quality.
7. Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, the 25-year frequency runoff. Consider oversized pipe when debris loading may pose problems. Ensure sizing provides adequate length to allow for depth of road fill.
8. Avoid, where possible, locating roads in crucial sage grouse breeding, nesting and wintering areas and mountain plover habitats. Develop a route utilizing topography, vegetative cover, site distance, etc. to effectively protect identified wildlife habitats in a cost efficient manner.
9. Conduct all road and stream crossing construction and maintenance activities in accordance with Agency approved mitigation measures and BMPs.
10. All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions and facilitate wildlife movement through the project area. Appropriate speed limits will be adhered to on all project area roads, and Operators will advise employees and contractors regarding these speed limits.
11. Apply mitigation measures to reduce mountain plover, swift fox or sage grouse mortality caused by increased vehicle traffic. Construct speed bumps, use signing or post speed limits as necessary to reduce vehicle speeds near sage grouse leks, mountain plover habitat, or other important wildlife habitats
12. Road closures may be implemented during crucial periods (e.g., extreme winter conditions, and calving/fawning seasons). Personnel will be advised to minimize stopping and exiting their vehicles in big game winter range while there is snow on the ground.

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13. Roads no longer required for operations or other uses will be reclaimed if required by the surface owner or surface management agency. Reclamation will be conducted as soon as practical.
14. Operator personnel and contractors will use existing state and county roads and approved access routes, unless an exception is authorized by the surface management agency.
15. Use minimal surface disturbance to install roads and pipelines and reclaim sites of abandoned wells to restore natural plant communities.
16. Reclamation of disturbed areas will be initiated as soon as practical. Native species will be used in the reclamation of important wildlife habitat. Livestock palatability and wildlife habitat needs will be considered during seed mix formulation.
17. Site new power lines and pipelines in existing disturbed areas wherever possible.
18. Use corridors to the maximum extent possible; roads, power, gas and water lines should utilize the same corridor wherever possible.
19. Minimize the number of new power lines in sage grouse or mountain plover habitat. Bury lines near sage grouse leks and mountain plover nesting habitat when feasible.
20. Encourage monitoring of avian mortalities by entering into a Memorandum of Understanding (MOU) with FWS and the state agencies. The purpose of the MOU is to establish procedures and policies to be employed by the parties to lessen industry=s liability concerns about the Atake@ of migratory birds.
21. Remove unneeded structures and associated infrastructure when project is completed.
22. If possible, minimize maintenance and related activities in sage grouse breeding/nesting complexes; 15 March -15 June, between the hours of 4:00-8:00 am and 7:00-10:00 pm.
23. Protect, to the extent possible, natural springs from disturbance or degradation.
24. Design and manage produced water storage impoundments so as not to degrade or inundate sage grouse leks, nesting sites and wintering sites, prairie dog towns or other Special Status Species habitats.
25. Design water storage impoundments to provide habitat for wildlife of interest (e.g. waterfowl nesting habitat). Impoundments that are designed as flow through systems will lessen the likelihood that selenium will bioaccumulate to levels that will adversely affect other wildlife.

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26. Develop offsite mitigation strategies in situations where fragmentation or degradation of Special Status Species habitat is unavoidable.
27. Protect pits potentially hazardous to wildlife by netting and/or fencing as directed by the BLM to prevent wildlife access and minimize the potential for migratory bird mortality.
28. Reduce potential increases in poaching through employee and contractor education regarding wildlife laws. Violations should be reported to BLM and WGFD by the Operator.
29. Operator employees and their contractors will be discouraged from possessing firearms during working hours.

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