

# **APPENDIX A**

## **WILDLIFE MONITORING AND PROTECTION PLAN**

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## **INTRODUCTION**

This Wildlife Monitoring and Protection Plan (WMPP) was prepared in conjunction with the Statewide Oil and Gas Draft Environmental Impact Statement (DEIS) and Amendment of the Powder River and Billings Resource Management Plans (RMPs) (BLM, 2001). The DEIS and Amendment addresses future exploration for and development of BLM and state of Montana (state) managed CBNG resources and conventional oil and gas resources. The planning area excludes those lands administered by the Forest Service, the Crow, Northern Cheyenne, and other Indian lands. The WMPP will be implemented on federal lands, including split estate, in cooperation with state agencies, federal agencies, tribal representatives, operators, and landowners. If owners and managers of state and private mineral development are willing to incorporate this guidance into management of their CBNG activities, they may become a partner by entering into a Cooperative Agreement.

A variety of planning issues related to wildlife were identified during preparation of the DEIS. 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 CBNG and conventional oil and gas industry (i.e., operators), resource management agencies, landowners and adjacent tribal governments. 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 CBNG Project Plan. Implementation of this plan during the course of project development and operations should promote wildlife conservation and allow land managers and project personnel to maintain wildlife populations and productivity levels simultaneously with the development of natural oil and gas resources.

## **PLAN PURPOSE**

Oil and gas leasing decisions and lease stipulations were previously analyzed in the BLM 1992 *Final Oil and Gas RMP/EIS Amendment* (BLM 1992). Wildlife stipulations attached to leases offer protective measures: 1) for certain species, 2) during a particular time period, or 3) within a specific area. These stipulations may not address other concerns related to special status species or water/habitat related issues caused by direct and indirect impacts from CBNG exploration and development. Because 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. Even though BLM has some adaptive management strategies in place (e.g., COAs and compliance inspections), these mechanisms do not give us the information necessary to understand cause and effect relationships across a landscape. Therefore, the purpose of this plan is to acquire baseline wildlife information, monitor populations, and assess stipulations for effectiveness. The WMPP will facilitate our ability to pinpoint problems (including the evaluation of other contributing factors), design project plans which include conservation for declining species, monitor the effectiveness of decisions, and make recommendations to adjust management to address specific situations.

## **AREA AND OBJECTIVES**

The WMPP document is the framework for wildlife monitoring and protection across the Powder River and Billings RMP areas (approximately 6.5 million acres) and provides a template for regional and/or project specific WMPP development. The BLM, MFWP, and FWS will work cooperatively to implement portions of the WMPP over the planning area. There are two basic layers of analysis, the Plan of Development (POD), and the Powder River Basin in Montana.

As energy development begins, POD specific WMPPs, following the same template as this document, will be written in cooperation with other agencies, operators, landowners and other interests. The POD analysis will include wildlife impacts from the POD area, and also the cumulative impacts from other PODs (including those of other companies) as well as other activities in the area. The objectives of the program are to:

- Establish a framework for cooperation among agencies, operators, landowners, tribal governments 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, CBNG 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 with the issuance of the *Record of Decision* and will remain in effect for the life of the project (approximately 25 years). Guidance for the conservation of special status species will be incorporated into the “Project Plan of Development Preparation Guide.” Signatories on an Interagency Cooperative Agreement will serve as the “*Steering Committee (Interagency Working Group)*.” A “*Core Team*” (i.e., agency biologists) will oversee the implementation of the programmatic elements of the WMPP. As energy development is initiated within the Montana portion of the Powder River Basin, operator-funded biologists, approved by the BLM, will write area-specific monitoring and protection plans. These plans will be reviewed by the BLM resource specialists for completeness and content.

The programmatic template will undergo an annual review, at least initially, for effectiveness. A major review will be conducted every 5 years, or as determined by members of the *Core Team, Wildlife, and Aquatic Task Groups*. The various cooperators will meet annually (or more often as needed) to evaluate the progress of the various POD inventory and monitoring efforts.

## **IMPLEMENTATION PROTOCOL**

This section provides preliminary wildlife inventory, monitoring, and protection protocol. Required actions for inventory, monitoring and protection vary by species and development intensity. In areas of development with greater than 1 well location per section, additional actions in Table 3 become applicable. Standard protocol for APD and right-of-way (ROW) application field reviews are provided in Table 2. Alternative measures and protocols will be developed as determined by *Core Team* members in response to specific needs identified in annual reports. This document provides methods for a number of wildlife species/categories. 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 on input provided by the public, other agencies, and the BLM during preparation of the DEIS.

Considerable efforts 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 cooperate to implement the programmatic elements of inventory, monitoring and protection actions associated with CBNG development in the Powder River and Billings RMP areas. The Montana participants in the Interagency Working Group will oversee implementation across the planning area and summarize information from work achieved in various PODs.

During project development (i.e., 25 years), to include habitat restoration or rehabilitation efforts, operators will annually 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. 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. Annual wildlife inventory, monitoring, and protection data gathered by parties other than the BLM (e.g., operators, MFWP) should provide data/summaries to the BLM using current format standards. Upon receipt of this information, annual reports will be completed in draft form by the BLM and submitted to the operators, FWS, MFWP, and other parties. A one-day meeting of the *Core Team* will be organized by the BLM and held in early December of each year to discuss and modify, as necessary, proposed wildlife inventory, monitoring, and protection protocol for the subsequent year. Additional meetings will be scheduled as necessary.

Discussions regarding annual operator-specific financing and personnel requirements will occur at these meetings. A formula for determining these requirements will be developed at the first year’s meeting (i.e., size of development, anticipated impacts, amount of public land, 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 BLM to all potentially affected individuals and groups by early February of each year. 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, 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 and stored in BLM's Geographic Information System (GIS) for retrieval and planning unless otherwise agreed to by BLM, MFWP and FWS. Raw data collected each year will be provided to other management agencies (e.g., FWS, MFWP) 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.). Inventory and monitoring data will be shared on a timely basis by all cooperating agencies.

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, sage grouse lek counts and bald eagle habitat loss reports).

## **ANNUAL INVENTORY AND MONITORING**

This document outlines the inventory and monitoring protocol for a number of selected wildlife species/categories. Protocol will be unchanged except as 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. MFWP will be contacted during the coordination of survey and other data acquisition phases. Opportunistic wildlife observations may be made throughout the year by agency and operator personnel.

The frequency of inventory and monitoring will be dependent upon the level of development. In general, inventory and monitoring frequency will increase with increased levels of development. The level of effort should also be determined by species presence and development projection. Inventory and monitoring results may lead to further currently unidentifiable 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 CBNG project field reviews.

### **RAPTORS (INCLUDING BALD EAGLE AND BURROWING OWL)**

Raptor inventories will be conducted over the entire CBNG project area every 5 years with financial assistance being provided by proponents. In potentially affected areas, baseline inventory should be conducted prior to the commencement of development to determine the location of raptor nests/territories and their activity status by the BLM, with operator financial assistance. These inventories should be repeated every 5 years (in areas with 1 or less well locations/section) thereafter for the Life-of-the-Project (LOP) to monitor trends in habitat use. These surveys may be implemented aerially or from the ground. Operators may provide financial assistance for some work. Data collected during the surveys (both inventory and monitoring) will be recorded on BLM approved data sheets and entered into the BLM GIS database. Standardized, recommended wildlife survey protocols are identified in "Wildlife Survey Protocol for Coal Bed Natural Gas Development, Powder River Basin Wildlife Taskforce" and/or as referenced in this appendix. BLM should be contacted prior to commencement of wildlife surveys to insure proper survey protocols are being utilized.

Nest productivity monitoring will be conducted by the BLM or a BLM-approved biologist. Active nests located within 1 mile of project-related disturbance areas will be monitored between March 1 and mid-July 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 and may require aerial surveys. Operators may provide financial assistance for aircraft rental as necessary. Attempts will be made to determine the cause of any documented nest failure (e.g., abandonment, predation).

Additional raptor nest activity and productivity monitoring measures will be applied in areas with development (i.e., areas with greater than 1 well locations/section) on and within 1 mile of the project area. Inventory/monitoring efforts in these 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.

All raptor nest/productivity surveys will be conducted using procedures that minimize potential adverse effects to nesting raptors. Specific survey protocol for reducing detrimental effects are listed in Grier and Fyfe (1987) and Call (1978) 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.
- Inventories will be coordinated by the BLM.
- The number of nest visits in any year will be kept to a minimum.

**Ferruginous Hawk:** Timing of surveys is very important in documenting the territory, occupancy, success and productivity of ferruginous hawk populations. The accepted survey and monitoring guidelines for ferruginous hawk are taken from the *Survey and Monitoring Guidelines for Ferruginous Hawks in Montana, 1995*.

**Bald Eagle:** Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions. Operators will indicate the presence of eagle habitat (nesting, foraging, roosting, winter) as previously defined on their application. Prior to CBNG development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or BLM-approved biologists to determine the occurrence of winter bald eagle roost sites/territories. Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset by fixed-wing aircraft. Follow-up ground 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. If a roost or suspected roost is identified, BLM, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be obtained and entered into the BLM GIS database. There will be No Surface Occupancy within 0.5 miles of any identified bald eagle roost site/territories.

Nest productivity will be conducted by the BLM or a BLM-approved biologist in areas with one or more well locations per section and within 1 mile of the project area. Active nests located within one mile of project-related disturbance areas (well sites, pipelines, roads, compressor stations, and other infrastructure) will be monitored on an annual basis between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).

**Burrowing owl:** Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not indicate burrowing owls are present. It does, however, alert the company and BLM that a field review and surveys may be required to process the permit or initiate action. In association with APD and ROW application field reviews, prairie dog colonies within 0.5 miles of a proposed project or any other suitable habitat within a 0.5 mile radius area, will be surveyed for western burrowing owls by BLM biologists or a BLM-approved operator-financed biologist 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).

#### **THREATENED, ENDANGERED, CANDIDATE, AND OTHER SPECIES OF CONCERN**

Operators must identify and map the presence of cottonwood riparian, 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 habitat may not indicate a species is present. It does, however, alert the company and BLM that a field review and surveys may be required to process the permit or initiate action. The level of effort associated with the inventory and monitoring required for threatened, endangered, candidate, and other species of concern (TEC&SC) 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 TEC&SC species are added to or withdrawn from FWS and/or BLM lists, appropriate modifications will be incorporated to this plan and specified in annual reports.

TEC&SC 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 TEC&SC 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.



### **Black-footed Ferret**

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not necessarily indicate suitable black-footed ferret habitat is present. It does, however, alert the company and BLM that a field review and surveys may be required to process the permit or initiate action. BLM biologists and/or BLM-approved operator-financed biologists will determine the presence/absence of prairie dog colonies within 0.5 miles of proposed activity during APD and ROW application field reviews. Prairie dog colonies on the area will be mapped to determine overall size following the approved methodology. Colony acreage will be determined using GIS applications. Colonies that meet FWS size criteria as potential black-footed ferret habitat (FWS 1989) will be surveyed to determine active burrow density using the methods described by Biggins et al. (1993) or other BLM- and FWS-approved methodology.

Project activity will be located to avoid impacts to prairie dog colonies that meet FWS criteria as black-footed ferret habitat (FWS 1989). If avoidance is not possible, all colonies meeting the FWS size criteria and any colonies for which density estimates are not obtained will be surveyed for black-footed ferrets by an operator-financed, FWS-certified surveyor prior to, but no more than 1 year in advance of disturbance to these colonies. Black-footed ferret surveys will be conducted in accordance with FWS guidelines (FWS 1989) and will be conducted on a site-specific basis, depending on the areas proposed for disturbance in a given year as specified in the annual report. If a black-footed ferret or its sign is found during a survey, all development activity would be subject to recommendations from the *Montana Black-footed Ferret Survey Guidelines, Draft Managing Oil and Gas Activities in Prairie Dog Ecosystems with Potential for Black-footed ferret Reintroduction* and re-initiation of Section 7 Consultation with FWS.

### **Black-tailed and White-tailed Prairie Dog**

The BLM will determine the acreage of occupied black-tailed and/or white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface acres and federal mineral estate lands. Further, a reasonable effort should be made to estimate actual impacts, including habitat loss, CBNG development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area.

Prairie dog towns on BLM lands within 0.5 miles of a specific project area will be identified, mapped, and surveyed as described in the black-footed ferret section. On an annual basis, the BLM and/or a BLM-approved operator-financed biologist will survey, at least a 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 CBNG development.

### **Mountain Plover**

Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plover will have Controlled Surface Use between April 1 and July 31, which may be reduced to Controlled Surface Use within 1/4 mile of an active nest, once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS on a case-by-case basis and the operator agrees to adhere to the new operational constraints.

On federally managed surface acres, black-tailed and white-tailed prairie dog towns greater than 80 acres in size within suitable mountain plover habitat will have a no surface use stipulation from May 1 through June 15. Prior to permit approval, habitat suitability will be determined. The BLM, FWS and MFWP will estimate potential mountain plover habitat across the CBNG area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved operator biologist, using the FWS protocol at the project area, plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to CBNG 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 CBNG development.

The BLM shall monitor loss of mountain plover habitat associated with all portions of this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under 'critical habitat' for the mountain plover in FWS' Statewide Biological Opinion. The actual measurement of disturbed habitat will be the responsibility of the BLM or their agent (consultant, contractor, etc) with a

written summary provided to the FWS' Montana Field Office, upon project completion or immediately, if the anticipated impact area is exceeded.

### **Gray Wolf**

According to the *Biological Assessment for Coalbed Methane Production in Montana*, state lands and counties (Gallatin and Park counties) bordering Yellowstone National Park would be surveyed in the spring for wolves, occupied dens, or scat prior to development. These surveys could be conducted from the air or from the ground. Areas in which wolves are observed would continue to be surveyed annually until reintroduction objectives are met. Efforts will be made to compare production and/or occupancy trends in wolf populations in these areas to a reference population in order to gain more reliable information regarding the response of wolves to CBNG development.

### **Sage-Grouse**

Sage grouse lek inventories will be conducted over the CBNG project area every 5 years to determine lek locations. Surveys of different areas may occur during different years with the intent the high potential CBNG project areas will be covered at least once every 5 years. Inventories and protocol will be consistent with the *Montana Sage Grouse Conservation Plan*, coordinated by the BLM and MFWP. In areas with development, aerial inventories will be conducted annually on affected sections, 3 mile buffers, and selected undeveloped reference areas. Surveys may be conducted aerially or on the ground, as deemed appropriate by the BLM and MFWP. Operator may provide financial assistance.

Reference leks are leks located in similar habitat and within close proximity to areas currently being developed. These "reference leks" will be identified by BLM and MFWP.

Aerial surveys will be used for determining lek locations. BLM, MFWP or BLM-approved operator-financed biologist will monitor sage-grouse lek attendance within 3 miles of areas having development such that all leks on these areas are surveyed at least once every 3 years. Data collected during these surveys will be recorded on BLM and MFWP approved data sheets and entered into the approved database. An effort should also be made to compare trends of the number of males/lek to reference leks.

Sage-grouse winter use surveys of suitable winter habitat within 3 miles of a project area will be coordinated by the BLM and implemented during November through February as deemed appropriate by these agencies, and results will be provided in interim and/or annual reports. 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 when suitable conditions exist.

### **BIG GAME**

Elk, mule deer, white-tailed deer, and pronghorn are the common big game species that occur within parts or all of the CBNG planning area. Annual big game seasonal habitat use data will be collected and made available to operators, Tribes and landowners. Big game use of seasonal habitats is highly dependent upon a combination of environmental factors including terrain, forage quality and snow depth. Therefore, it is 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 CBNG development may provide some insight into the response of big game to CBNG development.

### **GENERAL WILDLIFE**

Wildlife mortality observed in pits will be documented, reported to the BLM and FWS, and measures will be taken to prevent future mortality. If the dead animals are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the pits would need to be "spot checked" by appropriate BLM or FWS personnel in insure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. Well 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 MFWP.

### **AQUATIC SPECIES**

Baseline aquatic inventories will be conducted in potentially affected areas with operator financial assistance, prior to development, in an effort to determine occurrence, abundance, and population diversity of the aquatic community. These inventories should be repeated as necessary 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.

Detection of a retraction in the range of a species, a downward trend in abundance, or reduced population diversity in systems with produced water discharge shall warrant a review of Project Plans and possible recommendations for adjustment of management to address the specific problems.

Aquatic groups to be inventoried and monitored will include:

- Benthic macroinvertebrates** - Determine population diversity using Hess/kick net sampling protocol to measure species abundance and establish a diversity index.
- Amphibians and aquatic reptiles** - Determine population diversity and abundance utilizing sampling methodologies being developed for prairie species.
- Non-game fish** - Determine population diversity using electrofishing and seining.
- Algae (periphyton)** – Determine population diversity.

## PROTECTION MEASURES

Wildlife protection measures have been put in place through lease stipulations. The following sections from the FWS' Biological Opinion describe stipulations or mitigation that restrict activities through lease agreements or terms and conditions to reduce the likelihood of "take" of a federally listed species. For all stipulations and mitigation measures that include protection of specific habitats (e.g., sage-grouse winter habitat), identification of the specific habitat areas will be based on the best available science. This may include BLM surveys or information from other sources. For example, researchers at the University of Montana and Montana State University are developing sage-grouse habitat models that should provide better information on sage-grouse habitat areas than is currently available.

### Lease Stipulations and Mitigation Measures

The lease stipulations were approved in the 1994 BLM Oil and Gas EIS. These are mandatory measures or actions developed as a result of wildlife research and input from agencies and operators. Avoidance of important breeding, nesting, and seasonal habitats is the primary protection measure that will reduce the possibility of CBNG and Oil and Gas development having an impact on wildlife populations, productivity, or habitat use. Additional conservation measures will be incorporated through the Project Plan design or as Conditions of Approval. Data collected during monitoring efforts and analyzed will be used to determine the appropriateness and the effectiveness of these measures throughout the CBNG project area. Based on the results of the monitoring data, these measures will be reviewed by the *Core Team*. As monitoring data are collected over time, it is likely some protection measures will be added, while others will be modified or removed in cooperation with other agencies and the *Core Team*. All changes in these protection measures will be reported, with a justification for the change, in annual reports. An RMP amendment may be required depending on the recommended change.

**“Waivers”** A lease stipulation may be waived by the Authorized Officer if a determination is made by the BLM, in consultation with MFWP and/or FWS, that the proposed action will not adversely affect the species in question.

**“Exceptions”** to protection measure may be granted by the Authorized Officer, in coordination with FWS for T&E species and MFWP, if the operator submits a plan that demonstrates impacts from the proposed action will not be significant, or can be adequately mitigated.

**“Modifications”** may be made by the Authorized Officer if it is determined portions of the area do not include habitat protected by the stipulation.

### Raptors

From March 1 – August 1, all surface disturbing activities are prohibited within ½ mile of active raptor nest sites except ferruginous hawk, bald eagle and peregrine falcon nest sites. For ferruginous hawks and bald eagles, no surface occupancy or

use will be allowed within ½ mile of known active nest sites. No surface occupancy or use is authorized within 1 mile of identified peregrine falcon nests. Active raptor nests are defined as those used within the last two years.

## Big Game

Surface use is prohibited to avoid disturbance of white-tailed deer, mule deer, elk, pronghorn antelope, moose, and bighorn sheep during the winter use season, December 1 - March 31. This stipulation does not apply to the operation and maintenance of production facilities.

## Elk Parturition Range

In order to protect identified elk parturition range, surface use is prohibited from April 1 to June 15 within established spring calving range. This protection measure does not apply to the operation and maintenance of production facilities.

## Bighorn Sheep – Powder River Breaks

No surface occupancy or use is allowed in the designated Powder River Bighorn Sheep Range. In crucial winter range outside of the designated area, surface use is prohibited from December 1 to March 31.

## Sage and Sharptailed Grouse

### *Lek sites*

In order to minimize impacts to sharptailed and sage-grouse leks, surface occupancy within ¼ mile of leks is prohibited. The measure may be waived if the authorized officer, in coordination with MFWP, determines the entire leasehold can be occupied without adversely affecting grouse lek sites, or if the lek sites within ¼ mile of the leasehold have not been attended for 5 consecutive years.

### *Nesting area*

Surface use is prohibited from March 1 – June 15 in grouse nesting habitat within 2 miles of a known lek. This measure does not apply to the operation and maintenance of production facilities. This measure will be implemented to protect sharptailed and sage-grouse nesting habitat from disturbance during spring and early summer in order to maximize annual production of young, and to minimize disturbance to nesting activities adjacent to nesting sites for the long-term maintenance of grouse populations in the area.

### *Winter range*

Surface use is prohibited from December 1 through March 31 within designated crucial winter range to protect sage-grouse from disturbance during winter season use.

### *Control of West Nile Virus*

Manage produced water to reduce the spread of West Nile virus within sage-grouse habitat areas. Implement the following impoundment construction techniques to eliminate water sources that support breeding mosquitoes:

- Overbuild the size of ponds to accommodate a greater volume of water than is discharged. This will result in non-vegetated and muddy shorelines that breeding mosquitoes avoid.
- Build steep shorelines to reduce shallow water and aquatic vegetation around the perimeter of impoundments. Construction of steep shorelines also will increase wave action that deters mosquito production. Use of this construction technique could be harmful to certain wildlife species such as birds, and would require consideration on a case-by-case basis.
- Maintain the water level below rooted vegetation for a muddy shoreline that is unfavorable habitat for mosquito larvae. Rooted vegetation includes both aquatic and upland vegetative types. Always avoid flooding terrestrial vegetation in flat terrain or low lying areas.
- Construct dams or impoundments that restrict down slope seepage or overflow. Seepage and overflow results in down-grade accumulation of vegetated shallow water areas that support breeding mosquitoes.

- Line the channel where discharge water flows into the pond with crushed rock, or use a horizontal pipe to discharge inflow directly into existing open water, thus precluding shallow surface inflow and accumulation of sediment that promotes aquatic vegetation.
- Line the overflow spillway with crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation.
- Fence pond site to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure and create hoof print pockets of water that are attractive to breeding mosquitoes.

The following measures will also be employed for impoundments storing produced water:

- Use adulticides to target adult mosquito populations and larvicides to control the hatching of mosquito larvae, using approved pesticides and utilizing licensed applicators with a PUP.
- Introduce native fish species, such as fathead minnow or sand shiner, that would feed on mosquito larvae.
- Use electric, solar, or wind-powered fountains or aerators, which would create a ripple disturbance in the water surface and dissuade mosquitoes from laying eggs. This would also have the added effect of aerating the water to support a fish population and help prevent against winter fish die-off.
- Use a vertical discharge pipe in the center of the impoundment to create a ripple effect and aerate the water to support a fish population.

## **Prairie Dog Towns and Associated Black-footed Ferret Habitat**

Prior to surface-disturbing activities, prairie dog colonies and complexes 80 acres or more in size and containing at least 5 burrows per acre will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy.

The lessee or operator may, at their own option, conduct an examination on the leased lands to determine if black-footed ferrets are present if the proposed activity would have an adverse effect or if the area can be block cleared. This examination must be done by, or under the supervision of, a qualified resource specialist approved by the BLM. An acceptable report must be provided documenting the presence or absence of black-footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat. This stipulation does not apply to the operation and maintenance of production facilities.

### **Interior Least Tern**

The interior least tern is listed as an endangered species under the ESA. Birds occupy sandbars and graveled islands in eastern Montana and along the Yellowstone and Missouri Rivers. Surface occupancy and will be prohibited within 1/4 mile of wetlands identified as interior least tern habitat.

### **Terms and Conditions from Section 7 Consultation**

In order to be exempt from the prohibitions of Section 9 of the ESA, the Bureau must comply with the following terms and conditions, which implement the reasonable and prudent measures described and outlined in the Biological Opinion. **These terms and conditions are nondiscretionary.**

### **All Species**

In the event wildlife species (dead or injured) are located during construction and operation, the FWS' Billings Sub-Office of the Montana Field Office (406-247-7366) and Law Enforcement Office (406-247-7355) will be notified within 24 hours. If the dead animals are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the pits would need to be "spot checked" by appropriate BLM or FWS personnel in insure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. The action agency must provide for monitoring the actual number of individuals taken. Because of difficulty in identification, all small birds found dead should be stored in a freezer for the FWS to identify.

The Bureau shall monitor all loss of bald eagle (nesting, potential nesting and roost sites) and suitable mountain plover habitat associated with all actions covered under the *Montana Statewide Draft Oil and Gas EIS and Amendment of the Powder River and*

*Billings RMPs* and ROD. Bald eagle nesting, potential nesting and roost sites, and suitable mountain plover habitat have been defined under 'habitat use' and critical habitat' respectively, for each species in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM or their agent (consultant, contractor, etc), with a written summary provided to the FWS' Montana Field Office upon project completion. The report will include the location and acres of habitat loss, field survey reports, what stipulations were applied, and a record of any variance granted to timing and/or spatial buffers. The monitoring of habitat loss for these species will commence from the date the Record of Decision (ROD) is signed. The actual measurement of disturbed habitat can be the responsibility of the Bureau's agent (consultant, contractor, etc.) with a written summary provided to the FWS' Montana Field Office semi-annually, or immediately if the Bureau determines the action (*i.e.* APD, pipeline, compressor station) will adversely affect a listed species. It is the responsibility of the Bureau to ensure the semi-annual reports are complete and filed with the FWS in a timely manner. The semi-annual report will include field survey reports for endangered, threatened, proposed and candidate species for all actions covered under the *Montana Statewide Draft Oil and Gas EIS and Amendment of the Powder River and Billings RMPs* and ROD. The semi-annual reports will include all actions completed under this Biological Opinion up to 30 days prior to the reporting date. The first report will be due 6 months from 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.

As outlined in the guidance and conservation measures in the WMPP for the Statewide Oil and Gas EIS and Amendment of the Powder River and Billings RMPs, "All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions. Appropriate speed limits will be adhered to on all project area roads, and operators will advise employees and contractors regarding these speed limits."

## **Bald Eagle**

The Bureau shall require implementation of all conservation measures/mitigation measures identified in the Biological Assessment prepared for the project and dated October 2006, and the wildlife inventory, monitoring, and protection protocol identified in the WMPP. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- The appropriate standard seasonal or year-long stipulations for raptors or no surface occupancy for bald eagles as identified in the Billings RMP (BLM 1983), Powder River RMP (BLM 1984), and Oil and Gas RMP/EIS Amendment (BLM 1992) will be applied. This includes No Surface Occupancy within ½ mile of nests active in the last 7 years and ½ mile of roost sites.
- Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions. Operators will indicate the presence of eagle habitat as previously defined, on their application. Prior to CBNG development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or 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 by aircraft. Follow-up ground 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, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be entered into the approved database. No Surface Occupancy will be applied within 0.5 miles of any identified bald eagle roost sites.
- Nest productivity will be conducted by the BLM or a BLM approved biologist in areas with development (*i.e.*, areas with greater than 1 well locations/section) and within 1 mile of the project area. Active nests located within one mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (*i.e.*, number of nestlings/fledglings per nest).
- No new above-ground power line should be constructed within ½ mile of an active eagle nest or nest occupied within the recent past. No surface occupancy or use is allowed within 0.5 miles of known bald eagle nest sites which have been active within the past 7 years. All other actions will be consistent with the *Montana Bald Eagle Management Plan - July 1994*.
- Power lines will be built to standards identified by the Power Line Interaction Committee (2006) to minimize electrocution potential. The FWS has more specific recommendations that reaffirm and complement those presented in the *Suggested Practices*. It should be noted these measures vary in their effectiveness to minimize mortality, and may be modified as they are tested. Local habitat conditions should be considered in their use. The FWS does not endorse any specific product that can be used to prevent and/or minimize mortality; however, we are providing a list of Major Manufacturers of Products to Reduce Animal Interactions on Electrical Utility Facilities.

## New Distribution Lines and Facilities

The following represents areas where the raptor protection measures will be applied when designing new distribution line construction:

- 1.1 Bury distribution lines where feasible.
- 1.2 Raptor-safe structures (e.g., with increased conductor-conductor spacing) are to be used (i.e., minimum 60" for bald eagles would cover all species).
- 1.3 Equipment installations (overhead service transformers, capacitors, reclosers, etc.) are to be made raptor safe (e.g., by insulating the bushing conductor terminations and by using covered jumper conductors).
- 1.4 Jumper conductor installations (e.g., corner, tap structures, etc) are to be made raptor safe by using covered jumpers or providing adequate separation.
- 1.5 Employ covers for arrestors and cutouts.
- 1.6 Lines should avoid high avian use areas such as wetlands, prairie dog towns, and grouse leks. If not avoidable, use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation and decrease loss of avian predators to electrocution.

## Modification of Existing Facilities

Raptor protection measures to be applied when retrofitting existing distribution lines in an effort to reduce raptor mortality. Problem structures may include dead ends, tap or junction poles, transformers, reclosers and capacitor banks or other structures with less than 60" between conductors or a conductor and ground. The following modifications will be made:

- 2.1 Cover exposed jumpers.
- 2.3 Gap any pole top ground wires.
- 2.4 Isolate grounded guy wires by installing insulating link.
- 2.5 On transformers, install insulated bushing covers, covered jumpers, cutout covers and arrestor covers.
- 2.6 When raptor mortalities occur on existing lines and structures, raptor protection measures are to be applied (e.g., modify for raptor-safe construction, install perches, perching deterrents, nesting platforms, nest deterrent devices, etc).
- 2.7 Use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation, and decrease loss of avian predators to electrocution.
- 2.8 In areas where midspan collisions are a problem, install effective line-marking devices. All transmission lines that span streams and rivers or in known or discovered raptor migration areas, should maintain proper spacing and have markers installed.

These additional standards to minimize migratory bird mortalities associated with utility transmission lines will be incorporated into the Terms and Conditions for all APDs and stipulations for ROW applications.

## Mountain Plover

The Bureau shall require implementation of the conservation measures for mountain plover as identified in the Biological Assessment dated October 2006, and the wildlife inventory, monitoring, and protection protocol addressed in the *WMPP*. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plovers will have a Controlled Surface Use stipulation applied between April 1 and July 31. This area may be reduced to No Surface Use within 1/4 mile of an active nest once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS and the operator agrees to adhere to the new operational constraints.
- Due to the declining status of mountain plover in the analysis area and the need to retain the most important and limited nesting habitat, all active prairie dog colonies on federal surface within suitable mountain plover habitat will have No Surface Occupancy applied. This No Surface Occupancy may be modified through an amendment to the biological opinion after analysis of impacts to this preferred nesting habitat is completed.
- BLM will determine the acreage of occupied black-tailed and white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface and mineral estate lands. Further, a reasonable effort should be made to estimate the actual impacts, including habitat loss, CBNG development will have on occupied black-tailed and white-tailed prairie dog

acres within suitable mountain plover habitat over the entire project area. The BLM, FWS, and cooperators will develop a survey protocol that may include prioritization of subsets of the project area to be analyzed. Based on the results of such analysis, No Surface Occupancy on active prairie dog habitat within suitable mountain plover habitat may be modified utilizing an amendment to the biological opinion.

- Prior to permit approval, habitat suitability will be determined. The BLM, FWS or MFWP will estimate potential mountain plover habitat across the CBNG area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved biologist using the FWS protocol at a specific project area plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to CBNG development as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing CBNG development.
- BLM shall monitor all loss of mountain plover habitat associated with this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under 'critical habitat' for the mountain plover in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM, its agent (consultant, contractor, etc) with a written summary provided to the FWS' Montana Field Office upon completion or immediately if the anticipated impact area is exceeded relative to the estimated surface disturbances defined in the SEIS.
- If suitable mountain plover habitat is present, surveys for nesting mountain plovers will be conducted prior to ground disturbance activities, if ground disturbing activities are anticipated to occur between April 10 and July 10. Disturbance occurring outside this period is permitted, but any loss of mountain plover suitable habitat must be documented. Sites must be surveyed 3 times between the April 10 and July 10 period, with each survey separated by at least 14 days. The earlier date will facilitate detection of early-breeding plovers. A disturbance-free buffer zone of 1/4 mile will be established around all mountain plover nesting locations between April 1 and July 31. If an active nest is found in the survey area, the planned activity should be delayed 37 days, or seven days post-hatching. If a brood of flightless chicks is observed, activities should be delayed at least seven days (FWS 2002). Exceptions and/or waiver to stipulations can be made by the BLM through consultation with the FWS.
- Roads will be located outside of nesting plover habitat where possible. Apply mitigation measures to reduce mountain plover mortality caused by increased vehicle traffic. Construct speed bumps, use signing or post speed limits as necessary to reduce vehicle speeds near mountain plover habitat.
- Creation of hunting perches will be minimized within 1/2 mile of occupied nesting areas. Utilize perch inhibitors (perch guards) to deter predator use.
- Native seed mixes will be used to re-establish short grass vegetation during reclamation.
- There will be No Surface Occupancy of ancillary facilities (e.g., compressor stations, processing plants) within 1/2 mile of known nesting areas. Variance may be granted after consultation with the FWS.
- In habitat known to be occupied by mountain plover, no dogs will be permitted at work sites to reduce the potential for harassment of plovers.
- The FWS will provide operators and the BLM with educational material illustrating and describing the mountain plover, its habitat needs, life history, threats, and development activities that may lead to incidental take of eggs, chicks, or adults. This information will be required to be posted in common areas and circulated in a memorandum among all employees and service providers.

## **Programmatic Guidance for the Development of Project Plans**

Guidance for developing Project Plans and/or conservation measures applied as COAs provide a full range of practicable means to avoid or minimize harm to wildlife species or their habitats. Operators will minimize impacts to wildlife by incorporating applicable WMPP programmatic guidance into project plans. 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. This guidance may change over time if new conservation strategies become available for Special Status Species or if monitoring indicates the measure is not effective or unnecessary.



BLM and MFWP will work together 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 within or adjacent to the project area. In areas where required site-specific wildlife inventories have not been completed, operators and BLM will work cooperatively to achieve this. BLM's responsibilities under NEPA and ESA essentially are the same on split estate 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 conservation measures are considered "features" or project "design criteria" to be used during Project Plan preparation. The design of projects can incorporate conservation needs for wildlife species or measures can be added as COAs. 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., storage facilities, generators and holding tanks) outside the zone of impact in important wildlife breeding, brood-rearing and winter habitat based on the following considerations:
  - a. size of the structure(s),
  - b. level/type of anticipated disturbance
  - c. life of the operation, and
  - d. extent to which impacts would be minimized by topography.
2. Concentrate energy-related facilities when practicable.
3. Encourage development in incremental stages to stagger disturbance; design schedules that include long-term strategies to localize disturbance and recovery within established zones over a staggered time frame.
4. Prioritize areas relative to their need for protection, ranging from complete protection to moderate to high levels of energy development.
5. Develop a comprehensive Project Plan prior to POD or full field development activities to minimize road densities.
6. To reduce additional surface disturbance, existing roads and two-tracks on and adjacent to the CBNG project area will be used to the extent possible and will be upgraded as necessary.
7. 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.
8. Design stream-crossings for adequate passage of fish (if potential exists). Minimize impacts 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.
9. Use corridors to the maximum extent possible: roads, power, gas and water lines should use the same corridor whenever possible.
10. Avoid, where possible, locating roads in crucial sage-grouse breeding, nesting and wintering areas and mountain plover habitats. Develop roads utilizing topography, vegetative cover, site distance, etc. to effectively protect identified wildlife habitats.
11. Conduct all road and stream crossing construction and maintenance activities in accordance with agency approved mitigation measures and BMPs.
12. Utilize remote monitoring technologies whenever possible to reduce site visits thereby reducing wildlife disturbance and mortalities.
13. 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.
14. 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.
15. 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.
16. 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.
17. Use minimal surface disturbance to install roads and pipelines. Reclaim sites of abandoned wells to restore native plant communities.

18. Reclamation of disturbed areas will be initiated as soon as practical. Native species will be used in the reclamation of important wildlife habitat. Wildlife habitat needs will be considered during seed mix formulation.
19. Locate storage facilities, generators, and holding tanks outside the line of sight and sound of important sage-grouse breeding habitat.
20. Minimize ground disturbance in sagebrush stands with documented use by sage-grouse:
  - (a) breeding habitat – the lek and associated sagebrush;
  - (b) nesting habitat – sagebrush within 4 miles of a lek; and
  - (c) wintering habitat – sagebrush with documented winter use by sage-grouse.
21. Site new power lines and pipelines in disturbed areas wherever possible; remove overhead powerlines when use is complete.
22. Minimize the number of new overhead power lines in sage-grouse or mountain plover habitat. Use the best available information for siting powerlines in important sage-grouse breeding, brood-rearing, and winter habitat. Bury lines in sage-grouse and mountain plover habitat, when feasible.
23. Restrict timing for powerline installation to prevent disturbance during critical sage-grouse periods (breeding March 1 – June 15; winter December 1 –March 31).
24. If above ground powerline siting is required within 2 miles of important sage-grouse breeding, brood-rearing, and winter habitat, emphasize options for preventing raptor perch sites utilizing Avian Powerline Action Committee 2006 guidelines.
25. Encourage monitoring of avian mortalities by entering into a Memorandum of Understanding with FWS and the state agencies to establish procedures and policies to be employed by the parties to lessen industry’s liability concerns about the “take” of migratory birds.
26. Remove unneeded structures and associated infrastructure when project is completed.
27. Restrict 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.
28. Restrict noise levels from production facilities to 50 decibels (10 dBa above background noise at the lek).
29. Restrict use of heavy equipment that exceeds 50 dBa within 2 miles of a lek from 4-8am and 7-10pm during April 1 – June 30.
30. Protect, to the extent possible, natural springs from disturbance or degradation.
31. 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.
32. CBNG produced water should not be stored in shallow, closed impoundments or playas. Impoundments designed as flow through systems will lessen the likelihood selenium will bioaccumulate to levels adversely affecting other wildlife.
33. Develop offsite mitigation strategies in situations where fragmentation or degradation of Special Status Species habitat is unavoidable.
34. Protect reserve, workover, and production 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.
35. Reduce potential increases in poaching through employee and contractor education regarding wildlife laws. Operators should report violations to BLM and MFWP.
36. Operator employees and their contractors will be discouraged from possessing firearms while working.

Measures 3, 4, 20, 21, 24, 25, 29, and 30 were added for the SEIS/Amendment from the Management Plan and Conservation Strategies for sage-grouse in Montana (Montana Sage Grouse Work Group 2005).

**Table 1. Summary of General Wildlife Reporting, Inventory, and Monitoring, CBNG Development; Powder River and Billings Resource Management Plans, CBNG Amendment (2002)**

Action	Dates	Responsible Entity
Plans of development for outcoming years, showing general location of proposed development	Annually	Team (BLM, FWS, MFWP, operators)
Annual reports summarizing findings and presenting necessary protection measures	Annually	BLM with reviews MFWP, FWS, operators, and other interested parties
Meeting to finalize future year's inventory, monitoring, and protection measures	Annually	BLM with participation by FWS, MFWP, operators, and other interested parties
<b>Inventory and Monitoring</b>		
Big game use monitoring	When Applicable	BLM with assistance
Determine mountain plover habitat suitability	Prior to permit approval	BLM & operator assistance
In areas of suitable mountain plover habitat, conduct nest surveys in project area, plus a .5 mile buffer	Prior to ground disturbing activities	BLM & operator assistance
In areas of suitable mountain plover habitat, map active black-tailed prairie dog colonies on federal mineral estate.	Prior to permit approval	BLM & operator assistance
Active prairie dog colonies within .5 mile of a specific project area will be identified, mapped and surveyed	Prior to permit approval	BLM with operator assistance
Raptor nest inventories (POD areas plus 1 mile buffer; burrowing owls excluded)	Every 5 years during April and May but prior to permit approval	BLM with operator assistance
In areas with potential bald eagle winter roost sites/territories, conduct surveys within one mile of project area	Prior to ground disturbing activities	BLM & operator assistance
Conduct bald eagle nest inventories within one mile buffer of project area	Between March 1 and mid-July	BLM & operator assistance
Monitor productivity at active bald eagle nests within one mile of project-related disturbance	Between March 1 and mid-July	BLM & operator assistance
Raptor next productivity monitoring at active nests within one mile of project disturbance area	Annually March to mid-July	BLM with operator assistance
Sage-grouse lek inventories (project area plus two mile buffer)	Every 5 years	BLM with operator assistance
Sage-grouse lek attendance monitoring on and within 2 miles of the POD boundary	Annually	BLM with operator assistance will visit selected leks each year so that all leks will be visited annually
Threatened, Endangered & Sensitive species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance
Other wildlife species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance

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**Table 2. Summary of APD/ROW Survey and Protection Measures, CBNG Development within the Powder River and Billings Resource Management Plans**

<b>Protection Measure</b>	<b>Dates</b>
Bald eagle nest surveys within 1 mile of project area	Yearlong
Bald eagle nest avoidance within 0.5 mile of active nests	No Surface Use or Occupancy
Bald Eagle Winter Roost surveys within 1 mile of project area	December 1 to April 1
Bald Eagle Winter Roost avoidance within 0.5 miles of roost site	No Surface Use or Occupancy
Black-footed ferret surveys	Prairie dog colonies > 80 acres
Mountain plover surveys within 0.5 miles of project area	May 1 to June 15
Active prairie dog colonies on federal surface in mountain plover habitat	BLM & operator assistance
Mountain plover nest/brood avoidance within .25 miles of project area	April 1 to July 31
Peregrine falcon nest avoidance within 1 mile of active nest	No Surface Use or Occupancy
Threatened, Endangered & Sensitive species surveys	As necessary
Threatened, Endangered & Sensitive species avoidance	As necessary
Big game crucial winter range avoidance	December 1 – March 31
Elk Parturition Range avoidance	April 1 – June 15
Big Horn Sheep – Powder River Breaks	No Surface Use or Occupancy
Prairie dog colony mapping and burrow density determinations	Yearlong
Raptor next survey/inventory within 0.5 miles of project area	Yearlong
Raptor nest avoidance within 0.5 miles of active nests	March 1 – August 1
Sage-grouse nesting habitat avoidance on areas within 2.0 miles of a lek	April 1 – June 30
Sage-grouse and sharp-tailed grouse lek avoidance within 0.25 miles of a lek	No Surface Use or Occupancy
Sharp-tailed grouse nesting habitat avoidance on areas within 2 miles of a lek	March 1 – June 15
Western burrowing owl surveys (prairie dog colonies within 0.5 miles of disturbance)	June – August
General wildlife avoidance/protection	As necessary

**Table 3. Additional Wildlife Inventory and Monitoring Measures On and Adjacent to Areas with High Levels of Development (4 Locations/Section), Powder River and Billings Resource Management Plans, CBNG Amendment (2001)**

<b>Action</b>	<b>Dates</b>	<b>Responsible Entity</b>
Raptor nest inventory/monitoring on areas with development, plus a 1-mile buffer.	Annually during April and May	BLM surveyor with operator-provided financial assistance
Raptor productivity monitoring on areas with development, plus a 1-mile buffer.	Annually during March-July	BLM surveyor with operator-provided financial assistance for BLM volunteer support
Selected TEC&SC inventory/monitoring on suitable habitats in areas with development, plus a 1-mile buffer	Annually during spring and summer	BLM or operator-financed BLM-approved biologist
Collect baseline information for benthic macroinvertebrates, amphibians and aquatic reptiles, algae and non-game fish. Monitor changes on selected streams	Baseline 1 – 2 years prior and annually over the life of the project	BLM surveyor with operator-provided financial assistance
Sage-grouse lek inventory on areas of development plus a 2-mile buffer and selected undeveloped comparison areas	Every 5 years, mid-March to mid-May	BLM surveyor with operator-provided financial assistance
Sage-grouse lek attendance monitoring on areas of development plus a 2-mile buffer and selected undeveloped comparison areas	Annually, mid-March to mid-May	Each known lek will be visited at least once annually by the BLM and/or operator-financed BLM-approved biologist; subsequent visits will occur at BLM-selected leks by the BLM, and/or operator-financed BLM-approved biologist
Others studies on areas with development and selected undeveloped comparison areas		FWS and/or BLM with operator- and other party-provided financial assistance

## REFERENCES:

- Atkinson, E. C. 1995.** Survey and monitoring guidelines for ferruginous hawks in Montana. USDI, Bureau of Land Management and Montana Fish Wildlife and Parks. 42pp.
- Avian Power Line Interaction Committee. 1994.** Mitigating bird collisions with power lines” The state of the art in 1994. Edison Electric Institute, Washington, D.C. 78pp. +append
- Avian Power Line Interaction Committee. 2006.** Suggested practices for avian protection on power lines: The state of the art in 2006. Edison Electric Institute and California Electric Commission, Washington, D.C. and Sacramento, CA. 207pp.
- Biggins, D.E., B.J. Miller, L.R. Hanebury, B. Oakleaf, A.H. Farmer. 1993.** A technique for evaluating black-footed ferret habitat. Pp 73-87 *In* Proceedings of the Symposium on the Management of Prairie Dog Complexes for the Reintroduction of the Black-footed Ferret. U.S. Department of the Interior, Fish and Wildlife Service.
- Call, M. W. 1978.** Nesting habitats and surveying techniques for common western raptors. U.S. Department of the Interior, Bureau of Land Management, Technical Note No. 316. 115pp.
- Grier, J.W., and R.W. Fyfe. 1987.** Preventing research and management disturbance. Pages 173-182 *In* B.A.G. Pendleton, B.A. Milsap, K.W. Kline, and D.M. Bird editors. Raptor management techniques. Institute of Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 10 420 pp.
- Montana Sage-grouse Work Group. 2005.** Management Plan and Conservation Strategies for Sage-grouse in Montana – Final. Revised February 1, 2005.
- USDI Bureau of Land Management. 1983.**  
Final Environmental Impact Statement, Resources Management Plan, Billings Resource Area. U.S. Department of the Interior, Bureau of Land Management. November 1983. BLM-MT-ES-84-002-4410.
- USDI Bureau of Land Management. 1984.**  
Powder River Resource Area, Resource Management Plan, Miles City District, Final Environmental Impact Statement, December 1984, United States Department of Interior, Bureau of Land Management, Miles City District Office, BLM-MT-ES-85-0014410.
- USDI Bureau of Land Management. 1992.**  
Final Oil and Gas RMP/EIS Amendment for the Billings, Powder River and South Dakota Resource Areas. U.S. Department of the Interior, Bureau of Land Management, Miles City District.
- U.S. Fish and Wildlife Service. 1989.** Black-footed ferret survey guidelines for compliance with the *Endangered Species Act*. U.S. Fish and Wildlife Service, Denver Colorado, and Albuquerque, New Mexico (April 1989). 10pp. +append
- U.S. Fish and Wildlife Service. 2002c.** Mountain Plover survey guideline. U.S. Fish and Wildlife Service, Denver, Colorado. 7pp.