

**WILDLIFE MONITORING PLAN FOR
THE JONAH INFILL DRILLING
PROJECT, 2007**

**Prepared for the Bureau of Land Management,
Pinedale Field Office**

**Prepared by the Jonah Interagency Mitigation and
Reclamation Office**

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1.0 INTRODUCTION

This wildlife monitoring/protection plan (WMPP) serves as a revision of the previous wildlife monitoring plan and was prepared by the Jonah Interagency Office as directed by the Record of Decision (ROD) for the Jonah Infill Drilling Project Area (JIDPA), 2006. A map of the location of the Jonah Infill Drilling Project Area can be found at the JIO website (www.wy.blm.gov/johah_office/index.htm). The ROD provided guidance that this wildlife monitoring/inventory would be specific to the JIDPA; however, it is the recommendation of this office that operators responsible for the monitoring consider the need for added monitoring adjacent the field (e.g. 3-mile buffer). This data would fulfill various needs including 1) Identification of wildlife populations which exhibit increases due to emigration from existing disturbance, 2) Information may suggest disturbances associated with the existing field, 3) Potential information may provide for or identify potential mitigation needs directly adjacent to the field, and 4) As a potential “control” area to compare trends within and outside of the field.

The goals of this WMPP are to: 1) determine the effects of the JIDPA on wildlife resources; 2) determine the effectiveness of wildlife mitigation measures contained in the ROD; 3) modify the mitigation measures as deemed appropriate to achieve the stated goal/objective; 4) assure non-oil-and-gas BLM wildlife decisions (such as grazing, recreation, etc.) regarding the JIDPA are coordinated with gas-related development; 5) provide a rapid response to unnecessary/undue environmental change; 6) collect data in a manner compatible with larger landscape level monitoring efforts; 7) assure that monitoring efforts are not resulting in added disturbance or stresses to wildlife; 8) provide for monitoring associated with mitigation projects which are essential and assess whether mitigation objectives are attained through pre and post – treatment studies and ongoing monitoring of control sites; 9) validate environmental impact statement (EIS) wildlife models and revise the models/projections as necessary based on field observations and monitoring; 10) accurately monitor and predict cumulative impacts through BLM maintenance of a Geographic Information System (GIS) for the JIDP including all activities (natural gas, agricultural, etc.) on federal and non-federal lands and how they are affecting resources; 11) allow for stakeholder participation in future decision-making; and 12) provide guidance for monitoring (surveys) upon which the need to initiate Endangered Species Act of 1973, as amended (ESA) Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) will be determined.

Implementation of the plan will assist land managers and project personnel in efforts to achieve and maintain desired levels of wildlife populations on the JIDPA. Continued inventory and monitoring, and comparing with previous data will aid in the establishment of any added mitigation/protection measures which may minimize and/or avoid potential adverse impacts to wildlife species/habitats as per the adaptive management protocol established with the infill direction.

Implementation of this WMPP will begin in 2007, replacing previous wildlife monitoring efforts. This document describes revised and previous wildlife inventory/monitoring/mitigation measures and seeks to compile existing needs from the

ROD, as well as enact potential monitoring which may not have been done in the past, or modify existing protocol as needed to provide for future standardization of data to be collected within field development areas and outside of those areas where the monitoring/inventory work is feasible. Annual reviews of this monitoring and mitigation protocol will be conducted to determine the need for continued implementation of these measures and/or the need to implement new measures.

2.0 IMPLEMENTATION PROTOCOL

This section provides wildlife inventory, monitoring, and protection protocol that will be used for the life of these efforts, unless modified in future years as added needs are identified and changes are made. Specific monitoring methodologies and protocol are provided for each wildlife species or category. Methodologies have been identified which may be used inside and outside of field level development areas; in hopes of standardizing methodologies between agencies, and for future use in other areas. Primary consultation for these methods was from BLM, WGFD and USFWS.

2.1 ANNUAL REPORTS AND MEETINGS

2.1.1 Reports and Meetings

Operators will provide an annual report detailing the results from annual inventory and monitoring efforts. In addition, data associated with these efforts will be provided and due as collected as per the next section of this report, and dependent upon the type of data and season collected.

Annual reports will be prepared by an Operator-financed, BLM-approved biologist. In order to allow for BLM use of data in a timely fashion, time frames for the submission of data will be dependent upon the season and type/nature of the survey/inventory data collected. Data pertaining to winter activities (e.g. wintering wildlife surveys, big game, sage-grouse, etc.) will be submitted by June 1; data from sage grouse lek and nest searches, including surveys/inventories will be submitted by July 1; raptor, mountain plover and sage grouse nesting and productivity data will be submitted by September 1. These “reports” only involve submission of data collected to the BLM, and do not require an analysis. Future plans involve the ability for these to be submitted on-line into an existing database; which should make reporting and data retrieval by all much easier, and potentially allow for “real-time” data to be provided.

Meetings related to data collection efforts will be held at a minimum of once per year, or on an as-needed basis. One meeting per year should be held in the winter (mid- to late February) after submission of the summary report to discuss the report and future monitoring efforts upcoming during the next season (although some winter monitoring may still be occurring). BLM biologists will arrange for the meeting, and identify and invite participants. All wildlife-related monitoring/inventory/mitigation needs may be discussed at the annual meeting, for the intent of identifying any additional monitoring

needs, adaptive management needs and/or unneeded monitoring that can be eliminated. Any additional meetings which may be needed can be recommended by any of the wildlife proponents involved with the monitoring efforts.

A final detailed annual report will be issued by the Operator biologist to the BLM, JIO, WGFD, USFWS, and Operators by November 15 of each year. This will involve the data periods of August 15th to August 15th each year (data cutoff and reporting periods). A minimum of 2 hard copies will be submitted to each agency, unless additional copies are needed. In addition, an electronic copy of the report will also accompany the hard copy with one going to each agency and/or attached to the copies which are distributed. Format for data submission may be identified at a later date in order to ensure that it can be incorporated into a database currently being developed to store the information.

All interim data summary and detailed annual reports will be issued with a cover page identifying the confidential nature of the reports, and a specific distribution list will be provided in the prefix to the report.

A summary report will be issued by the BLM for the public based on the information provided in the detailed annual report. Copies will be made available through management agencies (e.g. BLM, WGFD, JIO, USFWS). Summary reports will specifically omit data that is of a sensitive nature, which could be detrimental to wildlife.

Annual reports will detail the following:

- A summary of previous years' wildlife inventory and monitoring results illustrating trend information across all years' data collection efforts (since 1998).
- Identification and assessment of protection measures implemented during past years, and recommendations of their application for future years
- Methodologies utilized in data collection and/or inventory efforts
- Recommendations for adaptive management needs and/or added mitigation needs, based on identification and assessments of ongoing protection and other measures.
- Maps illustrating areas where sampling occurred, along with GPS locations of specific sites. This should be in a format that can be incorporated into a GIS Database, or at a minimum on a spreadsheet with the GPS locations in UTM format.
- Sources of potential wildlife disturbance (e.g. development activities, weather conditions)
- Sample data forms for presentation of data within reports will be provided, and will be the same as those utilized in the monitoring plan for the PAPA.

Raw data collected each year will also be provided to management agencies (e.g., BLM, WGFD, JIO, USFWS, Wyoming Natural Diversity Database [WYNDD]) at the request of those agencies. Any/all wildlife observations should also be recorded on the Wyoming Game and Fish Wildlife Observation System*. Information and forms will be provided as needed from any Wyoming Game and Fish Department Office. Annual reports will be prepared throughout the life of project development or as otherwise directed by the BLM. This plan and annual reports will be reviewed by BLM in consultation with the USFWS,

WGFD, JIO and Operators and will be updated and modified as necessary. The first annual report will be due February 1, 2008.

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).

*Refer to species list (attached) for “common species” that do not have to be recorded, unless it’s under certain conditions.

2.2 WILDLIFE INVENTORY AND MONITORING METHODS

The wildlife species/categories for which specific inventory and monitoring procedures were applied were developed based on concerns identified during the preparation of the EIS for the Jonah Field II project (BLM, 1998), the EA for the Modified Jonah Field II Project (BLM 2000), and modified due to added concerns and needs from the Jonah Infill Drilling Project ROD (BLM, 2006), and added needs identified in the WGFD Comprehensive Wildlife Strategy for Wyoming (WGFD, 2006). Specific inventory and monitoring techniques generally follow the methods presented in the WMPP and associated updates for the Jonah Field monitoring, with some additions/revisions of methods as needed. The monitoring area is defined as the JIDPA boundary, plus a 3-mile buffer.

Locational data presented in geographic information system (GIS) maps and shapefiles are projected in NAD83 Universal Transverse Mercator (UTM) Zone 12 North in accordance with BLM requirements (personal communication, October 20, 2004, with the GIS specialist, BLM Pinedale Field Office [PFO]). Details on raptor nest history, wildlife observation dates and observers, and other pertinent information are presented in the GIS metadata provided.

2.2.1 Raptors

Raptor nest inventories of the JIDPA will be conducted by a BLM-approved biologist following survey procedures outlined in the BLM Pinedale Field Office Raptor Survey Procedures and Data Standards (BLM, 2004, available on the JIO Website). Three surveys will be conducted during the period April 15-June 15, three weeks to 1 month apart. Known nest locations will be mapped on 1:24,000 scale maps prior to surveys so that their locations can be verified. All nests identified during the survey will be mapped using a GPS unit. Data collected during the survey will be recorded on Raptor Nesting Records, Raptor Observation Data Sheets or other similar data forms (sample data forms will be posted on the JIO website), as well as documented in the WGFD Wildlife Observation System.

Any nests which are deemed occupied or active during the surveys will be subsequently monitored until sufficient data is obtained to make productivity determinations (i.e., abandoned, hatched but failed, hatched and fledged). In the case of nest failure or abandonment, an attempt to identify the causative factor(s) will be made.

2.2.2 Threatened, Endangered, Proposed, Candidate and Species of Greatest Conservation Need

Inventory and monitoring of TEPC&BWS species will be conducted in conjunction with the surveys for raptors and greater sage-grouse and during prairie dog town mapping and mountain plover nesting surveys. Federally listed or proposed species and those species identified as species of greatest conservation need are described in documents will be listed on the JIO website as well as the most current list of BLM Wyoming sensitive species (BLM 2002) for the JWSA. Additional species-specific surveys will be implemented by the BLM in conjunction with on-site investigations conducted as components of Application for Permit to Drill (APD), right-of-way (ROW) application, and/or Sundry Notice processes, as deemed necessary by the BLM and in compliance with the biological assessment for the project (BLM, 1998). Data collection methods and results/clearances for TEPC&BWS species associated with APD, ROW, and Sundry Notice application reviews are not included in this report but are available from the BLM PFO.

2.2.2.1 Black-footed Ferret

Additional data collection for black-footed ferrets will not be required at this time, but may be resurrected at a later date as needed.

2.2.2.2 Bald Eagle, Ferruginous Hawk and Golden Eagle

Inventory and monitoring protocols for bald eagle, ferruginous hawks, and golden eagles will follow protocols and be done simultaneously with the raptor surveys as described above in Section 2.2.1.

2.2.2.3 Mountain Plover

Mountain plover surveys will be conducted in accordance with 2002 USFWS guidelines (USFWS 2002) within previously identified habitats having the potential for serving as breeding habitat (refer to previous wildlife studies where these habitats have been documented). If mountain plovers are documented in reclaimed or disturbed habitats further survey efforts may be necessary. These efforts will be coordinated with the BLM and the JIO.

All data collected during surveys, including location, surveyor, weather conditions, habitat characteristics, and results, will be recorded on Mountain Plover Survey Forms which will be developed by the BLM, JIO and contractor.

2.2.2.4 Western Burrowing Owl

Searches for burrowing owl nesting habitats will continue using methods previously identified by TRC Mariah and as reported in their 2006 report (TRC Mariah, 2006).

These searches should be conducted in conjunction with monitoring being done for raptors and mountain plovers.

2.2.2.5 Pygmy Rabbits

Pygmy rabbit habitat will be surveyed over the entire infill area, utilizing techniques currently being utilized by EnCana and which will be posted on the JIO website (Ulmschneider et.al. 2004).

2.2.2.5 Other TEPCA, WSS & SGCN Species

Past efforts involving species under this heading have primarily involved documentation of observations and/or habitat characteristics of sensitive species in conjunction with other surveys. This is outside of those species having specific monitoring protocol. These efforts should continue.

Species of greatest conservation need (SGCN) identified in the Comprehensive Wildlife Conservation Strategy for Wyoming (Wyoming Game and Fish Department, 2005) should also have formalized surveys conducted for them. Outside of existing surveys, this would primarily include the following: sage thrasher, Brewer's sparrow, and sage sparrow. Survey methodologies will be developed by the BLM and the Point Reyes Bird Observatory (PRBO) [PRBO has been conducting the original study for the past several years] with funding that has been provided by BLM, additional funding sources will be necessary.

Previously identified prairie dog towns will be remapped in 2007. This includes mapping the perimeter of the towns with GPS units and determining burrow densities. Future mapping is required every 3 years (2010, 2013, etc.).

2.2.3 Sage Grouse

Annual lek surveys and inventories will be coordinated and conducted by WGFD and BLM personnel on existing known lek locations.

Annual nest searches will be conducted by the Operators, concentrating efforts in areas that are known to be disturbed within the year, followed by other areas identified in annual meetings with Operators, WGFD and BLM personnel. Methodologies for nest searches will be discussed with consultants/contractors and determined after these discussions.

Operators will inventory sage-grouse seasonal habitats in 2007. This requires mapping of sagebrush canopy cover and average heights of sagebrush. The specific canopy cover and height needs for each seasonal habitat are illustrated in Table 1. As an example; for nesting habitat; areas with a canopy cover of 15-30% and heights of 11-32 inches would be mapped and classified as nesting habitat. Canopy cover classes to be mapped for

sagebrush Specific methodologies will be left to the Operators, but the easiest way to do this mapping would be through the use of existing Quickbird and Lidar imagery.

Table 1. Characteristics of Sagebrush Communities for Productive Sage Grouse Habitat in Wyoming.^{1,2,3} (Table adopted from Wildlife Monitoring Protection Plan – Pinedale Anticline, 2001.

Nesting Habitat (April-June)		Brood Rearing Habitat (June-October)		Winter Habitat ⁴ (November-February)	
Ht. (inches)	Canopy Cover (%)	Ht. (inches)	Canopy Cover (%)	Ht. (inches)	Canopy Cover (%)
11-32	15-30	11-32	10-25	10-14 ⁶	10-30

¹ Modified from Connelly et. Al. (2000), Holloran (unpublished data), Lyon (unpublished data), and Heath (unpublished data)

² Data for Wyoming were averaged from live Wyoming big sagebrush plants in nesting habitats.

³ Data on understory characteristics are omitted, since formal understory sampling is not proposed herein.

⁴ Winter habitat identification will be determined primarily from observations of grouse-occupied areas during the winter season.

⁵ Canopy coverage for sagebrush is defined as the percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of the plant. Small openings within the canopy are included.

⁶ Wind-swept ridges may have lower sagebrush heights.

In addition, both aerial and ground surveys mentioned above and for other species, should also include all sage-grouse sign observed coupled with observation data and reported in GPS format along with WGFD Wildlife Observation forms.

2.2.5 Big Game

Monthly monitoring of pronghorn use within the Jonah Field will be done using a systematic or transect monitoring method conducted from the ground or air. GF and BLM biologists will discuss specific methodologies with contractors/consultants who are monitoring wildlife in the Jonah Field.

Any other observations of big game within the Jonah Infill and general area should also be recorded. All observations should be placed on the WGFD Wildlife Observation System, and include GPS locations.*

2.2.6 General Wildlife

BLM, WGFD, Operator personnel (including the Operator-funded biologist and associated staff), and other BLM-approved parties will keep records, on a voluntary basis, of the wildlife species* observed during the course of their activities within and adjacent to the JIDPA. Particular emphasis should be placed on sensitive or uncommon species. Information should be recorded on the WGFD Wildlife Observation System and the General Wildlife Observation Data Sheet available from BLM.

Conduct insect abundance measurements on an optional basis on reclaimed pads with off-site controls. Pads should be selected which are advancing relative to reclamation and ground cover, and no pads should be evaluated more than once every 3 years. Specific protocol should be based on previous sampling done by EnCana (Aster Canyon, 2006). Objectives for these data collection are to gain better information on how insect abundance relates to reclamation and control areas, and if abundance increases over time with advancing reclamation.

Based on previous discussions by BLM, specific monitoring can only be required within existing field development areas. After discussion during the monitoring meeting, operators agreed to gather monitoring data in a 3-mile buffer area surrounding the Jonah Infill Field. This will potentially identify other impacts which may be occurring; as well as identifying areas for off-site mitigation and/or other projects.

* - Refer to species list (attached) for “common species” that do not have to be recorded, unless it’s under certain conditions.

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General Wildlife Observations

Observation information for wildlife are desirable for future reference on “presence/occurrence” of species in varying locales. This, however, should be tempered with a realization that some common species could be documented daily. This is not the overall intent. Common species which may be present in uncommon numbers would be a desirable need; and/or their occurrence during uncommon seasons. It’s difficult to develop a comprehensive list of those species common enough to ignore for these efforts, but the following should be considered as those common enough not to document, unless it is under uncommon circumstances:

Pronghorn antelope
Magpies and Ravens
Jackrabbits
Cottontails
Ground squirrels
Other species which are being monitored in this plan

Those species considered as being of a “sensitive” nature should be recorded. Lists can be found in various places, including that list of BLM Wyoming Sensitive Species List, and those associated with the Wyoming Game and Fish Departments’ Comprehensive Wildlife Conservation Strategy for Wyoming (2005). Both of these can be found on either BLM or WGFD Websites. If you are uncertain about collecting information on any specific species, contact the JIO, BLM or WGFD.