

**Wildlife Monitoring and Protection Plan
Chokecherry and Sierra Madre Wind Energy EIS**

**U.S. Bureau of Land Management
Rawlins Field Office
Rawlins, Wyoming**

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1 Introduction

This wildlife monitoring/protection plan was prepared in conjunction with the environmental impact statement (EIS) for the Chokecherry and Sierra Madre Wind Energy Project (CCSM). The EIS was developed with mitigation intended to avoid and/or minimize adverse impacts to wildlife present on project-affected areas. The goal of the plan is to implement monitoring efforts that would assess the effectiveness of protection measures outlined in the EIS. If monitoring efforts indicate that current mitigation is not sufficient, additional mitigation measures may be considered. Implementation of this plan will allow land managers and project personnel opportunities to achieve and maintain desired levels of wildlife productivity and populations on the CCSM (e.g., at pre-project levels) by minimizing and/or avoiding potential adverse impacts to wildlife species. In addition, the implementation of this plan will facilitate the maintenance of a diverse assemblage of wildlife populations on the CCSM simultaneously with development of wind energy resources.

The CCSM Selected Alternative Area encompasses 219,707 acres located entirely in Carbon County, Wyoming. The towns of Rawlins and Sinclair are situated north of the CCSM along Interstate Highway 80. The Chokecherry site is generally located within Townships 19 North (T19N) and 20 North (T20N), Ranges 85 West (R85W) through 87 West (R87W). The Sierra Madre site is generally located within T16N through T18N, R87W through R89W. A complete description of the proposed project and alternatives is provided in Chapter 2.0 of the EIS. For the purposes of this appendix, there also are references to the Application Area to describe areas that have been previously surveyed. The Application Area is a larger area that includes the entire Selected Alternative Area as well as other acreage (total of 229,077 acres) that was specified in the applicant's Wind Site Testing and Monitoring Application filed with the Bureau of Land Management (BLM), Application Areas of rights-of-way (ROWs) of ancillary facilities, and the areas considered for haul road and transmission connection between the Chokecherry and Sierra Madre sites.

Implementation of the plan will begin in 2013, and is estimated to continue for the life of the Project. The plan will receive a major review for effectiveness every 5 years or as determined by the Implementation Group (IG).

Power Company of Wyoming (PCW) is in the process of collecting additional data on avian and bat use of the Application Area through diurnal avian point count surveys, acoustic surveys, additional raptor nest surveys, and nocturnal radar surveys. These data, along with data previously collected in the Application Area, will be used by PCW to develop an Avian Protection Plan (APP) and one or more Eagle Conservation Plans (ECP) that will include measures to avoid and minimize impacts to birds and bats when designing and operating the facility, including turbines, met towers, and overhead power lines. The United States (U.S.) Fish and Wildlife Service (USFWS) determined that developing an APP was an appropriate option to evaluate and document potential impacts to avian species as well as practicable measures to avoid, minimize, and compensate potential impacts to these species as stated in a letter received April 20, 2011 (Attachment A). The APP and ECP(s) will include measures to mitigate migratory bird and bat fatalities if fatality rates exceed certain thresholds agreed to by the USFWS, BLM, and Wyoming Game and Fish Department (WGFD). The ECP includes a description of the Technical Advisory Committee (TAC) that includes the USFWS, BLM, WGFD, interested tribes, and PCW. The TAC will provide advice and recommendations to the BLM for developing models and implementing effective measures to monitor, avoid, minimize and mitigate impacts to eagles and their habitats. The TAC may also seek scientific or technical information from other individuals with special knowledge or expertise. The TAC will review and modify as needed, Advance Conservation Practices implemented to reduce risk to eagles (ECP, Section 10.0 Adaptive Management, TAC).

A watershed monitoring plan was prepared to avoid and/or minimize adverse impacts to watershed resources present on project-affected areas. It is assumed that monitoring and mitigation measures presented in the watershed monitoring plan likely will benefit fisheries. Fish population monitoring within the Application Area will be conducted by the WGFD in coordination with the BLM.

2 Implementation Protocol

This section provides preliminary wildlife inventory and monitoring protocols, and protection measures. A summary of primary protocol components is provided in **Table 1**. Standard protocol for the site-specific Plans of Development (SPODs) field reviews are provided in **Table 2**. Alternative protocols likely will be developed in the future in response to specific needs identified in annual reports (Section 2.1.1). Methods are provided for each wildlife species/category, and additional species/categories may be added based on needs identified in annual reports. The wildlife species/categories for which specific inventory, monitoring, and protection procedures will be applied were developed based on management agency (BLM, USFWS, WGFD) input and public comments identified during the preparation of the EIS.

2.1 Annual Reports and Meetings

2.1.1 Reports

During project development, PCW will provide an updated wildlife 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 in a format that is compatible with a Geographic Information System (GIS). This inventory will be submitted to the BLM by PCW no later than December 31 of each calendar year. These data will be combined with data from previous years' reports including: annual wildlife inventory, monitoring, and protection data. Annual reports will be prepared by PCWs' environmental consultant with BLM oversight.

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, recommend modifications to the existing wildlife monitoring/protection plan based on the successes and/or failures of past years, and identify additional species/categories to be monitored. Where possible, the data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance, as well as sources of potential disturbance to wildlife. A GIS database will be used for information storage, retrieval, planning, and annual GIS data updates will be conducted. Raw data collected each year also will be provided to other management agencies, at the request of the agencies.

Annual reports will be completed by PCW in draft and submitted to the BLM and other interested parties (i.e., USFWS and WGFD) by December 31 of each year. Comments to the draft report will be returned by January 21. A final annual report will be issued by February 28 of each year. Additional reports may be prepared in any year, as necessary, to comply with other relevant wildlife laws, rules, and regulations.

2.1.2 Meetings

An IG meeting between the BLM, cooperating agencies, PCW, and interested parties will be organized by the BLM and held in January of each year to discuss all proposed wildlife inventory, post-construction fatality monitoring, and protection measures for the upcoming year. Based on past years inventory and monitoring data, recommendations may be made to the BLM Rawlins Field Office Manager to modify, add or remove inventory or monitoring protocols, or protection measures. Final decisions on wildlife inventory, monitoring, and protection protocols will be made by the BLM based on

the input of all affected parties. Additional IG meetings may be held in any given year to inform and update cooperating agencies on the findings of additional reports, as necessary.

As part of implementation of the ECP, a TAC will provide advice and recommendations for developing and implementing effective measures to monitor, avoid, minimize, and mitigate impacts to eagles and their habitats related to operations. The TAC will consist of resource specialists from the USFWS, WGFD, BLM, and PCW and will meet prior to the start of construction for each project stage and will continue meet at least annually thereafter.

2.2 Inventory and Monitoring

Inventory and monitoring protocols will be as identified below for each wildlife species/category. These protocols will not be changed, 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, pending results presented in the coordinated review of annual reports. Opportunistic wildlife observations may be made throughout the year by agency and PCW personnel present in the project area.

The frequency of pre- and post-construction inventory and monitoring will be dependent upon the level of development in the Application Area. In general, inventory and monitoring frequency will increase with increased levels of development. Inventory and monitoring results may lead to further, currently unidentifiable, scientific studies specifically designed to determine cause and effect. The BLM will identify the level of effort required by this wildlife plan subject to the standards listed below. Site- and species-specific surveys will be conducted in association with future SPODs submittals. In general, pre-construction surveys would occur in the year preceding construction and typically are considered inventory type surveys. If species are documented during inventory surveys, post-construction monitoring is intended to determine effectiveness of mitigation for those species and guide future management within the project area.

2.2.1 Special Status Species

The level of inventory/monitoring required for special status species (SSS) including threatened, endangered, candidate, and other sensitive species will be commensurate with established protocols for the potentially affected species. All surveys will be conducted in coordination with the BLM. Methodologies and results of these surveys will be included in annual reports and provided in separate supplemental reports. As SSS are added to or withdrawn from USFWS, BLM, and/or WGFD lists, appropriate modifications will be incorporated to this plan and specified in annual reports.

SSS data collected during surveys and described below will be provided only as necessary to those requiring the data for specific management and/or project development needs. Site- and species-specific surveys will be conducted as necessary prior to construction. Protection measures are outlined in Section 2.3.

Black-footed Ferret and White-tailed Prairie Dog

The USFWS, in coordination with the WGFD, has developed a list of habitat blocks that are not likely to be inhabited by black-footed ferrets (i.e., block-cleared). In these areas, take of individual ferrets and effects to a wild population is highly unlikely and surveys for ferrets are no longer recommended. Although ferret surveys are not required in these areas, the area may still maintain value for the survival and recovery of the species in the future. Additionally, areas remain that require ferret surveys (i.e., non block-cleared) in potential habitat. A portion of the Application Area coincides with the Bolten Ranch Prairie Dog complex, which is a non block-cleared area. Prior to any surface-disturbing activities within white-tailed prairie dog colonies of suitable size and density within the Bolten Ranch Prairie Dog Complex, ferret surveys would be required.

BLM biologists will determine the presence/absence of prairie dog colonies at each proposed development site during ROW application field reviews for SPODs. Prairie dog colonies in the Application Area will be mapped and burrow densities determined by a BLM-approved PCW-financed biologist, as necessary and in association with proposed development plans. In areas of proposed surface disturbance, colonies that meet USFWS criteria as potential black-footed ferret habitat (USFWS 1989), in non block-cleared areas, will be surveyed for black-footed ferrets by an USFWS-certified PCW-financed surveyor. Surveys will be conducted as deemed necessary, during consultation with the BLM and/or USFWS. Black-footed ferret surveys will be conducted in accordance with USFWS guidelines (USFWS 1989) and approved by BLM and USFWS.

Pygmy Rabbit

The year prior to construction, protocol level surveys (Ulmschneider 2004) will be conducted in suitable and occupied habitat within 300 feet of any infrastructure associated with the project. During the protocol level surveys, any areas of occupied habitat will be mapped with a global positioning system (GPS) unit. See Section 2.3.1 of this document for associated protection measures if occupied habitat is found.

Wyoming Pocket Gopher

Prior to construction activities in suitable Wyoming pocket gopher habitat (Keinath and Beauvais 2006), presence/absence surveys will be conducted by a wildlife biologist familiar with pocket gopher life history and their associated habitat. Survey protocol will be provided by the BLM Rawlins Field Office. During the protocol level surveys, any areas of occupied habitat will be mapped with a GPS unit. See Section 2.3.1 of this document for associated protection measures if occupied habitat is found.

Greater Sage-Grouse

As suggested by the WGFD wind energy guidelines, PCW is participating in a multi-state industry supported research program to determine Greater Sage-Grouse response and population performance to wind development. The program includes both baseline pre-construction data collection as well as post-construction monitoring to determine any potential impacts to the species. The research is being coordinated through the National Wind Coordinating Collaborative Sage-Grouse Collaborative (NWCC-SGC) and involves research at a proposed facility in Idaho, the proposed CCSM facility in Wyoming, and the existing Seven Mile Hill facility in Wyoming. The NWCC-SGC project is for research on male Greater Sage-Grouse, but PCW currently is funding their own research on female Greater Sage-Grouse. Research response variables include population and habitat parameters such as nesting success, chick survival, lek attendance, and any changes in distribution, movements, and habitat use.

The CCSM is not within a Greater Sage-Grouse Core Area (as described in WY EO 2011-5); therefore, the following data collection/monitoring will be followed:

- Conduct lek counts (using WGFD protocol) within a 2-mile buffer of the Application Area boundary.
- Map habitat within a 2-mile buffer area of the Application Area.
- Compare lek counts with a suitable nearby reference area.

Greater Sage-Grouse lek inventories will be conducted by the BLM and WGFD within the Application Area and a 2-mile buffer to determine lek locations every 5 years, or as deemed appropriate by the BLM. Aerial or ground surveys will be used to determine any new lek locations. If surveys are conducted aerially, PCW will provide financial assistance for aircraft rental.

BLM will coordinate lek monitoring efforts with the WGFD. Selected leks within 2 miles of existing and proposed disturbance areas will be monitored annually to determine lek attendance by the BLM or a BLM-approved PCW-financed biologist, between March 1 and May 15. Whenever possible, the same individuals will monitor the same leks within and across years. Data collected during these surveys will be provided on Greater Sage-Grouse lek record forms. Greater Sage-Grouse lek surveys will be conducted as necessary in association with all ROW application field reviews for SPODs.

Mountain Plover

Mountain plover habitat will be mapped within proposed disturbance areas (as identified in annual reports) prior to development of these areas. Mapping will be conducted by the BLM or a BLM-approved PCW-financed biologist. In addition, these areas will be monitored annually by the BLM or a BLM-approved PCW-financed biologist to detect the presence of plovers. Surveys will be conducted during the period of May 1 through June 30. Data collected during these surveys will be provided on mountain plover route survey forms. Standard site-specific habitat surveys will be conducted as necessary in association with all ROW application field reviews for SPODs.

Other Special Status Species

Surveys for other SSS will be conducted by the BLM or a BLM-approved PCW-financed biologist in areas of potential habitat within 0.5 mile of proposed disturbance areas prior to disturbance. These surveys may be implemented in conjunction with surveys for other species or as components of ROW field reviews for SPODs. If any SSS are observed, the observations will be noted on appropriate data forms and efforts will be made to determine their activities (e.g., breeding, nesting, foraging, hunting, etc.). If any management agency identifies a potential for concern regarding any of these species, additional inventory and monitoring and mitigation may be implemented as specified in annual reports.

2.2.2 Avian and Bat Species (Eagles, Migratory Birds, Bats)

Draft Eagle Conservation Plan Guidance

The Service, in January 2011, released the Draft Eagle Conservation Plan Guidance (Draft ECP Guidance) that describes a process for wind energy developers to utilize in preparing an Eagle Conservation Plan to assess the risk of projects to eagles and assess how siting, design, and operational modifications can mitigate that risk.

The Draft ECP Guidance calls for scientifically rigorous surveys, monitoring, assessment, and research designs proportionate to the risk to eagles. The USFWS recommends that ECPs be developed in five stages. At the end of each of the first four stages, project proponents determine which of the following categories the project, as planned, falls into: 1) high risk to eagles, little opportunity to minimize effects; 2) high to moderate risk to eagles, but with an opportunity to minimize effects; 3) minimal risk to eagles; or 4) uncertain.

The five-stage approach for developing an eagle conservation plan is:

- Stage 1 – Identify potential wind energy facility locations with manageable risk to eagles at the landscape level.
- Stage 2 – Obtain site-specific data to predict eagle fatality rates and disturbance take at wind facility sites that pass Stage 1 assessment.
- Stage 3 – Conduct turbine-based risk assessment and estimate the fatality rate of eagles for the facility evaluated in Stage 2, excluding possible advanced conservation practices (ACPs).
- Stage 4 – Identify and evaluate ACPs that might avoid or minimize fatalities identified in Stage 3. When required to do so, identify compensatory mitigation necessary to reduce any remaining fatality effect to a no-net-loss standard.

- Stage 5 – Document annual eagle fatality rate and disturbance effects. Identify additional ACPs to reduce observed level of mortality, and determine if initial ACPs are working and should be continued. When appropriate, monitor effectiveness of compensatory mitigation.

Project proponents are not required to use the recommended procedures, however, if different approaches are used, the proponent should coordinate with the Service in advance to ensure that proposed approaches will provide comparable data. The Draft ECP Guidance recommends procedures for site assessments so the data can be combined with that from other facilities in a formal adaptive management process. This adaptive management process is designed to reduce uncertainty about the effects of wind facilities on eagles.

The USFWS has instructed PCW that a BBCS prepared in accordance with its Land-Based Wind Energy Guidelines (Wind Energy Guidelines) (Service 2012) should be prepared for the Project and that both the BBCS and the ECS should be stand-alone documents (Region 6 personal communication).

Bald Eagles and Golden Eagles

Inventory and monitoring required for bald eagles, golden eagles, and migratory birds will be identified in the APP (also known as a Bird and Bat Conservation Strategy) and one or more ECP. Examples of inventory and monitoring include but are not limited to:

- Annual monitoring of eagle nesting activity, including determination of occupancy and productivity;
- Monitoring nest activity at eagle nests subsequent to any eagle fatality occurring during the nesting season prior to fledging;
- Appropriately scaled point count surveys to collect eagle use data for the project area; these data will be used to assess changes in eagle use within and near the project area, including increases or decreases in use, shifts in spatial use, and use of movement corridors;
- Prey base surveys to identify areas of potential high eagle use and to correlate eagle data (e.g., density, productivity) to changes in prey base over time; and
- A robust post-construction monitoring program to identify fatalities and develop an estimate of annual fatalities; the post-construction monitoring program will be stratified by features such as topography, Federal Aviation Administration (FAA) lighting, turbine size, etc., to evaluate factors that may contribute to fatalities.

2.2.3 Other Wildlife Species

Big Game

Data on big game use of crucial winter ranges on the Application Area and an adjacent 1 mile buffer will be requested annually by the BLM from the WGFD, as deemed necessary by the BLM. This information will be used to assess the effectiveness of protection measures implemented for the project.

Since portions of the project occurs within mule deer crucial winter range or will bisect migration corridors, the following data should be collected to help identify any associated impacts and provide for future mitigation options for affected big game species:

- Equip a sample of female mule deer in the affected region with GPS-collars (number of collars to be determined in coordination with WGFD).
- Collect GPS data 1 winter season prior to start of construction and continuing for a total of 5 years to determine habitat use patterns and identify migration routes as haul road and

turbine development occurs. The same animals should be followed through the 5-year time period.

- Examine habitat use and migration patterns before and after development to assess potential impacts of the CCSM.

At the time of publication of this document, the BLM has secured funding for the first 3 years of this study. The IG will work to secure funding for the continued research.

These data will be collected, analyzed, and provided in an annual report to BLM. At the end of 3 years post-construction, if it is determined that significant avoidance of important habitats is occurring or migration routes are being negatively affected by the wind energy development, a mitigation plan will be developed in collaboration with BLM/WGFD to reduce impact(s).

Amphibians

Amphibian monitoring will be accomplished through incidental observations while performing other wildlife surveys. Incidental observations will allow for trend data, which could reveal possible shifts in species assemblages resulting from energy development. All amphibians encountered incidentally during wildlife surveys will be documented with the following information; species, geographic coordinates (preferably decimal degrees or Universal Transverse Mercator [UTM]), date, age class (adult, juvenile, larval, or egg), general vegetation type, and general comments for each observation. Incidental observations will be collected for the duration that other wildlife surveys within the study area are being performed.

Northern leopard frog habitats are known to occur within the project area. Habitat maps for the wind development project in relation to northern leopard frog habitat will be developed. In conjunction with mapping terrestrial habitats, the following water features also will be mapped: ephemeral drainages, perennial waters, vernal pools, and playas.

Reptiles

Reptile monitoring will be accomplished through incidental observations while performing other wildlife surveys. Incidental observations will allow for trend data, which could reveal possible shifts in species assemblages resulting from wind energy development. All reptiles encountered incidentally during wildlife surveys will be documented with the following information; species, geographic coordinates (preferably decimal degrees or UTM), date, age class (adult, juvenile, or egg), general vegetation type, and general comments for each observation. Incidental observations will be collected for the duration that other wildlife surveys within the study area are being performed.

Fish

Fish population monitoring within the Application Area currently is conducted by the WGFD. The WGFD will continue to conduct these efforts in coordination with the BLM. In addition to this data collection effort, the watershed monitoring plan would be used to assess aquatic habitat within the Application Area.

2.2.4 Other Inventory and Monitoring Measures

Additional inventory and monitoring measures may be applied for other species as specified in annual reports. Surveys will be conducted in adherence with protocols to be established by the BLM, other agencies, and PCW. PCW may provide financial assistance for these investigations.

BLM staff will be responsible for maintaining records of selected wildlife species observed during the course of their activities in the Application Area. PCW personnel also may provide data on wildlife observations. The information provided will include observations of wildlife species, their numbers, location, activity, and other pertinent data as applicable and identified on the General Wildlife

Observation Data Sheet. Where PCW personnel are uncertain of the GPS coordinates for an observation, a general description of the location may be provided and in instances where species or sex information is questionable, PCW personnel will identify the observation as such.

2.3 Protection Measures

The purpose of the wildlife protection measures are to reduce or eliminate impacts to wildlife and fish associated with the implementation of the project. The wildlife protection measures proposed have been developed through the review of other wildlife monitoring and protection plans for projects occurring within similar habitat including Gateway West Transmission Line Project and Atlantic Rim Natural Gas Project; consideration of the BLM Resource Management Plan, and the *Wildlife Protection Recommendations for Wind Energy Development in Wyoming* document prepared by the Wyoming Game and Fish Commission (WGFC) (2010). Additional measures may be included and/or existing measures may be modified in any given year as allowable and as deemed appropriate by BLM in consultation with the IG. These measures will be specified in annual reports and reviewed by the IG. In addition, these measures may be modified on a site-specific basis as deemed appropriate by the BLM during/after completion of the ROW application field reviews. BLM Environmental Constraints, Applicant Committed Measures, Applicant Committed Best Management Practices, and Proposed Mitigation Measures are presented in **Appendix D**.

2.3.1 Special Status Species

Consultation and coordination with appropriate state and federal agencies will be conducted for all protection activities relating to SSS and their habitats. Where possible, these actions will be specified in advance in the annual reports.

Black-footed Ferret and White-tailed Prairie Dog

Prairie dog colonies on the Application Area will be avoided, where practical. If prairie dog colonies in black-footed ferret non block-cleared areas of sufficient size (greater than 200 acres) and burrow density to support black-footed ferrets are proposed to be disturbed, black-footed ferret surveys will be conducted pursuant to BLM and/or USFWS decisions made during informal consultations. Survey protocol will adhere to USFWS guidelines (USFWS 1989) and will be conducted by a USFWS-qualified biologist a maximum of 1 year in advance of the proposed disturbance. Reports identifying survey methods and results will be prepared and submitted to the USFWS and BLM in accordance with Section 7 of the *Endangered Species Act of 1973*, as amended, and the Interagency Cooperation Regulations. Surveys will be financed by PCW. If black-footed ferrets are discovered during surveys, a mitigation plan would be developed in consultation with the USFWS in order to protect the species.

Pygmy Rabbit

Protection measures for the pygmy rabbit focus on habitat preservation. Where feasible and if needed, the project infrastructure will be micro-sited to avoid mapped occupied habitat. If the surveys conclude that pygmy rabbits occur, the "Habitat Preservation and Restoration" conservation measures would apply (Keinath and McGee 2004) and include evaluating the extent, connectivity, and relative quality of the habitat; selecting priority areas for habitat acquisition and management; and conducting monitoring activities. Within 30 days prior to construction, previously occupied habitat will be revisited to document presence. Occupied habitat will be re-mapped electronically and flagged in the field to allow additional micro-siting to avoid the occupied habitat to the extent possible.

Wyoming Pocket Gopher

Protection for the Wyoming pocket gopher will be achieved through avoidance. Where feasible and if needed, the project infrastructure will be micro-sited to avoid mapped occupied habitat. Previously documented occurrences will be avoided during operation and maintenance activities.

If active Wyoming pocket gopher mounds are identified, the proposed surface disturbing activities

would avoid the active pocket gopher mounds by 75 m (BLM 2009). However, if the proponent does not wish to avoid the active pocket gopher mounds by 75 m, classification surveys (via live capture) must be completed to identify the pocket gopher to the species level responsible for the mounds. If the results conclude that the Wyoming pocket gopher is responsible for the mounds, the *Occupied Wyoming Pocket Gopher Habitat Protection Measures* would apply (BLM 2009). If the results conclude that the associated species is a Northern pocket gopher, then the proposed surface disturbance may proceed. If the classification survey fails to conclusively identify the associated pocket gopher to the species level, then it will be assumed that the species is a Wyoming pocket gopher and the *Occupied Wyoming Pocket Gopher Habitat Protection Measures* will apply (BLM 2009).

Greater Sage-Grouse

PCW has committed to a variety of protection measures to reduce impacts to Greater Sage-Grouse (see Appendix N of the POD) including no facilities or surface disturbance will occur in Wyoming Sage-Grouse Core Management Area Version 3 (finalized June 29, 2009). Outside Core Areas, surface disturbance will be prohibited with 0.25 miles of the perimeter of occupied and undetermined status Greater Sage-Grouse leks. Within 0.25 to 1.0 mile of occupied or undetermined sage-grouse leks, high-profile structures such as buildings, storage tanks, overhead power lines, wind turbines, towers, and windmills will be authorized on a case-by-case basis as outlined in the Rawlins Resource Management Plan (RMP). Greater Sage-Grouse Additional BLM Environmental Constraints, Applicant Committed Measures, Applicant Committed Best Management Practices, and Proposed Mitigation Measures are presented in **Appendix D**.

Mountain Plover

Mountain plover habitat will be avoided where practical. Where these habitats will be disturbed, reclamation will utilize procedures designed to re-establish suitable plover habitat. The primary protection measure for mountain plover will be avoidance of plover habitat during the breeding season. All surface-disturbing activities will be restricted from April 10 to July 10 in mountain plover habitat. Additional protection measures may be implemented in identified mountain plover occupied habitat (i.e., areas where broods and/or adults have been observed in the current year or documented in at least 2 of the past 3 years). In the event surface-disturbing activities cannot avoid the breeding season, pre-construction protocol level surveys (USFWS 2002) will be conducted during the appropriate seasonal timeframe in suitable habitat to identify active nests within 0.25 mile of the surface disturbance. If no nests are found, construction can commence.

- If an active nest is found during the protocol level surveys, monitoring will be conducted until the young have fledged or the nest fails, whichever occurs sooner, and no surface-disturbing activities will occur within 0.25 mile of the nest while the nest is active.
- If no active nests are discovered during the pre-construction surveys (USFWS 2002), construction will be permitted for the remainder of the nesting season without further monitoring.

Other Special Status Species

If crucial features for any SSS are found during surveys of areas within 0.5 mile of proposed disturbance sites, avoidance of these features will be accomplished in consultation and coordination with the BLM, USFWS, and WGFD. Construction activities in these areas will be curtailed until there is concurrence between BLM, USFWS, and WGFD on what activities can be authorized. Activities will, in most cases, be delayed until such time that no adverse effects will occur.

It is assumed that the protocol specified for general wildlife likely will benefit SSS as well. If any management agency identifies a potential for impacts to any SSS, additional measures may be implemented as specified in annual reports.

2.3.2 Avian and Bat Species (Eagles, Migratory Birds, Bats)

Following the USFWS Land-Based Wind Energy Guidelines (USFWS 2012), PCW's project-landscape level ECP (PCW 2012) not only reports results from their additional monitoring efforts, but also incorporates a variety of risk reduction measures in order to reduce the potential for impacts to eagles. These measures include but are not limited to: *avoidance measures* like turbine setbacks, and project siting to avoid key eagle use areas and travel corridors to the maximum extent practicable; *engineering design and construction measures* like burying power lines, reducing the use of fences, and using existing roads to the maximum extent practicable; and *operational measures* like posting appropriate speed limits, lighting to avoid attracting wildlife, and removing carcasses of animals where collisions with raptor/scavenger food sources could occur. Other key measures that may be implemented if other risk reduction measures are not successful include seasonal turbine curtailment and adjustment of turbine cut-in speeds. PCW in their ECP also has proposed potential use of a wind-wildlife research mitigation fund if impacts are greater than expected after implementing other risk reduction measures. As mentioned earlier in this document, the TAC will meet periodically to review post-construction monitoring data and evaluate the efficacy of risk reduction measures.

In addition to PCW's project-landscape level ECP, protection measures for bald eagles and golden eagles will be included in the subsequent ECPs. While the project-landscape level ECP may form the basis for an application for a programmatic eagle take permit, the ECP has undergone initial review by USFWS for adequacy. The USFWS anticipates that additional data collected by PCW and data analyses will result in revisions to the project-landscape level ECP, including commitments regarding avoidance, minimization, and compensation activities. The ECP is expected to include measures that avoid and minimize the risk of take, compensate for any take that cannot be avoided, and monitor the implementation and effectiveness of mitigation. The efforts that PCW identifies are being formally evaluated by the USFWS in the context of Council on Environmental Quality (CEQ) guidance for mitigation, monitoring the implementation and effectiveness of measures, and monitoring the implementation and effectiveness of any remedial actions that may be required (see the January 14, 2011, CEQ Memorandum on "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact"). The USFWS anticipates that the applicant will develop one or more additional ECPs that cover both the CCSM parts of the project or two ECPs, one on Chokecherry and one on Sierra Madre. Prior to BLM granting the right-of-way grant for either portion of the project, USFWS will review and evaluate the adequacy of those ECPs.

2.3.3 Other Wildlife Species

Big Game

No construction activities or prolonged maintenance actions will be conducted within big game crucial winter range between November 15 and April 30. If ROW fencing is required, it will be kept to a minimum, and the fences will meet BLM/WGFD approval for facilitating wildlife movement. Wildlife-proof fencing will be used only to enclose areas that are potentially hazardous to wildlife species, or reclaimed areas where it is determined that wildlife species are impeding successful vegetation establishment. Snow fences, if used, will be limited to segments of 0.25 mile or less. Project personnel also will be advised to minimize stopping and exiting their vehicles in big game winter habitat during crucial winter periods. In addition, escape openings will be provided along roads in big game crucial winter ranges, as designated by the BLM, to facilitate exit of big game animals from snowplowed roads. Additional habitat protection/improvement measures also may be applied in any given year as directed by the BLM, in consultation with PCW and the agencies, and specified in annual reports.

Amphibians

The BLM recommends a 500-foot buffer around amphibian habitats. This buffer was designed to incorporate the amphibian SGCN average home range and migration distances (Hammerson 1999; Ernst and Ernst 2003; Werner et al. 2004; Lannoo 2005; Parker and Anderson 2007). In addition, measures contained in PCW's Watershed Monitoring Plan and Erosion Control Plan would be

effective at reducing impacts to amphibians by identifying areas of erosion and implementing mitigation to reduce erosion in amphibian habitat. If the project is designed such that habitat disturbance cannot be avoided, BLM will work with PCW to determine the type and level of additional amphibian monitoring and mitigation needed.

Reptiles

No special status reptiles are known to occur within the project area; however, if one is discovered during the incidental observations, additional monitoring surveys may be recommended. To the extent practicable, reptile habitats such as fallen trees, prairie dog colonies, and potential basking rocks should be left intact. If any management agency identifies a potential for impacts to any special status reptile, additional measures may be implemented as specified in annual reports.

Fish

The BLM recommends a 500-foot buffer around riparian areas, including fish habitat. In addition, measures contained in PCW's Watershed Monitoring Plan and Erosion Control Plan would be effective at reducing impacts to fisheries. If the project is designed such that aquatic habitat cannot be avoided (e.g., stream crossings), BLM will work with PCW to determine the type and level of additional fish monitoring and mitigation needed. All new crossings of streams, capable of supporting fish during any time of the year, would be designed to simulate natural stream processes allowing for fish passage.

2.3.4 Other Protective Measures

Unless otherwise indicated, the following protection measures will be applied for all wildlife species. Additional measures primarily designed to minimize impacts to other resources (e.g., vegetation and surface water resources, including wetlands, steep slopes, etc.) are identified in the EIS in Chapter 4.0 and **Appendix D, Tables D-2 and D-3** of this document, and may provide additional protection for wildlife. Additional actions may be applied in any given year to further minimize potential impacts to wildlife. These actions will be specified in annual reports.

All roads on and adjacent to the Selected Alternative Area that are required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions and facilitate wildlife, most notably big game, movement through the project area. Appropriate speed limits will be adhered to on all project roads, and PCW will advise employees and contractors regarding these speed limits. Some existing roads on the project area and surrounding transportation planning area may be reclaimed if they become redundant or closed (gated and locked) to deny unnecessary access.

To protect important habitat in portions of the project area (i.e., ephemeral draws dominated by basin big sagebrush) areas with sagebrush greater than 3 feet tall will be avoided where possible.

Additional non-species-specific wildlife mitigations include the following:

- If dead or injured raptors, big game, migratory birds, or unusual wildlife are observed on the project area, PCW personnel will contact the appropriate BLM and WGFD offices. Under no circumstances will dead or injured wildlife be approached or handled by PCW personnel.
- Employee and contractor education will be conducted regarding wildlife laws. If violations are discovered on the project area, PCW will immediately notify the appropriate agency. If the violation is committed by an employee or contractor, said employee or contractor will be disciplined and may be dismissed by the PCW and/or prosecuted by the WGFD and/or USFWS.

- PCW will implement policies designed to control off-site activities of operational personnel and littering, and will notify all employees (contract and company) that conviction of a violation can result in disciplinary action, including dismissal.

3 Literature Cited

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Table 1 Summary of Primary Protocol Components

Action	Dates	Responsible Entity
Annual tentative plan of development	By December 31, annually	PCW
Annual inventory, monitoring and protection data	By December 31, annually	PCW
Annual reports	Annually: Draft – December 31 Final – February 28	PCW
Annual meeting	January and as necessary	BLM with participation by other agencies and PCW
Site-specific ECPs	To accompany SPODs	PCW
Inventory/ Monitoring		
Raptor nest inventory	At least every 5 years, prior to development	BLM or BLM approved PCW financed biologist with PCW provided financial assistance for aircraft rental, as necessary
Raptor monitoring	Annually from April to July	BLM or BLM approved PCW financed biologist with PCW provided financial assistance for aircraft rental, as necessary
Pygmy rabbit	Annually	BLM or BLM approved PCW financed biologist
Wyoming pocket gopher	Annually	BLM or BLM approved PCW financed biologist
Greater sage-grouse lek inventory	At least every 5 years	BLM or BLM approved PCW financed biologist with PCW provided financial assistance for aircraft rental, as necessary
Greater sage-grouse lek monitoring	Annually from March to mid-May	BLM or BLM approved PCW financed biologist
Big game crucial winter range use/monitoring	As available	BLM will request data from WGFD
Mountain Plover surveys	Annually from May to June	BLM or BLM approved PCW financed biologist
Amphibians	Annually from May to August	BLM or BLM approved PCW financed biologist
Reptiles	Annually from May to September	BLM or BLM approved PCW financed biologist
Fish	Annually	BLM or WGFD biologist

Table 2 Standard Protocol for SPODs Field Reviews

Protection Measure	Dates	Responsible Entity
Raptor nest survey/inventory within 0.75 to 1.0 miles of proposed disturbance	Yearlong	BLM, PCW
Raptor nest season avoidance within 0.75 to 1.0 miles	February 1 to September 15 (dates specific to species)	BLM, PCW
Raptor nest avoidance with 825 feet (1,200 feet for ferruginous hawk nests)	Yearlong	BLM, PCW
SSS surveys	Yearlong, as necessary	BLM, PCW
SSS avoidance	Yearlong, as necessary	BLM, PCW
Prairie dog colony mapping	Yearlong, as necessary	BLM, PCW
Prairie dog colony avoidance	Yearlong, where practical	BLM, PCW
Black-footed ferret surveys	As appropriate in accordance with USFWS guidelines	PCW financed USFWS-approved biologist
Pygmy rabbit habitat surveys	Yearlong	BLM, PCW
Wyoming pocket gopher mound surveys	Spring and Summer	BLM, PCW
Mountain plover habitat surveys	Yearlong	BLM, PCW
Mountain plover nest/brood avoidance	April 10 to July 10	BLM, PCW
Greater Sage-Grouse lek/nesting habitat avoidance within 2.0 miles of proposed disturbance	March 1 to July 15	BLM, PCW
Greater Sage-Grouse lek avoidance within 0.25 to 1.0 miles of proposed disturbance	Yearlong	BLM, PCW
Big game crucial winter range avoidance	November 15 to April 30	BLM, PCW
Amphibians	500 foot avoidance, yearlong	BLM, PCW
Reptiles	Summer	BLM, PCW
Fish	Yearlong, stream crossings designed to simulate natural stream processes allowing for fish passage.	BLM, WGFD