

### **3.11 SPECIAL STATUS WILDLIFE AND FISH SPECIES**

The Proposed Route and its Route Alternatives would pass through multiple habitats that could potentially support special status species. These species include threatened and endangered species listed under the ESA, candidate species and those formally proposed for ESA listing, those listed by the Forest Service and BLM as sensitive, and Forest Service MIS. For discussion purposes, these categories of special status wildlife and fish species will be referred to collectively as TES wildlife or TES fish species. TES plant species are discussed in Section 3.7 – Special Status Plants. Other species, including those petitioned for listing under the ESA but not included in any TES category as specified above, are considered in Section 3.10 – General Wildlife and Fish.

#### **3.11.1 Affected Environment**

This section describes the existing environmental conditions for TES wildlife or fish species that could be impacted by the Project. The discussion will first define the Analysis Area. It will then outline the issues that were raised during public scoping, followed by a description of the laws and regulations in place to manage TES species. This section will then conclude by describing the methods used to assess TES habitats, and a description of the existing conditions of the Analysis Area and the TES species potentially present within this area.

##### **3.11.1.1 Analysis Area**

The Project would cross a portion of the Intermountain West region, in southern Wyoming and Idaho, as well as a small portion of northern Nevada (under Alternative 7I). Elevation, slope, aspect, average seasonal temperatures, and annual precipitation exhibit a wide range across the more than one-thousand miles crossed by the Project. This diversity in conditions currently supports a wide range of habitat types; therefore, the Analysis Area consists of a wide range of habitat types. The primary habitat types found within the Analysis Area include shrublands, grasslands, forest/woodlands, and wetland/riparian areas (see Section 3.6 – Vegetation Communities). Shrublands are the most common habitat type found within the general region of the Project. It is the dominant type throughout the Wyoming and Nevada portions of the Project, and is common within the Idaho portions. Grasslands occur in both Wyoming and Idaho, but are most abundant along Segments 8, 9, and 10 within Idaho. Nearly all of the grasslands crossed by the Project are semi-natural plant communities, dominated by introduced grass species. Forest and woodlands are limited in the portion of the states crossed by the Project; the majority of the forest/woodlands crossed by the Project occur near Segments 1, 4, 5, and 7, where the Project would cross areas of high elevation in the Laramie Mountains of Wyoming, and the Wasatch, Portneuf, and Deep Creek Mountains in Idaho. Wetlands and riparian vegetation are present, but are not common in the general region of the Project (see Section 3.9 – Wetlands and Riparian Areas).

The Analysis Area for fish and wildlife was designed to capture the current conditions of the habitats that could be impacted by the Project's construction and operation, and included the habitat types described above. The Analysis Area for fish resources

closely follows that described in Section 3.16 – Water Resources, and Section 3.9 – Wetlands and Riparian Areas. It includes the stream segments crossed by the Proposed Route and its Alternatives, wetland and riparian areas adjacent to these streams, and the water reaches and fish resources located directly downstream of these crossings (on average about 2 miles). It also includes access roads, and other Project-related construction areas that could affect riparian habitat. A detailed discussion of how impacts to wetland and riparian areas were calculated can be found in Section 3.9 – Wetlands and Riparian Areas, as well as 3.6 – Vegetation Communities.

The Analysis Area for the purposes of wildlife habitat mapping was set as a 1,000-foot-wide area centered on the Proposed Route and Route Alternatives (500-foot-wide on either side of the centerline of each route), as well as a 50-foot-wide area along any roads located outside the 1,000-foot route-centered area, which was based on the available data obtained from remote sensing (see Section 3.11.1.4). While most of this Analysis Area would not be directly impacted by the Project, information gathered for this larger area allows for an understanding of the context in which the impacts would occur and allows an assessment of indirect effects.

The 1,000-foot-wide Analysis Area used for wildlife assessments needed to be augmented several times due to changes made in the Proposed Route, as well as the addition of new Route Alternatives that were added in response to issues raised during scoping, agency meetings, and landowner meetings. This augmented Analysis Area currently encompasses all Project components, including the entire Project ROW, all access roads and ancillary facilities, as well as all staging areas and fly yards. In addition, data on some TES wildlife and fish species are currently available for broad areas adjacent to, but outside of the original Analysis Area; therefore, the Analysis Area for some TES species was expanded to include this known information. Table 3.11-1 summarizes these known data, as well as their spatial extent and the extent that they added to the original Analysis Area.

**Table 3.11-1. Expanded Analysis Area for Selected Species with Available Data**

<b>Species</b>	<b>Type of Additional Habitat Data Either Available or Used Outside of the Analysis Area</b>	<b>Description (references provided when available or relevant)</b>
Black-footed ferret ( <i>Mustela nigripes</i> )	Non-block-cleared areas	Potential prairie dog colony areas that meet USFWS criteria as potential black-footed ferret habitat (USFWS 1989). Data extent is statewide (i.e., data are available and were used for the entire extent of each state).
Bonytail chub ( <i>Gila elegans</i> )	All Colorado River drainage located downstream from the Analysis Area	As required by the tiered Biological Opinion (BO) on water withdrawals from the Colorado River watersheds.
Canada lynx ( <i>Lynx canadensis</i> )	Lynx Analysis Units (LAU) and Linkage Habitat	LAUs are areas identified by the Forest Service that have substantial lynx habitat, are delineated at the scale required for a female home range (Forest Service 2007c), and considered by the USFWS in its proposed rule for expansion of critical habitat for the lynx. Data extent is state wide.  Lynx linkage habitats are areas designated linkage habitat by an interagency / intergovernmental panel (Forest Service 2007c). Data extent is state wide.

**Table 3.11-1. Expanded Analysis Area for Selected Species with Available Data (continued)**

<b>Species</b>	<b>Type of Additional Habitat Data Either Available or Used Outside of the Analysis Area</b>	<b>Description (references provided when available or relevant)</b>
Colorado pikeminnow ( <i>Ptychocheilus lucius</i> )	All Colorado River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Colorado River watersheds.
Columbian sharp-tailed grouse ( <i>Tympanuchus phasianellus columbianus</i> )	Distance from leks: 0.25 mile	BLM “no surface occupancy” land use designation across Wyoming, as designated within the various BLM RMPs at the time of initial Project design (2008).
	Distance from leks: 0.6 mile	Based on current “no surface occupancy” requirements.
	Distance from leks: 2 miles	Based on the average distance (or more) that nesting and brood rearing usually occurs in relation to leks (Giesen and Connelly 1993; Meints 1991; UDNR 2002).
Gray wolf ( <i>Canis lupus</i> )	Known locations of wolf packs	Known locations of wolf packs mapped by the Idaho Natural Heritage Program and the Wyoming Natural Diversity Database (WYNDD). Data extent is statewide.
Grizzly bear ( <i>Ursus arctos horribilis</i> )	Primary Conservation Area (PCA)	Minimum seasonal habitat components necessary to support grizzly bear populations, as part of the 1993 Grizzly Bear Recovery Plan.
	Distinct Population Segment (DPS)	Boundary of the grizzly bear’s Yellowstone Distinct Population Segment.
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	Distance from leks: 0.25 mile	Based on the BLM “no surface occupancy” land use designation applicable across Wyoming, as designated within the various BLM RMPs at the time of initial Project design (2008).
	Distance from leks: 0.6 mile	Based on the assumption made at the time of initial Project design (2008) that the “no surface occupancy” requirement would increase from 0.25 mile to 0.6 mile. As of this date, the BLM “no surface occupancy” restriction has been increased to 0.6 mile.
	Distance from leks: 1 mile	The Proponents chose to also assess impacts to leks at a distance of 1 mile, given the uncertainty regarding regulatory requirements for greater sage-grouse lek avoidance.
	Distance from leks: 2 miles	Based on Conservation Plan for the Greater Sage-grouse in Idaho (Connelly et al. 2000).
	Distance from leks: 3 miles	The Proponents chose to also assess leks at a distance of 3 miles, given the uncertainty regarding potential lek disturbances at varying distances.
	Distance from leks: 4 miles	As required by Wyoming Governor Executive Order 2011-5, and on the requirements of the BLM Instructional Memorandum (BLM 2009c).
	Key habitat	Areas mapped by Idaho Department of Fish and Game (IDFG) as crucial to the protection of greater sage-grouse. Data extent is statewide (see Figure E.11-3).
	Core areas	Areas mapped by the Wyoming Game and Fish Department (WGFD) as important habitat for greater sage-grouse. Data extent is statewide (see Figure E.11-2).

**Table 3.11-1.** Expanded Analysis Area for Selected Species with Available Data (continued)

Species	Type of Additional Habitat Data Either Available or Used Outside of the Analysis Area	Description (references provided when available or relevant)
Greater sage-grouse ( <i>Centrocercus urophasianus</i> ) (cont'd)	11-mile buffer around the Project (22-mile-wide analysis corridor)	Based on the requirements of the BLM Instructional Memorandum (BLM 2009c), and the Framework for Sage-Grouse Impacts Analysis for Interstate Transmission Lines (BLM 2011a).
Humpback chub ( <i>Gila cypha</i> )	All Colorado River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Colorado River watersheds.
Interior least tern ( <i>Sterna antillarum</i> )	All Platte River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Platte River watersheds.
Pallid sturgeon ( <i>Scaphirhynchus albus</i> )	All Platte River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Platte River watersheds.
Piping plover ( <i>Charadrius melodus</i> )	All Platte River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Platte River watersheds.
Pygmy rabbit ( <i>Brachylagus idahoensis</i> )	Known occurrences within Idaho and Wyoming	Areas of known occurrences mapped by the BLM for Idaho and Wyoming. Data extent is statewide.
Razorback sucker ( <i>Xyrauchen texanus</i> )	All Colorado River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Colorado River watersheds.
Wyoming pocket gopher ( <i>Thomomys clusius</i> )	Model of possible gopher presences within Wyoming based on historical data	Database maintained by the WYNDD (published on December 17, 2008). Data extent is statewide.
Whooping crane ( <i>Grus americana</i> )	All Platte River drainage located downstream from the Analysis Area	As required by the tiered BO on water withdrawals from the Platte River watersheds.

The Analysis Area used to assess the effects of habitat fragmentation was set as an 8-mile-wide buffer around the Project's centerline (see Section 3.10.1.1). An 8-mile-wide buffer was chosen to assess a large enough area to capture the current and existing level of fragmentation, without assessing too large of an area, which would mask the effects of the Project's contribution to the area's fragmentation.

### 3.11.1.2 Issues

Issues identified during Project scoping (Tetra Tech 2009a) included the following:

- The effects of Project activities on species federally listed as threatened, endangered, proposed, or candidates under the ESA;
- The effects of Project activities on species listed as sensitive by the BLM or Forest Service;
- The effects of Project activities on Forest Service MIS;
- The need to consult various agencies and conservation groups; and
- The need to comply with existing conservation plans.

### 3.11.1.3 Regulatory Framework

Regulations that address and govern impacts to TES species include the ESA and various land-management plans from the BLM, Forest Service, and state agencies. Following is a discussion of the relevant regulations.

#### **Federal Regulations**

The ESA was enacted in 1973. This law established a regulatory system to protect species that are at risk of extinction. Species listed under the ESA are protected from any action that would constitute a “take,” which is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct. Many states have developed threatened and endangered species lists that differ from the federal list regulated by the ESA; however, none of the states crossed by the Project have developed a separate list that contains regulatory authority beyond the ESA list for wildlife. (The state of Nevada, which is crossed by one of the Route Alternatives, has developed a list of state fully protected plant species under state regulatory statute 527.270; see Section 3.7 – Special Status Plants.)

The ESA requires, under Section 7 of the Act, that “Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an “agency action”) is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical (16 U.S.C. 35 §1531-1544).” Another process, called conferencing, may be conducted for species proposed for or candidates for listing under the ESA, where the lead federal agency feels that the proposed action is likely to jeopardize the species. Since the BLM does not generally consider applications for proposals that would likely jeopardize a species, as a general rule the BLM does not engage in formal conferencing for proposed or candidate species. However, the Proponents have requested that the BLM confer with the USFWS on the greater sage-grouse. Species that have been petitioned for listing have no legal status and will not be included in consultation or conferencing.

The Upper Colorado Endangered Fish Recovery Program was established in 1988, and serves as conservation measures to minimize adverse effects to the endangered fishes and their critical habitat caused by the Project's water depletions. Under this program, any amount of water removed from the Colorado River system is considered to be a depletion of water, and amounts greater than 0.1 acre-feet/year require formal consultation with the USFWS for downstream impacts to threatened and endangered species. To streamline the process, the USFWS will issue a tiered BO based on the amount of the depletion. *De minimis* depletions (less than 0.1 acre-feet/year) require no depletion fee and would result in a “no effect” determination for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub<sup>1</sup> under the ESA. Small depletions (projects that would withdrawal between 0.1 and 100 acre-feet/year)

---

<sup>1</sup> These river species are identified in this section; however, their impacts have been previously addressed in the tiered BO and will be referred to as such in this document.

require no depletion fee, but would result in a “*may affect, likely to adversely affect*” determination. Any depletions greater than 100 acre-feet/year require a one-time depletion fee (for which this Project qualifies) and would also result in a “*may affect, likely to adversely affect*” determination. However, the USFWS has indicated that if the entirety of this depletion is drawn from existing industrial water rights (i.e., if the Proponents purchase existing water rights and only draw water in accordance with these existing water rights), this would constitute a historical withdrawal (Kantola 2010). Withdrawals of this nature would still require formal consultation with the USFWS, but would result in a “no effect” determination, and would not require a depletion fee (Kantola 2010). If the entirety of water withdrawals cannot come from existing rights, then depletion impacts can be offset by accomplishment of activities necessary to recover the endangered fishes as specified under the Recovery Implementation Program Recovery Action Plan and the one-time contribution to the Recovery Program for new depletions greater than 100 acre-feet/year (i.e., the depletion fee).

The Platte River Recovery Implementation Program (PRRIP), established in 1997, implements actions designed to assist in the conservation and recovery of the target species and their associated habitats along the central and lower Platte River in Nebraska through a basin-wide cooperative approach agreed to by the states of Wyoming, Nebraska, and Colorado, as well as the U.S. Department of the Interior. The PRRIP addresses the adverse impacts of existing and certain new water-related activities on the Platte River target species and associated habitats, and provides ESA compliance for effects to the target species. Targeted wildlife/fish species covered by this program include the least tern, pallid sturgeon, piping plover, and the whooping crane, as well as ESA-designated critical habitat for the whooping crane. The State of Wyoming is in compliance with its obligations under the PRRIP. The Wyoming State Engineer’s Office is responsible for determining if a water withdrawal is an existing or new water withdrawal and what level of withdrawal it constituted. The level of withdrawal for a temporary industrial use would depend on the amount of depletion, and the existing conditions of the river at the time of the depletion. Furthermore, if the entirety of the withdrawal was taken from existing rights (i.e., if the Proponents purchase existing water rights and only draw water in accordance with these existing water rights) then this would constitute an existing depletion as it relates to the Wyoming State Engineer’s Depletion Report (Hoobles 2010). For federal actions and projects participating in the PRRIP, the PRRIP Final EIS and the June 16, 2006, programmatic BO serve as the description of the environmental baseline and environmental consequences for the effects of the federal actions on the listed target species. Under this BO, any depletions from the Platte River system less than 0.1 acre-feet/year would result in a “no effect” determination for the targeted species; while depletions greater than 0.1 acre-feet/year would result in a “may affect, likely to adversely affect” determination for the targeted species, and a “may affect, not likely to adversely modify critical habitat” determination for ESA-designated critical habitat (McKee 2010).

The BLM and Forest Service have developed land-management plans for the various FOs and NFs under each of their jurisdictions that detail land-management goals and objectives, specify permissible and prohibited activities by geographic designation, and provide BMPs and stipulations required for activities in that NF or BLM District’s

jurisdiction. They include temporal and spatial restrictions for any activities within areas inhabited by TES species. Tables that list the applicable stipulations from the management plans as well as whether or not the Project is in compliance with these stipulations can be found in the Administrative Record; proposed plan amendments for instances where the Project would not be in compliance with Forest Service standards or BLM requirements can be found in Appendix F as well as in a summarized list found in Table 2.2-1 in Chapter 2. A list of all state and federally imposed seasonal restrictions can be found in Appendix I; the Project would comply with all agency timing restrictions unless an exception is granted by the Agencies.

Both the Forest Service and the BLM have established a list of species they consider at risk on lands they manage. The Project would cross two Forest Service Regions (Region 2 and 4), each of which contains a separate sensitive species list. The Regional Foresters sensitive species lists include plant and animal species for which population viability is a concern within NFS lands. BLM sensitive species, per BLM Manual 6840, are managed under the special status species policy. The objectives of the BLM special status species policy, per BLM Manual 6840.02A and .02B, are to: 1) conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; and 2) to initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing of these species under the ESA.

The FSM defines MIS as “plant and animal species, communities, or special habitats selected for emphasis in planning, and which are monitored during forest plan implementation to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they may represent” (Forest Service 1991a). Each NF designates its own list of MIS. The Medicine Bow Forest Plan has designated eight MIS, including the American marten (*Martes americana*), common trout, golden-crowned kinglet (*Regulus satrapa*), Lincoln’s sparrow (*Melospiza lincolnii*), northern goshawk (*Accipter gentilis*), snowshoe hare (*Lepus americanus*), three-toed woodpecker (*Picoides dorsalis*), and Wilson’s warbler (*Wilsonia pusilla*; Forest Service 2003b). The Sawtooth Forest Plan has designated three MIS species, including the bull trout (*Salvelinus confluentus*), greater sage-grouse, and the pileated woodpecker (*Dryocopus pileatus*). The Columbian sharp-tailed grouse, greater sage-grouse, and northern goshawk have been designated as MIS by the Caribou Forest Plan (Forest Service 1997).

There are other federal regulations in addition to those discussed above; such as the Eagle Act, which prohibits wounding, killing, molesting, or disturbing eagles, even if the harm to the eagle is the result of otherwise legal activities (16 U.S.C. § 668a-d), and the MBTA, which decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected (USFWS 2002b). Species covered under these two regulations will be addressed in Section 3.10 – General Wildlife and Fish, because this section (3.11) discusses only those species covered under the ESA, those listed by the Forest Service or BLM as sensitive, Forest Service MIS, and any official state-listed game and fish species.

## **State Regulations**

### ***Comprehensive Wildlife Conservation Strategies***

Although none of the states crossed by the Project have enacted a state-level endangered species act that designates official state-listed game and fish species, the IDFG, Nevada Department of Wildlife, and WGFD have published Comprehensive Wildlife Conservation Strategies (CWCS) aimed at encouraging land-management activities that conserve and enhance wildlife habitat (IDFG 2005; WGFD 2005; NAU 2009); however, note that the WGFD finalized their “CWCS” on January 2011 and renamed this plan to the State Wildlife Action Plan (SWAP). These State Conservation Strategies/Plans were established to create a conservation plan to conserve the states’ Species of Greatest Conservation Need (SGCN) and to provide a common framework that would enable conservation partners (federal, state, and private) to jointly implement a long-term approach for the benefit of SGCN. These Conservation Strategies are not regulatory documents, are not intended to be prescriptive, and the species identified are not equivalent to an official state listing as threatened, endangered, or fully protected; however, these Conservation Strategies do define SGCN, identify the key habitats for each SGCN and the regions within the state where they can be found, recommend actions to improve the population status and habitat conditions of SGCN, and describe an approach for long-term monitoring. In general, the species included within the SGCN lists are those that have demonstrated a conservation need (due to population or habitat parameters) or where demographic data are lacking. The Idaho CWCS establishes 229 SGCN; these include 126 vertebrate species and 103 invertebrates (IDFG 2005). The Nevada CWCS establishes 263 SGCN; these include 189 vertebrate species and 74 invertebrates (NAU 2009). The Wyoming CWCS establishes 278 SGCN; these include 191 vertebrate species and 87 invertebrates (WGFD 2005).

### ***Sage-grouse Local Working Groups***

The purpose of the Sage-grouse Local Working Groups (in all states crossed by the Project) is to provide guidance that agencies, businesses, and individuals should consider when performing actions in sage-grouse habitats. These working groups have no legal authority to bind any agency, business, and individual to any specific action.

#### **Idaho Sage-grouse Local Working Groups**

There are approximately seven Sage-grouse Working Groups in Idaho, whose jurisdiction would be crossed by the transmission line: East Idaho Uplands, Big Desert, South Magic Valley, North Magic Valley, Jarbidge, Mountain Home, and Owyhee. Only the Jarbidge and Owyhee Working Group have released their Conservation Plans; the remaining five are currently drafting their plans.

In areas in Idaho where the Local Working Groups have not finalized their plan, the Conservation Plan for the Greater Sage-grouse in Idaho would apply. Unlike the Local Working Groups, this state plan identifies threats at a broad statewide-scale, while also providing a toolbox of finer-scale conservation measures that the Local Working Groups can use and/or adopt. The main goal of the Conservation Plan for the Greater Sage-grouse in Idaho is to maintain, improve, and where possible, increase sage-grouse populations and habitats in Idaho, while considering the predictability and long-term sustainability of a variety of other land uses (IDFG 2006). During preparation of the

state plan, an independent science panel evaluated and ranked 19 potential threats to sage-grouse in the state, and found that the top three included 1) wildfire, 2) infrastructure development (e.g., transmission, energy development, communications towers, roads etc.), and 3) conversion of lands to annual grasslands.

The mission statement of the Jarbidge Working Group is to “work toward the improvement of sage-grouse habitat and identify and address multiple-use factors affecting sage-grouse populations.” Similarly, the goal of the Owyhee Working Group is to put into place a framework that would guide management efforts aimed at improving sage-grouse populations and reverse recent declines of sage-grouse populations. The declines are attributed in these two Working Group plans to decreases in habitat quantity and quality (in part due to increased wildfires, fragmentation, invasive species, and encroachment by western juniper), as well as losses of sage-grouse due to hunting and predation. Habitat management priorities identified by these Working Groups include noxious weed control, fire management aimed at increasing the interval between fires, and various habitat protection and enhancement measures.

Recommendations from these Working Groups include the following:

- Revegetation with native grass, shrub, and forb species following disturbance in sagebrush habitats;
- Cleaning vehicles and equipment to minimize the spread of noxious weeds prior to entering other areas;
- Mapping locations of known active and historical sage-grouse habitat; and
- Conducting predator control studies.

#### Wyoming Sage-grouse Local Working Groups

There are three conservation areas crossed by the Project that have Wyoming Local Sage-grouse Working Groups in Wyoming (from east to west): Bates Hole/Shirley Basin, South-central, and Southwest. According to the Wyoming Local Sage-grouse Working Group Charter, the goal of these working groups is to “develop and facilitate implementation of local conservation plans for the benefit of sage-grouse, their habitats, and whenever feasible, other species that use sagebrush habitats.” Each of these three Working Groups has released a Conservation Plan detailing the natural history, threats, and mitigation measures for sage-grouse in each conservation area. Local Working Groups determine (at the time of their plans publication) that the primary threats to sage-grouse in Wyoming are impacts to vegetation (i.e., grazing and invasive plants) and the development of natural resource (such as oil and gas). Conservation measures suggested by the Working Groups include the following:

- Washing equipment and vehicles to prevent invasive plants spreading to new areas;
- Developing and implementing livestock grazing strategies to promote healthy sagebrush; and
- Conducting surveys for sage-grouse breeding activity before surface disturbance during the breeding season within suitable sagebrush habitat within 0.5 mile of the proposed activities.

Timing and seasonal restrictions suggested by the Working Groups to minimize impacts to sage-grouse include:

- Avoiding human activity and disturbance within 0.25 mile of leks between 8:00 p.m. and 8:00 a.m. from March 1 to May 15;
- No aboveground facilities within 0.25 mile of active sage-grouse strutting grounds, and installing raptor perch deterrents on tall structures within 0.5 mile of any sage-grouse lek; and
- Restricting surface-disturbing and disruptive activities in suitable sage-grouse nesting and brood rearing habitat within 2 miles of an occupied lek, or in identified sage-grouse nesting and early brood rearing habitat outside the 2-mile buffer from March 15 through July 15, and within identified sage-grouse winter habitat from November 15 until March 14 (seasonal stipulations for winter concentration areas can be applied on a case-by-case basis).

#### Nevada Sage-grouse Local Working Groups

One Route Alternative (Alternative 7I) would pass through the state of Nevada, along its northeastern border. The Northeastern Nevada Stewardship Group has established a Sagebrush Ecosystem Conservation Strategy for this region, which outlines specific measures to protect sage-grouse that are similar to those discussed above for the Idaho and Wyoming Local Working Groups. The Northeastern Nevada Stewardship Group's Sagebrush Ecosystem Conservation Strategy differs from the States' Sage-Grouse Conservation Strategy, in that the Northeastern Nevada Stewardship Group's strategy is a watershed-based ecosystem conservation strategy, while the states' strategy primarily focuses on greater sage-grouse conservation. While the two strategies share common goals and considerable overlap in process, they remain separate approaches. The Northeastern Nevada Stewardship Group has incorporated some of the statewide strategy for greater sage-grouse conservation, but recommends implementing greater sage-grouse conservation through watershed/ecosystem management.

The primary goal of the states' strategy is to "Create healthy, self-sustaining sage-grouse populations well distributed throughout the species historical range by maintaining and restoring ecologically diverse, sustainable, and contiguous sagebrush ecosystems and by implementing scientifically-sound management practices." The primary goal of the Northeastern Nevada Stewardship Group strategy is to "Manage watersheds, basins, and sub-basins in a manner that restores or enhances (as appropriate) the ecological processes necessary to maintain proper functioning ecosystems, inclusive of greater sage-grouse."

#### **3.11.1.4 Methods**

The identification and characterization of TES species within the Analysis Area was completed through a review of available literature, federal and state databases, consultation with federal and state biologists, and the completion of limited biological surveys and remote habitat assessments.

### **Literature and Agency Database Review**

Preliminary investigations included review of information and literature obtained from the USFWS, WGFD, IDFG, Forest Service, and BLM. The Forest Service, BLM, and state wildlife agencies work closely together to develop, maintain, and update a database of known wildlife occurrences and habitats; however, these data are not considered comprehensive and cannot be used exclusively to determine the location of wildlife species or their habitats. Additional information was obtained from independent literature searches, examination of aerial photographs, and queries of GIS databases: including the IDFG's Natural Heritage Program, the WYNDD, and other databases maintained by the BLM, Forest Service, IDFG, and WGFD regarding known and potential locations of TES species and their habitats within the Analysis Area. These data were used to develop the list of special status species of concern that could potentially be present within the Analysis Area.

### **Biological Field Surveys**

The BLM determined that greater sage-grouse and raptor nest surveys were necessary at limited locations along the Proposed Route and Route Alternatives, prior to the publication of an EIS. BLM biologists identified specific areas within the Project's segments that had a high potential for greater sage-grouse occurrence, but where very little data regarding possible lek locations existed (Tetra Tech 2008). Due to Columbian sharp-tailed grouse exhibiting similar breeding habits as greater sage-grouse (e.g., male breeding displays at leks during comparable breeding seasons) and overlapping range, Columbian sharp-tailed grouse lek surveys were conducted concurrently with greater sage-grouse lek surveys. Surveys were conducted for both greater sage-grouse and Columbian sharp-tailed grouse during April 2008. The BLM also determined that raptor nest surveys were necessary along specific portions of the Proposed Route and Route Alternatives. Raptor nest surveys were conducted by aerial survey methods concurrent with sage and sharp-tailed grouse surveys. Additionally, ground-nesting raptor surveys were conducted during the appropriate survey window in the late spring/early summer of 2008. A detailed discussion of the methods and results of these surveys can be found in the Greater Sage-grouse and Columbian Sharp-tailed Grouse Aerial Survey and Raptor Nest Aerial and Ground Surveys Report (Tetra Tech 2008). Locations of leks and raptor nests detected in these surveys were added to the GIS database developed for this Project, and were used in this analysis of effects.

The Forest Service determined that surveys would be required, prior to the publication of an EIS, for the northern goshawk and flammulated owl (*Otus flammeolus*) within the Caribou-Targhee NF and for the northern goshawk on the Medicine Bow-Routt NFs, because current data on nest locations within the Analysis Area are not considered complete. No additional nests for either species, beyond those already identified within existing database, were located during the surveys. Existing nests that were located during these surveys were determined to be inactive. A detailed discussion of the methods and results of these surveys can be found in the Northern Goshawk and Flammulated Owl Surveys Reports (Tetra Tech 2010c, 2010d).

The EPMs proposed by the Proponents state that preconstruction surveys would be completed within specific areas along the Project's Proposed Route for certain species.

Surveys the year prior to construction would be conducted, using protocols approved by state and federal agencies, for the following TES species:

- bald eagle (*Haliaeetus leucocephalus*);
- black-footed ferret;
- burrowing owl (*Athene cunicularia*);
- Columbian sharp-tailed grouse;
- ferruginous hawk (*Buteo regalis*);
- flammulated owl;
- greater sage-grouse;
- mountain plover (*Charadrius montanus*);
- northern goshawk;
- pygmy rabbit;
- three-toed woodpecker;
- white-tailed prairie dog (*Cynomys leucurus*);
- Wyoming pocket gopher; and
- any species that becomes listed under the ESA between now and the beginning of construction and could occur within the Analysis Area.

Preconstruction survey results would be provided to the applicable land-management agency. In addition, the Agencies have identified the following mitigation measure:

- TESWL-4 In the event that an ESA-listed species is discovered during surveys, construction would cease, the USFWS would be notified, and Section 7 consultation would be initiated. In addition, the transmission line or structures would be relocated to minimize direct impacts to newly discovered ESA species, to the extent practical.

### **Vegetation and Habitat Mapping Methods**

The Project has been proposed for an area with substantial public lands managed with the intent of conserving and improving wildlife populations and stopping or reversing population declines of sensitive species. Therefore, there are some data available regarding wildlife occurrences on these public lands. Similar data are not consistently available for private lands. The proportion of private and public lands that would be crossed by the Project is roughly equal; therefore, there is a discontinuity between the level of detail and available data along the Project's route regarding wildlife habitat. This means that existing databases regarding known wildlife occurrences could not be used exclusively to determine impacts to TES wildlife species. In addition, landowner permission is required prior to surveying private lands, and many private landowners have declined access to their lands for surveys. This means that exhaustive field surveys for TES wildlife species could not be conducted along the entire length of the Project. Therefore, the BLM determined that a remote sensing approach, augmented with some field surveys as well as known wildlife data maintained by federal, state, and private entities, would be appropriate for gathering information on wildlife habitat

crossed by this Project for seven species (i.e., the burrowing owl, Columbian sharp-tailed grouse, mountain plover, northern leopard frog, prairie dog, pygmy rabbit, and yellow-billed cuckoo). A more detailed description of the vegetation-habitat mapping methods and the results can be found in the Vegetation and Habitat Baseline Technical Report (Tetra Tech 2009b).

Remote sensing mapping methods similar to those used during this Project to map habitats for the seven wildlife species discussed above have been routinely used by various government and private entities to map vegetation and habitat types (more details regarding the species habitats mapped and how they were mapped can be found in the “Habitat Assessment” sub-section below as well as within Tetra Tech 2009b). The exact methods of these efforts vary; however, in general they all consist of acquisition of aerial images, segmentation of images into polygons, identification of polygons (photo interpolation), and field verifications. For example, the NPS used similar methods (including aerial image segmentation, field verifications, and photo interpolation) to identify the vegetation types found within the 18 million-acre Wrangell-St. Elias National Park and Preserve (Stumpf 2007). They determined that their remote sensing and field verification methods were sufficient to provide data that would conform to NPS standards, were compatible with other Inventory and Monitoring Program of the NPS mapping programs, and provided information required for the design of programs within the National Parks (Stumpf 2007). Recently, the NPS used the results of this remote sensing effort (Stumpf 2007) to assess the impacts of a project that proposes to reconstruct nine off-road-vehicle trails within the Nabesna portion of the Wrangell-St. Elias National Park and Preserve (NPS 2010b). In addition, the U.S. Geological Survey (USGS) Gap Analysis Program (GAP) is a spatial database that is routinely used by both government and private entities to identify the locations and extent of vegetative communities and wildlife species during initial project design and analysis (USGS 2005). The GAP analysis differs from the methods used in this Project in that the GAP maps are based on satellite imagery (USGS 2004), whereas the remote sensing used during this Project utilized lower altitude aerial images taken of the Analysis Area, and are of a finer scale/detail (Tetra Tech 2009b). In addition, habitat for some of the species considered within this EIS have been mapped in portions of the U.S. using similar methods as were employed here, such as habitat for the American marten (Vasquez and Spicer 2005), grouse species (Homer et al. 1993), and pygmy rabbit (Rachlow and Svancara 2006).

The habitat mapping conducted for this Project was based on remote sensing image interpretation and ground-based surveys to confirm the vegetation types identified through image interpretation in the Analysis Area (see Section 3.6 – Vegetation Communities). Vegetation typing was further refined using a GIS model for percent cover, slope, and aspect to determine suitable habitat for a group of seven TES species with the potential to occur within the Analysis Area.

The seven species selected for habitat mapping include the burrowing owl, Columbian sharp-tailed grouse, mountain plover, northern leopard frog (*Rana pipiens*), pygmy rabbit, white-tailed prairie dog, and yellow-billed cuckoo (*Coccyzus americanus*). These species were selected in coordination with biologists working with the Proponents as

well as the state and federal agency staff biologists. These species were selected because there is literature available regarding their habitat preferences in at least some of their life stages, and that literature could be used to define the remote sensing variables to assess, including vegetation type, percent cover, slope, and aspect.

### **Habitat Assessment**

The habitat modeling effort is summarized briefly in the following sections. (A detailed description of this effort can be found within the Vegetation and Habitat Baseline Technical Report [Tetra Tech 2009b].)

The location and types of vegetation present within the Analysis Area were determined through remote sensing. The suitability of these vegetative types for TES habitat was assessed using GIS modeling, which combined appropriate NVCS vegetation alliances, known species ranges identified by agencies and/or the University of Wyoming, and existing GIS biophysical parameters (i.e., slope and elevation). For the purpose of this analysis, suitable habitat is defined as those areas that satisfy the habitat attributes of vegetation type, slope, and elevation limitations identified for each species. The outer boundaries of these mapped suitable habitats were clipped to the known ranges of each species' current range (based on data from the IDFG and WYNDD). These suitable habitat maps can be used to define areas that support several macro-feature habitat components and can predict where each targeted species may potentially occur.

To determine the acreage of impacts that could potentially occur to each species habitat, the Project's construction and operations footprint were overlaid onto known or mapped suitable habitat for each species. Areas where the Project's construction or operations footprints are co-located with suitable habitats were considered to be a direct impact to TES wildlife species habitats. Impacts to various vegetation types were calculated in a similar way, and are discussed in detail within Section 3.6 – Vegetation Communities.

The habitat parameters used for modeling suitable habitat for the seven targeted species are described in the following paragraphs.

#### ***Burrowing Owl***

Habitat parameters that were incorporated into the burrowing owl GIS habitat model include vegetation type and slope. The vegetation types of shrub-steppe, grasslands, and disturbed shrublands / grasslands were selected using the NVCS vegetation alliance GIS coverage. Areas with slope less than 15 percent (Rich 1986) were identified through slope classification of the National Elevation Database.

#### ***Columbian Sharp-Tailed Grouse***

The habitat parameters incorporated into the Columbian sharp-tailed grouse habitat model include vegetation type. During summer months, this species inhabits area containing relatively dense herbaceous and shrub cover. In the winter, Columbian sharp-tailed grouse use forest habitat, particularly riparian areas, and feed on aspen, serviceberry, and choke cherry up to 4 miles from leks (WGFD 2005). To incorporate both winter and summer habitat into the model for the Columbian sharp-tailed grouse, the NVCS vegetation alliance GIS coverage was used to select all shrub-steppe and

grassland alliances within at least 497 feet (151.5 meters) from mountain shrub or riparian alliances (Marks and Marks 1988).

### ***Mountain Plover***

The habitat parameters incorporated into the mountain plover GIS habitat model include vegetation type and slope. The NVCS vegetation alliance GIS coverage was used to select xeric (i.e., dry habitat) shrubland and grassland alliances. Areas with slope less than 8.7 percent (Smith and Keinath 2004) were identified through slope classification of the National Elevation Database.

### ***Northern Leopard Frog***

Habitat parameters incorporated into the northern leopard frog GIS habitat model include wetland/vegetation type and elevation. The appropriate wetland/vegetation type for the northern leopard frog was identified via the NVCS vegetation alliance GIS coverage. Elevation data was derived from the National Elevation Database. All wetland areas below 9,720 feet (2,960 meters) in elevation were considered in the model (Bull 2005; Groves et al. 1997; WGFD 2005).

### ***Prairie Dog***

Habitat parameters included in the white-tailed prairie dog GIS habitat model include vegetation type, slope, and elevation. Vegetation types of shrub-steppe and mixed-grass and shortgrass prairie were selected using the NVCS vegetation alliance GIS coverage. Areas with the appropriate slope and elevation were identified through slope and elevation classification of the National Elevation Database. Areas with elevation between 3,773 to 10,499 feet (1,150 to 3,200 meters; Seglund et al. 2004; WGFD 2005) and slope less than 30 percent (Seglund et al. 2004; WGFD 2005) were selected for suitable habitat.

Prairie dog colonies were mapped through aerial photo interpretation techniques with color aerial photography (Project-specific and NAIP imagery) of the Analysis Area. Prairie dog colonies and complexes (at least two prairie dog colonies within about 4.3 miles of each other) were mapped according to the Black-Footed Ferret Survey Guidelines for Compliance with the ESA (USFWS 1989). White-tailed prairie dog complexes of greater than 200 acres and black-tailed prairie dog *Cynomys ludovicianus* complexes of greater than 80 acres were mapped (USFWS 1989). The white-tailed prairie dog occurs in the western two-thirds of Wyoming; therefore, colonies identified within this species range were considered white-tailed prairie dog colonies. The black-tailed prairie dog occurs in the eastern third of Wyoming; therefore, colonies identified within this species range were considered black-tailed prairie dog colonies. The boundary of each prairie dog complex was digitized into GIS polygons and the total acreage of each complex determined.

Existing white-tailed and black-tailed prairie dogs were mapped during this modeling effort (in addition to add suitable habitat, as was mapped for the other targeted species), because both of these species are recognized as keystone species (i.e., a species that has a disproportionate effect on its environment relative to its abundance). They provide a prey base to many avian, mammalian, and reptilian predators and their burrows provide habitat features for many species, including TES species such as the

black-footed ferret, mountain plover, and burrowing owl. For example, the abundance and distribution of the black-footed ferret (a federally listed endangered species) is related to the abundance and distribution of prairie dogs, because the black-footed ferret relies on large occupied prairie dog colonies for suitable habitat and preys almost exclusively on prairie dogs.

### ***Pygmy Rabbit***

Habitat parameters that were incorporated into the pygmy rabbit GIS habitat model include vegetation type and slope. The NVCS vegetation alliance GIS coverage was used to select sagebrush (both disturbed and undisturbed) habitat types. Areas with percent slope of less than 15 percent were identified through slope classification of the National Elevation Database.

Pygmy rabbits are closely associated with deep loose soil types; however, when soil types were incorporated into the Project-specific models, the results created omission errors (areas of known pygmy rabbit habitat being classified as unsuitable habitat). This is likely due to the fact that available soil data is mapped within a 1 square kilometer spatial scale, and this coarse spatial scale misses some suitable habitats that occur at a smaller spatial scale. Rachlow and Svancara (2006) modeled pygmy rabbit habitat within Idaho using soil type/depth as a model parameter, and also came to the conclusion that the soil data resulted in omission errors, with 12.5 percent of the known rabbit locations occurring outside of mapped rabbit habitat. Therefore, although soil type/depth is an important component of pygmy rabbit habitat selection, the use of soil type/depth in habitat models underestimates the total suitable habitat available. The model, as currently designed, more closely fits to known occurrences of pygmy rabbits than if it contained a soil type/depth parameter.

### ***Yellow-Billed Cuckoo***

Habitat parameters that were incorporated in the yellow-billed cuckoo GIS habitat model include vegetation type. Vegetation types of forested wetlands and riparian areas were selected using the NVCS alliance map.

### ***Greater Sage-Grouse***

Habitat for the greater sage-grouse was originally included in the remote sensing analysis. The original intent of this effort was to use this Project-specific remote sensing analysis to determine the quantitative impacts (i.e., acres of impacts) that would occur to greater sage-grouse habitats. However, an interagency group consisting of the BLM, USFWS, IDFG, and WGFDD decided that the remote sensing data was insufficient to address direct and indirect project-related impacts. The group developed a four component Analysis Framework of Interstate Transmission Lines that could be used to analyze potential impacts to greater sage-grouse in this Draft EIS (found in its entirety in Appendix J). With the USFWS as a Cooperating Agency, informal consultation requirements of the Endangered Species Act would be met. Because the States of Idaho and Wyoming are Cooperating Agencies, coordination with state game and fish agencies will continue to occur as well.

The framework developed by this group is composed of four key elements (BLM 2011a; Appendix J). The first four components of the framework are the Impacts Analysis itself

including: (1) analysis of indirect and direct impacts that may threaten long-term persistence of the sage-grouse; (2) quantity of interim and permanent loss of habitat services outside of Core Areas/Key Habitats; (3) direct loss of birds and populations; and (4) mitigation appropriate to offset identified impacts. The role and specific analysis to be conducted of each of the four elements in the overall framework is as follows:

**(1) Evaluation of Direct and Indirect Impacts** – This portion of the Impacts Assessment addresses Project-related habitat impacts that bear directly on listing factors considered by the USFWS when evaluating the need to provide full listing protection under the ESA. An analysis of sage-grouse populations that attend leks within 18 kilometers (11 miles) of the project is a critical component of an impacts analysis for the species, as sage-grouse that attend leks up to 18 kilometers from the project may be indirectly affected by the loss of habitat functionality during other seasons of the year (Connelly et.al. 2000). In addition, the construction of a transmission project or other linear facility may pose barriers on daily or seasonal migration patterns or avoidance of important daily or seasonal habitats once used extensively by local sage-grouse populations. Impacts to greater sage-grouse are discussed in Section 3.11.2.2.

**(2) Habitat Equivalency Analysis (HEA)** – An HEA is a method of quantifying the permanent or interim loss of habitat services from Project-related impacts (measured as a loss of habitat services from pre-disturbance conditions) and is used to scale compensatory mitigation requirements to potential Project related impacts (King 1997; Dunford et al. 2004; Kohler and Dodge 2006; NOAA 2006, 2009). An HEA provides a scientific-based, peer-reviewed method of scaling compensatory mitigation requirements, and has been used by federal regulatory agencies including the USFWS and NOAA.

An HEA is not meant to be an impacts analysis in and of itself; rather, it is one part of an overall wildlife impacts analysis that objectively determines Project-related habitat impacts (i.e., habitat services lost) and helps inform the type/extent of mitigation necessary to offset loss of habitat services. The Project-specific HEA model would be run for the Proposed Route and all Route Alternatives. The model would determine the habitat services provided by greater sage-grouse habitats during three phases of the Project (Baseline Conditions, Construction, and Reclamation/Operation). Ultimately, the results of the HEA will be used to develop a compensatory mitigation plan for both temporary and permanent impacts to greater sage-grouse and their habitats. Note that the total impact analysis for the greater sage-grouse will take into account the values determined via the HEA, as well as a qualitative assessments of potential impacts that cannot be directly quantified using this model. Therefore, the HEA should only be viewed as one of the many tools used in the total greater sage-grouse impact assessment.

The HEA is currently being developed by the BLM in close coordination with agency biologists from the USFWS, WGFD, IDFG, Nevada Department of Wildlife, and the Proponents. Although the HEA has not been finalized to date, the agencies have agreed to some of the parameters that would be incorporated into the HEA model. Following is a list of parameters that have been approved by the agencies:

- Duration of Model (i.e., length of time from the Baseline to the end of the Reclamation/Operation phase): 100 years.

Additional parameters will need to be determined by this interagency group prior to conducting the HEA. These additional parameters include the following:

- What quality values to assign to the Baseline habitat conditions, based on best available data;
- Spatial Extent of the Model; and
- What base habitat layer to use for the analysis (e.g., Regional Gap Analysis Program [ReGAP], LANDFIRE, SAGEMAP).

Although the HEA model was not finalized by the publication of this Draft EIS, a quantitative assessment of direct impacts is included in this document. This preliminary analysis used ReGAP as the habitat base-layer and covers the current range of the greater sage-grouse. All areas designated as sagebrush habitats within the ReGAP database, which occurred within the range of the greater sage-grouse, were considered as potential habitat. The Project's disturbance layer was then overlaid onto this area to predict the acreage of direct disturbances that could occur to greater sage-grouse habitats. Indirect impacts are qualitatively assessed in this Draft EIS. The results of the HEA (which will be available for the Final EIS) will add to the information provided by the preliminary impact analysis by assessing the habitat services lost by these impacts as well as help inform the mitigation that will be required by the various agencies. Once the HEA has been completed, and the habitat services lost due to Project-related impacts are determined, a compensatory mitigation plan could be developed for these impacts (see Step 4 in the Framework's strategy).

**(3) Addressing Direct Loss of Birds** – While HEAs address impacts in terms of habitat acreage and/or dollars associated with what is essentially an economic analysis, the “currency” of measurement under the ESA is the number of individuals in a population. This piece of the overall sage-grouse Impacts Assessment Framework is an important contribution to the rangewide jeopardy analysis conducted as part of the informal conferencing process for this candidate species. Additionally, addressing impacts to populations provides key information needed to complete any potential future formal Section 7 consultation that would be required if the greater sage-grouse is ultimately listed under ESA during Project development.

**(4) Mitigation** – Until an impacts analysis has been conducted in coordination with agency biologists—leading to an adequate understanding of impacts to sage-grouse populations and habitat—the issue of mitigation cannot be addressed. As stated above, the HEA is one of the tools in the Framework that will assist in quantifying Project-related impacts to greater sage-grouse (i.e., habitat services lost), and ultimately, the results of the HEA will be used to inform the development of a compensatory mitigation plan for both temporary and permanent impacts to greater sage-grouse and their habitats across the entire Project area.

Calculating Density of Disturbance within Key Habitat – Once the Alternatives analysis is complete and a preferred alternative has been selected, an additional site-specific evaluation of density of disturbance within Key Habitats/Core Areas may be conducted. The purpose of this evaluation is to evaluate opportunities to minimize density of disturbance within Key Habitats/Core Areas that are outside the designated disturbance

corridor identified in the Wyoming Governor's EO 2011-5; and restore and/or enhance important sage-grouse habitat as a part of Project-related mitigation. These site-specific habitat evaluations will also enable the BLM to: 1) demonstrate compliance with the Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands including Federal Mineral Estate (IM WY-2010-012 [BLM 2009c]); and 2) demonstrate consistency with the Greater Sage-Grouse Core Area Protection, Wyoming Governor's EO 2011-5<sup>2</sup>.

The overall goal of the sage-grouse Key Habitat/Core Area Strategy within both Wyoming and Idaho is to limit the density and duration of disturbances and restrict activities within Key/Core Areas to a level sufficient to ensure the long-term conservation and management of greater sage-grouse within each State. The BLM's management goal for these areas is to limit disturbances to no more than a 5 percent loss of habitat, and no more than an average of one disturbance per 640 areas (BLM 2011a). As stated above, the BLM must determine the density of disturbances within Wyoming designated greater sage-grouse Core areas to demonstrate 1) compliance with BLM (2009c); and 2) consistency with the Wyoming Governor's EO 2011-5. To accomplish this, the BLM has developed a density disturbance calculation (DDC) tool, which is used to measure the percent disturbance within Core/Key areas affected by a proposed project.

Note that the DDC is not a part of the general impact analysis and is instead a tool developed by the BLM to evaluate opportunities to: 1) minimize the density of disturbance within Core/Key areas that are outside the designated disturbance corridor identified in the Wyoming Governor's EO 2011-5; and 2) restore and/or enhance important sage-grouse habitat as a part of project-related mitigation. The DDC analysis is necessary to demonstrate project compliance with Wyoming BLM Greater Sage-Grouse Habitat Management Policy (BLM 2009c) and the Wyoming Governor's EO 2011-5.

A DDC will be conducted for the Project in compliance with the BLM's *Framework for Sage-grouse Impacts Analysis for Interstate Transmission Lines* (BLM 2011a; Appendix J). This framework states that the DDC needs to be conducted "once the alternative analysis is completed and a preferred alternative has been selected." A preferred alternative has not yet been selected and therefore this analysis cannot be conducted at this time; however, the analysis will likely be included in the Final EIS. A brief summary of the methods that would be used during this analysis are provided below; however, see BLM (2011a) and Appendix J for a full description of the methods involved in a DDC.

- A 4-mile buffer will be created around the outer Project boundary (i.e., the Project's ROW), and all occupied greater sage-grouse leks located within Core/Key areas as well as Idaho R1, R2, and R3 habitats will be identified (based on state agency databases). These leks will be defined as "affected leks."

---

<sup>2</sup> Note that this EO has undergone multiple revisions in the last 3 years, and that the process continues to evolve. The BLM will continue to work with the Wyoming Governor as well as the state wildlife agency to ensure a cohesive methodology for the protection of the greater sage-grouse.

- A 4-mile buffer will be created around the perimeter of each affected lek identified during the previous step.
- The area within the boundary of the affected leks and the 4-mile Project-boundary will then be merged.
- This overall area will then be clipped to the extent of the Core/Key areas as well as Idaho R1, R2, and R3 habitats in order to create the DDC analysis area.
- The extent of existing disturbances within the DDC analysis area (e.g., transmission lines, distribution lines, wind developments, oil/gas wells, communication towers, pipelines, roads, fires, and so on) as well as proposed disturbances with approved permits will be determined via agency databases and aerial photographs.
- The percentage of existing disturbances within the DDC analysis area will be determined by dividing the existing disturbances by the total area within the DDC analysis area, and then multiplied by 100. Subtracting the percentage of existing disturbances from 5 percent established the new allowable disturbances that could occur within the DDC analysis area.
- The extent of Project-related disturbances will then be overlaid onto the DDC analysis area to determine the acreage of Project-related disturbances that would occur. This amount will then be compared to the amount of new allowable disturbances determined by the previous step.
- Percent disturbances will be analyzed for the entire DDC analysis area as a whole, as well as for each individual affected lek within the DDC analysis area.
- It is assumed that the BLM's DDC tool (an ArcGIS tool) will automatically sum up the number of disturbances within the DDC analysis area, and determine how many occur on average within 640 acres.

### **3.11.1.5 Existing Conditions**

This section discusses the TES species that could potentially be present within the Analysis Area. It is broken into three parts: 1) threatened, endangered, proposed, or candidate species under the ESA; 2) Forest Service and BLM sensitive species; and 3) Forest Service MIS. The potential impacts that could occur to these species as a result of Project related activities are addressed in Section 3.11.2.

#### **Threatened, Endangered, Proposed or Candidate Species under the ESA**

The threatened, endangered, proposed, or candidate species listed under the ESA that could potentially be present within or in close proximity of the Analysis Area are listed in Appendix D, Table D.11-1. This list was discussed and evaluated in Level 1<sup>3</sup> meetings in Wyoming on May and November 2008, and in Idaho on April 2008. This list has been updated since the 2008 meetings, due to updates made to the federal list of species since this date. This list may contain some species that are present within the general portion of the states crossed by the Project; however, their distribution does not overlap with, or habitat for these species is not present within, the Analysis Area.

---

<sup>3</sup> Level 1 meetings are quarterly meetings among USFWS, BLM, state wildlife departments, Forest Service, and biologists that provide Project updates and allow for technical discussion and agreements on protocols.

Although no threatened, endangered, proposed, or candidate fish species listed under the ESA are present within or in close proximity to the Analysis Area (including areas directly downstream of Project-related stream crossings), several ESA fish species are present in downstream areas located outside of the Analysis Area (when considering the entire length of a stream, which can extend hundreds of miles and pass through multiple states). The ESA fish species that are located outside of the Analysis Area, but which still need to be considered within this analysis because they could be affected by water withdrawal from the Colorado or Platte River systems (as defined by the Upper Colorado Endangered Fish Recovery Program for the Colorado River system as well as the PRRIP for the Platte River system) are listed in Appendix D, Table D.11-1 (see Sections 3.11.1.3 and 3.11.2.2). In addition, the Proposed Route would not cross through ESA-designated critical habitat; however, Alternative 9E would cross through a portion of critical habitat for the bull trout.

The following contains a discussion of each of the threatened, endangered, proposed, or candidate species that were determined to have distribution or suitable habitat within the Analysis Area, or were identified during agency coordination meetings as a species that needed to be addressed in detail within this EIS.

### ***Threatened, Endangered, Proposed, or Candidate Wildlife Species under the ESA***

#### **Black-Footed Ferret (*Endangered*)**

The black-footed ferret was first designated as “endangered” by the Bureau of Sport Fisheries and Wildlife in 1966. The species was listed as “threatened with extinction” (endangered) on March 11, 1967. The reduction in the availability of their principal prey species, in combination with other factors such as secondary poisoning from toxicants ingested by prairie dogs (upon which they are reliant for survival), resulted in the near extinction of the black-footed ferret in the wild by the early 1970s (USFWS 2003).

The black-footed ferret was believed to be extinct throughout North America until a small relic population was discovered in a prairie dog colony west of Meeteetse, Wyoming, in 1981. Canine distemper and sylvatic plague killed the majority of that population in 1986 and 1987 (WGFD 2005). The 18 surviving ferrets were captured and became the founder population for captive breeding efforts initiated by the WGFD. These efforts were successful and have provided ferrets for reintroduction at nine sites in the western United States and Mexico. Currently only two reintroduced populations have been established that no longer require releases of captive-raised ferrets; one in western South Dakota and the other near Medicine Bow in southeastern Wyoming (WGFD 2005). The entire known population of ferrets in the wild is therefore considered a nonessential, experimental population.

Black-footed ferrets are highly dependent upon prairie dog colonies for food, shelter, and dens; therefore, the ranges of these species coincide (USFWS 2003). Historically, black-footed ferrets have been reported in association with the black-tailed prairie dog, white-tailed prairie dog, and Gunnison’s prairie dog (*Cynomys gunnisoni*) towns (USFWS 2003). Substantial reductions in both prairie dog numbers and distribution have occurred during the last century due to the conversion of native prairie to farmland, widespread poisoning of prairie dogs, and outbreaks of sylvatic plague. Sylvatic plague

is an exotic disease to which prairie dogs have little or no immunity and to which the black-footed ferrets are also highly susceptible (USFWS 2003).

The Rawlins FO is home to the first site of the reintroduced black-footed ferret population in the country. It is the only known population in Wyoming that is still extant. This population is located in Carbon County in the Shirley Basin, and was historically occupied by ferrets.

On February 2, 2004, the USFWS indicated that ferret surveys are no longer necessary in black-tailed prairie dog towns statewide or in white-tailed prairie dog towns except non-block cleared areas (USFWS 2004). However, USFWS also stated that the clearance from surveys must not be interpreted to mean that the area is free of all value to black-footed ferrets, and coordination with USFWS is necessary to ensure that the most recent information is accessed. This clearance from the need for surveys does not provide insight into an area's value for recovery of the species through future reintroduction efforts. Thus, while an action proposed in a cleared area needs no survey and is not likely to result in take of individuals, the action could have an adverse effect upon the value of a prairie dog town as a future reintroduction site and should be evaluated to determine the significance of that effect.

Approximately 2,204,851 acres of suitable habitat have been mapped for the black-footed ferret within Wyoming (non-block-cleared areas: USFWS 1989). The Proposed Route would cross black-footed ferret habitat along Segments 2, 3, and 4. Out of the total combined length of 356.1 miles for Segments 2, 3, and 4, the Proposed Route would cross approximately 73.9 miles of suitable black-footed ferret habitat (see Table D.11-3 in Appendix D).

#### Canada Lynx (*Threatened*)

On July 8, 1998, the USFWS proposed to list Canada lynx as a threatened species under the ESA. The Forest Service and BLM responded to the proposal by establishing a team of international experts in lynx ecology to collect and summarize scientific data. This resulted in the publication *Ecology and Conservation of Lynx in the United States* (Ruggiero et al. 1999). Based on the information gained through this study, the USFWS listed the Canada lynx as threatened, effective April 24, 2000 (65 *Federal Register* 16051-16086). The USFWS published a revision of the critical habitat designation for the lynx on February 25, 2009 (74 *Federal Register* 36). This designation does not include areas near or within the Analysis Area.

Lynx habitat is found generally at middle to upper elevations. Their habitat includes primarily cool, moist subalpine fir (*Abies lasiocarpa*) and Engelmann spruce (*Picea engelmannii*) forests, and moist lodgepole pine (*Pinus contorta*) forests. Cool, moist forests of Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), Western larch (*Larix occidentalis*), and aspen contribute to lynx habitat where intermingled with, or adjacent to, Engelmann spruce (*Picea engelmannii*) or lodgepole pine (*Pinus contorta*). Lynx tend to have very large home ranges, varying from about 15,000 to 30,000 acres or 10 to 20 square miles. Lynx are highly mobile, with characteristic long-distance movements in excess of 60 miles. Studies have shown that they prefer contiguous forests and avoid large openings unless shrubs and trees provide enough hiding cover

(Ruggiero et al. 1999). Lynx may also use lowland shrub habitats periodically, while dispersing between suitable high-elevation forest habitats, or while snowshoe hare populations are low in forest habitats and populations of shrub-dependent prey species (e.g., sage-grouse or jackrabbit) are high in shrub habitats adjacent to forested areas (Ruediger et al. 2000).

Snowshoe hares are the primary prey of lynx, making up anywhere from 35 to 97 percent of the diet (Ruggiero et al. 1999); therefore, any action that impacts snowshoe hares can have consequences to lynx. In addition, other small mammal species, such as red squirrels, may be an important alternate prey, especially when hare populations are low (Ruggiero et al. 1999).

The majority of the Analysis Area consists of unsuitable habitat for the Canada lynx; however, the centerline of Segment 4 bisects a small portion of two areas designated as Lynx Analysis Units (LAUs). An LAU is described as core habitat and is considered occupied habitat (Forest Service 2007c). The centerline of the Proposed Route would cross 10.3 miles of this core LAU area, along Segment 4. Alternative 4F would cross 4.5 miles of LAU areas, while the other Route Alternatives (4A to 4E) would avoid the LAU entirely (Table D.11-3 in Appendix D). The portions of the LAU crossed by the Proposed Route or Alternative 4F are south of the Bridger NF, which itself represents the southern extent of the recently updated designated critical habitat for Lynx (74 *Federal Register* 63343-63366). These areas are shown in Figure E.11-1. Table 3.11-2 displays the total size of these two LAUs, as well as the acreage of forested habitat within each LAU.

**Table 3.11-2.** Total Size of Lynx Analysis Units Crossed by the Project

Total Size (acres)	Total Forested Habitat in LAU (acres)
18,776	15,659
21,030	15,753

In addition, the Project would cross two areas that have been designated as lynx linkage habitat by an interagency / intergovernmental panel, for a total of 9.0 miles (Forest Service 2007c); both crossings are located south of the Caribou-Targhee NF, along Segment 4, and occur in shrub habitats.

#### Columbia Spotted Frog (*Candidate; Forest Service Sensitive*)

In May of 1989, the USFWS received a petition to list the Columbia spotted frog (*Rana luteiventris*) under the ESA. In May 1993, the USFWS released their 12-month petition finding in which they stated that the Columbia spotted frog consisted of five distinct population segments: 1) the main population (Alaska, British Columbia, Alberta, Wyoming, Montana, north and central Idaho, eastern Washington, and northeastern Oregon); 2) the Great Basin (southern Idaho and Nevada); 3) the West Coast (western Washington, Oregon, Idaho, and Nevada); 4) the Wasatch Front, Utah; and 5) the West Desert, Utah. All of the distinct population segments, except for the main population, were classified as candidate species by this May 1993 12-month petition finding.

Columbia spotted frogs are found near bodies of slow-moving water including lakes, ponds, sluggish streams, and marshes. During the summer they may disperse into

upland forests, grasslands, and shrublands; however, these upland habitats must still be closely associated with moist vegetated areas. Aquatic habitat for the spotted frog consists of the littoral zone of emergent vegetation, including willows, grasses and sedges, and submerged aquatic plants. The spotted frog over-winters in or immediately adjacent to permanent waterbodies that remain above freezing temperatures and are well oxygenated, such as streams, springs, and spring-fed lakes.

General associations of Columbia spotted frogs with NWI classifications have been made in several studies (Patla and Keinath 2005). The NWI classifications that are associated with Columbia spotted frogs occurrences include palustrine wetlands with shrub-scrub, emergent, aquatic bottom, and intermittent riverine streambed sites; and water regimes include seasonally flooded, semi-permanently flooded, and saturated areas.

In Idaho, the species mainly occurs in northern Idaho with separate isolated populations in Owyhee County. In Wyoming, it is found in Bighorn, Sheridan, Johnson, Teton, Sublette, Fremont, and Lincoln Counties. In Nevada, it is found in Elko and Eureka Counties, usually at elevations between 5,600 and 8,700 feet. In the Analysis Area, only the isolated populations in Owyhee County, Idaho and Elko County, Nevada are considered a portion of the Great Basin distinct population.

Suitable habitat for the Columbia spotted frog was considered to be all wetland habitats located within Owyhee, Bighorn, Sheridan, Johnson, Teton, Sublette, Fremont, Lincoln, Elko, and Eureka Counties (however, the Project would only cross through Owyhee, Lincoln, and Elko Counties). Suitable wetland habitat for the Columbia spotted frog would be crossed by Segments 4, 8, and 9. Out of the total combined length of 495.7 miles for Segments 4, 8, and 9, the Proposed Route would cross approximately 2.1 miles of suitable Columbia spotted frog habitat (Table D.11-3 in Appendix D).

Gray Wolf (*Nonessential Experimental Population–Wyoming; Endangered-Idaho; Forest Service Sensitive*)

The gray wolf is designated as a nonessential experimental population by the USFWS in Wyoming. The “nonessential experimental population” status is defined as “a reintroduced population believed not to be essential for the survival of the species, but important for its full recovery and eventual removal from the endangered and threatened list. These populations are treated as “threatened” species except that the Act’s Section 7 regulations (requiring consultation to reduce adverse impacts from federal actions) do not apply (except when the species occurs within National Parks or NWRs) and critical habitat cannot be designated.

The gray wolf was removed from listing as a threatened or endangered species in Idaho, effective May 4, 2009; however, on August 5, 2010, federal Judge Donald Molloy ruled that the delisting was not in compliance with the ESA. Therefore, the gray wolf was re-listed as endangered in Idaho. However, Congress overturned Judge Molloy’s ruling in 2011, and again removed the gray wolf from the ESA list in Idaho on April 2011.

Wolves are considered habitat generalists and do not require a specific habitat type for survival. Habitat for wolves is largely based on the density of prey species found within a

given area. Wolves have been expanding within portions of Idaho and Wyoming since the reintroduction effort that began in 1995 and 1996. The established Northern Rocky Mountain population recovery goal of 30 breeding pairs of wolves well distributed throughout Idaho, Montana, and Wyoming for 3 consecutive years was achieved in December 2002. In 2003, the USFWS adopted regulations that reclassified, or downlisted, wolves from endangered to threatened in Idaho north of I-90; however, in early 2005, a federal court judge remanded these regulations. Consequently, wolves north of I-90 remained classified as fully endangered. In February 2007, the USFWS proposed a delisting rule that would provide two alternate tracks to delisting. On March 28, 2008, the USFWS designated and removed the Northern Rocky Mountain gray wolf from listing under the ESA (73 *Federal Register* 10514-10560). However, in July 2008, a federal judge issued an injunction to suspend the removal of wolves in the Northern Rocky Mountains from the federal ESA list. A number of environmental groups have challenged the USFWS' delisting decision. On March 6, 2009, Secretary Salazar confirmed the USFWS decision to delist the wolf in all states except Wyoming.

The gray wolf population in the Northern Rocky Mountains of Montana, Idaho, and Wyoming continues to increase its distribution and abundance (USFWS et al. 2008). Estimates of wolf numbers at the end of 2007 were 830 wolves in the Central Idaho Recovery Area, 453 in the Greater Yellowstone Recovery Area (GYRA), and 230 in the Northwest Montana Recovery Area for a total minimum estimate of 1,513 wolves (USFWS et al. 2008). By state boundaries, there were an estimated 422 wolves in Montana, 732 wolves in Idaho, and 359 in Wyoming. 2007 was the eighth year in which 30 or more breeding pairs were documented and well distributed within the three-state area (USFWS et al. 2008). The total gray wolf population in Wyoming increased approximately 15 percent from 311 wolves in 2006 to 359 wolves in 2007 (Jimenez et al. 2008). The Idaho wolf population has continued to expand in both numbers and packs since initial reintroductions in 1995 (Nadeau et al. 2008). By the end of 2007, 83 wolf packs were documented in Idaho, including 17 newly documented packs and a minimum of 489 wolves (Nadeau et al. 2008). Recovery areas are established by the USFWS to restore gray wolf populations in the Northern Rocky Mountains of Idaho, Montana, and Wyoming. Wolves are naturally recovering in the Northwest Montana Recovery Area, while wolves were reintroduced into the Central Idaho Recovery Area and the GYRA.

As the gray wolf is considered a habitat generalist, and does not require a specific habitat type for survival, gray wolves could potentially be present along any portion of the line regardless of habitat type, with the exception of where the transmission line passes through areas of heavy agricultural use. The closest they have been documented to the Project is along the Proposed Route near Cokeville (Segment 4), in 2003. However, the BLM's Kemmerer FO has indicated that a pack was detected on Dempsey Ridge (also near Segment 4) in 2010 (this is likely the same pack, due to the close proximity of Cokeville to Dempsey Ridge). See Appendix E, Figure E.11-1 for identified wolf packs in the vicinity of the Project.

The Proposed Route and Route Alternatives are located in the Central Idaho Recovery Area and GYRA for the gray wolf. No critical habitat has been designated within Idaho and Wyoming (43 [47] *Federal Register* 9607-9615).

Greater Sage-Grouse<sup>4</sup> (Candidate; MIS; Forest Service Sensitive; BLM Sensitive)

The greater sage-grouse was first considered for protection under the ESA in 2005. After reviewing the best available scientific and commercial information the USFWS concluded, on January 2005, that listing the greater sage-grouse was not warranted. However, on February 2008, the USFWS announced that the greater sage-grouse would receive an additional review to determine if the species warrants protection under the ESA. The USFWS has stated that the new status review would take into consideration relevant information that had become available since 2005 (73 *Federal Register* 75176-75244). On March 5, 2010, the USFWS determined that listing the greater sage-grouse was warranted but precluded by higher priority species, thereby deeming the greater sage-grouse as a candidate species.

The greater sage-grouse is a sagebrush obligate species, found in foothills, plains, and mountain slopes where sagebrush is present, or in mixtures of sagebrush, aspen, and open meadows. Sagebrush cover, height, and vegetative vertical structure are more important factors for suitable greater sage-grouse habitats than is the presence of particular sagebrush plant species.

Greater sage-grouse habitat use varies by season. Breeding and brood rearing habitat (i.e., summer habitat) is characterized by 10 to 25 percent sagebrush cover with an abundant grass and forb understory of greater than 15 percent cover (Connelly et al. 2000). The grass component is important in secluding nest sites, and forbs are important as browse for greater sage-grouse and providing habitat for protein rich insects necessary for chick growth. These habitats include a variety of sagebrush habitats that are capable of supporting a continued source of succulent forbs and insects. They may also include higher elevations where forbs are still present, as well as agricultural fields, lower-elevation meadows, moist grassy areas, and riparian areas adjacent to sage-brush communities. Winter habitat consists of relatively large areas of sagebrush with 10 to 30 percent canopy cover that provide cover and forage for grouse above the snow (Connelly et al. 2000). Greater sage-grouse are capable of traveling long distances between seasonal habitats when necessary. For example, populations may travel up to 50 miles from summer to winter range (Leonard et al. 2000).

Greater sage-grouse are landscape species<sup>5</sup>, and are widely distributed throughout sagebrush-dominated habitats in southern Idaho, northern Nevada, and throughout Wyoming. The State of Wyoming has established areas designated as core habitat and the State of Idaho has established key habitats, both of which are considered crucial habitat for the greater sage-grouse. These areas were delineated around high concentrations of leks and other suitable habitat features frequented by this species. Currently, there are about 15,297,867 acres of designated core habitat in Wyoming, and about 9,373,592 acres of key habitats in Idaho. Appendix E, Figures E.11-2 and E.11-3 shows the locations of Core/Key habitats in relation to the Project. The Proposed Route

---

<sup>4</sup> Note that the level of information presented within this document for the greater sage-grouse is at times more detailed than that presented for other species due to the potential impacts present for the greater sage-grouse, and the elevated level of concern expressed by federal and state agencies regarding this species.

<sup>5</sup> Landscape species use large, diverse areas and can have a substantial impact on the structure and function of natural ecosystems.

would pass through both Wyoming’s core and Idaho’s key habitat for a total of 235.3 miles (Table 3.11-3).

In addition to key habitats, the state of Idaho has designated R1, R2, and R3 habitats. R1 habitats are defined as perennial native and non-native grasslands with high restoration potential. R2 habitats are defined as annual grass dominated areas (either shrubland or grassland) with low restoration potential. R3 habitats are defined as conifer encroachment areas with high restoration potential. The state of Idaho has designated about 3,481,909 acres of R1 habitats, 826,281 acres of R2, and 527,821 acres of R3 habitats in Idaho. The Proposed Route would pass through 54.0 miles of R1 habitats, 17.2 miles of R2 habitats, and 5.1 miles of R3 habitats (Table 3.11-3; also see Table D.11-11 in Appendix D, which lists this same information but for the Proposed Route and Route Alternatives).

**Table 3.11-3.** Miles of Agency Designated Greater Sage-Grouse Habitat Crossed by the Proposed Route’s Centerline

Segment Number	Segment Total Length (miles) <sup>1/</sup>	Core Areas Crossed (miles) <sup>1/</sup>	Key Areas Crossed (miles) <sup>1/</sup>	R1 Habitats Crossed (miles) <sup>1/</sup>	R2 Habitats Crossed (miles) <sup>1/</sup>	R3 Habitats Crossed (miles) <sup>1/</sup>
1E	100.6	37.2	-	-	-	-
1W(a)	76.5	34.0	-	-	-	-
1W(c)	70.6	24.8	-	-	-	-
2	96.7	44.5	-	-	-	-
3	56.5	-	-	-	-	-
4	203.0	43.8	14.2	-	-	-
5	54.6	-	-	-	-	-
6	0.5	-	-	0.3	-	-
7	118.1	-	11.9	16.5	-	5.1
8	131.0	-	13.2	21.2	11.3	-
9	161.7	-	11.5	10.0	-	-
10	33.6	-	0.1	6.1	5.9	-
<b>Total Miles</b>	<b>1,103.4</b>	<b>184.4</b>	<b>50.9</b>	<b>54.0</b>	<b>17.2</b>	<b>5.1</b>

1/ Mileages are rounded to the nearest tenth; therefore, columns may not sum exactly.

If Alternative 7I is selected, the Project would cross through Nevada for about 9.4 miles. Unlike Wyoming and Idaho, Nevada has not designated jurisdictional greater sage-grouse habitats within the state. However, during this analysis, all habitats in Nevada that are crossed by Alternative 7I will be considered as important habitats for greater sage-grouse.

There are approximately 2,124 known greater sage-grouse leks within the state of Idaho (consisting of 854 occupied, 98 unoccupied, and 1,172 undetermined status leks), and 2,257 leks within Wyoming (consisting of 1,871 occupied, 285 unoccupied, and 101 undetermined status leks). The number of leks located statewide in Nevada is uncertain; however, Table D.11-9 lists the number of leks located within various distances from the Project, including along Alternative 7 (i.e., the only route that crosses into Nevada). The term “occupied” is defined differently by the IDFG and WGFD. In Idaho, the IDFG define occupied leks as any lek that has been active during at least 1 breeding season within the prior 5 years; in Wyoming the WGFD define occupied leks as those that have been visited by males within the last 10 years. For the sake of this

analysis, all leks in Nevada will be considered as occupied due to the limited length that Alternative 7I would cross this state.

The Proposed Route would pass within 0.6 mile of 8 leks that are either occupied or have an undetermined management status (Table 3.11-4), and within 2 miles of 66 leks with these same management statuses (also see Table D.11-9 in Appendix D, which lists this same information but includes Route Alternatives as well). This value increases to 511 leks when considering a distance of 11 miles from the Proposed Route.

**Table 3.11-4.** Number of Greater Sage-Grouse Leks within Specified Distances of the Proposed Route's Centerline

Segment Number	Segment Length (miles)	Leks within 0.25 mile	Leks within 0.6 mile	Leks within 1 mile	Leks within 2 miles	Leks within 3 miles	Leks within 4 miles	Leks within 11 miles
<b>Occupied Leks</b>								
1E	100.6	-	-	1	5	8	11	55
1W(a)	76.5	-	-	1	4	5	10	45
1W(c)	70.6	-	-	-	2	7	10	40
2	96.7	-	1	8	21	29	38	137
3	56.5	-	-	-	1	3	4	62
4	203.0	-	1	5	14	26	32	89
5	54.6	1	1	1	1	1	1	2
6	0.5	-	-	-	-	-	-	-
7	118.1	-	2	2	3	4	6	39
8	131.0	-	-	-	-	1	1	17
9	161.7	-	-	-	1	1	7	53
10	33.6	-	-	-	-	-	1	24
<b>Total Proposed<sup>1/</sup></b>	<b>1,103.4</b>	<b>1</b>	<b>4</b>	<b>17</b>	<b>48</b>	<b>77</b>	<b>105</b>	<b>353</b>
<b>Leks with Undetermined Status</b>								
1E	100.6	-	1	3	3	3	5	9
1W(a)	76.5	-	1	1	2	2	2	7
1W(c)	70.6	-	-	1	2	2	2	6
2	96.7	-	-	-	-	1	2	10
3	56.5	-	-	-	-	-	-	3
4	203.0	-	-	2	5	5	6	20
5	54.6	-	-	-	-	-	-	3
6	0.5	-	-	-	-	-	-	7
7	118.1	-	-	3	3	7	10	31
8	131.0	-	-	-	-	3	7	39
9	161.7	-	1	1	2	7	13	69
10	33.6	1	2	3	5	8	9	26
<b>Total Proposed<sup>1/</sup></b>	<b>1,103.4</b>	<b>1</b>	<b>4</b>	<b>12</b>	<b>18</b>	<b>32</b>	<b>50</b>	<b>158</b>

**Table 3.11-4.** Number of Greater Sage-Grouse Leks within Specified Distances of the Proposed Route's Centerline (continued)

Segment Number	Segment Length (miles)	Leks within 0.25 mile	Leks within 0.6 mile	Leks within 1 mile	Leks within 2 miles	Leks within 3 miles	Leks within 4 miles	Leks within 11 miles
<b>Unoccupied Leks</b> (i.e., leks that have not been active within the last 5 years in Idaho or the last 10 years in Wyoming)								
1E	100.6	-	1	1	2	3	6	17
1W(a)	76.5	-	-	-	-	-	-	4
1W(c)	70.6	-	-	-	-	-	-	4
2	96.7	-	-	1	2	4	9	21
3	56.5	-	-	-	-	-	1	10
4	203.0	-	-	-	-	-	1	18
5	54.6	-	-	-	-	-	-	-
6	0.5	-	-	-	-	-	-	-
7	118.1	-	-	-	-	1	1	6
8	131.0	-	-	1	1	2	2	2
9	161.7	-	-	-	2	4	5	15
10	33.6	-	-	-	-	1	1	5
<b>Total Proposed<sup>1/</sup></b>	<b>1,103.4</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>13</b>	<b>22</b>	<b>67</b>

1/ There is some overlap between the number of leks located along one Segment compared to another (e.g., a lek located 2 miles from the end of Segment 4 may also be located within 2 miles of Segment 5); therefore, the values reported for each Segment separately in this table cannot be summed to get the total number of leks located along the Proposed Route as a whole.

Based on the preliminary analysis (i.e., the results of the HEA are still pending), suitable greater sage-grouse habitat occurs along all segments, and the Proposed Route would cross through approximately 677.3 miles of suitable sage-grouse habitat (see Appendix D, Table D.11-3).

#### Grizzly Bear (*Threatened*; *Forest Service Sensitive*)

In July 1975, the grizzly bear (*Ursus arctos horribilis*) was designated as threatened in the conterminous United States under the ESA. Populations of these bears have increased due to protective measures required under the ESA. The Yellowstone Distinct Population Segment (DPS) has increased from estimates as low as 136 individuals (when this population was first listed in 1975) to more than 500 animals as of 2006; population increases have occurred at a rate of 4 to 7 percent annually. Therefore, on March of 2007, the USFWS announced that the grizzly bear's Yellowstone DPS had recovered and subsequently dropped their status as threatened under the ESA. In 2009, Montana District Court Judge Donald W. Molloy ruled that existing regulatory mechanisms outside the ESA were inadequate to protect the grizzly bears, and that the USFWS failed to adequately consider the impacts of global warming and other factors on food sources for the grizzly, before delisting the Yellowstone DPS. Therefore, the Yellowstone DPS has been relisted as a threatened species under the ESA as of March 26, 2010.

Grizzly bears are habitat generalists; however, they are found most often in mountainous habitats, away from human developments. The primary factors that determine the suitability of habitat and the number of bears that the habitat can support is overall habitat productivity, availability of food, and the level and types of human activities present. Food types utilized by the Yellowstone DPS grizzly bears depend on the season of year, and

can range from ungulates, spawning cutthroat trout, seeds of whitebark pine (*Pinus albicaulis*), and army cutworm moths (USFWS 2007a). In fact, impacts to the whitebark pine due to global warming and infestation by pine beetles was one of the primary reasons for Judge Donald W. Molloy's ruling to relist the Yellowstone DPS.

The Primary Conservation Area (PCA) for the grizzly bear was established by the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area, and the 1993 Grizzly Bear Recovery Plan. The PCA contains the minimum seasonal habitat components necessary to support grizzly bear populations. The PCA encompasses 9,209 square miles (5,893,760 acres) within three states: southern Idaho, southwest Montana, and Northwest Wyoming (USFWS 2007a). In addition, the USFWS has designated the boundaries of the Yellowstone DPS and the acreage of suitable habitat within the DPS (USFWS 2007a).

Yellowstone grizzly bears continue to increase their range and distribution annually, and grizzly bears in the Yellowstone area now occupy habitats that they have been absent from for decades. Approximately 84 to 90 percent of females with cubs occupy the PCA and the remaining females with cubs have expanded beyond the portion of PCA within the DPS boundaries. Grizzly bears now occupy 68 percent of suitable habitats located within the DPS boundaries and may soon occupy the remainder of available suitable habitat (USFWS 2007a).

The Proposed Route along Segments 3 and 4 would pass through approximately 176.2 miles of land within the range of the Yellowstone DPS (the total combined length of Segments 3 and 4 equals approximately 259.5 miles). The Project would cross the Yellowstone DPS along the southernmost edge of the DPS boundary, adjacent to Highway 80, Highway 30, and the town of Kemmerer; however, the Project (Proposed Route and Route Alternatives) would not pass through the PCA or through areas identified by the USFWS as suitable grizzly bear habitats.

In addition to crossing through the Yellowstone DPS, whitebark pine (an important food source for the grizzly bear) occurs in the upper treeline areas along the Segment 4 Proposed Route and Route Alternatives (within the Kemmerer FO), though the full extent of the stands has not yet been mapped (Means 2010a; Guyon 2009). The Project would cross through two known stands of whitebark pine along Segment 4, including one on Commissary Ridge and one on Dempsey Ridge. Commissary Ridge consists of a 250-acre stand, the entire extent of which the Project would cross. The extent of the population on Dempsey Ridge is unknown but is estimated to be over 100 acres (Means 2010b), so it is not possible to determine to what extent the Project would cross this stand. These stands, which are on the range margins of whitebark pine, are the southernmost stands in Wyoming and the southernmost east of the Rocky Mountains. The BLM is currently conducting a whitebark pine and limber pine mapping effort and more detailed information will be incorporated into the Final EIS as it becomes available. In addition, more information regarding the location of whitebark pine in relation to the Project area would be determined during preconstruction surveys and timber cruises. The Agencies have proposed measures to mitigate the potential impacts to whitebark pine (TESPL-1 and TESPL-6).

### Idaho Ground Squirrel (Northern – Threatened / Southern – Candidate)

In January 1989, the USFWS determined that the northern Idaho ground squirrel (*Spermophilus brunneus brunneus*) qualified as a category 1 candidate species. In February 1996, the USFWS ceased using category designations and included the northern Idaho ground squirrel as a candidate species. In April 2000, the USFWS listed the northern Idaho ground squirrel as threatened, while the southern Idaho ground squirrel (*Spermophilus brunneus endemicus*) remains listed as a candidate species (65 *Federal Register* 17778-17786).

Research suggests that this ground squirrel prefers native cover such as big sagebrush, bitterbrush, and a variety of native forbs and grasses; however, some nonnative features may enhance their survival, including alfalfa fields, haystacks, and fence lines. Habitat for the northern Idaho ground squirrel occurs at elevations ranging from 3,000 to 5,400 feet, surrounded by forests. Populations are typically associated with shallow rocky soils in xeric meadows surrounded by ponderosa pine and Douglas-fir forests.

Idaho ground squirrels are only found in west-central Idaho within Adams and Valley Counties (USFWS 2003). The southern subspecies of the Idaho ground squirrel is found at lower elevations within hilly areas and grasslands. These areas are often dominated by annual grassland with relict big sagebrush and bunch grasses. Recent surveys indicate that the southern Idaho ground squirrel occurs in about 38 square miles in Idaho extending from Emmett northwest to Weiser and the surrounding area of Squaw Butte, Midvale Hill, and over to the Henley Basin in Gem, Payette, and Washington Counties. Its range is bounded on the south by the Payette River, on the west by the Snake River, and on the northeast by lava flows with little soil. Currently, the distribution of the species is patchy, with areas of localized abundance and large areas of apparently suitable habitat that are unoccupied or sparsely occupied. The areas of localized abundance are typically concentrated around human-altered landscapes such as golf courses and row crop or farmed fields (particularly alfalfa and clover). The Project does not cross either of these species' current distributions.

### Interior least tern (*Endangered*)

The interior least tern was listed as endangered on May 28, 1985. Interior least terns breed in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande River systems. Their winter range is uncertain, but probably includes coastal areas of Central and South America. In the U.S. terns use barren to sparsely vegetated sandbars along rivers, sand and gravel pits, or lake and reservoir shorelines from late April to August. The Project does not cross historical or current distribution for this species; however, they may be found in downstream locations along the Platte River (see discussion of the PRRIP in Section 3.11.1.3).

### Mountain Plover (*ESA Proposed; Forest Service Sensitive; BLM Sensitive*)

The mountain plover was proposed for listing as a threatened species under the ESA in 1999. On September 2003 the USFWS withdrew the listing after determining that the threats to the species were not as "significant" as earlier believed. Following a lawsuit over this determination, the USFWS overturned their decision effective as of June 30,

2010, and restored the mountain plovers' status as a proposed species. The final determination regarding its status is due in May 2011.

The mountain plover inhabits low, open habitats such as arid shortgrass and mixed grass prairies, xeric shrubland communities, heavily grazed areas, prairie dog colonies, and tilled agricultural fields. Grasslands used are often dominated by blue grama (*Bouteloua gracilis*), buffalo grass (*Buchloe dactyloides*), or western wheat grass (*Agropyron smithii*). Shrubland communities are often dominated by saltbush and sagebrush types. Consistent habitat characteristics are flat topography, short vegetation, and high bare-ground cover. Due to habitat features of short vegetation and bare ground, habitat often occurs in areas of disturbance such as fire, heavy grazing, presence of burrowing animals, or anthropogenic factors. Surface water or wet soils are rarely found in the vicinity of nesting plovers.

The mountain plover does not occur in Idaho. In Wyoming, suitable habitat is abundant, and this species occurs and breeds throughout most of the state. Suitable habitat for the mountain plover was mapped where the species' range occurs within the Analysis Area (as described in Section 3.11.1.4). Habitat for the mountain plover exists within Segments 1E, 1W(a), 1W(c), 2, 3, and 4. Out of the total combined length of 603.9 miles for Segments 1E, 1W(a), 1W(c), 2, 3, and 4, the Proposed Route would cross approximately 350.4 miles of suitable mountain plover habitat (Table D.11-3 in Appendix D).

#### Northern Leopard Frog (ESA Proposed; Forest Service Sensitive; BLM Sensitive)

The northern leopard frog is currently being evaluated by the USFWS to determine if the species requires protection under the ESA throughout its 19 western states range. The listing was petitioned in June 2006.

The northern leopard frog has been found in the northern portion of the United States, from the New England states to Washington and Oregon. It has also been observed in the Rocky Mountain states as far south as New Mexico, Utah, Nevada, and northern Arizona. The northern leopard frog's habitat consists of swampy, cattail marshes on the plains, beaver ponds in the foothills, and the cool, moist montane zones near timberlines up to 11,000 feet in elevation. The northern leopard frog is common throughout most of Wyoming.

While leopard frogs were once very common, their populations are currently undergoing a decline. No single factor has been identified as the cause for the reduction in leopard frog populations, but there are several contributing factors such as disease (i.e., red-leg, chytrid), introduced species (i.e., bullfrogs, fish, crayfish), use of toxic chemicals (i.e., atrazine, rotenone), and habitat loss/alteration/fragmentation. Habitat changes and other factors may be adversely affecting this species, but lack of data precludes identification of specific problems and development of management recommendations. Population status, distribution, and habitat data for areas near the Project Area are lacking for this species (WGFD no date). Northern leopard frogs are apparently extirpated from the Targhee NF of western Wyoming and adjacent Idaho (Koch and Peterson 1995). Northern leopard frogs are severely reduced in the Laramie Basin of Wyoming but may still be common in other parts of the state (WGFD no date).

Suitable habitat for the northern leopard frog was mapped where the species range overlaps the Analysis Area (as described in Section 3.11.1.4). All segments could provide habitat for the northern leopard frog. The Project would cross a combined total of 17.0 miles of northern leopard frog habitat (Table D.11-3 in Appendix D).

#### Piping Plover (*Threatened*)

The piping plover was federally listed as threatened, except in the Great Lakes watershed where it was listed as endangered, in 1986. Its range during the breeding season includes south-central Canada, northeastern Montana, North and South Dakota, and Nebraska (Elliott-Smith and Haig 2004). There is no designated critical habitat for piping plovers near the Analysis Area; the nearest critical habitat is located over 100 miles away, in eastern Montana (67 *Federal Register* 57638).

Breeding habitat for this species is wide, sparsely vegetated, open sandy beaches at alkali lakes, reservoirs, rivers, and, less commonly, freshwater lakes, dry alkali lakes, and sandpits (Elliott-Smith and Haig 2004). The piping plover's diet is made up of freshwater and marine invertebrates washed up on shore and benthic invertebrates (Elliott-Smith and Haig 2004). Threats to piping plovers include human disturbance, development of beaches, increases in mammalian and avian predators in response to disturbance, and changes in hydrology (Elliott-Smith and Haig 2004). The Project does not cross historical or current distribution for this species; however, the piping plover may be found in downstream locations along the Platte River (see discussion of the PRRIP in Section 3.11.1.3).

#### Whooping Crane (*Endangered*)

Whooping cranes were listed as endangered in 1970, with critical habitat designated in 1978. There are approximately 340 birds living in the wild, with the only self-sustaining population nesting in the Northwest Territories of Canada and wintering along the Gulf of Mexico at Aransas NWR in Texas (CWS and USFWS 2005). Collisions of cranes with powerlines contribute substantially to whooping crane mortality during migration; however, this population does not migrate through or stop over in the Analysis Area (CWS and USFWS 2005). Some birds and eggs were introduced at Grays Lake NWR in Idaho in an attempt to establish an additional, separate population, but this did not succeed and as of 2002 there are no birds at this location (CWS and USFWS 2005). The Project does not cross historical or current distribution for this species; however, whooping cranes may be found in downstream locations along the Platte River (see discussion of the PRRIP in Section 3.11.1.3).

#### Wyoming Toad (*Endangered*)

The Wyoming toad (*Bufo baxteri*) was listed by the USFWS as endangered in 1984 (73 *Federal Register* 58261-58262). The toad was believed to have gone extinct in 1987, although toads were later found at Mortenson Lake southwest of Laramie.

Reintroduction attempts have occurred within Albany County, Wyoming. The toad was historically found only in the Laramie Basin within 30 miles of Laramie, Wyoming. By the early 1990s, a captured breeding program was commenced in an attempt to save the endangered toad from extinction, but no known wild reproduction has occurred since 1991. This species formerly inhabited floodplains, ponds, and small seepage

lakes in the shortgrass communities of the Laramie Basin. The Project does not cross historical or current distribution for this species.

Yellow-Billed Cuckoo (*Candidate; Forest Service Sensitive; BLM Sensitive*)

In February 1998, the USFWS received a petition to list the western yellow-billed cuckoo under the ESA. In July 2001, the USFWS determined that the yellow-billed cuckoo qualified as a candidate species in the western continental United States under the ESA. It is considered a BLM sensitive species east of the continental divide. The threats currently facing the yellow-billed cuckoo include habitat loss, cattle grazing, and pesticide application.

Yellow-billed cuckoos breed in large blocks of riparian habitats. In Idaho, Wyoming, and most of the west, this usually consists of mature or late successional cottonwood stands with a dense understory of willow (*Salix* spp.) or dogwood (*Cornus* spp.). Dense understory foliage is important in nest site selection, whereas cottonwood trees (*Populus* spp.) are important for foraging. Nesting pairs require a minimum of approximately 5 acres of prime riparian habitat (Reynolds and Hinckley 2005).

In Idaho, historical records of yellow-billed cuckoos include the Snake River valley in the southeastern and southwestern portion of the state; however, recent observations (2003 to 2005) were restricted to the southeastern portion of the state only (Reynolds and Hinckley 2005). Suitable habitat along the Snake River in southeastern Idaho occurs sporadically from American Falls Reservoir, upstream to Palisades Dam, and from the confluence of the Henry's Fork and the South Fork of the Snake River upstream to St. Anthony (Reynolds and Hinckley 2005; USFWS 2007b). Habitat is also limited in Wyoming, occurring mainly along the Bighorn, Powder, Laramie, Cheyenne, and North Platte River drainages (Bennet and Keinath 2001).

Suitable habitat for the yellow-billed cuckoo was mapped where the species range overlaps the Analysis Area (as described in Section 3.11.1.4). Habitat for the yellow-billed cuckoo would be crossed by the centerline of the Proposed Route within Segments 1W(a), 5, and 8. Out of the total combined length of 262.1 miles for Segments 1W(a), 5, and 8, the Proposed Route would cross less than 0.1 mile of suitable yellow-billed cuckoo habitat (see Table D.11-3 in Appendix D).

***Threatened, Endangered, Proposed, or Candidate Invertebrate Species under the ESA***

Five invertebrate species listed under the ESA and one recently delisted invertebrate species are present within the Analysis Area. For the most part the distribution of these species is limited to aquatic habitats within the Snake and Bruneau River Systems. Most of these invertebrate species have been impacted due to the past and current exploration and development of the Snake River ecosystem, which has transformed these river systems from free-flowing cold-water systems to more slow-moving warmer systems.

Banbury Springs Limpet (*Endangered*)

The Banbury Springs limpet (*Lanx* spp.) was listed as endangered under the ESA in January 1992. This species requires cold, clear, well-oxygenated water with swift

currents. The Banbury Springs limpet is found on smooth basalt, boulders, or cobble-sized grounds ranging from 2 to 20 inches deep, but it avoids areas with green algae. Currently, this species is only known to exist at four cold-spring locations that are isolated from each other: Thousand Springs, Box Canyon Springs, Briggs Springs, and Banbury Springs (USFWS 1995).

The 1995 recovery plan for the Banbury Springs limpet designated river mile (RM) 584.8 to 589.3 of the Snake River as a recovery area for this species (USFWS 1995). The recovery area is located within the Analysis Area; however, the transmission line would not cross this species recovery area (including the Project's Proposed Route and Route Alternatives). In addition, there are no current plans to cross this area with access roads.

#### Bliss Rapids Snail (*Threatened*)

The Bliss Rapids snail (*Taylorconcha serpenticola*) was listed as endangered under the ESA in January 1992. The USFWS announced on June 6, 2007, that they had determined that a petition to delist the species may be warranted and that they would conduct a status review of the Bliss Rapids snail. This species resides on the sides and undersides of rocks in free-flowing and cold-water springs in the middle Snake River, in Idaho. It prefers relatively clean and rocky substrates, where it grazes on algae and diatoms at night. Current distribution of this snail within the Snake River consists of disjointed populations located primarily within the Hagerman reach and the tailwaters of the Bliss and Lower Salmon Dams (USFWS 1995).

The 1995 recovery plan for the Bliss Rapids snail designated RM 547 to 585 of the Snake River as a recovery area for this species (USFWS 1995). The transmission line would span this species recovery area along Segment 8 (Proposed Route), as well as Alternative 8A (at RM 573.5). The habitat adjacent to this spanning consists of forested riparian habitat. There are no current plans to cross this species recovery area with access roads.

#### Bruneau Hot Springsnail (*Endangered*)

The Bruneau hot springsnail (*Pyrgulopsis bruneauensis*) was listed as endangered under the ESA in January 1993. The USFWS was ordered to reconsider its determination by the courts, and reconfirmed this species endangered status in June 1998.

The Bruneau hot springsnail occurs in thermal springs along an approximately 5-mile reach of the Bruneau River and in Hot Creek. The Bruneau hot springsnail inhabits small, geothermal spring runs and seeps, typically on basalt bedrock. Temperatures in these waters range from 15.7 to 36.9 degrees Celsius. Substrates usually comprise gravel and silt but individuals are also found on sand, mud, and algal film. Macrophytes are usually absent from occupied habitat.

A recovery plan was finalized in December 2003. This recovery plan defines the recovery area for the Bruneau hot springsnail as the portion of the Bruneau River between the southern boundary of Section 12, Township 8 South, Range 6 East and the northern boundary of Section 35, Township 7 South, Range 6 East, of Owyhee County, Idaho (Myler et al. 2007). This species recovery area is found within the Analysis Area;

however, the transmission line would not cross this species recovery area (the Proposed Route or Route Alternatives). In addition, there are no current plans to cross this area with access roads.

#### Jackson Lake Springsnail (formerly the Idaho Springsnail; Delisted)

The Jackson Lake springsnail was listed as endangered under the ESA in 1992. Due to genetic studies, this species has been grouped with a new species (*Pyrgulopsis robusta*), which is distributed within Idaho, Oregon, Washington, and Wyoming. Due to the new evidence that this species (as grouped) has a wider distribution than previously known, the Jackson Lake springsnail was delisted in September 2007.

The Jackson Lake springsnail is found in the middle Snake River, Idaho. It occupies various substrates in lake and river habitats of the middle Snake River, where it feeds on diatoms. It is primarily found within the free-flowing mainstem of the Snake River, between the headwaters of the C.J. Strike Reservoir to Bancroft Springs (USFWS 1995).

The 1995 recovery plan for the Jackson Lake springsnail designated RM 518 to 553 of the Snake River as a recovery area for this species (USFWS 1995). The transmission line would span this species recovery area along Segment 8 of the Proposed Route, as well as Alternative 8A (at RM 541.5). The habitat adjacent to this spanning consists of a mixture of shrublands and irrigated farmlands. There are no current plans to cross this species recovery area with access roads.

#### Snake River Physa Snail (Endangered)

The Snake River physa snail (*Haitia {Physa} natricina*) was listed as endangered under the ESA in January 1992. The Snake River physa snail is found within the mainstem of the middle Snake River of southern Idaho. It is believed to be confined to the Snake River, inhabiting areas of swift current on the undersides of large cobbles and boulder-sized rocks. Individuals have been found in relatively undisturbed areas with gravel, boulder, or cobble substrates and a low percentage of epiphytic algae or macrophytes. Within the Snake River system, current populations are suspected to occur within the Hagerman and King reaches, as well as the area immediately downstream of the Minidoka Dam (USFWS 1995).

The 1995 recovery plan for the Snake River physa designated RM 553 to 675 of the Snake River as a recovery area for this species (USFWS 1995). The transmission line would span this species recovery area in multiple places: along Segment 8 (Proposed Route) and Alternative 8A at RM 573.5, and along Segment 10 (Proposed Route) at RM 624.0. The transmission line spanning that would occur along Segment 8 and 8A would be adjacent to forested riparian habitat. The spanning that would occur along Segment 10 would be adjacent to sagebrush habitat. There are no current plans to cross this species recovery area with access roads.

#### Utah Valvata Snail (Endangered)

The Utah valvata snail (*Valvata utahensis*) was listed as endangered under the ESA in December 1992. In July 2009, the USFWS announced a 12-month finding to delist the Utah valvata snail, based on current findings that this species is more widespread and

occurs in a greater variety of habitats within the Snake River than known at the time of 1992 listing.

This species is found primarily in the Snake River of Idaho, and prefers habitats which contain small pebbles, gravels, cobbles embedded in silt, and submerged aquatic vegetation but is found predominantly in silt substrates. The Utah valvata snail is known to range in the Snake River from RM 582 to the confluence of the South Fork and Henrys Fork, Snake River (RM 837). The species is also known from portions of Box Canyon Creek and the Big Wood River in southern Idaho. It can be found in both free-flowing river mainstems and cold-water springs (USFWS 1995).

The 1995 recovery plan for the Utah valvata snail designated RM 572 to 709 of the Snake River as a recovery area for this species (USFWS 1995). The transmission line would span this species recovery area in multiple places; along Segment 8 and Alternative 8A at RM 573.5, and along Segment 10 at RM 624.0. The transmission line spanning that would occur along Segment 8 and 8A would be adjacent to forested riparian habitat. The spanning that would occur along Segment 10 would be adjacent to sagebrush habitat. There are no current plans to cross this species recovery area with access roads.

#### ***Threatened, Endangered, Proposed, or Candidate Fish Species under the ESA***

A total of five fish species listed under the ESA are present in downstream areas outside of Analysis Area. The ESA species present in downstream areas outside of Analysis Area include four fish species found in the Colorado River system and one in the Platte River system. In addition, ESA listed critical habitat for the bull trout is located within the Analysis Area, and would be crossed by the Project.

#### **Colorado Pikeminnow (*Endangered*)**

The Colorado pikeminnow (formerly Colorado squawfish) was listed under the Preservation Act of 1966, and has since become listed as endangered by the USFWS under the ESA. This fish is the largest minnow in North America and one of the largest in the world. Colorado pikeminnow occur in the warm, swift waters of the big rivers of the Colorado Basin. Adults are migratory and inhabit pools and eddies just outside the main current. Young can be found in backwater areas. Colorado pikeminnow are adapted to rivers with seasonally variable flow, high silt loads, and turbulence. These fish can tolerate a broad range of temperatures from 35°C in the summer to lower than 10°C in winter. Historically, this species was found in the Colorado River and major tributaries in Arizona, New Mexico, Utah, Colorado, and Wyoming. Populations also exist in the Colorado, Green, Yampa, Gunnison, and San Juan Rivers, tributaries of the Colorado River (SJR 2010). The Project does not cross the current distribution of this species; however, they may be found in downstream locations along the Colorado River (see discussion of the Upper Colorado Endangered Fish Recovery Program in Section 3.11.1.3).

#### **Razorback Sucker (*Endangered*)**

The razorback sucker was listed as endangered by the USFWS on October 23, 1991. The razorback sucker occurs in medium to large rivers with swift turbulent waters, as well as slow backwater areas where it feeds on benthic fauna and flora, detritus, and

plankton. This fish was historically found throughout the Colorado River Basin. Most wild fish are now found in Lake Mohave, which represents the largest population within the lower basin. A few adults have also been found in Lake Mead and Lake Havasu. In the upper basin, they can be found in un-impounded waters of the Green, Yampa, and mainstem of the Colorado (SJR 2010). Although adults reproduce in reservoirs, young do not survive due to a lack of suitable food items and predation by nonnative fishes. The Project does not cross the current distribution of this species; however, they may be found in downstream locations along the Colorado River (see discussion of the Upper Colorado Endangered Fish Recovery Program in Section 3.11.1.3).

#### Humpback Chub (*Endangered*)

The humpback chub was listed as endangered by the USFWS on March 3, 1967. The humpback chub have been associated with a variety of habitats ranging from pools with turbulent to little or no current; substrates of silt, sand, boulder, or bedrock; and depth ranging from about 3.3 feet (1 meter) to as deep as 49 feet (15 meters). The historical distribution of the humpback chub includes portions of the mainstem Colorado River and four of its tributaries: the Green, Yampa, White, and Little Colorado Rivers. Currently, there are two populations near the Colorado/Utah border, one at Westwater Canyon in Utah and one in an area called Black Rocks, in Colorado. Smaller numbers have been found in the Yampa and Green Rivers in Dinosaur National Monument, Desolation and Gray Canyons on the Green River in Utah, Cataract Canyon on the Colorado River in Utah and the Colorado River in Arizona (USFWS 2010b). The Project does not cross the current distribution of this species; however, they may be found in downstream locations along the Colorado River (see discussion of the Upper Colorado Endangered Fish Recovery Program in Section 3.11.1.3).

#### Bonytail Chub (*Endangered*)

Bonytail chub were listed as endangered by the USFWS in 1980. Bonytail chub are considered mainstream river species, preferring pools and eddies of warm, often heavily silted, swift moving rivers. However, they do occur in reservoir habitats as well. These fish were once common in portions of the upper and lower Colorado River basins. Now the bonytail chub is the rarest of the endangered fish species in the Colorado River basin. Recent surveys indicate that it is presently found only in Lake Mohave along the Arizona and Nevada border (USFWS 2010c). The Project does not cross the current distribution of this species; however, they may be found in downstream locations along the Colorado River (see discussion of the Upper Colorado Endangered Fish Recovery Program in Section 3.11.1.3).

#### Pallid Sturgeon (*Endangered*)

The Pallid sturgeon was listed as endangered by the USFWS on September 6, 1990. Their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars. The largest remaining populations of pallid sturgeon appear to be in the upper Missouri River above Ft. Peck Reservoir in Montana; in the Missouri and Yellowstone Rivers above Garrison Reservoir in North Dakota and Montana, respectively; in the Mississippi River below St. Louis, Missouri to the Old River Control Structure in Louisiana; and below the Old River Control Structure in the Atchafalaya and Red Rivers of Louisiana (USFWS 2001). The Project does not

cross historical or current distribution for this species; however, they may be found in downstream locations along the Platte River (see discussion of the PRRIP in Section 3.11.1.3).

#### **Bull Trout (ESA Critical Habitat)**

On January 14, 2010, the USFWS proposed revising the designation of critical habitat for the bull trout. In total, approximately 22,679 miles of streams and 533,426 acres of reservoirs or lakes were proposed for the revised critical habitat designation within Washington, Oregon, Nevada, Idaho, and Montana. On October 18, 2010, the USFWS made a determination regarding this proposed critical habitat (effective on November 17, 2010), and designated a total of 19,729 miles of streams and a total of about 488,252 acres of reservoirs or lakes as critical habitat for the bull trout. The transmission line would span a portion of this newly designated critical habitat along Alternative 9E (near Node 9n); however, no road crossings would occur across bull trout critical habitat. The transmission line crossing would occur once along the Bruneau River, located approximately 10 miles south of where this river joins C.J. Strike Reservoir. Vegetation adjacent to the crossing was defined as “Wetland and Riparian” during Project-specific remote sensing, with adjacent areas defined as “Disturbed Sagebrush” (Tetra Tech 2010).

#### **BLM and Forest Service Sensitive Species**

The Regional Foresters sensitive species list includes plant and animal species for which population viability is a concern on lands managed by the Forest Service. BLM sensitive species, per BLM Manual 6840, are managed under the special status species policy, which is to conserve BLM listed species and their ecosystems, and to ensure that actions taken by the BLM are consistent with the conservation of special status species and do not contribute to the listing of any species under the ESA. Species lists for the NFs and BLM FOs crossed by the Project were consulted to determine which species should be analyzed.

The habitat requirements and pertinent life history traits of all BLM and Forest Service sensitive species with the potential to occur near the Analysis Area are discussed in Table D.11-2 and Table D.11-1 of Appendix D. Table D.11-2 is limited to non-ESA species, while Table D.11-1 includes sensitive species that are also listed as threatened or endangered under the ESA, or those that are candidates or proposed for listing (e.g., greater sage-grouse, gray wolf, yellow-billed cuckoo, Columbia spotted frog).

Most of the BLM and Forest Service sensitive species that could potentially occur within the Analysis Area (see Tables D.11-1 and D.11-2 of Appendix D) will be addressed by grouping them based on their habitat requirements or life history traits. It is reasonable to lump these species because quantitative data for each species are not available, habitat requirements are similar for each group, and the potential impacts that could occur are similar (see impact discussion in Section 3.11.2); therefore, a group discussion will accurately capture potential impacts for most of these species, while reducing redundancy in the impact analysis. However, some of the BLM and Forest Service sensitive species will be addressed individually due to increased concern regarding the effects of potential impacts, or when quantitative data (in the form of known occurrences or Project-specific habitat modeling) are available. Of the BLM and

Forest Service sensitive species that could potentially occur within the Analysis Area (Tables D.11-1 and D.11-2 of Appendix D), a detailed discussion and individual analysis of potential impacts (impacts are discussed in Section 3.11.2) is limited to five species of mammals, and three species of birds, while the remaining species are discussed by habitat grouping. Note that some of the BLM and Forest Service sensitive species are discussed within the preceding ESA section, due to their additional status as threatened, endangered, proposed, or candidate species under the ESA.

### ***BLM and Forest Service Sensitive Wildlife Species***

#### **Bald Eagle (Forest Service Sensitive; BLM Sensitive)**

In 1963, the lower 48 states were home to barely 400 nesting pairs of bald eagles. After decades of conservation effort, the populations have recovered to approximately 10,000 nesting pairs, a 25-fold increase in the last 40 years. The bald eagle was officially declared recovered and removed from the threatened and endangered species list in June 2007. As of April 2007, the USFWS documented 216 bald eagle territories within Idaho, 95 within Wyoming, and 2 in Nevada. Bald eagles continue to be protected by the Eagle Act and the MBTA; both federal laws prohibit “taking” – killing, selling, disturbing, or otherwise harming eagles, their nests, or eggs (see Section 3.10 – General Wildlife and Fish).

Bald eagles are strongly associated with aquatic environments and often occupy riparian or lacustrine areas (i.e., rivers and lakes). Nesting and roosting occur in large trees or snags with open crowns that are typically found within 2 miles of a large, permanent waterbody. Bald eagles are opportunistic feeders, which feed on a wide variety of prey. Fish are most commonly taken, but mammals, reptiles, amphibians, and birds can also serve as prey, and carrion is frequently used during the winter.

As forested areas are limited in the general region crossed by the Project, the Analysis Area provides only limited nesting habitat for the bald eagle; however, it does contain some nesting and overwintering habitat along Segments 1E, 1W(a), 1W(c), 5, and 10 (as well as some of the Route Alternatives along Segments 8 and 9). Out of the total combined length of 335.8 miles for Segments 1E, 1W(a), 1W(c), 5, and 10, the Proposed Route would cross approximately 11.5 miles of potential bald eagle overwintering habitat (Table D.11-4 in Appendix D). In addition, there is a single active bald eagle nest located within 1 mile of Segment 1W(c), one along Segment 4, and two nests along Segment 5 (Table D.10-2 in Appendix D). The Proposed Route would cross 5.5 miles of habitat located within 1 mile of active bald eagle nests (Table D.11-4 in Appendix D).

#### **Black-Tailed Prairie Dog (Forest Service Sensitive; BLM Sensitive)**

In 2000, the USFWS listed the black-tailed prairie dog on the candidate list of threatened and endangered species. This species was later removed from this list in August 2004 after an updated evaluation of the best available scientific information led the USFWS to determine that the black-tailed prairie dog was not likely to become an endangered species within the foreseeable future. Then on December 2, 2008, the USFWS announced a 90-day finding on a petition to list the black-tailed prairie dog as threatened or endangered under the ESA (73 *Federal Register* 10514-10560). The USFWS stated that the petition presents substantial scientific or commercial information

indicating that listing the black-tailed prairie dog may be warranted. Therefore, a status review was initiated to determine if this species warranted listing. However, on December 3, 2009, the USFWS announced that listing the black-tailed prairie dog as either threatened or endangered is not warranted at this time (74 *Federal Register* 63343-63366).

The black-tailed prairie dog lives in burrows within dry prairies that contain short grass. The burrow entrance leads to a tunnel that goes down about 3 to 10 feet and then straightens out to a horizontal tunnel that runs about 10 to 15 feet. The black-tailed prairie dog is considered a keystone species for grassland habitats. The black-footed ferret, swift fox (*Vulpes velox*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk utilize prairie dogs as a food source; while the mountain plover and burrowing owl depend on burrow habitats created by prairie dogs. Numerous other species share habitat with prairie dogs, and rely on them to varying degrees (73 *Federal Register* 73211-73219).

Historically, black-tailed prairie dogs generally occurred in large colonies that often contained thousands of individuals, covered hundreds or thousands of acres, and extended for many miles (73 *Federal Register* 73211-73219). Currently, most colonies are much smaller. Colonial behavior can increase the transmission of disease that can impact their populations (73 *Federal Register* 73211-73219). Sylvatic plague is a disease that can spread from prairie dog to prairie dog through the exchange of infected fleas or by contact between infected mammals. Black-tailed prairie dogs can be very susceptible to the sylvatic plague, and this disease has been a factor in the reduction of prairie dog abundance.

Wyoming historically had about 16,000,000 acres of black-tailed prairie dog habitat; however, current estimates indicate that there are only 229,607 acres of suitable prairie dog habitat remaining in Wyoming (73 *Federal Register* 73211-73219). As described in Section 3.11.1.4, the suspected locations of black-tailed prairie dog colonies/complexes were mapped with the use of aerial photography (Tetra Tech 2009b; Figure E.11-4, Appendix E). Black-tailed prairie dog colonies/complexes occur along Segments 1E, 1W(a), and 1W(c). Out of the total combined length of 247.6 miles for Segments 1E, 1W(a), and 1W(c), the Proposed Route would cross approximately 59.6 miles of suspected black-tailed prairie dog colonies and complexes (Table D.11-4 in Appendix D, Figure E.11-4).

#### Burrowing Owl (*Forest Service Sensitive; BLM Sensitive*)

Burrowing owls occur in a wide variety of arid and semiarid environments. They occur in areas with well-drained soils, level to gentle slopes, and short vegetation with a high percentage of bare ground, which allows for visibility of predator and prey species. They prefer open prairie, grassland, desert, and shrub-steppe habitats, and may also inhabit agricultural areas, overgrazed pastures, golf courses, and airfields. Given their reliance on short vegetation, they are commonly found in association with high-intensity grazers, such as domestic livestock, prairie dogs, and ground squirrels.

Burrowing owls do not dig their own burrows. Instead, they use the burrows of other animals such as badgers (*Taxidea taxus*), prairie dogs, ground squirrels, marmots

(*Marmota* spp.), and coyotes (*Canis latrans*), and are therefore associated with the presence of these burrowing species. The density of burrows is important as some burrows are used for nesting, while others (classified as “satellite” burrows) are used as cover for juvenile and adult owls, prey cache sites, and roosts from which the male may guard the nest burrow. They often nest in burrows near active prairie dog towns. A unique behavior of burrowing owls is that males often line nest burrows with dried manure from cows, horses (*Equus caballus*), or bison (*Bos bison*), which is believed to attract high-calorie prey to the female and nestlings without risk or energy expenditure.

The burrowing owl home range often contains a mosaic of short vegetation for nesting habitat interspersed within taller vegetation for hunting. Tall vegetation may provide the cover necessary to host large populations of rodents, which are then susceptible to predation as they traverse open areas in the mosaic. Very low vegetation and sites with exposed soils are habitat for grasshoppers, which is another important prey item for burrowing owls.

In Idaho, burrowing owls are patchily distributed throughout the southern half of the state. In Wyoming, they occur and breed throughout most of the state with highest concentrations in the south and east. They can be found throughout most of Nevada, with the exception of the most southern portion of this state. Suitable habitat for the burrowing owl was mapped where the species range overlaps the Analysis Area (as described in Section 3.11.1.4). Habitat for the burrowing owl exists within all segments. The Proposed Route would cross approximately 737.6 miles of suitable habitat (Table D.11-4 in Appendix D). Table D.10-2, in Appendix D, lists the number of active burrowing owl nests that would be located along various portions of the Proposed Route..

#### Columbian Sharp-Tailed Grouse (*MIS; Forest Service Sensitive; BLM Sensitive*)

The Columbian sharp-tailed grouse occurs in grasslands, sagebrush-grassland, meadow-steppe, mountain shrub, agricultural fields and riparian habitats. Vegetation types include communities of sagebrush-bunchgrass, serviceberry (*Amelanchier alnifolia*), snowberry (*Symphoricarpos albus*), chokecherry (*Prunus virginiana*), Gambel oak (*Quercus gambelii*), and willow riparian habitats. Breeding habitat is dominated by relatively dense herbaceous cover and shrubs, with the majority of nesting and brood activities occurring within 2 miles of leks (UDNR 2002; Meints 1991). Brood rearing habitat contains a mosaic of dense shrubs and grasses with rich forbs and insect foods. Winter habitat consists of riparian areas or deciduous trees and shrubs for feeding, roosting, and escape cover. Spring/summer home range includes breeding, nesting, and brood rearing habitat usually within a several mile-wide area.

In Idaho, Columbian sharp-tailed grouse occur mainly in the southeastern portion of the state with smaller areas in south–central Idaho along the Nevada border and in an isolated portion of western Idaho. There is also a robust population south of Grace, Idaho, on the west end of Segment 4. In Wyoming, the species occurs in a small area in the south-central portion of the state; however, the WGFD have stated the Project would not impact this species within Wyoming (Fry 2009).

Suitable habitat for the Columbian sharp-tailed grouse was mapped where the species range overlaps the Analysis Area (as described in Section 3.11.1.4). Habitat for the Columbian sharp-tailed grouse exists within Segments 4, 5, 6, 7, and 9. Out of the total combined length of 537.9 miles for Segments 4, 5, 6, 7, and 9, the Proposed Route would cross approximately 190.6 miles of suitable habitat (Table D.11-4 in Appendix D).

The Proposed Route would pass within 0.6 mile of 4 Columbian sharp-tailed grouse leks that are either occupied or have an undetermined lek status (Table 3.11-5; also see Table D.11-10 in Appendix D, which lists this same information but includes Route Alternatives as well). This value increases to 32 leks when considering a distance of 2 miles from the Proposed Route. The term “occupied” is defined differently by the IDFG and WGFD. In Idaho, the IDFG define occupied leks as any lek that has been active during at least 1 breeding season within the prior 5 years; in Wyoming the WGFD define occupied leks as those that have been visited by males within the last 10 years. For the sake of this analysis, all leks in Nevada will be considered as occupied due to the limited length that Alternative 7I would cross this state.

**Table 3.11-5.** Number of Columbian Sharp-Tailed Grouse Leks within Specified Distances of the Proposed Route’s Centerline

Segment Number	Segment Length (miles)	Leks within 0.25 mile	Leks within 0.6 mile	Leks within 2 miles
Occupied Leks				
4	203.0	0	1	9
5	54.6	0	1	4
7	118.1	0	2	10
Leks with Undetermined Activity Status				
4	203.0	0	0	4
5	54.6	0	0	1
7	118.1	0	0	4
Unoccupied Leks (i.e., leks that have not been active within the last 5 years in Idaho or the last 10 years in Wyoming)				
4	203.0	0	0	2
5	54.6	0	0	3
7	118.1	0	0	4

#### Preble’s Meadow Jumping Mouse (*Forest Service Sensitive; BLM Sensitive*)

On May 13, 1998, the USFWS designated the Preble’s meadow jumping mouse (*Zapus hudsonius preblei*) as threatened in its entire range; and on June 23, 2003, critical habitat for this species was designated. On February 2, 2005, the USFWS issued a 12-Month finding on a petition to delist the Preble’s meadow jumping mouse and proposed to remove the mouse from the federal list of threatened and endangered species. On July 10, 2008, the USFWS removed ESA protections for Preble’s meadow jumping mouse populations, delisted their critical habitat in Wyoming, and amended the listing for the mouse to indicate that the subspecies remains protected as a threatened species in the Colorado portion of its range (USFWS 2008c).

Preble’s meadow jumping mouse habitat consists of dense, well-developed wetland and riparian areas and the adjoining uplands, with the uplands containing undisturbed shrub cover. Although they typically inhabit stream-side areas, this species has been

observed to hibernate, forage, and escape flooding by entering adjacent upland areas. Hibernation occurs underground or beneath logs or other similar shelters. Studies show that the Preble's meadow jumping mouse is capable of traveling more than 0.5 mile in a single night.

The Preble's meadow jumping mouse is suspected to occur in wetland and riparian areas found within the far eastern portion of the Analysis Area (WGFD no date; Keinath 2001). For the sake of this analysis, habitat for this species is considered to be all wetland and riparian areas within the eastern portion of the Wyoming segments (i.e., Segments 1E, 1W, and 2). Out of the total combined length of 344.3 miles for Segments 1E, 1W(a), 1W(c), and 2, the Proposed Route would cross approximately 6.3 miles of jumping mouse habitat. The closest known occurrence of a Preble's meadow jumping mouse near the Analysis Area was one female from 1991 that was located approximately 1.5 miles southwest of Segment 1E; however, it is not a confirmed record (WYNDD 2008).

Pygmy Rabbit (*Forest Service Sensitive; BLM Sensitive*)

In January 2008, the USFWS announced a 90-day finding on a petition to list the pygmy rabbit as threatened or endangered under the ESA. On October 1, 2010, the USFWS concluded that the pygmy rabbit does not warrant protection under ESA in California, Nevada, Oregon, Idaho, Utah, Wyoming, or Montana.

The pygmy rabbit occurs within the Great Basin region, including southern Idaho and Nevada (NatureServe 2009), where it is limited to the high plains between 4,900 and 7,900 feet in elevation (Roberts 2003). The pygmy rabbit is a sagebrush obligate species that is closely associated with large, dense stands of big sagebrush that grow in deep loose soils. They are found in alluvial fans, swales in a rolling landscape, large flat valleys, at the foot of mountains, along creek and drainage bottoms, or other landscape features where soil may have accumulated to greater depths. They are generally found on flatter ground, but can occur in areas with moderate slopes. During winter, pygmy rabbits in southwestern Wyoming selectively use dense and structurally diverse stands of sagebrush that accumulated a relatively large amount of snow. These sub-snow environments provide access to a relatively constant supply of food and protection from predators and thermal extremes.

The pygmy rabbit digs its own burrows, although it will sometimes occupy holes in rock crevices or burrows made by other animals. Pygmy rabbit burrows typically have three or more entrances, and are occupied by a single rabbit. Rabbits travel through extensive runways that interlace through the sagebrush thickets. Male home range size is usually 20.2 hectares or smaller, and female home ranges are smaller than males. The pygmy rabbit is most active during twilight hours, but they can be active at any time.

Pygmy rabbits occur in stands of tall, dense sagebrush with deep sandy soils. Various subspecies of sagebrush are used, including Wyoming (*Artemisia tridentata wyomingensis*), mountain (*A. t. vaseyana*), and Great Basin (*A. t. tridentata*). Other shrub species may be co-dominant or present, including bitterbrush (*Purshia tridentata*), rabbitbrush (*Chrysothamnus* spp.), greasewood (*Sarcobatus vermiculatus*), winterfat (*Eurotia lanata*), and juniper (*Juniperus* spp.). However, sagebrush comprises the

majority of their diet throughout the year. Pygmy rabbits occur in shrub stands with a tall dense canopy and a similarly dense understory, selecting for heavy vertical structure. The absolute cover and height of sagebrush varies by locality, but in virtually all cases, they occur in stands with the greatest relative cover and height compared to the surrounding area. Pygmy rabbits may occupy and develop burrows in “mima mounds” (mounds of soil several feet high and approximately 20 to 30 feet in diameter) with taller and denser sage, which are dotted in a landscape of shorter and thinner shrubs, with harder soils. On 1:24,000 aerial photos these mounds can be seen as a pattern of darker dots, extending over many miles of landscape; and from the ground, the mounds appear as lenses of darker taller sage. In southwest Idaho in the mahogany (*Cercocarpus ledifolius*) savannah, the mounding of the soil is present but not as clear. A dotted pattern is not always visible on 1:24,000 aerial photographs, although careful examination can show subtle and dim dotting. In southwest Idaho, another habitat is areas where low sage (*Artemisia arbuscula*) and big sage intermingle, where the big sage may form islands within the low sage matrix.

Suitable habitat for the pygmy rabbit was mapped where the species range overlaps the Analysis Area (as described in Section 3.11.1.4). Habitat for the pygmy rabbit exists within all segments except for Segments 1E, 1W(a), and 1W(c). The Proposed Route would cross 486.4 miles of suitable pygmy rabbit habitat (Table D.11-4 in Appendix D).

#### White-Tailed Prairie Dog (*Forest Service Sensitive; BLM Sensitive*)

In May of 2008, the USFWS concluded that a 12-month status review for the white-tailed prairie dog was necessary. The status review would include analysis of whether the white-tailed prairie dog warrants listing as threatened or endangered under the ESA. On June 1, 2010, the USFWS completed its status review of the white-tailed prairie dog and determined that it does not warrant protection as a threatened or endangered species under the ESA (75 *Federal Register* 104).

The white-tailed prairie dog occurs in shrub-steppe and short-grass prairie ecosystems, in stands of open shrub canopy with abundant grasses and forbs. They are typically found at elevations between 3,726 to 10,368 feet (WGFD 2005). The white-tailed prairie dog occurs on drier sites and higher elevations than the black-tailed prairie dog; and unlike the black-tailed prairie dog, commonly used habitat includes a low shrub component. White-tailed prairie dogs identify predators visually; therefore, they typically occur in areas that contain short shrub and herbaceous vegetation. However, unlike the black-tailed prairie dog, they do not clip taller vegetation to suppress plant growth. Percent plant cover and vegetative height is likely more important to white-tailed prairie dog habitat selection than plant species composition. The white-tailed prairie dog feeds primarily on forbs and grasses. They obtain most of their water requirements through consumption of vegetation, and they can become water-stressed if sufficient succulent vegetation is not available. The white-tailed prairie dog forms loose colonies. They are active above ground during the spring and summer and hibernate during the fall and winter.

The white-tailed prairie dog does not occur in Idaho or Nevada. In Wyoming, it primarily inhabits the western two-thirds of the state. Suitable habitat for the white-tailed prairie dog was mapped where the species' range overlaps the Analysis Area (as described in

Section 3.11.1.4). Habitat for the white-tailed prairie dog would be crossed by Segments 1E, 1W(a), 1W(c), 2, 3, and 4. Out of the total combined length of 603.8 miles for Segments 1E, 1W(a), 1W(c), 2, 3, and 4, the Proposed Route would cross approximately 334.7 miles of suitable white-tailed prairie dog habitat. Twenty-two white-tailed prairie dog colonies were mapped along the Proposed Route (the three colonies identified along Segments 1W(a) and 1W(c) are the same colonies) (see Table 3.11-6; Figure E.11-4, Appendix E).

**Table 3.11-6.** Number of White-tailed Prairie Dog Colonies along the Proposed Route and Its Alternatives within the Analysis Area

Segment Number	Segment or Alternative	White-Tailed Prairie Dog Colonies
1E	Proposed – Total Length	1
	Proposed – Comparison Portion for Alternative 1E-B	1
	Alternative 1E-B	0
	Proposed – Comparison Portion for Alternative 1E-C	1
	Alternative 1E-C	1
1W(a)	Proposed – Total Length	3
1W(c)	Proposed – Total Length	3
2	Proposed – Total Length	3
3	Proposed – Total Length	8
4	Proposed – Total Length	7
	Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	2
	Alternative 4A	3
	Alternative 4B	2
	Alternative 4C	2
	Alternative 4D	2
	Alternative 4E	2
	Alternative 4F	3

#### Wyoming Pocket Gopher (*Forest Service Sensitive; BLM Sensitive*)

In September 2007, USFWS received a petition to list the Wyoming pocket gopher as an endangered or threatened species under the ESA. On February 10, 2009, the USFWS published a 90-day finding on this petition, in which they stated that substantial scientific or commercial information is available that indicates listing may be warranted. However, on April 15, 2010 the USFWS determined that listing the Wyoming pocket gopher as either endangered or threatened was not warranted (75 *Federal Register* 72 [2010-04-15]).

Limited information is available regarding the habitat requirements of Wyoming pocket gophers. The species seems to prefer loose, gravelly, upland soils with gentle slopes, often where greasewood is growing (Keinath and Beauvais 2006). Recent studies indicate that occupied habitat is generally defined by sites with 50 to 80 percent bare ground and limited litter and grass cover (Griscom et al. 2010). This species' range is relatively limited (known to occur only in Carbon and Sweetwater Counties, Wyoming). As the Wyoming pocket gopher is a fossorial species (i.e., a species that burrows as nests belowground but forages aboveground), and populations are assumed to be small, few observations have ever been made. The actual status of the Wyoming pocket gopher population is unknown due to the paucity of data. However, based on the results of recent surveys conducted by the WYNDD (Griscom et al. 2010), the

USFWS has determined that the Wyoming pocket gopher currently inhabits its known range in a pattern that approximates its historical distribution (USFWS 2010d).

The known distribution of the Wyoming pocket gopher is restricted to the south-central portion of the Wyoming, as it is only known to inhabit an area along the Carbon and Sweetwater County lines. The closest known occurrence of a Wyoming pocket gopher near the Project was from 1976, and was located approximately 0.5 mile north of Segment 3 (WYNDD 2008). Suitable habitat for the Wyoming pocket gopher has been mapped by the WYNDD (WYNDD 2008), and these data were used to assess the locations of habitat that could be impacted by this Project. The Proposed Route would cross this agency-mapped suitable habitat along Segments 2, 3, and 4. Out of the total combined length of 356.1 miles for Segments 2, 3, and 4, the Proposed Route would cross approximately 80.7 miles of agency-mapped suitable habitat for the Wyoming pocket gopher.

### ***BLM and Forest Service Sensitive Species Fish Species***

A total of 16 fish species found along the length of the Project were noted as being sensitive (Appendix D, Table D.11-2). Six were trout taxa; three were suckers, two were sculpin, and five were minnow species (including four chubs and one dace). In general, trout species are found in clear cold-water systems including small streams, large rivers, and lakes depending on species distribution. The Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*) is found at various locations in the Snake, Bighorn River, and Yellowstone River drainage systems in Montana, Wyoming, Idaho, Nevada, and Utah, and are present along the Project in Idaho in Marsh Creek along Segment 4, various portions of the Snake River, and in various creeks along Alternatives 7H and 7I (IDFG 2007; Gresswell 2009). The Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*) is found in the Colorado River drainage located above the Grand Canyon (including the Green River). The Bonneville cutthroat trout (*Oncorhynchus clarki utah*) is endemic to the Bonneville basin, and is found within clear rivers and streams within Bear River drainage. The redband trout (*Oncorhynchus mykiss gairdneri*), westslope cutthroat trout (*Oncorhynchus clarki lewisi*), and fine-spotted cutthroat trout are widely distributed; however, the Project would only cross their distribution along the Snake River drainage.

Two of the three sucker species are not restricted to cold-water streams and are often found in larger rivers. These two species (flannelmouth sucker [*Catostomus latipinnis*] and bluehead sucker [*Catostomus discobolus*]) are found only in specific drainages. The other sucker (mountain sucker [*Catostomus platyrhynchus*]) is most often found in cool flowing water, small to medium size streams, and is more widely distributed.

Of the two chub species, the northern leatherside chub (*Lepidomeda copei*) is present in cool-water streams of Bear, Snake, as well as Colorado and Green River drainages, while the roundtail chub (*Gila robusta*) is found mostly in larger rivers of the Colorado River drainage. While the sturgeon chub (*Macrhybopsis gelida*) is primarily present in large highly turbid river systems in the eastern Wyoming along the route, the lake chub (*Couesius plumbeus*) occupies varied habitat depending on location from large lakes and rivers in more northern regions of its distribution to small first-order streams in

Great Plains areas, all with cool shallow gravel or sandy bottom areas in central Wyoming along the route.

Of the other minnow species, the finescale dace (*Phoxinus neogaeus*) has an affinity for small sluggish spring-fed streams, often with beaver ponds or spring fed bogs with cool water and high amounts of LWD, and likely has distribution east of the Project in eastern Wyoming. The Shoshone sculpin (*Cottus greenei*) is only present in springs and a few small streams in the Hagerman Valley along the Snake River in south-central Idaho. The other sculpin, Wood River sculpin (*Cottus leiopomus*), is only found in the Wood River drainage of central Idaho, typically in clear cool small mountain streams, mostly just north of where the Shoshone sculpin is found.

### **Forest Service Management Indicator Species**

The Forest Service MIS are species whose response to land-management activities or projects can be used to predict the likely response of other species with similar habitat requirements. The proposed Project would cross two NFs (the Medicine Bow-Routt and the Caribou-Targhee NF); while the Sawtooth NF would be crossed by a Route Alternative (Alternative 7I). Each of these NFs has designated their own list of MIS. The Medicine Bow Forest Plan has designated eight species as MIS including the American marten, common trout, golden-crowned kinglet, Lincoln's sparrow, northern goshawk, snowshoe hare, three-toed woodpecker, and Wilson's warbler. The Caribou Forest Plan has designated three MIS species including the Columbian sharp-tailed grouse, greater sage-grouse, and northern goshawk. The Sawtooth Forest Plan has designated three MIS species including the bull trout, greater sage-grouse, and the pileated woodpecker. Of the 12 Forest Service MIS (the northern goshawk and greater sage-grouse are on multiple lists), 10 have the potential to occur within the Analysis Area, based on the presence of habitat or co-location of the Project with the species range. Neither the bull trout nor the pileated woodpecker is likely to occur within the Analysis Area. In Idaho, bull trout occur in the East Fork, West Fork, and headwater tributaries above 7,200 feet elevation within the Jarbidge Wilderness Area (outside of the Analysis Area). The pileated woodpecker is not found within Wyoming. In Idaho, year-long habitat for the pileated woodpecker is found within the northern half of Idaho; however, this habitat is located north of the Analysis Area. The Columbian sharp-tailed grouse, greater sage-grouse, and various common trout species are addressed in detail above, within the ESA and Sensitive Species sections. The remaining MIS species will be discussed in this section.

### ***American Marten (Medicine Bow Forest Plan MIS)***

The American marten is associated with mature or late successional mesic conifer or mixed conifer forests that contain coarse woody debris, have intermediation canopy closures between 30 to 70 percent, and are adjacent to riparian areas (Vasquez et al. 2005). They are highly sensitive to forest fragmentation, with martens generally avoiding areas containing greater than 25 percent non-forested lands. Home ranges can vary, and range from 0.5 to 3.0 square miles for males, with female home ranges varying in size from approximately one-third to half the size of males (Vasquez et al. 2005). The population of martens fluctuates widely from year to year, and is correlated with prey abundance; however, long-term population trends for the American marten

are currently unknown. The Forest Service designated the American marten as a MIS due to their dependence on mature or late-successional forest habitats. This species is sensitive to developments within mature or late-successional forests that reduce canopy cover, remove coarse woody debris, reduce the recruitment of coarse woody debris, or increase road densities within these forest habitats. The location of this species within the Analysis Area is unknown; however, the closest known occurrence of an American marten near the Analysis Area is located approximately 25 miles north of Segment 8, within Boise County, Idaho. It is assumed that this species could occur within forested portions of the Analysis Area. Forested habitats occur along Segments 1E, 1W, 4, 5, and 7 (see Appendix D, Table D.6-1).

***Golden-Crowned Kinglet (Medicine Bow Forest Plan MIS)***

The golden-crowned kinglet inhabits dense, coniferous forests, especially where spruce or firs are present. The average home range sizes or requirements for this species are currently unknown. Population trends for the golden-crowned kinglet have varied widely over time, but have shown a decline in both Idaho and Wyoming between 2000 and 2006 (Sauer et al. 2008). The greatest threat to this species would likely be loss of forest habitat. Golden-crowned kinglets have been observed within the Analysis Area of Segment 1W, along on the border of Natrona and Converse Counties, Wyoming. It is assumed that this species could occur within forested portions of the Analysis Area. Forested habitats occur along Segments 1E, 1W, 4, 5, and 7 (see Appendix D, Table D.6-1).

***Lincoln's Sparrow (Medicine Bow Forest Plan MIS)***

Information regarding the Lincoln's sparrow habitat requirements is limited, but based on what is known, they seem to prefer riparian willow habitats at elevations between 6,725 and 7,414 feet. Wide population fluctuations are normal for this species, and can be caused by multiple factors including excessive rain, drought, changes in habitat, and natural disturbances (Stephens et al. 2003). Population trends for the Lincoln's sparrow have shown a nationwide increase in size by 2.3 percent between the years 1966 to 2000; however, data are not sufficient to determine the population trends for this species in Wyoming (Stephens et al. 2003). The Lincoln's sparrow breeds in the northern states, and over-winters along the west coast and southern states. Spring migration can vary, but on average, it begins in middle to late April, peaks in May, and ends in late May. Breeding grounds are left in early September (Stephens et al. 2003). The Lincoln's sparrow was designated as an MIS because it is susceptible to grazing and other disturbing activities within riparian areas. It is assumed that this species could occur within riparian/wetland portions of the Analysis Area; which occur within all segments crossed by the Project (see Appendix D, Table D.6-1).

***Northern Goshawk (Caribou and Medicine Bow Forest Plan MIS)***

The northern goshawk is a habitat generalist and can be found in both coniferous and deciduous forests, woodlands, or along treelines adjacent to open habitats. During nesting, they prefer mature forest habitats. Home ranges vary in size depending on the abundance of habitat and prey, but they can range from 570 to 3,500 hectares (Kennedy 2003). The current data available (from the Breeding Bird Survey and the Christmas Bird Count) are inadequate to estimate the population trends of this species

within Wyoming or Idaho (Kennedy 2003). Threats to this species include habitat alteration, direct human disturbances, pesticides, and harvesting for falconry.

The northern goshawk is known to occur in and near the Analysis Area, and is considered a year-round resident of the area. There are six known northern goshawk nests that occur within 1 mile of the Project: two along Segment 1E (one of these nests is also within 1 mile of Segments 1W(a) and 1W(c)), and four along Segment 4 (see Appendix D, Table D.10-2). The two nests along Segment 1E are located on the Medicine Bow-Routt NFs, and the four nests along Segment 4 are located on the Caribou-Targhee NF.

### ***Snowshoe Hare (Medicine Bow Forest Plan MIS)***

The snowshoe hare inhabits dense woodlands/forests which experience a deep winter snow accumulation. Optimum densities of woody shrubs and small trees range from 4,600 to 33,210 stems per hectare. Koeler (1990) suggested that snowshoe hares avoid clear-cuts and very young stands, while Conroy et al. (1979) found that they typically inhabit areas that contain a mosaic of forest ages and openings. Occupied habitat typically contains dense protective understory vegetation composed of edible shrubs and trees (Ruediger et al. 2000). The average snowshoe home range sizes vary from 5 to 10 hectares; however, they have been to disperse for distances of up to 12 miles (Ruediger et al. 2000). The population densities of snowshoe hares are highly dependent on the populations of their primary predator, the lynx, and can range from 0 to 2.7 hares per hectare (Ellsworth and Reynolds 2006). Threats to this species include changes to the distribution and characteristics of subalpine forests. This includes the effects of global climate change, silviculture practices, wildfire suppression, habitat loss, and hunting. The location of this species within the Analysis Area is unknown; however, the closest known occurrence of snowshoe hares near the Analysis Area is located approximately 10 miles north of Segment 8, within Gooding County, Idaho. It is assumed that this species could occur within forested portions of the Analysis Area. Forested habitats occur along Segments 1E, 1W, 4, 5, and 7 (see Appendix D, Table D.6-1).

### ***Three-Toed Woodpecker (Medicine Bow Forest Plan MIS)***

The three-toed woodpecker inhabits mature or late-successional forests dominated by spruce and fir as well as lodgepole pine. These birds will also exploit recently burned forests, as these recent burns can provide a rich food source. Home range sizes are highly uncertain, but some studies have found home ranges as large as 304 hectares (Wiggins 2004). Home range sizes are likely dependent on the abundance of food sources. Population trends for this species are uncertain due to its low abundance and the difficulty in conducting accurate surveys for this species; however, according to Breeding Bird Survey data, populations in Wyoming likely increased by 4.7 percent between 1980 and 2003, but this increase is not statistically significant and highly uncertain (Wiggins 2004; Sauer et al. 2008). Although this species is not threatened on a range-wide scale, the Forest Service is concerned about its future due to its dependence on mature or late-successional forests, as well as natural forest disturbances such as fire. The location of this species within the Analysis Area is unknown; however, the closest known occurrence of the three-toed woodpecker near

the Analysis Area is located approximately 12 miles west of Segment 1W(a), within Natrona County, Wyoming. It is assumed that this species could occur within forested portions of the Analysis Area. Forested habitats occur along Segments 1E, 1W, 4, 5, and 7 (see Appendix D, Table D.6-1).

### ***Wilson's Warbler (Medicine Bow Forest Plan MIS)***

The Wilson's warbler is a high-altitude riparian species that inhabits mesic shrub communities or willow woodlands located near the edges of beaver ponds, lakes, riparian areas, fens, bogs, and overgrown clear-cuts. Population trends for this species show that it is stable to declining range-wide, and stable to increasing in the NFs found within the Rocky Mountain Region (Johnson and Anderson 2003). This species breeds near the Analysis Area, and its densities are highest between late April and May, with egg-laying occurring in June to July (Johnson and Anderson 2003). The greatest threat to this species range-wide is likely the loss of riparian habitat. The location of this species within the Analysis Area is unknown; however, the closest known occurrence of the Wilson's warbler near the Analysis Area is located approximately 3.3 miles north of Alternative 7H. It is assumed that this species could occur within riparian/wetland portions of the Analysis Area, which occur within all segments crossed by the Project (see Appendix D, Table D.6-1).

### **3.11.2 Direct and Indirect Effects**

The following sections discuss both construction and operational effects of the Project on TES species. Federal ESA species are discussed first, then Forest Service and BLM sensitive species, followed by Forest Service MIS. Tables D.11-5 and D.11-6 (in Appendix D) identify the acres of construction impacts to suitable habitat for the federal ESA listed species, as well as BLM and Forest Service sensitive species, where quantitative species specific data were available; while Tables D.11-7 and D.11-8 (in Appendix D) display this same information for operations impacts. A segment-by-segment disclosure of impacts, which differentiates among effects that would occur where Route Alternatives are proposed, is found in Section 3.11.2.3. Section 3.11.2.3 is primarily a list of habitat impact values and a brief discussion of which alternative per segment would result in the least impacts to TES species, where quantitative species specific data are available.

Mitigation measures or EPMs are presented in detail within this section only if it is the first time they have been discussed in Chapter 3; all other measures are referenced or summarized. A comprehensive list of all Proponent-proposed EPMs and Agency-required mitigation measures can be found in Table 2.7-1 of Chapter 2.

### **Plan Amendments**

Tables that list the applicable stipulations from the various federal management plans as well as whether or not the Project is in compliance with these stipulations can be found in the Administrative Record; proposed plan amendments for instances where the Project would not be in compliance with Forest Service standards or BLM requirements can be found in Appendix F, as well as a summarized list found in Table 2.2-1. As shown in Table 2.2-1, there are multiple plan amendments proposed that, although not specifically related to TES wildlife, would result in alterations to current land

management (such as changes to VRMs, or allowing the line to occur outside the existing/designated utility corridors). These amendments could allow the permitting of this Project in areas that are currently managed in such a way as to exclude projects of this type. Impacts to wildlife and their associated habitats that could result from the permitting and subsequent construction of this Project are disclosed in the following sections. Any plan amendments that are related specifically to a TES wildlife species will be discussed in detail, within the appropriate species section.

The proposed plan amendments to TES wildlife management direction are presented below:

- Medicine Bow Forest Plan: Proposed Segments 1E, 1W, Alternative 1E-C – TES Standard 4 provides protection for northern goshawk nests by protecting 30 acres of dense vegetation surrounding each of 3 selected nests. The proposed amendment would allow the Gateway West Transmission Line Project and will require Medicine Bow National Forest timing restrictions for northern goshawks will be followed.
- Medicine Bow Forest Plan: Proposed Segments 1E, 1W, Alternative 1E-C – TES Standard 5 provides protection for northern goshawk post fledgling areas (PFAs) inclusive of the selected 30-acre nest sites and a minimum of 200 acres. Management of the PFAs prohibits activities that could degrade foraging habitat. The proposed amendment would allow the Gateway West Transmission Line Project and will require that the Medicine Bow National Forest timing restrictions for northern goshawks will be followed.
- Medicine Bow Forest Plan: Proposed Segments 1E, 1W, Alternative 1E-C – TES Standard 11 allows no loss or degradation of known or historic habitat for the boreal toad, wood frog, or northern leopard frog. The proposed amendment would allow the Gateway West Transmission Line Project and will require mitigation measures, to be approved by the Medicine Bow Forest, applied to prevent impacts to the boreal toad, wood frog, or northern leopard frog.
- Green River RMP: Segment 4 of the Proposed Route, Alternative 4B, 4C, 4D, 4E – The RMP prohibits aboveground facilities within 0.25 mile of sage-grouse leks. The proposed amendment would allow the Gateway West Transmission Line Project within 0.25 mile of sage-grouse leks, this would include the construction of access and maintenance roads for the Project, with appropriate mitigation measures.
- Green River RMP: Proposed Segments 3 and 4, Alternatives 4B, 4C, 4D, 4E – The RMP prohibits high-profile structures within 0.5 mile of raptor nests. The proposed amendment would permit the Gateway West Transmission Line Project as a one-time allowance for the construction and placement of Project transmission lines and towers within 0.5 mile of active raptor nests, with appropriate mitigation measures.
- Caribou Forest Plan: Proposed Segment 4 – Management Standards and Guidelines for goshawk nesting territories limit disturbance to foraging areas around nests to less than 40 acres. As the Gateway West Transmission Line

Project would exceed this acreage of disturbance, an amendment is proposed to allow the Project with appropriate mitigation.

### **3.11.2.1 No Action Alternative**

Under the No Action Alternative, the Project would not be constructed or operated. No Project-related impacts to TES species would occur; however, impacts would continue as a result of natural events (such as fire, drought, and severe weather) and existing developments within the Analysis Area.

### **3.11.2.2 Effects Common to All Action Alternatives**

This section discusses the effects that would occur to TES species, regardless of whether the Proposed Route or Route Alternatives are selected (a discussion of impacts related to Proposed Route segments and Route Alternatives can be found in Section 3.11.2.3). The Proponents have proposed species-specific EPMs to offset or reduce these potential impacts to TES species. They have proposed these measures for Project-wide implementation (as opposed to specific measures for federal, state, and private lands), because they feel that Project-wide measures are easier to administer and explain to construction personnel. Many of these EPMs are sufficient to protect sensitive resource and could be applied Project wide; however, in some cases the Agencies have determined that these EPMs are not sufficient or are not in compliance with agency stipulations, and therefore have required or recommended additional mitigation measures (presented below and in Section 3.11.3). Mitigation measures or EPMs are presented in detail within this section only if it is the first time they have been discussed in Chapter 3; all other measures are referenced or summarized. A comprehensive list of all EPMs and agency required mitigation measures can be found in Table 2.1-4 of Chapter 2.

A list of all state and federally imposed seasonal restrictions can be found in Appendix I; the Project would be required to comply with all agency timing restrictions unless an exception is granted by the Agencies.

Tables that lists the applicable stipulations from the various federal management plans as well as whether or not the Project is in compliance with these stipulations can be found in the Administrative Record; proposed plan amendments for instances where the Project would not be in compliance with Forest Service standards or BLM requirements can be found in Appendix F, as well as a summarized list found in Table 2.2-1. As shown in Table 2.2-1, there are multiple plan amendments proposed that, although not specifically related to TES wildlife, would result in alterations to current land management (such as changes to VRMs, or allowing the line to occur outside of existing/designated utility corridors). These amendments could allow the permitting of this Project in areas that are currently managed in such a way as to exclude projects of this type. Impacts to wildlife and their associated habitats that could result from the permitting and subsequent construction of this Project are disclosed in the following sections. Any plan amendments that are related specifically to a TES wildlife species will be discussed in detail below, within the appropriate species section.

Note that a threat determination call is made for each species discussed within this section where threat determinations are appropriate. Threat determination language for

species listed as threatened or endangered under the ESA follow standard ESA language. Threat determination language used for all other species is consistent with the language required by the Forest Service. This Project would cross two Forest Service regions: Region 2 (R2, which includes the Medicine Bow-Routt NFs), and Region 4 (R4, which includes the Caribou-Targhee and Sawtooth NFs). Each of these regions has different threat determination language that they require for impact discussions regarding sensitive species and ESA proposed/candidate species. The purpose and meaning of each region's language is essentially the same, but the exact text that is legally required differs slightly<sup>6</sup>. For species that are listed as sensitive in both regions, both threat determination languages will be provided. For species that are listed as sensitive in only one region, only that region's language will be used.

### **Threatened, Endangered, Proposed, or Candidate Species under the ESA**

#### ***Federal ESA Wildlife Species***

##### **Black-footed ferret (*Endangered, Nonessential experimental population*)**

###### *Construction-related Impacts*

There are no known populations of black-footed ferrets in the Analysis Area; however, surveys for ferrets have not been conducted within the entire area. Black-footed ferrets from the Shirley Basin 10J population could occur within the Analysis Area; however, this population is not protected from unintentional take. If there are any ferrets in the area, then the Project could potentially result in direct mortality, or have direct adverse impacts on their habitat, as well as adverse impacts to their primary prey source, the prairie dog. (Impacts to prairie dogs are discussed separately in the Black- and White-Tailed Prairie Dog portion of this document.) Temporary, construction-related habitat removal would include temporary roads, laydown areas, and fly yards, all of which would be restored following construction in accordance with the Proponent's Framework Reclamation Plan for Construction Activities (see Appendix C-2). The acreage of impact to suitable habitat by line segment and alternative is listed in Table D.11-5 (Appendix D) and is discussed in Section 3.11.2.3. Construction-related noise and dust disturbance would also occur, which could potentially make habitat temporarily unsuitable for black-footed ferrets; however, the Proponents have developed measures within their Traffic and Transportation Management Plan (Appendix C-1, Attachment A) to control dust near construction activities. This plan also includes measures to control traffic (both existing and construction related) near construction activities, to reduce the likelihood of vehicular related mortality of wildlife during construction (the potential impact of noise, dust, and traffic related wildlife mortality, as well as the measures proposed to limit this potential impact, are applicable to all wildlife species addressed within this document<sup>7</sup>).

To avoid impacting ferrets, the Proponents have proposed the following species-specific EPMs:

---

<sup>6</sup> For example, for an action that could impact a species but would not jeopardize the continued existence of the species, Region 2's required language is "May adversely impact individuals, but not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing." Region 4's required language is "May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability."

<sup>7</sup> To reduce text, this and other impacts that state "applicable to all wildlife species addressed within this document" will not be discussed in detail again for every species.

- PMC-1 No surface disturbance would occur in black-footed ferret non-block-cleared areas that are part of a white-tailed prairie dog complex that is greater than 200 acres and identified by USFWS as a potential black-footed ferret reintroduction area (USFWS 1989) until cleared by species-specific presence/absence protocol level surveys.
- PMC-2 Pre-construction presence/absence surveys (USFWS 1989) would be conducted in suitable habitat within mapped non-block-cleared areas, as necessary. Results of surveys would be valid for a 12-month period.
- PMC-3 In the event that black footed ferrets are documented, construction would cease within the vicinity of the documented occurrence and the USFWS would be notified. In addition, the transmission line or structures would be relocated to minimize direct impacts to prairie dog colonies to the extent possible.

However, the Agencies have determined that these measures do not address the potential for ferret presence in black-tailed prairie-dog colonies. Therefore, the Agencies have identified the following mitigation measure as a means to substantially reduce potential impacts; this measure is required on all lands (regardless of land ownership) to comply with ESA requirements:

- TESWL-5 Preconstruction surveys must be conducted for the black-tailed prairie dog (in addition to those already proposed for the white-tailed prairie dog and the black-footed ferret) in Segments 1E and 1W. If prairie dogs or their habitat are documented, then surveys for black-footed ferrets must occur. If ferrets are found, construction in that area must halt and consultation with the USFWS be initiated.

If black-tailed prairie dogs are discovered during construction, all construction activities must cease and survey for the black-footed ferret shall be conducted. If ferrets are found, construction in that area must halt and consultation with the USFWS be initiated.

Even if there are no ferrets present in the area during construction, there is still the potential for reducing habitat quality, and therefore reducing the likely success of future ferret re-introduction.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered locations of colonies well as other structures/locations occupied by sensitive species, the Agencies have identified the following mitigation measure (this measure is applicable to all sensitive species that utilize specific structures/locations):

- TESWL-8 A wildlife biologist will accompany site engineers during the final engineering design, in order to verify and flag the location of any known occupied structures (e.g., nests, burrows, colonies, maternity dens, hibernacula) utilized by sensitive species. This will include, but not be limited to, known burrowing owl burrows (including artificial

burrows that have been constructed as part of research/restoration efforts), prairie dog colonies, TES snake hibernacula, and raptor nests, which could be impacted by the Project based on the indicative engineering design. The final engineering design will be routed to avoid direct impact to these occupied structures to the extent practical.

#### *Operations-related Impacts*

Permanent loss of habitat for TES species would primarily be associated with areas that are occupied by access roads, transmission pole structures, and substations; as other Project-related disturbances would be revegetated in accordance with the Framework Reclamation Plan for Construction Activities (see Appendix C-2). Permanent loss of potential habitat would be limited due to the initial scope of impact to black-footed ferret habitat (see Tables D.11-5 and D.11-7 in Appendix D) and the efforts proposed to restore and revegetate disturbed habitats that are not occupied by these permanent structures (see Appendix C-2). However, revegetation in arid landscapes can take many years to reestablish to pre-disturbance conditions; therefore, revegetated shrublands would still have lower shrub cover than undisturbed areas for decades. In addition, revegetated areas are more susceptible to invasion or spread of invasive plant species, and the presence of invasive plant species can reduce habitat quality for species that rely on native vegetation; however, the Proponent's Framework Reclamation Plan outlines a program for monitoring these areas and prescriptions for preventing the establishment of noxious weeds (see Section 3.6 – Vegetation Communities). The potential impacts of habitat loss, revegetation, and invasive plant species, as well as the measures taken to minimize these effects would be applicable to all species addressed within this document.

Routine maintenance would continue along the transmission line and its associated facilities for the life of the Project (see Chapter 2 as well as Appendix B for a full description of the typical operations and maintenance activities that would occur). The presence of workers along the transmission line, as well as maintenance activities, could result in disturbances to adjacent wildlife. In addition, increased use of the area by vehicles would increase the risk of vehicular related wildlife mortality. The Proponents have proposed EPMs OM-1 through OM-31, within their Plan for Operations, Maintenance, and Emergency Response (see Appendix C-4), to limit the impact to wildlife species due to the operation and maintenance of the Project. (The potential impacts of Project maintenance and the measures taken to minimize these impacts would be applicable to all species addressed within this document.)

The construction of new Project-related roads could create new access to areas previously inaccessible to the public (a road density analysis, including densities on NFs, is presented in Section 3.10.2.3). If these roads are used by the public illegally, then increased disturbances may occur to wildlife species that utilize adjacent habitats; this could include an increase in direct mortality from poaching, hunting, fishing, or collecting. However, the Proponents have developed a Traffic and Transportation Management Plan (Appendix C-1, Attachment A) that includes measures to prevent unauthorized vehicular use of the new access roads, as well as setting speed limits on access roads for Project workers to limit the potential for direct vehicular impacts with wildlife. This would limit the disturbance to wildlife species that could result from use of

these roads, by limiting unauthorized use and establishing speed limits for authorized use (the potential impacts of increased human access and the measures taken to minimize these effects would be applicable to all species addressed within this document).

Construction and operations activities could inadvertently cause fires, resulting in a loss of habitat as well as an increased opportunity for the spread of invasive plant species, which could potentially result in both short- and long-term impacts. Because warm and dry conditions are likely throughout the summer, the risk of wildfires during construction and operations of the Project during this season may be elevated. To minimize the potential for wildfires, state and federal fire prevention requirements would be followed. All Project personnel would be trained in wildfire risk prevention and each construction crew would carry adequate fire suppression equipment. Fire prevention measures have been developed (refer to Table 2.7-1) that outline the responsibilities of Project personnel for prevention and suppression of fires, and define minimum fire prevention and suppression measures that would be used during construction and operations of the Project (the potential impacts of altered fire regimes and the measures taken to minimize these impacts would be applicable to all terrestrial species addressed within this document).

It is possible that the transmission line and its structures could become an attractant to raptor and ravens for nesting and perching habitats. The numbers of ravens and raptors that use existing transmission lines for perching habitat can become quite substantial. For example, a study conducted along a 500-kV transmission line that spanned from south-central Idaho to south-central Oregon found approximately 2,100 ravens at a single roost that spanned approximately 4 miles of the line and 15 towers (Engel et al. 1992). Although the presence of this 500-kV transmission line likely resulted in an increase in the number of ravens within the roosts, Engel et al. (1992) concluded that each of the major roosts found during the study were situated in an area where ravens had roosted communally before the line was constructed. The potential increase in raptor and raven numbers along the Project could result in an increase in harassment and predation rates on prey species (such as the black-footed ferret) that live in shrub and grassland habitats (Stahlecker 1978; Ellis 1984; Ellis 1985; Steenhof et al. 1993; Manzer and Hannon 2005; Coates and Delehanty 2010). The extent that these impacts could occur depends on the hunting range of predatory avian species. For example, non-breeding pairs of ravens have been documented to travel an average of 4.3 miles (6.9 kilometers) (up to 38.8 miles [62.5 kilometers]) in Idaho from roost sites to food sources and 16.8 miles (27 kilometers) in Michigan (ranging from 0.5 to 91.3 miles [0.8 to 147.0 kilometers]), with breeding pairs often traveling up to 0.8 mile (1.3 kilometer) while hunting (Boarman and Heinrick 1999). Golden eagle hunting ranges vary by season and location, but are typically very large (e.g., they can be around 161.6 square miles [260 square kilometers]).

The effect of increased raptor and raven predation rates on prey species would be most prominent where the Project is located in areas that do not contain other tall structures, such as existing transmission lines or trees. Approximately 36 percent (394.1 miles) of the Proposed Route is located adjacent to (within 1 mile of) existing transmission lines, which already serve as nesting and perching habitats for raptors and ravens. In these

areas, the Project would cumulatively add to the numbers of raptors and ravens that are already utilizing existing transmission lines in the general area. In the remaining areas where the Project would not be co-located with existing lines or other tall structures (such as portions of the line that cross through forested habitats), it would create new nesting and perching opportunities. Of the 708.8 miles of the Proposed Route that are not located within 1 mile of an existing line, about 485.8 miles are located within non-forested habitats (or 44 percent of the Proposed Route's length). It is in these areas that the effects of potential consolidation of raptor and raven populations on prey species would be most substantial (the risk of increased predation pressures by raptors and ravens would be applicable to all raptor/raven prey species that occur in open shrubland and grassland habitats). To reduce the effects of the Project on raptor/raven predation pressures, the Agencies would require the following mitigation measures:

- TESWL-2 The Proponents shall work with the applicable land-management agencies to develop a survey protocol that would be conducted in conjunction with annual operations and maintenance surveys (as outlined in the Proponents' Avian Protection Plans). The goal of these raptor-raven surveys shall be to identify whether populations of raptors and ravens are consolidating along the Project, and will be done during the appropriate time of year. These surveys shall be conducted, at a minimum, along portions of the line that are located within 1 mile of identified concentrations of sensitive raptor and raven prey species (including the black-footed ferret, burrowing owl, grouse species, mountain plover, prairie dogs, and pygmy rabbit). The Proponents and applicable land-management agencies shall work together to identify measures to limit predation rates on sensitive species within areas where raptor and raven populations are considered to be consolidating (limited to areas near sensitive species).
- TESWL-3 H-frame structures shall be equipped with anti-perch devices to reduce raven and raptor use, and limit predation opportunities on special status prey species.

The Project would not likely serve as a barrier to the black-footed ferret's movement, but could result in a hazard to this species, due to increases in the predation rate and the level of predatory harassment near the line (discussed above).

### *Conclusion*

While surveys have not been conducted within the entire Analysis Area, the only known black-footed ferret population in Wyoming is the experimental Shirley Basin population, which is not located within the Analysis Area. Any impacts on prairie dogs (the primary prey source for black-footed ferrets) or their habitat from the Project could reduce habitat for future re-introductions of ferrets; however, the Project is not likely to contribute to a trend towards federal listing or loss of viability for either species of prairie dog (see BLM and Forest Service sensitive species section, below). If ferrets are present near the Project, the presence of the transmission towers could increase predation pressures on this species. Proponent-proposed EPM and agency-required mitigation measures would be implemented to limit the potential impact of the Project on

this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project may affect, but is not likely to adversely affect, the black-footed ferret.

### Canada Lynx (*Threatened*)

#### *Construction-related Impacts*

The potential effects of Project construction on the Canada lynx include disturbance of movement pattern, as well as loss or modification of habitat. The Proponents have not proposed species-specific EPMs for the Canada lynx. However, due to the Canada lynx's large home range (which ranges from 10 to 20 square miles) and high mobility, it is possible that lynx would not be present during construction, or that they would avoid portions of their home range that contain construction activities. If they are present, and avoid portions of their home range that contain construction activities, this could result in a temporary shift in the lynx's movement patterns.

Of the 2,204,851 acres of lynx core habitat (LAU) found within Wyoming, and about 39,806 acres found in the two LAUs crossed by the Project (see Table 3.11-2), about 302 acres would be disturbed along the Proposed Route during construction (149 acres by direct Project facilities, with the remaining disturbances a result of ROW clearing in forested areas). All areas disturbed during construction (with the exception of areas used as permanent access roads, substation footprints, and pole structure bases) would be revegetated following construction in accordance with the Framework Reclamation Plan (see Appendix C-2). However, the Proponents would not allow trees or large woody vegetation to grow up under the transmission lines, resulting in a linear band that would be clear of trees for the life of the Project. The width of this permanently deforested band would depend on which tower and circuit type is used for that particular forest crossing (ranging from 125 to 300 feet wide). Details on ROW clearing are found in Section 3.6.2.3.

Lynx linkage habitat consists of areas that provide landscape connectivity between blocks of primary lynx habitat. Linkage areas occur both within and between geographic areas where blocks of lynx habitat are separated by intervening areas of non-lynx habitat such as basins, valleys, or agricultural lands. Shrub-steppe habitats that contain low human and/or road densities and may also provide important linkage habitat between the lynx's primary forest habitat (Ruediger et al. 2000); therefore, impacts to previously undisturbed shrub-steppe communities and linkage habitat may affect the lynx's ability to move between patches of primary habitat. Linkage habitat has been identified in Idaho, Montana, Utah, and Wyoming by an interagency/ intergovernmental panel (Forest Service 2007c). The Project would cross two paths that have been designated as lynx linkage habitat for a total of 9 miles (Forest Service 2007c); both are located south of the Caribou-Targhee NF along Segment 4 (see Appendix E, Figure E.11-1). One of these linkage paths connects the southern portion of the Caribou-Targhee NF to the northeastern border of Utah; the second linkage path connects the portion of the lynx core habitat that would be impacted by the Project to the northeastern border of Utah. Lynx would likely not utilize these linkage habitats during construction activities due to the presence of construction machinery and noise; resulting in a temporary adverse impact to the utility of these linkage habitats. Long-

term impacts on the ability of these areas to serve as linkage habitats would be low due to the limited degree of habitat disturbance, lack of major active roads constructed through these habitats as a result of the Project, limited expected human presence in these areas during operation, and the restoration and revegetation efforts proposed (see the Framework Reclamation Plan for Construction Activities [Appendix C-2]). However, restoration in shrub-steppe habitats could take decades to restore conditions to preconstruction levels, and access roads could allow some illegal human access to these areas (even with the measures proposed to limit this illegal use; see the Traffic and Transportation Management Plan in Appendix C-1, Attachment A); indicating that some effects to linkage habitats could continue beyond the construction phase, to an unquantifiable degree.

Snowshoe hares are the primary prey of lynx; therefore, an assessment of impacts on the Canada lynx must take into account potential impacts to the snowshoe hare. Impacts to the snowshoe hare are analysis under the “Forest Service Management Indicator Species” section. As discussed within this separate snowshoe hare section, impacts to the snowshoe hare would likely be limited, and would result in negligible effects to lynx populations. Impacts to other small mammal species, which could potential serve as prey for the lynx, are assessed in Section 3.10 – General Wildlife and Fish. As discussed in Section 3.10, impact to other small mammals (such as the red squirrel) are unlikely to result in population level impacts, and are therefore, unlikely to impact the lynx food supply.

#### *Operations-related Impacts*

Permanent loss of about 233 acres of lynx habitat would occur due to Project structures (see Appendix D, Table D.11-7). Approximately 35 acres would be permanently occupied by Project facilities, with the remaining acreage consisting of forested areas permanently cleared within the ROW. As discussed above, the Project could have some limited impacts to the movement of the Canada lynx, due to long-term impacts to forested habitats and a reduction of shrub densities along linkage habitat, but to an unquantifiable degree.

It has been suggested that the Canada lynx is generally tolerant of human presences (Staples 1995; Roe et al. 1999; Mowat et al. 2000; Ruediger et al. 2000), indicating that the limited presence of humans during Project operation is unlikely to impact this species. Furthermore, studies have shown that moderately used roads (such as snowmobile trails and logging roads) do not appear to affect habitat use (McKelvey et al. 2000; Ruediger et al. 2000), indicating that the presence of Project-related access roads are unlikely to reduce lynx use of areas, or result in isolation of populations.

#### *Conclusion*

The Project would result in the loss of some LAU habitat, and would cross two lynx linkage habitats. However, the Project is not expected to substantially impact the lynx's prey base or result in long-term impedance to movement. Therefore the Project's construction and operation may affect, but is not likely to adversely affect, the Canada lynx.

### Columbia Spotted Frog (*Candidate; Forest Service Sensitive*)

#### *Construction-related Impacts*

The potential effects of Project construction on the Columbia spotted frog include modification or loss to habitat (including alterations to the microclimates of these areas) and direct mortality. To date, the Proponents have not proposed species-specific EPMs for the Columbia spotted frog; however, the Agencies have developed mitigation measures to protect all aquatic- and riparian-dependent species (discussed in more detail below).

Wetlands and riparian areas are the primary habitat for the Columbia spotted frog. Habitats suitable for the Columbia spotted frog are not abundant within the Analysis Area, and the few wetland and riparian areas that are proposed for crossing by the transmission line would be spanned, thereby avoiding direct impacts on these potentially sensitive areas (see Section 3.9 – Wetlands and Riparian Areas). The acreage of impact to suitable habitat by line segment and alternative is listed in Table D.11-5 (Appendix D) and discussed in Section 3.11.2.3. All areas disturbed during construction (with the exception of areas used as permanent access roads, substation footprints, and pole structure bases) would be revegetated following construction in accordance with the Framework Reclamation Plan (see Appendix C-2). However, these EPMs are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to wetlands or riparian areas, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have recommended the implementation of additional mitigation measures, which are discussed below.

There is a very low possibility that the transmission line structures would be placed in riparian habitat; instead, it is common engineering practice to span riparian habitat with the conductors and place the towers outside riparian habitat. However, the Proponents may propose one or more access roads that cross riparian habitat. Disturbances within these areas could result in direct mortality of frogs during the clearing and construction of the stream/waterbody crossing. In addition, increased sedimentation could result, which if at high enough levels could impact tadpoles and eggs present at both at the crossing location itself and immediately downstream. Sedimentation could bury frog eggs and/or damage tadpole gills, resulting in mortality. Sedimentation would be controlled through implementation of the Proponents' SPCC Plan (Appendix C-1, Attachment C). In addition, the possibility of a spill of toxic materials into waterbodies would be limited due to the implementation of the Proponents' SWPPP (Appendix C-1, Attachment B; these measures would be applicable to all species that inhabit wetlands or waterbodies). Even with the implementation of these preventive and protective measures, the crossing of waterbodies by access roads should be avoided to the extent feasible; in addition, all necessary crossing should occur outside of forested riparian areas to reduce the amount of riparian vegetation that would need to be cleared.

The Agencies have identified mitigation measures VEG-6 and WET-1 through WET-4 to reduce impacts to riparian/wetland habitats, FISH-4 to prevent the establishment of aquatic invasive species in these habitats, and mitigation measures WQA-1 through WQA-4 to reduce potential impacts to waterbodies resulting from road crossings. They

have recommended that these measures be applied Project-wide. For instances where impacts to riparian and wetland areas are unavoidable, the Agencies have identified the following mitigation measure, which would be required on all federally managed lands to further reduce potential impacts to the Columbia spotted frog and other species that depend on riparian/wetland habitats:

- TESWL-1 For the protection of aquatic- and riparian-/wetland-dependent species, surface disturbing and disruptive activities must be avoided in the following areas: 1) identified 100-year floodplains; 2) areas within 500 feet of perennial waters, springs, wells, and wetlands; and 3) areas within 100 feet of the inner gorge of ephemeral channels on federally managed lands.

Where it is not possible to avoid wetland and riparian habitat, crossing-specific plans must be developed. These plans shall: 1) demonstrate that vegetation removal is minimized; 2) show how sediment would be controlled during construction and operation within wetland and riparian areas; 3) attempt to intersect the wetland or riparian habitat at its edge; and 4) provide measures to restore habitat and ensure conservation of riparian microclimates. This plan must be submitted to the appropriate land-management agency and approved prior to construction of any portion of the Project within sensitive riparian habitat.

#### *Operations-related Impacts*

As stated earlier, permanent habitat loss would be associated with access roads, transmission pole structures, and substations; however, these facilities/structures would be located outside of riparian/wetland areas whenever possible. Table D.11-7 in Appendix D lists the permanent operations impacts that would occur to this species habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The transmission line would not serve as a barrier or hazard to the Columbia spotted frog, as long as the EPMs and mitigation measures identified above are implemented so that riparian and wetland microclimates are not altered in such a way as to prevent the movement of the Columbia spotted frog. However, any roads that are constructed within riparian habitats could result in a barrier to movement to the Columbia spotted frog, and could fragment habitat resulting in further loss of suitable habitat due to edge effects. (See Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads, and Section 3.10.2.2 for a general discussion of habitat fragmentation.)

#### *Conclusion*

The Project would span riparian and wetland areas to the extent practical. In areas where they cannot be avoided, EPM and mitigation measures would be applied to limit potential impacts to riparian and wetland dependent species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for the Columbia spotted frog (R4 language). For the same reasons, the Project may adversely impact

individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

Gray Wolf (Nonessential Experimental Population–Wyoming; Forest Service Sensitive)

*Construction-related Impacts*

Because the gray wolf is considered a habitat generalist and does not require a specific habitat type for survival, gray wolves could potentially be present along any portion of the line. However, as the Project would not impact habitats that are unique to the general area or are specifically required by wolves for survival, habitat loss resulting from the Project's construction would not have a measurable effect on this species. As discussed for the Canada lynx, the gray wolf has a large home range; and as such, it is possible that wolves would not be present during construction. However, if wolves are present during construction, they would likely avoid the area, resulting in a temporary shift in wolf movement patterns.

*Operations-related Impacts*

The transmission line and its associated structures would not likely serve as a barrier or hazard to the gray wolf; and the operation of the Project is not likely to have a measurable adverse impact to the gray wolf.

*Conclusion*

The Project would impact habitats that could be utilized by wolves; however, the Project would not impact habitats that are unique to the general area or are specifically required by wolves for survival. If wolves are present near the Project during construction, then they may avoid areas where active construction occurs. Therefore, the Project's construction and operation may affect, but is not likely to adversely affect, the gray wolf.

Greater Sage-Grouse (Candidate; MIS; Forest Service Sensitive; BLM Sensitive)

The USFWS's *12-Month Findings for Petitions to List the Greater Sage-Grouse as Threatened or Endangered* (2010e) listed the following as potential impacts to the greater sage-grouse resulting from powerlines: 1) collisions/electrocutions, 2) consolidation of predatory birds along powerlines, 3) lower recruitment rates near lines, 4) habitat fragmentation, 5) degradation of habitat due to spread of invasive plant species, 6) impacts resulting from the line's electromagnetic fields, and 7) direct loss of habitat. Additional impacts related to construction and operations of the line, as well as associated infrastructure, could include short-term disturbances due to construction and long-term disturbances during operations, increased road access allowing poaching in previously inaccessible locations, and changes to habitat structure resulting from altered fire regimes. Note that many of the general impacts that could occur to this species are addressed in the black-footed ferret section as "impacts that would occur to all species addressed" (e.g., the effects of fire, poaching, and invasive weeds).

*Construction-related Impacts*

The greater sage-grouse is a ground nester and generally broods, rears young, and winters near their mating grounds (although some birds can migrate up to 50 or 60 miles). Because it is a ground nester, the species is very sensitive to ground-clearing activities that would occur during Project construction. To limit the potential disturbance to this species, one of the Proponents' primary goals while routing the Project was to

avoid all leks by at least 0.25 mile (in accordance the BLM RMP requirements for “no surface occupancy,” which was in place at the time of initial Project design in 2008). However, the centerline of the Project would come within 0.25 mile of a lek with an “undetermined” management status along Segment 10 and within 0.25 mile of a lek with an “occupied” management status along Segment 5 (see Table 3.11-4). In addition, the Proponents attempted to avoid leks by 0.6 mile to the extent possible, based on the assumption made at the time of initial Project design (2008) that the “no surface occupancy” requirement would increase from 0.25 mile to 0.6 mile (as of this date, the BLM “no surface occupancy” restriction has been increased to 0.6 mile). However, not all leks could be avoided by this distance (see Table 3.11-4) due to the need to avoid other sensitive resources (e.g., high-altitude mountain habitats that contain species listed under the ESA, or sensitive cultural resources that are protected by the various SHPOs).

Agency-established timing restrictions would be utilized during the breeding seasons to minimize direct impacts to this species (discussed in more detail below). In addition, the Agencies have identified mitigation measure WILD-10, which would require that all vegetation clearing be conducted prior to the onset of the avian breeding season, to limit the potential impact of clearing on nesting birds.

Loss of habitat would occur due to direct removal of vegetation, introduction of noxious weeds, fragmentation, edge effects, and altered fire regimes (see further discussion in Section 3.10.2). In addition, construction-related noise and dust disturbance would occur during construction, which could potentially make habitat temporarily unsuitable for this species; however, the Proponents have developed measures within their Traffic and Transportation Management Plan (Appendix C-1, Attachment A) to control dust near construction activities and agency-required timing restrictions would be implemented to limit the impacts of noise on birds during sensitive periods. Birds could experience direct mortality if construction equipment drives over nests or strikes birds that are crossing roads, or if birds are hiding in shrub cover that is removed/cleared. However, the Proponents have developed EPMs in their Plan for Operations, Maintenance, and Emergency Response, as well as their Traffic and Transportation Management Plan (see Appendix C) to limit the potential risk of direct vehicular impacts with wildlife. In addition, the risk of direct mortality would be limited due to the utilization of agency required timing restrictions for construction near known breeding grounds (restricting construction to periods outside of the typical breeding season for habitats located within certain distances of leks). However, because some breeding/nesting habitat could still be impacted during the breeding season even with the implementation of these timing restrictions (e.g., in areas far enough from leks that they are not affected by these timing restrictions), some direct impacts to birds as well as their breeding habitat could still occur. If nesting birds are disturbed, this could result in increased mortality of chicks through both crushing by construction equipment, as well as abandonment by their parents. In addition, flight responses and disturbance could increase the energy costs of both parents and chicks, thereby adding additional stresses on birds located adjacent to construction activities. However, Project compliance with the agency timing restriction would limit disturbance or displacement of brooding birds as well as impacts to chicks, by limiting impacts to areas outside of

agency-designated breeding habitats during the breeding season. In addition, as discussed above, mitigation measure WILD-10 would require that all vegetation clearing be conducted prior to the onset of the avian breeding season, to limit the potential impact of clearing on nesting birds, thereby reducing this risk.

Staging areas, fly yards, and the temporary construction areas, not needed for permanent maintenance at each transmission tower pad, would be revegetated following construction in accordance with the Framework Reclamation Plan (see Appendix C-2). However, as stated earlier revegetation in arid landscapes can take many decades to restore to preconstruction conditions; therefore, all direct impacts to habitat within these arid shrublands would be considered long-term, even with the implementation of active revegetation efforts.

The Proponents have provided six EPMs as part of their Project description to help avoid, minimize, and mitigate for direct and indirect impacts on greater sage-grouse. These measures are detailed within the Greater Sage-Grouse Avoidance, Minimization, and Mitigation Measures Plan (Appendix C-5). These EPMs are:

- PAC-7 All greater sage-grouse leks determined to be within 1 mile of the centerline of the Project would be surveyed using protocols, which have been approved by federal and state agencies, during the breeding season immediately prior to construction to determine whether the lek is active. The Proponents will provide survey results to the appropriate land-management agency.
- PAC-8 There would be no construction activities through Idaho's Key and Restoration greater sage-grouse habitats and Wyoming's Core habitats within 1 mile of active leks from March 1 to May 15 between 6 p.m. and 9 a.m. Off-limit areas would be marked so that workers in the area are aware of these sensitive areas.
- PAC-9 If no lek activity has been observed by April 25, construction activities may proceed.
- PAC-10 Surface disturbance would be prohibited year-round within 0.25 mile of previously documented leks.
- PAC-11 Notification would also be placed in areas frequented by on-site personnel (such as break rooms) to advertise the importance of complying with these restrictions.
- PAC-12 Temporal and spatial restrictions do not apply when lek or nesting and brood rearing habitat is separated from Project activities by other forms of human disturbance (e.g., agriculture, highways) or by line of sight barriers).

As the Proponents have not specified what protocols would be used during pre-construction surveys (see PAC-7), the Agencies have identified TESWL-10.

- TESWL-10 Proponents shall provide the Agencies a list of the protocols that the Proponents would use during greater sage-grouse and sharp-tailed grouse pre-construction surveys.

Some of the EPMs proposed by the Proponents include suggested modifications to federal land-management agencies construction timing/seasonal restrictions (state agencies may develop additional restriction on state and private lands; see Appendix I). However, the federal agencies have established procedures for granting exceptions to their stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies stipulations and restrictions, and any agency-established exception processes would be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-16 for any exceptions to stipulations and restrictions that are approved during the established exception process. In the event an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine lek occupancy, and to ensure that all construction activities cease in active areas. Adherence to the agency stipulations and restrictions would reduce the impacts that the Project's construction could have on the greater sage-grouse.

- TESWL-16 Requests for exceptions from greater sage-grouse closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed. See WILD-1.

The Agencies have also identified the following mitigation measures, which are required as part of recent published BLM Instructional Memorandums.

- TESWL-14 Surface disturbance shall be avoided within 0.6 to 4 miles of occupied or undetermined greater sage-grouse leks from March 15 to July 15 in all portions of the Project except for Nevada. In Nevada, surface disturbance shall be avoided within view of or within 0.3 mile of all leks from March 1 to May 15; and within areas designated by Nevada as greater sage-grouse brood rearing areas from May 15 to August 15.
- TESWL-15 There shall be no surface occupancy (NSO) within 0.6 mile of the perimeter of occupied greater sage-grouse leks. "No surface occupancy," as used here, means no surface facilities, including roads, shall be placed within the NSO area. Other activities may be authorized with the application of appropriate seasonal stipulations, provided the resource's protected area is not adversely affected.

No areas that have been officially designated as sage-grouse "Winter Concentration Areas"<sup>8</sup> are known to occur within the Project area; however, if areas that would be

---

<sup>8</sup> Note that each state (Idaho, Wyoming, and Nevada) may have a slightly different term for "Winter Concentration Area"; therefore, the term "Winter Concentration Area" refer to any area officially designated by the state as crucial to the survival of sage-grouse during the winter.

impacted by the Project are or become designated as Winter Concentration Areas, then the following measure would apply:

- TESWL-19 There shall be no surface disturbances within areas designated as Winter Concentration Areas for the greater sage-grouse from November 1 through March 15.

The Project, as currently designed, may not be in compliance with a requirement found in the BLM's RMP for the Green River Management Area, regarding distances between disturbances and leks. The Green River RMP states that:

*Aboveground facilities (powerlines, storage tanks fences, etc.) are prohibited on or within 1/4 mile of grouse breeding grounds (leks). Placement of facilities, 'on' (very low profile) or below ground, and temporary disruptive activities, such as occur with pipeline construction, seismic activity, etc., could be granted exceptions within 1/4 mile of leks, in certain circumstances.*

An existing access road located within 0.25 mile of a lek would be improved within the Green River Management Area. As a result, the Project may not be in compliance with the Green River RMP. If an exception is not granted for this lek, the Project would either need to be altered so that it is in compliance with the Green River RMP, or the RMP would need to be amended. However, as no tall structures would be located within 0.25 mile of this lek, disturbances would be limited to road improvements, and mitigation as well as seasonal timing restrictions would be applied to limit impacts, it is possible that an exception would be granted.

The Project, as currently designed, may not be in compliance with a requirement found in the Kemmerer RMP regarding the management of the Rock Creek/Tunp area. The Kemmerer RMP states:

*Manage the Rock Creek/Tunp area of significant resource concern within the objective of preserving and enhancing the critical wildlife habitats and cultural values that occur within the area...No net loss of habitat function allowed from any construction activity within the boundaries of the management area. Successful re-establishment or improvement of habitats could offset any new disturbance areas.*

The Project would cross through the Rock Creek/Tunp management area if Alternatives 4A, 4C, 4E, or 4F are chosen, and construction of the line could result in a net loss of sagebrush habitats in this area. Therefore, the Kemmerer FO would require the following mitigation measure if Alternatives 4A, 4C, 4E, or 4F are selected and a plan amendment to the Kemmerer RMP is approved.

- TESWL-23 If the Kemmerer RMP is amended to allow Alternatives 4A, 4C, 4E, or 4F to be selected, existing fences within 1 mile of the portion of the Gateway West Project located on lands managed by the Kemmerer RMP shall be modified with FireFly Grouse Flight diverters (or a similar product) in order to prevent greater sage-grouse mortalities. Additional site-specific reclamation, such as transplanting sagebrush seedlings within previous disturbed habitats, may also be required to off-set the

net loss of sagebrush habitats within the Rock Creek/Tunp management area.

Fences located in sage-brush habitats have been identified as a major cause of mortality for greater sage-grouse, due to these low-flying birds colliding with and becoming entangled within these fences (Stevens 2011); therefore, measures that limit this potential risk could result in a reduction in current greater sage-grouse mortality levels within an area. Therefore, the Agencies and the Proponents may consider applying mitigation measure TESWL-23 Project wide (see the discussion on potential compensatory mitigation located within the following section).

The acreage of impact to suitable habitat by line segment and alternative, based on the preliminary assessment, is listed in Table D.11-5 (Appendix D) and discussed in Section 3.11.2.3. In addition, the acres of impact to Agency-designated greater sage-grouse habitats are listed in Table D.11-14 (in Appendix D). An HEA analysis is currently being conducted, which would assess the habitat services lost by these impacts (see Section 3.11.1.4).

#### *Operations-related Impacts*

Table D.11-7 in Appendix D lists the permanent operations impacts, based on the preliminary assessment, that would occur to greater sage-grouse habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3. Due to a lack of available data on the extent and magnitude of indirect impacts that could occur to greater sage-grouse from transmission lines (e.g., the presence of tall structures; UTNR 2010), indirect impacts are assessed in a qualitative manner within this EIS.

Indirect effects to the greater sage-grouse from the Project operations include increased disturbance and poaching along the ROW due to an increase in human activity and access created by the new roads; displacement of greater sage-grouse by species that may benefit from the installation of the powerline; an increase in predation by raptors and ravens (due to an increase in potential perch sites); alteration to habitat due to changes in fire regimes or weed presence/extent; and a potential avoidance of tall transmission structures that could result in an increase in habitat loss and fragmentation (the effects of altered fire regimes and weed presence/extent are discussed in detail within the black-footed ferret section as “impacts that would occur to all species addressed”). Potential direct impacts from Project operations include the effects of the electromagnetic field on sage-grouse and collisions with Project structures.

As was described for the black-footed ferret, the presence of the transmission line could increase both the predation rate and the level of predatory harassment experienced by the greater sage-grouse by increasing or consolidating populations of raptors and ravens along the Project’s route. This effect would be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. The distance that these effects could extend from the transmission lines (if they are used as roosting habitat by predatory avian species) depends on the hunting range of the predatory avian species. For example, non-breeding pairs of ravens have been documented to travel an average of 4.3 miles (6.9 kilometers) (up to 38.8 miles [62.5 kilometers]) in Idaho from roost sites to food sources and 16.8 miles (27 kilometers) in Michigan (ranging from 0.5 to 91.3 miles [0.8 to 147.0 kilometers]), with breeding pairs

often traveling up to 0.8 mile (1.3 kilometer) while hunting (Boarman and Heinrick 1999). Golden eagle hunting ranges vary by season and location, but are typically very large (e.g., they can be around 161.6 square miles [260 square kilometers]). To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

There is a potential risk of avian collisions with transmission lines or other Project-related structures due to the Project's construction and operations, which could result in elevated mortality rates for some avian species. A variety of factors influence avian transmission line collisions: configuration and location of transmission lines; the tendency of specific species to collide with transmission lines; and environmental factors such as weather, topography, and habitat (APLIC and USFWS 2005). Line placement with respect to other structures and topography can influence the collision rate of avian species at a given transmission line. Collisions usually occur near water or migration corridors, and occur more often during inclement weather. Less agile birds, such as heavy-bodied birds or birds that travel in flocks, are more likely to collide with overhead lines because they lack the ability to quickly negotiate obstacles. The risk of greater sage-grouse collisions with transmission structures is very low, due to this species' flight behaviors, which generally involve short, low flights. However, mortalities of greater sage-grouse resulting from collisions have been reported, including three mortalities in Utah (Borell 1939), two mortalities in Idaho (Beck et al. 2006), and two in California (Gardner 2009 as cited in USFW 2010e). Therefore, some greater sage-grouse mortalities resulting from collisions may occur. The presence of guy wires (thin wires that are sometimes used to support tall structures) can increase the risk of avian collisions. The Proponents have developed Avian Protection Plans (see the Proponents' Web sites), which would be implemented to reduce potential risk of avian mortalities. These plans are in compliance with Avian Power Line Interaction Committee (APLIC) suggested practices (see Section 3.10 – General Wildlife and Fish), and includes measures that would be taken if avian mortalities are discovered, and modification and/or additions to the line that can be done if elevated mortalities of avian species are discovered. In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires to limit the potential risk of collisions for the greater sage-grouse. Furthermore, the Agencies have identified mitigation measure WILD-3 to ensure that any modifications to the line also be in compliance with APLIC standards.

The BLM's Kemmerer FO has identified the following mitigation measure to further reduce the risk of greater sage-grouse collisions with guy wires on lands they manage:

- TESWL-22 No structures that require guy wires would be used in occupied sagebrush obligate habitats within the area managed under the Kemmerer Resource Management Plan.

The risk of greater sage-grouse mortalities occurring as a result of electrocutions is very low. The spacing between phases of the Project's transmission lines is much larger than the wing spans for all avian species. Therefore, electrocution due to the transmission line is not a hazard for the greater sage-grouse. However, the distribution lines that serve the substations could provide an electrocution hazard to the greater

sage-grouse, although this hazard would be minimal due to the limited number of places where new distribution lines would be constructed (at the Creston, Bridger, and Cedar Hill Substations), the short distances that these distribution lines would travel (between 200 to 500 feet), and the fact that these distribution lines would be constructed in accordance with APLIC guidelines (i.e., designed to prevent avian electrocutions).

There are concerns that the greater sage-grouse would avoid areas that contain tall structures, and could be displaced or cease occupying areas near such structures (Braun 2002; Manville 2004; Pitman et al. 2005; Pruett et al. 2008). Many recommendations have been proposed in the current literature as to how to minimize this potential impact. The most commonly cited document (Connelly et al. 2000) recommends that tall structures not be built within 3 kilometers (approximately 1.9 miles) of grouse leks. However, currently there is no anticipation that this avoidance distance will be recommended or required for this proposed Project. Furthermore, as was discussed earlier, leks could not be entirely avoided by this distance due to other Project-related constraints, such as avoiding sensitive resources such as high-altitude mountain habitats that contain species listed under the ESA, or sensitive cultural resources.

Peer reviewed science that demonstrates an avoidance or non-avoidance of tall structures by the greater sage-grouse is either limited, or nonexistent in the current literature. This lack of evidence is related to a lack of peer-reviewed and controlled studies that can differentiate between the impacts related to tall structures and those related to other components of human developments (e.g., noise, human presence), as opposed to a true lack of evidence (UDNR 2010). Although peer reviewed science that demonstrated a clear avoidance of tall structures is lacking for the greater sage-grouse, studies conducted on species that have similar life history traits to the greater sage-grouse (e.g., the lesser and greater prairie-chickens) have shown that use of habitat is reduced when these habitats are located near tall structures (Pitman et al. 2005; Pruett et al. 2008). The possible mechanisms for this reduced use near tall structures could include many factors such as a reduction in shrub cover near disturbances, a potential inherent fear of tall structures by grouse, increased predation rates near these structures, or a reduced recruitment in poor quality habitats due to disturbances resulting in a decline in attendance over time. Pruett et al. (2008) found that lesser and greater prairie-chickens avoided powerlines by at least 330 feet; however, the presence of state highways did not have a statistically significant impact on their distribution and range. Therefore, if the greater sage-grouse has similar responses to disturbances as the lesser and greater prairie-chickens, it is possible that the vegetative clearing for the permanent access roads would not result in habitat fragmentation for sage-grouse species, but that the presence of the transmission structures and line would serve as a form of habitat fragmentation and a barrier to movement. If the response of the greater sage-grouse to transmission lines is similar to those recorded by Pruett et al. (2008) for the lesser and greater prairie-chickens, then edge effects resulting from newly fragmented habitats could extend approximately 330 feet into habitat patches. This would further reduce the available habitat for the greater sage-grouse and possibly isolate subpopulations (see Tables D.10-3 through D.10-5 of Appendix D for the level of fragmentation that would occur due to both the transmission line and the proposed

access roads). However, because the lesser and greater prairie-chickens have different morphology, behavior, seasonal habitat use patterns, and distributions compared to the greater sage-grouse, caution needs to be taken when applying data on the lesser and greater prairie-chickens to the greater sage-grouse (UDNR 2010).

Greater sage-grouse may also avoid areas adjacent to transmission lines due to the presence of an increased electromagnetic field near the line (Balmori and Hallberg 2007, Naugle et al. 2010). Increased electromagnetic fields have been shown to alter the behavior and physiology of avian species (Fernie and Reynolds 2005). Avian species vary in their sensitivity to an altered electromagnetic field; however, current data are lacking regarding its effects on the greater sage-grouse. Section 3.21 – Electrical Environment discusses the strength of the electromagnetic field at varying distances from the Project. The potential impacts of an increased electromagnetic field would be applicable to all avian species addressed within this document; the sensitivity of the various avian species addressed in this document to an increased electromagnetic field is uncertain, with the exception of raptor species, which have been shown to have a low sensitivity to increased electromagnetic fields (Fernie and Reynolds 2005).

Because data regarding avoidance of habitats by the greater sage-grouse due to transmission lines are limited, the Proponents have conducted an independent desktop analysis regarding the longevity of sage-grouse leks adjacent to existing transmission lines in Idaho, to provide additional information regarding this issue (the results of this independent analysis are presented in Appendix C-5). During this desktop analysis, the Proponents were unable to find evidence of lek abandonment or a decrease in lek attendance (within their study area) that can be correlated with distance to existing transmission lines or the number of years since the transmission line was installed. However, the Proponents' desktop analysis is only one study and has not been peer reviewed; it therefore does not provide enough evidence to definitively say that lek abandonment or a decrease in lek attendance will not occur due to this Project. The Proponents' desktop analysis is only presented within this EIS to add additional data to the assessment and discussion of potential impacts. However, the results of this independent desktop analysis are similar to those found by Johnson et al. (2010). Johnson et al. (2010) was also unable to find a relationship between lek counts and the distance between leks and powerlines, but they were able to find evidence of declining lek use at distances up to 18 kilometers (11 miles) from highways and communication towers.

Compensatory mitigation for impacts to greater sage-grouse and their habitats will likely be necessary due to the current declines in their population rates range-wide, the current concerns regarding their status, the magnitude of potential impacts that the Project could have on their habitats, and the impact that their potential ESA listing could have on the economic stability of Wyoming's oil and gas industry. The Proponents have proposed compensatory mitigation for impacts to greater sage-grouse habitat (see Appendix C-5); however, this mitigation plan has been rejected by the federal and state agencies. The agencies have stated that compensatory mitigation cannot be developed until a quantitative assessment of potential impacts has been finalized, because the magnitude of direct and indirect impacts needs to be disclosed for the agencies to determine the level and type of mitigation that would be required. Below is a list of

some of the compensatory mitigation measures that may be considered by the Proponents and the agencies, once a comprehensive quantitative assessment of the Project related impacts that cannot be avoided or minimized is determined (e.g., after the HEA analysis is conducted and a quantitative assessment of the habitat services lost is complete):

- Establishing Conservation Easements;
- Conduct off-site habitat restoration (e.g., sagebrush plantings, conifer removal, forb and grass plantings to increase diversity; or removal of invasive plants);
- Marking existing fences with flight diverters or removal of existing fences;
- Investing in grazing management plans to benefit sage-brush establishment (i.e., compensating landowners for developing grazing management plans that provide greater benefits to sage grouse);
- Reinitiate habitat restoration in areas where other projects/land-managers restoration efforts have failed;
- Burying existing distribution lines that are owned by private landowners (i.e., non-power company lines, such as those that deliver power to private land owners water tanks);

This is not a comprehensive list of the mitigation measures that could be considered. The Proponents and agencies will continue to work together in order to develop measures to mitigate potential impacts that could occur to greater sage-grouse once minimization and avoidance measures have been implemented. Once the HEA has been finalized, a quantitative assessment of the habitat services lost as a result from the Project's construction and operations will be available. Compensatory mitigation will be developed, in coordination with the Proponents and the regulatory agencies, based in part on this assessment. The results of the DDC (which would be available for the Final EIS) would also contribute to the development of the final compensatory mitigation plan by identifying opportunities to minimize the density of disturbances within Core/Key areas.

Based on guidance found in the BLM's Framework for Sage-Grouse Impacts Analysis for Interstate Transmission Lines (BLM 2011a), the final compensatory mitigation plan will need to address the direct loss of birds (equivalent to "take" for an ESA listed species). To accomplish this, it is expected that the Proponents will work closely with the USFWS and state agencies to develop an approach to address loss of birds from Project-related impacts as well as replacement of any lost birds.

### *Conclusion*

Given the extent of the direct and indirect impact on greater sage-grouse and their habitat, as well as the lack of a compensatory mitigation plan that is currently acceptable to both the Proponents and the state and federal agencies, the Project's construction and operations may impact individuals or habitat, and is likely to contribute to a trend toward federal listing or loss of viability for the greater sage-grouse (R4 language). For the same reasons, the Project may adversely impact individuals and is likely to result in a loss of viability in the Planning Area, or cause a trend towards federal listing (R2 language). This threat determination would be revisited once the

compensatory mitigation plan has been developed. It is assumed that the final plan would result in a determination of “not likely to contribute to a trend toward federal listing or loss of viability for the greater sage-grouse.” The final compensatory mitigation plan would be included as part of the Final EIS.

### Grizzly Bear (*Threatened; Forest Service Sensitive*)

#### *Construction-related Impacts*

The Proposed Route would impact a total of about 2,561 acres of land within the range of the Yellowstone DPS; however, no lands would be impacted within the grizzly bear PCA or within areas identified by the USFWS as suitable grizzly bear habitats. The majority of impacts that would occur within the DPS boundary would occur adjacent to Highway 80, Highway 30, and the town of Kemmerer. As was discussed for the gray wolf, due to the limited habitat requirements of the grizzly bear, direct impacts to lands resulting from the Project’s construction would not have a measurable effect on this species. However, if bears are present during construction, then construction activities could result in avoidance of the area and/or displacement of bears into adjacent areas. In addition, whitebark pine (an important food source for the grizzly bear) occurs in the upper treeline areas along the Segment 4 Proposed Route and Route Alternatives (within the Kemmerer FO), though the full extent of the stands has not yet been mapped (Means 2010a; Guyon 2009). The extent of these stands and the potential impacts that could occur is currently unknown (see Section 3.7 – Special Status Plants); however, the BLM is currently conducting a whitebark pine and limber pine mapping effort and more detailed information will be incorporated into the Final EIS as it becomes available. In addition, more information regarding the location of whitebark pine in relation to the Project area would be determined during preconstruction surveys and timber cruises. The Agencies have proposed measures to mitigate the potential impacts to whitebark pine (TESPL-1 and TESPL-6). Impacts to whitebark pine stands and individual trees would be avoided to the extent practical, which would limit the impact to potential bear habitat and food sources.

#### *Operations-related Impacts*

The transmission line and its associated structures would not likely serve as a barrier or hazard to the grizzly bear; and the operations of the Project are not likely to have a measurable adverse impact to the grizzly bear.

#### *Conclusion*

If grizzly bears are present near the Project, then they may avoid areas where construction occurs, which could result in displacement of bears to adjacent habitats. The Project would impact habitats that could be utilized by grizzly bears; however, the Project would avoid impacts to whitebark pine to the extent practical (see mitigation measures TESPL-1 and TESPL-6). Therefore, the Project’s construction and operations may affect, but are not likely to adversely affect, the grizzly bear.

Idaho Ground Squirrel (Northern – Threatened / Southern – Candidate)

*Construction and Operations-related Impacts*

No habitat for the northern or southern Idaho ground squirrel exists within the Analysis Area; therefore, Project construction and operations would have no effect on either of these ground squirrel species.

*Conclusion*

The Project would have no effect on the Idaho ground squirrel, as no habitat for the northern or southern Idaho ground squirrel exists within the Analysis Area

Mountain Plover (ESA Proposed; Forest Service Sensitive; BLM Sensitive)

*Construction-related Impacts*

The potential effects of Project construction on the mountain plover include direct mortality, disturbance, and loss or modification of habitat. In addition, construction-related noise and dust disturbance would also occur, which could potentially make habitat temporarily unsuitable for this species. The mountain plover is a ground nester and is therefore highly sensitive to ground-clearing activities that would occur during Project construction. To limit the potential impacts that could occur to the mountain plover, the Proponents have proposed the following EPMs:

- PAC-19 Preconstruction protocol level surveys (USFWS 2002b) will be conducted during the appropriate seasonal timeframe prior to construction in suitable habitat, to identify active nests within 0.25 mile of the ROW. If no nests are found, construction can commence. The Proponents will provide survey results to the appropriate land-management agency.
- PAC-20 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.
- PAC-21 If no active nests are discovered during the preconstruction surveys (USFWS 2002b), construction will be permitted for the remainder of the nesting season without further monitoring.

Given the EPMs recommended by the Proponents, the likelihood of direct mortality or nest abandonment is negligible. However, some loss of mountain plover habitat would still occur during Project construction. The Agencies have identified mitigation measure WILD-10, which would require that all vegetation clearing be conducted prior to the onset of the avian breeding season, to limit the potential impact of clearing on nesting birds. The acreage of impact to suitable habitat by line segment and alternative is listed in Table D.11-5 of Appendix D and discussed in Section 3.11.2.3.

Some of the EPMs proposed by the Proponents include suggested modifications to federal land-management agencies construction timing/seasonal restrictions. (State agencies may develop additional restriction on state and private lands; see Appendix I.) However, these agencies have established procedures for granting exceptions to their stipulations and restrictions, based on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies

seasonal constraint; the agencies require that all established exception processes be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-12 for any exceptions to seasonal constraints that are approved during the established exception process. In the event an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine mountain plover activity, and to ensure that all construction activities cease in active areas. Adherence to the agency seasonal timing restrictions would reduce the impacts that the Project's construction could have on the mountain plover.

- TESWL-12 Requests for exceptions from mountain plover closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

#### *Operations-related Impacts*

Table D.11-7 of Appendix D lists the permanent operations impacts that would occur to this species. The impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

There is a potential risk of avian collisions with transmission lines or other Project-related structures due to the Project construction and operations, which could result in elevated mortality rates for some avian species (as was discussed for the greater sage-grouse). The mountain plover's potential to collide with transmission lines is uncertain; however, it is a ground nester that hunts ground-dwelling invertebrates, indicating that it is unlikely to collide with transmission lines except possibly during migration (when generally flying at heights higher than would be expected during breeding or hunting). The Proponents have developed Avian Protection Plans (see the Proponents' Web sites), which would be implemented to reduce potential risk of avian mortalities. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish); they include measures to be taken if avian mortalities are discovered, and modification and/or additions to the line that can be done if elevated mortalities of avian species are discovered. While the transmission line and its structures could pose some collision risk, they would not serve as a barrier to this species' movement. In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires to limit the potential risk of collisions for the mountain plover.

As was described for the black-footed ferret, the presence of the transmission line could increase both the predation rate and the level of predatory harassment experienced by the mountain plover, by increasing or consolidating populations of raptors and ravens along the Project's route. This could result in an increase in mortality and a reduction of use near the Project. This effect would be greatest in open habitat types where other tall structures, including distribution and transmission lines, do not currently exist. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

### *Conclusion*

The Project would impact mountain plover habitat and could result in increased predation pressures; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operations may impact individuals or habitat, but are not likely to contribute to a trend toward federal listing or cause a loss of viability for the mountain plover (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language). If this proposed species becomes listed prior to the completion of the Project, the provisional threat call would be "may affect, not likely to adversely affect."

### Northern Leopard Frog (ESA Proposed; Forest Service Sensitive; BLM Sensitive)

#### *Construction-related Impacts*

The potential effects of Project construction on the northern leopard frog are similar to those discussed for other riparian-/wetland-dependent species (such as the Columbia spotted frog), and include modifications or impacts to habitat (including alterations to the microclimates of these areas) and direct mortality. To date, the Proponents have not proposed species-specific protection measures for this species; however, the Agencies have developed mitigation measures to protect all aquatic- and riparian-dependent species (discussed in more detail below).

The acreage of impact to suitable habitat, by line segment and alternative for the northern leopard frog is listed within Table D.11-5 of Appendix D and discussed in detail in Section 3.11.2.3. All areas disturbed during construction (with the exception of areas used as permanent access roads, substation footprints, and pole structure bases) would be revegetated following construction in accordance with the Framework Reclamation Plan. However, as was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, TESWL-1, FISH-4, and WQA-1 through WAQ-4 to reduce impacts to riparian/wetland habitats, and have recommended that they be applied Project-wide.

The Medicine Bow Forest Plan requires that "no loss or degradation of known or historical habitat for the boreal toad, wood frog, or northern leopard frog" be allowed. However, the portion of the Project that would cross the Medicine Bow-Routt NFs would impact about 1 acre of mapped northern leopard frog habitat (impacted along Segments 1E and 1W[a]). Therefore, for this NF to grant a ROW permit, the Project would either need to be altered so that it is in compliance with the Forest Plan regarding the boreal toad, wood frog, and northern leopard frog, or the Forest Plan would need to be amended (see Appendix F).

#### *Operations-related Impacts*

Operations impacts to the northern leopard frog are similar to those discussed for other wetland- and riparian-dependent species. Permanent habitat loss would primarily be

associated with access roads, transmission pole structures, and substations. For the most part, these would be located outside of wetland and riparian zones. Table D.11-7 of Appendix D lists the operations impacts that would occur to habitat for this species. The impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The transmission line and its associated structures would not serve as a barrier or hazard to this species; as long as the EPMs and mitigation measures identified above are implemented so that riparian and wetland microclimates are not altered in such a way as to prevent the movement of this species. However, any roads that are constructed within riparian habitats could result in a barrier to movement and could fragment habitat. (See Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads.)

### *Conclusion*

The Project would span riparian and wetland areas to the extent practical. Where such areas cannot be avoided, EPM and mitigation measures would be applied to limit potential impacts to riparian- and wetland-dependent species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language). If this proposed species becomes listed prior to the completion of the Project, the provisional threat call would be “may affect, not likely to adversely affect.”

### Piping Plover (*Threatened*), Interior Least Tern (*Endangered*), and Whooping Crane (*Endangered*)

#### *Construction and Operations-related Impacts*

The piping plover, least tern, and whooping crane are located well downstream of any Project-related activity. Project-related actions that may affect local conditions (e.g., change in riparian habitat, sediment, accidental toxicant spills) would have no effect on these downstream habitats because the system where these species reside would be unchanged from local conditions. However, the Project would use water for dust control at about 14,700 to 23,000 gallons per day during construction (see Section 3.16 – Water Resources). While no direct effects to these listed bird species would result from Project-related actions, the tiered BO of the USFWS on the Platte River system indicates that any depletion from this system would result in a “may affect, likely to adversely affect” determination for these species, and a “may affect, not likely to adversely modify critical habitat” determination for the ESA-designated critical habitat (see discussion of the PRRIP in Section 3.11.1.3). The Proponents intend to draw this water from existing developed industrial water rights (i.e., purchasing existing water rights and only drawing water in accordance with these existing water rights); therefore, if the entirety of this water use was diverted from existing rights, with no water depletion, then the Project would have no effect on the aforementioned species. However, at this time it is uncertain if the Proponents would be able to purchase enough existing water rights to cover the Project’s needs, and as such, all of the water withdrawal may not come from existing rights. Therefore the Project would result in a “may affect, likely to adversely affect” determination for the piping plover, least tern, and whooping crane and

a “may affect, not likely to adversely modify critical habitat” determination for whooping crane designated critical habitat.

*Conclusion*

As it is possible that the Project would not be able to purchase enough existing water rights to cover the extent of estimated water withdrawals from the Platte River system, the Project may affect and is likely to adversely affect the piping plover, least tern, and whooping crane, and may affect, not likely to adversely modify critical habitat for whooping crane designated critical habitat.

Wyoming Toad (*Endangered*)

*Construction and Operations-related Impacts*

No habitat for the Wyoming toad exists within the Analysis Area and the Project does not cross any historical or current distributions; therefore, construction and operations would have no effect on this listed species.

*Conclusion*

The Project would have no effect on the Wyoming toad, because habitat for this species does not exist within the Analysis Area.

Yellow-Billed Cuckoo (*Candidate; Forest Service Sensitive*)

*Construction-related Impacts*

The potential effects of Project construction on the yellow-billed cuckoo include loss or modification of habitat, disturbance due to construction activities, and direct mortality. The Proponents have not proposed species-specific EPMs for the yellow-billed cuckoo; however, the Agencies have developed mitigation measures to protect all aquatic- and riparian-dependent species (discussed in more detail below)

Habitat for the yellow-billed cuckoo consists of riparian zones that contain mature or late-successional cottonwood stands with dense understories of willow and dogwood. Suitable habitat for the yellow-billed cuckoo has been mapped within the Analysis Area (see Section 3.11.1.4). Habitats suitable for the yellow-billed cuckoo are not abundant within the Analysis Area as much of the remaining cottonwood riparian zones are too narrow in width to support the yellow-billed cuckoo. The acreage of impact to suitable habitat by line segment and alternative is listed in Table D.11-5 (Appendix D) and discussed in Section 3.11.2.3. As was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies recommend the implementation of additional mitigation measures, which are discussed below.

As was discussed for the Columbia spotted frog, there is a very low possibility that the transmission line structures would be placed in riparian habitat; however, the Proponents may propose one or more access roads that cross riparian habitat. To the extent feasible, such crossings should be avoided. If unavoidable, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, TESWL-1 to reduce impacts to riparian habitats, and recommends that they be applied Project-wide.

Impacts to nesting birds would be minimized through implementation of mitigation measure WILD-10, while impacts to snag habitats would be minimized through the implementation of mitigation measure WILD-11. In addition, the following mitigation measure is required to comply with the ESA and would be applied Project-wide, regardless of land ownership:

- TESWL-13 A preconstruction survey for the yellow-billed cuckoo must be conducted at any proposed crossing of suitable habitat. If birds are detected within 1 mile of the centerline (within existing habitat), construction must not occur until the young have fledged or the nest is abandoned. The crossing-specific plan must contain proposed monitoring measures to ensure compliance with this measure.

#### *Operations-related Impacts*

As stated earlier, permanent habitat loss would be associated with access roads and tower bases; however, these facilities/structures would be located outside of riparian/wetland areas whenever possible. Any roads that are constructed within riparian habitats could fragment riparian habitat, resulting in further loss of suitable habitat due to edge effects (see Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads and Section 3.10.2.2 for a general discussion of habitat fragmentation). Table D.11-7 in Appendix D lists the permanent operations impacts that would occur to this species; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

Additional impacts resulting from the Project's operations would include the potential for collisions with transmission lines or structures (as was discussed for the greater sage-grouse). A variety of factors influences avian transmission line collisions: configuration and location of transmission lines; the tendency of specific species to collide with transmission lines; and environmental factors such as weather, topography, and habitat (APLIC and USFWS 2005). Line placement with respect to other structures and topography can influence the collision rate of avian species at a given transmission line. Collisions usually occur near water or migration corridors, and occur more often during inclement weather. Less agile birds, such as heavy-bodied birds or birds that travel in flocks, are more likely to collide with overhead lines as they lack the ability to quickly negotiate obstacles. The yellow-billed cuckoo's tendency to collide with transmission structures is uncertain; however, it is likely limited due to their preference for dense riparian habitats, which indicates that they are adapted to negotiating around obstacles while in flight, and would not typically fly into open areas where conductors or transmission towers would be located. To reduce the risk of collision with conductors that cross riparian areas, the Proponents have proposed the option of installing flight diverters in specific locations (see the Avian Protection Plans on the Proponents' Web sites). The types of flight diverters that are currently under consideration within the Proponents' Avian Protection Plans include a bird flight diverter type that consists of a rubber coil wrapped around the wires and held in place by the Heliformed rod gripping section; a target type (Cat. ID 41701) that consist of a hanging orange target that is attached to the conductor (up to 2.5 inches diameter) by means of a jaw clamp; and a FireFly (Cat. ID 46619) that consist of a hanging fluorescent 3-in-1 color flapper that glows in the dark. The FireFly flight diverter is attached to the conductor (up to 2.5

inches diameter) by means of a jaw clamp. To further reduce the potential for yellow-billed cuckoo collision with conductors, the Agencies have identified mitigation measure WILD-8, which specifies which river crossings would require bird flight diverters (see Table 3.10-3 for a list of the areas requiring flight diverters). In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires. Although the transmission line and its structures would cause some risk of collisions, they would not serve as a barrier to movement for the yellow-billed cuckoo.

### *Conclusion*

The Project would span riparian and wetland areas to the extent practical. Where such areas cannot be avoided, EPMs and mitigation measures would be applied to limit potential impacts to riparian and wetland dependent species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operations may impact individuals or habitat, but are not likely to contribute to a trend toward federal listing or cause a loss of viability for the yellow-billed cuckoo (R4 language). For the same reasons, the Project may adversely impact individuals but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### ***Federal ESA Invertebrate Species***

There are five federally listed and one recently delisted aquatic invertebrate species found within the Analysis Area that could be affected by the Project's construction and operations: the Utah valvata snail (Endangered); Bliss Rapids snail (Threatened); Jackson Lake springsnail (delisted); Banbury Springs limpet (Endangered); Snake River physa snail (Endangered); and Bruneau hot springsnail (Endangered). However, the transmission line would span the recovery area of only four of these six species (Bliss Rapids snail, Jackson Lake springsnail, Snake River physa snail, and Utah valvata snail), and no roads are currently proposed across these areas.

### *Construction-related Impacts*

The potential effects of Project construction on these aquatic invertebrates would be similar to those discussed for the Columbia spotted frog, and could include impacts or modification of habitat as well as direct mortality. However, direct impacts to these species are unlikely because no road crossings are currently proposed through ESA-listed aquatic invertebrate habitats, and the transmission line itself would only span habitats for the Bliss Rapids snail, Jackson Lake springsnail, Snake River physa snail, and Utah valvata snail. Transmission poles would not likely be constructed within river or spring habitats, as avoiding placing poles within these areas is a standard engineering practice. In addition, no river crossing by roads are proposed directly upstream of these habitats during wet conditions; therefore, there are no Project-related upstream actions that would impact habitats for these listed aquatic invertebrates. However, the spanning of these river habitats by the transmission line could result in some loss of forested riparian vegetation due to the ROW clearing (see Section 3.6 – Vegetation Communities), which could result in a potential increase in temperatures and soil erosion in forested habitats. The transmission line could span these species habitats along three segments of the Snake River: at RM 541.5, RM 573.5, and RM 624.0. However, the spanning at RM 573.5 (an area that supports the Bliss Rapids

snail, Snake River physa snail, and Utah valvata snail) is the only one that would occur within forested habitats, while the other two would occur along shrublands or agricultural areas, where tree heights and vegetative cover would not be impacted. The ROW maintenance that would occur along the spanning of RM 573.5 would remove trees from the ROW, which could have localized impacts to stream temperatures (erosion would be controlled per measures discussed in the following paragraphs). Because stream temperature is constantly striving to gain equilibrium with air temperature, influences of direct solar radiance can be substantial, and the removal of forested vegetation can increase the amount of solar radiation that reaches a stream's surface. However, even though gaps in canopy cover can result in an immediate increase in stream temperature, stream temperatures do not continue to increase at an accelerated rate as canopy cover resumes downstream (Danehy 2005). Vegetation removal associated with the transmission line's crossings in forested settings is expected to be minimal and localized, with no substantial contribution to increasing stream temperatures in downstream portions of the recovery area.

To date, the Proponents have not proposed species-specific EPMs for these aquatic invertebrates, but have proposed measures to restore shrub and herbaceous vegetation, and reduce erosion. As was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies recommend the implementation of additional mitigation measures, which are discussed below.

Sedimentation to waterbodies adjacent to construction areas would be controlled through implementation of the Proponents' SPCC Plan (Appendix C-1, Attachment C); as would the prevention of accidental spills of toxic materials into waterbodies by requiring that toxic materials such as oil and fuel be kept at varying distances, required by the various land-management agencies, away from waterbodies and wetlands. Mitigation measures VEG-6, and WET-1 through WET-4 (as identified by the Agencies) would reduce impacts to riparian habitats due to loss of vegetation. If impacts are unavoidable, the Agencies have identified TESWL-1 to further reduce potential impact to wetland- and riparian-dependent species.

Road crossings of rivers and springs would be avoided to the extent practical in all areas, and no road crossings are currently proposed for ESA-listed aquatic invertebrate species habitats. However, if on-site construction conditions change and a road crossing is needed across these habitats, crossings could result in direct mortality due to crushing of snails by construction equipment, and would result in a short-term increase in sedimentation, which could impact these species through burial of eggs, or mortality of their algae food supplies. These effects would impact species living both at the point where sedimentation increased (at the road crossing) and at points farther downstream, thereby affecting species whose recovery area may not be crossed by the Project (such as the Banbury Springs limpet or the Bruneau hot springs snail). To limit the potential impact of road crossings on aquatic resources, the Agencies have identified mitigation measures WQA-1 through WQA-4, which establish requirements

regarding road crossing designs and implementation. However, as stated earlier, no crossings of these species habitats by roads are currently proposed.

#### *Operations-related Impacts*

Permanent loss of habitat during Project operations would be minimal due to the limited scope of initial impact and the restoration efforts aimed at restoring and revegetating riparian/wetland habitats following construction. Permanent loss of ESA-listed aquatic invertebrate habitat would be associated with the ROW maintenance adjacent to waterbody crossings in forested habitats (along the Snake River RM 573.5), as no road crossing are currently proposed.

Clearing of vegetation and weed control near riparian crossings would be conducted primarily via mechanical methods; however, some herbicides may be used. If herbicides are used inappropriately near waterbodies, they can enter the water column through direct contact, spray drift, or leaching through the soils or groundwater, and can adversely impact aquatic life. To prevent adverse impact to aquatic life resulting from potential herbicide use, the Proponents have proposed the following EPM (which would be applicable to all aquatic species, not just listed invertebrate species):

- OM-22 Only herbicides approved by the land-managing agency as safe to use in aquatic environments and reviewed by the Proponents for effectiveness will be used within 100 feet of sensitive aquatic resources.

Once installed, the transmission line and pole structures would not serve as a barrier or hazard to ESA-listed aquatic invertebrates, as the line and its associated structures would not directly impede their aquatic habitats. Currently, no road crossings or their associated culverts are proposed through these habitats; however, if a road crossing becomes necessary due to design changes, they would not serve as a barrier or hazard as long as the culverts are designed and installed correctly. However, poorly designed culverts could result in fragmentation of habitats and isolation of upstream and downstream populations. Therefore, all culverts (both temporary and permanent) would be designed and installed to ensure the continued free flow of water, as well as to allow both the upstream and downstream movement of aquatic organisms (the number of culverts that would be installed per segment is shown in Table D.16-1 of Appendix D). The Proponents would conduct construction and decommissioning of culverts under a Construction General Permit required for stormwater operations, which includes the development of BMPs to protect surface water from stormwater runoff. BMPs would also be employed to minimize sedimentation to waterbodies due to construction activities. All culverts that are not necessary for operation of the Project would be removed in accordance with the Proponents' Traffic and Transportation Plan (TR-19, see Appendix C-1, Attachment A). In addition, culverts would be inspected regularly (permanent culverts inspected annually during operation) to make sure that they are not plugged and are functioning properly. The Proponents' responsibility for inspecting culverts, as well as conducting all necessary repairs, would continue as long as the culverts are present within the watershed (this would continue for the life of the Project for permanent culverts). The BLM and Forest Service have specific requirements regarding culvert design and installation on lands they manage. The Proponents would consult with the Forest Service and BLM prior to construction, regarding design, layout,

and decommissioning requirements for each temporary and permanent culvert that would be located on federal lands. All culverts located on federal lands would be constructed in accordance with the applicable federal agency's management plan standards. In all other areas where more restrictive regulations are not in place, the culvert specifications outlined in Appendix B would be used. To further reduce the risk to aquatic organisms created by the use of culverts, the Agencies have identified mitigation measures FISH-1, FISH-2, WQA-2, WQA-3, and WQA-4 to ensure culverts are designed and installed properly, and have recommended that they be applied Project-wide. Again, no road crossings or culverts are currently proposed through ESA-listed aquatic invertebrate habitats; however, these BMPs, mitigation measures, and construction design requirements would ensure that culverts would not impede the movement of, or fragment aquatic habitats for, these listed aquatic invertebrates or other aquatic organisms, if road crossing layouts are changed in the future<sup>9</sup>.

### *Conclusion*

No road crossings are proposed within habitats that support listed aquatic invertebrate species; however, ROW maintenance in forested riparian habitats would be conducted along a portion of the Snake River that supports the Bliss Rapids snail, Snake River physa snail, and Utah valvata snail (RM 573.5). EPMs and mitigation measures would be applied to limit potential impacts to riparian- and wetland-dependent species. Based on impacts related to ROW maintenance and the implementation of EPMs and mitigation measures, the Project may affect, but is not likely to adversely affect, these listed aquatic invertebrate species.

### ***Federal ESA Fisheries Species***

#### Colorado River Drainage Fish Species (*Endangered*)

##### *Construction- and Operations-related Impacts*

The Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub are all located in the Colorado River system, but well downstream of any Project-related activities. Project-related impacts that may affect local conditions (e.g., change in riparian habitat, sediment, accidental toxicant spills) would have no effect on these downstream habitats because the system where these species reside would be unchanged from local conditions. However, under the Upper Colorado Endangered Fish Recovery Program, any amount of water removed from the Colorado River system is considered to be a depletion of water. The Project would use water for dust control and concrete with an estimated total of 102.5 million gallons (314.6 acre-feet) for both substation and transmission line construction (see Section 3.16 – Water Resources). While no direct or adverse effects to any of these listed fish species would result from Project-related actions, the tiered BO of the USFWS on the Colorado River system indicates that any depletion from this system greater than 0.1 acre-feet/year would result in a “may affect, likely to adversely affect” determination for the aforementioned species. The Proponents intend to draw this water from existing developed industrial water rights (i.e., purchasing existing water rights and only draw water in accordance with these existing water rights); therefore, if the entirety of this water use was diverted

---

<sup>9</sup> If road crossing locations are changed so that ESA-listed aquatic invertebrate habitats are impacted, consultation with the USFWS would need to be re-initiated (see discussion in the BA).

from existing rights, with no water depletion, then the Project would have no effect on the aforementioned species. However, at this time it is uncertain if the Proponents would be able to purchase enough existing water rights to cover the Project's needs, and as such, all of the water withdrawal may not come from existing rights. Therefore, the Project would result in a "may affect, likely to adversely affect" determination for these species.

The following mitigation measure is required to comply with the USFWS tiered BO on the Colorado River water withdrawals, and would be applied Project-wide regardless of land ownership. The Proponents have adopted this mitigation measure and have indicated that they will incorporate it into their EPMs and work plan.

TESWL-17 A payment of a one-time fee, based on a fee schedule provided by the USFWS, shall be made based on the amount of water used during construction of any segments that cross the Colorado River system.

### *Conclusion*

Because it is possible that the Project would not be able to purchase enough existing water rights to cover the extent of estimated water withdrawals from the Colorado River system, the Project may affect and is likely to adversely affect the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub.

### Platte River Drainage Fish Species (*Endangered*)

#### *Construction- and Operations-related Impacts*

The pallid sturgeon is located in the Platte River drainage, but well downstream of any Project-related activities. As was discussed for the Colorado River drainage species, Project-related impacts that may affect local conditions (e.g., change in riparian habitat, sediment, accidental toxicant spills) would have no effect on these downstream habitats because the system where these species reside would be unchanged from local conditions. However, under the PRRIP, water removed from the Platte River system is considered to be a depletion of water and can be considered to have an effect on this species. The Project would use water for dust control and concrete with an estimated total of 102.5 million gallons (314.6 acre-feet) for both substation and transmission line construction (see Section 3.16 – Water Resources). While no direct or adverse effects to this listed fish species would result from Project-related actions, the tiered BO of the USFWS on the Platte River system indicates that any depletion from this systems greater than 0.1 acre-feet/year would result in a "may affect, likely to adversely affect" determination for this species. As was discussed for the Colorado fish species, the Proponents intend to draw this water from existing developed industrial water rights (i.e., purchasing existing water rights and only draw water in accordance with these existing water rights); therefore, if the entirety of this water use was diverted from existing rights, with no water depletion, then the Project would have no effect on this species. However, at this time it is uncertain if the Proponents would be able to purchase enough existing water rights to cover the Project's needs, and as such, all of the water withdrawal may not come from existing rights. Therefore, the Project would result in a "may affect, likely to adversely affect" determination for the pallid sturgeon.

### *Conclusion*

As it is possible that the Project would not be able to purchase enough existing water rights to cover the extent of estimated water withdrawals from the Platte River system, the Project may affect and is likely to adversely affect the pallid sturgeon.

### **Bull Trout (ESA Critical Habitat)**

#### *Construction- and Operations-related Impacts*

No critical habitat for the bull trout would be crossed by the Proposed Route; however, the transmission line along Alternative 9E (near Node 9n) would span newly proposed bull trout critical habitat. This habitat is located along the Bruneau River, approximately 10 miles south of where this river joins C.J. Strike Reservoir. No road crossings would occur along this critical habitat. In addition, no road crossings would occur directly up or downstream of this spanning of critical habitat. Vegetation adjacent to the area where the transmission line would span this critical habitat has been defined as “Wetland and Riparian” during Project-specific remote sensing, with adjacent areas defined as “Disturbed Sagebrush” (Tetra Tech 2010); therefore, no forested habitat would be impacted and stream temperatures would not be measurably impacted. With the implementation of BMPs outlined in Appendix C, potential impacts from turbidity would be minimal, and short-term.

### *Conclusion*

The Project will not cross critical habitat for the bull trout; however, Alternative 9E would cross a section of newly proposed critical habitat. This crossing would consist of a spanning of the river by the transmission line, with no road crossings proposed. Therefore, the Project would not adversely modify critical habitat for the bull trout.

### **BLM and Forest Service Sensitive Species**

This section addresses potential impacts to BLM and Forest Service sensitive species. As stated earlier, a detailed discussion and individual analysis of potential impacts is limited to five species of mammals and three species of birds. Impacts to the remaining species potentially present within the Analysis Area will be addressed by grouping these species based on their habitat preferences or life history traits, and then discussing the likely impacts to these groups as a whole.

### ***BLM and Forest Service Sensitive Wildlife Species***

#### **Bald Eagle (Forest Service Sensitive; BLM Sensitive)**

#### *Construction-related Impacts*

The potential effects of Project construction on the bald eagle include disturbance, loss or modification of habitat, and direct mortality (as discussed earlier, the Bald and Golden Eagle Protection Act and applicable permits are discussed in Section 3.10 – General Wildlife and Fish).

The acreage of impact to nest and winter habitat by line segment and alternative is listed in Table D.11-6 (Appendix D) and discussed in Section 3.11.2.3. Nesting sites are vulnerable to construction disturbances because the adult eagles may abandon the nest during periods of high human activity, resulting in mortality of eggs or nestlings.

The Proponents have proposed the following EPMs to protect bald eagle nesting sites:

- PRC-1 A pedestrian or aerial survey of known nest locations within a 1-mile buffer of active Project facilities will be conducted no more than 2 weeks prior to construction. The Proponents will provide survey results to the appropriate land-management agency.
- PRC-2 If nesting bald eagles are present, the USFWS will be notified and monitoring will be conducted until the young have fledged or the nest fails, at which point construction can begin.
- PRC-3 If no nesting activity has been initiated by April 1, construction will be permitted for the remainder of the nesting season without further monitoring.

In addition, the Proponents have proposed the following EPM to limit the impact on bald eagle wintering roosts:

- PRC-4 If roosting activity has been initiated, then no construction will be initiated within the prescribed buffer; however, if no roosting activity has been initiated by January 1, then construction will be permitted for the remainder of the roosting season without further monitoring.

Some of the EPMs proposed by the Proponents include suggested modifications to federal land-management agencies construction timing/seasonal restrictions. (State agencies may develop additional restrictions on state and private lands; see Appendix I.) However, these agencies have established procedures for granting exceptions to their stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies seasonal constraint; the agencies require that all established exception processes be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-6 for any exceptions to bald eagle seasonal constraints that are approved during the established exception process. In the event an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine nest activity and locations of eagles, and to ensure that all construction activities cease in areas near these active locations. Adherence to the agency seasonal timing restrictions would reduce the impacts that the Project's construction could have on the bald eagle.

- TESWL-6 Requests for exceptions from bald eagle closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered locations of raptor nests as well as other structures

occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

Impacts to nesting birds would be minimized through implementation of mitigation measure WILD-10, while impacts to snag habitats would be minimized through the implementation of mitigation measure WILD-11.

#### *Operations-related Impacts*

Table D.11-8 in Appendix D lists the permanent operations impacts that would occur to bald eagle habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The Project's operations could result in a potential for collisions with Project structures, resulting in elevated mortality rates (as was discussed for the greater sage-grouse). Bald eagle mortalities associated with collisions are not typically found during postconstruction mortality monitoring conducted at wind farms, indicating that bald eagles are not prone to colliding with objects (from stationary objects such as those created by this Project, or by moving objects such as the turbine blades of a wind farm; Olendorff et al. 1981). However, one bald eagle mortality (resulting from a collision with a turbine blade) was recently discovered, indicating that collisions can occur for this species (Manville 2010). Measures would be taken during the design and construction of the Project to minimize the risk of avian collisions. River crossings listed in the BLM mitigation measure WILD-8 would be marked with bird flight diverters, reducing potential collision hazard (see Table 3.10-3 for a list of the areas requiring flight diverters). In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires. Because of these measures, the transmission line and its structures would not likely serve as a risk or barrier to this species' movement.

Although bald eagles are less likely to collide with powerlines than some other avian species (Olendorff et al. 1981), they are vulnerable to mortality resulting from electrocution by powerlines. Birds are electrocuted when they make contact between two energized conductors or between an energized conductor and any grounded hardware. This is unlikely to occur along the transmission line because the spacing between phases of the Project's transmission lines is much larger than the wing spans for all avian species likely present along the Project; therefore, electrocution due to the transmission line is not a hazard for bald eagles. However, the distribution lines that serve the substations could provide an electrocution hazard to bald eagles, although this hazard would be minimal due to the limited number of places where new distribution lines would be constructed (at the Creston, Anticline, and Cedar Hill Substations), the short distances that these distribution lines would travel (between 200 to 500 feet), and the fact that these distribution lines would be constructed in accordance with APLIC guidelines (i.e., designed to prevent avian electrocutions). In addition, the Proponents have developed Avian Protection Plans (see the Proponents' Web sites), which would be implemented to reduce potential risk of avian electrocution. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish), and include measures to be taken if avian mortalities are discovered, and modification and/or additions to the line that can be made to prevent the use of the line

by avian species. Furthermore, the Agencies have identified mitigation measure WILD-3, to ensure that any modifications to the line are also in compliance with APLIC standards. These measures would reduce the risk of raptor wingspans coming in contact with both lines, or between the lines and conductors, along the distribution lines.

As described in the operations section for the black-footed ferret, the presence of the transmission line and its structures could serve as nesting and perching habitat for raptor species. This could be a beneficial impact to the bald eagle due to the increase in potential perching habitat.

### *Conclusion*

The Project would impact habitats near nests and roosting habitats. However, the Proponent-proposed EPM and agency-required mitigation measures would be implemented to limit the potential impact on this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for the bald eagle (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### Black-Tailed and White-Tailed Prairie Dog (*Forest Service Sensitive; BLM Sensitive*)

#### *Construction-related Impacts*

The potential effects of Project construction on the white- and black-tailed prairie dog include direct mortality, disturbance, and loss or modification of habitat. Prairie dogs and/or their burrows could be crushed by construction equipment and foraging habitat could be impacted during construction. Impacts by segment are found in Table D.11-6 in Appendix D and are discussed in Section 3.11.2.3. Construction-related noise and dust disturbance would also occur during construction, which could potentially make habitat temporarily unsuitable for these prairie dog species. The Proponents have not provided any species-specific EPMs for prairie dogs, although surveys for prairie dog colonies would occur in support of black-footed ferret surveys in non-block-cleared areas. Occupied habitat identified during these surveys would be avoided to the extent practical.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known locations of prairie dog towns/colonies as well as other structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

The Project's operations would result in some permanent loss of prairie dog habitat. Table D.11-8 in Appendix D lists the permanent operations impacts that would occur to prairie dog habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

As was described for the black-footed ferret; once the transmission line is in place, operations impacts to either species of prairie dog would include a possible increase in predation pressure where the Project provides new perching opportunities for raven and

raptor species. This effect would be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. An increase in the numbers of predatory bird species, or a consolidation of their populations along transmission lines, could result in an increase in prairie dog mortalities within these areas, as well as a possible increase in harassment of this prey species. This could result in prairie dogs avoiding or abandoning habitat adjacent to areas along the line, due to the presence of tall structures and the potential consolidation of raptor and raven populations. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

#### *Conclusion*

The Project would impact prairie dog habitat, and could result in increased predation pressures; however, mitigation measures would be applied to limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of mitigation measures, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

#### Burrowing Owl (Forest Service Sensitive; BLM Sensitive)

##### *Construction-related Impacts*

The potential effects of Project construction on the burrowing owl include direct mortality, disturbance, and loss or modification of habitat. In addition, as the burrowing owl is a burrow nester it is highly sensitive to ground-clearing activities. The acreage of impact to suitable habitat by line segment and alternative is listed in Table D.11-6 (Appendix D) and discussed in Section 3.11.2.3. To limit potential mortality and disturbance to the burrowing owl due to ground-clearing activities, the Proponents have proposed the following EPM:

- PRC-5 Within 30 days prior to construction, protocol level surveys (CDOW 2007) will be conducted in suitable or occupied habitat. Active burrows will be mapped electronically and flagged in the field to determine if transmission line features can avoid burrows. If avoidance is not feasible, construction will not begin until August 16. The Proponents will provide survey results to the appropriate land-management agency.

In addition, the Agencies have identified mitigation measure WILD-10, which would require that all vegetation clearing be conducted prior to the onset of the avian breeding season, to limit the potential impact of clearing on nesting birds.

The Proponent-proposed EPM PRC-5 includes suggested modifications to federal land-management agencies construction timing restrictions (State agencies may develop additional restriction on state and private lands; see Appendix I). However, these agencies have established a procedure for granting exceptions to the stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies' seasonal constraint; the agencies require that all established exception processes be followed when requesting an exception. The Agencies have developed mitigation measure TESWL-7 for any exceptions to seasonal constraints that are approved during the established

exception process. In the event an exception is granted, the BLM would require that monitoring is conducted on federally managed lands to determine burrowing owl activity, and to ensure that all construction activities cease in areas near these active locations. Adherence to the agency seasonal timing restrictions would reduce the impacts that the Project's construction could have on the burrowing owl.

- TESWL-7 Requests for exceptions from burrowing owl closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

Because the burrowing owl does not dig its own burrows, and instead utilizes the abandoned burrows of other burrowing species, any impacts to these other burrowing species could impact the burrowing owl. Therefore, any impacts on prairie dogs (a species that creates burrows that the burrowing owl utilizes) could reduce habitat for future burrowing owl re-introductions; however, the Project is not likely to contribute to a trend toward federal listing or loss of viability for either species of prairie dog (see the impact discussion in the black-tailed and white-tailed prairie dog section).

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known locations of burrowing owl burrows as well as other structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

The Project may not be in compliance with a requirement found in the BLM's RMP for the Green River Management Area, regarding raptor nests. The Green River RMP states that:

*Project components, such as permanent and high profile structures, i.e., buildings, storage tanks, powerlines, roads, well pads, etc. are prohibited within an appropriate distance of active raptor nests. The appropriate distance (usually less than 1/2 mile) will be determined on a case-by-case basis and may vary depending upon the species involved, natural topographic barriers, and line-of-sight distances, etc. Placement of facilities, "on" (very low profile) or below ground, and temporary disruptive activities, such as occur with pipeline construction, seismic activity, etc., could be granted exceptions within 1/2 mile of active raptor nests, in certain circumstances.*

Within the Green River Management Area, the Project would cross within 0.5 mile of known burrowing owl burrows. As a result, the Project may not be in compliance with the Green River RMP. If an exception is not granted for this burrow, the Project would either need to be altered so that it is in compliance with the Green River RMP, or the RMP would need to be amended. However, Project-related disturbances to this burrow are not likely because PRC-5 would ensure that construction near this burrow would not occur until August 16; it is therefore possible that an exception would be granted.

### *Operations-related Impacts*

Table D.11-8 in Appendix D lists the permanent operations impacts that would occur to burrowing owl habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

As was described for the black-footed ferret, once the transmission line is in place, operations impacts to the burrowing owl would include a possible increase in predation pressure where the Project provides new perching opportunities for raven and raptor species. This effect would be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. An increase in the number of predatory bird species, or a consolidation of their populations along transmission lines, would result in an increase in owl mortalities within these areas, as well as a possible increase in harassment to this prey species. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

Another potential impact often associated with linear projects is the disruption and isolation of populations; however, the transmission line itself is not expected to serve as a barrier to movement. In addition, the risk of collisions with transmission structures is very low for the burrowing owl due to its flight behaviors, which are limited to short, low flights. However, roads could potentially serve as a barrier, and could fragment populations and habitat. (See Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads, and Section 3.10.2.2 for a general discussion of fragmentation.)

### *Conclusion*

The Project would impact burrowing owl habitat, and could result in increased predation pressures; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### Columbian Sharp-Tailed Grouse (*MIS; Forest Service Sensitive; BLM Sensitive*)

#### *Construction-related Impacts*

The potential effects of Project construction on the Columbian sharp-tailed grouse include direct mortality, disturbance, and loss or modification of habitat. The sharp-tailed grouse broods, rears young, and winters within a short distance of the mating grounds; however, dispersal of females from the leks after mating, and locations of brooding, rearing, and wintering activities relative to the lek location are not well known.

As the Columbian sharp-tailed grouse is a ground nester, it is very sensitive to ground-clearing activities that would occur during Project construction. Therefore, the Proposed Route for the Project was designed to avoid all leks by at least 0.25 mile in accordance the BLM RMP requirements for “no surface occupancy” that were in place at the time of initial Project design in 2008; however, the centerline of Alternatives 7C, 7H, and 7I would come within 0.25 miles of one lek each (see Table D.11-10 in Appendix D). In addition, leks were avoided by 0.6 mile to the extent possible, based on the assumption

made at the time of initial Project design (2008) that the “no surface occupancy” requirement would increase from 0.25 mile to 0.6 mile (as of this date, the BLM “no surface occupancy” restriction has been increased to 0.6 mile). However, the Proposed Route and Route Alternatives could not avoid all leks by this distance (see Tables 3.11-4 and Table D.11-10 in Appendix D), due to the need to avoid other sensitive resources (e.g., sensitive cultural resources that are protected by the various SHPOs, or high altitude mountain habitats that contain species listed under the ESA).

Loss of habitat would occur due to direct removal of vegetation, introduction of noxious weeds, fragmentation, edge effects, and potential from altered fire regimes (see further discussion in Section 3.10.2.2). In addition, construction-related noise and dust disturbance would occur, which could potentially make habitat temporarily unsuitable for the Columbian sharp-tailed grouse. Birds could experience direct mortality if construction equipment drives over nests or birds that are hidden in shrub cover. However, as discussed for the black-footed ferret, the Proponents have developed EPMs in their Plan for Operations, Maintenance, and Emergency Response, as well as their Traffic and Transportation Management Plan (see Appendix C) to limit the potential risk of direct vehicular impacts with wildlife. To limit the potential impact to the Columbian sharp-tailed grouse during Project construction, the Proponents have proposed the following EPMs:

- PAC-1 All previously identified Columbian sharp-tailed grouse leks within 1 mile of the centerline of the Project will be surveyed during the breeding season (March 15 to June 15) prior to construction to determine if the lek is active. If no lek activity is observed by April 15th, no further restrictions apply for that year. Measures PAC-2, -3, and -4 will not apply if lek is not active. The Proponents will provide survey results to the appropriate land-management agency.
- PAC-2 Surface disturbance will be prohibited year-round within 0.25 mile of previously documented leks.
- PAC-3 No surface disturbance from 0.25 mile to 0.65 mile of a known active lek from March 1 to June 30. If no lek activity is observed by April 15th, no further restrictions apply for that year. If lek activity is observed, surface disturbance from 0.25 mile to 0.65 mile may not occur until after June 30.
- PAC-4 Surface disturbance occurring more than 0.65 mile from the lek may occur at any time.
- PAC-5 Notification will be placed in areas frequented by on-site personnel (such as break rooms) to advertise the importance of complying with these restrictions.

As the Proponents have not specified what protocols would be used during pre-construction surveys, the Agencies have identified TESWL-10.

Some of the EPMs proposed by the Proponents include suggested modifications to federal land-management agencies construction timing/seasonal restrictions. (State agencies may develop additional restriction on state and private lands; see Appendix I.)

However, these agencies have established a procedure for granting exceptions to their stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies' seasonal constraint; the agencies require that all established exception processes be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-9 for any exceptions to seasonal constraints that are approved during the established exception process. If an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine lek occupancy, and to ensure that all construction activities cease in areas near active leks. Adherence to the agency seasonal timing restrictions would reduce the impacts that the Project's construction could have on the Columbia sharp-tailed grouse.

TESWL-9 Requests for exceptions from Columbian sharp-tailed grouse closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

The Agencies have identified TESWL-11 to limit the potential impact of the Projects construction of sharp-tailed grouse leks.

TESWL-11 In areas where sharp-tailed grouse leks occur in proximity to greater sage-grouse leks, surface disturbance shall be avoided within 4 miles of occupied or undetermined greater sage-grouse leks from March 1 to July 15. In areas where sharp-tailed grouse leks occur in isolation from greater sage-grouse leks, surface disturbance shall be avoided within 1.2 miles of occupied or undetermined sharp-tailed grouse leks from March 15 to July 15.

The risk of direct mortality would be limited due to the utilization of agency timing restrictions for construction near known breeding grounds (restricting construction to periods outside of the typical breeding season for habitats located within certain distances of leks). However, as some breeding/nesting habitat would still be impacted during the breeding season (in areas far enough from leks that they are not affected by timing restrictions), some direct impacts to birds as well as their breeding habitat could occur. This would result in increased mortality of chicks through both crushing by construction equipment, as well as abandonment by their parents. In addition, flight responses and disturbance would increase the energy costs of both parents and chicks, thereby, adding additional stresses on birds located adjacent to construction activities. However, Project compliance with the agency timing restriction would limit disturbance or displacement of brooding birds as well as impacts to chicks located in breeding habitat around leks, by limiting impacts to only areas outside of agency-designated breeding habitats during the breeding season (thereby reducing the risk of crushing nests or chicks). However, the Agencies have identified mitigation measure WILD-10, which requires that all vegetation clearing be conducted prior to the onset of the avian

breeding season to limit the potential impact of clearing on nesting birds, thereby reducing this risk.

Even with the implementation of the EPMs and mitigation measures listed above, some loss of sharp-tailed grouse habitat would occur during Project construction. The acreage of construction-related impact by line segment and alternative is found in Table D.11-6 in Appendix D and discussed in detail in Section 3.11.2.3. As discussed earlier, all disturbed areas such as the staging areas, fly yards, and the temporary construction areas that are not needed for permanent maintenance would be revegetated following construction in accordance with the Framework Reclamation Plan (see Appendix C-2). However, revegetation in arid landscapes can take many decades to restore to preconstruction conditions, so these impacts would be long-term.

#### *Operations-related Impacts*

Table D.11-8 in Appendix D lists the permanent operations impacts that would occur to Columbian sharp-tailed grouse habitat; the impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The Proponents have proposed the following EPM to reduce impacts of the Project's operation on the Columbian sharp-tailed grouse:

- PAC-6 Operation and maintenance activities will be scheduled to avoid working within 0.65 mile of previously documented leks from March 15 to July 15.

This measure is equivalent to the recommendations made in the *Guidelines for Management of Columbian Sharp-Tailed Grouse Habitats* (Giesen and Connelly 1993).

As was described for the black-footed ferret, the presence of the transmission line could increase both the predation rate and the level of predatory harassment experienced by sharp-tailed grouse by increasing or consolidating populations of raptors and ravens along the Project's route. This could result in an increase in mortality and a reduction of use near the Project. This effect would be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

The potential impact to the Columbian sharp-tailed grouse related to collisions and electrocutions, as well as the measures that would be taken to reduce this risk, would be similar to that discussed above for the greater sage-grouse.

There are concerns that the sharp-tailed grouse might avoid areas with tall structures, and would therefore be displaced or cease occupying areas near the Project. Sharp-tailed grouse have been found to be somewhat tolerant of disturbances and tall structures, and were found to display on traditional lek sites after the construction of structures such as houses (Baydack et al. 1987). However, only limited studies have been conducted on this species, and the results of lek abandonment studies conducted on similar species (lesser and greater prairie-chicken) have demonstrated that use may become reduced near tall structures (Pitman et al. 2005; Pruett et al. 2008). The possible mechanisms for this reduced use near tall structures could include many factors such as a reduction in shrub cover near disturbances, a potential inherent fear of

tall structures by grouse, increased predation rates near these structures, or a reduced recruitment in poor quality habitats due to disturbances. Pruett et al. (2008) found that lesser and greater prairie-chickens avoided transmission powerlines by at least 330 feet; however, the presence of state highways did not have a statistically significant impact on their distribution and range. Therefore, it is possible that the vegetative clearing for the permanent access roads would not result in habitat fragmentation for grouse species, but that the presence of the transmission structures and line would serve as a form of habitat fragmentation and a barrier to movement. If the response of the Columbian sharp-tailed grouse to transmission lines is similar to those recorded by Pruett et al. (2008) for the lesser and greater prairie-chicken, then edge effects resulting from newly fragmented habitats could extend approximately 330 feet into habitat patches. This would further reduce the available habitat for the Columbian sharp-tailed grouse and possibly isolate subpopulations. (See Tables D.10-3 through D.10-5 of Appendix D for the level of fragmentation that would occur due to both the transmission line and the proposed access roads.)

### *Conclusion*

The Project would impact sharp-tailed grouse habitat, and could result in increased predation pressures; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for the sharp-tailed grouse (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### Preble's Meadow Jumping Mouse (*Forest Service Sensitive; BLM Sensitive*)

#### *Construction-related Impacts*

The potential effects of Project construction on the Preble's meadow jumping mouse are similar to those discussed for other riparian-/wetland-dependent species, and include modification or impacts to habitat (including alterations to the microclimates of these areas) and direct mortality. To date, the Proponents have not proposed species-specific protection measures for this species or for riparian habitats; however, the Agencies have developed mitigation measures to protect all aquatic- and riparian-dependent species (discussed in more detail below).

The acreage of impact to suitable habitat, by line segment and alternative is listed within Table D.11-6 of Appendix D and discussed in detail in Section 3.11.2.3. All areas disturbed during construction (with the exception of areas used as permanent access roads, substation footprints, and pole structure bases) would be revegetated following construction in accordance with the Framework Reclamation Plan. However, as was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, and

TESWL-1 to reduce impacts to riparian habitats, and have recommended that they be applied Project-wide.

#### *Operations-related Impacts*

Operations impacts to this species are similar to those discussed for other wetland- and riparian-dependent species. Permanent habitat loss would primarily be associated with access roads, transmission pole structures, and substations. For the most part, these would be located outside of wetland and riparian zones. Table D.11-8 of Appendix D lists the operations impacts that would occur to this species. The impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The transmission line and its associated structures would not serve as a barrier or hazard to the Preble's meadow jumping mouse, as long as the EPMs and mitigation measures identified above are implemented so that riparian and wetland microclimates are not altered in such a way as to prevent the movement of this species. However, any roads that are constructed within riparian habitats could result in a barrier to movement and could fragment habitat. (See Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads.)

#### *Conclusion*

The Project would span riparian and wetland areas to the extent practical. In areas where they cannot be avoided, EPM and mitigation measures would be applied to limit potential impacts to riparian- and wetland-dependent species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

#### Pygmy Rabbit (*Forest Service Sensitive; BLM Sensitive*)

##### *Construction-related Impacts*

The potential effects of Project construction on the pygmy rabbit include direct mortality, disturbance, and loss or modification of habitat. In addition, construction-related noise and dust disturbance would also occur, which could potentially make habitat temporarily unsuitable for the pygmy rabbit. To limit the potential impact to the pygmy rabbit, the Proponents have proposed the following EPMs:

- PMC-4 The year prior to construction, protocol-level surveys (Ulmschneider 2004) would be conducted in suitable habitat (defined by both Project-specific mapping conducted in 2008, and agency habitat mapping) within 300 feet of, and including the ROW. Survey results shall be provided to the appropriate land-management agency. (A distance of 300 feet was chosen because burrow systems have been found to extend to approximately 300 feet [Bradfield 1974].)
- PMC-5 During the protocol-level surveys, any areas of occupied habitat will be mapped with a GPS unit. No surface disturbances of active burrows will occur.
- PMC-6 Where feasible and if needed, the transmission line would be micro-sited to avoid occupied habitat.

- PMC-7 Within 30 days prior to construction, previously occupied habitat would be re-visited to document presence using protocol-level surveys (Ulmschneider 2004). Occupied habitat would be re-mapped electronically and flagged in the field to allow additional micro-siting to avoid the occupied habitat to the extent possible.

Even with the implementation of the mitigation measure and EPMs listed above, some loss of pygmy rabbit habitat would occur during Project construction and possible mortality of individual rabbits or burrow damage could occur if micro-siting were not feasible. The acreage of impact to suitable habitat, by line segment and alternative, is listed within Table D.11-6 of Appendix D, and is discussed in detail in Section 3.11.2.3.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered locations of rabbit burrows as well as other structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

Table D.11-8 of Appendix D lists the permanent operations impacts that would occur to this species. The impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

As was described for the black-footed ferret, the presence of the transmission line could increase both the predation rate and the level of predatory harassment experienced by pygmy rabbits, by increasing or consolidating populations of raptors and ravens along the Project's route. This could result in an increase in mortality and a reduction of use near the Project. This effect could be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

The Project itself would not likely serve as a barrier to movement for this species, but could result in a hazard, due to increase in the predation rate and the level of predatory harassment near the line.

#### *Conclusion*

The Project would impact pygmy rabbit habitat, and could result in increased predation pressures; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for the pygmy rabbit (R4 language).

#### Wyoming Pocket Gopher (*Forest Service Sensitive; BLM Sensitive*)

##### *Construction-related Impacts*

The potential effects of Project construction on the Wyoming pocket gopher include direct mortality, disturbance, and loss or modification of habitat. Quantifying this potential effect is problematic because the distribution of this species and the location of

its habitat are uncertain. The closest known occurrence of a Wyoming pocket gopher near the Analysis Area was from 1976, and was located approximately 0.5 mile north from Segment 3 (WYNDD 2008). The Proponents have proposed the following species-specific EPMs for the Wyoming pocket gopher, to reduce or limit the impact to this species from Project-related activities:

- PMC-8 Protocol level surveys (Keinath and Beauvais 2006) would be conducted within suitable habitat in Segments 2, 3, and 4, in order to determine species presence in areas that could be impacted by Project components. Proponents will provide survey results to the appropriate land-management agency.
- PMC-9 All ground disturbances would be avoided where the Wyoming pocket gopher is documented.

Even with the implementation of the EPMs listed above, some loss of Wyoming pocket gopher habitat could occur during Project construction. The WYNDD has mapped the likely locations of suitable habitat for the Wyoming pocket gopher. Table D.11-6 (Appendix D) lists the construction-related impacts that would occur to this mapped suitable habitat. By implementing EPM PMC-8, additional data regarding the location of this species and its habitat would be gained prior to construction, and EPM PMC-9 would avoid direct disturbance to these areas.

#### *Operations-related Impacts*

Table D.11-8 of Appendix D lists the permanent operations impacts that would occur to this species. The impacts by segment and alternative are discussed in detail in Section 3.11.2.3.

The Proponents have proposed the following EPM to reduce the impacts of Project operation on the Wyoming pocket gopher:

- PMC-10 Previously documented occurrences of the Wyoming pocket gopher would be avoided during operation and maintenance activities.

If the Wyoming pocket gopher is present near the Project, the transmission line and its associated structures are not expected to serve as a barrier to movement or a hazard to this species. However, roads could potentially serve as barriers, and could fragment populations of Wyoming pocket gopher if they bisect populations. (See Table D.10-3 of Appendix D for the level of fragmentation that would occur due to proposed access roads).

#### *Conclusion*

The Project could impact this species if it is present near construction areas; however, EPMs would be applied to determine the location of this species and limit the potential impact of the Project on this species. Based on the potential for impacts and the implementation of EPMs, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### ***BLM and Forest Service Sensitive Fish Species***

*Sensitive Trout Taxa (Redband trout, Westslope Cutthroat Trout, Yellowstone Cutthroat Trout, Colorado River Cutthroat Trout, Bonneville Cutthroat Trout, Fine-Spotted Trout) (Forest Service Sensitive; BLM Sensitive; see Table D.11-2 of Appendix D)*

#### *Construction-related Impacts*

The potential effects of the Project's construction on all trout taxa would be similar, as the life history and habitat requirements are generally similar among these fish. These species generally require clear, cold water for rearing, clean gravel for spawning in the spring, and a diverse habitat structure when present in streams. Therefore they are sensitive to the same general impacts that could result from Project activities. Any differences in impacts would primarily occur due to each species distribution in relation to the Project.

Habitat for the Yellowstone cutthroat trout would be crossed by the Project within the Snake River drainage above Shoshone Falls; in addition, Alternative 7H and 7I would cross through Cassia Creek and Trout Creek, which contains one of the last remaining Yellowstone cutthroat populations in this region. Habitat for the Colorado River cutthroat trout would be crossed along the Green River. Habitat for the Bonneville cutthroat trout would be crossed along the Bear River drainage. Habitat for the redband trout, westslope cutthroat trout, and fine-spotted trout would be crossed along the various rivers and streams found within the Snake River drainage.

The Project's effects that were discussed in Section 3.10 – General Wildlife and Fish would apply to these trout taxa. As discussed earlier, road crossings would result in the greatest impact to aquatic resources; the number of stream crossings by roads is listed in Table D.16-1 of Appendix D. (Note that the potential network of access roads is preliminary at this time and would be revised as engineering is completed; therefore, the exact location of crossings are unknown at this time.) Impacts from road crossings would include increased sediment to streams from areas where roads cross streams (possibly causing local displacement of fish), reduced benthic food organisms, reduced spawning gravel quality, reduced organic input (reducing the availability of potential food supplies), and a future loss of LWD (resulting in reduced stream habitat quality). Along forested areas, a reduction of riparian vegetation and trees may cause a slight localized increase in temperature (immeasurable on most perennial streams) as stream temperature dynamics in forested settings can be strongly regulated by shade. These impacts would be greatest along small, slow-moving waterbodies. Removal of vegetation and direct solar radiance can result in high local temperature increases. As stream temperature is constantly striving to gain equilibrium with air temperature, influences of direct solar radiance can be substantial. However, even though gaps in canopy cover can result in an immediate increase in stream temperature, stream temperatures do not continue to increase at an accelerated rate as canopy cover resumes downstream (Danehy 2005).

Vegetation removal associated with crossings in forested settings is expected to be minimal and localized with no substantial contribution to increasing stream temperatures. However, the majority of the Analysis Area consists of low grassland and shrub environments; therefore, the majority of stream crossings would occur outside of

forested areas. Minimal research has been conducted regarding the effects of riparian vegetation removal on stream temperatures in shrub-steppe ecosystems. Disregarding the influence of groundwater or low-order tributaries, temperatures of streams in shrub-steppe systems can be expected to be generally higher than those of forested systems due to a lack of canopy cover. Furthermore, existing canopy cover likely has a limiting effect on shrub-steppe systems due to its minimal contribution of shade, as shrub canopy cover is typically concentrated only along the edges of a stream (i.e., when the sun is directly overhead it is imparting maximum solar radiance directly onto the middle / deeper portions of the stream). Based on this, riparian vegetation removal in shrub-steppe systems is likely to be insignificant to stream temperature.

To limit the potential impact of road crossings on aquatic resources, the Agencies have identified mitigation measures FISH-1 and FISH-2, as well as WQA-1 through WQA-4, which establish requirements regarding road crossing designs and implementation. They have also developed FISH-4 to prevent the establishment of aquatic invasive species in aquatic habitats. Furthermore, the Agencies have identified FISH-3 to ensure that water withdrawals would not result in direct impacts to fish located adjacent to the withdrawal.

FISH-3 When taking water from TES fish-bearing streams for road and facility construction and maintenance activities, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch), or as determined through coordination with NMFS and/or USFWS.

No species-specific EPMs have been proposed for any fish species. However, for these fish species and the other species listed in the sections below, most of the potential adverse effects would be reduced through the EPMs and the agencies' required mitigation identified in Section 3.6 – Vegetation Communities, Section 3.8 – Invasive Plant Species, Section 3.9 – Wetlands and Riparian Areas, and Section 3.16 – Water Resources, as well as proper coordination with resource agencies on any construction work conducted in and near streams.

#### *Operations-related Impacts*

Culvert installation could impede fish passage if not properly designed and installed. Therefore, all culverts (both temporary and permanent) would be designed and installed to ensure the continued free flow of water, as well as to allow both the upstream and downstream movement of aquatic organisms. (See the discussion on culvert installation requirements found in the ESA aquatic invertebrate species section above.) To further reduce the risk to aquatic organisms created by the use of culverts, the Agencies have identified mitigation measures FISH-1 and FISH-2, as well as WQA-2 through WQA-4 to ensure culverts are designed and installed properly, and have recommended that they be applied Project-wide.

Reduction of habitat quality from loss of LWD, reduced shade, and reduced input of organic matter including insects would continue locally as the ROW would remain cleared in some areas (see Section 3.6 – Vegetation Communities). Road crossings would also remain cleared of vegetation. Roads would continue to contribute sediment to streams, but at a lesser rate than during construction. Clearing of vegetation and weed control near riparian crossings would be conducted primarily via mechanical

methods; however, some herbicides may be used. If herbicides are used inappropriately near waterbodies, they can enter the water column through direct contact, spray drift, or leaching through the soils or groundwater, and can adversely impact aquatic life. To prevent adverse impact to aquatic life resulting from potential herbicide use, the Proponents have proposed EPM OM-22, which would be applicable to all fish and aquatic species, not just sensitive trout species.

With the EPMs and mitigation measures identified above, as well as within Section 3.6 – Vegetation Communities, Section 3.8 – Invasive Plant Species, Section 3.9 – Wetlands and Riparian Areas, and Section 3.16 – Water Resources, the effects to local fish stocks should be minor.

### *Conclusion*

The construction of the Project would reduce instream habitat through road and transmission line construction, and short- and long-term loss of riparian vegetation could reduce habitat quality for sensitive trout. All stream crossings in forested areas would be avoided to the extent practical, and EPM / mitigation measures would be implemented to limit potential impacts to aquatic resources. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for these sensitive trout species (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### Shoshone and Wood River Sculpins (*Forest Service Sensitive; BLM Sensitive*)

#### *Construction-related Impacts*

These two species are found near the same region of south-central Idaho but in slightly differing habitats. The Shoshone sculpin is primarily found in cool water springs (e.g., water temperature of 14°C) along the north side of the Snake River, although they may be present in small streams that lead to the Snake River in this region as well. The Wood River sculpin is found farther north in the Wood River system, typically at higher elevations. Habitat for both of these species could be crossed by the Proposed Route or Route Alternatives, but it is not clear if the Project would actually cross a location where they could be present because of their limited site-specific distribution information, and the fact that the exact location of road crossings are unknown at this time. However, both species are known to prefer cool water, so actions that can increase water temperature (such as ROW clearing and road construction) could be a detriment to their habitat. However, this portion of the transmission line is generally not wooded so reduction of shade trees from construction appears unlikely; therefore, there would be limited effects on temperature. Also, for Shoshone sculpin, their reliance on springs indicates that they rely on stream habitat that is temperature-controlled by groundwater, which is less affected by local cover; therefore, Project-related effects resulting from temperature increases on habitat appear unlikely. Because of limited riparian vegetation to be removed near their habitat in this region, little or no effect on organic stream input would occur.

The sensitivity of these species to turbidity and changes in water quality is uncertain (as this has not been well studied), but their sensitivity and the impact of the Project on these species due to potential water quality issues would likely be similar to those discussed for the sensitive trout taxa. In addition, the mitigation measures discussed for trout species would be applicable for all aquatic organisms.

#### *Operations-related Impacts*

Operations impacts for these two species would be similar to those identified for the sensitive trout taxa.

#### *Conclusion*

The construction of the Project could potentially reduce in-stream habitat quality through road and transmission line construction. All stream crossings in forested areas would be avoided to the extent practical, and EPM / mitigation measures would be implemented to limit potential impacts to aquatic resources. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for these sensitive sculpin species (R4 language).

#### Minnows: Roundtail, Northern Leatherside, Lake and Sturgeon Chubs and Finescale Dace (*Forest Service Sensitive; BLM Sensitive*)

#### *Construction-related Impacts*

These minnows are all generally small, mostly cool-water fish, that are found most often in streams and rivers; they vary in location along the Proposed Route and Route Alternatives by species. The roundtail chub is found only in the Colorado drainage (on the eastern portion of the Project) including the Green River, which is crossed by the Proposed Route and Route Alternatives. The northern leatherside chub is a small fish found in the Bear, Snake, and Colorado River drainages within medium-size streams (including Good Creek and Raft River). The other three species are found in the eastern portion of the route, with the lake chub and sturgeon chub in portions of the North Platte River located in the Analysis Area, and the finescale dace also located in the North Platte River but likely outside of the Analysis Area.

The roundtail chub tends to occur in medium to larger rivers, often in more turbid water. It is not restricted to exclusively cool-water conditions; therefore, effects of loss of riparian habitat on stream temperatures would have no effect on this species. As they are often found in turbid waters, potential short-term increases in turbidity would also have no effect on this species. However, this species is dependent on LWD; therefore, the loss of riparian vegetation located directly adjacent to the stream crossing could have localized impacts to this species. These impacts would be limited by the presence of LWD that would originate from trees located directly upstream of the crossing, but adjacent LWD input would not completely eliminate this impact.

The northern leatherside chub tends to occur in medium-sized rivers that contain low water velocities, intermediate depths, and a low level of turbidity (UDWR 2009). They can tolerate a wide range of temperatures, but are typically associated with streams that contain healthy riparian vegetation and intact streambanks. Therefore, potential

impacts to stream temperatures resulting from vegetation removal would have little or no effect on this species, but the loss of riparian vegetation and the potential short-term increases in turbidity could impact this species. Impacts would be similar to those discussed for trout species.

Sturgeon chub tend to occur in medium to large rivers. They are more common in warm water than the other minnows of concern in the Analysis Area and also differ by preferring turbid water conditions. Thus, modification of riparian conditions or slight additions of turbidity from construction should have no adverse effect to this fish.

Lake chub and finescale dace are more often found in small spring-fed streams in this region. Should the route cross streams where these species are present, effects would be similar to those discussed for trout species, except for loss of riparian cover effects on temperature, which would be less for these species. In addition, their habitat use of spring-fed streams would make changes in temperature from riparian vegetation removal even more unlikely. As noted for trout species, effects would also be inconsequential due to the small area affected per stream crossing.

The mitigation measures discussed for trout species would be applicable for all aquatic organisms.

#### *Operations-related Impacts*

Operations impacts for these two species would be similar to those identified for the sensitive trout taxa.

#### *Conclusion*

The construction of the Project could potentially reduce in-stream habitat quality through road and transmission line construction. Impacts for some species would also include local temperature increase and loss of LWD input. All stream crossings in forested areas would be avoided to the extent practical, and EPM / mitigation measures would be implemented to limit potential impacts to aquatic resources. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for these sensitive minnow species (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

#### Bluehead, Flannelmouth, and Mountain Suckers (*Forest Service Sensitive; BLM Sensitive*)

##### *Construction-related Impacts*

Bluehead and flannelmouth suckers tend to occupy larger streams, although the flannelmouth sucker may be present in smaller streams. Both feed primarily on stream bottoms. The flannelmouth is restricted to the Colorado River basin and may be in some of the larger streams crossed by the Proposed Route and/or Route Alternatives (see Table D.11-2 in Appendix D). The bluehead sucker is found in several drainages including the Colorado and upper Snake Rivers. This species is typically found in turbid or muddy waters. Neither species is restricted to cold-water systems. Unlike trout, sediment runoff is unlikely to have any effect on these species as they are adapted to

larger turbid waters. Loss of riparian habitat may reduce organic input to the stream systems they occupy, but these effects would be slight and unsubstantial. The mountain sucker prefers clear, cool, small- to medium-sized rivers and would be commonly present in the central portion of the route (western Wyoming to eastern Idaho) where these conditions occur. While they prefer cooler conditions, they are moderately tolerant of warmer conditions. Also they are often associated with cover in streams. In many ways construction effects to this sucker species would be similar to those for trout, although effects to spawning would be less, as this species would be less sensitive to changes in stream temperatures. Overall, loss of cover and organic input where riparian vegetation is removed and slight increases in turbidity would have slightly adverse effects in localized areas of their habitat, but overall effects to the species would be inconsequential.

The mitigation measures discussed for trout species would be applicable for all aquatic organisms.

#### *Operations-related Impacts*

Operations impacts for these three species would be similar to those identified for the sensitive trout taxa.

#### *Conclusion*

The construction of the Project and its operation and maintenance would potentially reduce riparian organic input quantity. All stream crossings in forested areas would be avoided to the extent practical, and EPM / mitigation measures would be implemented to limit potential impacts to aquatic resources. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

#### ***BLM and Forest Service Sensitive Species Discussed as Groups***

The remaining BLM and Forest Service sensitive species with the potential to occur within the Analysis Area are discussed here. They have been grouped based on their habitat preferences. To enhance the readability of this section, the scientific names of the species listed in this section will not be presented here, but can be found within Table D.11-2 of Appendix D.

#### **Shrub-Steppe/Mixed Grass Prairie Species**

The BLM or Forest Service sensitive mammalian species that inhabit shrub-steppe / mixed grass prairie habitat types and could potentially occur within the Analysis Area include the American marten, black-tailed prairie dog, dark kangaroo mouse, Idaho pocket gopher, kit fox, Merriam's ground squirrel, pygmy rabbit, Piute ground squirrel, swift fox, white tailed prairie dog, Wyoming ground squirrel, and Wyoming pocket gopher (see Table D.11-2 in Appendix D).

The BLM or Forest Service sensitive avian species that inhabit shrub-steppe / mixed grass prairie habitat types and could potentially occur within the Analysis Area include the Baird's sparrow, black rosy-finch, black throated sparrow, bobolink, Brewer's sparrow, burrowing owl, chestnut-collared longspur, Columbian sharp-tailed grouse, ferruginous hawk, greater sage-grouse, grasshopper sparrow, loggerhead shrike, long-

billed curlew, McCown's longspur, mountain plover, northern harrier, prairie falcon, sage sparrow, sage thrasher, short-eared owl, Swainson's hawk, vesper sparrow, Wilson's warbler, and the yellow-breasted chat (see Table D.11-2 in Appendix D).

The BLM or Forest Service sensitive reptilian species that inhabit shrub-steppe / mixed grass prairie habitat types and could potentially occur within the Analysis Area include the longnose snake, midget faded rattlesnake, Mojave black collared lizard, and the short-horned lizard (see Table D.11-2 in Appendix D).

#### *Construction-related Impacts*

Impacts to these shrub-steppe/mixed grass species would be similar to those discussed for other species that occur in these habitat types (such as the black-footed ferret, prairie dog, and burrowing owl) and would include direct mortality, disturbance, and loss or modification of habitat. Table D.6-2 of Appendix D lists the acres of temporary disturbances to shrub-steppe and grassland habitats that would occur due to Project construction. As discussed earlier, all disturbed areas such as the staging areas, fly yards, and the temporary construction areas that are not needed for permanent maintenance would be revegetated following construction in accordance with the Framework Reclamation Plan (see Appendix C-2). However, revegetation in arid landscapes can take many decades to restore to preconstruction conditions, so these impacts would be long-term.

Construction-related noise and dust disturbance could potentially make currently occupied habitat temporarily unsuitable for these species, and result in abandonment of habitats. If avian species abandon nests due to these construction disturbances or if nests are destroyed during construction, then mortality of chicks would occur. To limit the potential impact of clearing on nesting birds found in shrub-steppe / mixed grass prairie habitat types, the Agencies have identified mitigation measure WILD-10, which requires that all vegetation clearing be conducted prior to the onset of the avian breeding season.

The Proponents have proposed specific EPMs to limit the potential impact to the ferruginous hawk, which is one of the shrub-steppe / mixed grass prairie dependent species. Species-specific EPMs for the burrowing owl, Columbian sharp-tailed grouse, greater sage-grouse, and mountain plover were presented earlier (within their respective sections). The EPMs proposed specifically for the ferruginous hawk are:

- PRC-6 A pre-construction pedestrian or aerial survey will be conducted two weeks prior to construction, to identify active nests within 1 mile of the ROW.
- PRC-7 If an active nest is present, monitoring will be conducted until the young have fledged or the nest fails, whichever occurs sooner, and no surface-disturbing activities will occur within 1 mile of the nest while the nest is active. Monitors will observe the nests from an appropriate distance to avoid disturbing birds.
- PRC-8 If no active nests are detected during the pre-construction surveys construction will occur without further monitoring.

Some of the EPMs proposed by the Proponents include conducting activities near nests at certain times based on survey results instead of on federal land-management agencies construction timing/seasonal restrictions (state agencies may develop additional restriction on state and private lands; see Appendix I). However, the federal agencies have established procedures for granting exceptions to their stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies stipulations and restrictions, and any agency-established exception processes would be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-20 for any exceptions to stipulations and restrictions that are approved during the established exception process for the ferruginous hawk. If an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine lek occupancy, and to ensure that all construction activities cease in active areas (as outlined in the Proponent's proposed PRC-7 EPM). Adherence to the agency stipulations and restrictions would reduce the impacts that the Project's construction could have on this species.

- TESWL-20 Requests for exceptions from ferruginous hawk closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

In addition, the Medicine Bow Forest Plan has a set timing restriction when no construction activities are allowed within 0.5 mile of any ferruginous hawk nests that have been active within the last 5 years (from March 1 to July 31), and early entry into these areas is not allowed, regardless of nest activity changes during a single year. Therefore, an exception would not be allowed and these EPMs will not be applied on the Medicine Bow-Routt NFs; all Forest Service seasonal timing restrictions will be adhered to, regardless of nest activity.

If monitoring is conducted (as discussed under PRC-7), it would need to be done in such a way as to prevent abandonment of the nest, as continued monitoring visits to an active nest can disturb nesting birds. Coordination with agencies would be required to determine the appropriate protocols that must be followed to prevent disturbance during monitoring. In addition, monitoring and preconstruction surveys for this and all sensitive species would need to be conducted during the appropriate time of year (these measures would be required for monitoring of all raptor species' nests).

As was discussed for the burrowing owl, the Project may not be in compliance with a requirement found in the BLM's RMP for the Green River Management Area, regarding raptor nests. The Green River RMP states that:

*Project components, such as permanent and high profile structures, i.e., buildings, storage tanks, powerlines, roads, well pads, etc. are prohibited within an appropriate distance of active raptor nests. The appropriate distance (usually less than 1/2 mile) will be determined on a case-by-case basis and may vary depending upon the species involved, natural topographic barriers,*

*and line-of-sight distances, etc. Placement of facilities, "on" (very low profile) or below ground, and temporary disruptive activities, such as occur with pipeline construction, seismic activity, etc., could be granted exceptions within 1/2 mile of active raptor nests, in certain circumstances."*<sup>1</sup>

Within the Green River Management Area, the Project would cross within 0.5 mile of 11 known ferruginous hawk nests. As a result, the Project may not be in compliance with the Green River RMP. If an exception is not granted for these nests, the Project would either need to be altered so that it is in compliance with the Green River RMP, or the RMP would need to be amended.

In addition, the Project may not be in compliance with a requirement found in the Kemmerer RMP, regarding tall structures and sagebrush obligate species. The Kemmerer RMP states:

*Wildlife Management – Avoid new, permanent high-profile structures (higher than 12 feet) within 1 mile of occupied sagebrush obligate habitats unless anti-perch devices are installed. Prohibit new, permanent high-profile structures relying on guy wires for support in these habitats. Exceptions can be made if NEPA analysis shows little or no impact to sagebrush obligate species.*

As structures that rely on guy wires could be used during construction, the Project is not in compliance with the Kemmerer RMP. The Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires to limit the potential for avian collisions. As a result, an exception may be granted; otherwise, the Project would either need to be altered so that it is in compliance with the Kemmerer RMP, or the RMP would need to be amended.

To avoid destroying den sites and injuring or killing individual midget faded rattlesnakes, the Agencies have identified the following mitigation measure:

TESWL-18 Preconstruction surveys for occupied or potential midget faded rattlesnake hibernacula (i.e., rock outcrops with south to east aspect) will be conducted.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

Table D.6-3 of Appendix D lists the acres of permanent disturbance to shrub-steppe and grassland habitats that would occur due to Project operation. As discussed earlier, permanent loss of potential habitat would be limited due to the efforts proposed to restore and revegetate disturbed habitat following construction (see Appendix C-2).

In addition, once the transmission line is in place, operations impacts to these species could include a possible increase in predation pressure where the Project provides new perching opportunities for raven and raptor species. This effect would only occur to

species that are preyed upon by ravens and raptor species, and would be greatest in areas where other tall structures, including distribution and transmission lines, do not currently exist. An increase in the number of predatory bird species, or a consolidation of their populations along transmission lines, could result in an increase in mortality of prey species within these areas, as well as a possible increase in harassment to prey species. To limit the potential risk of increased predation pressures on sensitive prey species, the Agencies have identified TESWL-2 and TESWL-3.

Impacts to avian shrub-steppe/mixed grass prairie species would also include the risk of collisions with transmission structures and lines (as was discussed for the greater sage-grouse). To reduce the potential for avian collision with conductors, the Agencies have identified mitigation measure WILD-8, which specifies which areas would require bird flight diverters. (See Table 3.10-3 for a list of the areas requiring flight diverters.) The Agencies have also identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires. In addition, the Proponents have developed Avian Protection Plans (see the Proponents Web sites) that would be implemented to reduce potential risk of avian electrocution. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish), and include measures to be taken if avian mortalities are discovered, and modification and/or additions to the line that can prevent the use of the line by avian species if elevated mortalities of avian species are discovered.

Habitat loss within any habitat type has the potential to result in fragmentation of populations and edge effects. However, due to the limited scope of permanent disturbance that would occur within shrub habitats, fragmentation and edge effects would not likely impact most of the shrub-dependent TES wildlife species considered (with some exceptions; see below). The transmission line itself would span shrub habitats, and no vegetative maintenance of shrub vegetation would be expected to occur below the line. In addition, access roads would be maintained at a width of 8 feet (with herbaceous vegetation likely present along the roads), which would likely not result in the isolation of populations for most shrub-dependent species. However, there are some exceptions to these assumptions, such as the greater sage-grouse and Columbian sharp-tailed grouse, which would likely experience adverse effects of fragmentation and edge effects resulting from the presence of the Project within shrub habitats. (See discussion on impacts to the greater sage-grouse and Columbian sharp-tailed grouse.) Tables D.10-3 through D.10-5 of Appendix D display the level of fragmentation that would occur due to proposed access roads as well as the transmission line itself. (Also see Section 3.10.2.2 for a general discussion of habitat fragmentation.)

### *Conclusion*

The Project would impact shrub-steppe/mixed grass habitats, and could result in increased predation pressures and fragmentation; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on species that inhabit these habitats. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for shrub-steppe/mixed grass species (R4 language). For the

same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### Forest Species

The BLM or Forest Service sensitive mammalian species that inhabit forest habitat types and could potentially occur within the Analysis Area include the cliff chipmunk, hoary bat, silver-haired bat, and the snowshoe hare (see Table D.11-2 in Appendix D).

The BLM or Forest Service sensitive avian species that inhabit forest habitat types and could potentially occur within the Analysis Area include the boreal owl, Calliope hummingbird, flammulated owl, great gray owl, Hammond's flycatcher, juniper titmouse, Lewis's woodpecker, long-eared owl, mountain quail, northern goshawk, olive-sided flycatcher, pinyon jay, red-naped sapsucker, three-toed woodpecker, Virginia's warbler, and Williamsons sapsucker (see Table D.11-2 in Appendix D).

### *Construction-related Impacts*

Impacts to these forest species would be similar to those discussed for other species that occur in these habitat types and would include direct mortality, disturbance, and loss or modification of habitat. The Project has been routed to avoid forest habitats to the greatest extent practical; however, some forested habitats would be impacted by both forest clearing and vegetation ROW maintenance (see Section 3.6 – Vegetation Communities). Table D.6-2 of Appendix D lists the acres of disturbance to forest habitats that would occur due to construction. These construction disturbances to forested habitats would result in both loss of habitat and disturbance to wildlife species present within adjacent habitats. If avian species abandon nests due to these construction disturbances, then mortality of chicks could occur. To limit the potential impact of clearing on nesting birds found in forested habitat types, the Agencies have identified mitigation measure WILD-10, which would require that all vegetation clearing would be conducted prior to the onset of the avian breeding season. Impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11.

Revegetation efforts would be conducted in all disturbed forested areas that do not need to be kept clear of trees during Project maintenance (see Section 3.6 - Vegetation Communities); however, as revegetation and/or restoration of disturbed forested habitats could take decades, habitat loss due to construction in forest areas would be a long-term impact.

Typically, forest-dependent species are highly susceptible to habitat fragmentation and edge effects. Although the Project was routed to avoid forested areas to the extent practical, some habitat loss and fragmentation would still occur. This habitat fragmentation and the resulting edge effects would further reduce the amount of available habitat for species that utilize forests, beyond just the direct loss of habitat due to clearing and vegetative maintenance. As seen in Table D.10-5b in Appendix D, forest would be most impacted by fragmentation along the Proposed Route by Segments 1E (with an additional 188 patches created, and an average loss of patch size of 416 acres along the Proposed Route), Segment 1W(a) (with an additional 128 patches created, and an average loss of patch size of 345 acres along the Proposed

Route), Segment 1W(c) (with an additional 128 patches created, and an average loss of patch size of 316 acres along the Proposed Route), and Segment 7 (with an additional 180 patches created, and an average loss of patch size of 5 acres along the Proposed Route).

Some forest-dependent species only occur in mature forests, and are uncommon or absent from younger forests. The extent of mature forests within the Analysis Area is likely limited; however, they could occur. Section 3.6 – Vegetation Communities discusses what constitutes a mature forest and their potential extent within the Analysis Area, as well as the potential impacts that could occur to these forest types.

The Proponents have proposed specific EPMs to limit the potential impact to the flammulated owl (which is one of the forest-dependent species). The EPMs proposed specifically for the flammulated owl are:

- PRC-9 Preconstruction protocol level surveys (Forest Service 1993, 2008b) will be conducted during the appropriate seasonal timeframe prior to construction in suitable habitat, to identify active nests within 0.25 of a mile of the ROW. Proponents will provide survey results to the appropriate land-management agency.
- PRC-10 If an active nest is found during the protocol level surveys, construction is prohibited within 0.25 mile of the nest until monitoring shows that the young have fledged or the nest fails, whichever occurs sooner.
- PRC-11 If no active nests are detected during the preconstruction protocol surveys, construction would occur without further monitoring.

Species-specific EPMs for the northern goshawk are presented in the MIS species section below.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

Operations impacts to forest species would include loss of habitat from permanent vegetation maintenance in forested habitats (see Section 3.6 - Vegetation Communities), as well as avoidance of edge habitats. Table D.6-3 of Appendix D lists the acres of permanent disturbance to forest habitats that would occur due to Project operation. In addition, any new roads created by the Project could result in increased hunting pressures on forested species; however, construction of roads would be avoided within forested habitats to the extent practical. The Agencies have identified VEG-3 to limit the impact of roads on forest habitats, as well as VEG-6 to ensure the proper revegetation of impacted forested habitats located outside of the permanent maintenance area. However, as revegetation and/or restoration of disturbed forest habitats could take decades, impacts to forest species would be long-term.

Impacts to avian species that inhabit forest would also include the risk of collisions with transmission structures and lines (as was discussed for the yellow-billed cuckoo). To reduce the potential for collision with conductors, the Agencies have identified mitigation measure WILD-8, which specifies which river crossings would require bird flight diverters. (See Table 3.10-3 for a list of the areas requiring flight diverters.) In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires. The Proponents have developed Avian Protection Plans (see the Proponents' Web sites), which would be implemented to reduce potential risk of avian electrocution. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish), and include measures to be taken if avian mortalities are discovered, and modification and/or additions to the line that can prevent the use of the line by avian species if elevated mortalities of avian species are discovered.

### *Conclusion*

The Project would impact forest habitats, and could result in increased hunting pressures and fragmentation; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on species that inhabit these habitats. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for forest species (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### ***Wetland/Riparian Species***

The BLM or Forest Service sensitive mammalian species that inhabit wetland and/or riparian habitat types and could potentially occur within the Analysis Area include the Preble's meadow jumping mouse, Preble's shrew, and the river otter (see Table D.11-2 in Appendix D).

The BLM or Forest Service sensitive avian species that inhabit wetland and/or riparian habitat types and could potentially occur within the Analysis Area include the American bittern, American white pelican, bald eagle, black tern, least bittern, long-billed curlew, northern harrier, peregrine falcon, purple martin, sandhill crane, snowy plover, trumpeter swan, white faced ibis, willow flycatcher, and yellow-billed cuckoo (see Table D.11-2 in Appendix D).

The BLM or Forest Service sensitive amphibian and reptilian species that inhabit wetland and/or riparian habitat types and could potentially occur within the Analysis Area include the common garter snake, western ground snake, boreal toad, great basin spadefoot, northern leopard frog, spotted frog, and woodhouse toad (see Table D.11-2 in Appendix D).

### ***Construction-related Impacts***

Impacts to these wetland/riparian species would be similar to those discussed for other species that depend upon these habitat types (such as the yellow-billed cuckoo or the

Columbia spotted frog) and include direct mortality, disturbance, and loss or modification of habitat.

The Project was routed to avoid wetland and riparian areas to the extent practical; therefore, these areas are not abundant within the Analysis Area. However, because this Project is approximately 1,103 miles long and crosses through multiple watersheds, some riparian and wetland habitat could not be avoided (see Section 3.9 – Wetlands and Riparian Areas). Impacts to wetland and riparian areas, which would occur due to construction activities, are listed in Table D.9-1 of Appendix D. To limit the potential impact to vegetation clearing in these areas, the Proponents would implement their Framework Reclamation Plan (see Appendix C-2). However, as was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to wetland or riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, TESWL-1, FISH-4, and WQA-1 through WAQ-4 to reduce impacts to wetland and riparian habitats, and have recommended that they be applied Project-wide. However, as revegetation and/or restoration of disturbed forested riparian habitats could take decades, impacts to forest-riparian areas would be long-term.

In addition to direct habitat loss, construction-related noise and dust disturbance could potentially make currently occupied habitat temporarily unsuitable for these species, and result in abandonment of habitats. If avian species abandon nests due to construction disturbances, then mortality of chicks would occur. To limit the potential impact of clearing on nesting birds found in wetland and riparian areas, the Agencies have identified mitigation measure WILD-10, which requires that all vegetation clearing be conducted prior to the onset of the avian breeding season. Impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11.

Typically, wetland- and forested riparian-dependent species are highly susceptible to habitat fragmentation and edge effects. Although the Project was routed to avoid these areas to the extent practical, some habitat loss and fragmentation would still occur. This habitat fragmentation and the resulting edge effects would further reduce the amount of available habitat for species that utilize these areas, beyond just the direct loss of habitat due to clearing and vegetative maintenance. Tables D.10-3 through D.10-5 of Appendix D display the level of fragmentation that would occur due to proposed access roads and transmission lines.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

Permanent habitat loss would primarily be associated with access roads; however, for the most part roads would be located outside of riparian zones. Table D.9-2 in Appendix D lists the operations impacts that would occur to riparian habitats.

Impacts to avian wetland/riparian species would also include the risk of collisions with transmission structures and lines (as was discussed for the yellow-billed cuckoo). To reduce the potential for avian collision with conductors, the Agencies have identified mitigation measure WILD-8, which specifies which areas would require bird flight diverters (see Table 3.10-3 for a list of the areas requiring flight diverters). The Agencies have also identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires. In addition, the Proponents have developed Avian Protection Plans (see the Proponents' Web sites), which would be implemented to reduce potential risk of avian electrocution. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish), and include measures to be taken if avian mortalities are discovered, and modifications and/or additions to the line that can prevent the use of the line by avian species if elevated mortalities of avian species are discovered.

### *Conclusion*

The Project would impact wetland and riparian habitats, and could result in increased predation pressures and fragmentation; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on species that inhabit these habitats. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for forest species (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### ***Rock, Caves, and Cliff Species***

The BLM or Forest Service sensitive species that inhabit rock-, cave-, or cliff-habitat types and could potentially occur within the Analysis Area include the big brown bat, Brazilian free-tailed bat, California myotis, spotted bat, Townsend's big-eared bat, fringed myotis, little brown myotis, long-eared myotis, long-legged myotis, pallid bat, small-footed myotis, western pipistrelle, Yuma myotis, and bighorn sheep (desert and California bighorn sheep; see Table D.11-2 in Appendix D). Some species that utilize rock, cave, or cliff habitats for portions of this life have been discussed in previous habitat summary sections (e.g., the midget faded rattlesnake<sup>10</sup> utilizes rock outcrops for hibernacula and maternity den sites); however, the species discussed under this section are those primarily associated with and/or are specialized for caves or rock habitats that have substantial slopes (i.e., rock or cliff habitats).

### *Construction-related Impacts*

The bat species listed above utilize rock and cliff faces or caves as roosting habitat, as well as buildings and tunnels. Although the locations of caves near the Analysis Area are not explicitly known, it is likely that caves are located near or within the Analysis Area. In Wyoming and southeast Idaho (Segments 1 through 4), there are limestone sedimentary formations that could be suitable for caves, given the right hydrologic regime. In the Snake River Plain of Idaho (Segments 5 through 10), there are vast areas of very recent sheet flow basalt. Prominent features within these basalts are

---

<sup>10</sup> This species is discussed under the Shrub-Steppe section.

large, often open vertical fractures, as well as lava tubes, that can be many feet in diameter and from several feet to up to several hundred feet long. In addition to cave and rock habitats, these BLM and Forest Service sensitive bat species utilize riparian and grasslands for foraging habitats, which are abundant throughout the Analysis Area.

As the construction of the Project would not directly impact cliff faces or caves, impacts to cave- and cliff-dwelling bat species would be minimal. However, possible impacts could occur if construction-related noise occurs adjacent to occupied structures. In addition, impacts to forested habitats could potentially impact tree day roosting habitats. Additionally, these species may forage for insects in grasslands, riparian areas, and wetlands; however, due to the abundance of grassland habitats in the Analysis Area, and the limited impacts that would occur to riparian and wetland habitats, Project-related effects to bat foraging habitats would be minimal.

Limited winter habitat for bighorn sheep (steep rocky areas) would be impacted along Segments 7 and 9 (see Tables D.10-1, D.10-6, and D.10-8 in Appendix D). Potential impacts to bighorn sheep from Project construction would include vehicle collisions, noise, fugitive dust, habitat loss and alteration, and visual disturbance. Vegetation clearing is not expected to negatively impact big game due to the small amount of habitat affected compared to the large home ranges of this species, and the stimulation of forage growth that vegetation clearing could induce. The Agencies have identified WILD-2 and WILD-1 to limit the potential impacts to big game by establishing speed limits for vehicles, and requiring adherence to time restrictions on construction within winter habitats (see further discussion in Section 3.10.2.2).

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known or newly discovered structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

The Project's operations would have only minimal impacts to cave- and cliff-dwelling bat species, resulting from limited impacts to foraging habitats from permanent Project facilities/components (such as access roads and towers).

The Project's transmission line structures and access roads are not expected to limit the movement or distribution of bighorn sheep because they are likely to readily cross a double-track road or pass under a transmission line. Vehicle use of the roads would be very low; only one vehicle per year is expected in most areas for maintenance activities by Project personnel. To prevent an increase in big game harvest due to unauthorized use of Project-related roads, the Proponents would install gates.

#### *Conclusion*

The Project would not directly impact cave or cliff faces habitats, but could have indirect impacts (related to noise) on species that depend on these habitats. In addition, the Project would have limited impacts to winter habitat for bighorn sheep. Based on the potential for impacts and the implementation of EPMS, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for the species that inhabit rock, cave,

or cliff habitats (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

### ***Invertebrates (Mollusks)***

The BLM or Forest Service sensitive aquatic invertebrate species that could potentially occur within the Analysis Area include the California floater, Columbia pebble snail, and shortface lanx (see Table D.11-2 in Appendix D).

### ***Construction-related Impacts***

Construction-related impacts to BLM and Forest Service sensitive aquatic invertebrate species would be similar to those discussed previously for the federally listed aquatic invertebrate species.

Impacts to aquatic invertebrate species would be limited, as the transmission line would span aquatic habitats and transmission poles would not be constructed within these habitats. However, construction of access roads and any disturbance to riparian areas during construction could reduce riparian vegetation along the waterbodies; this could increase the temperatures of these waters, resulting in adverse impacts to aquatic species. Table D.9-1 in Appendix D lists the direct construction-related impacts that would occur to riparian habitats.

All areas disturbed during construction (with the exception of areas used as permanent access roads, substation footprints, and pole structure bases) would be revegetated following construction in accordance with the Framework Reclamation Plan. However, as was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, TESWL-1, FISH-4, and WQA-1 through WAQ-4 to reduce impacts to riparian habitats, and have recommended that they be applied Project-wide.

Road crossings of rivers and springs would be avoided to the extent practical; however, any construction of a road crossing would result in a short-term increase in sedimentation, which could impact these species through burial of eggs, or mortality of their alga food supplies. These effects would impact species living both at the point where sedimentation increased (at the road crossing) and at points farther downstream, thereby affecting species that inhabit areas not directly crossed by the Project. In addition, general construction activities adjacent to river systems could result in an increase in short-term sediment loads, due to loss of vegetation and increased runoff. Sedimentation would be controlled through implementation of the Proponents' SPCC Plan (Appendix C-1, Attachment C). In addition, the possibility of a spill of toxic materials into waterbodies would be limited due to the implementation of the Proponents' SWPPP (Appendix C-1, Attachment B).

### ***Operations-related Impacts***

Table D.9-2 in Appendix D lists the operations impacts that would occur to riparian habitats. As has been discussed earlier, revegetation efforts outlined in the Proponents'

Framework Reclamation Plan do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, TESWL-1 to reduce impacts to riparian habitats, and have recommended that they be applied Project-wide. However, as revegetation and/or restoration of disturbed forested riparian habitats could take decades, impacts to species that depend on contiguous riparian habitat (such as these aquatic invertebrates) would be long-term.

Once installed, the transmission line and its associated structures would not serve as a barrier or hazard to aquatic invertebrates, as the line and its associated structures would not cross through their aquatic habitats. In addition, any culverts associated with roads would not serve as a barrier or hazard as long as they are designed and installed correctly; however, poorly designed culverts could result in fragmentation of habitats and isolation of upstream and downstream populations. Therefore, all culverts (both temporary and permanent) would be designed and installed to ensure the continued free flow of water, as well as to allow both the upstream and downstream movement of aquatic organisms (see the discussion on culvert installation requirements found in the ESA aquatic invertebrate species section above). To further reduce the risk to aquatic organisms created by the use of culverts, the Agencies have identified mitigation measures FISH-1 and FISH-2, as well as WQA-2 through WAQ-4, to ensure culverts are designed and installed properly, and have recommended that they be applied Project-wide.

#### *Conclusion*

The Project would impact aquatic habitats; however, EPMs and mitigation measures would be applied to limit the potential impact of the Project on aquatic invertebrates. Based on the potential for impacts and the implementation of EPMs and mitigation measures, the Project's construction and operation may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or cause a loss of viability for aquatic invertebrates (R4 language). For the same reasons, the Project may adversely impact individuals, but is not likely to result in a loss of viability in the Planning Area, nor cause a trend towards federal listing (R2 language).

#### ***Invertebrate (Insects)***

The BLM or Forest Service sensitive invertebrate insect species that could potentially occur within the Analysis Area include the Bruneau dunes tiger beetle, blind cave leiodid beetle, Mattoni's blue, and the St. Anthony sand dunes tiger beetle (see Table D.11-2 in Appendix D).

#### *Construction-related Impacts*

Habitat preferences for Bruneau dunes tiger beetle, blind cave leiodid beetle, and St. Anthony sand dunes tiger beetle are limited to sand dune habitats (for the Bruneau dunes tiger beetle and the St. Anthony sand dunes tiger beetle) and lava tube caves (for the blind cave leiodid beetle). No direct impacts to sand dune or lava tube habitats are expected due to Project construction; therefore, no indirect impacts to these species are anticipated.

The Mattoni's blue in is endemic to Nevada, and is known to occur in Pilot-Thousand Springs, Long-Ruby Valleys, and Bruneau watersheds in Elko County. It is dependent on slender buckwheat (*Eriogonum microthecum laxiflorum*) in that females lay eggs on young flowers, and the larvae feed on pollen and developing seeds (WildEarth 2010). Slender buckwheat grows in mountain habitats above approximately 4,900 feet in elevation. Alternative 7I would impact habitats near the Pilot-Thousand Springs watershed, at elevations capable of supporting slender buckwheat (see Table D.6-2 in Appendix D for acres of impact along this alternative). As the distribution of Mattoni's blue is uncertain, it is possible that it occurs within habitats adjacent to the Pilot-Thousand Springs watershed; therefore, any disturbance to grassland habitats along Alternative 7I could result in the temporary loss of Mattoni's blue larva, as well as limit the abundance of this host plant species on a short-term basis. However, based on the Nevada Natural Heritage database, there are no known occurrences of slender buckwheat within 0.5 mile of the Analysis Area.

#### *Operations-related Impacts*

Project operations would have no effect on the Bruneau dunes tiger beetle, blind cave leiodid beetle, and St. Anthony sand dunes tiger beetle, as no suitable habitat for these species would be impacted.

As disturbance in grassland habitats would be allowed to revegetate following construction, with the exception of areas encompassed by permanent Project facilities, long-term impacts to the abundance of Mattoni's blue's host plant (slender buckwheat) would be limited if this host plant species is present within the Analysis Area.

#### *Conclusion*

The Project's construction and operations would have no effect on Bruneau dunes tiger beetle, blind cave leiodid beetle, and St. Anthony sand dunes tiger beetle, as no habitats for these species are expected to be directly or indirectly impacted.

The Project would impact habitats that could support the Mattoni's blue's host plant (slender buckwheat); however, impacts would be considered short-term as grassland habitats (located outside of permanent Project facilities) would be allowed to revegetate following construction. Therefore, the Project's construction and operations may impact individuals or habitat, but are not likely to contribute to a trend toward federal listing or cause a loss of viability for the Mattoni's blue.

### **Forest Service Management Indicator Species**

This section addresses potential impacts to Forest Service MIS. As stated earlier, there are 10 MIS that could occur within the Analysis Area, based on presence of suitable habitat or the co-location of the Project within the species range. This includes the American marten, Columbian sharp-tailed grouse, common trout, greater sage-grouse, golden-crowned kinglet, Lincoln's sparrow, northern goshawk, snowshoe hare, three-toed woodpecker, and Wilson's warbler. Impacts to the Columbian sharp-tailed grouse, greater sage-grouse, and the various common trout species are addressed above in the ESA and Sensitive Species sections. The remaining MIS will be discussed here.

### ***American Marten (Medicine Bow Forest Plan MIS; Forest Service Sensitive)***

#### ***Construction-related Impacts***

There are no known occurrences of the American marten within the Analysis Area; therefore, it is possible that this species is not present and would not be affected. However, if it is present, then potential impacts to the American marten would include disturbance due to construction activities and loss or modification of habitat. The American marten is dependent on forested habitats, and the Project has been routed to avoid forest habitats to the greatest extent practical; however, some forested habitats would be impacted by both forest clearing and vegetation maintenance (see Section 3.6 – Vegetation Communities). Table D-6.2 of Appendix D lists the acres of disturbance to forest habitats that would occur due to construction.

As discussed earlier, the American marten is typically associated with mature forests. The extent of mature forests within the Analysis Area is likely limited; however, they could occur. Section 3.6 – Vegetation Communities discusses what constitutes a mature forest and their potential extent within the Analysis Area, as well as the potential impacts that could occur to these forest types.

#### ***Operations-related Impacts***

Operations impacts to the American marten would include loss of habitat from permanent vegetation maintenance in forested habitats (see Section 3.6 – Vegetation Communities), as well as avoidance of edge habitats. Table D.6-3 of Appendix D lists the acres of permanent disturbance to forest habitats that would occur due to Project operation. In addition, any new roads created by the Project could result in increased hunting pressures (from poaching) on the American marten; however, construction of roads would be avoided within forested habitats to the extent practical. In addition, as discussed for the black-footed ferret, the Proponents have developed a Traffic and Transportation Management Plan (Appendix C-1, Attachment A) that includes measures to prevent unauthorized use of new access roads. The Agencies have identified VEG-3 to limit the impact of roads on forest habitats, as well as VEG-6 to ensure the proper revegetation of impacted forested habitats located outside of the permanent maintenance area. However, as revegetation and/or restoration of disturbed forest habitats could take decades, impacts to forest-dependent species would be long-term.

The American marten is highly sensitive to habitat fragmentation. As a result, habitat loss would extend beyond just the forested habitat that is directly removed during construction and/or maintained clear of trees during operations. Edge effects would reduce the size of patches that the American marten would inhabit. Tables D.10-3a through D.10-5b in Appendix D lists the levels of habitat fragmentation that would occur to forested habitats.

#### ***Conclusion***

If the American marten is present within or near the Analysis Area, then some negative impacts from the Project's construction and operation would likely occur due to habitat loss, fragmentation of habitats, increased access for hunters, and disturbance due to construction. However, mitigation measures aimed at limited road disturbances in forested habitats and successful revegetation of forested habitats would limit these

impacts. Therefore, the Project is not expected to impact the viability of the American marten.

### ***Golden-Crowned Kinglet (Medicine Bow Forest Plan MIS)***

#### *Construction-related Impacts*

The golden-crowned kinglet has been observed within the Analysis Area and would likely be affected by the Project to some degree. Impact to this forest-dependent species would include disturbance, and loss or modification of habitat. As was discussed for the American marten, the Project has been routed to avoid forest habitats to the greatest extent practical; however, some forested habitats would be impacted by both forest clearing and vegetation maintenance. To limit the potential impact of clearing on nesting birds, the Agencies have identified mitigation measure WILD-10, which requires that all vegetation clearing would be conducted prior to the onset of the avian breeding season. Impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11. Table D.6-2 of Appendix D lists the acres of disturbance to forest habitats that would occur due to construction.

#### *Operations-related Impacts*

Some permanent habitat loss would occur due to forest clearing and vegetation maintenance (see Section 3.6 – Vegetation Communities). Table D.6-3 of Appendix D lists the acres of permanent disturbance to forest habitats that would occur due to Project operation. Impacts to golden-crowned kinglet would also include the risk of collisions with transmission structures and lines, similar to those discussed for the yellow-billed cuckoo. To reduce the potential for golden-crowned kinglet collision with Project components, the Agencies have identified mitigation measure WILD-8, which specifies the areas that would require bird flight diverters (see Table 3.10-3 for a list of the areas requiring flight diverters). The Agencies have also identified WILD-7, which would require the use of flight diverters on all guy wires, and VEG-6, which would ensure the proper revegetation of impacted forested habitats outside of the permanent maintenance area. However, as revegetation and/or restoration of disturbed forest habitats could take decades, impacts to forest-dependent species would be long-term.

#### *Conclusion*

Because the golden-crowned kinglet is present within the Analysis Area, some negative impacts would likely occur to this species, due to the loss of habitat and possibility of collisions with transmission structures/lines. However, these impacts would be limited due to the mitigation measures proposed. Therefore, the Project is not expected to impact the viability of the golden-crowned kinglet.

### ***Lincoln's Sparrow (Medicine Bow Forest Plan MIS)***

#### *Construction-related Impacts*

There are no known occurrences of the Lincoln's sparrow within the Analysis Area; therefore, it is possible that this species is not present and would not be affected. However, if it is present, then impacts to the Lincoln's sparrow would be similar to those discussed for the yellow-billed cuckoo, and could include loss or modification of habitat, disturbance due to construction activities, and direct mortality.

Habitat for the Lincoln's sparrow consists of riparian areas, which are not abundant within the Analysis Area. Impacts to riparian areas from construction activities are listed in Table D.9-1 of Appendix D. To limit the potential impact to vegetation clearing in these areas, the Proponents would implement their Framework Reclamation Plan. However, as was discussed for the Columbia spotted frog, revegetation efforts are aimed primarily at reestablishing herbaceous or shrub cover, reestablishing original site configurations, and preventing erosion, but do not specifically address impacts to riparian zones, or the reestablishment of stream/wetland shade vegetation and/or LWD. Therefore, the Agencies have identified mitigation measures VEG-6, WET-1 through WET-4, and TESWL-1 to reduce impacts to riparian habitats, and have recommended that they are applied project-wide. However, as revegetation and/or restoration of disturbed forested riparian habitats could take decades, impacts to forest riparian-dependent species would be long-term. In addition, the Agencies have identified mitigation measure WILD-10, which would require that all vegetation clearing would be conducted prior to the onset of the avian breeding season to limit the potential impact of clearing on nesting birds found in forested habitat types. Impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11.

#### *Operations-related Impacts*

Permanent habitat loss would primarily be associated with access roads. For the most part, these would be located outside of riparian zones. Table D.9-2 of Appendix D lists the operations impacts that would occur to riparian habitats.

Impacts to Lincoln's sparrow would also include the risk of collisions with transmission structures and lines, similar to those discussed for the yellow-billed cuckoo; however, this species flies close to the ground, which would reduce the likelihood of collisions with Project components. To further reduce the potential for Lincoln's sparrow collision with conductors, the Agencies have identified mitigation measure WILD-8, which specifies which areas would require bird flight diverters. (See Table 3.10-3 for a list of the areas requiring flight diverters). In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires.

#### *Conclusion*

If the Lincoln's sparrow is present within or near the Analysis Area, then some negative impacts from the Project's construction and operation would likely occur, due to the loss of habitat and low possibility of co-locations with transmission structures/lines. However, these impacts would be limited due to the mitigation measures proposed. Therefore, the Project is not expected to impact the viability of the Lincoln's sparrow.

#### ***Northern Goshawk (Caribou and Medicine Bow Forest Plan MIS; Forest Service Sensitive; BLM Sensitive)***

##### *Construction-related Impacts*

The northern goshawk is located within the Analysis Area and would likely be affected by the Project to some degree. Impacts to the northern goshawk would be similar to those discussed for the bald eagle, and could include direct mortality, disturbance, and loss or modification of habitat. Nesting sites are vulnerable to construction disturbances because the adult goshawks may abandon the nest during periods of high human activity, resulting in mortality of eggs or nestlings.

There are six known northern goshawk nests that occur within one mile of the Project: two along Segment 1E (one of these nests is also within 1 mile of Segments 1W[a] and 1W[c]), and four along Segment 4 (see Appendix D, Table D.10-2). The two nests along Segment 1E are located on the Medicine Bow-Routt NFs, and the four nests along Segment 4 are located in the Caribou-Targhee NF. The acreages of construction impacts that would occur within 1 mile of a northern goshawk nest are listed in Table D.10-6 (in Appendix D). To limit the potential impact to the northern goshawk, the Proponents have proposed the following EPMs:

- PRC-15 Preconstruction pedestrian surveys (USFS 1993, 2008b) will be conducted during the appropriate seasonal timeframe prior to construction in suitable habitat, to identify active nests within 0.5 mile of the ROW within suitable habitat. Proponents will provide survey results to the appropriate land-management agency.
- PRC-16 If an active nest is found during the protocol-level surveys, construction is prohibited within 0.25 mile of the nest until monitoring shows that the young have fledged or the nest fails, whichever occurs sooner, and no surface-disturbing activities will occur within 0.5 mile of the nest while the nest is active.
- PRC-17 If no active nests are detected during the pre-construction surveys, construction would occur without further monitoring.

Some of the EPMs proposed by the Proponents include conducting activities near nests at certain times based on survey results instead of on federal land-management agencies construction timing/seasonal restrictions (state agencies may develop additional restriction on state and private lands; see Appendix I). However, the federal agencies have established procedures for granting exceptions to their stipulations and restrictions, on a case-by-case basis. Therefore, the Agencies do not accept the Proponents' approach to developing an exception to the agencies stipulations and restrictions, and any agency-established exception processes would be followed when requesting an exception. As stated earlier, all agency timing and seasonal restrictions will be followed, unless an exception is granted. The Agencies have developed mitigation measure TESWL-21 for any exceptions to stipulations and restrictions that are approved during the established exception process for the northern goshawk. In the event an exception is granted, the Agencies would require that monitoring is conducted on federally managed lands to determine lek occupancy, and to ensure that all construction activities cease in active areas (as outlined in the Proponents' proposed PRC-16 EPM). Adherence to the agency stipulations and restrictions would reduce the impacts that the Project's construction could have on this species.

- TESWL-21 Requests for exceptions from northern goshawk closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (See WILD-1).

In addition, the Medicine Bow Forest Plan has a set timing restriction when no construction activities are allowed within 0.25 mile of any northern goshawk nests that has been active within the last 5 years (from April 1 to August 30), and early entry into these areas is not allowed regardless of nest activity changes during a single year. Therefore, no exceptions would be granted on NFS lands and these EPMs will not be applied on NFS lands; all Forest Service seasonal timing restrictions will be adhered to, regardless of nest activity.

The Medicine Bow and Caribou Forest Plans have standards and guidelines regarding the northern goshawk that the Project would not comply with (as currently designed). These are as follows:

- **Medicine Bow Forest Plan Standard:** “Within each occupied northern goshawk territory, select three nests and protect 30 acres of dense vegetation surrounding each, defining the boundaries of each area based on habitat quality. If fewer than three nests are found within an occupied territory, substitute 30-acre areas with characteristics of nesting habitat.”
- **Medicine Bow Forest Plan Standard:** “Within each occupied northern goshawk territory, designate a northern goshawk post-fledging area of a minimum of 200 acres that includes the three 30-acre nest sites selected. The large tree component within the post-fledging area should include snags, down dead wood, and clumps of trees with interlocking crowns. Within the post-fledging area, prohibit management activities that may degrade goshawk foraging habitat.”
- **Caribou Forest Plan Guideline:** Foraging areas on the Caribou-Targhee NF are defined as greater than 5,400 acres areas around nests. Disturbances within these areas that result in new canopy openings must be limited to less than 40 acres.

A historical goshawk nest site on the Medicine Bow-Routt NFs (located between Segments 1W[a] and 1W[c]) was determined to no longer be active during Project-specific surveys (Tetra Tech 2010c); however, these surveys also indicate that the area is still occupied by northern goshawks. Although no active goshawk nests were found near the Project on the Medicine Bow-Routt NFs, surveys have not been completed along all segments that cross this NF (i.e., Segment 1E and Alternative 1E-C). In addition, construction of the Project on the Medicine Bow-Routt NFs would result in loss of suitable goshawk foraging habitat near the historical goshawk nest (within the post-fledging area); this would include about 10 acres of forested habitat impacted within 1 mile of historical nests along Segment 1E, 9 acres along Segment 1W(a), and 7 acres along Segment 1W(c) on the Medicine Bow-Routt NFs. The initial clearing, as well as ROW maintenance, would also remove snags from the immediate footprint of the Project’s ROW, thereby further reducing habitat for the northern goshawk (impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11). In addition, shrub habitats would be impacted near the historical goshawk nest, which may currently serve as hunting habitats for this species. Therefore, the Project is not in compliance with the Medicine Bow Forest Plan goshawk standards. For the Forest Service to grant a ROW permit, the Project would either need to be altered so that it is in compliance with the Medicine Bow Forest Plan standards

regarding the northern goshawk, or the Forest Plan would need to be amended (see Table 2.2-1). In addition, approximately 82 acres of goshawk habitat would be impacted within the 5,400 acres of foraging area on the Caribou-Targhee NF. Because this is greater than the limit of 40 acres, the Project is not in compliance with the Caribou Forest Plan's goshawk guideline; however, plan amendments are not required for guidelines. By not meeting the Caribou Forest Plan's goshawk guideline, the Project could reduce the availability of goshawk habitat within the general area.

As discussed earlier, impact values reported within this document are based on indicative engineering. To ensure that the final engineering design is routed to avoid known locations of raptor nests as well as other structures occupied by sensitive species, the Agencies have identified mitigation measure TESWL-8.

#### *Operations-related Impacts*

Table D.11-8 in Appendix D lists the permanent operations impacts that would occur to northern goshawk habitats.

The Project's operations could result in a potential for collisions with transmission lines or structures, resulting in elevated mortality rates for the northern goshawk. To limit this potential effect, the Agencies have identified mitigation measure WILD-8, which requires bird flight diverters to be utilized at locations along the transmission line (see Table 3.10-3 for a list of the areas requiring flight diverters). These areas correspond to locations where avian collisions would be most likely to occur due to site-specific conditions such as terrain or habitat. In addition, the Agencies have identified mitigation measure WILD-7, which would require the use of flight diverters on all guy wires.

In addition to collisions with transmission line and structures, raptors are vulnerable to mortality from electrocution by powerlines. Birds are electrocuted when they make contact between two energized conductors or between an energized conductor and any grounded hardware. The spacing between phases of the transmission lines is much larger than the bird wing spans for all species. Therefore, electrocution due to the transmission line is not a hazard for the northern goshawk. However, the distribution lines that serve the substations could provide an electrocution hazard to northern goshawks, although this hazard would be minimal due to the limited number of places where new distribution lines would be constructed (at the Creston, Bridger, and Cedar Hill Substations), the short distances that these distribution lines would travel (between 200 to 500 feet), and the fact that these distribution lines would be constructed in accordance with APLIC guidelines (i.e., designed to prevent avian electrocutions). In addition, the Proponents have developed Avian Protection Plans (see their Web sites), which would be implemented to reduce potential risk of avian electrocution. These plans are in compliance with APLIC suggested practices (see Section 3.10 – General Wildlife and Fish), and include measures to be taken if avian mortalities are discovered, and modifications and/or additions to the line that can prevent the use of the line by avian species. This would reduce the risk of raptor wingspans coming in contact with both lines, or between the lines and conductors.

#### *Conclusion*

Some negative impacts would likely occur to the northern goshawk, due to the location of nests adjacent to the Project, potential for disturbance during construction, loss of

habitat, and the possibility of collisions and electrocutions resulting from the Project's operation. However, these impacts would be limited due to the timing restrictions on construction activities, mitigation measures WILD-7 and WILD-8, and the measures proposed in the Avian Protection Plans. Therefore, the Project is not expected to impact the viability of the northern goshawk.

### ***Snowshoe Hare (Medicine Bow Forest Plan MIS)***

#### *Construction-related Impacts*

There are no known occurrences of the snowshoe hare within the Analysis Area; therefore, it is possible that this species is not present and would not be affected. However, if it is present, impacts to the snowshoe hare would be similar to those discussed for the pygmy rabbit, and could include disturbance, and loss or modification of habitat. Unlike the pygmy rabbit, however, the snowshoe hare inhabits forest environments, which are not common in the Analysis Area. The Project has been routed to avoid forest habitats to the greatest extent practical; however, some forested habitats would be impacted by both forest clearing and vegetation maintenance (see Section 3.6 – Vegetation Communities). Table D.6-2 of Appendix D lists the acres of disturbance to forest habitats that would occur due to construction. These construction disturbances to forested habitats would result in both loss of habitat and disturbance to wildlife species present within adjacent habitats.

#### *Operations-related Impacts*

Operations impacts to the snowshoe hare would include loss of habitat from permanent vegetation maintenance in forested habitats (see Section 3.6 - Vegetation Communities), as well as a possible avoidance of edge habitats created by the clearing of forests for ROW maintenance and road paths. Table D.6-3 of Appendix D lists the acres of permanent disturbance to forest habitats that would occur due to Project operation. In addition, any new roads created by the Project could result in increased hunting pressures; however, construction of roads would be avoided within forested habitats to the extent practical. In addition, as discussed for the black-footed ferret, the Proponents have developed a Traffic and Transportation Management Plan (Appendix C-1, Attachment A) that includes measures to prevent unauthorized use of new access roads. The Agencies have identified VEG-3 to limit the impact of roads on forest habitats, as well as VEG-6 to ensure the proper revegetation of impacted forested habitats located outside of the permanent maintenance area. However, as revegetation and/or restoration of disturbed forest habitats could take decades, impacts to forest-dependent species would be long-term.

Unlike the impacts to the pygmy rabbit (which inhabits shrub and grassland habitats), the snowshoe hare inhabits forested environments; therefore, the presence of the transmission line is not likely to increase the number of perch sites for raptor or raven species, or increase the natural predation rate experienced by this species. In addition, the Project is unlikely to serve as a barrier to movement by this species.

#### *Conclusion*

If the snowshoe hare is present within or near the Analysis Area, then some negative impacts from the Project's construction and operations would likely occur due to habitat loss, fragmentation of habitats, increased access for hunters, and disturbance due to

construction. However, mitigation measures aimed at limited road disturbances in forested habitats and successful revegetation of forested habitats would limit these impacts. Therefore, the Project is not expected to impact the viability of the snowshoe hare.

***Three-Toed Woodpecker (Medicine Bow Forest Plan MIS; Forest Service Sensitive; BLM Sensitive)***

*Construction-related Impacts*

There are no known occurrences of the three-toed woodpecker within the Analysis Area; therefore, it is possible that this species is not present and would not be affected. However, if it is present, then potential impacts to the three-toed woodpecker would include disturbance due to construction activities and loss or modification of habitat. The three-toed woodpecker is dependent on forested habitats, and the Project has been routed to avoid forest habitats to the greatest extent practical; however, some forested habitats would be impacted by both forest clearing and vegetation maintenance (see Section 3.6 – Vegetation Communities). Table D.6-2 of Appendix D lists the acres of disturbance to forest habitats that would occur due to construction. If woodpeckers are present within these impacted habitats, or if these habitats could serve as potential nesting or foraging habitats in the future, then the Project would result in some loss of woodpecker habitat. Construction activities could also disturb woodpeckers from adjacent habitats, if they are present during these activities. The Agencies have identified mitigation measure WILD-10, which requires that all vegetation clearing be conducted prior to the onset of the avian breeding season to limit the potential impact of clearing on nesting birds found in forested habitat types. Impacts to snag habitat would be minimized through the implementation of mitigation measure WILD-11.

As discussed earlier, the three-toed woodpecker is typically associated with mature forests. The extent of mature forests within the Analysis Area is likely limited; however, they could occur. Section 3.6 – Vegetation Communities discusses what constitutes a mature forest and their potential extent within the Analysis Area, as well as the potential impacts that could occur to these forest types.

To limit the potential impacts to the three-toed woodpecker, the Proponents have proposed the following EPMs:

- PAC-22 Pre-construction protocol level surveys will be conducted during the appropriate seasonal timeframe prior to construction in suitable habitat, to identify active nests within the ROW.
- PAC-23 If an auditory response is received and an active nest is found, 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. The Proponents will provide survey results to the appropriate land-management agency.
- PAC-24 If no nests are discovered during pre-construction protocol level surveys, construction would be permitted for the remainder of the nesting season without further monitoring.

### *Operations-related Impacts*

The Project would result in some permanent loss of forest habitat (see Table D.6-3 of Appendix D) resulting from vegetation removal and maintenance. The Agencies have identified VEG-6 to ensure the proper revegetation of impacted forested habitats outside of the permanent maintenance area. However, as revegetation and/or restoration of disturbed forest habitats could take decades, impacts to any forest-dependent species would be long-term.

Because the Project would not alter the local fire regime, no impacts to the three-toed woodpecker's food supplies would occur due to the Project's operation.

### *Conclusion*

If the three-toed woodpecker is present within or near the Analysis Area, then some negative impacts from the Project's construction and operation would likely occur, due to the loss of habitat. However, these impacts would be limited due to mitigation measures proposed to restore impacted forest habitats, and the species-specific EPM proposed for this species. Therefore, the Project is not expected to impact the viability of the three-toed woodpecker.

### ***Wilson's Warbler (Medicine Bow Forest Plan MIS)***

The Wilson's warbler is known to occur very near the Analysis Area (within 3.3 miles). Potential impacts to the Wilson's warbler would be the same as those described above for the Lincoln's sparrow, as they inhabit similar areas and have similar life history traits (see discussion for the Lincoln's sparrow). The Project is not expected to impact the viability of the Wilson's warbler, due to the EPMs and mitigation measures proposed.

### **Decommissioning (for all TES species)**

All Project facilities that are not utilized for purposes other than the Gateway West Project would be removed at the end of the operational life of the transmission line (e.g., some substations and access roads are utilized for purposes other than this Project, and would therefore remain after the life of this Project). Structures and foundations would be removed to below the ground surface level. They would not be removed in their entirety due to the large ground disturbance this would create. Soil and plants would be restored over the top of these underground foundation surfaces. All revegetation efforts would meet the requirements of the Federal Seed Act and applicable Idaho and Wyoming laws regarding seeds and noxious weeds. The BLM and Forest Service would be given the option of entering into an agreement with the Proponents where the applicable agency would reclaim the portion of roads located on federal land, and the costs of this effort would be reimbursed by the Proponents.

Decommissioning of the Project could result in both temporary adverse effects and long-term beneficial effects to TES wildlife species. Temporary adverse effects would include disturbances to wildlife resulting from the presence of workers and construction equipment necessary for the removal of Project components, increased sedimentation to waterbodies created during road decommissioning or culvert removal, temporary loss of habitat if some vegetation needs to be cleared to remove Project components or temporarily widen roads, and the possibility of direct mortality during decommissioning actions. The extent of adverse impacts would be similar to those discussed for Project construction, and the mitigation measures discussed for construction would be required during

decommissioning. Long-term beneficial effects would include the removal of tall structures (towers) from grouse habitats, and the decommissioning of Project facilities and access roads, both of which could increase the connectivity and size of wildlife habitat. Due to the potential for both adverse and beneficial effects to TES wildlife species, consultation with the USFWS would need to be initiated prior to decommissioning.

### **3.11.2.3 Proposed Route and Route Alternatives by Segment**

#### **Segment 1E**

Segment 1E, as proposed, would link the Windstar and Aeolus Substations in south-central Wyoming with a 100.6-mile 230-kV single-circuit transmission line. Twenty acres of the expansion of Windstar and Aeolus Substations and 0.5 acre for one regeneration site are attributed to Segment 1E. Alternative 1E-A is a 16.1-mile alternative along the north end of Segment 1E, which was the Proponents' initial proposal before moving the Proposed Route at the suggestion of local landowners to avoid the more settled area around Glenrock. Alternative 1E-B is 21.4 miles longer than the Proposed Route but is being considered by the Proponents because it would avoid a Wyoming-designated sage-grouse core area to the east. The BLM has required the consideration of Alternative 1E-C, which parallels the Segment 1W 230-kV lines into the Aeolus Substation (see Appendix A, Figure A-2). The most common habitat found along Segment 1E is shrubland (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available (see Tables D.11-3 and D.11-4 in Appendix D), the bald eagle, black-tailed prairie dog, burrowing owl, greater sage-grouse, mountain plover, northern goshawk, northern leopard frog, Preble's jumping mouse, and the white-tailed prairie dog could occur along Segment 1E. Tables D.11-3 through D.11-8 in Appendix D list the impacts to habitat for each species found along Segment 1E and its Route Alternatives.

The Proposed Route would impact approximately 16 acres of habitat within 1 mile of two northern goshawk nests (Tables D.10-2 and D.11-6 in Appendix D). The number of nests that occur within 1 mile would drop to a single nest under Alternative 1E-C, with approximately 6 acres of habitat impacted (a 10-acre reduction in impacts compared to the Proposed Route). Alternatives 1E-A and 1E-B do not correspond to the same area along the Proposed Route where impacts would occur, and no additional impacts would occur along these Route Alternatives (i.e., these routes would not increase or decrease impacts to this species compared to the Proposed Route).

Tables 3.11-7a–g display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 1E would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Alternative 1E-A would result in fewer impacts to the black-tailed prairie dog, burrowing owl, greater sage-grouse, mountain plover, and white-tailed prairie dog habitat than the comparison portion of the Proposed Route (i.e., the portion of the Proposed Route that starts and ends at the same nodes as the Route Alternative); however, Alternative 1E-A would increase the acreage of construction impacts to the bald eagle, northern leopard frog, and Preble's jumping mouse habitat. Alternative 1E-B would increase the acreage of impacts to burrowing owl, greater sage-grouse, mountain plover, northern leopard frog, Preble's

jumping mouse, and white-tailed prairie dog habitat. Alternative 1E-C would result in fewer acres of impacts to burrowing owl, greater sage-grouse, mountain plover, northern leopard frog, Preble’s jumping mouse, and white-tailed prairie dog habitat. None of the Segment 1E Route Alternatives are capable of avoiding all impacts to these species habitats, as some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative.

The acreage of impacts to the northern leopard frog and Preble’s meadow jumping mouse habitat are minor between the Route Alternatives and the comparison portion of the Proposed Route; however, because habitats for these species (wetlands and riparian areas) are rare within the general area, even minor differences in the acreage of impacts can have a substantial effect on the availability of habitat. (Table D.9-1 in Appendix D lists the total impacts to all wetland habitats along each segment and Route Alternative; Section 3.9 discusses the distribution of wetlands and riparian areas within the general area.)

The Proposed Route along Segment 1E, as well as Alternative 1E-C, would cross the Medicine Bow-Routt NFs (see Section 3.17 – Land Use and Recreation). The Proposed Route would impact about 1 acre of burrowing owl habitat, 30 acres of greater sage-grouse habitat, 5 acres of mountain plover habitat, 10 acres of northern goshawk habitat, less than 1 acre of northern leopard frog and Preble’s meadow jumping mouse habitat, and 8 acres of white-tailed prairie dog habitat on the Medicine Bow-Routt NFs. Alternative 1E-C would impact about 9 acres of greater sage-grouse habitat, 5 acres of mountain plover habitat, 3 acres of northern goshawk habitat, less than 1 acre of northern leopard frog and Preble’s meadow jumping mouse habitat, and 11 acres of white-tailed prairie dog habitat on the Medicine Bow-Routt NFs.

**Tables 3.11-7a–g.** Alternative Comparison Tables for Segment 1E

<b>Table 3.11-7a. Acres of Suitable Bald Eagle Habitat (1-mile buffer around winter roosts) Impacted during Construction and Operations of Segment 1E</b>		
<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
1E Proposed – Total Length	22	7
1E Proposed – Comparison Portion for Alternative 1E-A	22	7
Alternative 1E-A	53	17
1E Proposed – Comparison Portion for Alternative 1E-B	0	0
Alternative 1E-B	0	0
1E Proposed – Comparison Portion for Alternative 1E-C	0	0
Alternative 1E-C	0	0

Acreages are rounded to the nearest acre.

<b>Table 3.11-7b. Acres of Suitable Black-tailed Prairie Dog Habitat Impacted during Construction and Operations of Segment 1E</b>		
<b>Alternatives</b>	<b>Construction Impacts <sup>1/</sup> (acres)</b>	<b>Operations Impacts (acres)</b>
1E Proposed – Total Length	240	53
1E Proposed – Comparison Portion for Alternative 1E-A	226	49
Alternative 1E-A	94	27
1E Proposed – Comparison Portion for Alternative 1E-B	0	0
Alternative 1E-B	0	0
1E Proposed – Comparison Portion for Alternative 1E-C	0	0
Alternative 1E-C	0	0

Acreages are rounded to the nearest acre.

1/ Includes both colonies and complexes, as reported in the Appendix D tables.

**Table 3.11-7c. Acres of Suitable Burrowing Owl Habitat Impacted during Construction and Operations of Segment 1E**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1E Proposed – Total Length	795	191
1E Proposed – Comparison Portion for Alternative 1E-A	189	44
Alternative 1E-A	108	34
1E Proposed – Comparison Portion for Alternative 1E-B	340	78
Alternative 1E-B	538	120
1E Proposed – Comparison Portion for Alternative 1E-C	597	145
Alternative 1E-C	223	63

Acres are rounded to the nearest acre.

**Table 3.11-7d. Acres of Suitable Greater Sage-Grouse Habitat Impacted during Construction and Operations of Segment 1E**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1E Proposed – Total Length	731	186
1E Proposed – Comparison Portion for Alternative 1E-A	122	29
Alternative 1E-A	58	18
1E Proposed – Comparison Portion for Alternative 1E-B	301	68
Alternative 1E-B	496	109
1E Proposed – Comparison Portion for Alternative 1E-C	588	150
Alternative 1E-C	231	70

Acres are rounded to the nearest acre.

**Table 3.11-7e. Acres of Suitable Mountain Plover Habitat Impacted during Construction and Operations of Segment 1E**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1E Proposed – Total Length	791	192
1E Proposed – Comparison Portion for Alternative 1E-A	163	37
Alternative 1E-A	88	27
1E Proposed – Comparison Portion for Alternative 1E-B	350	78
Alternative 1E-B	556	116
1E Proposed - Comparison Portion for Alternative 1E-C	607	149
Alternative 1E-C	236	73

Acres are otherwise rounded to the nearest acre.

**Table 3.11-7f. Acres of Northern Leopard Frog and Preble’s Meadow Jumping Mouse Habitat Impacted during Construction and Operations of Segment 1E**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1E Proposed – Total Length	9	2
1E Proposed – Comparison Portion for Alternative 1E-A	<1	t
Alternative 1E-A	2	0
1E Proposed – Comparison Portion for Alternative 1E-B	3	1
Alternative 1E-B	4	1
1E Proposed – Comparison Portion for Alternative 1E-C	9	2
Alternative 1E-C	3	<1

Acres are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
1E Proposed – Total Length	833	198
1E Proposed – Comparison Portion for Alternative 1E-A	140	30
Alternative 1E-A	67	21
1E Proposed – Comparison Portion for Alternative 1E-B	365	82
Alternative 1E-B	594	127
1E Proposed – Comparison Portion for Alternative 1E-C	658	158
Alternative 1E-C	267	75

Acres are otherwise rounded to the nearest acre.

### **Segment 1W**

Segment 1W is composed of two parts, Segment 1W(a) and 1W(c), both of which would consist of a new 230-kV line for part of their length and a reconstruction of an existing 230-kV line for the remaining part. Segment 1W(a) would be about 76.5 miles long, and would extend from the Windstar Substation to the Aeolus Substation. Segment 1W(c) would be about 70.6 miles long, and would extend from the Dave Johnston Power Plant to the Aeolus Substation. Alternative 1W-A is a 16.2-mile alternative located near the town of Glenrock, which was the Proponents' initial proposal before moving the Proposed Route at the suggestion of local landowners in order to avoid the more settled area around Glenrock. Twenty acres of the proposed expansion at the Windstar and Aeolus Substations are attributed to Segment 1W(a) and 3 acres of the expansion at the Difficulty Substation and 17 acres of the expansion at the Windstar and Aeolus Substations are attributed to Segment 1W(c). There are no Route Alternatives proposed south of that point (see Appendix A, Figure A-2). The most common habitat along Segment 1W is shrubland (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species specific data are available, the bald eagle, black-tailed prairie dog, burrowing owl, greater sage-grouse, mountain plover, northern goshawk, northern leopard frog, Preble's meadow jumping mouse, white-tailed prairie dog, and the yellow-billed cuckoo could occur along Segment 1W. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 1W and its Route Alternative.

The Proposed Route in Segment 1W(a) would cross through a small portion of yellow-billed cuckoo habitat for less than 0.1 mile (Table D.11-3 in Appendix D). Less than 1 acre of yellow-billed cuckoo habitat would be impacted during construction (Table D.11-5 in Appendix D). This portion of yellow-billed cuckoo habitat impacted along the Proposed Route would be located outside of areas that contain Route Alternatives; therefore, the selection of a Route Alternative would not result in the avoidance of impacts to the yellow-billed cuckoo along this segment. Furthermore, no yellow-billed cuckoo habitat would be crossed by the Route Alternative proposed along this segment.

The Proposed Route would impact approximately 11 acres of habitat within 1 mile of a single northern goshawk nest along Segment 1W(a) and Segment 1W(c). (This nest is also located within 1 mile of Segment 1E.) Selection of Alternative 1W-A would not

result in the avoidance or an increase in impacts to areas near known northern goshawk nests.

Tables 3.11-8a–g display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 1W would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Alternative 1W-A would result in fewer impacts to black-tailed prairie dog, burrowing owl, greater sage-grouse, mountain plover, and white-tailed prairie dog habitat than the comparison portion of Segment 1W; however, it would cause more impacts to bald eagle<sup>11</sup>, northern leopard frog, and Preble’s meadow jumping mouse habitat. As some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative, selection of Alternative 1W-A would not result in a complete avoidance of impacts to any of these species’ habitats.

The acreage of impacts to the northern leopard frog and Preble’s meadow jumping mouse habitat are minor between Alternative 1W-A and the comparison portion of the Proposed Route, with about 1 acre of difference between impacts resulting from the two routes. However, because habitats for these species (wetlands and riparian areas) are rare within the general area, even minor differences in the acreage of impacts can have a substantial effect on the availability of habitat. (Table D.9-1 in Appendix D lists the total impacts to all wetland habitats along each segment and Route Alternative; Section 3.9 discusses the distribution of wetlands and riparian areas within the general area.)

The Proposed Route along Segments 1W(a) and 1W(c) would cross the Medicine Bow-Routt NFs (see Section 3.17 – Land Use and Recreation). Segment 1W(a) would impact less than 1 acre of burrowing owl habitat, about 12 acres of greater sage-grouse habitat, 5 acres of mountain plover habitat, 9 acres of northern goshawk habitat, less than 1 acre of northern leopard frog habitat, and 14 acres of white-tailed prairie dog habitat on the Medicine Bow-Routt NFs. Segment 1W(c) would impact about 26 acres of greater sage-grouse habitat, 9 acres of mountain plover habitat, 7 acres of northern goshawk habitat, and 17 acres of white-tailed prairie dog habitat on the Medicine Bow-Routt NFs.

**Tables 3.11-8a–g.** Alternative Comparison Tables for Segment 1W

<b>Table 3.11-8a. Acres of Suitable Bald Eagle Habitat (1 mile Buffer Around Winter Roosts) Impacted during Construction and Operations of Segment 1W</b>		
<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
1W(a) Proposed – Total Length	14	4
1W(a) Proposed – Comparison Portion for Alternative 1W-A	14	4
Alternative 1W-A	47	13
1W(c) Proposed – Total Length	72	14

Acreages are rounded to the nearest acre.

<sup>11</sup> In addition, Segment 1W(c) and Alternative 1W-A would lie within 1 mile of a bald eagle nest.

**Table 3.11-8b. Acres of Suitable Black-Tailed Prairie Dog Habitat Impacted during Construction and Operations of Segment 1W**

Alternatives	Construction Impacts <sup>1/</sup> (acres)	Operations Impacts (acres)
1W(a) Proposed – Total Length	240	57
1W(a) Proposed – Comparison Portion for Alternative 1W-A	219	50
Alternative 1W-A	126	38
1W(c) Proposed – Total Length	168	22

Acres are rounded to the nearest acre.

1/ includes both colonies and complexes, as reported in the Appendix D tables.

**Table 3.11-8c. Acres of Suitable Burrowing Owl Habitat Impacted during Construction and Operations of Segment 1W**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1W(a) Proposed – Total Length	463	126
1W(a) Proposed – Comparison Portion for Alternative 1W-A	179	38
Alternative 1W-A	119	35
1W(c) Proposed – Total Length	616	104

Acres are rounded to the nearest acre.

**Table 3.11-8d. Acres of Suitable Greater Sage-Grouse Habitat Impacted during Construction and Operations of Segment 1W**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1W(a) Proposed – Total Length	379	119
1W(a) Proposed – Comparison Portion for Alternative 1W-A	96	22
Alternative 1W-A	48	14
1W(c) Proposed – Total Length	486	95

Acres are rounded to the nearest acre.

**Table 3.11-8e. Acres of Suitable Mountain Plover Habitat Impacted during Construction and Operations of Segment 1W**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1W(a) Proposed – Total Length	408	120
1W(a) Proposed – Comparison Portion for Alternative 1W-A	133	28
Alternative 1W-A	90	26
1W(c) Proposed – Total Length	615	98

Acres are rounded to the nearest acre.

**Table 3.11-8f. Acres of Suitable Northern Leopard Frog and Preble's Meadow Jumping Mouse Habitat Impacted during Construction and Operations of Segment 1W**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
1W(a) Proposed – Total Length	7	2
1W(a) Proposed – Comparison Portion for Alternative 1W-A	<1	t <sup>1/</sup>
Alternative 1W-A	2	t <sup>1/</sup>
1W(c) Proposed – Total Length	12	2

1/ "t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
1W(a) Proposed – Total Length	430	119
1W(a) Proposed – Comparison Portion for Alternative 1W-A	93	19
Alternative 1W-A	70	19
1W(c) Proposed – Total Length	641	111

Acres are rounded to the nearest acre.

## **Segment 2**

Segment 2, as proposed, would link the Aeolus and Creston Substations in southeast Wyoming with two 500-kV circuits on one structure. One circuit would be operated at 230 kV during the initial phase of the Project. Its total proposed length is 96.7 miles. Fifty-two acres of the expansion of the Aeolus Substation and the construction of the Creston Substation and 0.5 acre for one regeneration site are attributed to Segment 2. There are three Route Alternatives, two of which are near the community of Fort Fred Steele. Alternative 2A at 28.4 miles long is being considered by the BLM because it remains in the WWE corridor nearer the town and the state historic site, and Alternative 2B, at 6.2 miles, is closer to the community than the comparison portion of the Proposed Route and was the initially proposed route before the Proponents responded to local suggestions and relocated the Proposed Route farther to the south. Alternative 2C is a 24.4-mile alternative located north of Hanna, Wyoming. It is being evaluated at the recommendation of the Wyoming Governor's office to follow a utility corridor approved by that office for minimizing effects to sage-grouse (see Appendix A, Figure A-3). The most common habitat type along Segment 2 is shrubland (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available, the bald eagle, black-footed ferret, burrowing owl, greater sage-grouse, mountain plover, northern leopard frog, Preble's meadow jumping mouse, pygmy rabbit, white-tailed prairie dog, and Wyoming pocket gopher could occur along Segment 2. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 2 and its Route Alternatives.

The Proposed Route would impact about 232 acres of black-footed ferret habitat. These impacts would occur along portions of the route where Route Alternatives have not been proposed. In addition, the Route Alternatives would not impact additional habitat for this species. Therefore, selection of any of the current Route Alternatives along Segment 2 would not have an effect on the amount of habitat for this species that would be impacted.

Tables 3.11-9a–h display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 2 would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Alternative 2A would result in an increase in impacts to all of the species assessed (Tables D.11-5 through D.11-8 in Appendix D). Alternative 2B would result in an increase in impacts to the bald eagle, mountain plover, northern leopard frog, Preble's meadow jumping mouse, and Wyoming

pocket gopher habitat than the comparison portion of Segment 2; however, it would result in fewer impacts to the burrowing owl, greater sage-grouse, pygmy rabbit, and white-tailed prairie dog habitat. Alternative 2C would result in an increase in impacts to burrowing owl, pygmy rabbit, and white-tailed prairie dog habitat, with fewer impacts to mountain plover, northern leopard frog, greater sage-grouse, and Preble’s meadow jumping mouse habitat. As some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative, selection of an alternative would not result in a complete avoidance of impacts to any of these species’ habitats.

For Alternatives 2A and 2B, the increase in impacts to bald eagle and Wyoming pocket gopher habitat would be substantial, indicating that these Route Alternatives would impact substantially more habitat for these two species than the comparison portion of the Proposed Route. Alternative 2B would also result in a substantial increase in impacts to northern leopard frog and Preble’s meadow jumping mouse habitat, while Alternative 2C would substantially reduce impacts to these two species’ habitats.

**Tables 3.11-9a–h.** Alternative Comparison Tables for Segment 2

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 2A	<1	t <sup>1/</sup>
Alternative 2A	26	7
Proposed – Comparison Portion for Alternative 2B	<1	t <sup>1/</sup>
Alternative 2B	28	6
Proposed – Comparison Portion for Alternative 2C	0	0
Alternative 2C	0	0

1/ “t” indicates values <0.1. Acreages are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,113	288
Proposed – Comparison Portion for Alternative 2A	236	45
Alternative 2A	340	67
Proposed – Comparison Portion for Alternative 2B	70	12
Alternative 2B	44	11
Proposed – Comparison Portion for Alternative 2C	219	45
Alternative 2C	262	42

Acreages are rounded to the nearest acre.

**Table 3.11-9c. Acres of Suitable Greater Sage-Grouse Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,336	365
Proposed – Comparison Portion for Alternative 2A	311	63
Alternative 2A	365	78
Proposed – Comparison Portion for Alternative 2B	81	14
Alternative 2B	59	14
Proposed – Comparison Portion for Alternative 2C	312	69
Alternative 2C	295	51

Acres are rounded to the nearest acre.

**Table 3.11-9d. Acres of Suitable Mountain Plover Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1390	307
Proposed – Comparison Portion for Alternative 2A	331	52
Alternative 2A	384	68
Proposed Comparison Portion for Alternative 2B	88	11
Alternative 2B	59	16
Proposed – Comparison Portion for Alternative 2C	331	49
Alternative 2C	316	32

\*Acres are rounded to the nearest acre.

**Table 3.11-9e. Acres of Suitable Northern Leopard Frog and Preble’s Meadow Jumping Mouse Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	12	4
Proposed – Comparison Portion for Alternative 2A	3	<1
Alternative 2A	6	1
Proposed – Comparison Portion for Alternative 2B	<1	t
Alternative 2B	5	<1
Proposed – Comparison Portion for Alternative 2C	2	<1
Alternative 2C	<1	t

Acres are rounded to the nearest acre.

**Table 3.11-9f. Acres of Suitable Pygmy Rabbit Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	880	193
Proposed – Comparison Portion for Alternative 2A	225	43
Alternative 2A	314	63
Proposed – Comparison Portion for Alternative 2B	63	11
Alternative 2B	38	9
Proposed – Comparison Portion for Alternative 2C	222	45
Alternative 2C	263	43

Acres are rounded to the nearest acre.

**Table 3.11-9g. Acres of Suitable White-Tailed Prairie Dog Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,225	310
Proposed – Comparison Portion for Alternative 2A	260	50
Alternative 2A	349	69
Proposed – Comparison Portion for Alternative 2B	81	14
Alternative 2B	44	11
Proposed – Comparison Portion for Alternative 2C	259	54
Alternative 2C	287	46

Acres are rounded to the nearest acre.

**Table 3.11-9h. Acres of Suitable Wyoming Pocket Gopher Habitat Impacted during Construction and Operations of Segment 2**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	419	86
Proposed – Comparison Portion for Alternative 2A	<1	t <sup>1/</sup>
Alternative 2A	1	6
Proposed – Comparison Portion for Alternative 2B	<1	t <sup>1/</sup>
Alternative 2B	20	6
Proposed – Comparison Portion for Alternative 2C	0	0
Alternative 2C	0	0

1/ "t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

### **Segment 3**

Segment 3, as proposed, would link the Creston and Anticline Substations in southeast Wyoming with two 500-kV circuits on one structure. One circuit would be operated at 230 kV during the initial phase of the Project. Its total proposed length between those two substations is 46.7 miles. Sixty-nine acres of the construction of the Anticline and Creston Substations are attributed to Segment 3. Segment 3 would also link the Anticline and Jim Bridger Substations with a 4.3-mile 230-kV line and a 5.5-mile 345-kV line and includes the 10-acre expansion of the Jim Bridger 345-kV Substation. There are no Route Alternatives proposed along this segment (see Appendix A, Figure A-4).

Of the TES species where quantitative species-specific data are available, the black-footed ferret, burrowing owl, greater sage-grouse, grizzly bear, mountain plover, northern leopard frog, pygmy rabbit, white-tailed prairie dog, and the Wyoming pocket gopher could occur along Segment 3.

Construction of Segment 3 would impact approximately 222 acres of black-footed ferret habitat, 601 acres of burrowing owl habitat, 694 acres of greater sage-grouse habitat, 611 acres of grizzly bear habitat (only consists of lands within the DPS boundary), 737 acres of mountain plover habitat, 14 acres of northern leopard frog, 539 acres of pygmy rabbit habitat, 612 acres of white-tailed prairie dog habitat, and 586 acres of Wyoming pocket gopher habitat (Tables D.11-5 through D.11-8 in Appendix D).

#### **Segment 4**

Segment 4, as proposed, would link the Anticline Substation near the Jim Bridger Power Plant in southwestern Wyoming with the Populus Substation in Idaho with two 500-kV circuits on one structure. Its total proposed length is 203 miles. Eighty-nine acres of the construction of the Anticline Substation and the expansion of the Populus Substation and 1.5 acres for three regeneration sites are attributed to Segment 4. It has six Route Alternatives in the middle portion of its route but the first 52 miles to the east and the last 61 miles to the west (in Idaho) do not have any Route Alternatives. The middle section of the Proposed Route is 90.2 miles long, and its Route Alternatives vary from 85 to 102 miles long. These alternatives were proposed by the Wyoming Governor's office (4A, paralleling the existing 345-kV lines throughout); by the BLM Kemmerer FO (4B through 4E, including edits from various cooperating agencies), with the intent to avoid impacts to cultural resources to the extent practical; and by the Proponents (4F, attempting to avoid impacts to cultural resources while still remaining north of the existing lines) (see Appendix A, Figures A-5 and A-6). The most common habitat type along Segment 4 is shrubland (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available, the bald eagle, black-footed ferret, burrowing owl, Canada lynx, Columbian sharp-tailed grouse, Columbia spotted frog, greater sage-grouse, grizzly bear, mountain plover, northern goshawk, northern leopard frog, pygmy rabbit, white-tailed prairie dog, and the Wyoming pocket gopher could occur along Segment 4. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 4 and its Route Alternatives.

Construction of Segment 4 would impact about 18 and 38 acres of habitat for the bald eagle (within 1 mile of nests) and northern goshawk (within 1 mile of nests), respectively. No habitat for these species would be impacted along the six Route Alternatives, or along the comparison portion of the Proposed Route.

Construction of Segment 4 would impact about 119 acres of Wyoming pocket gopher habitat. No habitat would be impacted along the six Route Alternatives, or along the comparison portion of the Proposed Route.

Construction of Segment 4 would impact about 302 acres of Canada lynx habitat. If Alternative 4F is chosen, about 181 acres of this impact would be avoided. The remaining five Route Alternatives (Alternatives 4A through 4E) would not impact lynx habitat, and would completely avoid the 302 acres of impacts that would occur along the Proposed Route (Table D.11-5 in Appendix D).

Tables 3.11-10a–j display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 4 would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. In general, selection of a Route Alternative along Segment 4 would result in an increase in impacts to the assessed species. An increase in impacts during construction would occur to habitat for the Columbian sharp-tailed grouse, Columbia spotted frog, greater sage-grouse, northern leopard frog, pygmy rabbit, and white-tailed prairie dog under each of the six Route

Alternatives over the comparison portion of the Proposed Route. The burrowing owl, black-footed ferret, grizzly bear, and mountain plover are the only species that would experience fewer impacts under certain Route Alternatives. Impact to burrowing owl habitat would be reduced under Alternative 4A, while impacts to black-footed ferret habitat would be reduced under Alternatives 4A and 4F. Impacts to grizzly bear habitat would be reduced under all Route Alternatives except for 4F (which would impact similar acreage as the Proposed Route). The mountain plover is the only species assessed that would experience fewer impacts under all six of the Route Alternatives compared to the comparison portion of Segment 4.

For all Route Alternatives, the increase in impacts to Columbia spotted frog, and northern leopard frog habitat would be substantial, indicating that these Route Alternatives would impact substantially more habitat than the comparison portion of the Proposed Route. As was discussed for Segment 1W, because habitat for these species (riparian/wetland areas that can support these species) is limited within the general area, even minor differences in the acreage of impacts can have a substantial effect on the availability of habitat for this species. In addition, Alternatives 4B, 4C, and 4D would substantially increase impacts to burrowing owl habitat, while Alternatives 4B through 4E would substantially reduce impacts to habitat for the grizzly bear; however, as noted earlier, these impacts to bear habitat only consist of areas that fall within the DPS boundary and not the PCA or areas that have been designated as suitable bear habitat by the USFWS.

The Proposed Route along Segment 4 would cross the Caribou-Targhee NF (see Section 3.17 – Land Use and Recreation). Segment 4 would impact about 13 acres of burrowing owl habitat, 116 acres of Columbian sharp-tailed grouse habitat, 38 acres of northern goshawk habitat, 1 acre of northern leopard frog habitat, and 4 acres of pygmy rabbit habitat on the Caribou-Targhee NF.

The roads analysis for the Caribou NF travel plan categorizes roads regarding their level of risk to wildlife species (Forest Service 2005). Of the roads crossed or used by the Project on the Caribou-Targhee NF, Road 20401 has a low risk for goshawk, leopard toad, boreal toad, peregrine falcon, and overall wildlife. Roads 20404, 20425, 20438, 20463, 20466, and 21000 have a low risk for all categories assessed. Therefore, it is likely that the new roads, which would be revegetated and closed to the public following construction, would have a low risk to wildlife species as well.

#### **Tables 3.11-10a–j.** Alternative Comparison Tables for Segment 4

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	549	113
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	408	85
Alternative 4A	328	72
Alternative 4B	443	111
Alternative 4C	443	111
Alternative 4D	443	111
Alternative 4E	443	111
Alternative 4F	321	72

Acres are rounded to the nearest acre.

**Table 3.11-10b. Acres of Suitable Burrowing Owl Habitat Impacted during Construction and Operations of Segment 4**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,536	353
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	697	143
Alternative 4A	683	151
Alternative 4B	1,019	248
Alternative 4C	1,068	253
Alternative 4D	994	241
Alternative 4E	1,029	244
Alternative 4F	710	158

Acres are rounded to the nearest acre.

**Table 3.11-10c. Acres of Suitable Columbian Sharp-Tailed Grouse Habitat Impacted during Construction and Operation of Segment 4**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	861	192
Proposed-Comparison Portion for Alternatives 4A,B,C,D,E,F	83	16
Alternative 4A	84	17
Alternative 4B	119	25
Alternative 4C	118	25
Alternative 4D	119	26
Alternative 4E	115	24
Alternative 4F	86	18

Acres are rounded to the nearest acre.

**Table 3.11-10d. Acres of Suitable Columbia Spotted Frog Habitat Impacted during Construction and Operation of Segment 4**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	9	2
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	9	2
Alternative 4A	52	6
Alternative 4B	36	3
Alternative 4C	28	2
Alternative 4D	32	3
Alternative 4E	28	2
Alternative 4F	35	3

Acres are rounded to the nearest acre.

**Table 3.11-10e. Acres of Suitable Greater Sage-Grouse Habitat Impacted during Construction and Operation of Segment 4**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	2,073	486
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	973	203
Alternative 4A	1,020	232
Alternative 4B	1,240	295
Alternative 4C	1,203	284
Alternative 4D	1,241	297
Alternative 4E	1,198	283
Alternative 4F	1,004	227

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,949	449
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	1,085	232
Alternative 4A	1,043	234
Alternative 4B	287	64
Alternative 4C	423	90
Alternative 4D	301	65
Alternative 4E	424	90
Alternative 4F	1,087	246

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,125	260
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	605	119
Alternative 4A	502	109
Alternative 4B	575	139
Alternative 4C	575	139
Alternative 4D	576	139
Alternative 4E	576	139
Alternative 4F	496	109

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	66	14
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	16	3
Alternative 4A	59	7
Alternative 4B	48	4
Alternative 4C	40	3
Alternative 4D	44	5
Alternative 4E	40	4
Alternative 4F	43	4

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,506	365
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	850	186
Alternative 4A	912	215
Alternative 4B	1,044	265
Alternative 4C	1,062	261
Alternative 4D	1,011	258
Alternative 4E	1,022	252
Alternative 4F	939	223

Acres are rounded to the nearest acre.

**Table 3.11-10j. Acres of Suitable White-Tailed Prairie Dog Habitat Impacted during Construction and Operation of Segment 4**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,585	358
Proposed – Comparison Portion for Alternatives 4A,B,C,D,E,F	957	207
Alternative 4A	1,092	245
Alternative 4B	1,282	311
Alternative 4C	1,326	313
Alternative 4D	1,291	314
Alternative 4E	1,325	312
Alternative 4F	1,073	244

Acres are rounded to the nearest acre.

### **Segment 5**

Segment 5, as proposed, would link the Populus and Borah Substations with a 54.6-mile single-circuit 500-kV line. Forty-four acres of the expansion of the Populus and Borah Substations are attributed to Segment 5. There are five Route Alternatives including two proposed by the BLM to avoid the Deep Creek Mountains (5A and 5B, 8 miles and 19 miles longer than the comparison portion of the Proposed Route), one preferred by Power County that crosses the Fort Hall Indian Reservation (5C, 6 miles shorter than the comparison portion of the Proposed Route), one originally proposed by the Proponents (5D, 2 miles shorter than the comparison portion of the Proposed Route but located within more agricultural lands), and one proposed by Power County as an alternative approach to the Borah Substation (5E) (see Appendix A, Figure A-7). The most common habitat type along Segment 5 is shrubland (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available, the bald eagle, burrowing owl, Columbian sharp-tailed grouse, greater sage-grouse, northern leopard frog, pygmy rabbit, and the yellow-billed cuckoo could potentially occur along Segment 5. Tables D.11-5 through D.11-8 in Appendix D list the acres of impacts to habitat for each species quantitatively assessed along Segment 5 and its Route Alternatives.

The Proposed Route would cross approximately 1.6 miles of habitat within 1 mile of two active bald eagle nests along Segment 5 (Table D.11-4 in Appendix D). This would result in a construction impact to approximately 28 acres of habitat. Alternatives 5A through 5C would not have an impact to bald eagle habitat as the habitat impacted along the Proposed Route occurs in an area not encompassed by these three Route Alternatives (Table D.11-6 in Appendix D). Alternative 5D is proposed as a Route Alternative to the portion of the Proposed Route where the 28 acres of impacts would occur. Selection of Alternative 5D would result in 21 acres of impact (a 7-acre reduction in impacts compared to the Proposed Route). Impacts to habitats within 1 mile of nests would be almost entirely avoided along Segment 5 if Alternative 5E were selected (Table D.11-6 in Appendix D).

Tables 3.11-11a–f display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 5 would have a differential effect,

where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Unlike many of the other Project segments, there is no distinct trend regarding which Route Alternative along Segment 5 would result in either an increase or decrease in the acreage of impacts to TES habitat, with the exception of Alternative 5E (which would decrease impacts to all species that have available quantitative data). Alternatives 5A and 5B would result in an increase (over the comparison portion of the Proposed Route) in impacts to burrowing owl, Columbian sharp-tailed grouse, greater sage-grouse, and pygmy rabbit habitat; however, it would result in fewer impacts to northern leopard frog habitat. Alternative 5C would increase impacts to burrowing owl, northern leopard frog, pygmy rabbit, and yellow-billed cuckoo habitat, but would result in fewer impacts to Columbian sharp-tailed grouse and greater sage-grouse habitat. Alternative 5D would increase impacts to burrowing owl and yellow-billed cuckoo habitat, but would result in fewer impacts to Columbian sharp-tailed grouse, greater sage-grouse, and pygmy rabbit habitat. Because some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative, selection of any of the Route Alternatives would not result in a complete avoidance of impacts to any of these species' habitats.

The differences in acreage of impacts to northern leopard frog and yellow-billed cuckoo habitats are minor between most of Route Alternatives (typically differing by only a few acres), with the exception of Alternative 5D, which would result in substantially more impacts to yellow-billed cuckoo habitat compared to the comparison portion of the Proposed Route (from zero acres to 9 acres). Because habitats for these two species are rare within the general area, even minor differences in the acreage of impacts can have a substantial effect on the availability of habitat (Table D.9-1 in Appendix D lists the total impacts to all wetland habitats along each segment and Route Alternative; Section 3.9 – Wetlands and Riparian Areas discusses the distribution of wetlands within the general area).

**Tables 3.11-11a–f. Alternative Comparison Tables for Segment 5**

<b>Table 3.11-10a. Acres of Suitable Burrowing Owl Habitat Impacted during Construction and Operations of Segment 5</b>		
<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	469	87
Proposed – Comparison Portion for Alternatives 5A,B	190	26
Alternative 5A	264	31
Alternative 5B	369	45
Proposed – Comparison Portion for Alternative 5C	239	28
Alternative 5C	287	32
Proposed – Comparison Portion for Alternative 5D	153	26
Alternative 5D	174	34
Proposed – Comparison Portion for Alternative 5E	72	18
Alternative 5E	45	16

Acreages are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	891	163
Proposed – Comparison Portion for Alternatives 5A,B	427	72
Alternative 5A	546	84
Alternative 5B	673	96
Proposed – Comparison Portion for Alternative 5C	575	92
Alternative 5C	430	55
Proposed – Comparison Portion for Alternative 5D	352	56
Alternative 5D	323	47
Proposed – Comparison Portion for Alternative 5E	91	18
Alternative 5E	60	17

Acreages are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	100	100
Proposed – Comparison Portion for Alternatives 5A,B	34	34
Alternative 5A	44	44
Alternative 5B	50	50
Proposed – Comparison Portion for Alternative 5C	42	42
Alternative 5C	30	30
Proposed – Comparison Portion for Alternative 5D	35	35
Alternative 5D	23	23
Proposed – Comparison Portion for Alternative 5E	17	17
Alternative 5E	16	16

Acreages are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	11	2
Proposed – Comparison Portion for Alternatives 5A,B	5	<1
Alternative 5A	<1	<1
Alternative 5B	<1	<1
Proposed – Comparison Portion for Alternative 5C	4	<1
Alternative 5C	5	<1
Proposed – Comparison Portion for Alternative 5D	6	2
Alternative 5D	6	2
Proposed – Comparison Portion for Alternative 5E	3	1
Alternative 5E	2	1

1/ "t" indicates values <0.1. Acreages are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	338	77
Proposed – Comparison Portion for Alternatives 5A,B	103	18
Alternative 5A	164	20
Alternative 5B	186	25
Proposed – Comparison Portion for Alternative 5C	152	23
Alternative 5C	226	27
Proposed – Comparison Portion for Alternative 5D	123	25
Alternative 5D	107	26
Proposed – Comparison Portion for Alternative 5E	59	16
Alternative 5E	45	16

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	<1	<1
Proposed – Comparison Portion for Alternatives 5A,B	<1	<1
Alternative 5A	<1	<1
Alternative 5B	<1	<1
Proposed – Comparison Portion for Alternative 5C	4	–
Alternative 5C	1	1
Proposed – Comparison Portion for Alternative 5D	–	–
Alternative 5D	9	8
Proposed – Comparison Portion for Alternative 5E	–	–
Alternative 5E	–	–

1/ “t” indicates values <0.1. Acres are otherwise rounded to the nearest acre.

## **Segment 6**

Segment 6 is an existing transmission line linking the Borah and Midpoint Substations; it is now operated at 345 kV but would be changed to operate at 500 kV. This segment has no Route Alternatives. Existing support structures would be used and impacts would be limited to within approximately one-quarter mile from each substation to allow for moving the entry point into the substation to the new 500-kV bay. Thirty-one acres of the expansion of the Borah and Midpoint Substations are attributed to Segment 6. Changes in the two substations would allow it to be operated at 500 kV (see Appendix A, Figure A-8).

Ground-disturbing activities along this segment would be limited to the immediate vicinity of the Borah and Midpoint Substations. Although these areas have already been disturbed by the past construction and operation of these substations, some wildlife may utilize adjacent habitats, and as such modifications made to these substations could temporarily disturb adjacent wildlife.

Of the TES species where quantitative species-specific data are available, habitat for the burrowing owl, Columbian sharp-tailed grouse, greater sage-grouse, northern leopard frog, and pygmy rabbit could occur along Segment 6. Modifications made to

the substations along Segment 6 would impact approximately 42 acres of burrowing owl habitat, 16 acres of Columbian sharp-tailed grouse habitat, 42 acres of greater sage-grouse habitat, 2 acres of northern leopard frog habitat, and 42 acres of pygmy rabbit habitat (Tables D.11-5 through D.11-8 in Appendix D).

### **Segment 7**

Segment 7, as proposed, would link the Populus and Cedar Hill Substations with a 118.1-mile single-circuit 500-kV line. Forty-two acres of the expansion of the Populus and the construction of the Cedar Hill Substations and 1 acre for two regeneration sites are attributed to Segment 7. In addition to the Proposed Route, which is principally on private lands, Route Alternatives have been proposed by the BLM to avoid the Deep Creek Mountains (7A and 7B; which are 5 miles and 11 miles longer than the comparison portion of the Proposed Route), by local landowners (7C, 7D, 7E, 7F, and 7G, which all represent minor adjustments proposed to address local issues), by local landowners to avoid private agricultural lands (7I or the State Line Route, which is 55 miles longer than the Proposed Route and would require 0.5 acre for an additional regeneration site), and by the Proponents to avoid the State Line Route (7H, which is 10 miles longer than the Proposed Route). Alternative 7J, which is a variant of the State Line Route also proposed by local landowners, would not terminate at the Cedar Hill Substation. This alternative, referred to as the Rogerson Alternative, would require a different substation be constructed near a 345-kV existing transmission line (approximately 24 miles southwest of the Cedar Hill Substation; see Appendix A, Figure A-9). The tables and discussion in this document compare 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only. The most common habitat type along Segment 7 is agriculture (see Section 3.6 – Vegetation Communities).

Of the TES species for which quantitative species-specific data are available, the burrowing owl, Columbian sharp-tailed grouse, greater sage-grouse, northern leopard frog, pygmy rabbit, and the yellow-billed cuckoo could occur along Segment 7. Tables D11-3 through D.11-6 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 7 and its Route Alternatives.

Tables 3.11-12a–f display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 7 would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Alternatives 7A, 7D, 7E, 7H, 7I, and 7J would increase impacts to habitat (over the comparison portion of the Proposed Route) for all species assessed that occur along these routes (except for Alternative 7D, which would result in a 4-acre reduction in impacts to greater sage-grouse habitat, and Alternatives 7H and 7J, which would result in a minor reduction in yellow-billed cuckoo impacts). Alternative 7B would increase impacts to habitat for all species assessed that occur along these routes, except for the northern leopard frog and yellow-billed cuckoo, which would experience fewer impacts under this alternative compared to the comparison portion of the Proposed Route. Alternative 7C would increase impacts to burrowing owl, Columbian sharp-tailed grouse, and pygmy rabbit habitat, but would

result in fewer impacts to greater sage-grouse and northern leopard frog habitat. Alternative 7F would increase impacts to greater sage-grouse habitat, but would result in fewer impacts to burrowing owl and pygmy rabbit habitat. Alternative 7G would increase impact to burrowing owl, Columbian sharp-tailed grouse, northern leopard frog, and pygmy rabbit habitat, but result in fewer impacts to greater sage-grouse habitat. As some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative, selection of a Route Alternative would not result in a complete avoidance of impacts to any of these species' habitats found along this segment.

Some of the alternatives would substantially increase impacts over the comparison portion of the Proposed Route. Alternatives 7H, 7I, and 7J would substantially increase the impacts that would occur to greater sage-grouse habitats over those of the comparison portion of the Proposed Route. Alternatives 7H and 7I would substantially increase the impacts that would occur to Columbia sharp-tailed grouse and pygmy rabbit habitat. Alternative 7I would result in 6 acres of impacts to yellow-billed cuckoo habitat whereas the comparison portion of the Proposed Route as well Alternative 7J (which is coincident with much of Alternative 7I) would impact less than 1 acre of habitat. This substantial impact to yellow-billed cuckoo habitat along Alternative 7I is largely due to one tower pad and the ROW clearing of a forested wetland/riparian area along a portion of Alternative 7I that is located after Alternatives 7I and 7J diverge.

Alternatives 7H, 7I, and 7J would cross the Sawtooth NF (see Section 3.17 – Land Use). Alternative 7H would impact about 2 acres of burrowing owl habitat, 102 acres of Columbian sharp-tailed grouse habitat, 11 acres of greater sage-grouse habitat, 36 acres of pygmy rabbit habitat, 2 acres of northern leopard frog habitat, and less than 0.1 acre of yellow-billed cuckoo habitat on the Sawtooth NF. Alternative 7I would impact about 47 acres of burrowing owl habitat, 443 acres of Columbian sharp-tailed grouse habitat, 401 acres of greater sage-grouse habitat, 163 acres of pygmy rabbit habitat, 6 acres of northern goshawk habitat, less than 1 acre of northern leopard frog habitat, and about 2 acres of yellow-billed cuckoo habitat on the Sawtooth NF. Finally, Alternative 7J would impact approximately 27 acres of burrowing owl habitat, 251 acres of Columbian sharp-tailed grouse habitat, 112 acres of greater sage-grouse habitat, 74 acres of pygmy rabbit habitat, 0.2 acre of northern leopard frog habitat, and less than 0.1 acre of yellow-billed cuckoo habitat located on the Sawtooth NF.

**Tables 3.11-12a–f. Alternative Comparison Tables for Segment 7**

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,025	134
Proposed – Comparison Portion for Alternatives 7A,B	311	25
Alternative 7A	337	37
Alternative 7B	456	47
Proposed – Comparison Portion for Alternative 7C	223	29
Alternative 7C	263	24
Proposed – Comparison Portion for Alternative 7D	66	8
Alternative 7D	79	10
Proposed – Comparison Portion for Alternative 7E	25	2
Alternative 7E	26	3
Proposed – Comparison Portion for Alternative 7F	89	12
Alternative 7F	85	12
Proposed – Comparison Portion for Alternative 7G	30	3
Alternative 7G	46	3
Proposed – Comparison Portion for Alternatives 7H,I	1,025	134
Alternative 7H	1,174	182
Alternative 7I	1,395	218
Proposed – Comparison Portion for Alternative 7J <sup>1/</sup>	1,330	176
Alternative 7J	1,830	273

Acres are rounded to the nearest acre.

1/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,067	141
Proposed – Comparison Portion for Alternatives 7A,B	493	45
Alternative 7A	592	90
Alternative 7B	735	96
Proposed – Comparison Portion for Alternative 7C	232	30
Alternative 7C	278	26
Proposed – Comparison Portion for Alternative 7D	28	1
Alternative 7D	40	3
Proposed – Comparison Portion for Alternative 7E	0	0
Alternative 7E	0	0
Proposed – Comparison Portion for Alternative 7F	0	0
Alternative 7F	0	0
Proposed – Comparison Portion for Alternative 7G	41	4
Alternative 7G	56	3
Proposed – Comparison Portion for Alternatives 7H,I	1,067	141
Alternative 7H	1,444	237
Alternative 7I	1,893	322
Proposed – Comparison Portion for Alternative 7J <sup>1/</sup>	1,092	143
Alternative 7J	2,068	366

Acres are rounded to the nearest acre.

1/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	579	96
Proposed – Comparison Portion for Alternatives 7A,B	139	14
Alternative 7A	269	44
Alternative 7B	341	51
Proposed – Comparison Portion for Alternative 7C	105	14
Alternative 7C	77	8
Proposed – Comparison Portion for Alternative 7D	42	4
Alternative 7D	36	4
Proposed – Comparison Portion for Alternative 7E	44	4
Alternative 7E	51	7
Proposed – Comparison Portion for Alternative 7F	102	13
Alternative 7F	121	15
Proposed – Comparison Portion for Alternative 7G	28	3
Alternative 7G	12	0
Proposed – Comparison Portion for Alternatives 7H,I	579	96
Alternative 7H	1,346	227
Alternative 7I	1,658	291
Proposed – Comparison Portion for Alternative 7J <sup>1/</sup>	805	126
Alternative 7J	2,110	335

Acreages are rounded to the nearest acre.

1/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	8	<1
Proposed – Comparison Portion for Alternatives 7A,B	4	<1
Alternative 7A	4	<1
Alternative 7B	1	<1
Proposed – Comparison Portion for Alternative 7C	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 7C	0	0
Proposed – Comparison Portion for Alternative 7D	3	t <sup>1/</sup>
Alternative 7D	3	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 7E	0	0
Alternative 7E	0	0
Proposed – Comparison Portion for Alternative 7F	<1	t <sup>1/</sup>
Alternative 7F	t <sup>1/</sup>	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 7G	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 7G	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternatives 7H,I	8	<1
Alternative 7H	9	1
Alternative 7I	15	2
Proposed – Comparison Portion for Alternative 7J <sup>2/</sup>	9	<1
Alternative 7J	16	2

1/ "t" indicates values <0.1. Acreages are otherwise rounded to the nearest acre.

2/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

**Table 3.11-12e. Acres of Suitable Pygmy Rabbit Habitat Impacted during Construction and Operations of Segment 7**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	606	93
Proposed – Comparison Portion for Alternatives 7A,B	140	11
Alternative 7A	226	26
Alternative 7B	240	28
Proposed – Comparison Portion for Alternative 7C	149	22
Alternative 7C	205	19
Proposed – Comparison Portion for Alternative 7D	56	7
Alternative 7D	71	9
Proposed – Comparison Portion for Alternative 7E	25	2
Alternative 7E	26	3
Proposed – Comparison Portion for Alternative 7F	65	8
Alternative 7F	60	8
Proposed – Comparison Portion for Alternative 7G	30	3
Alternative 7G	45	3
Proposed – Comparison Portion for Alternatives 7H,I	606	93
Alternative 7H	1,053	170
Alternative 7I	1,429	251
Proposed – Comparison Portion for Alternative 7J <sup>1/</sup>	910	135
Alternative 7J	1,925	298

Acres are rounded to the nearest acre.

1/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

**Table 3.11-12f. Acres of Suitable Yellow-Billed Cuckoo Habitat Impacted during Construction and Operations of Segment 7**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternatives 7A,B	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 7A	<1	<1
Alternative 7B		
Proposed – Comparison Portion for Alternative 7C		
Alternative 7C		
Proposed – Comparison Portion for Alternative 7D	<1	t <sup>1/</sup>
Alternative 7D	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 7E		
Alternative 7E		
Proposed – Comparison Portion for Alternative 7F		
Alternative 7F		
Proposed – Comparison Portion for Alternative 7G		
Alternative 7G		
Proposed – Comparison Portion for Alternatives 7H,I	<1	t <sup>1/</sup>
Alternative 7H	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 7I	6	5
Proposed – Comparison Portion for Alternative 7J <sup>2/</sup>	<1	t <sup>1/</sup>
Alternative 7J	t <sup>1/</sup>	t <sup>1/</sup>

1/ “t” indicates values <0.1. Acres are otherwise rounded to the nearest acre.

2/ Alternative 7J connects with Segment 9 approximately 25.8 miles west of the proposed Cedar Hill Substation, which is the western terminus of Segment 7 and the beginning point for Segment 9. The table above compares 7J (202 miles) with the corresponding portion of Segment 7/9 (118.1 miles of Segment 7 and 25.8 miles of Segment 9, for a total of 143.9 miles). All other Segment 7 alternatives are compared to Segment 7 of the Proposed Route (118.1 miles) only.

## **Segment 8**

Segment 8, as proposed, would link the Midpoint and Hemingway Substations. This 131-mile single-circuit 500-kV transmission line would stay north of the Snake River until crossing through the SRBOP parallel to an existing 500-kV transmission line before ending at the Hemingway Substation. Thirteen acres of the expansion of the Midpoint Substation and 0.5 acre for a regeneration site are attributed to Segment 8. There are five Route Alternatives: 8A, which follows the WWE corridor but crosses the Snake River and I-84 twice (while the Proposed Route would stay north of this area); 8B and 8C, which represent the old routes originally proposed by the Proponents but that have now been changed to avoid the cities of Kuna and Mayfield, respectively; 8D, which represents a small revision involving a rebuild of the existing transmission line to move both away from the National Guard Maneuver Area; and 8E, which was proposed by the BLM in order to avoid crossing the Halverson Bar nonmotorized portion of the Guffey Butte-Black Butte Historical Area (see Appendix A, Figure A-10). The most common habitat type along Segment 8 is disturbed grasslands and shrublands (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available, the burrowing owl, Columbia spotted frog, greater sage-grouse, northern leopard frog, pygmy rabbit, and the yellow-billed cuckoo could occur along Segment 8. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 8 and its Route Alternatives.

The Proposed Route would result in less than 0.1 acre of impact to Columbia spotted frog habitat, while Alternative 8B would increase impacts to about 7 acres of habitat. Alternative 8E would impact about 0.2 acre of Columbian spotted frog habitat; no other Route Alternative along this segment would impact Columbia spotted frog habitat.

Tables 3.11-13a–e display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 8 would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Alternative 8E would result in an increase (over the comparison portion of the Proposed Route) in impacts for all species assessed that occur along this route. Alternative 8A would result in an increase in impacts to burrowing owl habitat, but fewer impacts to pygmy rabbit, greater sage-grouse, and northern leopard frog habitat. Alternative 8B would result in increased impacts to northern leopard frog and yellow-billed cuckoo habitat, but fewer impacts to burrowing owl, greater sage-grouse, and pygmy rabbit habitat. Alternative 8C would result in fewer impacts to burrowing owl, greater sage-grouse, and pygmy rabbit. For the most part, Alternative 8D is proposed for areas that do not cross habitat for the assessed species, and that correspond to portions of the Proposed Route that do not cross habitat for the assessed species. However, Alternative 8D would result in increased impacts to burrowing owl and pygmy rabbit habitat, but decreased impacts to greater sage-grouse habitats. None of the Route Alternatives avoid all impacts to these species habitats, as some habitat for these species would be impacted in areas of the Proposed Route that do not currently contain a Route Alternative.

Alternative 8B would substantially increase the impacts that would occur to Columbia spotted frog and northern leopard frog habitats over those of the comparison portion of the Proposed Route.

**Tables 3.11-13a–e. Alternative Comparison Tables for Segment 8**

**Table 3.11-13a. Acres of Suitable Burrowing Owl Habitat Impacted during Construction and Operations of Segment 8**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,797	213
Proposed – Comparison Portion for Alternative 8A	591	77
Alternative 8A	594	80
Proposed – Comparison Portion for Alternative 8B	665	77
Alternative 8B	495	54
Proposed – Comparison Portion for Alternative 8C	135	15
Alternative 8C	107	15
Proposed – Comparison Portion for Alternative 8D	118	16
Alternative 8D	126	12
Proposed – Comparison Portion for Alternative 8E	76	8
Alternative 8E	268	25

\*Acres are otherwise rounded to the nearest acre.

**Table 3.11-13b. Acres of Suitable Greater Sage-Grouse Habitat Impacted during Construction and Operation of Segment 8**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	1,174	144
Proposed – Comparison Portion for Alternative 8A	472	65
Alternative 8A	404	59
Proposed – Comparison Portion for Alternative 8B	364	44
Alternative 8B	287	34
Proposed – Comparison Portion for Alternative 8C	61	9
Alternative 8C	55	8
Proposed – Comparison Portion for Alternative 8D	43	7
Alternative 8D	43	4
Proposed – Comparison Portion for Alternative 8E	34	4
Alternative 8E	170	14

Acres are otherwise rounded to the nearest acre.

**Table 3.11-13c. Acres of Suitable Northern Leopard Frog Habitat Impacted during Construction and Operations of Segment 8**

Alternatives	Construction Impacts (acres)	Operations Impacts (acres)
Proposed – Total Length	6	<1
Proposed – Comparison Portion for Alternative 8A	3	<1
Alternative 8A	2	<1
Proposed – Comparison Portion for Alternative 8B	<1	<1
Alternative 8B	8	<1
Proposed – Comparison Portion for Alternative 8C	<1	t <sup>1/</sup>
Alternative 8C	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 8D	t <sup>1/</sup>	0
Alternative 8D	t <sup>1/</sup>	0
Proposed – Comparison Portion for Alternative 8E	0	0
Alternative 8E	t <sup>1/</sup>	0

1/ "t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,768	209
Proposed – Comparison Portion for Alternative 8A	584	76
Alternative 8A	509	71
Proposed – Comparison Portion for Alternative 8B	647	75
Alternative 8B	470	53
Proposed – Comparison Portion for Alternative 8C	135	15
Alternative 8C	97	15
Proposed – Comparison Portion for Alternative 8D	118	16
Alternative 8D	126	12
Proposed – Comparison Portion for Alternative 8E	76	8
Alternative 8E	268	25

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	<1	<1
Proposed – Comparison Portion for Alternative 8A	<1	<1
Alternative 8A	<1	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 8B		
Alternative 8B	<1	<1
Proposed – Comparison Portion for Alternative 8C		
Alternative 8C		
Proposed – Comparison Portion for Alternative 8D		
Alternative 8D		
Proposed – Comparison Portion for Alternative 8E		
Alternative 8E		

1/ "t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

## **Segment 9**

Segment 9, as proposed, would link the Cedar Hill and Hemingway Substations with a 161.7-mile single-circuit 500-kV transmission line which skirts the Jarbidge and Owyhee Military Operating Areas to the north, then follows the WWE corridor just north of the Saylor Creek Air Force Range, passing through Owyhee County before entering into the Hemingway Substation. Fifteen acres of the construction of the Cedar Hill Substation and 1 acre for two regeneration sites are attributed to Segment 9. There are eight Route Alternatives proposed, including 9A, which was the Proponents' Proposed Route until moving to avoid the Hollister area; 9B, which is being considered by the BLM because it follows the WWE corridor and parallels existing utility corridors; 9C, which was the Proponents' Proposed Route until moving to avoid the Castleford area; and 9D and 9E, proposed by the Owyhee County Taskforce, that cross more public lands north and south of the Proposed Route, respectively, than the Proposed Route. Most of Alternative 9D would be within the SRBOP. Alternatives 9F, 9G, and 9H were proposed to avoid crossing the nonmotorized area south of C.J. Strike Reservoir. Alternatives 9G and 9H provide an alternate route location south of Alternative 8E (see Appendix A,

Figure A-11). The most common habitat type along Segment 9 is disturbed or developed lands (see Section 3.6 – Vegetation Communities).

Of the TES species where quantitative species-specific data are available, the burrowing owl, Columbian sharp-tailed grouse, Columbia spotted frog, greater sage-grouse, northern leopard frog, pygmy rabbit, and the yellow-billed cuckoo could potentially occur along Segment 9. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species quantitatively assessed along Segment 9 and its Route Alternatives.

Approximately 26 acres of Columbian sharp-tailed grouse habitat would be impacted during construction of the Proposed Route. No Columbian sharp-tailed grouse habitat occurs along the Route Alternatives, or along the comparison portion of the Proposed Route. Therefore, selection of a Route Alternative would not have an effect on impacts to Columbian sharp-tailed grouse habitat.

Approximately 4 acres of Columbia spotted frog habitat would be impacted during construction of the Proposed Route. Selection of Alternative 9B would avoid less than 0.1 acre of this impact. Alternative 9D would almost completely avoid these 4 acres of impacts (reducing them to less than 0.1 acre of impacts). Alternative 9E would reduce impacts to Columbia spotted frog habitat by half (to 2 acres impacted).

Tables 3.11-14a–f display a comparison of the impacts to habitat for the species in which the various Route Alternatives in Segment 9 would have a differential effect, where quantitative data were available, and where the data were detailed enough that the discussion was best summarized in table format. Selection of Alternative 9A would increase impacts to habitat for the burrowing owl, greater sage-grouse, and pygmy rabbit compared to the comparison portion of the Proposed Route. Alternative 9B would result in increased impacts to northern leopard frog habitat, but fewer impacts to burrowing owl, greater sage-grouse, and pygmy rabbit habitat. Alternative 9C would result in fewer impacts to burrowing owl, greater sage-grouse, northern leopard frog, and pygmy rabbit habitat. Alternative 9D would result in an increase in impacts to burrowing owl and pygmy rabbit habitat, but fewer impacts to greater sage-grouse and northern leopard frog habitat. Alternative 9E would result in an increase in impacts to burrowing owl, greater sage-grouse, and pygmy rabbit habitat, but fewer impacts to northern leopard frog habitat. Alternatives 9F, 9G, and 9H would result in an increase in impacts for all species assessed that occur along these routes, except for the greater sage-grouse (each of these alternatives would result in fewer impacts to habitat) and the Columbia spotted frog (a decrease in impacts from 4 acres along the comparison portion of the Proposed Route to less than 1 acre along Alternative 9G).

The increase in impacts that would occur if Alternative 9B is selected would be substantial for the northern leopard frog, while the decrease in impacts would be substantial for the burrowing owl. Construction of Alternatives 9D and 9E would result in a substantial increase in impacts to pygmy rabbit habitat.

**Tables 3.11-14a–f. Alternative Comparison Tables for Segment 9**

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	2,083	291
Proposed – Comparison Portion for Alternative 9A	100	13
Alternative 9A	111	16
Proposed – Comparison Portion for Alternative 9B	743	116
Alternative 9B	593	70
Proposed – Comparison Portion for Alternative 9C	221	23
Alternative 9C	189	25
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H	649	76
Alternative 9D	733	71
Alternative 9E	844	112
Alternative 9F	783	76
Alternative 9G	763	74
Alternative 9H	794	79

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	4	<1
Proposed – Comparison Portion for Alternative 9A	0	0
Alternative 9A	0	0
Proposed – Comparison Portion for Alternative 9B	t <sup>1/</sup>	0
Alternative 9B	0	0
Proposed – Comparison Portion for Alternative 9C	0	0
Alternative 9C	0	0
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H	4	<1
Alternative 9D	t <sup>1/</sup>	0
Alternative 9E	2	t <sup>1/</sup>
Alternative 9F	5	<1
Alternative 9G	<1	<1
Alternative 9H	5	<1

1/ "t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,547	209
Proposed – Comparison Portion for Alternative 9A	64	7
Alternative 9A	88	10
Proposed – Comparison Portion for Alternative 9B	580	84
Alternative 9B	340	40
Proposed – Comparison Portion for Alternative 9C	207	24
Alternative 9C	146	18
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H	451	54
Alternative 9D	394	38
Alternative 9E	711	86
Alternative 9F	442	44
Alternative 9G	418	39
Alternative 9H	445	45

Acres are rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	5	1
Proposed – Comparison Portion for Alternative 9A	<1	t <sup>1/</sup>
Alternative 9A	<1	<1
Proposed – Comparison Portion for Alternative 9B	<1	t <sup>1/</sup>
Alternative 9B	4	<1
Proposed – Comparison Portion for Alternative 9C	<1	0
Alternative 9C	0	0
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H	4	<1
Alternative 9D	3	t <sup>1/</sup>
Alternative 9E	2	<1
Alternative 9F	9	<1
Alternative 9G	5	<1
Alternative 9H	10	<1

"t" indicates values <0.1. Acres are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	1,778	251
Proposed – Comparison Portion for Alternative 9A	100	13
Alternative 9A	111	16
Proposed – Comparison Portion for Alternative 9B	702	110
Alternative 9B	549	66
Proposed – Comparison Portion for Alternative 9C	180	17
Alternative 9C	164	23
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H	413	46
Alternative 9D	720	70
Alternative 9E	820	107
Alternative 9F	737	70
Alternative 9G	728	71
Alternative 9H	725	71

"t" indicates values <0.1. Acreages are otherwise rounded to the nearest acre.

<b>Alternatives</b>	<b>Construction Impacts (acres)</b>	<b>Operations Impacts (acres)</b>
Proposed – Total Length	t <sup>1/</sup>	t <sup>1/</sup>
Proposed – Comparison Portion for Alternative 9A		
Alternative 9A		
Proposed – Comparison Portion for Alternative 9B		
Alternative 9B		
Proposed – Comparison Portion for Alternative 9C		
Alternative 9C		
Proposed – Comparison Portion for Alternatives 9D,E,F,G,H		
Alternative 9D	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 9E		
Alternative 9F	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 9G	t <sup>1/</sup>	t <sup>1/</sup>
Alternative 9H	t <sup>1/</sup>	t <sup>1/</sup>

"t" indicates values <0.1. Acreages are otherwise rounded to the nearest acre.

## **Segment 10**

Segment 10, as proposed, would link the Cedar Hill and Midpoint Substations with a 33.6-mile single-circuit 500-kV line, following a WWE corridor for most of its distance. Twenty-eight acres of the expansion of the Midpoint Substation and of the construction of the Cedar Hill Substation are attributed to Segment 10. There are no Route Alternatives proposed along this segment (see Appendix A, Figure A-12). Most of the lands crossed by the segment consist of developed lands (see Section 3.6 – Vegetation Communities

Of the TES species where quantitative species-specific data are available, the bald eagle, burrowing owl, greater sage-grouse, northern leopard frog, and pygmy rabbit could potentially occur along Segment 10. There are no Route Alternatives proposed

along Segment 10. Tables D.11-5 through D.11-8 in Appendix D list the impacts to habitat for each species found within Segment 10.

Construction of Segment 10 would impact approximately 254 acres of burrowing owl habitat, 109 acres of greater sage-grouse habitat, 3 acres of northern leopard frog habitat, and 253 acres of pygmy rabbit habitat. Although Segment 10 would cross less than 0.1 mile of habitat located within 1 mile of a bald eagle winter roost, no direct habitat loss would occur, as this habitat would be spanned.

#### **3.11.2.4 Design Variation**

A Design Variation is being considered that would consist of constructing two single-circuit lines in Segments 2 through 4 instead of a single double-circuit line (which is the design assessed above). The disturbance footprint of the two single-circuit towers is greater than that of the double-circuit tower, in part because the requested ROW would be wider, but also because helicopter-assisted construction could be implemented in these areas due to the lighter weight of the towers, which would require additional fly yards. The additional ROW space and the fly yards would cause additional temporary disturbance during construction. Across Segments 2, 3, and 4, the additional disturbance of the single-circuit tower alternative ranges from 25 to 30 percent greater than the comparable portions of the double-circuit tower disturbance under the proposed design. The two single circuits require more ground disturbance, but would be designed and constructed to the same standards as the Proposed Action.

Tables D.11-12 and D.11-13 (in Appendix D) list the acres of impacts that would occur, due to the Design Variation, to habitats for ESA wildlife species as well as BLM and Forest Service Sensitive Species with available quantitative data.

An advantage of the Design Variation is that H-frame structures could be substituted if needed for site-specific mitigation. This would increase the options available to prevent or limit raptor use of the transmission line and pole structures.

#### **3.11.2.5 Structure Variation**

The proposed guyed Structure Variation would add four guy wires about 140 feet long from a point about 100 feet up in each tower to four guy anchors spaced in a square around the tower (Appendix B, Figure B-6). This would not change the amount of disturbance during construction or operations appreciably; however, these guy wires could add to the potential for avian collisions, especially during low visibility conditions. Extra care would be needed where towers are located near known concentrations of birds to avoid placing guy wires in these areas. As stated in the Proponents' Avian Protection Plan, any guy wires where mortality from collisions has been documented would be equipped with bird flight diverters. In addition, the Agencies have identified WILD-7, which states that all guy wires shall be marked with bird deterrent devices to avoid avian collisions with structures on public lands. Therefore, there would be not be an appreciable difference in impacts to birds from the use of this Structure Variation when compared to the use of self-supporting lattice towers.

### 3.11.2.6 Schedule Variation

The Schedule Variation uses the two single-circuit design variation described above but extends construction over a longer timeframe. Initially, only one of the eventual two single-circuit lines would be constructed with the second to be constructed at a later date. The Schedule Variation proposes that the first single-circuit transmission line in Segments 2, 3, and 4 would be built as soon as the ROW grant is issued, but that the second line would not begin construction until late 2018. This would mean nearly 2 years between the end of construction for the first line and beginning of construction for the second line. Any staging areas and fly yards that had been used for the first stage would have been revegetated after construction was complete and would have to be cleared again. There would be two sets of construction disturbances adding movement, noise, and dust to the area of construction in two instances in any given area. The Schedule Variation would therefore have essentially double the adverse indirect impacts on adjacent habitats and populations as the simultaneous construction or double-circuit alternative, even though direct habitat disturbance overall would not be any greater.

### 3.11.3 Mitigation Measures

#### 3.11.3.1 Measures Required on Federal Lands

To minimize or avoid impacts to TES wildlife or fish species, the Proponents have committed to EPMs that would be implemented Project-wide as outlined in Appendix C. The following mitigation measures were identified by the Agencies and are required on federally managed lands. The Agencies recommended that the Proponents incorporate these measures into their EPMs and apply them Project-wide.

#### Raptor and Raven Prey Species

- TESWL-2 The Proponents shall work with the applicable land-management agencies to develop a survey protocol that would be conducted in conjunction with annual operations and maintenance surveys (as outlined in the Proponents' Avian Protection Plans). The goal of these raptor-raven surveys shall be to identify whether populations of raptors and ravens are consolidating along the Project, and will be done during the appropriate time of year. These surveys shall be conducted, at a minimum, along portions of the line that are located within 1 mile of identified concentrations of sensitive raptor and raven prey species (including the black-footed ferret, mountain plover, burrowing owl, grouse species, as well as white- and black-tailed prairie dogs). The Proponents and applicable land-management agencies shall work together to identify measures to limit predation rates on sensitive species within areas where raptor and raven populations are considered to be consolidating (limited to areas near sensitive species).
- TESWL-3 H-frame structures shall be equipped with anti-perch devices to reduce raven and raptor use, and limit predation opportunities on special status prey species.

### Riparian- and Aquatic-dependent Species

TESWL-1 For the protection of aquatic- and riparian-/wetland-dependent species, surface disturbing and disruptive activities must be avoided in the following areas: 1) identified 100-year floodplains; 2) areas within 500 feet of perennial waters, springs, wells, and wetlands; and 3) areas within 100 feet of the inner gorge of ephemeral channels on federally managed lands.

Where it is not possible to avoid wetland and riparian habitat, crossing-specific plans must be developed. These plans shall: 1) demonstrate that vegetation removal is minimized; 2) show how sediment would be controlled during construction and operation within wetland and riparian areas; 3) attempt to intersect the wetland or riparian habitat at its edge; and 4) provide measures to restore habitat and ensure conservation of riparian microclimates. This plan must be submitted to the appropriate land-management agency and approved prior to construction of any portion of the Project within sensitive riparian habitat.

### Greater Sage-Grouse and Columbian Sharp-tailed Grouse

TESWL-10 Proponents shall provide the Agencies a list of the protocols that the Proponents would use during greater sage-grouse and sharp-tailed grouse pre-construction surveys. The Agencies shall either approve these protocols, or suggest alternative protocols to be used.

TESWL-11 In areas where sharp-tailed grouse leks occur in proximity to greater sage-grouse leks, surface disturbance shall be avoided within 4 miles of occupied or undetermined greater sage-grouse leks from March 1 to June 30. In areas where sharp-tailed grouse leks occur in isolation from greater sage-grouse leks, surface disturbance shall be avoided within 1.2 miles of occupied or undetermined sharp-tailed grouse leks from March 15 to July 15.

TESWL-14 Surface disturbance shall be avoided within 0.6 to 4 miles of occupied or undetermined greater sage-grouse leks from March 15 to July 15 in all portions of the Project except for Nevada. In Nevada, surface disturbance shall be avoided within view of or within 0.3 mile of all leks from March 1 to May 15; and within areas designated by Nevada as greater sage-grouse brood rearing areas from May 15 to August 15.

TESWL-15 There shall be no surface occupancy within 0.6 mile of the perimeter of occupied greater sage-grouse leks. "No surface occupancy," as used here, means no surface facilities, including roads, shall be placed within the NSO area. Other activities may be authorized with the application of appropriate seasonal stipulations, provided the resources protected area is not adversely affected.

- TESWL-19 There shall be no surface disturbances within areas designated as Winter Concentration Areas for the greater sage-grouse from November 1 through March 15.
- TESWL-22 No structures that require guy wires would be used in occupied sagebrush obligate habitats within the area managed under the Kemmerer Resource Management Plan.
- TESWL-23 If the Kemmerer RMP is amended to allow Alternative 4A, 4C, 4E, or 4F to be selected, existing fences within one mile of the portion of the Gateway West Project located on lands managed by the Kemmerer RMP shall be modified with FireFly Grouse Flight diverters (or a similar product) to prevent greater sage-grouse mortalities. Additional site-specific reclamation, such as transplanting sagebrush seedlings within previous disturbed habitats, may also be required to off-set the net loss of sagebrush habitats within the Rock Creek/Tunp management area.

#### Midget Faded Rattlesnake

- TESWL-18 Preconstruction surveys for occupied or potential midget faded rattlesnake hibernacula (i.e., rock outcrops with south to east aspect) will be conducted.

#### Aquatic Organisms

- FISH-3 When taking water from TES fish-bearing streams for road and facility construction and maintenance activities, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch), or as determined through coordination with NMFS and/or USFWS.

#### **3.11.3.2 ESA-related Measures Required on All Lands**

The following mitigation measures are required to comply with the ESA and would be applied Project-wide, regardless of land ownership:

- TESWL-4 In the event that an ESA-listed species is discovered, construction would cease, the USFWS would be notified, and Section 7 consultation would be initiated. In addition, the transmission line or structures would be relocated to minimize direct impacts to newly discovered ESA species, to the extent practical.

#### Black-Footed Ferret

- TESWL-5 Preconstruction surveys must be conducted for the black-tailed prairie dog (in addition to those already proposed for the white-tailed prairie dog and the black-footed ferret) in Segments 1E and 1W. If prairie dogs or their habitats are documented, then surveys for black-footed ferrets must occur. If ferrets are found, construction in that area must halt and consultation with the USFWS be initiated.

If black-tailed prairie dogs are discovered during construction, all construction activities must cease and survey for the black-footed ferret shall be conducted. If ferrets are found, construction in that area must halt and consultation with the USFWS would be re-initiated.

#### Yellow-billed Cuckoo

TESWL-13 A preconstruction survey for the yellow-billed cuckoo must be conducted at any proposed crossing of suitable habitat. If birds are detected within 1 mile of the centerline (within existing habitat), construction must not occur until the young have fledged or the nest is abandoned. The crossing-specific plan must contain proposed monitoring measures to ensure compliance with this measure.

#### **3.11.3.3 Measure Related to the USFWS Tiered BO on the Colorado River**

The following mitigation measure is required to comply with the USFWS tiered BO on the Colorado River water withdrawals and would be applied Project-wide regardless of land ownership.

TESWL-17 A payment of a one-time fee, based on a fee schedule provided by the USFWS, shall be made based on the amount of water used during construction of any segments that cross the Colorado River system.

#### **3.11.3.4 Measures Related to Agency Timing Restrictions**

The Agencies have developed mitigation measures TESWL-6, -7, -9, -12, -16, -20, and -21 for any exceptions to agency seasonal constraints that are approved during the established exception process. If an exception is granted, the Agencies would require that monitoring be conducted to determine the location of each species. For any of these species that are located on private or state lands, the Agencies recommend that survey plans and monitoring reports be provided to the applicable state agency (if requested or desired by these state agencies) or the USFWS (in the case of the bald eagle).

TESWL-6 Requests for exceptions from bald eagle closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

TESWL-7 Requests for exceptions from burrowing owl closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

TESWL-9 Requests for exceptions from Columbian sharp-tailed grouse closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is

- requested. Established exception processes on federally managed lands must be followed (see WILD-1).
- TESWL-12 Requests for exceptions from mountain plover closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).
- TESWL-16 Requests for exceptions from greater sage-grouse closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).
- TESWL-20 Requests for exceptions from ferruginous hawk closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).
- TESWL-21 Requests for exceptions from northern goshawk closure periods and areas must be submitted by the Proponents to the appropriate land-management agency office in which the exception is requested. Established exception processes on federally managed lands must be followed (see WILD-1).

### **3.11.3.5 Measure Related to Final Routing**

The Agencies have developed mitigation measure TESWL-8, which shall be required on federally managed lands, to ensure that the final engineering design is routed to avoid the known locations of structures occupied by sensitive species. The Agencies recommended that the Proponents incorporate this measure into their EPMS and apply it Project-wide.

- TESWL-8 A wildlife biologist will accompany site engineers during the final engineering design, in order to verify and flag the location of any known occupied structures (e.g., nests, burrows, colonies, maternity dens, hibernacula) utilized by sensitive species. This will include, but not be limited to, known burrowing owl burrows (including artificial burrows that have been constructed as part of research/restoration efforts), prairie dog colonies, and raptor nests, which could be impacted by the Project based on the indicative engineering design. The final engineering design will be routed in order to avoid direct impact to these occupied structures to the extent practical.