

3.7 SPECIAL STATUS PLANTS

The Proposed Route and Route Alternatives would pass through multiple habitats that could support special status plant species. These species include threatened, endangered, and candidate species listed under the ESA, those listed by the Forest Service and/or BLM as Sensitive, and State Heritage Program species of concern. For discussion purposes where appropriate, these various groups will be referred to collectively as threatened, endangered, and sensitive (TES) plant species. TES wildlife and fish species are discussed in Section 3.11 – Special Status Wildlife and Fish Species.

3.7.1 Affected Environment

This section describes the existing environmental conditions for TES plant species that could be impacted by the Project, if constructed. 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 plant species. This section will then conclude by describing the methods used to determine the probable locations of and the potential impacts to these species, as well as a description of the existing conditions found within the Project area and the TES plant species potentially present within this area.

3.7.1.1 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 1,100 miles crossed by the Project. This diversity in environmental conditions supports a wide range of habitat types that can support various TES plant species.

The Analysis Area for the TES plant species and their habitat was set as a 1-mile-wide area centered on the Proposed Route and its Alternatives (a half mile on either side of the centerline of each route), and a 0.5-mile-wide area centered on any access roads that extended outside of the 1-mile-wide route buffer (0.25 mile on either side of the access road's centerline). The Analysis Area, as designed, encompasses all Project components including the entire Project ROW, all access roads and ancillary facilities, as well as all staging areas and fly yards. While most of the Analysis Area would not be impacted by the proposed Project, information gathered for this larger area allows for an understanding of the context in which the impacts would occur and permits an assessment of indirect effects. Potential direct impacts to plants species that are living in the immediate vicinity of construction are limited to the actual footprint of disturbance during construction. Chapter 2 and Appendix B of this EIS provide additional details regarding the disturbance footprint that would occur during construction. However, indirect impacts to habitat and to species occupying them would extend beyond the footprint during construction.

The Analysis Area for some species was expanded to include known information regarding those species, which included:

- Lists of endangered and threatened species by county (USFWS 2008a, 2008b), and
- Natural heritage program databases of occurrences within 5 miles of the Proposed Route and Route Alternatives (Idaho Conservation Data Center [CDC] Wyoming Natural Diversity Database [WYNDD], and Nevada Natural Heritage Program).

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, Nevada, and Utah 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 not common in the general region of the Project (see Section 3.9 – Wetlands and Riparian Areas).

3.7.1.2 Issues to be Analyzed

The following special status plant species issues were brought up by the public during public scoping (Tetra Tech 2009a), were raised by federal and state agencies during scoping and agency discussions, or are issues that must be considered as stipulated by laws or regulations:

- The effects to endangered and threatened species, both individuals and populations;
- The effects from changes in habitat for TES plants;
- The effect of the potential spread of noxious weeds on special status plants; and
- Whether hydrology would be altered in occupied habitat for TES species associated with wetlands and what effect the alteration would have on those species.

3.7.1.3 Regulatory Framework

Regulations that address and govern impacts to TES plant species include the ESA and various BLM and Forest Service land management plans. Below is a discussion of the relevant regulations with which the Project must comply for TES plant species.

Federal Regulations

The ESA was enacted in 1973. This law established a regulatory system to protect species that are at risk of extinction. Plant species listed under the ESA are protected from any action that would remove, reduce to possession, damage, or destroy any such species from areas under federal jurisdiction (Section 9[a][2][B]). Under Section 7 of the ESA, federal agencies are required to evaluate impacts to species listed as threatened and endangered under the ESA for all projects or actions that they carry out, fund, or approve. They are also required to consult with the USFWS when any project or action may affect a listed species. Impacts to species listed under the ESA, as well as candidate species and those pending listing, are addressed in this EIS. In addition, a separate BA, which assesses these ESA-listed species, will be released at a date approximately correlated to the release of the Draft EIS.

Both the Forest Service and the BLM have established a list of species that they consider at risk on lands they manage. The Regional Forester's Sensitive Species list includes plant and animal species for which population viability is a concern within lands managed by the Forest Service. In Forest Service Manual [FSM] 2670.32, the Forest Service must avoid or minimize adverse effects to Sensitive Species. Likewise, BLM Sensitive Species, designated by the BLM State Director per BLM Manual 6840, are managed under the special status species policy, which is to conserve 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. Additional species are included on the BLM Watch List of species whose populations and range appear to be restricted, but information is lacking as to the cause or if the species is headed for extinction and in need of management action to remove or reduce threats. BLM Sensitive and Watch List species and Forest Service Sensitive Species are addressed in the EIS. In addition, separate Biological Evaluations (BEs) will be prepared for Forest Service sensitive species following Forest Service policy (FSM 2672.4), which will address all sensitive species by forest. The BEs will be released at a date approximately correlated to the release of the Final EIS.

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 standards required for activities in that NF's or BLM FO's jurisdiction. They include temporal and spatial restrictions for any activities within areas inhabited by TES species. Appendix F of this EIS includes required plan amendments where the Project is inconsistent with these standards. Standards related to TES plants are discussed individually below.

State Regulations

Neither Idaho nor Wyoming have established state laws that protect rare or sensitive plant species on private lands. The State of Nevada (which is crossed by Alternative 7I) protects species it has identified as critically endangered; however, none of these plants are likely to occur within or near the Analysis Area. Likewise, the State of Utah (which is crossed by Alternative 7I) also maintains a sensitive species list; however, none of these plants are likely to occur within or near the Analysis Area.

3.7.1.4 Methods

Project-specific surveys have not been conducted for TES plant species, with the exception of the Ute ladies'-tresses orchid (*Spiranthes diluvialis*), which was surveyed for along Segments 1E, 1W(a), and 1W(c) in September 2009 (Tetra Tech 2010b). Therefore, available information on the known and potential occurrences of TES species in and near the Analysis Area was obtained from federal and state agencies; as listed in Table 3.7-1. Known occurrence data, obtained from federal and state agencies, are likely to be incomplete because many areas have not been surveyed and occurrence data may be old or of variable precision and completeness. Therefore, it is possible that additional species or occurrences may be found during species-specific surveys, which would be conducted prior to construction. In addition, potential habitat has been mapped and delineated by agencies and organizations, such as the WYNDD. These data on potential habitat were also used to predict the potential locations of TES plant species within the Analysis Area.

Table 3.7-1. Agency Data Sources Used to Determine the Location of TES Plant Species

| Data Source | Reference |
|--|--|
| Idaho Natural Heritage Program | Idaho CDC 2010 |
| Wyoming Natural Diversity Database (WYNDD) | WYNDD 2007 ^{1/} |
| Nevada Natural Heritage program | Nevada Department of Conservation and Natural Resources 2009 |
| USFWS Databases | USFWS 2008a, 2008b |
| Forest Service Databases | Forest Service 2007a, 2007b, 2008a |
| BLM Databases | BLM 2000b, 2003a, 2008d, 2008e |
| NatureServe | NatureServe 2008 |

1/ The most recent WYNDD will be used for the Final EIS.

Species that were determined to have known occurrences within 5 miles of the Analysis Area, or that had suitable habitat located within the Analysis Area (Wyoming only based on agency data listed in Table 3.7-1) were carried forward for analysis. A distance of 5 miles outside of the Analysis Area was chosen in order to deal with the uncertainty regarding the exact location of TES species; as species that fall just outside of the Analysis Area, based on agency data may in fact have a slightly larger distribution, and could still occur within the Analysis Area. It was assumed that the Project would have no effect on the remaining species that are located more than 5 miles from the Analysis Area or that do not have suitable habitat within the Analysis Area.

The analysis of impacts was conducted by overlaying the Project's construction and operational footprint onto known or suspected TES plant occurrences, models of potential occurrence of habitat developed by the WYNDD, as well as known locations of suitable habitat. Areas where the Project's construction or operational footprints are collocated with known or suspected TES plant occurrences or their suitable habitats were considered to be potential direct impact to TES plant species. However, the federal and state location data are of variable precision. Most of the Wyoming data and some of the Idaho data consisted of general locations, represented by circles with radii from 500 to 3,000 meters (the size of the circle representing the relative level of uncertainty in the location). Most of the Idaho data and some of the Wyoming data

consisted of specific locations comprising surveyed polygons or relatively precise locations. Therefore, exact impacts to TES plant species that could occur will not be known until pre-construction surveys are conducted.

3.7.1.5 Existing Conditions

This section discusses the TES plant species that could potentially be present within the Analysis Area. The discussion is broken down into two parts: 1) threatened, endangered, or candidate species listed under the ESA; and 2) other special status species, including BLM Sensitive and Watch List species, Forest Service Sensitive Species, and State Heritage Program species of concern (referred to collectively as "other special status species").

ESA-listed and Candidate Plant Species

The threatened, endangered, and candidate plant species, listed under the ESA, that could potentially occur within or in close proximity of (within 5 miles) the Analysis Area are listed in Table 3.7-2 (based on agency data; see Section 3.7.1.4). There are no other species in the Analysis Area proposed for listing at this time. Table 3.7-2 includes all ESA-listed plant species that occur within the various counties that are crossed by the Project (regardless of the location within the county), and may contain some species that are not likely to occur within the Analysis Area itself. Additional information, including the likelihood of occurrence in the Analysis Area, on each species is provided in the text that follows.

***Blowout penstemon* (Endangered)**

Blowout penstemon was listed as endangered under the ESA on April 29, 1986 (51 *Federal Register* 15929-15932). This species occurs on shifting, sparsely vegetated sand dunes. It is known to occur in the northern part of Carbon County in Wyoming. Based on the detailed vegetation mapping conducted for this Project (see Section 3.6 – Vegetation Communities), no sand dune habitat occurs within the Analysis Area; therefore, it is highly unlikely that this species would occur within the Analysis Area. However, as the USFWS has indicated that all portions of the Analysis Area in Wyoming are within the potential range of this species (USFWS 2008a), blowout penstemon will be carried forward for analysis.

***Christ's Indian paintbrush* (Candidate)**

Christ's Indian paintbrush was added to the list of candidate species eligible for protection under the ESA on October 25, 1999 (64 *Federal Register* 57534-57547). This species only occurs on one mountain in Cassia County, Mount Harrison in the Albion Mountains in Idaho. The species occurs in grassy upper sub-alpine meadows along the crest and slopes of the mountain in loamy gravel, and most often in areas where snowdrifts remain into early summer. None of the routes would cross suitable habitat for this species. Even though this species is known to occur within 6 miles of the Segment 7 Analysis Area and about 4 miles from the Alternative 7H Analysis Area, it is highly unlikely that it occurs within the Analysis Area because its range is restricted to Mount Harrison, which is not crossed by the Project.

Table 3.7-2. Federally Listed Threatened, Endangered, Proposed, and Candidate Plant Species That May Occur in the Counties Crossed by the Project

| Species | Status ^{1/} | Habitat | Range | Potential for Occurrence in Analysis Area or within 5 miles of the Analysis Area | | | |
|---|----------------------|--|---|---|---|---|---|
| | | | | Idaho | Wyoming | Nevada | Utah |
| Blowout penstemon <i>Penstemon haydenii</i> | E | Shifting, sparsely vegetated sand dunes | Occurs in WY (northern part of Carbon County). | None – Does not occur in ID. | None - No suitable habitat or know occurrences within Analysis Area | None – Does not occur in NV | None – Does not occur in UT |
| Christ's Indian paintbrush <i>Castilleja christii</i> | C | Subalpine meadows at about 9,100 feet | Only known from summit of Mount Harrison in Cassia County, ID; located within 4 miles of Alternative 7H. | Occurs within 4 miles of Alternative 7H (restricted to Mount Harrison). However, it is highly unlikely that this species occurs within the Analysis Area, as no suitable habitat occurs within the Analysis Area. | None – Does not occur in WY | None – Does not occur in NV | None – Does not occur in UT |
| Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i> | T | Sub-irrigated meadows in prairie | Occurs in WY. Critical habitat in Platte and Laramie Counties, WY. | None – Does not occur in ID | None – No suitable habitat or know occurrences within Analysis Area | None – Does not occur in NV | None – Does not occur in UT |
| Desert yellowhead <i>Yermo xanthocephalus</i> | T | Barren areas with Indian rice grass and cushion plants | Only occurs in Fremont County, WY. | None – Does not occur in ID. | None – Analysis Area is outside known range in WY. | None – Does not occur in NV | None – Does not occur in UT |
| Goose Creek milkvetch <i>Astragalus anserinus</i> | C ^{2/} | White rhyolitic ash in pinyon-juniper, sagebrush and rabbitbrush communities | Restricted to a small portion of the Goose Creek drainage in northeastern NV, northwestern UT, and southern ID. | Occurs within 0.5 mile of Alternative 7I and within 5 miles of Alternative 7J | None – Does not occur in WY | Occurs within 5 miles of Alternatives 7I and 7J | Occurs within half a mile of Alternatives 7I and 7J |
| Slickspot peppergrass <i>Lepidium pappileferum</i> | T | Slickspot microsites in sagebrush steppe | Occurs in Ada, Canyon, Gem, Elmore, Payette, and Owyhee Counties, ID. | Occurs within 0.5 mile of Segment 8 and Alternatives 8B, 8C, 8D; within 5 miles of 8E | None – Does not occur in WY | None – Does not occur in NV | None – Does not occur in UT |

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Table 3.7-2. Federally Listed Threatened, Endangered, Proposed, and Candidate Plant Species That May Occur in the Counties Crossed by the Project (continued)

| Species | Status ^{1/} | Habitat | Range | Potential for Occurrence in Analysis Area or within 5 miles of the Analysis Area | | | |
|--|----------------------|---|--|--|---|---|-----------------------------|
| | | | | Idaho | Wyoming | Nevada | Utah |
| Western prairie fringed orchid <i>Platanthera praeclara</i> | T | Moist prairies and sedge meadows along the Platte River in Wyoming | Occurs outside of the Analysis Area (downstream of the Platte River). However, according to the USFWS tiered biological opinion (see Section 3.11) any water withdrawals from the Platte River would result in an adverse impact to listed species located downstream of the water depletion. | None – No suitable habitat or known occurrences found within Analysis Area | Segments 1E, 1W, and most of 2 are in the Platte River watershed, and would be affected under the USFWS tiered biological opinion for the Platte River. | None – Does not occur in NV | None – Does not occur in UT |
| Whitebark pine <i>Pinus albicaulis</i> | C ^{3/} | Upper treeline; 8,000 to over 11,000 feet in elevation within sub-alpine habitats | Occurs in the Sierra Nevada, Cascade, Pacific Coast and northern Rocky Mountain Ranges. Is found in seven states: Nevada, Wyoming, Montana, Idaho, Washington, Oregon and California. | Known to occur along Segment 4 | Known to occur along Segment 4 | Unlikely – Analysis Area is outside of the known range in NV. | None – Does not occur in UT |
| Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i> | T | Moist stream banks, wet meadows, and abandoned stream channels; 5,100 to 5,200 feet in Wyoming (720 to 7,000 feet across range) | Occurs in eight states, including ID, WY, and NV. May occur in all WY counties located within the Analysis Area. In ID, it occurs in Jefferson, Madison, Bonneville, and Fremont Counties, which are outside of analysis area. In Nevada, it occurs in White Pine and Lincoln Counties, which are outside the Analysis Area. | Unlikely – Analysis Area is outside known range in ID. | No known occurrences are located in the Analysis Area; however, suitable habitat is present in along Segments 1E, 1W, 2, 3, and 4. | Unlikely – Analysis Area is outside of the known range in NV. | None – Does not occur in UT |

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1/ E = endangered, T = threatened, C = candidate

2/ Also a BLM Watch List species.

3/ Currently the subject of USFWS status review to determine if listing is warranted (12-month finding anticipated in summer 2011); Also a BLM Wyoming Sensitive species.

Colorado butterfly plant (Threatened)

The Colorado butterfly plant was listed as threatened under the ESA on October 18, 2000 (65 *Federal Register* 62302-62310). This species occurs in sub-irrigated, alluvial soils of drainage bottoms surrounded by mixed grass prairie at elevations of 5,800 to 6,400 feet in southeastern Wyoming. Critical habitat includes specific wet meadows and riparian areas in Laramie and Platte Counties. No portions of the Analysis Area are located within counties where Colorado butterfly plant is known or expected to occur.

Desert yellowhead (Threatened)

Desert yellowhead was listed as threatened under the ESA on March 14, 2002 (67 *Federal Register* 11442-11449), and critical habitat was designated in 2004. It occurs on barren and dry sandstone and limestone soils with a high concentration of volcanic ash, associated with Indian rice grass and cushion plants. This species is only known from Fremont County, Wyoming, which is outside of the Analysis Area. Therefore, this species is unlikely to occur in the Analysis Area.

Goose Creek milkvetch (Candidate)

Goose Creek milkvetch was added to the list of candidate species eligible for protection under the ESA on September 10, 2009 (74 *Federal Register* 52014-52064). This species occurs on deeply weathered, sandy, white rhyolitic ash of the Salt Lake Formation in the Goose Creek drainage in Idaho, Nevada, and Utah. It occurs in drainage bottoms, lower to upper slope and crest positions, typically within open Utah juniper, big sagebrush, or rabbitbrush communities. In Idaho, it is restricted to a small portion of Cassia County near the state line. Known occurrences in Idaho are located within 0.5 mile of Alternative 7I for a length of about 4 miles. Known occurrences also occur with 0.5 mile of Alternative 7J. Known occurrences in Nevada are less than 5 miles from Alternatives 7I and 7J. It also occurs in Box Elder County, Utah, where there is a known occurrence within 0.5 mile of Alternatives 7I and 7J.

Slickspot peppergrass (Threatened)

Slickspot peppergrass was listed as threatened under the ESA on October 8, 2009 (74 *Federal Register* 46521-46542). On May 10, 2011, the USFWS published a proposed rule in the Federal Register for designation of critical habitat for slickspot peppergrass (76 *Federal Register* 27184-27215). This species occurs in semi-arid, sagebrush-steppe habitats of the Snake River Plain and adjacent foothills in southwestern Idaho and the Owyhee Plateau in south-central Idaho. It occurs only in slick spots, which have soils much higher in clay content and significantly higher in sodium than adjacent areas. These areas have frequent ponding during winter and early spring, and stay moist a few weeks longer than surrounding soils (69 *Federal Register* 3094-3116). Known occurrences are located within 0.5 mile of the Segment 8 Proposed Route and Alternatives 8A, 8B, and 8C, and within 5 miles of Alternative 8E. The IDANG noted in a recent letter that there is slickspot peppergrass on the Orchard Training Area that would be crossed by the Proposed Route for Segment 8. The BLM Idaho office commented that the Proposed Route for Segment 9 likely crosses potential habitat for slickspot peppergrass. Based on maps provided by the USFWS, Alternatives 8B and

8C would cross approximately 4.3 miles and 0.7 mile, respectively, of proposed critical habitat. As described in more detail below, clearance surveys would be conducted in all areas of potential habitat (slickspot microsites) prior to construction.

***Western prairie fringed orchid* (Threatened)**

Western prairie fringed orchid was listed as threatened under the ESA on September 28, 1989 (54 *Federal Register* 39857-39863). This species occurs in moist calcareous or subsaline prairies and sedge meadows on the eastern Great Plains, including the Platte River watershed located downstream of the Analysis Area (within Nebraska). According to the USFWS, projects that result in water depletions within the Platte River watershed could adversely affect species located downstream. Therefore, although this species is not located within or near the Analysis Area, it has been included in the analysis due to the potential for Project-related water depletions from the Platte River system along Segments 1E, 1W, and 2 (due to water use for dust control).

***Whitebark pine* (under consideration for listing)**

On July 19, 2010, the USFWS initiated a status review of the whitebark pine following an initial review of a petition seeking to protect whitebark pine under the ESA. Issuance of a 12-month finding by the USFWS on whether listing under the ESA is warranted is anticipated in summer 2011. This species occurs in subalpine to montane forests of western North America, on thin, rocky soils at or near the timberline. It is found in seven states, three of which are crossed by the Project (Idaho, Nevada, and Wyoming); however, this species' suspected range in Nevada is limited to isolated pockets found in the northern portion of the state that are not intersected by the Project (Little 1971; Forest Service 1990a). Surveys conducted by the Proponents in 2010 on ridges overlooking the Proposed Route along Segment 4 in Wyoming (MPs 110 to 118) indicate that the species is likely present in these areas (see Administrative Record). Additionally, the Kemmerer FO provided maps showing areas where the species has been confirmed. These areas are along, and to the south of, Segment 4 of the Proposed Route (Commissary Ridge; Oles 2010). In addition, whitebark pine can be difficult to distinguish from limber pine¹ (Kendall 2010), and both species have overlapping ranges along Segment 4.

***Ute ladies'-tresses* (Threatened)**

Ute ladies'-tresses was listed as threatened under the ESA on January 17, 1992 (60 *Federal Register* 49003). This species occurs on moist stream banks, wet meadows, and abandoned stream channels in Idaho and Wyoming, as well as six other states. In Idaho, no portions of the Analysis Area are in counties where Ute ladies'-tresses is known or expected to occur. In Wyoming, it has been reported from Goshen, Laramie, Converse, and Niobrara Counties. It is not known to occur within or near the Analysis Area; however, the known populations in Converse County occur in the northern portion of the county and are more than 25 miles from the Analysis Area. Potential habitat (riparian and wetland areas) is present within the Analysis Area along the Proposed

¹ A BLM Wyoming Sensitive species.

Routes for Segments 1E, 1W, 2, 3, and 4 and their Route Alternatives. Surveys were conducted in 2009 for portions of the Segment 1E, 1W(a), and 1W(c) Proposed Routes and Alternatives 1E-A and 1W-A (Tetra Tech 2009c). The survey focused on 12 streams but 6 could not be surveyed due to access issues and lack of landowner permission. Of the 6 sites surveyed, only one had suitable habitat for Ute ladies'-tresses; however, no Ute ladies'-tresses was observed. Additional surveys of this potential habitat will be conducted in 2011 to verify and/or check the findings of the 2009 survey.

Other Special Status Plant Species

There are a number of other special status plant species that could occur within or near the Analysis Area. These include BLM and Forest Service Sensitive Species, BLM Watch List species, as well as species of concern listed by the Idaho Natural Heritage Program, Idaho Native Plant Society, WYNDD, Wyoming Natural Heritage Program, and Utah Conservation Data Center. Table 3.7-3 lists the species with known occurrences (based on agency data; see Section 3.7.1.4) located within 5 miles of the Analysis Area. As discussed earlier, in some cases known occurrences may represent historic locations where the species are no longer present; furthermore, additional special status plant species may be present within the Analysis Area but are currently undiscovered and would, therefore, not be included in known occurrence data used for this assessment. Pre-construction surveys may discover other special status plant species within the Analysis Area in addition to those listed in Tables 3.7-2 and 3.7-3.

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|--|---|---|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Wyoming | | | | | | |
| Swallen's mountain-ricegrass (<i>Achnatherum swallenii</i>) | -- | -- | SC | Sagebrush, rocky slopes | | Mapped: 4, 4-A, 4-F |
| Meadow pussytoes (<i>Antennaria arcuata</i>) | S | S (R4) | SC | Riparian areas | Modeled low: 4, 4F Modeled likely: 2, 2A, 4, 4A, 4D, 4E, 4F Modeled medium: 2, 2A, 2C | Modeled medium: 2, 2A, 2C, 4B, 4D; Modeled low: 3, 4, 4A, 4B 4C, 4D, 4E, 4F; modeled likely: 2, 2A, 2C, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Laramie columbine (<i>Aquilegia laramiensis</i>) | S | S (R2) | SC | Granite outcrops | Modeled likely: 1-E, 1E-B, 1E-C 1W(a), 1W(c) | |
| Mystery wormwood (<i>Artemisia biennis</i> var. <i>diffusa</i>) | S | -- | SC | Desert shrublands, playas | Mapped: 3 | Mapped: 3, 4 |
| Porter's sagebrush (<i>Artemisia porteri</i>) | S | -- | SC | Clay flats, badlands slopes, depressions, or gullies at 4,600-7,000 feet | | Modeled medium: 1W(a) |
| Bedstraw milkweed (<i>Asclepias subverticillata</i>) | -- | -- | SC | Disturbed areas | Mapped: 2, 2C | Mapped: 2, 2C |
| Dwarf milkweed (<i>Asclepias unicalis</i>) | -- | S (R2) | SC | Desert grasslands | | Mapped 4, 4A, 4F |
| Hayden's milkvetch (<i>Astragalus bisulcatus</i> var. <i>haydenianus</i>) | -- | -- | SC | Sagebrush, juniper | Mapped: 4B, 4C, 4D, 4E | Mapped: 4B, 4C, 4D, 4E |
| King's milkvetch (<i>Astragalus calycosus</i> var. <i>calycosus</i>) | -- | -- | SC | Barren, rocky ridges | Mapped: 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Sodaville milkvetch (<i>Astragalus lentiginosus</i> var. <i>salinus</i>) | -- | -- | SC | Sagebrush | | Mapped: 4B, 4C, 4D, 4E |

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Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|--|---|--|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Nelson's milkvetch (<i>Astragalus nelsonanus</i>) | S | -- | PC | Clay flats, sparsely vegetated areas | Mapped: 3 Modeled low: 4, 4A, 4E; Modeled medium: 3, 1E, 1E-A, 1E-B, 1W(a), 1W(c), 1W-A, 4, 4A, 4F | Mapped: 1E, 1W(a), 3; Modeled medium: 1E, 1E-A, 1E-B, 1E-C, 1W(a), 1W(c), 1W-A, 3, 4, 4A, 4B, 4C, 4D, 4E, 4F; Modeled low: 2, 2A, 2C, 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Payson's milkvetch (<i>Astragalus paysonii</i>) | -- | S (R4) | SC | Disturbed areas with sandy soils | | Mapped: 4 |
| Trelease's milkvetch (<i>Astragalus racemosus</i> var <i>treleasii</i>) | S | -- | SC | Sagebrush | Modeled likely: 3, 4, 4A, 4B, 4C, 4D, 4E, 4F | Modeled likely: 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Crandall's rockcress (<i>Boechea crandallii</i>) | -- | -- | SC | Sagebrush, juniper | | Mapped: 3 |
| Daggett rockcress (<i>Boechea pendulina</i>) | -- | -- | SC | Crevices and sparsely vegetated granite soil | Mapped: 1E-B | Mapped: 1E, 1E-B |
| Hall's sedge (<i>Carex parryana</i> var. <i>unica</i>) | -- | -- | SC | Springs, wet meadows | | Mapped: 4A, 4C, 4E |
| Utah mountain lilac (<i>Ceanothus martini</i>) | -- | -- | SC | Sagebrush, mtn. shrub | | Mapped 4B, 4C |
| Cedar Rim thistle (<i>Cirsium aridum</i>) | S | -- | SC | Barren slopes and ridges | Modeled high: 3; Modeled low: 4B, 4D, 4F | Modeled high: 3, 4; Modeled medium: 1E-C, 1W(a), 2, 2C, 3, 4, 4A, 4B, 4C, 4D, 4E, 4F; Modeled low: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Ownbey's thistle (<i>Cirsium ownbeyi</i>) | S | -- | SC | Semi-barrens rims or steep slopes of broken gray slate | | Modeled likely: 3 |
| Western dodder (<i>Cuscuta occidentalis</i>) | -- | -- | SC | Mountain big sagebrush | | Mapped: 4, 4B, 4C |
| Payson's tansymustard (<i>Descurainia pinnata</i> ssp. <i>paysoni</i>) | -- | -- | SC | Dunes, sand flats | Mapped: 3 | Mapped: 3 |
| Wyoming tansymustard (<i>Descurainia torulosa</i>) | S | S (R2) | SC | Rock crevices and ledges | | Modeled medium: 4, 4A, 4F |

3.7-12

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|-----------------------------------|--|---|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Winward's goldenweed (<i>Ericameria discoidea</i> var. <i>winwardii</i>) | -- | -- | SC | Rocky slopes at higher elevations | | Mapped: 4B, 4C, 4D, 4E |
| Divergent wild buckwheat (<i>Eriogonum divaricatum</i>) | -- | -- | SC | Cushion plants | | Mapped: 4B, 4C, 4D, 4E |
| Slender-leaved buckwheat (<i>Eriogonum exilifolium</i>) | -- | S (R2) | SC | Cushion plants | | Mapped: 1E-C, 1W(a), 1W(c) |
| Hooker wild buckwheat (<i>Eriogonum hookeri</i>) | -- | -- | SC | Sagebrush | | Mapped: 2 |
| Showy prairie-gentian (<i>Eustoma grandiflorum</i>) | -- | -- | SC | Wet meadows and pond margins | | Mapped: 1E, 1E-A, 1W(a), 1W-A, 1W(c) |
| Compact gilia (<i>Ipomopsis crebrifolia</i>) | -- | -- | SC | Sagebrush steppe | Mapped: 4A, 4F | Mapped: 4A, 4F |
| Entire-leaved peppergrass (<i>Lepidium integrifolium</i> var. <i>integrifolium</i>) | S | -- | SC | Greasewood. alkaline meadows | Mapped: 4C, 4E; Modeled likely: 4A, 4B, 4C, 4D, 4E | Mapped: 4A, 4B, 4C, 4D, 4E; Modeled likely: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Fremont bladderpod (<i>Lesquerella fremontii</i>) | S | S (R2) | SC | Cushion plant communities | Modeled high: 4, 4A, 4F; Modeled medium: 4A, 4F; Modeled low: 4, 4A, 4F | Modeled low/med/high: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Large-fruited bladderpod (<i>Lesquerella macrocarpa</i>) | S | -- | SC | Barren slopes and ridges | Mapped: 4B, 4C, 4D, 4E; Modeled medium: 4B, 4C, 4D, 4E, 4F; Modeled low: 4, 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4B, 4C, 4D, 4E; Modeled medium/low: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Western bladderpod (<i>Lesquerella multiceps</i>) | S | -- | SC | Sparse grassland, cushion plants | Modeled likely: 4, 4A, 4F | Modeled likely: 4, 4A, 4F |
| Prostrate bladderpod (<i>Lesquerella prostrate</i>) | S | -- | SC | Sandstone and shale outcrops | Modeled likely: 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4B, 4C, 4D, 4E; Modeled likely: 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Western biscuitroot (<i>Lomatium bicolor</i>) | -- | -- | SC | Dry slopes and meadows | Mapped: 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4A, 4B, 4C, 4D, 4E, 4F |
| Ternate desert-parsley (<i>Lomatium triternatum</i> var. <i>anomalum</i>) | -- | -- | SC | Dwarf sagebrush-grasslands | Mapped: 4A | Mapped: 4A, 4F |
| Red poverty-weed (<i>Monolepis pusilla</i>) | -- | -- | SC | Sandy lowlands, greasewood flats | Mapped: 3 | Mapped: 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |

3-7-13

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|---|---|--|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Ward's goldenweed (<i>Oenopsis wardii</i>) | -- | -- | SC | shale-clay slopes, barren plains, and disturbed roadsides | Mapped: 1E, 2, 2C | Mapped: 1E, 1E-B, 2, 2C |
| Stemless beardtongue (<i>Penstemon acaulis</i>) | S | S (R4) | SC | cushion plant/bunchgrass | | Modeled likely: 2 |
| Gibbens' beardtongue ^{5/} (<i>Penstemon gibbensii</i>) | S | -- | SC | steep, bare slopes with poor soil development | Modeled likely: 2 | Modeled likely: 2, 2A, 2C |
| Desert glandular phacelia (<i>Phacelia glandulosa</i> var. <i>deserta</i>) | -- | -- | SC | Semi-barren slopes, cushion plants | Mapped: 4 | Mapped: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Western phacelia (<i>Phacelia incana</i>) | -- | -- | SC | Juniper | | Mapped: 2 |
| Opal phlox (<i>Phlox opalensis</i>) | W | -- | SC | Cushion plant communities | Mapped: 4, 4B, 4C, 4D, 4E | Mapped 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Beaver Rim phlox (<i>Phlox pungens</i>) | S | -- | SC | Barren slopes and ridges, cushion plant communities | Mapped: 4A; Modeled medium: 1E, 1E-B, 1E-C, 1W(a), 1W(c), 2, 2A, 2C, 4, 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4A, 4C, 4E, 4F Modeled medium: 1E-B, 1E-C, 1W(a), 1W(c), 2, 2A, 2B, 2C, 3, 4, 4A, 4B, 4C, 4D, 4E, 4F; Modeled high: 1E-C, 1W(a), 1W(c) |
| Tufted twinpod (<i>Physaria condensate</i>) | S | -- | SC | Barren slopes and ridges | Mapped: 4B, 4C, 4D, 4E; Modeled medium: 3 4, 4A, 4B, 4C, 4D, 4E, 4F; Modeled low: 4, 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4, 4A, 4B, 4c, 4D, 4E, 4F; Modeled low: 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Dorn's twinpod (<i>Physaria dornii</i>) | S | -- | SC | Sparse mountain mahogany and cushion plants | Mapped: 4B, 4E, 4F; Modeled likely: 4A, 4B, 4C, 4D, 4E, 4F | Mapped: 4A, 4B, 4C, 4D, 4E, 4F; Modeled likely: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Devil's gate twinpod (<i>Physaria eburniflora</i>) | -- | -- | SC | Cushion plant communities | | Mapped: 1E-C, 1W(a), 1W(c) |
| Rocky Mountain twinpod (<i>Physaria saximontana</i>) | S | -- | SC | Barren slopes and ridges | Modeled medium: 1E, 1W(c), 4 | Modeled high: 4; Modeled medium: 1E, 1E-A, 1W(a), 1W-A, 1W(c), 4, 4F |
| Limber pine (<i>Pinus flexilis</i>) | S | -- | -- | Upper treeline; 8,000 to over 11,000 feet in elevation | mapped 4: 4 | 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Longleaf pondweed (<i>Potamogeton nodosus</i>) | -- | -- | SC | Rivers | Mapped: 2, 2A, 2B | Mapped: 2, 2A, 2B |

3-7-14

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|--|---|---|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Persistent Sepal Yellow-cress (<i>Rorippa calycina</i>) | S | -- | PC | Shorelines | Mapped: 2, 2A, 2B; Modeled likely: 1E-C, 1W(a), 1W(c), 2, 2A, 2B, 2C, 3, 4, 4A, 4F | Mapped: 1E-B, 2, 2A, 2B; Modeled likely: 2, 2A, 2B, 1E, 1E-B, 1E-C, 1W(a), 1W(c), 2, 2A, 2B, 2C, 3, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Pale blue-eyed grass (<i>Sisyrinchium pallidum</i>) | S | -- | -- | Wetlands, fens, riparian corridors, meadows | | Modeled likely: 1E, 1E-B, 1E-C, 1W(a), 1W(c), 2, 2A, 2C, 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Laramie false sagebrush (<i>Sphaeromeria simplex</i>) | S | -- | SC | Cushion plant communities | Mapped: 1E; Modeled High: 1E, 1E-C, 1E-B, 1W(a), 1W(c); Modeled medium: 1E, 1E-B, 1E-C, 1W(a), 1W(c); Modeled low: 1E, 1E-C, 1W(a), 1W(c) | Mapped: 1W(a), 1W(c); Modeled High: 1E, 1E-B, 1E-C, 1W(a), 1W(c), 2; Modeled medium: e, 4A, 4F; Modeled low: 1E, 1E-C, 1W(a), 1W(c) |
| Haperman's sullivantia (<i>Sullivantia hapermanii</i>) | -- | S (R2) | SC | Moist calcareous outcrops | | Mapped: 1E, 1W(a), 1W(c) |
| Uinta greenthread (<i>Thelesperma caespitosa</i>) | S | S (R4) | SC | cushion plant communities and sagebrush grasslands | | Modeled likely: 4 |
| Idaho | | | | | | |
| Twinleaf onion, Kellogg's onion (<i>Allium anceps</i>) | S | -- | SC | Low sagebrush | Mapped: 7I,, 7J, 9, 9A | Mapped: 7I, 7J, 9, 9A |
| King snapdragon (<i>Antirrhinum kingii</i>) | -- | -- | SC | Washes in sagebrush and saltbush | Mapped: 9 | Mapped: 8, 8B, 9 |
| Mourning milkvetch (<i>Astragalus atratus</i> var. <i>inseptus</i>) | S | -- | SC | Sagebrush | Mapped: 8, 8A | Mapped: 8, 8A |
| Stiff milkvetch (<i>Astragalus conjunctus</i>) | -- | -- | SC | Sagebrush | | Mapped: 8, 9, 9E |
| Starveling milkvetch (<i>Astragalus jejunus</i> var. <i>jejunus</i>) | S | S (R4) | SC | Barren slopes and ridges | Mapped: 4, 4A, 4B, 4C, 4D, 4E, 4F | Mapped 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Mulford's milkvetch (<i>Astragalus mulfordiae</i>) | S | -- | SC | Sagebrush, saltbush | Mapped: 8, 8B, 9, 9E | Mapped: 8, 8B, 8E, 9, 9D, 9E, 9F, 9G, 9H |
| Newberry's milkvetch (<i>Astragalus newberryi</i> var. <i>castoreus</i>) | S | -- | SC | Sagebrush | Mapped: 7I | Mapped: 7I, 9, 9A, 9E |
| Snake River milkvetch (<i>Astragalus purshii</i> var. <i>ophiogenes</i>) | W | --- | SC | Sands and gravelly sands | Mapped: 8, 8E, 9, 9D, 9E, 9F, 9G, 9H | Mapped: 8A, 8B, 8E, 9B, 9F, 9G, 9H |
| King's desertgrass (<i>Blepharidachne kingii</i>) | S | -- | SC | Low sagebrush | Mapped: 9E | Mapped: 9, 9E |

3.7-15

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|--|---|--|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Lichen (<i>Catapyrenium congestum</i>) | W | -- | SC | Saltbush | Mapped: 9E | Mapped: 8, 9, 9E |
| Desert pincushion (<i>Chaenactis stevioides</i>) | S | -- | SC | Sagebrush | Mapped: 9, 9D, 9E, 9F, 9G, 9H | Mapped: 8, 8B, 8E, 9, 9D, 9E, 9F, 9G, 9H |
| Alkali cleomella (<i>Cleomella plocasperma</i>) | S | -- | SC-historic | Greasewood | Mapped: 9E | Mapped: 9, 9E |
| Cushion cactus (<i>Coryphantha vivipara</i>) | S | -- | SC | Sagebrush, conifer | | Mapped: 9 |
| Silky cryptantha (<i>Cryptantha sericea</i>) | W | -- | SC | Barren clay or sandy soils | | Mapped: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Greeley's wavewing (<i>Cymopterus acaulis</i> var. <i>greeleyorum</i>) | S | -- | SC | Sagebrush | Mapped: 9, 9B, 9D, 9E, 9F, 9G, 9H | Mapped: 8, 8A, 9, 9B, 9D, 9E, 9F, 9G, 9H |
| Davis' wavewing (<i>Cymopterus davisii</i>) | -- | S (R4) | SC | Subalpine rock outcrops and gravel areas >9,000 ft | | Mapped: 7H |
| Shining flatsedge (<i>Cyperus bipartitus</i>) | -- | -- | SC | Wetlands, shores | Mapped: 8, 9D | Mapped: 8A, 8B, 9, 9B, 9D, 9E |
| Howell dimersia (<i>Dimersia howellii</i>) | S | -- | SC | Dry rocky soil of foothills and low mountains | | Mapped: 8, 9 |
| White eatonella (<i>Eatonella nivea</i>) | S | -- | SC | sagebrush, saltbush | Mapped: 8, 9, 9D, 9E | Mapped: 8A, 9F, 9G, 9H |
| Giant helleborine (<i>Epipactis gigantea</i>) | S | -- | SC | Riparian, wetlands | Mapped: 9D, 10 | Mapped: 8, 8A, 9, 9B, 9C, 9D, 9E, 10 |
| Calcareous buckwheat (<i>Eriogonum ochrocephalum</i> var. <i>calcareum</i>) | S | -- | SC | Saltbush | Mapped: 8A, 9 | Mapped: 8A, 9, 9B |
| Packard's buckwheat (<i>Eriogonum shockleyi</i> var. <i>packardiae</i>) | S | -- | SC | Sagebrush, saltbush | Mapped: 8, 9D, 9E, 9G | Mapped: 7J, 8, 8D, 8E, 9, 9D, 9E, 9F, 9G, 9H |
| Matted cowpie buckwheat (<i>Eriogonum shockleyi</i> var. <i>shockleyi</i>) | S | -- | SC | Sagebrush, saltbush | Mapped: 8A, 9, 9D, 9E, 9F, 9G, 9H | Mapped: 8, 8A, 9, 9B, 9D, 9E, 9F, 9G, 9H |
| Cushion cactus (<i>Escobaria [Coryphantha] vivipara</i>) | S | -- | SC | Dry valleys and plains | | Mapped: 9 |

3.7-16

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|---|--------------------------|----------------|-------------------------|-------------------------|---|--|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| White-margined wax plant (<i>Glyptopleura marginata</i>) | S | -- | SC | Saltbush, greasewood | Mapped: 8, 9, 9D, 9E, 9F, 9G, 9H | Mapped: 8B, 8E, 9D, 9E, 9F, 9G, 9H |
| Spreading gilia (<i>Ipomopsis polycladon</i>) | S | -- | SC | Sagebrush, | Mapped: 8E, 9D, 9E, 9G | Mapped: 8E, 9, 9D, 9E, 9F, 9G, 9H |
| Davis' peppergrass (<i>Lepidium davisii</i>) | S | -- | SC | Playas, sagebrush | Mapped: 9 | Mapped: 7J, 9, 9D, 9F, 9G, 9H |
| Bruneau River prickly phlox (<i>Leptodactylon glabrum</i>) | S | -- | SC | Cliffs | Mapped: 9E | Mapped: 9, 9E |
| Packard's desert parsley (<i>Lomatium packardiae</i>) | S | -- | SC | Sagebrush | | Mapped: 8, 8A |
| Rigid threadbush (<i>Nemacladus rigidus</i>) | S | -- | SC | Shadscale, sagebrush | Mapped: 9, 9E | Mapped: 8, 9, 9D, 9E, 9F, 9G, 9H |
| Simpson's hedgehog cactus (<i>Pediocactus simpsonii</i>) | W | -- | SC | Dry or rocky soils | Mapped: 7H | Mapped: 7H, 7I, 7J, 8, 8B, 9, 9E |
| Idaho penstemon (<i>Penstemon idahoensis</i>) | S | S (R4) | SC | Juniper | Mapped: 7I, 7J | Mapped: 7H, 7I, 7J |
| Janish's penstemon (<i>Penstemon janishiae</i>) | S | -- | SC | Low sagebrush | Mapped: 8A, 9, 9E | Mapped: 8, 8A, 8B, 9, 9B, 9D, 9E, 9F, 9G, 9H |
| Spine-noded milkvetch (<i>Peteria thompsoniae</i>) | S | -- | SC | Saltbush | Mapped: 9E | Mapped: 9, 9E, 9F, 9H |
| Malheur yellow phacelia (<i>Phacelia lutea</i>) | S | -- | SC | Volcanic substrates | Mapped: 9 | Mapped: 8, 8B, 9 |
| Profuseflower mesamint (<i>Pogogyne floribunda</i>) | -- | -- | SC | Playas, vernal pools | | Mapped: 8B |
| Annual brittlebrush (<i>Psathyrotes annua</i>) | S | -- | SC | Saltbush | Mapped: 9, 9E, 9G, 9H | Mapped: 8, 8E, 9, 9D, 9E, 9F, 9G, 9H |
| King's snapdragon (<i>Sairocarpus kingii</i>) | -- | -- | SC | Pinyon-Juniper Woodland | Mapped: 9 | Mapped: 8, 8B, 9 |
| Red glasswort (<i>Salicornia rubra</i>) | S | -- | SC | Playas | | Mapped: 5, 7, 7H, 7I, 7J |
| Biennial princesplume (<i>Stanleya confertiflora</i>) | S | -- | SC | Saltbush | | Mapped: 9, 9D, 9F, 9G, 9H |
| American wood sage (<i>Teucrium canadense</i> var <i>occidentale</i>) | S | -- | SC | Riparian/ wetland | Mapped: 8, 8B, 8D | Mapped: 8, 8B, 8E, 9, 9D, 9F, 9G, 9H |

3-7-17

Table 3.7-3. Other Special Status Plant Species Known to Occur Within 5 Miles of the Analysis Area (continued)

| Species ^{2/} | Status ^{3/, 4/} | | | General Habitat | Segments and Alternatives with Nearby Known or Modeled Occurrence ^{1/} | |
|--|--------------------------|----------------|-------------------------|--------------------------------|---|--|
| | BLM | Forest Service | State Heritage Programs | | Known Occurrences or Habitat within 0.5 Mile of the Analysis Area | Known Occurrences or Habitat within 5 Miles of the Analysis Area |
| Wovenspore lichen (<i>Texosporinum sancti-jacobi</i>) | S | -- | SC | Sagebrush, disturbed sagebrush | Mapped: 8, 8B, 8D | Mapped: 8, 8B, 8C, 9D, 9F, 9G, 9H |
| Purple meadow-rue (<i>Thalictrum dasycarpum</i>) | S | -- | SC | Wetlands | | Mapped: 4, 4A, 4B, 4C, 4D, 4E, 4F |
| Nevada | | | | | | |
| None | | | | | | |
| Utah | | | | | | |
| Idaho penstemon (<i>Penstemon idahoensis</i>) | S | S (R4) | SC | Juniper | Mapped: 7J | Mapped: 7J |

1/ Source for distribution: GIS data from Idaho Natural Heritage Program, WYNDD, Nevada Natural Heritage Program, and Utah Conservation Data Center. Modeled distributions from WYNDD.

2/ Christ's Indian paintbrush and Goose Creek milkvetch are both candidates for listing under the ESA (Table 3.7-2) and are also listed as Sensitive by the BLM and Forest Service.

3/ Source of status: USFWS 2008a, 2008b; BLM 2008d, 2003a; Forest Service 2007a, 2007b; Idaho CDC 2010; and WYNDD 2007.

4/ Definitions: BLM: S = sensitive, W = watch list species; USFS: S= Region 2 or 4 sensitive; SC = species of concern tracked by CDC or WYNDD

5/ The USFWS is currently conducting a status review to determine if federal listing is warranted.

3-7-18

3.7.2 Direct and Indirect Effects

This section is organized to present effects to TES plants from construction, then operations, followed by decommissioning activities for the proposed Project. Route Alternatives are analyzed in detail below in Section 3.7.2.3. There is a Design Variation involving use of two single-circuit structures proposed by the Proponent for Segments 2, 3, and 4 (see Section 2.2 for details), which is analyzed below in Section 3.7.2.4 and a Structure Variation that is analyzed in Section 3.7.2.5. The Proponents have also proposed a Schedule Variation, analyzed in Section 3.7.2.6, in which one of the two single circuits to be constructed in Segments 2, 3, and 4 and a portion of Segment 1W would be built on an extended schedule with construction beginning approximately 2.5 years after completion of the initial construction.

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

The land use plans for the Sawtooth NF, Medicine Bow NF, Caribou NF, Kemmerer FO, Rawlins FO, Green River FO, and SRBOP all contain standards related to the protection and enhancement of TES plants that include measures such as minimizing and avoiding effects to TES plants or occupied habitat (including conducting pre-construction surveys); prohibiting actions that would contribute to the listing of a species; and requiring mitigation measures for actions that might contribute to the establishment or spread of invasive plant species in occupied TES plant habitat or other adverse effects. Given the EPMs described above, no population-level effects to any species would be anticipated because all Project-related impacts to TES plants would be avoided or minimized.

There is one land use plan standard related to TES plants with which the Project would not be in conformance and therefore would require a plan amendment.

- **Morley Nelson Snake River Birds of Prey Special Status Species Standard 6.** Include in all BLM authorizations permitting surface disturbing activities (non-grazing), requirements that (1) affected areas be reseeded with a perennial vegetative cover, and (2) surface-disturbing activities be located at least 0.5 mile from occupied sensitive plant habitat.

The Gateway West Project as proposed comes within 0.5 mile of occupied sensitive plant habitat on the SRBOP. Therefore, a plan amendment would be required to allow the construction of the Project within this distance (see Appendix F for the plan amendment) along the Proposed Route for Segment 8, Alternative 8B, Alternative 8D, Proposed Route for Segment 9, Alternative 9D, and Alternatives 9E, 9F, 9G, and 9H. With the EPMs identified above, the Project would avoid or minimize adverse impacts to TES plant populations. Therefore, the Project would not preclude the BLM from meeting the SRBOP's goal of emphasizing maintenance, protection, and enhancement of sensitive habitats (BLM 2008b, p. 2-7).

Kemmerer Decision 6041 states that new unpaved roads could be allowed within 250 feet of special status plant species only if, under NEPA analysis, the road would not adversely impact the species. Under a plan amendment, access roads needed for the Project would be allowed. Given the EPMs and mitigation measures identified above that would avoid or minimize adverse impacts to TES plant species, the Project would not preclude the Kemmerer FO from achieving its goal of managing to facilitate the conservation, recovery, and maintenance of populations of special status species (Goal BR-4) and of providing quality habitats to support the expansion in range of identified high priority plant species (Goal BR:5; BLM 2010b, p.2-30).

3.7.2.1 No Action Alternative

Under the No Action Alternative, the Project would not be constructed or operated. No Project-related impacts to TES plant 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.

3.7.2.2 Effects Common to All Action Alternatives

The following sections discuss both construction and operational effect common to all Route Alternatives. ESA-listed and candidate plant species are discussed first, followed by other special status species (BLM Sensitive and Watch List species; Forest Service Sensitive Species; and State Heritage Program species of concern).

ESA-listed and Candidate Plant Species

Construction

Direct impacts from construction activities could result in crushing or removal of plants, as well as direct loss of habitat. Indirect impacts include fragmentation of suitable habitat, alteration of fire regimes, introduction or spread of invasive exotic species, isolation of subpopulations due to physical separation by access roads or transmission infrastructure, increased erosion, and alteration of habitat microclimates or hydrology. Information about fire and erosion risks, as well as the measures proposed by the Proponents and BLM to reduce these risks, is presented in Section 3.17 – Land Use and Recreation. Information regarding invasive species, and the measures proposed to prevent their spread, is presented in Section 3.8 – Invasive Plant Species. Fragmentation is discussed in Section 3.10 – General Wildlife and Fish. Maintenance of vegetation in the ROW, including cutting of trees and taller shrubs, is not expected to affect any of the ESA-listed or candidate plant species because all of these species occur in habitats dominated by low-growing vegetation.

The Proponents have proposed a series of EPMs meant to reduce or prevent impacts to ESA-listed or candidate plant species as well as to general vegetation (see Appendix C-2). In many cases, these EPMs are sufficient to protect sensitive resources; however, in some cases the Agencies have determined that these EPMs are not sufficient or do not conform with agency policy, and therefore have recommended additional mitigation measures. Section 3.6.2.2 lists the EPMs proposed for general vegetation, all of which would help reduce impacts to ESA-listed or candidate plant species (e.g., revegetation efforts, re-establishment of soil contours, prevention of exotic plant spread, and so on).

To avoid impacting ESA-listed or candidate plant species, the Proponents have proposed the following species-specific EPMs for blowout penstemon (PPC-1), Colorado butterfly plant (PPC-2), slickspot peppergrass (PPC-3), and Ute ladies'-tresses (PPC-4; Table 2.2-2):

PPC-1 through PPC-4 Surface disturbance will be allowed in suitable habitat where species specific surveys have determined that no populations are present. The species-specific surveys will be conducted the year prior to construction, and the proposed disturbance areas will be redesigned to avoid direct impact to populations.

The Agencies have recommended an additional mitigation measure for Goose Creek milkvetch and whitebark pine:

TESPL-1 Surface disturbance will be allowed in suitable habitat for Goose Creek milkvetch and whitebark pine where species-specific surveys have determined that no populations are present. The species-specific surveys will be conducted the year prior to construction, and the proposed disturbance areas will be redesigned to avoid direct impacts to populations.

The survey windows for these species-specific pre-construction surveys are listed in Table 3.7-4, with the exception of whitebark pine, because this tree species can be identified year-round (although it may be difficult to distinguish from limber pine when cones are not present). Surveys would not be required for the western prairie fringed orchid or the desert yellowhead yermo because these species are not located within the Analysis Area; however, the western prairie fringed orchid may still be impacted due to water withdrawals from the Platte River (see additional discussion below).

Table 3.7-4. Pre-construction Survey Windows for Five ESA-listed or Candidate Plant Species

| Species | Survey Window |
|--------------------------|--------------------------------------|
| Blowout penstemon | May through early July ^{1/} |
| Colorado butterfly plant | June through October |
| Goose Creek milkvetch | Mid-June to Mid-July |
| Slickspot peppergrass | Mid-May through September |
| Ute ladies'-tresses | July through September |

1/ In Wyoming, due to elevation and climate conditions, surveys for blowout penstemon would occur between mid-June and mid-July.

The results of these surveys would be used to micro-site the route away from any newly discovered ESA-listed or candidate plants or populations. However, if the route cannot be moved due to other Project constraints, the Proponents have proposed the following EPM:

OM-29 In the event any special status plants require relocation, permission will be obtained from the federal agency. If avoidance or relocation is not practical, the topsoil surrounding the plants will be salvaged, stored separately from subsoil, and respread during the restoration process.

Relocation of an ESA-listed or candidate plant species would be inconsistent with the ESA, which prohibits removal of plants from lands under federal jurisdiction. Should avoidance on federal lands not be possible, or should these plants require relocation, consultation would occur with the USFWS on adverse effects to these species, and additional mitigation may be required if OM-29 is implemented. The relocation location would be determined in conjunction with the federal agency.

The pre-construction surveys proposed in the Proponents EPMs PPC-1 through PPC-4, OM-29, and Agency required mitigation measure TESPL-1 would likely be adequate to protect blowout penstemon, Colorado butterfly plant, and Goose Creek milkvetch, because these species are not likely to occur within the Analysis Area or, if present, would likely be discovered during pre-construction surveys and subsequently avoided. However, these EPMs would be only partially effective in preventing impacts to Ute ladies'-tresses and slickspot peppergrass because these two species are more likely to occur within the Analysis Area than the aforementioned species, and they have life history traits (e.g., dormancy) that make them likely to be missed by a one-time pre-construction survey. In addition, whitebark pine is known to occur in the Project area and could occur in extensive stands that may be difficult to avoid during construction. Also, although the pre-construction surveys would likely identify whitebark pine, this species can be difficult to distinguish from limber pine, and both species are known to occur within the Project area. Therefore, the Agencies have recommended additional mitigation measures to further protect Ute ladies'-tresses, slickspot peppergrass, and whitebark pine (discussed below). Western prairie fringed orchid is also addressed in more detail below, because this species could be impacted by water withdrawals from the Platte River (an impact that would not be mitigated for through preconstruction surveys or avoidance of individuals).

Ute Ladies'-Tresses

The currently proposed Proponent EPMs are insufficient to protect Ute ladies'-tresses, because this species does not flower every year, is very inconspicuous when not in flower, and can be difficult to find even when flowering. In addition, populations may consist of a small number of plants that can easily be missed by surveyors. A one-time survey could miss populations if it was conducted before or after blooming has occurred, even if surveys were conducted during the proper survey window. If populations are missed during the surveys, Ute ladies'-tresses plants and/or populations could be destroyed or damaged during construction. No known Ute ladies'-tresses populations occur within any of the watersheds crossed by the Proposed Route and Alternatives (BLM 2007c, Map 1); however, as stated earlier, known occurrences should not be considered exhaustive and this species could still be present. Therefore, the Agencies have identified the following mitigation measure to comply with the ESA that would be applied on all federal lands:

- TESPL-2 Pre-construction surveys for the Ute ladies' tresses shall be conducted by qualified botanists in all areas of potential habitat, in accordance with federal land management agency and USFWS requirements. These pre-construction surveys shall be conducted during the appropriate survey window, for a total of 3 years.

TESPL-3 Qualified botanists shall conduct pre-construction surveys during a season when target species are readily identifiable for special status or globally rare species. Where feasible, micro-siting of project facilities shall avoid direct impacts to identified populations. Survey reports documenting the surveys, their results, and recommendations must be provided to land management agency for approval prior to construction. Agency botanists may evaluate individual sites based on site-specific conditions. Documentation of the evaluation of avoidance of impacts to sensitive and globally rare plants must be provided to the Agencies prior to construction.

Slickspot Peppergrass

The Proponent-proposed EPMs are insufficient to protect slickspot peppergrass because this species is an annual or biennial plant, and its aboveground populations may fluctuate greatly from year to year (depending on precipitation or other environmental factors). The aboveground plants represent only a small portion of the population, with the largest components consisting of the soil-stored seed bank (69 *Federal Register* 3094-3116; 74 *Federal Register* 52013-52064). Only a small portion of the seeds germinate in a single year; therefore, the seed bank typically covers a larger area than what is occupied by aboveground plants in any given year. A single pre-construction survey could miss slickspot peppergrass populations and slickspots that do not currently exhibit aboveground plants could still contain this species. Therefore, the Agencies have identified the following mitigation measure to comply with the ESA, which would be applied on all federal lands:

TESPL-4 Environmental monitors shall be used to identify and mark aboveground populations of slickspot peppergrass and higher-quality microsites within 50 feet of the construction area, including access roads, so that they are avoided by construction equipment and vehicles. Full field clearances shall be conducted that meet USFWS protocols prior to construction. No construction shall occur within 50 feet of any slickspot peppergrass plant or habitat, including known occurrences of slickspot peppergrass (based on Idaho CDC data) even if aboveground plants are not observed during the surveys. Seeding during reclamation must use methods that minimize soil disturbance such as no-till drills or rangeland drills with depth bands, in areas of suitable habitat. Reclamation must use certified weed-free native seed. Excess soils will not be stored or spread on slickspots.

Whitebark Pine

The BLM has indicated that both whitebark pine and limber pine occur in the upper treeline areas along the Segment 4 Proposed Route and Route Alternatives (within the Kemmerer FO), though the full extent of these two species has not yet been mapped (Means 2010a; Guyon 2009). Pre-construction surveys as well as timber cruises would likely identify the locations of these two species in relation to the Project area; however, it is possible that the Project would not be able to avoid every individual of these two

species due to the potential extent of their distribution within a stand (see discussion in Section 3.7.2.3). Therefore, the Agencies have identified the following mitigation measure:

TESPL-5 If a whitebark pine or limber pine (a similar species that can be difficult to distinguish from whitebark pine) stand cannot be avoided, off-site mitigation in the form of appropriate silvicultural treatments of adjacent stands, collection of seed, identification of “plus” trees, or other acceptable mitigations will be done to offset the loss of the stand in addition to replanting whitebark pine on reclaimed areas.

Western Prairie Fringed Orchid

Because the western prairie fringed orchid is not located within the Analysis Area, there would not be direct impacts to this species resulting from soil disturbances and/or direct removal; however, water depletions to the Platte River system have the potential to affect the western prairie fringed orchid. Depletions can result in waterflows that are insufficient to maintain the wetlands inhabited by this species. Additionally, as these wetlands become dry, invasive plants may become dominant such as leafy spurge, a species which has been identified as a major threat to the western prairie fringed orchid’s survival (Kirby et al. 2003).

Under the Programmatic Biological Opinion for the Platte River Recovery Implementation Program (USFWS 2006a), any depletion from the Platte River system of more than 0.1 acre-feet/year would result in a *may affect, likely to adversely affect* determination for the covered species, which includes the western prairie fringed orchid. The Project would use water for dust control and concrete preparation during construction, depending on the segment, for a total water requirement of 102,500,000 gallons or 314.6 acre-feet for both transmission line and substation construction (see Table B-10, Appendix B). Table D.16-12 in Appendix D provides estimated water usage and construction period length by transmission line segment.

However, whether Project-related withdrawals constitute a depletion depends in part upon whether the water is withdrawn under a new or existing water right (i.e., an existing water right is purchased and water is withdrawn in accordance the limitations of the right such that the withdrawal does not create a new demand on the existing water supply). New depletions require mitigation to offset water depletion impacts. At this time it is uncertain whether the Proponents would be able to draw water from existing developed water sources, and thus if Project-related water use would constitute a new or existing depletion. Consultation with the USFWS on Project-related water depletion, and determination of appropriate mitigation, will occur prior to publication of the Final EIS.

Operations

There is less potential for adverse impacts to occur to ESA-listed and candidate plant species during operations than during construction, due to the limited level of disturbance that would occur during operations and the avoidance and micro-siting measures that would be taken following the pre-construction surveys. However, some disturbances could occur due to routine maintenance activities, including the potential for altered fire regimes resulting from the increased risk of fire starts associated with use

of maintenance vehicles, bird collisions with lines, and other sources, and the continuing potential for spreading exotic plant species. Therefore, to limit the potential of operational impacts to ESA-listed and candidate plant species, the Proponents have proposed the following EPMs:

- OM-23 Prior to the start of O&M activities, all supervisory personnel will be instructed on the protection of natural resources, including sensitive plant and wildlife species and habitats. If a contractor is used, the construction contract will address (a) the sensitive plant species that may be present in a particular area based on previous surveys and literature review; (b) the federal and state laws regarding protection of plants and wildlife; (c) the importance of these resources; (d) the purpose and necessity of protecting them; and (e) methods for protecting sensitive resources (e.g., Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and BLM wildlife policy).
- OM-24 Sensitive plant populations that occur within or near the ROW and work areas will be marked on the ground, where practical, to ensure that they are avoided. If species are discovered during the work, the Proponents will establish a spatial buffer zone, will contact the appropriate Agency within 24 hours, and will continue with the O&M activities outside of the established buffer unless otherwise directed. The Agency may evaluate the adequacy of the buffer on a case-by-case basis. Unless the Proponents are informed otherwise, work outside of the buffer area will continue. If the Proponents need to work within the buffer area, the Agencies and Proponents will work together to develop a solution that is acceptable to both parties and will allow for the Proponents to complete the work in a timely manner or within the scheduled outage window, if applicable. After the project is complete or no longer poses a threat to the plant population, the marking (stakes), if used, will be promptly removed to protect the site's significance and location from unwanted attention. As needed, marking will be reinstated during the land rehabilitation period.
- OM-28 The Proponents will provide crews and contractors with maps showing avoidance areas; these maps will include work zones as well as ROW areas where overland travel will be avoided.

Decommissioning

Project facilities would be removed at the end of the operational life of the transmission line. Structures and foundations would be removed to below the ground surface level. Removal of Project structures following decommissioning may result in temporary impacts to ESA-listed and candidate species, if present in close proximity to the facilities being removed. Re-initiation of consultation with the USFWS would be needed if any ESA-listed or candidate species is located near a facility proposed for decommissioning. To determine the location of any such plant species near Project components and to limit potential impacts to these species, the EPMs and mitigation measures identified in the construction and operations phases would be applied, prior to decommissioning.

Other Special Status Plant Species

Construction

During construction, other special status plant species or their habitats could be crushed or removed during construction. Construction activities could also result in the removal of suitable habitat for other special status plant species. Construction of the transmission line and other Project facilities could also result in fragmentation of suitable habitat or the loss or reduction in quality of suitable habitat due to altered fire regimes (i.e., potential for increased fire frequency) or changes in microclimates associated with Project-related vegetation removal. Project construction could also reduce suitable habitat quality for other special status plant species through the introduction and spread of noxious weeds, which can compete with native plant species.

For species associated with wetlands, Project-related impacts on hydrology could result in a reduction in habitat quality. Any blasting that may occur within or adjacent to a wetland could fracture the bedrock and alter the hydrology of a perched water table, thereby leading to drier conditions and impairment of revegetation efforts. Withdrawal of water for use during construction may have temporary effects on wetlands adjacent to streams, by reducing the water input that they would receive. Additionally, soil disturbances and removal of vegetation within a wetland or riparian area could temporarily alter the area's ability to moderate flood flow, control sediments, or facilitate surface water flow. To minimize the potential impacts that could occur to wetlands-associated plant species due to changes in hydrology, the Proponents would develop a Reclamation, Revegetation, and Weed Management Plan, which would include measures listed in Appendix C-2 and measures to ensure that disturbed areas are revegetated and restored to pre-construction conditions.

General mitigation measures for vegetation as identified in Section 3.6.1.2 would reduce these impacts to some extent; however, these measures alone do not ensure consistency with Forest Service (FSM 2670.32) and conformance with BLM (BLM Manual 6840) policies, which require that impacts to sensitive species be avoided or minimized. Measure TESPL-3, as identified by the Agencies and described above, applies to all TES plant species and would require that pre-construction surveys be conducted for other special status plant species that have been documented within the analysis area or have the potential to occur in the Analysis Area (Table 3.7-3 above). Therefore, with the implementation of TESPL-3, construction impacts to *all* TES plants species or populations that are located on lands managed by the BLM and/or the Forest Service would be avoided or minimized. Where avoidance is not possible, the Project would apply EPM OM-29, which applies to the relocation of plants.

The Agencies have also identified the following mitigation measure to reduce construction and operations effects on cushion plant communities:

TESPL-6 Sand dune and cushion plant communities should be avoided, where feasible.

Operations

During operations, direct or indirect impacts would generally be minor during maintenance and repair activities because other special status plants are likely to have

already been avoided on federal lands prior to construction (TESPL-3 described above). However, some species may be able to reoccupy previously disturbed habitat and could be re-disturbed. Additional impacts that could occur as a result of operations include changes in fire regime, changes in hydrology, and degradation of habitat by noxious weeds and invasive plant species. The EPMs that would be implemented during operations identified above for ESA-listed and candidate species would also be implemented for other special status species on federal lands.

Decommissioning

Impacts from decommissioning on other special status plant species would be similar to those identified above for ESA-listed and candidate species. These impacts would include temporary disturbance due to the removal of Project structures. Prior to decommissioning on federal lands, surveys for other special status plant species would be conducted to flag and avoid them during decommissioning.

Impacts on Federal Lands

Federal land management agencies have established goals and objectives related to the protection and enhancement of TES plant populations and their habitat. The assessment of potential Project-related impacts to TES plants under each of the Action Alternatives below is based on the current state of knowledge regarding the distribution of these plant species and the preliminary Project design, which is likely to change as a result of refinements made to the location of facilities during final design and new information on occurrences of these species. Pre-construction surveys, as identified above, would focus on areas with known populations of TES plant species and areas of suitable habitat. This would ensure that the Project is in compliance with the ESA and with BLM and Forest Service-specific policies regarding avoiding and minimizing effects to TES plant species.

Based on the results of these pre-construction surveys, the ROW route would either be modified to avoid suitable habitat of TES plant species, or additional agency-approved conservation measures would be identified as necessary to minimize impacts in areas where suitable habitat cannot be completely avoided (Appendix C-3, Revised Proposed Plant and Wildlife Conservation Plan). Surface disturbance would be allowed in suitable habitat where species-specific surveys (conducted on all lands for ESA-listed and candidate species and federal lands for other special status species) have determined that no populations of TES plants are present. This would be particularly important for endemic species such as the Laramie columbine, for which disturbance could result in a trend toward federal listing if complete avoidance is not possible. Indirect impacts could occur to all populations and habitat especially through degradation of habitat by invasive plant species, however these impacts would be minimized through the Project's Reclamation Plan, which would include pre-construction, construction, and post-construction weed control measures (see Appendix C-2 for the framework of the Reclamation Plan). The determinations of effect for ESA-listed and candidate species, by segment and alternative, based on the implementation of these measures, are summarized in Table 3.7-5. For Forest Service and BLM sensitive species, the Project could affect individuals but is not likely to contribute towards a trend toward federal listing or loss of viability.

Table 3.7-5. Impacts to Threatened, Endangered, Proposed, and Candidate Plant Species

| Segment Number | Proposed Route or Alternative | Goose Creek Milkvetch <i>Astragalus anserinus</i> | Christ's Indian Paintbrush <i>Castilleja christii</i> | Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i> | Slickspot peppergrass <i>Lepidium pappileferum</i> | Blowout penstemon <i>Penstemon haydenii</i> | Western prairie fringed orchid <i>Platanthera praeclara</i> | Whitebark Pine <i>Pinus albicaulis</i> | Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i> | Desert Yellowhead <i>Yermo xanthocephalus</i> |
|----------------|-------------------------------|--|--|---|---|--|--|---|--|--|
| | Status | Candidate | Candidate | Threatened | Proposed Endangered | Endangered | Threatened | Under Consideration for Listing | Candidate | Threatened |
| 1E | Proposed – Total Length | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| | Alternatives 1E-A, 1E-B, 1E-C | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| 1W(a) | Proposed – Total length | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| | Alternative 1W-A | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| 1W(c) | Proposed – Total Length | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| 2 | Proposed – Total length | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| | Alternatives 2A, 2B, 2C | No effect | No effect | No effect | No effect | No effect | May affect, likely to adversely affect ¹ | No effect | May affect, not likely to adversely affect | No effect |
| 3 | Proposed – Total length | No effect | No effect | No effect | No effect | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect |

3.7-28

Table 3.7-5. Impacts to Threatened, Endangered, Proposed, and Candidate Plant Species (continued)

| Segment Number | Proposed Route or Alternative | Goose Creek Milkvetch <i>Astragalus anserinus</i> | Christ's Indian Paintbrush <i>Castilleja christii</i> | Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i> | Slickspot peppergrass <i>Lepidium pappileferum</i> | Blowout penstemon <i>Penstemon haydenii</i> | Western prairie fringed orchid <i>Platanthera praeclara</i> | Whitebark Pine <i>Pinus albicaulis</i> | Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i> | Desert Yellowhead <i>Yermo xanthocephalus</i> |
|----------------|---|--|--|---|---|--|--|---|--|--|
| | Status | Candidate | Candidate | Threatened | Proposed Endangered | Endangered | Threatened | Under Consideration for Listing | Candidate | Threatened |
| 4 | Proposed – Total length | No effect | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | May affect, likely to adversely affect | May affect, not likely to adversely affect | No effect |
| | Alternatives 4A, 4B, 4C, 4D, 4E, 4F | No effect | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | May affect, likely to adversely affect | May affect, not likely to adversely affect | No effect |
| 5 | Proposed – Total length | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternatives 5A, 5B, 5C, 5D, 5E | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| 7 | Proposed-Total Length | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternatives 7A, 7B, 7C, 7D, 7E, 7F, 7G, 7H, 7I | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 7J | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| 8 | Proposed–Total Length | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |

3.7-29

Table 3.7-5. Impacts to Threatened, Endangered, Proposed, and Candidate Plant Species (continued)

| Segment Number | Proposed Route or Alternative | Goose Creek Milkvetch <i>Astragalus anserinus</i> | Christ's Indian Paintbrush <i>Castilleja christii</i> | Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i> | Slickspot peppergrass <i>Lepidium pappileferum</i> | Blowout penstemon <i>Penstemon haydenii</i> | Western prairie fringed orchid <i>Platanthera praeclara</i> | Whitebark Pine <i>Pinus albicaulis</i> | Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i> | Desert Yellowhead <i>Yermo xanthocephalus</i> |
|----------------|--|--|--|---|---|--|--|---|--|--|
| | Status | Candidate | Candidate | Threatened | Proposed Endangered | Endangered | Threatened | Under Consideration for Listing | Candidate | Threatened |
| 3.7-30 | Proposed-Comparison Portion for Alternative 8A | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 8A | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Proposed-Comparison Portion for Alternative 8B | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 8B | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |
| | Proposed-Comparison Portion for Alternative 8C | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 8C | No effect | No effect | No effect | May affect, not likely to adversely affect | No effect | No effect | No effect | No effect | No effect |
| 8 | Proposed-Comparison Portion for Alternative 8D | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 8D | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |

Table 3.7-5. Impacts to Threatened, Endangered, Proposed, and Candidate Plant Species (continued)

| Segment Number | Proposed Route or Alternative | Goose Creek Milkvetch <i>Astragalus anserinus</i> | Christ's Indian Paintbrush <i>Castilleja christii</i> | Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i> | Slickspot peppergrass <i>Lepidium pappileferum</i> | Blowout penstemon <i>Penstemon haydenii</i> | Western prairie fringed orchid <i>Platanthera praeclara</i> | Whitebark Pine <i>Pinus albicaulis</i> | Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i> | Desert Yellowhead <i>Yermo xanthocephalus</i> |
|----------------|--|--|--|---|---|--|--|---|--|--|
| Status | | Candidate | Candidate | Threatened | Proposed Endangered | Endangered | Threatened | Under Consideration for Listing | Candidate | Threatened |
| 8 (cont.) | Proposed-Comparison Portion for Alternative 8E | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternative 8E | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| 9 | Proposed-Total Length | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| | Alternatives 9A, 9B, 9C, 9D, 9E, 9F, 9G, 9H | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |
| 10 | Proposed | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect | No effect |

3.7-31

3.7.2.3 Proposed Route and Alternatives by Segment

The following discussion of potential impacts to TES plant species by transmission line segment focuses on direct impacts from construction (removal or disturbance of surface vegetation and soils). Route Alternatives are compared to the portion of the Proposed Route that starts and ends at the same nodes as the Route Alternative (referred to as the “comparison portion of the Proposed Route”). Acres of impact to special status plant species in the segment-specific tables below were derived by overlaying the Project disturbance footprint on known occurrences and mapped suitable habitat for other special status plant species. Where mapped suitable habitat is included in the calculations, disturbance acreages are not additive because in some cases polygons of mapped suitable habitat for several species overlap.

Potential impacts are discussed in relation to known occurrences (i.e., mapped populations) and mapped suitable habitat (Wyoming only; based on state and federal data). Collectively, there is the greatest potential for harm to individual plants in these areas and accordingly they would be the focus of pre-construction survey efforts. There is also the potential for direct disturbance to suitable but unoccupied habitat for some species, where Project-related disturbance could affect soil seed banks. Associated impacts to long-term population viability would vary locally, with overall impacts to individual taxa depending on the scale of the disturbance relative to the size of the population. As identified in mitigation measure TESPL-3, Agency botanists may evaluate individual sites based on site-specific conditions and documentation of the evaluation of avoidance of impacts to sensitive and globally rare plants must be provided to the agencies prior to construction. For these reasons, the discussion below should be interpreted as highlighting potential effects of the Project, indicating where surveys and other pre-construction Agency coordination efforts would be focused.

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).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 1E; however, the Proposed Route would impact approximately 11 acres of wetland/ riparian habitat (potential habitat for Ute ladies’-tresses). Alternative 1E-A would impact more potential Ute ladies’-tresses habitat (approximately 4 acres of wetland/riparian vegetation) than the comparison portion of the Proposed Route (approximately 1 acre;

Table D.9-1 of Appendix D). Alternative 1E-B would also impact more potential Ute ladies'-tresses habitat compared to the Proposed Route (approximately 4 acres and 3 acres of wetland/riparian vegetation, respectively). Alternative 1E-C would impact less potential Ute ladies'-tresses habitat than the comparison portion of the Proposed Route (approximately 8 acres and 10 acres of wetland/riparian vegetation, respectively). Wetlands would be avoided to the extent practical and, where avoidance is not possible, any permanent loss of wetlands or wetland function would require compensatory mitigation (e.g., creation, enhancement, or restoration of wetlands to replace the lost wetland function/acreage) as part of the USACE Section 404 permitting process (see Section 3.9 – Wetlands and Riparian Areas for additional discussion). Given that pre-construction surveys for Ute ladies'-tresses would be conducted in areas of suitable habitat and that loss of wetland habitat would be adequately mitigated, construction and operations of the Project along Segment 1E may affect, but is not likely to adversely affect, this species.

Segment 1E is within the Platte River watershed where the western prairie fringed orchid is located downstream of the Analysis Area. As described above, in the Programmatic BO for the Platte River system, water depletions of greater than 0.1 acre-feet per year from the Platte River constitute a “may affect, likely to adversely affect” determination to downstream listed species; therefore, if Project-related water withdrawals are not taken from existing water rights (and thus are considered to constitute a new depletion), the Proposed Route for Segment 1E and its Route Alternatives may affect, and are likely to adversely affect, the western prairie fringed orchid. Consultation with the USFWS on Project-related water withdrawals will be completed for the Final EIS.

Other Special Status Species

No known populations of other special status plant species occur along Segment 1E; however, suitable habitat for six of these species would be crossed by the Project. Construction and operations of the Segment 1E Proposed Route would remove or disturb suitable habitat for four special status plant species, nearly all of which is suitable habitat for Laramie false sagebrush and Nelson’s milkvetch (Table 3.7-6).

Alternative 1E-A and the comparison portion of the Proposed Route would impact suitable habitat for Nelson’s milkvetch during construction and operations, with fewer acres impacted under Alternative 1E-A (Table 3.7-6). Both Alternative 1E-B and the comparison portion of the Proposed Route would each impact suitable habitat for three species; however, more suitable habitat for Laramie columbine, Laramie false sage brush, and Nelson’s milkvetch would be impacted by Alternative 1E-B than the comparison portion of the Proposed Route, which would impact about 2 acres of suitable habitat for pale blue-eyed grass. Both Alternative 1E-C and the comparison portion of the Proposed Route would impact mapped suitable habitat for five special status plant species. Alternative 1E-C would impact a greater number of acres of suitable habitat for Laramie false sagebrush, persistent sepal yellow-cress, Beaver Rim phlox, and Laramie columbine; the comparison portion of the Proposed Route would impact more acres of suitable habitat for Nelson’s milkvetch. Pre-construction

Table 3.7-6. Potential Impacts to Other Special Status Plant Species along Segment 1E Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | | | |
|--|---------------------------------|-----|---------------------------------------|------|---|-----------------|----------------------------------|------|--------------------------------|-----|------------------------------------|-----|
| | Laramie Columbine ^{1/} | | Laramie False Sagebrush ^{1/} | | Persistent Sepal Yellow-cress ^{1/} | | Nelson's Milkvetch ^{1/} | | Beaver Rim Phlox ^{1/} | | Pale Blue-eyed Grass ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed 1E – Total Length | 8.7 | 2.7 | 110.5 | 24.7 | – | – | 169.4 | 39.4 | – | – | 2.1 | 0.5 |
| Proposed – Comparison Portion for Alternative 1E-A | – | – | – | – | – | – | 155.0 | 35.6 | – | – | – | – |
| Alternative 1E-A | – | – | – | – | – | – | 97.5 | 28.2 | – | – | – | – |
| Proposed – Comparison Portion for Alternative 1E-B | – | – | 33.7 | 6.3 | – | – | 3.6 | 1.1 | – | – | 2.1 | 0.5 |
| Alternative 1E-B | 42.8 | 6.9 | 102.2 | 27.3 | – | – | 15.4 | 6.8 | – | – | – | – |
| Proposed – Comparison Portion for Alternative 1E-C | 8.6 | 2.7 | 110.5 | 24.7 | – | – | 3.6 | 1.1 | – | – | 2.1 | 0.5 |
| Alternative 1E-C | 9.5 | 2.7 | 115.2 | 32.2 | 0.3 | t ^{2/} | – | – | 6.9 | 1.4 | 0.4 | 0.1 |

1/ Based on modeled suitable habitat.

2/ Value is less than 0.1 acre.

clearance surveys along the Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

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 Heward 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).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 1W(a) and 1W(c); however, collectively the Proposed Routes in these segments would impact approximately 19 acres of wetland/riparian vegetation (potential habitat for Ute ladies’-

tresses; Table D.9-1 of Appendix D). Alternative 1W-A would impact more potential habitat for Ute ladies'-tresses than the comparison portion of the Proposed Route (approximately 5 acres and 1 acre of wetland/riparian vegetation, respectively; Table D.9-1 in Appendix D). As noted above, wetlands would be avoided to the extent practical and, where avoidance is not possible, any permanent loss of wetlands or wetland function would require compensatory mitigation (e.g., creation, enhancement, or restoration of wetlands to replace the lost wetland function/acreage) as part of the USACE Section 404 permitting process. Given that pre-construction surveys for Ute ladies'-tresses would be conducted in areas of suitable habitat and that loss of wetland habitat would be adequately mitigated, construction and operations of the Project along Segment 1W may affect, but is not likely to adversely affect, this species.

Segment 1W is within the Platte River watershed where the western prairie fringed orchid is located downstream of the Analysis Area. As described above, in the Programmatic BO for the Platte River system, water depletions of greater than 0.1 acre-feet per year from the Platte River constitute a "may affect, likely to adversely affect" determination to downstream listed species; therefore, if Project-related water withdrawals are not taken from existing water rights (and thus are considered to constitute a new depletion), the Proposed Route and all Route Alternatives along Segment 1W may affect, and are likely to adversely affect, the western prairie fringed orchid. Consultation with the USFWS on Project-related water withdrawals will be completed for the Final EIS.

Other Special Status Species

No known populations of other special status plants occur along Segment 1W; however, there is suitable habitat for six of these plant species that would be crossed by the Project. The Segment 1W(a) and 1W(c) Proposed Routes would primarily remove or disturb suitable habitat for Laramie false sagebrush and Nelson's milkvetch (Table 3.7-7). Suitable habitat for only one species, Nelson's milkvetch, would be impacted by Alternative 1W-A and the comparison portion of the Proposed Route during construction (approximately 108 acres and 159 acres, respectively) and operations (approximately 32 acres and 34 acres, respectively). Pre-construction clearance surveys along the Segment 1W Proposed Route and Route Alternative would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-7. Potential Impacts to Other Special Status Plant Species along Segment 1W Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | | | |
|--|---------------------------------|-----|---------------------------------------|------|---|-----|----------------------------------|------|-------------------------------|-----|------------------------------------|-----|
| | Laramie Columbine ^{1/} | | Laramie False Sagebrush ^{1/} | | Persistent Sepal Yellow-cress ^{1/} | | Nelson's Milkvetch ^{1/} | | Beaver Rim Plox ^{1/} | | Pale Blue-eyed Grass ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed 1W(a) Total Length | 9.3 | 2.9 | 123.7 | 36.5 | 1.2 | 0.3 | 177.5 | 39.6 | 9.4 | 3.1 | 0.1 | 0.1 |
| Proposed – Comparison Portion for Alternative 1W-A | – | – | – | – | – | – | 158.7 | 34.1 | – | – | – | – |
| Alternative 1W-A | – | – | – | – | – | – | 107.8 | 31.6 | – | – | – | – |
| Proposed 1W(c) Total Length | 21.9 | 2.7 | 219.3 | 37.5 | 0.7 | 0.2 | 144.3 | 25.0 | 8.9 | 1.4 | 1.8 | 0.5 |

1/ Data based on mapped suitable habitat.

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).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 2; however, the Proposed Route would impact approximately 10 acres of wetland/riparian vegetation (potential habitat for Ute ladies'-tresses; Table D.9-1 of Appendix D). Greater impacts to potential Ute ladies'-tresses habitat would occur under Alternatives 2A (approximately 10 acres of wetland/riparian vegetation) and 2B (approximately 3 acres of wetland/riparian vegetation) than the comparison portions of the Proposed Route (approximately 3 acres of wetland/riparian vegetation along the comparison portion for Alternative 2A and less than 1 acre of wetland/riparian vegetation along the comparison portion for Alternative 2B). As noted above, wetlands would be avoided to

the extent practical and, where avoidance is not possible, any permanent loss of wetlands or wetland function would require compensatory mitigation (e.g., creation, enhancement, or restoration of wetlands to replace the lost wetland function/acreage) as part of the USACE Section 404 permitting process. Given that pre-construction surveys for Ute ladies'-tresses would be conducted in areas of suitable habitat and that loss of wetland habitat would be adequately mitigated, construction and operations of the Project along Segment 2 may affect, but are not likely to adversely affect, this species.

Segment 2 is within the Platte River watershed where the western prairie fringed orchid is located downstream of the Analysis Area. As described above, in the Programmatic BO for the Platte River system, water depletions of greater than 0.1 acre-feet per year from the Platte River constitute a “may affect, likely to adversely affect” determination to downstream listed species; therefore, if Project-related water withdrawals are not taken from existing water rights (and thus are considered to constitute a new depletion), the Proposed Route and all Route Alternatives along Segment 2 may affect, and are likely to adversely affect, the western prairie fringed orchid. Consultation with the USFWS on Project-related water withdrawals will be completed for the Final EIS.

Other Special Status Species

No known populations of other special status plants occur along this segment; however, suitable habitat for five of these plant species would be crossed by the Project (Table 3.7-8). The Proposed Route along Segment 2 would impact suitable habitat for all five species, most of it consisting of suitable habitat for meadow pussy toes and Beaver Rim phlox. Alternative 2A would impact suitable habitat for three plant species versus four along the comparison portion of the Proposed Route and would impact fewer acres, the largest difference being for Beaver Rim phlox (approximately 4 acres versus 20 acres, respectively; Table 3.7-8). Alternative 2B and the comparison portion of the Proposed

Table 3.7-8. Potential Impacts to Other Special Status Plant Species along Segment 2 Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | |
|--|---|-----|--------------------------------|-----|------------------------------------|-----|---------------------------------|-----|--------------------------------|-----|
| | Persistent Sepal Yellow-cress ^{1/} | | Meadow Pussytoes ^{1/} | | Pale Blue-eyed Grass ^{1/} | | Cedar Rim Thistle ^{1/} | | Beaver Rim Phlox ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 2 – Total Length | 19.3 | 4.8 | 55.3 | 6.1 | 1.0 | 0.5 | 4.7 | 1.0 | 31.1 | 6.2 |
| Proposed – Comparison Portion for Alternative 2A | 16.7 | 4.3 | 55.3 | 6.1 | 0.4 | 0.7 | – | – | 20.2 | 2.8 |
| Alternative 2A | 12.8 | 3.7 | 37.3 | 2.3 | – | – | – | – | 3.5 | 1.1 |
| Proposed – Comparison Portion for Alternative 2B | 6.5 | 2.0 | – | – | – | – | – | – | 10.9 | 1.5 |
| Alternative 2B | 14.9 | 1.5 | – | – | – | – | – | – | – | – |
| Proposed – Comparison Portion for Alternative 2C | 1.3 | 0.2 | 18.6 | 3.3 | 0.4 | – | – | – | 2.4 | 0.4 |
| Alternative 2C | – | – | 14.1 | 1.8 | – | – | – | – | 2.4 | 0.7 |

1/ Data based on mapped suitable habitat.

Route would impact similar acres of suitable habitat for other special status plant species; however, Alternative 2B would impact more acres of suitable habitat for persistent sepal yellow-cress and the comparison portion of the Proposed Route would impact more acres of suitable habitat for Beaver Rim phlox. Alternative 2C would impact fewer special status plant species than the comparison portion of the Proposed Route; however, of the two species impacted by both routes (meadow pussy toes and Beaver Rim phlox) acres of impact would be comparable between the routes. Pre-construction clearance surveys along the Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

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 alternatives proposed along this segment (see Appendix A, Figure A-4).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 3; however, the Proposed Route would impact approximately 13 acres of wetland/riparian vegetation (potential habitat for Ute ladies'-tresses; Table D.9-1 of Appendix D). As noted above, wetlands would be avoided to the extent practical and, where avoidance is not possible, any permanent loss of wetlands or wetland function would require compensatory mitigation (e.g., creation, enhancement, or restoration of wetlands to replace the lost wetland function/acreage) as part of the USACE Section 404 permitting process. Given that pre-construction surveys for Ute ladies'-tresses would be conducted in areas of suitable habitat, and that loss of wetland habitat would be adequately mitigated, construction and operations of the Project along Segment 3 may affect, but are not likely to adversely affect, this species.

Other Special Status Species

Construction and operations of Segment 3 could result in impacts to the red poverty-weed. A known area of occurrence southeast of the Jim Bridger Substation would be crossed by the Proposed Route for Segment 3. The Proposed Route would impact approximately 12 acres of red poverty-weed during construction and 2 acres during operations. Construction and operations along Segment 3 would also impact suitable habitat for Nelson's milkvetch, Cedar Rim thistle, tufted twin pod, and persistent sepal yellow-cress (Table 3.7-9). Pre-construction clearance surveys along Segment 3 would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-9. Potential Impacts to Other Special Status Plant Species along Segment 3 Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | |
|---------------------------------|------------------|-----|----------------------------------|-------|---------------------------------|------|------------------------------|------|---|-----|
| | Red Poverty-Weed | | Nelson's milkvetch ^{1/} | | Cedar Rim thistle ^{1/} | | Tufted Twinpod ^{1/} | | Persistent Sepal Yellow-cress ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Segment 3 Proposed Total Length | 11.7 | 2.1 | 556.8 | 153.1 | 46.7 | 10.9 | 47.2 | 10.9 | 1.6 | 0.3 |

1/ Data based on mapped suitable habitat.

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).

ESA-listed and Candidate Species

The Proposed Route would impact approximately 65 acres of wetland/riparian vegetation (potential habitat for Ute ladies'-tresses; Table D.9-1 of Appendix D). Potential habitat for Ute ladies'-tresses occurs on all six alternatives found along Segment 4, the most being potentially impacted under Alternative 4A (54.4 acres), followed by Alternative 4B (43 acres), Alternative F (42 acres), Alternative 4D (40 acres), Alternative 4C (36 acres), Alternative 4E (36 acres), and the comparison portion of the Proposed Route (17 acres; Table D.9-1 in Appendix D). As noted above, wetlands would be avoided to the extent practical and, where avoidance is not possible, any permanent loss of wetlands or wetland function would require compensatory mitigation (e.g., creation, enhancement, or restoration of wetlands to replace the lost wetland function/acreage) as part of the USACE Section 404 permitting process. Given that pre-construction surveys for Ute ladies'-tresses would be conducted in areas of suitable habitat, and that loss of wetland habitat would be adequately mitigated, construction and operations of the Project along the Proposed Route and Route Alternatives may affect, but are not likely to adversely affect, this species.

The BLM has indicated that whitebark pine (a species under consideration for federal listing) and limber pine (a BLM Wyoming Sensitive Species, which is discussed here due to its relation to whitebark pine) occur in the upper treeline areas along the

Segment 4 Proposed Route and Route Alternatives (within the Kemmerer FO), though the full extent of these two species has not yet been mapped (Means 2010a; Guyon 2009). Field observations indicate widespread mountain pine beetle epidemics with mortality approaching 90 to 100 percent of infected trees (Means 2010b). The Project would cross through two known stands (containing both species) 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 it. 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 this species location in relation to the Project area would be determined during pre-construction surveys and timber cruises. The Agencies have proposed a mitigation measure for any stands of whitebark pine or limber pine that cannot be avoided. Due to the uncertainty regarding this species extent within the Project area, and the EPM and mitigation measures proposed by the Proponents and Agencies, construction of the Project may affect, and is likely to adversely affect, whitebark pine.

Other Special Status Species

Known occurrences of starveling milkvetch would be directly affected by construction and operations of the Proposed Route in Segment 4 (1 acre and less than 1 acre, respectively) due to the improvement of existing roads in Idaho. Construction and operations of the Project along Segment 4 also have the potential to impact suitable habitat for 13 other special status species, the majority being suitable habitat for Nelson's milkvetch, tufted twinpod, and Beaver Rim phlox (Table 3.7-10). Species with known occurrences that could be impacted by the Segment 4 Route Alternatives include Hayden's milkvetch (Alternatives 4B, 4C, 4D, and 4E), King's milkvetch (Alternatives 4A and 4F), tufted twinpod (Alternatives 4A, 4B, 4C, 4F), and Dorn's twinpod (Alternatives 4A, 4B, 4C, 4D, and 4E). Acreages impacted are comparable among alternatives (Table 3.7-10). None of these known occurrences would be impacted by the comparison portion of the Proposed Route. The construction and operations of the Route Alternatives would have the greatest impact on suitable habitat for Tufted twinpod, starveling milkvetch, Nelson's milkvetch, Trelease's twinpod, large-fruited bladderpod, and Beaver Rim phlox. Suitable habitat of the greatest number of species would be impacted by Alternative 4F (15 species), followed by Alternative 4A (14 species), the comparison portion of the Proposed Route (12 species), Alternatives 4B and 4D (11 species each), and Alternatives 4C and 4E (10 species each). Total acreage impacted by each alternative would be variable among species (Table 3.7-10). Pre-construction clearance surveys along the Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-10. Potential Impacts to Other Special Status Plant Species along Segment 4 Proposed and Alternative Routes

| Proposed Route or Alternative | Meadow Pussytoes ^{1/} | | Hayden's Milkvetch ^{2/} | | King's Milkvetch ^{2/} | | Trelease's milkvetch ^{1/} | | Entire-leaved peppergrass ^{1/} | | Fremont bladderpod ^{1/} | | Western Bladderpod ^{1/} | | Prostrate Bladderpod ^{1/} | | Tufted Twinpod ^{1/, (2/)} | |
|--|--------------------------------|-----|----------------------------------|-----|--------------------------------|-----|------------------------------------|-----------------|---|-----|----------------------------------|-----|----------------------------------|------|------------------------------------|------|------------------------------------|---------------|
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 4 – Total Length | 14.4 | 3.8 | - | - | - | - | 0.2 | t ^{3/} | - | - | 24.7 | 5.3 | 4.2 | 0.8 | 8.9 | 2.0 | 132.7 | 32.4 |
| Proposed – Comparison Portion for Alternatives 4A,B,C,D,E, F | 14.4 | 3.8 | - | - | - | - | 0.1 | t ^{3/} | - | - | 24.7 | 5.3 | 4.2 | 0.78 | 8.9 | 1.2 | 129.2 | 30.7 |
| Alternative 4A | 12.5 | 3.3 | - | - | 0.5 | 0.2 | 44.9 | 8.8 | - | - | 7.3 | 2.5 | 18.2 | 4.7 | 7.3 | 1.33 | 212.5 (2.2) | 54.2 (1.1) |
| Alternative 4B | 3.6 | 1.1 | 1.0 | 0.5 | - | - | 84.7 | 18.8 | 18.8 | 4.0 | - | - | - | - | 30.5 | 6.7 | 284.5 (5.4) | 65.2 (1.4) |
| Alternative 4C | 3.5 | 1.0 | 1.0 | 0.5 | - | - | 34.8 | 7.6 | 20.7 | 3.0 | - | - | - | - | 30.5 | 6.7 | 257.2 (5.4) | 60.4 (1.4) |
| Alternative 4D | 8.1 | 3.1 | 1.0 | 0.5 | - | - | 80.6 | 18.9 | 17.2 | 4.0 | - | - | - | - | 36.8 | 9.4 | 323.9 | 75.6 |
| Alternative 4E | 8.0 | 3.1 | 1.0 | 0.5 | - | - | 34.9 | 7.6 | 20.7 | 3.0 | - | - | - | - | 36.8 | 9.4 | 300.8 | 70.8 |
| Alternative 4F | 21.7 | 4.7 | - | - | 0.5 | 0.2 | - | - | - | - | 13.9 | 2.9 | 5.1 | 2.0 | 7.2 | 1.3 | 302.9 (2.2) | 72.2 (1.1) |

3.7-41

Table 3.7-10. Potential Impacts to Other Special Status Plant Species along Segment 4 Proposed and Alternative Routes (continued)

| Proposed Route or Alternative | Dorn's Twinpod ^{1/} , (2/) | | Persistent Sepal Yellow-cress ^{1/} | | Starveling Milkvetch ^{2/} | | Nelson's Milkvetch ^{1/} | | Cedar Rim Thistle ^{1/} | | Wyoming Tansymustard ^{1/} | | Large-fruited Bladderpod ^{1/} | | Beaver Rim Phlox ^{1/} | | Rocky Mountain Twinpod ^{1/} | |
|--|-------------------------------------|------------------------|---|-----|------------------------------------|-----|----------------------------------|------|---------------------------------|-----|------------------------------------|-----|--|------|--------------------------------|------|--------------------------------------|-----|
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 4 – Total Length | - | - | 0.9 | 0.1 | 0.7 | 0.4 | 139.2 | 73.1 | 2.2 | 0.7 | - | - | - | - | 45.6 | 12.3 | 9.0 | 0.9 |
| Proposed – Comparison Portion for Alternatives 4A,B,C,D,E, F | - | - | 0.9 | 0.1 | 0.7 | 0.4 | 0.7 | 0.3 | 2.2 | 0.7 | - | - | - | - | 35.0 | 8.1 | 9.0 | 0.9 |
| Alternative 4A | 0.5 (t ^{3/}) | 0.2 (t ^{3/}) | 6.0 | 0.1 | 0.7 | 0.4 | 25.7 | 5.2 | 7.9 | 1.1 | 16.9 | 3.4 | 9.2 | 3.4 | 21.6 | 5.4 | - | - |
| Alternative 4B | 51.4 (0.8) | 11.1 (0.1) | - | - | 0.7 | 0.4 | 131.5 | 24.3 | 0.2 | 0.1 | - | - | 44.7 | 10.5 | 57.7 | 12.4 | - | - |
| Alternative 4C | 42.2 (0.8) | 10.2 (0.1) | - | - | 0.7 | 0.4 | 90.7 | 13.3 | - | - | - | - | 44.8 | 10.5 | 56.1 | 12.0 | - | - |
| Alternative 4D | 115.1 (0.8) | 27.3 (0.1) | - | - | 0.7 | 0.4 | 132.0 | 24.3 | 0.2 | 0.1 | - | - | 55.0 | 14.6 | 51.2 | 12.2 | - | - |
| Alternative 4E | 109.0 (0.8) | 26.4 (0.1) | - | - | 0.7 | 0.4 | 90.8 | 13.3 | - | - | - | - | 55.0 | 14.6 | 49.6 | 11.7 | - | - |
| Alternative 4F | 0.2 | 0.1 | 0.3 | - | 0.7 | 0.4 | 19.3 | 5.3 | 2.1 | 0.7 | 13.7 | 4.4 | 9.2 | 3.4 | 21.5 | 5.4 | - | - |

1/ Data based on mapped suitable habitat.

2/ Data based on mapped known occurrences (shown in parentheses for Dorn's twinpod and tufted twinpod).

3/ Value is less than 0.1 acre.

3.7-42

New access roads in Alternatives 4A and 4C are not in conformance with Decision 6041 in the Kemmerer RMP that restricts new roads in the vicinity of special status plant species. Under a plan amendment, access roads needed for the Project would be allowed. Given the EPMs and mitigation measures identified above that would avoid or minimize adverse impacts to TES plant species, the Project would not preclude the Kemmerer FO from achieving its goal of managing to facilitate the conservation, recovery, and maintenance of populations of special status species (Goal BR-4) and of providing quality habitats to support the expansion in range of identified high priority plant species (Goal BR:5; BLM 2010b, p.2-30).

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).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species or suitable habitat in Segment 5. Therefore, construction and operations of the Proposed Route and Route Alternatives would have no impacts to ESA-listed or candidate plant species.

Other Special Status Species

No impacts to known occurrences or potential habitat for other special status plants have been identified for the Proposed Route along Segment 5 or Alternatives 5A, 5B, 5C, 5D, or 5E. One species, red glasswort, has been reported within 5 miles of the Project along Segment 5; however, this species is unlikely to occur within the Analysis Area because suitable habitat (playas) is not present.

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 0.25 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).

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species or suitable habitat in Segment 6. Therefore, construction and operations of the Proposed Route and Route Alternatives would have no impacts to ESA-listed or candidate plant species.

Other Special Status Species

There are no other special status plant species that occur within the footprint of the Project along Segment 6, and there are no known occurrences of such species within 0.5 mile of the Project (Table 3.7-3); therefore, construction and operations of the Project along Segment 6 would have no impacts to other special status plant species.

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.

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species or suitable habitat in Segment 7, with the exception of Goose Creek milkvetch along Alternative 7J. Alternative 7J, as indicatively sited, would impact 0.1 acre of Goose Creek milkvetch during construction and operations. Additionally, based on the most recent Idaho Natural Heritage Data, less than 1 acre of Goose Creek milkvetch lies within an area identified for existing road improvements along Alternative 7I. It is anticipated that the occurrence of this species would be surveyed and flagged prior to construction, in accordance with TESPL-3, and avoided. There is the potential for indirect impacts associated with the introduction and spread of invasive plant species or Project-related fires; however, these impacts would be minimized by measures included in the Project's Framework Reclamation Plan (Appendix C-2) related to weed control and revegetation, and the fire prevention and control measures identified in mitigation measure VEG-5

(see Section 3.6 – Vegetation Communities). Therefore, the construction and operations of the Proposed Route for Segment 7 and Route Alternatives may affect, but are not likely to adversely affect, Goose Creek milkvetch.

Other Special Status Species

The Proposed Route for Segment 7 and Alternatives 7A through 7H would not directly impact any other special status plant species. Alternatives 7I and 7J would directly impact known occurrences of two-headed onion (less than 1 acre during construction and operations), and Idaho penstemon (less than 1 acre during construction and operations). Pre-construction clearance surveys along Alternative 7I and 7J would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

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 non-motorized portion of the Guffey Butte-Black Butte Archaeological District (see Appendix A, Figure A-10).

ESA-listed and Candidate Species

The Project, as indicatively sited, would directly impact a total of approximately 7 acres of known occurrences of slickspot peppergrass along the Proposed Route for Segment 8 during construction and approximately 1 acre during operations (Table 3.7-11). Slickspot peppergrass occurs within the general vicinity of Segment 8 for about 40 miles. Occupied habitat would also be directly affected during construction and operations under Alternatives 8B and 8C (both approximately 3 acres during construction and less than 1 acre during operations). The comparison portion of the Proposed Route for Alternative 8B would impact more slickspot peppergrass than Alternative 8B (approximately 7 acres during construction and 1 acre during operations). The comparison portion of the Proposed Route for Alternative 8C would impact fewer acres of slickspot peppergrass than Alternative 8C (approximately 1 acre during construction and less than 1 acre during operations). Alternatives 8A, 8D, and 8E and their comparison portions of the Proposed Route would not impact this species.

Table 3.7-11. Potential Impacts to Slickspot Peppergrass Habitat along Segment 8 Proposed and Alternatives Routes

| Proposed Route or Alternative | Slickspot Peppergrass (Acres) | |
|--|-------------------------------|------------|
| | Construction | Operations |
| Proposed Segment 8 – Total Length | 7.4 | 0.8 |
| Proposed – Comparison Portion for Alternative 8A | – | – |
| Alternative 8A | – | – |
| Proposed – Comparison Portion for Alternative 8B | 7.4 | 0.8 |
| Alternative 8B | 2.7 | 0.4 |
| Proposed – Comparison Portion for Alternative 8C | 0.8 | 0.4 |
| Alternative 8C | 2.7 | 0.6 |
| Proposed – Comparison Portion for Alternative 8D | – | – |
| Alternative 8D | – | – |
| Proposed – Comparison Portion for Alternative 8E | – | – |
| Alternative 8E | – | – |

As noted above, impact acreages are based on the preliminary Project design. Pre-construction clearance surveys would be conducted for slickspot peppergrass consistent with established protocols to microsite Project facilities to avoid or minimize impacts. Additionally, any aboveground populations of slickspot peppergrass and higher-quality microsites within 50 feet of the construction area and access roads would be marked by environmental monitors. Under mitigation measure TESPL-4, no construction would occur within 50 feet of any slickspot peppergrass plant or habitat, including known occurrences of slickspot peppergrass (based on Idaho Natural Heritage data) even if aboveground plants are not observed during the surveys.

Construction and operations of the Segment 8 Proposed Route and Route Alternatives could result in indirect impacts to slickspot peppergrass due to the introduction and spread of noxious weeds or invasive plant species if reseeding activities in disturbed areas outside of slickspots are unsuccessful in establishing native perennial cover. However, these effects would be minimized through implementation of the Project's reclamation plan, which would include measures identified in Appendix C-2 such as post-construction monitoring of revegetated areas to ensure plant establishment. Therefore, with the implementation of these measures, construction and operations of the Project along the Segment 8 Proposed Route, Alternative 8B, and Alternative 8C may affect, but are not likely to adversely affect, slickspot peppergrass. Construction and operations of Alternatives 8A and 8D would have no effects on slickspot peppergrass because this species does not occur within the Analysis Area for either of these alternatives.

Additionally, as noted above, Alternatives 8B and 8C cross approximately 4.3 miles and 0.7 mile, respectively, of areas identified as proposed critical habitat for slickspot peppergrass. The Proponents are currently consulting with the USFWS under Section 7 of the ESA, and would continue to do so should critical habitat become designated. Pre-construction surveys would be conducted in all areas of critical habitat crossed by the Project, should it become designated, to avoid and minimize impacts to slickspot peppergrass populations. Mitigation measure TESP-4 and measures contained in

Appendix C-2 would be implemented in all areas of proposed critical habitat, which would minimize Project-related effects.

Other Special Status Species

Construction and operations of Segment 8 of the Proposed Route have the potential to directly affect eight other special status species (Table 3.7-12). Wovenspore lichen and mourning milkvetch would have the greatest number of acres impacted by Segment 8. Alternative 8A would impact fewer acres of mapped occurrences of other special status species (less than 1 acre of matted cowpie buckwheat during construction and operations) than the comparison portion of the Proposed Route (approximately 7 acres during construction and 1 acre during operations of mourning milkvetch). Alternative 8B would also impact fewer acres of mapped occurrences of special status species than the comparison portion of the Proposed Route. Alternative 8B would impact mapped occurrences of wovenspore lichen (approximately 3 acres during construction and less than 1 acre during operations) whereas the comparison portion of the Proposed Route would impact more acres of mapped occurrences of wovenspore lichen (approximately 18 acres during construction and less than 1 acre during operations) as well as Mulford milkvetch, Snake River milkvetch, and white-margined wax plant (Table 3.7-12). Alternative 8C and the comparison portion of the Proposed Route would both impact an equal, minor amount (less than 1 acre) of wovenspore lichen. Alternative 8D and the comparison portion of the Proposed Route would also impact wovenspore lichen, with more acres impacted under Alternative 8D. Finally, Alternative 8E would impact fewer acres of mapped occurrences of special status species (less than an acre of spreading gilia) than the comparison portion of the Proposed Route (less than an acre each of Mulford's milkvetch and Snake River milkvetch). Pre-construction clearance surveys along the Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Portions of the Segment 8 Proposed Route and Alternatives 8B, 8D and 8E cross the SRBOP. Its associated RMP requires that "surface disturbing activities be located at least ½ mile from occupied sensitive plant habitat." Therefore, an amendment to the RMP would be required for the Proposed Route and Alternatives 8B, 8D, and 8E to be in conformance with the RMP (Table 2.2-1). With the implementation of EPMs and mitigation measures related to conducting pre-construction clearance surveys, weed control, and reclamation, the Project would avoid or minimize adverse impacts to TES plant populations. Therefore the Project would not preclude the BLM from meeting the SRBOP's goal of emphasizing maintenance, protection, and enhancement of sensitive habitats (BLM 2008b, p. 2-7).

Table 3.7-12. Potential Impacts to Other Special Status Plant Species along Segment 8 Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | | | | | | | | | |
|--|----------------------------------|-----|-----------------------------------|-----------------|-------------------------------------|-----------------|--|-----------------|----------------------------------|-----|---------------------------------|-----|------------------------------------|-----------------|---------------------------------------|-----|-------------------------------|-----|
| | Mourning Milkvetch ^{1/} | | Mulford's Milkvetch ^{1/} | | Snake River Milkvetch ^{1/} | | White-margined Wax Plant ^{1/} | | American Wood Sage ^{1/} | | Wovenspore Lichen ^{1/} | | Calcareous Buckwheat ^{1/} | | Matted Cowpie Buckwheat ^{1/} | | Spreading Gilia ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 8 – Total Length | 6.8 | 1.0 | 2.1 | 0.3 | 0.2 | t ^{2/} | 0.1 | t ^{2/} | 1.4 | 0.6 | 17.6 | 0.1 | – | – | – | – | – | – |
| Proposed – Comparison Portion for Alternative 8A | 6.8 | 1.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Alternative 8A | – | – | – | – | – | – | – | – | – | – | – | – | 0.1 | t ^{1/} | 0.5 | 0.3 | – | – |
| Proposed – Comparison Portion for Alternative 8B | – | – | 2.1 | 0.3 | 0.2 | t ^{2/} | 0.1 | t ^{2/} | – | – | 17.6 | 0.1 | – | – | – | – | – | – |
| Alternative 8B | – | – | – | – | – | – | – | – | – | – | 3.1 | 0.1 | – | – | – | – | – | – |
| Proposed – Comparison Portion for Alternative 8C | – | – | – | – | – | – | – | – | – | – | 0.3 | 0.1 | – | – | – | – | – | – |
| Alternative 8C | – | – | – | – | – | – | – | – | – | – | 0.2 | 0.1 | – | – | – | – | – | – |
| Proposed – Comparison Portion for Alternative 8D | – | – | – | – | – | – | – | – | – | – | 17.4 | – | – | – | – | – | – | – |
| Alternative 8D | – | – | – | – | – | – | – | – | – | – | 25 | 0.1 | – | – | – | – | – | – |
| Proposed – Comparison Portion for Alternative 8E | – | – | 0.1 | t ^{2/} | 0.2 | t ^{2/} | – | – | – | – | – | – | – | – | – | – | – | – |
| Alternative 8E | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 0.9 |

1/ Data are based on mapped occurrences.

2/ Value is less than 0.1 acre.

3.7-48

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 Task Force, 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 non-motorized 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).

ESA-listed and Candidate Species

There are no ESA-listed or candidate species within the analysis area for the Segment 9 Proposed Route or Route Alternatives. Therefore, construction and operations would have no effect on ESA-listed or candidate plant species.

Other Special Status Species

There are four other special status plant species that are known to occur within the Segment 9 Analysis Area that have the potential to be affected by construction and operations of the Project (Table 3.7-13). No other special status plant species would be directly affected by Alternatives 9A, 9B, 9C, or their comparison portions of the Proposed Route; however, one species, Greeley's wavewing, is within 0.5 mile of the Proposed Route and Alternatives 9B, 9D, and 9E (Table 3.7-3). Pre-construction surveys would document whether this species occurs within the immediate vicinity of the Project (TESPL-3) and therefore impacts to this species would be avoided or minimized. Neither Alternative 9C nor the comparison portion of the Proposed Route would directly affect other special status plant species.

Alternative 9E would affect the greatest number of other special status plant species during construction (10 species) followed by Alternatives 9D, 9F, 9G or the comparison portion of the Proposed Route (4 species each), and Alternative 9H (3 species). Alternative 9E would also impact the most acres of mapped species occurrences, with the greatest number of acres being white-margined wax plant and Packard's buckwheat (Table 3.7-13). The comparison portion of the Proposed Route would impact more acres of mapped species occurrences than Alternatives 9D and 9F. Alternatives 9G and 9H would impact more acres of desert pincushion and spreading gila than the Proposed Route. During operations, these segments would result in disturbance of 1 acre or less to the impacted species. There are also several species that occur within 0.5 mile of the Project along Alternatives 9 F, 9G, and 9H (Table 3.7-3). Pre-

Table 3.7-13. Potential Impacts to Other Special Status Plant Species along Segment 9 Proposed and Alternative Routes

| Proposed Route or Alternative | Acres | | | | | | | | | |
|---|-------------------------------|-----------------|---------------------------------------|-----|--|-----|--------------------------------|-----|---------------------------------|-----|
| | White Eatonella ^{1/} | | Matted Cowpie Buckwheat ^{1/} | | White-margined wax plant ^{1/} | | Rigid Threadbush ^{1/} | | Desert Pincushion ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 9 – Total Length | 4.4 | 0.7 | 3.1 | 0.5 | 6.4 | 1.4 | 2.2 | 0.6 | 0.2 | 0.1 |
| 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–9H | 4.2 | 0.6 | – | – | – | 1.1 | 2.2 | 0.6 | 0.2 | 0.1 |
| Alternative 9D | 0.6 | – | – | – | 1.7 | 0.2 | – | – | 4.3 | 0.2 |
| Alternative 9E | 0.2 | t ^{2/} | 3.6 | 0.4 | 22.5 | 1.2 | 0.2 | – | 1.9 | 0.3 |
| Alternative 9F | 0.6 | – | – | – | 1.7 | 0.2 | – | – | 4.3 | 0.2 |
| Alternative 9G | 0.6 | – | – | – | 0.5 | – | – | – | 5.6 | 0.3 |
| Alternative 9H | 0.6 | – | – | – | 0.5 | – | – | – | 5.6 | 0.3 |

| Proposed Route or Alternative | Acres | | | | | | | | | |
|---|-------------------------------|-----------------|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|-----------------|-------------------------------------|----|
| | Spreading Gilia ^{1/} | | King's Desert Grass ^{1/} | | Packard's Buckwheat ^{1/} | | Janish's penstemon ^{1/} | | Spine-noded milkvetch ^{1/} | |
| | Const | Op | Const | Op | Const | Op | Const | Op | Const | Op |
| Proposed Segment 9 – Total Length | – | – | – | – | – | – | t ^{2/} | t ^{2/} | – | – |
| 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–9H | – | – | – | – | – | – | – | – | – | – |
| Alternative 9D | 2.6 | 0.4 | – | – | – | – | – | – | – | – |
| Alternative 9E | 0.6 | t ^{2/} | 0.2 | 0.1 | 5.2 | 0.8 | 2.6 | 0.4 | 0.5 | – |
| Alternative 9F | 0.9 | 0.1 | – | – | – | – | – | – | – | – |
| Alternative 9G | 1.7 | 0.3 | – | – | – | – | – | – | – | – |
| Alternative 9H | – | – | – | – | – | – | – | – | – | – |

1/ Data based on mapped occurrences.

2/ Value is less than 0.1 acre.

3.7-50

construction clearance surveys along the Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

The SRBOP is crossed by the Proposed Route and Alternatives 9D, 9E, 9F, 9G, and 9H. Its associated RMP requires that “surface disturbing activities be located at least ½ mile from occupied sensitive plant habitat.” Therefore, an amendment to the RMP would be required for the Segment 9 Proposed Route and Alternatives 9D, 9E, 9F, 9G, and 9H to be in conformance with the RMP (Table 2.2-1). With the implementation of EPMs and mitigation measures related to conducting pre-construction clearance surveys, weed control, and reclamation, the Project would avoid or minimize adverse impacts to TES plant populations. Therefore, the Project would not preclude the BLM from meeting the SRBOP’s goal of emphasizing maintenance, protection, and enhancement of sensitive habitats (BLM 2008b, p. 2-7).

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).

ESA-listed and Candidate Species

There are no known occurrences or suitable habitat for ESA-listed or candidate plant species in the Analysis Area for Segment 10. Therefore, construction and operations of the Proposed Route along this segment would have no effect on ESA-listed or candidate plants.

Other Special Status Species

No potential direct impacts to known occurrences or mapped suitable habitat of other special status plants have been identified for Segment 10. One other special status species, giant helleborine, is present in nearby springs along the Snake River. Segment 10 does include wetland/riparian vegetation with which this species is associated and would impact less than 1 acre of this vegetation during construction. Pre-construction clearance surveys along Segment 10 would ensure that this species would be identified and avoided during construction.

3.7.2.4 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. Table 3.7-14 summarizes the potential construction impacts to known occurrences and mapped suitable habitat for these species associated with the Design Variation along Segments 2, 3, and 4 and their associated alternatives. suitable habitat for these species associated with the Design Variation along Segments 2, 3, and 4 and their associated alternatives.

3.7.2.5 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. Therefore, there is no appreciable difference in impact on special status plant communities from the use of this Structure Variation when compared to the use of self-supporting lattice towers.

3.7.2.6 Schedule Variation

The Schedule Variation uses the two single-circuit Design Variation described above but extends construction over a longer time frame. 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 if the Design Variation is adopted, the first single-circuit transmission line, energized at 500 kV, in Segments 2, 3, and 4 would be built as soon as the ROW grant is issued, but that the second line would not be constructed until late 2018. This would mean nearly 2 years would pass between the end of construction for the first line and beginning of construction for the second line. The Schedule Variation further calls for construction of Segment 1W, the expansion of the Windstar and Aeolus Substations, the expansion of the Populus Substation, and the construction of the proposed Bridger 500-kV Substation to accommodate the single circuit.

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 separate 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 habitats and populations (temporally) as the simultaneous construction of both single-circuit lines or the double-circuit Proposed Route, even though direct habitat disturbance overall would not be any greater (spatially). However, TES plant species that were impacted by the initial clearing would likely be absent from the area during the second clearing (unless they resprouted or germinated from soil-stored seed banks).

Table 3.7-14. Potential Impacts (acres) to Other Special Status Plant Species Associated with the Design Variation Along Segments 2, 3, and 4 Proposed and Alternative Routes

| Proposed Route or Alternative | Dorn's Twinpod ^{1/(2)} | Hayden's Milkvetch ^{1/} | Meadow Pussytoes ^{1/} | King's Milkvetch ^{2/} | Red Poverty-weed ^{3/} | Tufted Twinpod ^{1/, 2/} | Rocky Mountain Twinpod ^{1/} |
|--|---------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------------|
| Proposed Segment 2 –Total Length | – | – | 60.1 | – | – | – | – |
| Proposed Comparison Portion for Alternative 2A | – | – | 60.1 | – | – | – | – |
| Alternative 2A | – | – | 39.4 | – | – | – | – |
| Proposed Comparison Portion for Alternative 2B | – | – | – | – | – | – | – |
| Alternative 2B | – | – | – | – | – | – | – |
| Proposed Comparison Portion for Alternative 2C | – | – | 21.3 | – | – | – | – |
| Alternative 2C | – | – | 16.1 | – | – | – | – |
| Proposed Segment 3 – Total Length | – | – | – | – | 13.3 | 52.8 | – |
| Proposed Segment 4 –Total Length | – | – | – | – | – | 184.8 | 10.3 |
| Comparison Portion for Alternatives 4A–4F | – | – | – | – | – | 181.3 | 10.3 |
| Alternative 4A | 0.5 (t ^{3/}) | – | – | 0.5 | – | 285.6 (2.2) | – |
| Alternative 4B | 57.5 (0.9) | 1.0 | – | – | – | 3890.8 (6.0) | – |
| Alternative 4C | 46.8 (0.9) | 1.0 | – | – | – | 349.5 (6.0) | – |
| Alternative 4D | 128.4 (0.9) | 1.0 | – | – | – | 411.3 | – |
| Alternative 4E | 121.3 (0.9) | 1.0 | – | – | – | 384.9 | – |
| Alternative 4F | 0.2 | – | – | 0.5 | – | 386.0 (2.2) | – |

| Proposed Route or Alternative | Ward's Goldenweed ^{2/} | Cedar Rim Thistle ^{2/} | Beaver Rim Phlox ^{2/} | Persistent Sepal Yellow-cress ^{2/} | Pale Blue-eyed Grass ^{1/} | Nelson's Milkvetch ^{1/} | Treleases Milkvetch ^{1/} |
|--|---------------------------------|---------------------------------|--------------------------------|---|------------------------------------|----------------------------------|-----------------------------------|
| Proposed Segment 2 –Total Length | 0.3 | 5.4 | 46.3 | 21.4 | 1.0 | – | – |
| Proposed Comparison Portion for Alternative 2A | – | – | 34.4 | 18.4 | 0.4 | – | – |
| Alternative 2A | – | – | 3.8 | 14.7 | – | – | – |
| Proposed Comparison Portion for Alternative 2B | – | – | 14.9 | 7.1 | – | – | – |
| Alternative 2B | – | – | – | 17.4 | – | – | – |
| Proposed Comparison Portion for Alternative 2C | t3/ | – | 11.7 | 1.5 | 0.4 | – | – |
| Alternative 2C | 10.7 | – | 2.6 | – | – | – | – |

3.7-53

Table 3.7-14. Potential Impacts (acres) to Other Special Status Plant Species Associated with the Design Variation Along Segments 2, 3, and 4 Proposed and Alternative Routes (continued)

| Proposed Route or Alternative | Dorn's Twinpod ^{1/,(2/)} | Hayden's Milkvetch ^{1/} | Meadow Pussytoes ^{1/} | King's Milkvetch ^{2/} | Red Poverty-weed ^{2/} | Tufted Twinpod ^{1/, 2/} | Rocky Mountain Twinpod ^{1/} |
|---|-----------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------------|
| Proposed Segment 3 – Total Length | – | 52.3 | – | 1.8 | – | 674.5 | – |
| Proposed Segment 4 –Total Length | – | 2.6 | 64.2 | 1.1 | – | 166.9 | 0.3 |
| Comparison Portion for Alternatives 4A–4F | – | 2.6 | 40.5 | 1.1 | – | 0.8 | 0.1 |
| Alternative 4A | – | 8.8 | 23.9 | 6.6 | – | 7.6 | 50.2 |
| Alternative 4B | – | 0.2 | 69.0 | – | – | 175.0 | 119.7 |
| Alternative 4C | – | – | 67.4 | – | – | 124.7 | 38.7 |
| Alternative 4D | – | 0.2 | 61.6 | – | – | 175.5 | 114.9 |
| Alternative 4E | – | – | 60.0 | – | – | 124.9 | 38.7 |
| Alternative 4F | – | 2.3 | 23.9 | 0.4 | – | 4.9 | – |

| Proposed Route or Alternative | Wyoming Tansymustard ^{1/} | Entire-leaved Peppergrass ^{1/} | Freemont Bladderpod ^{1/} | Western Bladderpod ^{1/} | Prostrate Bladderpod ^{1/} | Large-fruited Bladderpod ^{1/} |
|--|------------------------------------|---|-----------------------------------|----------------------------------|------------------------------------|--|
| Proposed Segment 2 –Total Length | – | – | – | – | – | – |
| Proposed Comparison Portion for Alternative 2A | – | – | – | – | – | – |
| Alternative 2A | – | – | – | – | – | – |
| Proposed Comparison Portion for Alternative 2B | – | – | – | – | – | – |
| Alternative 2B | – | – | – | – | – | – |
| Proposed Comparison Portion for Alternative 2C | – | – | – | – | – | – |
| Alternative 2C | – | – | – | – | – | – |
| Proposed Segment 3 – Total Length | – | – | – | – | – | – |
| Proposed Segment 4 –Total Length | – | – | 27.6 | 4.9 | 10.1 | – |
| Comparison Portion for Alternatives 4A–4F | – | – | 27.6 | 4.9 | 10.1 | – |
| Alternative 4A | 18.9 | – | 7.8 | 19.9 | 8.3 | 31.8 |
| Alternative 4B | – | 21.1 | – | – | 45.6 | 49.2 |
| Alternative 4C | – | 23.4 | – | – | 45.6 | 49.2 |
| Alternative 4D | – | 19.2 | – | – | 53.0 | 60.1 |
| Alternative 4E | – | 23.4 | – | – | 53.0 | 60.1 |
| Alternative 4F | 14.8 | – | 15.6 | 5.4 | 8.2 | 31.8 |

1/ Data based on mapped suitable habitat.
 2/ Data based on mapped occurrences.
 3/ Value is less than 0.1 acre.

3.7-54

3.7.3 Mitigation Measures

To minimize or avoid impacts on TES plant species, the Proponents have committed to EPMs that would be implemented Project-wide as outlined in this section and in Appendix C.

The following mitigation measures identified by the Agencies are required on federally managed lands. The Agencies recommend that the Proponents incorporate the measures into their EPMs and apply them Project-wide.

- TESPL-1 Surface disturbance will be allowed in suitable habitat for Goose Creek milkvetch and whitebark pine where species-specific surveys have determined that no populations are present. The species-specific surveys will be conducted the year prior to construction, and the proposed disturbance areas will be redesigned to avoid direct impacts to populations.
- TESPL-2 Pre-construction surveys for the Ute ladies' tresses shall be conducted by qualified botanists in all areas of potential habitat, in accordance with federal land management agency and USFWS requirements. These pre-construction surveys shall be conducted during the appropriate survey window, for a total of 3 years.
- TESPL-3 Qualified botanists shall conduct pre-construction surveys during a season when target species are readily identifiable for special status or globally rare species. Where feasible, micro-siting of project facilities shall avoid direct impacts to identified populations. Survey reports documenting the surveys, their results, and recommendations must be provided to land management agency for approval prior to construction. Agency botanists may evaluate individual sites based on site-specific conditions. Documentation of the evaluation of avoidance of impacts to sensitive and globally rare plants must be provided to the Agencies prior to construction.
- TESPL-4 Environmental monitors shall be used to identify and mark aboveground populations of slickspot peppergrass and higher-quality microsites within 50 feet of the construction area, including access roads, so that they are avoided by construction equipment and vehicles. Full field clearances shall be conducted that meet USFWS protocols prior to construction. No construction shall occur within 50 feet of any slickspot peppergrass plant or habitat, including known occurrences of slickspot peppergrass (based on Idaho CDC data) even if aboveground plants are not observed during the surveys. Seeding during reclamation must use methods that minimize soil disturbance such as no-till drills or rangeland drills with depth bands, in areas of suitable habitat. Reclamation must use certified weed-free native seed. Excess soils will not be stored or spread on slickspots.
- TESPL-5 If a whitebark pine or limber pine (a similar species that can be difficult to distinguish from whitebark pine) stand cannot be avoided, off-site mitigation in the form of appropriate silvicultural treatments of adjacent

stands, collection of seed, identification of “plus” trees or other acceptable mitigations will be done to offset the loss of the stand in addition to replanting whitebark pine on reclaimed areas.

TESPL-6 Sand dune and cushion plant communities should be avoided, where feasible.