

3.7 SPECIAL STATUS PLANTS

The Preferred Route, 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 designated 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.

The BLM's Preferred Routes for each segment of the Project are listed below. Where applicable, the preferred route identified by another federal agency or a county or state government is also noted.

- **Segment 1W:** The BLM's Preferred Route is the Proposed Route (Figure A-2). This route is also the State of Wyoming's preferred route.
- **Segment 2:** The BLM's Preferred Route is the Proposed Route (Figure A-3). This route is also the State of Wyoming's preferred route.
- **Segment 3:** The BLM's Preferred Route is the Proposed Route, including 3A (Figure A-4). This route is also the State of Wyoming's preferred route.
- **Segment 4:** The BLM's Preferred Route is the Proposed Route (Figures A-5 and A-6) except within the Caribou-Targhee NF. The portion of this route in Wyoming is also the State of Wyoming's preferred route. The Forest Service's preferred route is the Proposed Route within the NF incorporating Alternative 4G (Figure A-6).
- **Segment 5:** The BLM's Preferred Route is the Proposed Route incorporating Alternatives 5B and 5E, assuming that WECC reliability issues associated with 5E are resolved (Figure A-7). Power County's preferred route is the Proposed Route incorporating Alternatives 5C and 5E (Figure A-7).
- **Segment 6:** The BLM's Preferred Route is the proposal to upgrade the line voltage from 345 kV to 500 kV (Figure A-8).
- **Segment 7:** The BLM's Preferred Route is the Proposed Route incorporating Alternatives 7B, 7C, 7D, and 7G (Figure A-9). The Proposed Route in the East Hills and Alternative 7G will be microsited to avoid sage-grouse PPH. Power and Cassia Counties' preferred route is Alternative 7K (Figure A-9).
- **Segment 8:** The BLM's Preferred Route is the Proposed Route incorporating Alternative 8B (Figure A-10). This is also IDANG's preferred route.
- **Segment 9:** The BLM's Preferred Route is the Proposed Route incorporating Alternative 9E, which was revised to avoid PPH and the community of Murphy (Figure A-11). Owyhee County's preferred route is Alternative 9D (Figure A-11).
- **Segment 10:** The BLM's Preferred Route is the Proposed Route (Figure A-12).

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 Analysis 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. Elevation, slope, aspect, average seasonal temperatures, and annual precipitation exhibit a wide range across the approximately 990 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] and Wyoming Natural Diversity Database [WYNDD]).

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 Analysis Area. It is the dominant type throughout the Wyoming portion of the Project, and is also common within the Idaho portion. 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 Analysis Area (see Section 3.9 – Wetlands and Riparian Areas).

3.7.1.2 Issues Related to Special Status Plants

The following special status plant species issues were brought up by the public during public scoping (Tetra Tech 2009) and comments in the Draft EIS, 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]); for private lands, it is illegal to collect, damage, or destroy endangered plants in violation of a state law. However, as noted below neither Wyoming nor Idaho have such state laws. 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 draft BA, which assesses these ESA-listed species, has been prepared and is provided in Appendix M.

Both the Forest Service and the BLM have established lists 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 have been prepared for Forest Service sensitive species, as required by Forest Service policy (FSM 2672.4). The Final Biological Evaluations will be available for review when the ROD is released.

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 proposed BLM and Forest Service 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 has established state laws that protect rare or sensitive plant species on private lands.

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 1W(a), 1W(c), and 5 in 2009, 2010, 2011, and 2012 (Tetra Tech 2010c, 2011, 2013). 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. Additionally, new data are being collected on an ongoing basis, and some occurrences may not yet be incorporated in the most recent databases. 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 and is incorporated into 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 Fish and Wildlife Information System	IDFG 2012
Wyoming Natural Diversity Database (WYNDD)	WYNDD 2012
USFWS Databases	USFWS 2008a, 2008b
Forest Service Databases	Forest Service 2007a, 2007b, 2008
BLM Databases	BLM 2000b, 2003a, 2007b, 2008a
NatureServe	NatureServe 2008

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 and 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 1,640 to 9,800 feet (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 (within 5 miles) of 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.

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
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	No suitable habitat or known occurrences within 5 miles of Analysis Area; however, per USFWS, has the potential to occur in all counties crossed
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	None – No suitable habitat or known occurrences occur within 5 miles of Analysis Area; Analysis Area is outside known range in ID	None – Does not occur in WY
Colorado butterfly plant <i>Gaura neomexicana</i> ssp. <i>coloradensis</i>	T	Sub-irrigated meadows in prairie	Occurs in WY, NV, and CO. Critical habitat in Platte and Laramie Counties, WY.	None – Does not occur in ID	None – No suitable habitat or known occurrences within 5 miles of Analysis Area; Analysis Area is outside known range in WY
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
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 5 miles of Alternative 7K but outside the Analysis Area	None – Does not occur in WY
MacFarlane's four-o'clock <i>Mirabilis macfarlanei</i>	T	Steep river canyon grassland habitats characterized by regionally warm and dry conditions	Only occurs along the Snake River and the Salmon River in Idaho County, ID, and along the Imnaha River in Wallowa County, OR.	None – Analysis Area is outside known range in ID	None – Does not occur in WY
Spalding's catchfly <i>Silene spaldingii</i>	T	Pacific Northwest bunchgrass grasslands and sagebrush-steppe, and occasionally in open-canopy pine stands	Endemic to the Palouse region of south-east WA and adjacent OR and ID, and is disjunct in northwestern MT and British Columbia, Canada	None – Analysis Area is outside known range in ID	None – Does not occur in WY

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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
Slickspot peppergrass <i>Lepidium papilliferum</i>	P	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 and 8C; potential habitat within 0.5 mile of Alternatives 8A, 8D, 8E, Segment 9, and Alternatives 9B, 9C, 9F, and 9H; occupied habitat is crossed by Segment 8 and Alternatives 8B and 8C.	None – Does not occur in WY
Water howellia <i>Howellia aquatilis</i>	T	Shallow waters on the edges of ponds surrounded by deciduous vegetation	Known from Latah County, ID and several counties in WA and MT.	None – Analysis Area is outside of known range in ID	None – Does not occur in WY
Western prairie fringed orchid <i>Platanthera praeclara</i>	T	Moist prairies and sedge meadows along the Platte River in Nebraska	Occurs downstream of the Platte River (outside of the Analysis Area). However, according to the USFWS tiered biological opinion (see Section 3.11) any water withdrawals from the Platte River (in Colorado and Wyoming) would result in an adverse impact to listed species located downstream of the water depletion.	None – Does not occur in Idaho	Segments 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.
Whitebark pine <i>Pinus albicaulis</i>	C	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.	None – Analysis Area is outside known range in ID	None – Analysis Area is outside known range in WY
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.	Analysis Area is outside known range in ID; however, suitable habitat is present along Segments 4 and 5	No known occurrences are located in the Analysis Area; however, suitable habitat is present along Segments 1W, 2, 3, and 4

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

2/ Also a BLM Watch List species.

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***Blowout Penstemon* (Endangered)**

Blowout penstemon was declared to be an endangered species in September 1987 (52 *Federal Register* 32926). 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. 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, and none of the routes would cross suitable habitat for this 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, Nevada, and Colorado. Critical habitat includes specific wet meadows and riparian areas in Laramie and Platte Counties, Wyoming. Due to route revisions between the Draft and Final EIS, 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 (*Juniperus osteosperma*), big sagebrush (*Artemisia tridentate*), or rabbitbrush

(*Chrysothamnus* spp.) communities. In Idaho, it is restricted to a small portion of Cassia County near the state line. The Draft EIS identified known occurrences of Goose Creek milkvetch within 0.5 mile of Alternatives 7I and 7J, but these alternatives were subsequently dropped between the Draft and Final EIS. Now the closest known occurrences in Idaho are located within 5 miles of Alternative 7K but outside the Analysis Area.

MacFarlane's Four-o'clock (Threatened)

MacFarlane's four-o'clock was listed as endangered under the ESA in October 1979 (44 *Federal Register* 61912), and down listed to threatened in March 1996 (61 *Federal Register* 10693). This species occurs in Idaho and Oregon. In Idaho it has been found along the Snake and Salmon Rivers in Idaho County, Oregon. No portions of the Analysis Area are within the counties where the MacFarlane's four-o'clock is known or expected to occur.

Spalding's Catchfly (Threatened)

Spalding's catchfly was listed as threatened under the ESA in October 2001 (66 *Federal Register* 51598). It is endemic to the Palouse region of southeastern Washington and adjacent Oregon and Idaho; disjunct populations are also found in Montana and British Columbia, Canada. This species is found in Pacific Northwest bunchgrass grasslands and sage-brush steppe; it also occurs in open-canopied pine stands. In Idaho the Spalding's catchfly occurs in Idaho, Latah, Lewis, and Nez Perce Counties. No portions of the Analysis Area are within the counties where Spalding's catchfly is known or expected to occur.

Slickspot Peppergrass (Proposed)

Slickspot peppergrass was listed as threatened under the ESA on October 8, 2009 (74 *Federal Register* 52014). On August 8, 2012, the Idaho District Court vacated and remanded the USFWS decision to list slickspot peppergrass. Until further notice, the BLM will continue to conference with the USFWS and will treat slickspot peppergrass as a species proposed for listing (67 *Federal Register* 46411). 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 slickspot microsites, 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 (Fisher et al. 1996; Meyer and Allen 2005; Palazzo et al. 2008). Known occurrences are located within 0.5 mile of Alternatives 8A, 8B, 8C, and 8D, and within 5 miles of the Segment 8 Proposed Route, Alternative 8E, the Segment 9 Proposed Route, and Alternatives 9B, 9D, 9F, 9G, and 9H. The Segment 8 Proposed Route and Alternatives 8B and 8C cross known occurrences and occupied habitat. This includes approximately 1.2 miles of occupied habitat on the OCTC (Segment 8 Proposed Route). The Segment 8 Proposed Route, Alternatives 8A through 8E, the Segment 9 Proposed Route, and Alternatives 9B, 9C, 9F, and 9H cross potential habitat for slickspot

peppergrass (including 6.2 and 0.3 miles on the OCTC under the Segment 8 Proposed Route and Alternative 8D, respectively). 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. Although the Segment 8 Proposed Route itself does not cross proposed critical habitat, it is crossed by proposed access roads along Segment 8. A map showing slickspot peppergrass occupied habitat, potential habitat, and proposed critical habitat is provided in the Project BA (Appendix M). As described in more detail below, clearance surveys would be conducted in all areas of potential habitat (slickspot microsites) prior to construction because occupancy by the species in these areas has yet to be determined.

Ute Ladies'-tresses (Threatened)

Ute ladies'-tresses was listed as threatened under the ESA on January 17, 1992 (57 *Federal Register* 2048). 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, potential habitat (riparian and wetland areas) is present within the Analysis Area along the Proposed Routes for Segments 1W, 2, 3, 4, and 5 and their Route Alternatives. Surveys for Ute ladies'-tresses specific to the Project were conducted in 2009, 2010, 2011, and 2012; no plants were found during these surveys.

Water Howellia (Threatened)

The water howellia was listed as threatened in July 1994 (59 *Federal Register* 35860). It is a winter annual aquatic plant associated with shallow waters on the edges of ponds partially surrounded by deciduous trees. It is known from Latah County, Idaho, as well as several counties in Washington and Montana. The Analysis Area is not located in any of the counties where the water howellia is known or expected to occur.

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 in the Platte River watershed, downstream of the Analysis Area in 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 1W and 2 (due to water use for dust control).

Whitebark Pine (Candidate)

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, and the listing of whitebark pine was found to be warranted but precluded in July 2011 (76 *Federal Register* 42631). 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, including Idaho and Wyoming (Little 1971; Forest Service 1990). The Kemmerer FO provided maps showing areas where whitebark pine and limber pine (*Pinus flexilis*, a BLM Wyoming sensitive species that can be difficult to distinguish from whitebark pine in the field) occur (Oles 2010). The Draft EIS identified areas along Segment 4 Proposed Route where whitebark pine stands were known to occur. However, the revised Segment 4 Proposed Route and alternatives avoid all areas of whitebark pine. Accordingly, the EPM related to whitebark pine included in the Draft EIS is no longer warranted and has been removed.

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 or modeled 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 mountain-ricegrass (<i>Achnatherum swallenii</i>)	--	--	SC	Sagebrush, rocky slopes	None	Mapped: 4, 4B, 4C, 4D, 4E, 4F
Meadow pussytoes (<i>Antennaria arcuata</i>)	S	S (R4)	SC	Riparian areas	Modeled low: 4, 4B, 4C, 4D, 4F Modeled likely: 2, 2A, 2B, 4, 4D, 4E, 4F Modeled medium: 2, 2A	Modeled medium: 2, 2A, 2B, 4B, 4C, 4D, 4E Modeled low: 3, 4 Modeled likely: 2, 2A, 2B, 4
Laramie columbine (<i>Aquilegia laramiensis</i>)	S	S (R2)	SC	Granite outcrops	Modeled likely: 1W(a), 1W(c)	Mapped: 1W(a), 1c) Modeled: 1W(a), 1W(a)-B, 1W(c)
Mystery wormwood (<i>Artemisia biennis</i> var. <i>diffusa</i>)	S	--	SC	Desert shrublands, playas	Mapped: 3A	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	None	Modeled medium: 1W(a), 1W(a)-B
Bedstraw milkweed (<i>Asclepias subverticillata</i>)	--	--	SC	Disturbed areas	Mapped: 2	Mapped: 1W(a), 2
Dwarf milkweed (<i>Asclepias uncalis</i>)	--	S (R2)	SC	Desert grasslands	None	Mapped 4, 4B, 4C, 4D, 4E, 4F
Hayden's milkvetch (<i>Astragalus bisulcatus</i> var. <i>haydenianus</i>)	--	--	SC	Sagebrush, juniper	Mapped: 4B	Mapped: 4B, 4C, 4D, 4E
Meadow milkvetch (<i>Astragalus diversifolius</i>)	S	S (R4)	SC	Moist, often alkaline meadows and swales in sagebrush valleys, 4,400-6,300 feet	None	None
Payson's milkvetch (<i>Astragalus paysonii</i>)	--	S (R4)	SC	Disturbed areas with sandy soils	None	Mapped: 4F
Trelease's racemose milkvetch (<i>Astragalus racemosus</i> var. <i>treleasei</i>)	S	--	SC	Sagebrush	Modeled likely: 4B	Modeled likely: 3, 4

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
Crandall's rockcress (<i>Boechnera crandallii</i>)	--	--	SC	Sagebrush, juniper	None	Mapped: 3
Daggett rockcress (<i>Boechnera pendulina</i>)	--	--	PC	Crevice and sparsely vegetated granite soil	None	None
Hall's sedge (<i>Carex parryana</i> var. <i>unica</i>)	--	--	SC	Springs, wet meadows	None	Mapped: 4, 4B, 4C, 4D, 4E
Utah mountain lilac (<i>Ceanothus martinii</i>)	--	--	SC	Sagebrush, mtn. shrub	None	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; Modeled medium: 1W(a), 1W(c), 2, 3, 4; Modeled low: 4, 4B, 4C, 4D, 4E, 4F
Ownbey's thistle (<i>Cirsium ownbeyi</i>)	S	--	SC	Semi-barrens rims or steep slopes of broken gray slate	None	Modeled likely: 1W(a), 2, 3
Western dodder (<i>Cuscuta occidentalis</i>)	--	--	SC	Mountain big sagebrush	None	Mapped: 4
Payson's tansymustard (<i>Descurainia pinnata</i> var. <i>paysonii</i>)	--	--	SC	Dunes, sand flats	Mapped: 3	Mapped: 3
Wyoming tansymustard (<i>Descurainia torulosa</i>)	S	S (R2, R4)	SC	Rock crevices and ledges	Modeled medium: 4	Modeled medium: 4
Winward's narrowleaf goldenweed (<i>Ericameria winwardii</i>)	--	--	SC	Rocky slopes at higher elevations	None	Mapped: 4B, 4C, 4D, 4E
Divergent wild buckwheat (<i>Eriogonum divaricatum</i>)	--	--	SC	Cushion plants	None	Mapped: 4B, 4C, 4D, 4E
Slender-leaved buckwheat (<i>Eriogonum exilifolium</i>)	--	S (R2)	SC	Cushion plants	None	Mapped: 1W(c)
Hooker buckwheat (<i>Eriogonum hookeri</i>)	--	--	SC	Sagebrush	Mapped: 2	Mapped: 2, 4
Showy prairie-gentian (<i>Eustoma grandiflorum</i>)	--	--	SC	Wet meadows and pond margins	None	Mapped: 1W(a), 1W(a)-B, 1W(c)
Compact gilia (<i>Ipomopsis crebrifolia</i>)	--	--	PC	Sagebrush steppe	Mapped: 4, 4F	Mapped: 4, 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
Entire-leaved peppergrass (<i>Lepidium integrifolium</i> var. <i>integrifolium</i>)	S	--	SC	Greasewood. alkaline meadows	Modeled likely: 4B	Modeled likely: 4, 4B
Fremont bladderpod (<i>Lesquerella fremontii</i>)	S	S (R2)	SC	Cushion plant communities	Modeled high: 4, 4F; Modeled medium: 4, 4F; Modeled low: 4, 4F	Modeled low/med/high: 4, 4B, 4C, 4D, 4E, 4F
Large-fruited bladderpod (<i>Lesquerella macrocarpa</i>)	S	--	SC	Barren slopes and ridges	Mapped: 4B, 4C, 4D, 4E, 4F; Modeled low: 4, 4B, 4C, 4D, 4E, 4F	Mapped: 4B, 4C, 4D, 4E Modeled medium: 4, 4B, 4C, 4D; Modeled low: 4, 4B, 4C
Western bladderpod (<i>Lesquerella multiceps</i>)	S	--	SC	Sparse grassland, cushion plants	Modeled likely: 4F	Modeled likely: 4
Prostrate bladderpod (<i>Lesquerella prostrata</i>)	S	--	SC	Sandstone and shale outcrops	Modeled likely: 4B	Modeled likely: 4
Wasatch biscuitroot (<i>Lomatium bicolor</i>)	--	--	PC	Dry slopes and meadows	Mapped: 4B	Mapped: 4
Ternate desert-parsley (<i>Lomatium triternatum</i> var. <i>anomalum</i>)	--	--	SC	Dwarf sagebrush-grasslands	Mapped: 4	Mapped: 4, 4B, 4C, 4F
Ward's false goldenweed (<i>Oenopsis wardii</i>)	--	--	PC	Shale-clay slopes, barren plains, and disturbed roadsides	Mapped: 2	Mapped: 1W(a), 2
Wyoming locoweed (<i>Oxytropis nana</i>)	--	--	PC	Gravel benches, prairies, riverbanks, and foothills	Mapped: 1W(a)	Mapped: 1W(a), 1W(a)-B, 1W(c)
Stemless beardtongue (<i>Penstemon acaulis</i>)	S	S (R4)	SC	Cushion plant/bunchgrass	None	Modeled likely: 2
Gibbens' beardtongue (<i>Penstemon gibbensii</i>)	S	--	SC	Steep, bare slopes with poor soil development	None	Modeled likely: 2, 2A, 2B
Desert glandular phacelia (<i>Phacelia glandulosa</i> var. <i>deserta</i>)	--	--	SC	Semi-barren slopes, cushion plants	Mapped: 4	Mapped: 4, 4B, 4C, 4D, 4E, 4F
Western phacelia (<i>Phacelia incana</i>)	--	--	SC	Juniper	Mapped: 2	Mapped: 2
White-margined phlox (<i>Phlox albomarginata</i>)	--	--	SC	Western forest and steppe communities	None	Mapped: 4B, 4D

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
Opal phlox (<i>Phlox opalensis</i>)	W	--	PC	Cushion plant communities	Mapped: 4, 4B, 4C, 4D, 4E	Mapped 4, 4B, 4C, 4D, 4E, 4F
Beaver Rim phlox (<i>Phlox pungens</i>)	S	--	PC	Barren slopes and ridges, cushion plant communities	Mapped: 4; Modeled medium: 2, 2A, 2B, 4B	Mapped: 4, 4C, 4E, 4F; Modeled medium: 1W(a), 1W(c), 2; Modeled high: 1W(a)
Tufted twinpod (<i>Physaria condensata</i>)	S	--	PC	Barren slopes and ridges	Mapped: 4B, 4C, 4D, 4E, 4F; Modeled medium: 4B; Modeled low: 4B, 4C	Mapped: 4; Modeled med: 3, 4; Modeled low: 3, 4
Dorn's twinpod (<i>Physaria dornii</i>)	S	--	SC	Sparse mountain mahogany and cushion plants	Mapped: 4B, 4C, 4D, 4E, 4F; Modeled likely: 4B	Mapped: 4, 4B, 4C; Modeled likely: 4
Devil's Gate twinpod (<i>Physaria eburniflora</i>)	--	--	PC	Cushion plant communities	None	Mapped: 1W(a), 1W(c)
Rocky Mountain twinpod (<i>Physaria saximontana</i>)	S	--	PC	Barren slopes and ridges	Modeled medium: 1W(a), 1W(c)	Modeled medium: 1W(a), 1W(a)-B, 1W(c), 4, 4F
Limber pine (<i>Pinus flexilis</i>)	S	--	PC	Upper treeline; 8,000 to over 11,000 feet in elevation	None	None
Longleaf pondweed (<i>Potamogeton nodosus</i>)	--	--	SC	Rivers	Mapped: 2A	Mapped: 2, 2A, 2B
Persistent Sepal Yellow-cress (<i>Rorippa calycina</i>)	S	--	PC	Shorelines	Mapped: 2, 2A, 2B	Mapped: 2, 2A, 2B; Modeled likely: 1W(a), 1W(c)
Laramie false sagebrush (<i>Sphaeromeria simplex</i>)	S	--	SC	Cushion plant communities	Modeled high: 1W(a), 1W(c); Modeled medium: 1W(a), 1W(c); Modeled low: 1W(a), 1W(c)	Mapped: 1W(a), 1W(c); Modeled high: 1W(a), 1W(c), 2; Modeled medium: 1W(a), 1W(c), 2, 4, 4F; Modeled low: 1W(a), 1W(c)
Hapeman's sullivantia (<i>Sullivantia hapemani</i>)	--	S (R2)	PC	Moist calcareous outcrops	None	Mapped: 1W(a), 1W(a)-B, 1W(c)
Uinta greenthread (<i>Thelesperma pubescens</i>)	S	S (R4)	SC	Cushion plant communities and sagebrush grasslands	None	Modeled likely: 4
Idaho						
Twinleaf onion, Kellogg's onion, Two-headed onion (<i>Allium anceps</i>)	S	--	SC	Low sagebrush	Mapped: 9, 9A	Mapped: 7, 7G, 9, 9A, 10
King snapdragon (<i>Antirrhinum kingii</i>)	--	--	SC	Washes in sagebrush and saltbush	Mapped: 9	Mapped: 9

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
Goose Creek milkvetch (<i>Astragalus anserinus</i>)	S	S (R4)	SC	Weathered, sandy, white rhyolitic ash in drainage bottoms	None	Mapped: 7K
Mourning milkvetch (<i>Astragalus atratus</i> var. <i>inseptus</i>)	S	--	SC	Sagebrush	Mapped: 8	Mapped: 8, 8A
Stiff milkvetch (<i>Astragalus conjunctus</i>)	--	--	SC	Sagebrush	None	Mapped: 8, 9, 9D, 9E, 9F, 9G, 9H
Starveling milkvetch (<i>Astragalus jejunus</i> var. <i>jejunus</i>)	S	--	SC	Barren slopes and ridges	Mapped: 4, 4B, 4C, 4D, 4E, 4F	Mapped 4, 4B, 4C, 4D, 4E, 4F
Mulford's milkvetch (<i>Astragalus mulfordiae</i>)	S	--	SC	Sagebrush, saltbush	Mapped: 8, 8B	Mapped: 8, 8B, 8E, 9, 9D, 9E, 9F, 9G, 9H
Newberry's milkvetch (<i>Astragalus newberryi</i> var. <i>castoreus</i>)	S	--	SC	Sagebrush	None	Mapped: 9, 9A, 9E
Picabo milkvetch (<i>Astragalus oniciformis</i>)	S	--	SC	Wyoming sagebrush/needle-and-threadgrass	None	Mapped: 8
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: 8, 8E
King's desertgrass (<i>Blepharidachne kingii</i>)	S	--	SC	Low sagebrush	Mapped: 9E	Mapped: 9, 9E
Compact earth lichen (<i>Catapyrenium congestum</i>)	W	--	SC	Saltbush	Mapped: 9E	Mapped: 8, 9, 9D, 9E, 9F, 9G, 9H
Desert pincushion (<i>Chaenactis stevioides</i>)	S	--	SC	Sagebrush	Mapped: 9, 9D, 9E	Mapped: 8, 8B, 8E, 9, 9D, 9E, 9F, 9G, 9H
Alkali cleomella (<i>Cleomella plocasperma</i>)	S	--	SC-historic	Greasewood	Mapped: 9E	Mapped: 9, 9D, 9E, 9F, 9G, 9H
Silky cryptantha (<i>Cryptantha sericea</i>)	W	--	SC	Barren clay or sandy soils	None	Mapped: 4, 4B, 4C, 4D, 4E, 4F
Greeley's wavewing (<i>Cymopterus acaulis</i> var. <i>greeleyorum</i>)	S	--	SC	Sagebrush	Mapped: 9B, 9D, 9E, 9F, 9G	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	None	Mapped: 7, 7F
Shining flatsedge (<i>Cyperus bipartitus</i>)	--	--	SC	Wetlands, shores	Mapped: 8E	Mapped: 8

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
Howell dimersia (<i>Dimersia howellii</i>)	S	--	SC	Dry rocky soil of foothills and low mountains	None	Mapped: 8, 8B, 9
White eatonella (<i>Eatonella nivea</i>)	S	--	SC	Sagebrush, saltbush	Mapped: 9D, 9E	Mapped: 8, 8B, 8E, 9, 9D, 9E, 9F, 9G, 9H
Giant helleborine (<i>Epipactis gigantea</i>)	S	--	SC	Riparian, wetlands	Mapped: 9D, 9G, 10	Mapped: 8, 8A, 9, 9B, 9C, 9D, 9E, 9F, 9G, 9H, 10
Calcareous buckwheat (<i>Eriogonum ochrocephalum</i> var. <i>calcareum</i>)	S	--	SC	Saltbush	Mapped: 8A, 9	Mapped: 8, 8A, 9, 9B
Packard's buckwheat (<i>Eriogonum shockleyi</i> var. <i>packardiae</i>)	S	--	SC	Sagebrush, saltbush	Mapped: 8E	Mapped: 8, 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	None	Mapped: 9
White-margined wax plant (<i>Glyptopleura marginata</i>)	S	--	SC	Saltbush, greasewood	Mapped: 9D	Mapped: 8B, 8E, 9
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: 9, 9B, 9C, 9D, 9E, 9F, 9G, 9H
Bruneau River prickly phlox (<i>Leptodactylon glabrum</i>)	S	--	SC	Cliffs	Mapped: 9E	Mapped: 9, 9E
Slickspot peppergrass (<i>Lepidium papilliferum</i>)	S	S(R4)	SC	Slickspots in semi-arid sagebrush-steppe	Mapped: 8A, 8B, 8C, 8D	Mapped: 8, 8A, 8B, 8C, 8D, 8E, 9, 9B, 9D, 9F, 9G, 9H
Packard's desert-parsley (<i>Lomatium packardiae</i>)	S	--	SC	Sagebrush	None	Mapped: 8, 8A
Rigid threadbush (<i>Nemacladus rigidus</i>)	S	--	SC	Shadscale, sagebrush	Mapped: 9, 9E	Mapped: 8, 8E, 9, 9D, 9E, 9F, 9G, 9H
Simpson's hedgehog cactus (<i>Pediocactus simpsonii</i>)	W	--	SC	Dry or rocky soils	None	Mapped; 7
Idaho penstemon (<i>Penstemon idahoensis</i>)	S	S (R4)	SC	Juniper	None	Mapped: 7K

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
Janish's penstemon (<i>Penstemon janishiae</i>)	S	--	SC	Low sagebrush	Mapped: 8A, 9, 9E	Mapped: 8, 8A, 8B, 9, 9B, 9D, 9E
Spine-noded milkvetch (<i>Peteria thompsoniae</i>)	S	--	SC	Saltbush	Mapped: 9E	Mapped: 9, 9E, 9F, 9H
Malheur yellow phacelia (<i>Phacelia lutea</i> var. <i>calva</i>)	S	--	SC	Volcanic substrates	Mapped: 9	Mapped: 8, 8B, 9
Profuseflower mesamint (<i>Pogogyne floribunda</i>)	--	--	SC	Playas, vernal pools	None	Mapped: 8B
Desert Prenanthea (<i>Prenanthea exigua</i>)	--	--	SC	Desert canyons and valleys, juniper woodlands	None	Mapped: 9, 9E
Annual brittlebrush (<i>Psathyrotes annua</i>)	S	--	SC	Saltbush	Mapped: 9G, 9H	Mapped: 8, 8E, 9, 9D, 9E, 9F, 9G, 9H
King's snapdragon (<i>Sairocarpus kingii</i>)	--	--	SC	Pinyon-juniper woodland; washes in sagebrush and saltbush	Mapped: 9	Mapped: 8, 8B, 9
Red glasswort (<i>Salicornia rubra</i>)	S	--	SC	Playas	None	Mapped: 4, 5, 7
Malheur prince's plume (<i>Stanleya confertiflora</i>)	S	--	SC	Saltbush	None	Mapped: 9, 9D, 9F, 9G, 9H
American wood sage (<i>Teucrium canadense</i> var. <i>occidentale</i>)	S	--	SC	Riparian/ wetland	Mapped: 9D, 9G	Mapped: 9, 9D, 9F, 9G, 9H
Wovenspore lichen (<i>Texosporium sancti-jacobi</i>)	S	--	SC	Sagebrush, disturbed sagebrush	Mapped: 8, 8B, 8D	Mapped: 8, 8B, 8C, 8D, 8E, 9D, 9F, 9G, 9H
Purple meadow-rue (<i>Thalictrum dasycarpum</i>)	S	--	SC	Wetlands	None	Mapped: 4, 4B, 4C, 4D, 4E, 4F

3.7-18

1/ Source for distribution: GIS data from Idaho Conservation Data Center (CDC), and Wyoming Natural Diversity Database (WYNDD). 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; IDFG 2011; and WYNDD 2012.
 4/ Definitions: BLM: S = sensitive, W = watch list species; USFS: S= Region (R) 2 or 4 sensitive; SC or PC = species of concern (SC) or species of potential concern (PC) tracked by Idaho CDC or WYNDD.

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.

EPMs are presented in detail within this section only if it is the first time they have been discussed in Chapter 3; all other measures are referenced or summarized. A comprehensive list of all EPMs, and the land ownership to which they apply, 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 identified in Table 2.7-1 and described below, no population-level effects to any species would be anticipated because all Project-related impacts to TES plants on federal lands would be avoided or minimized.

There is one land use plan standard related to TES plants with which the Proposed Route and some alternatives 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.” This plan also requires “all permit holders in slickspot peppergrass habitat to conform with applicable conservation measures from the Conservative Agreement (Appendix 8).”

The 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-1 for the plan amendment) along the Proposed Route for Segment 8 and Alternatives 8D and 8E, and the Proposed Route for Segment 9 and Alternatives 9D, 9F, 9G, and 9H. These segments would also cross potential slickspot peppergrass habitat (see Segment 8 and 9 discussions below). Alternative 8B (which is also a portion of the Preferred Route) as indicatively sited would cross occupied habitat on the SRBOP; however, the actual route would be sited to avoid crossing the SRBOP and, therefore, there would be no direct effects to slickspot peppergrass on federal land. Therefore, the Preferred Route would not require a plan amendment. With the EPMs identified in Table 2.7-1 and described below, the Project would avoid or minimize adverse impacts to TES plant populations, including slickspot peppergrass. 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: 2-7).

3.7.2.1 No Action Alternative

Under the No Action Alternative, the BLM would not issue a ROW grant to the Proponents of Gateway West and the Project would not be constructed across federal lands. No land management plans would be amended to allow for the construction of this Project. 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) as well as from existing developments within the Analysis Area and from other projects, including wind farms, mining, agricultural, and other competing land uses. The demand for electricity, especially for renewable energy, would continue to grow in the Proponents' service territories. If the No Action Alternative is implemented, the demand for transmission services, as described in Section 1.3, Proponents' Objectives for the Project, would not be met with this Project and the area would have to turn to other proposals to meet the transmission demand. Under the No Action Alternative, impacts similar to those described below may occur due to new transmission lines built to meet the increasing demand in place of this Project.

3.7.2.2 Effects Common to All Action Alternatives

The following sections discuss both construction and operations effects common to all action 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

The Analysis Area does not coincide with the known ranges of the Colorado butterfly plant, desert yellowhead, MacFarlane's four-o'clock, Spalding's catchfly, water howellia, or whitebark pine; therefore, the project would have no effect on these species and they are not discussed further here (see below for Colorado butterfly plant exception). The following discussion focuses on the blowout penstemon, Goose Creek milkvetch, Ute ladies'-tresses, slickspot peppergrass, and western prairie fringed orchid.

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; increased competition from early successional plant species; increased competition by herbivores in newly disturbed areas; 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 3.15 – Soils for erosion and Section 3.22 – Public Safety for fire. 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 or in habitats where other protection measures would apply that would minimize impacts (e.g., riparian areas; see Section 3.9 – Wetlands and Riparian Areas for additional discussion).

The Proponents have proposed a series of EPMs meant to reduce or prevent impacts to ESA-listed or candidate plant species. Many of these measures have been revised between the Draft and Final EIS (see Table 2.7-1 for a summary and Appendix B for a comprehensive list). In many cases, EPMs that apply to general vegetation (see Section 3.6 – Vegetation) are sufficient to protect sensitive plant resources (e.g., those related to revegetation efforts, re-establishment of soil contours, and prevention of exotic plant spread; see Section 3.6.2.2). However, in some cases additional species-specific EPMs are warranted.

To avoid impacting ESA-listed or candidate plant species, the following species-specific EPMs for blowout penstemon (TESPL-1), Colorado butterfly plant (TESPL-2), and Goose Creek milkvetch (TESPL-6) would be implemented:

TESPL-1 Blowout Penstemon – 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.

TESPL-2 Colorado Butterfly Plant – 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. [Note that the revised routes included in the Final EIS now no longer coincide with the known range of this species so this measure is not likely to be implemented unless suitable habitat is identified.]

TESPL-6 Goose Creek Milkvetch – Surface disturbance will be allowed in suitable habitat for Goose Creek milkvetch 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. [Note that the revised routes included in the Final EIS now no longer coincide with the known range of this species so this measure is not likely to be implemented unless suitable habitat is identified.]

The survey windows for species-specific pre-construction surveys are listed in Table 3.7-4.

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 microsite 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 and a federally listed plant cannot be avoided, the USFWS recommends that it should be transplanted to suitable habitat on other federal land that will not be impacted by the Project, provided that the life history strategy and morphology of the plant species allows for a high probability of successful transplant. 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; however, the USFWS states that they authorize Project-related translocation of federally listed plant species within the Project area that cannot be otherwise avoided provided relocation sites should be determined in conjunction with the Service and the federal land management agency. Should transplant success be unlikely due to the biology of a particular listed species (such as slickspot peppergrass), they recommend that alternatives to transplant of individual plants be identified through further consultation with the Service. Therefore, the following EPM would be implemented:

- OM-25 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.

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-25 is implemented. The relocation site would be determined in conjunction with the federal agency.

The pre-construction measures proposed in the EPMs TESPL-1, TESPL-2, TESPL-6, and OM-25 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. Although these surveys would document the presence of other plant species, 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. Therefore, additional EPMs would be implemented to further protect Ute ladies'-tresses and slickspot peppergrass (discussed below). The western prairie fringed orchid does not occur in the Analysis Area but could be impacted by water withdrawals from the Platte River; it is therefore also addressed in more detail below.

Ute Ladies'-Tresses

One-time pre-construction surveys as proposed under TESPL-3 and TESPL-7 would be 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 Preferred Route, Proposed Route, and Route Alternatives (BLM 2007b, Map 1); however, as stated earlier, known occurrences should not be considered exhaustive and this species could still be present. Therefore, the following EPM would be implemented to comply with the ESA and applied on all state and federally managed lands:

TESPL-7 Ute Ladies'-tresses – 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

One-time pre-construction surveys as proposed under TESPL-3 and TESPL-4 would also be 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 component consisting of the soil-stored seed bank (Mancuso and Moseley 1998; Meyer et al. 2005). 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.

The BLM defines three habitat categories for slickspot peppergrass: potential habitat, occupied habitat, and slickspot peppergrass habitat (BLM 2009d, p. B-2). These categories are defined as follows:

- *Potential Habitat* – Areas within the known range of slickspot peppergrass that have certain general soil and elevation characteristics that indicate the potential for the area to support slickspot peppergrass, although the presence of slickspots or the plant is unknown. These areas meet the following criteria: natric and natric-like soils forming “slickspots,” and associated soil series, or phases thereof, which support Loamy 7- to 10-inch and 10- to 13-inch Wyoming big sagebrush Ecological Sites (Major Land Resource Areas 11—Snake River Plains, and 25—Owyhee High Plateau) and have an aridic bordering on xeric soil moisture regime; and 2,200 to 5,400 feet elevation.
- *Occupied Habitat* – In the BLM’s 2012 Assessment, the term “occupied habitat” refers to areas where slickspot peppergrass has been documented or identified as an element occurrence and includes the area generally within 0.5 mile of that

occurrence that is important to maintain or improve habitat integrity and pollinator populations necessary for species conservation. For analysis purposes in this BA, a generalized area delineated by a 0.5-mile radius circle was drawn around each element occurrence (this circle may include areas of non-habitat). This area identified as occupied habitat may or may not include additional slickspots or slickspot peppergrass plants beyond the element occurrence. Further refinement of occupied habitat may be accomplished through field surveys considering existing resource conditions as well as specific habitat quality and integrity.

- *Slickspot Peppergrass Habitat* – Potential habitat areas with Wyoming big sagebrush ecological sites that through Stage 1 surveys have documented slickspot microsites (natric and natric-like soil types) within 2,200 feet and 5,400 feet elevation in Southwest Idaho. Slickspot peppergrass habitat includes areas with slickspots of unknown occupancy and, in some cases, may be dominated by non-native vegetation such as annual grasses or crested wheatgrass (*Agropyron cristatum*). In addition, to maintain ecological continuity, if there is less than 0.5 mile between areas defined as slickspot peppergrass habitat, then the entire area is considered slickspot peppergrass habitat. Surveyed potential habitat not meeting these criteria will no longer be considered habitat for slickspot peppergrass.

The following EPM would be implemented to comply with the ESA and be applied on all federally managed lands. The terms “potential and occupied” habitat in this EPM do not specifically refer to the BLM categories because the EPM was designed for all lands (see Table 2.7-1). However, it is assumed that all areas of potential and/or occupied habitat, including slickspot peppergrass habitat as defined by the BLM, would be surveyed for slickspot peppergrass on BLM-managed lands.

TESPL-4 Slickspot Peppergrass – Environmental monitors will survey for and mark slickspots and aboveground populations of slickspot peppergrass within 50 feet of the construction area prior to ground disturbance (including roads) in potential or occupied slickspot peppergrass habitat. No construction shall occur within 50 feet of any slickspot peppergrass plants or slickspots found by the environmental monitor. Also, construction shall not occur within 50 feet of previously known occupied slickspot peppergrass areas, based on Idaho CDC data, even if aboveground plants are not observed by the environmental monitor. Within proposed critical habitat, impacts to Primary Constituent Elements, such as native sagebrush/forb vegetation, will be avoided to the extent practicable. Seeding during reclamation in areas of suitable habitat will use methods that minimize soil disturbance such as no-till drills or rangeland drills with depth bands. Reclamation will use certified weed-free native seed. Excess soils will not be stored or spread on slickspots.

However, it should be noted that a single pre-construction survey could miss slickspot peppergrass populations, and slickspots that do not currently exhibit aboveground plants could still contain this species (see discussion under Segments 8 and 9 below). State Trust Land along the Segment 8 Proposed Route (between MP 90 and MP100 Midpoint to Hemingway) in Township 1 South Range 3 East and Township 1 North 2

East are identified as slickspot peppergrass Element Occurrence areas. Construction standards and practices in this area must comply with the requirements of the existing Candidate Conservation Agreement for slickspot peppergrass between the BLM and the State of Idaho. Implementation of EPM TESPL-4 will meet these requirements.

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 that has been identified as a major threat to the western prairie fringed orchid's survival (Kirby et al. 2003).

Under the Programmatic BO 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, for a total water requirement of 32,986,230 gallons (101.2 acre-feet), or 2.0 acre-feet/year over the 50-year life of the Project, for both transmission line and substation construction along Segments 1W and 2 (see Table B-12, 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 withdrawals from the Platte River is ongoing.

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, 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 following EPMs would be implemented:

- OM-21 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-22 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-24 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, including any newly listed or delisted 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 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 have developed a Framework Reclamation Plan and a Framework Noxious Weed Plan (see Appendix B), which describe practices and activities that would restore disturbed areas to their previous conditions and minimize the risk of the spread of weeds. These plans, in addition to the measures listed in Appendix B and summarized in Table 2.7-1, would minimize impacts to wetlands and hydrology from the Project.

General EPMs for vegetation as identified in Section 3.6.2.2 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. Therefore, the following EPM would be implemented to reduce construction and operations effects to all TES plant populations and their habitats (i.e., those listed in Table 3.7-3 which have been documented within or the potential to occur in the Analysis Area) on federally managed lands:

- 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, micrositing 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.

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 (see below for additional discussion of impacts on federally managed lands). Where avoidance is not possible, the Project would apply EPM OM-25, which applies to the relocation of plants.

The following EPM would be implemented to reduce construction and operations effects on sand dune and cushion plant communities and would apply to federally managed lands:

TESPL-5 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 habitats during construction and therefore could experience additional impacts. 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 federally managed lands, surveys for other special status plant species would be conducted to flag and avoid them during decommissioning.

Impacts on Federally Managed 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 (EPM TESPL-3), 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 (see Framework Plant and Wildlife

Conservation Measures Plan in Appendix B). 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 Framework Reclamation Plan (see Appendix B), which would include pre-construction, construction, and post-construction weed control measures. 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 papileferum</i>	Blowout penstemon <i>Penstemon haydenii</i>	Western prairie fringed orchid <i>Platanthera praeclara</i>
		Candidate	Candidate	Threatened	Proposed	Endangered	Threatened
1W(a)	Preferred/Proposed – Total length	No effect	No effect	No effect	No effect	No effect	May affect, likely to adversely affect ¹
	Alternative 1W(a)-B	No effect	No effect	No effect	No effect	No effect	May affect, likely to adversely affect ¹
1W(c)	Preferred/Proposed – Total Length	No effect	No effect	No effect	No effect	No effect	May affect, likely to adversely affect ¹
2	Preferred/Proposed – Total length	No effect	No effect	No effect	No effect	No effect	May affect, likely to adversely affect ¹
	Alternatives 2A, 2B	No effect	No effect	No effect	No effect	No effect	May affect, likely to adversely affect ¹
3	Preferred/Proposed – Total length	No effect	No effect	No effect	No effect	No effect	No effect
4	Preferred/Proposed – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Alternatives 4B,4C,4D, 4E, 4F, 4G	No effect	No effect	No effect	No effect	No effect	No effect
5	Preferred – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total length	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
7	Preferred – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Alternatives 7A,7B, 7C, 7D, 7E, 7F, 7G, 7K	No effect	No effect	No effect	No effect	No effect	No effect

3.7-30

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

Segment Number	Proposed Route or Alternative	Whitebark pine <i>Pinus albicaulis</i>	Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i>	Desert yellowhead <i>Yermo xanthocephalus</i>	MacFarlane's four-o'clock <i>Mirabilis macfarlanei</i>	Spalding's catchfly <i>Silene spaldingii</i>	Water howellia <i>Howellia aquatilis</i>
	Status	Candidate	Candidate	Threatened	Threatened	Threatened	Threatened
1W(a)	Preferred/Proposed – Total length	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
	Alternative 1W(a)-B	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
1W(c)	Preferred/Proposed – Total Length	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
2	Preferred/Proposed – Total length	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
	Alternatives 2A, 2B	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
3	Preferred/Proposed – Total length	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
4	Preferred/Proposed – Total length	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
	Alternatives 4B,4C,4D, 4E, 4F, 4G	No effect	May affect, not likely to adversely affect	No effect	No effect	No effect	No effect
5	Preferred – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total length	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
7	Preferred – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total length	No effect	No effect	No effect	No effect	No effect	No effect
	Alternatives 7A,7B, 7C, 7D, 7E, 7F, 7G, 7K	No effect	No effect	No effect	No effect	No effect	No effect

3.7-31

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 papileferum</i>	Blowout penstemon <i>Penstemon haydenii</i>	Western prairie fringed orchid <i>Platanthera praeclara</i>
	Status	Candidate	Candidate	Threatened	Proposed	Endangered	Threatened
8	Preferred – Total Length	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Proposed – Total Length	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Proposed–Comparison Portion for Alternative 8A	No effect	No effect	No effect	No effect	No effect	No effect
	Alternative 8A	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Proposed–Comparison Portion for Alternative 8B	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Alternative 8B	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Proposed–Comparison Portion for Alternative 8C	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Alternative 8C	No effect	No effect	No effect	May affect, likely to adversely affect	No effect	No effect
	Proposed–Comparison Portion for Alternative 8D	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
	Proposed–Comparison Portion for Alternative 8E	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	
9	Preferred – Total Length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total Length	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
10	Preferred/Proposed	No effect	No effect	No effect	No effect	No effect	No effect

3.7-32

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

Segment Number	Proposed Route or Alternative	Whitebark Pine <i>Pinus albicaulis</i>	Ute ladies'-tresses orchid <i>Spiranthes diluvialis</i>	Desert Yellowhead <i>Yermo xanthocephalus</i>	MacFarlane's four-o'clock <i>Mirabilis macfarlanei</i>	Spalding's catchfly <i>Silene spaldingii</i>	Water howellia <i>Howellia aquatilis</i>
	Status	Candidate	Candidate	Threatened	Threatened	Threatened	Threatened
8	Preferred – Total Length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total Length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed- Comparison Portion for Alternative 8A	No effect	No effect	No effect	No effect	No effect	No effect
	Alternative 8A	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed- Comparison Portion for Alternative 8B	No effect	No effect	No effect	No effect	No effect	No effect
	Alternative 8B	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed- Comparison Portion for Alternative 8C	No effect	No effect	No effect	No effect	No effect	No effect
	Alternative 8C	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed- Comparison Portion for Alternative 8D	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
	Proposed- Comparison Portion for Alternative 8E	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	
9	Preferred – Total Length	No effect	No effect	No effect	No effect	No effect	No effect
	Proposed – Total Length	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
10	Preferred/Proposed	No effect	No effect	No effect	No effect	No effect	No effect

3.7-33

3.7.2.3 Comparison of 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 EPM 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 1W

The preferred routes in Segment 1W are as follows:

Segment	Preferred Route	Agency
Segment 1W(a)	Proposed Route (Figure A-2)	BLM and State of Wyoming
Segment 1W(c)	Proposed Route (Figure A-2)	BLM and State of Wyoming

Segment 1W is composed of Segments 1W(a) and 1W(c), both of which consist of single-circuit 230-kV transmission lines. Generally, Segment 1W(a) would be a new 73.8-mile-long transmission line, and 1W(c) would involve reconstruction of a 73.6-mile-long portion of the existing Dave Johnston – Rock Springs 230-kV transmission line. However, in the area approximately 5 miles to the north and south of Ice Cave Mountain, the lines shift east to avoid the ice cave. In this area, 1W(a) would be the reconstruction of the existing line and 1W(c) would be the new line. Segment 1W(a) has one alternative, Alternative 1W(a)-B, which is located north and west of the town of Glenrock and was the Proponents’ initial proposal. However, the Proposed Route was revised following the Draft EIS public comment period in order to avoid the more populated area around Glenrock. Figure A-2 in Appendix A shows the location of the Segment 1W routes.

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 Preferred/Proposed Routes in these segments would impact a total of approximately 22 acres of wetland/riparian vegetation (potential habitat for Ute ladies'-tresses; Table D.9-1 of Appendix D). Alternative 1W(a)-B would impact less potential habitat for Ute ladies'-tresses than the comparison portion of the Preferred/Proposed Route (less than 1 acre and 3 acres 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.

Although the USFWS has indicated that all portions of the Analysis Area in Wyoming are within the potential range for this species, the known distribution of blowout penstemon does not overlap with the Analysis Area, and detailed vegetation mapping within the Analysis Area shows no suitable sand dune habitat for this plant species. Therefore, construction and operations of the Preferred/Proposed Route and all Route Alternatives along Segment 1 would have no effect on blowout penstemon.

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 Preferred/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 is ongoing.

Other Special Status Species

Known populations and suitable habitat for four other special status plant species occur along Segment 1W. The Segment 1W(a) and 1W(c) Preferred/Proposed Routes would primarily remove or disturb suitable habitat for Laramie false sagebrush (Table 3.7-6). No other special status species would be impacted by Alternative 1W(a)-B and the comparison portion of the Preferred/Proposed Route during construction or operations. Pre-construction clearance surveys along the Segment 1W Preferred/Proposed Routes and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

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

Preferred/ Proposed Route or Alternative	Acres							
	Laramie Columbine ^{1/}		Laramie False Sagebrush ^{2/}		Persistent Sepal Yellow-cress ^{2/}		Beaver Rim Plox ^{1/}	
	Const	Op	Const	Op	Const	Op	Const	Op
Preferred/Proposed 1W(a) Total Length	12	2	230	52	1	t ^{3/}	14	3
Proposed – Comparison Portion for Alternative 1W(a)-B	–	–	–	–	–	–	–	–
Alternative 1W(a)-B	–	–	–	–	–	–	–	–
Preferred/Proposed 1W(c) Total Length	24	2	242	30	1	<1	10	1

1/ Data based on mapped suitable habitat.

2/ Data based on known occurrence information and mapped suitable habitat.

3/ Value is less than 0.1 acre.

Medicine Bow-Routt National Forests Crossed by Segment 1W

A portion of Segment 1W would cross the Medicine Bow-Routt NFs and would impact a total of 64 acres of land (see Table D.6-5 in Appendix D). There are no known occurrences of special status plant species along portion of the Project located on the Medicine Bow-Routt NFs; however, as required by TESPL-3, pre-construction surveys would be conducted in this area in order to aid in micro-siting the Project outside of any areas where newly discovered or previously unknown populations may exist.

Segment 2

The preferred route in Segment 2 is as follows:

Preferred Route	Agency
Proposed Route (Figure A-3)	BLM and State of Wyoming

Segment 2 consists of one single-circuit 500-kV transmission line between the proposed Aeolus Substation and the location of the originally planned Creston Substation near Wamsutter, Wyoming (a new substation at Creston is no longer needed due to changes in anticipated demand for oil and gas field electricity). The Preferred/Proposed Route has been revised to incorporate Alternative 2C, as analyzed in the Draft EIS. Segment 2 would be approximately 91.9 miles long. Alternative 2A is being considered by the BLM because this alternative route is within the WWE corridor. Alternative 2B was initially the Proponents’ Proposed Route before they responded to local suggestions and relocated the Proposed Route farther to the south. Figure A-3 in Appendix A shows the location of the Segment 2 routes.

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 2; however, the Preferred/Proposed Route would impact approximately 9 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 17 acres of wetland/riparian vegetation) and 2B (approximately 21 acres of wetland/riparian vegetation) than the comparison portions of the Proposed Route (approximately 4 acres of wetland/riparian vegetation each along

the comparison portions for Alternatives 2A and 2B) and the Preferred Route. 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 Preferred/Proposed Route and all Route Alternatives along Segment 2 may affect, but are not likely to adversely affect, this species.

Although the USFWS has indicated that all portions of the Analysis Area in Wyoming are within the potential range for this species, the known distribution of blowout penstemon does not overlap with the Analysis Area, and detailed vegetation mapping within the Analysis Area shows no suitable sand dune habitat for this plant species. Therefore, construction and operations of the Preferred/Proposed Route and all Route Alternatives along Segment 2 would have no effect on blowout penstemon.

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 Preferred/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 is ongoing.

Other Special Status Species

Persistent sepal yellow-crest is the only other special status plant species with populations occur along this segment; however, suitable habitat for eight additional plant species would be crossed by the Project (Table 3.7-7). The Preferred/Proposed Route along Segment 2 would impact suitable habitat for all nine species, most of it consisting of suitable habitat for longleaf pondweed and bedstraw milkweed. Alternative 2A and the comparison portion of the Proposed Route would both impact four other special status plants species, including similar amounts of persistent sepal yellow-crest and meadow pussy toes (Table 3.7-7). Alternative 2A would impact more longleaf pondweed (179 acres versus 167 acres during construction) and less beaver rim phlox (5 acres versus 23 acres during construction) than the comparison portion of the Proposed Route. Alternative 2B and the comparison portion of the Proposed Route would also both impact suitable habitat for the same four other special status plants; however, Alternative 2B would impact fewer acres of persistent sepal yellow-crest (1 acre less), beaver rim phlox (19 acres less), and longleaf pondweed (27 acres less), and more acres of meadow pussy toes (10 acres more) than the comparison portion of the Proposed Route (Table 3.7-7). Pre-construction clearance surveys along the Preferred/Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-7. Potential Impacts to Other Special Status Plant Species along Segment 2 Preferred/Proposed and Alternative Routes

Preferred/ Proposed Route or Alternative	Acres																	
	Persistent Sepal Yellow-cress ^{1/, 2/}		Meadow Pussytoes ^{1/}		Cedar Rim Thistle ^{1/}		Beaver Rim Phlox ^{1/}		Bedstraw Milkweed ^{2/}		Hooker Buckwheat ^{2/}		Ward's False Golden-weed ^{2/}		Western Phacelia ^{2/}		Longleaf Pondweed ^{2/}	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred/Proposed Segment 2 – Total Length	33	3	39	2	5	1	38	4	78	10	1	<1	9	1	1	<1	167	16
Preferred/Proposed – Comparison Portion for Alternative 2A	31	3	39	2	–	–	23	2	–	–	–	–	–	–	–	–	167	16
Alternative 2A	26	3	40	2	–	–	5	1	–	–	–	–	–	–	–	–	179	24
Preferred/Proposed – Comparison Portion for Alternative 2B	31	3	35	2	–	–	20	2	–	–	–	–	–	–	–	–	167	16
Alternative 2B	30	2	45	2	–	–	1	t ^{3/}	–	–	–	–	–	–	–	–	140	15

1/ Data based on mapped suitable habitat.

2/ Data based on known occurrence information.

3/ Value is less than 0.1 acre.

3.7-38

Segment 3

The preferred route in Segment 3 is as follows:

Preferred Route	Agency
Proposed Route, including 3A (Figure A-4)	BLM and State of Wyoming

A single-circuit 500-kV line would link the former location of the Creston Substation, approximately 2.1 miles south of Wamsutter, Wyoming, to the proposed Anticline Substation near the existing Jim Bridger Power Plant. Segment 3 would be approximately 45.9 miles long. This segment also includes a 5.1-mile segment of 345-kV line to connect to the existing Jim Bridger Power Plant Substation (Segment 3A). There are no alternatives proposed along Segment 3. Figure A-4 in Appendix A shows the location of the Segment 3 routes.

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species in Segment 3; however, the Preferred/Proposed Route would impact approximately 4 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.

Although the USFWS has indicated that all portions of the Analysis Area in Wyoming are within the potential range for this species, the known distribution of blowout penstemon does not overlap with the Analysis Area, and detailed vegetation mapping within the Analysis Area shows no suitable sand dune habitat for this plant species. Therefore, construction and operations of the Preferred/Proposed Route and all Route Alternatives along Segment 3 would have no effect on blowout penstemon.

Other Special Status Species

Construction and operations of Segment 3 would impact four other special status plant species, with the greatest effects being to Payson's tansymustard (both known occurrences and suitable habitat; Table 3.7-8). Segment 3A would not impact any other special status plant species. Pre-construction clearance surveys along Segments 3 and 3A would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-8. Potential Impacts to Other Special Status Plant Species along Segments 3 and 3A during Construction and Operations

Preferred/Proposed Route or Alternative	Acres							
	Cedar Rim Thistle ^{2/}		Tufted Twinpod ^{1/}		Persistent Sepal Yellow-crest ^{1/}		Payson's Tansymustard ^{1/}	
	Const	Op	Const	Op	Const	Op	Const	Op
Segment 3 Preferred/Proposed Total Length	60	8	60	8	1	<1	144	11
Segment 3A Preferred/Proposed Total Length	–	–	–	–	–	–	–	–

1/ Data based on known occurrence information and mapped suitable habitat.

2/ Data based on mapped suitable habitat.

Segment 4

The preferred routes in Segment 4 are as follows:

Preferred Route	Agency
Proposed Route (Figures A-5 and A-6) except within the Caribou-Targhee NF (see below)	BLM, State of Wyoming, and Lincoln County
Proposed Route within the NF incorporating Alternative 4G (Figure A-6)	Forest Service

Segment 4 would link the proposed Anticline Substation and the existing Populus Substation near Downey, Idaho, with a single-circuit 500-kV line. Its proposed length is approximately 197.6 miles. This Segment 4 BLM-Preferred/Proposed Route was revised to follow Alternative 4A, as analyzed in the Draft EIS, based on public comments. This segment generally follows an existing transmission line corridor. Segment 4 has five Route Alternatives in the middle portion of its route; however, 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 Preferred/Proposed Route, for which alternatives are presented, is approximately 85.2 miles long, and its alternatives vary from approximately 87.5 to 102.2 miles long. Alternatives 4B through 4E were proposed by the BLM Kemmerer FO (with input from various cooperating agencies), with the intent to avoid impacts to cultural resources to the extent practical. Alternative 4F was proposed by the Proponents to avoid impacts to cultural resources while still remaining north of the existing Bridger Lines. Alternative 4G was proposed by the Forest Service in order to avoid unstable soils identified along the Proposed Route during the 2012 soil assessment (it is located within Sections 1 and 2, Township 12 South, Range 41 East). Figures A-5 and A-6 in Appendix A show the location of the Segment 4 routes in Wyoming and Idaho, respectively.

ESA-listed and Candidate Species

The BLM-Preferred/Proposed Route would impact approximately 126 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 five alternatives found along Segment 4, the most being potentially impacted under the comparison portion of the Proposed Route (72 acres), followed by Alternative 4F (59 acres), Alternative 4D (50 acres)/Alternative 4B (50 acres), and Alternative 4E (47 acres)/Alternative 4C (47 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 BLM-Preferred/Proposed Route and Route Alternatives may affect, but are not likely to adversely affect, this species.

Although the USFWS has indicated that all portions of the Analysis Area in Wyoming are within the potential range for this species, the known distribution of blowout penstemon does not overlap with the Analysis Area, and detailed vegetation mapping within the Analysis Area shows no suitable sand dune habitat for this plant species. Therefore, construction and operations of the Preferred/Proposed Route and all Route Alternatives along Segment 4 would have no effect on blowout penstemon.

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) occurred in the vicinity of Segment 4 Proposed Route and Route Alternatives within the Kemmerer FO, as presented in the Draft EIS (Means 2010; Guyon 2009). Subsequent route modifications have resulted in the avoidance the ranges of these species; therefore, the current Proposed Route and Route Alternatives along Segment 4 would have no effect on whitebark pine.

Other Special Status Species

Fourteen other special status plant species would be affected by construction and operations of the BLM-Preferred/Proposed Route in Segment 4. This includes direct effects to known occurrences of five species (Hayden's milkvetch, tufted twinpod, Dorn's twinpod, starveling milkvetch, and Wasatch biscuitroot; Table 3.7-9). Along the BLM-Preferred/Proposed Route, the greatest impacts would be to tufted twinpod and Dorn's twinpod (Table 3.7-9). The greatest number of species would be impacted by the comparison portion of the Proposed Route (14 species), followed by Alternatives 4F (13 species), 4B/4D (12 species each), 4E/4C (11 species each), and 4G (zero species). Total acreage impacted by each alternative would be variable among species (Table 3.7-9). Pre-construction clearance surveys along the BLM-Preferred/Proposed Route and Route Alternatives would ensure that these species would be identified and impacts avoided and minimized during construction and operations.

Table 3.7-9. Potential Impacts to Other Special Status Plant Species along Segment 4 Preferred/Proposed and Alternative Routes

Proposed Route or Alternative	Meadow Pussytoes ^{1/}		Hayden'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
Preferred/Proposed Segment 4 – Total Length	14	2	–	–	50	7	–	–	9	2	18	4	7	1	393 (71)	52 (8)
Proposed – Comparison Portion for Alternatives 4B–F	14	2	–	–	50	7	–	–	9	2	18	4	7	1	387 (71)	51 (8)
Alternative 4B	4	1	2	1	130	14	20	3	–	–	–	–	45	5	434 (32)	54 (5)
Alternative 4C	4	1	2	1	44	6	21	2	–	–	–	–	45	5	407 (32)	52 (5)
Alternative 4D	11	3	2	1	130	14	20	3	–	–	–	–	58	8	473 (26)	63 (5)
Alternative 4E	11	3	2	1	44	6	21	2	–	–	–	–	58	8	443 (26)	60 (5)
Alternative 4F	23	3	–	–	–	–	–	–	12	2	7	2	7	1	484 (71)	66 (8)
Proposed – Comparison Portion for Alternative 4G	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Alternative 4G	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Proposed Route or Alternative	Dorn's Twinpod ^{1/, 2/}		Persistent Sepal Yellowcress ^{1/}		Starveling Milkvetch ^{2/}		Cedar Rim Thistle ^{1/}		Wyoming Tansy-mustard ^{1/}		Large-fruited Bladderpod ^{1/}		Beaver Rim Phlox ^{1/}		Wasatch Biscuitroot ^{2/}	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred/Proposed Segment 4 – Total Length	77 (76)	9 (9)	6	<1	1	<1	12	1	15	3	38	3	51	8	8	2
Proposed – Comparison Portion for Alternatives 4B–F	77 (76)	9 (9)	6	<1	1	<1	12	1	15	3	38	3	24	4	8	2
Alternative 4B	64 (1)	8 (t ^{3/})	–	–	–	<1	<1	<1	–	–	51	9	77	10	25	5
Alternative 4C	56 (1)	8 (t ^{3/})	–	–	1	<1	–	–	–	–	51	9	74	9	25	5
Alternative 4D	145 (1)	21 (t ^{3/})	–	–	1	<1	<1	<1	–	–	66	13	67	10	25	5
Alternative 4E	137 (1)	20 (t ^{3/})	–	–	1	<1	–	–	–	–	66	13	64	9	25	5
Alternative 4F	27 (27)	4 (4)	<1	–	1	<1	3	1	21	4	38	3	24	4	8	2

3.7-42

Table 3.7-9. Potential Impacts to Other Special Status Plant Species along Segment 4 Preferred/Proposed and Alternative Routes (continued)

Proposed Route or Alternative	Dorn's Twinpod ^{1/, 2/}		Persistent Sepal Yellowcress ^{1/}		Starveling Milkvetch ^{2/}		Cedar Rim Thistle ^{1/}		Wyoming Tansy-mustard ^{1/}		Large-fruited Bladderpod ^{1/}		Beaver Rim Phlox ^{1/}		Wasatch Biscuitroot ^{2/}	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Proposed – Comparison Portion for Alternative 4G	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Alternative 4G	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

1/ Data based on mapped suitable habitat.

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

3/ Value is less than 0.1 acre.

Caribou-Targhee National Forest Crossed by Segment 4

There are two routes considered across the Caribou-Targhee NF (i.e., the Proposed Route as well as Alternative 4G). The Forest Service soils assessment, which was completed in 2012, identified steep slopes and potentially unstable soils along a portion of the Proposed Route that crosses the Caribou-Targhee NF (i.e., in Sections 1 and 2, Township 12 S., Range 41 E). The Forest Service therefore identified an alternative route that avoids these areas (referred to as Alternative 4G). Alternative 4G is 2.6 miles long compared to 2.3 miles for the comparison portion of the Proposed Route (see Figure 2.4-3 in Chapter 2). The Forest Service's Preferred Route for the portion of Segment 4 within the Caribou-Targhee NF is the Proposed Route with the inclusion of Alternative 4G. The Forest Service's Preferred Route for the ROW on the Caribou-Targhee NF would be 9.4 miles long and impact a total of 356 acres of land (28 acres more than the comparison portion of the Proposed Route). This increase in the acreage of disturbance associated with the Forest Service Preferred Route is mostly related to increases in the amount of disturbance to deciduous forests and juniper woodlands. Table 3.6-9 in Section 3.6 lists the acres of impact (by Project component) that would occur along the portion of the Proposed Route that would be located on the Caribou-Targhee NF, Alternative 4G, as well as the portion of the Proposed Route that would be comparable to Alternative 4G.

There are no known occurrences of special status plant species along portion of the Project located on the Caribou-Targhee NF (including the Proposed Route or Alternative 4G). As required by TESPL-3, pre-construction surveys would be conducted in this area in order to aid in micro-siting the Project outside of any areas where newly discovered or previously unknown populations may exist.

Segment 5

The preferred routes in Segment 5 are as follows:

Preferred Route	Agency
Proposed Route incorporating Alternatives 5B and 5E ^{1/} (Figure A-7)	BLM
Proposed Route incorporating Alternatives 5C and 5E (Figure A-7)	Power County

1/ Assumes that Western Electricity Coordinating Council reliability issues associated with 5E are resolved.

Segment 5 would link the Populus and Borah Substations with a single-circuit 500-kV line that would be approximately 55.7 miles long. There are five Route Alternatives to portions of the Proposed Route in Segment 5. Alternatives 5A and 5B were proposed by the BLM to avoid crossing the Deep Creek Mountains. Alternative 5C, which crosses the Fort Hall Indian Reservation, was proposed as the preferred route by Power County; however, the Fort Hall Business Council has voted not to permit the Project across the Reservation. Alternative 5D was originally the Proponents' Proposed Route.

Alternative 5E was proposed by Power County as an alternative approach to the Borah Substation. The BLM has identified a Preferred Route that includes portions of the Proposed Route with Alternatives 5B and 5E (with the assumption that reliability issues associated with Alternative 5E can be resolved). The Segment 5 Preferred Route is 73.3 miles long, compared to 55.7 miles for the Proposed Route. Figure A-7 in Appendix A shows the location of the Segment 5 routes.

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 Preferred Route, 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 Preferred Route or 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

The BLM's Preferred Route in Segment 6 is as follows:

Preferred Route	Agency
The proposal to upgrade the line voltage from 345-kV to 500-kV (Figure A-8)	BLM

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. Changes at the Borah and Midpoint Substations would allow Segment 6 to be operated at 500 kV. Figure A-8 in Appendix A shows the Preferred/Proposed Route for Segment 6.

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 Preferred/Proposed Route 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 the Segment 6 Preferred/Proposed Route, 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

The preferred routes in Segment 7 are as follows:

Preferred Route	Agency
Proposed Route incorporating Alternatives 7B, 7C, 7D, and 7G (Figure A-9). The Proposed Route in the East Hills and Alternative 7G will be microsituated to avoid Preliminary Priority Sage-grouse Habitat (PPH).	BLM
Alternative 7K (Figure A-9)	Power and Cassia Counties

Segment 7 would link the Populus Substation and the proposed Cedar Hill Substation with a single-circuit 500-kV line that would be approximately 118.2 miles long. Several

alternatives to the Proposed Route are being considered. Alternatives 7A and 7B have been proposed by the BLM to avoid crossing the Deep Creek Mountains. Alternatives 7C, 7D, 7E, 7F, and 7G were proposed by local landowners to avoid private agricultural lands. Alternative 7K (also called the Goose Creek Alternative) was identified during the public comment period as a shorter alternative to the Proposed Route than either Alternatives 7I or 7J (refer to Chapter 2 of the Draft EIS for a description of these routes). The alignment for Alternative 7K was developed in cooperation with Cassia County. Alternatives 7H, 7I and 7J, which were analyzed in the Draft EIS, are no longer under consideration. The BLM has identified a Preferred Route that includes portions of the Proposed Route with Alternatives 7B, 7C, 7D, and 7G. The Segment 7 Preferred Route is 130.2 miles long, compared to 118.2 miles for the Proposed Route. Figure A-9 in Appendix A shows the location of the Segment 7 routes.

ESA-listed and Candidate Species

There are no known occurrences of ESA-listed or candidate species or suitable habitat in Segment 7. The occurrence of Goose Creek milkvetch along Alternatives 7I and 7J as presented in the Draft EIS resulted in the adoption of EPM TESPL-6, which requires pre-construction surveys in areas of suitable habitat. These alternatives have since been dropped for the Final EIS, and therefore it is unlikely that such surveys would be needed. Therefore, construction and operations of the Segment 7 Preferred Route, Proposed Route, and Route Alternative would have no effect on ESA-listed or candidate species.

Other Special Status Species

The Segment 7 Preferred Route, Proposed Route, and Alternatives 7A through 7G and 7K would not directly impact any other special status plant species.

Sawtooth National Forest Crossed by Segment 7

The Proposed Route along Segment 7 would not cross NFS lands; however, Alternative 7K would cross the Sawtooth NF. Alternative 7K would impact a total of 398 acres of vegetation within the NF during construction (see Table D.6-5 in Appendix D). There are no known occurrences of special status plant species along portion of the Project located on the Sawtooth NF; however, as required by TESPL-3, pre-construction surveys would be conducted in this area to aid in micro-siting the Project outside of any areas where newly discovered or previously unknown populations may exist.

Segment 8

The preferred route in Segment 8 is as follows:

Preferred Route	Agency
Proposed Route incorporating Alternative 8B (Figure A-10)	BLM and IDANG

Segment 8 would link the Midpoint and Hemingway Substations. This 131.5-mile single-circuit 500-kV transmission line would stay north of the Snake River generally parallel to an existing 500-kV transmission line, before ending at the Hemingway Substation. There are five Route Alternatives to the Proposed Route. Alternative 8A follows the WWE corridor but crosses the Snake River and I-84 twice (while the Proposed Route would stay north of this area). Alternatives 8B and 8C were originally

proposed by the Proponents as parts of the Proposed Route but were later dropped from the Proposed Route to avoid planned developments near the cities of Kuna and Mayfield, respectively. Alternative 8D would rebuild a portion of an existing 500-kV transmission line to move it away from the National Guard Maneuver Area. Alternative 8D would be constructed within the ROW currently occupied by the existing line. Alternative 8E was proposed by the BLM in order to avoid crossing the Halverson Bar non-motorized portion of a National Register Historic District (see the discussion of 8E under Segment 9). The BLM has identified a Preferred Route that includes portions of the Proposed Route with Alternative 8B and generally avoids the SRBOP. The Segment 8 Preferred Route is 132.0 miles long, compared to 131.5 miles for the Proposed Route. Figure A-10 in Appendix A shows the location of the Segment 8 routes.

ESA-listed and Candidate Species

Slickspot peppergrass occurs within the general vicinity of Segment 8 for about 40 miles. The Project, as indicatively sited, would directly impact a total of approximately 8 acres of known occurrences of slickspot peppergrass along the Proposed Route for Segment 8 during construction and approximately 1 acre during operations (Table 3.7-10). Known occurrences would also be directly impacted by Alternatives 8A (33 acres construction, 4 acres operations), 8B (3 acres construction, less than 1 acre operations), and 8C (3 acres construction, less than 1 acre operations; Table 3.7-10). In all cases the alternatives would have greater impacts to slickspot peppergrass than the comparison portions of the Proposed Route. The Preferred Route as indicatively sited would have greater effects to known occurrences than the Proposed Route and Alternatives 8C, 8D, and 8E, and fewer effects than Alternative 8A (Table 3.7-10).

Occupied habitat for slickspot peppergrass would also be directly affected during construction and operations under the Proposed Route and Alternative 8B (241 acres construction, 22 acres operation), which is included in the Preferred Route, and Alternative 8C (22 acres construction, 5 acres operation; Table 3.7-10). The comparison portion of the Proposed Route for Alternative 8B would impact less occupied habitat than Alternative 8B, whereas the comparison portion of the Proposed Route for Alternative 8C would impact more occupied habitat than Alternative 8C. Alternatives 8D and 8E and their comparison portions of the Proposed Route would not impact occupied habitat of this species. The Segment 8 Preferred Route would have greater impacts to occupied habitat than the Proposed Route and all route alternatives (Table 3.7-10). The Segment 8 Preferred Route, Proposed Route, and all Route Alternatives would cross potential habitat. Construction standards and practices consistent with the Candidate Conservation Agreement between the BLM and the State of Idaho will be implemented on BLM lands along Segment 8 that cross the slickspot peppergrass elemental occurrences. This will be accomplished through implementation of EPMs TESPL-3 and TESPL-4.

Table 3.7-10. Potential Impacts to Slickspot Peppergrass Habitat along Segments 8 and 9 Preferred, Proposed, and Alternative Routes

Proposed Route or Alternative	Acres Known Occurrence ^{2/}		Acres Occupied Habitat		Acres Proposed Critical Habitat		Acres Potential Habitat	
	Const	Op	Const	Op	Const	Op	Const	Op
Segment 8 Preferred – Total Length ^{1/}	3	<1	248	24	94	10	383	41
Segment 8 Proposed – Total Length	8	1	114	15	8	2	504	55
Proposed – Comparison Portion for Alternative 8A	–	–	–	–	–	–	27	2
Alternative 8A	33	4	–	–	–	–	165	13
Proposed – Comparison Portion for Alternative 8B	8	1	108	13	6	2	224	24
Alternative 8B	3	<1	241	22	92	10	103	10
Proposed – Comparison Portion for Alternative 8C	1	<1	34	5	6	2	18	2
Alternative 8C	3	1	22	5	12	2	52	5
Proposed – Comparison Portion for Alternative 8D	–	–	–	–	–	–	84	8
Alternative 8D	–	–	–	–	–	–	69	4
Proposed – Comparison Portion for Alternative 8E	–	–	–	–	–	–	10	1
Alternative 8E	–	–	–	–	–	–	8	1
Segment 9 Preferred – Total Length	–	–	–	–	–	–	433	58
Segment 9 Proposed – Total Length	–	–	–	–	–	–	422	56
Segment 9 Proposed – Comparison portion for Alternative 9A	–	–	–	–	–	–	–	–
Alternative 9A	–	–	–	–	–	–	–	–
Segment 9 Proposed – Comparison portion for Alternative 9B	–	–	–	–	–	–	375	53
Alternative 9B	–	–	–	–	–	–	322	32
Segment 9 Proposed – Comparison portion for Alternative 9C	–	–	–	–	–	–	32	4
Alternative 9C	–	–	–	–	–	–	24	2
Segment 9 Proposed – Comparison portion for Alternatives 9D, F, G, H	–	–	–	–	–	–	21	2
Alternative 9D	–	–	–	–	–	–	2	-
Alternative 9F	–	–	–	–	–	–	21	2
Alternative 9G	–	–	–	–	–	–	2	-
Alternative 9H	–	–	–	–	–	–	21	2
Segment 9 Proposed - Comparison portion for Alternative 9E (revised)	–	–	–	–	–	–	21	2
Alternative 9E (revised)	–	–	–	–	–	–	32	4

1/ The Alternative 8B portion of the Preferred Route would be sited to avoid crossing the SRBOP and, therefore, there would be no direct effects on slickspot peppergrass on federal land.

2/ Only acres of impacts to extant occurrences included; extirpated occurrences not included.

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 to plants or habitat. Additionally, any aboveground populations of slickspot peppergrass and higher-quality microsities within 50 feet of the construction area and access roads would be marked by environmental monitors. Under EPM 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 Preferred Route, 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 Framework Reclamation Plan (Appendix B), which would include measures such as post-construction monitoring of revegetated areas to ensure plant establishment.

Despite these measures, a single pre-construction survey could miss slickspot peppergrass populations and slickspots that do not currently exhibit aboveground plants could still contain this species. Three years of surveys are required in order to say that habitat is unoccupied by slickspot peppergrass. However, it is unlikely that these survey requirements could be met in all areas of potential slickspot peppergrass habitat prior to construction. In addition, the Project would not be able to avoid impacting all slickspots or occupied slickspot peppergrass habitat, or the associated native shrub-steppe ecosystem necessary to support sufficient pollinators for this plant (see the Project BA for additional discussion including avoidance and minimization of impacts to the primary constituent elements of proposed critical habitat). Therefore, should this species become listed the construction and operations of the Segment 8 Preferred Route, Proposed Route, and Alternatives 8A, 8B, and 8C *may affect, and are likely to adversely affect*, slickspot peppergrass. Construction and operations of Alternatives 8D and 8E would have no effects on slickspot peppergrass because this species does not occur within the Analysis Area for either of these alternatives.

Proposed critical habitat for slickspot peppergrass would be impacted by the Segment 8 Preferred Route, Proposed Route, and Alternatives 8B and 8C. The Project may also affect proposed critical habitat due to the spread of invasive plants, removal of native vegetation near slickspots, destruction or alteration of slickspots, and impacts to undisturbed suitable habitat for native pollinators. The Proponents are currently conferencing 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. EPM TESPL-4 and other measures contained in Appendix B 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 known occurrences of seven other special status species, more than the Preferred Route (four species; Table 3.7-11). Shining flatsedge would have the greatest number of acres impacted by the Proposed Route of Segment 8 during construction and operations. White eatonella would have the greatest number of acres impacted by the Preferred Route. Alternative 8A would impact fewer acres of other special status species

than the comparison portion of the Proposed Route and the Preferred Route, though of different species. Alternative 8B, which is included in the Preferred Route, would impact fewer other special status species (two species), and fewer acres of each species (Mulford's milkvetch and wovenspore lichen), than the comparison portion of the Proposed Route (five species; Table 3.7-11). Alternative 8C and the comparison portion of the Proposed Route would both less than 1 acres of wovenspore lichen. Alternative 8D and the comparison portion of the Proposed Route would impact wovenspore lichen, with a greater number of acres impacted under Alternative 8D. Finally, Alternative 8E and the comparison portion of the Proposed Route would each impact three other special status species; Alternative 8E would impact the greatest amount of acres overall (primarily shining flatsedge and Packard's buckwheat). Thus, impacts under Alternatives 8C and 8E would be comparable to the Preferred Route, but impacts under Alternative 8D would be greater than the Preferred Route. Pre-construction clearance surveys along the Preferred Route, 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 8D and 8E would cross the SRBOP. Its associated RMP requires that "surface disturbing activities be located at least ½ mile from occupied sensitive plant habitat." The RMP also requires the implementation of certain conservation measures in slickspot peppergrass habitat. Therefore, an amendment to the RMP would be required for the Proposed Route and Alternatives 8D and 8E to be in conformance with the RMP (Table 2.2-2). Alternative 8B (which is also a portion of the Preferred Route) as indicatively sited would cross occupied habitat on the SRBOP; however, the actual route would be sited to avoid crossing the SRBOP and, therefore, there would be no direct effects to slickspot peppergrass on federal land. Therefore, the Preferred Route would not require a plan amendment. With the implementation of EPMs related to conducting pre-construction clearance surveys (e.g., TESPL-4), weed control, and reclamation, the Project would avoid or minimize adverse impacts to TES plant populations, including slickspot peppergrass. 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 3.7-11. Potential Impacts to Other Special Status Plant Species along Segment 8 Preferred, Proposed, and Alternative Routes

Proposed Route or Alternative	Acres ^{1/}													
	Mourning Milkvetch		Mulford's Milkvetch		Snake River Milkvetch		Shining Flatsedge		White Eatonella		White-margined Wax Plant		Wovenspore Lichen	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred Segment 8 – Total Length	8	1	26	<1	–	–	–	–	48	6	–	–	3	<1
Proposed Segment 8 – Total Length	8	1	47	2	49	5	185	13	48	6	18	2	18	<1
Proposed – Comparison Portion for Alternative 8A	8	1	–	–	–	–	–	–	48	6	–	–	–	–
Alternative 8A	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Proposed – Comparison Portion for Alternative 8B	–	–	47	2	49	5	185	13	–	–	18	2	18	<1
Alternative 8B	–	–	26	<1	–	–	–	–	–	–	–	–	3	<1
Proposed – Comparison Portion for Alternative 8C	–	–	–	–	–	–	–	–	–	–	–	–	<1	<1
Alternative 8C	–	–	–	–	–	–	–	–	–	–	–	–	<1	<1
Proposed – Comparison Portion for Alternative 8D	–	–	–	–	–	–	–	–	–	–	–	–	17	<1
Alternative 8D	–	–	–	–	–	–	–	–	–	–	–	–	26	t ^{2/}
Proposed – Comparison Portion for Alternative 8E	–	–	t ^{2/}	t ^{2/}	45	4	124	10	–	–	–	–	–	–
Alternative 8E	–	–	–	–	–	–	122	19	–	–	–	–	–	–

3.7-51

Proposed Route or Alternative	Acres ^{1/}									
	Calcareous Buckwheat		Packard's Buckwheat		Matted Cowpie Buckwheat		Spreading Gilia		Janish's Penstemon	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred Segment 8 – Total Length	–	–	–	–	–	–	–	–	–	–
Proposed Segment 8 – Total Length	–	–	–	–	–	–	–	–	–	–
Proposed – Comparison Portion for Alternative 8A	–	–	–	–	–	–	–	–	–	–
Alternative 8A	<1	t ^{2/}	–	–	1	<1	–	–	13	2
Proposed – Comparison Portion for Alternative 8B	–	–	–	–	–	–	–	–	–	–
Alternative 8B	–	–	–	–	–	–	–	–	–	–
Proposed – Comparison Portion for Alternative 8C	–	–	–	–	–	–	–	–	–	–
Alternative 8C	–	–	–	–	–	–	–	–	–	–
Proposed – Comparison Portion for Alternative 8D	–	–	–	–	–	–	–	–	–	–
Alternative 8D	–	–	–	–	–	–	–	–	–	–
Proposed – Comparison Portion for Alternative 8E	–	–	–	–	–	–	–	–	–	–
Alternative 8E	–	–	259	19	–	–	1	<1	–	–

1/ Data are based on mapped occurrences.

2/ Value is less than 0.1 acre.

Segment 9

The preferred routes in Segment 9 are as follows:

Preferred Route	Agency
Proposed Route incorporating Alternative 9E, which was revised to avoid PPH and Murphy (Figure A-11)	BLM
Alternative 9D (Figure A-11)	Owyhee County

Segment 9 would link the Cedar Hill and Hemingway Substations with a 162.2-mile single-circuit 500-kV transmission line that 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 the Hemingway Substation. There are eight Route Alternatives proposed. Alternative 9A was the Proponents' Proposed Route until that route was revised to avoid the Hollister area. Alternative 9B is being considered by the BLM because it follows the WWE corridor and parallels existing utility corridors. Alternative 9C was the Proponents' Proposed Route until that route was revised to avoid the Castleford area. Alternatives 9D through 9G were proposed by the Owyhee County Task Force to reduce impacts to private land. Alternatives 9F, 9G, and 9H were proposed to avoid crossing the non-motorized area south of C.J. Strike Reservoir and as an alternate route if Alternative 8E is selected. The BLM has identified a Preferred Route that includes portions of the Proposed Route with Alternative 9E. Figure A-11 in Appendix A shows the location of the Segment 9 routes. A portion of Alternative 9D/F uses the same path as Alternative 8E in Segment 8; therefore, 8E and 9D/F could not both be selected. Alternative 9E has been revised to avoid sage-grouse PPH and to incorporate a recommended route change submitted by Owyhee County that avoids a planned subdivision near Murphy. The Segment 7 Preferred Route is 130.2 miles long, compared to 118.2 miles for the Proposed Route.

ESA-listed and Candidate Species

There are no ESA-listed or candidate species within the Analysis Area for the Segment 9 Preferred Route, Proposed Route, or Route Alternatives. However, the Segment 9 Preferred Route, Proposed Route, and Route Alternatives (all except Alternative 9A) cross potential slickspot peppergrass habitat (Table 3.7-10). The Segment 9 Preferred Route would have the greatest effects to potential slickspot peppergrass habitat (435 acres during construction and 58 acres during operation), including 11 acres more during construction and 2 acres more during operations than the Proposed Route. Alternatives 9A, 9B, 9C, 9D, 9F, 9G, and 9H would have fewer effects than the Preferred Route (which includes Alternative 9E). Therefore, EPM TESPL-4 would apply, under which pre-construction surveys would be conducted and no construction would occur within 50 feet of slickspot peppergrass plants or habitat. See the discussion under Segment 8 for additional details on impacts and limitations of pre-construction surveys. Therefore, construction and operations would have no effect on ESA-listed or candidate plant species.

Other Special Status Species

There are eight other special status plant species that would be impacted by construction and operations of the Segment 9 Proposed Route (Table 3.7-12). A

greater number of species (15 species) would be impacted by the Segment 9 Preferred Route. No other special status plant species would be directly affected by Alternatives 9A, 9B, 9C, or their comparison portions of the Proposed Route; however, there are known occurrences of Greely's wavewing and twinleaf onion within 0.5 mile of Alternatives 9A and 9B, respectively (Table 3.7-3). Pre-construction surveys would document whether these species occur within the immediate vicinity of the Project (TESPL-3) and therefore impacts would be avoided or minimized. Thus, the Preferred Route would have greater direct impacts to other special status species than Alternatives 9A, 9B, or 9C.

Alternatives 9D, 9F, 9G, and 9H would impact other special status species (6, 6, 5, and 4 species, respectively), though a fewer number than the comparison portion of the Proposed Route (7 species; Table 3.7-12) and the Preferred Route. The greatest impacts would be to Packard's buckwheat (Alternatives 4D and 4F) and white eatonella; the comparison portion of the Proposed Route would have the greatest impacts to white margined-wax plant.

Alternative 9E (revised), which is included in the Preferred Route, would impact twice as many other special status species (14 species) as its comparison portion of the Proposed Route (7 species; Table 3.7-12). The comparison portion of the Proposed Route would impact more acres of white-margined wax plant and Janish's penstemon than Alternative 9E (revised) and the Preferred Route, but fewer (or no) acres of the other species.

The SRBOP would be crossed by the Preferred Route, Proposed Route, and Alternatives 9D, 9E (revised), 9F, 9G, and 9H. Its associated RMP requires that "surface disturbing activities be located at least ½ mile from occupied sensitive plant habitat." The RMP also requires the implementation of certain conservation measures in slickspot peppergrass habitat. Therefore, an amendment to the RMP would be required for the Segment 9 Proposed Route, and Alternatives 9D, 9F, 9G, and 9H to be in conformance with the RMP (Table 2.2-2). The Preferred Route (incorporating Alternative 9E) would not cross occupied sensitive plant habitat within the SRBOP and therefore would not require a plan amendment for occupied habitat. With the implementation of EPMs related to conducting pre-construction clearance surveys (e.g., EPM TESPL-4), weed control, and reclamation, the Project would avoid or minimize adverse impacts to TES plant populations, including slickspot peppergrass. 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 9 Proposed and Alternative Routes

Proposed Route or Alternative	Acres ^{1/}															
	White Eatonella		Matted Cowpie Buckwheat		White-margined Wax Plant		Rigid Threadbush		Desert Pincushion		Mulford's Milkvetch		Snake River Milkvetch		Compact Earth Lichen	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred Segment 9 – Total Length	6	1	6	1	87	9	2	<1	4	1	52	3	140	13	20	2
Proposed Segment 9 – Total Length	5	1	4	1	245	25	3	1	<1	<1	53	3	105	10	–	–
Proposed– Comparison Portion for Alternative 9A	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Alternative 9A	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Proposed– Comparison Portion for Alternative 9B	–	–	–	–	–	–	–	–	–	–	–	–	t ^{2/}	t ^{2/}	–	–
Alternative 9B	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Proposed– Comparison Portion for Alternative 9C	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Alternative 9C	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Proposed– Comparison Portion for Alternatives 9D,F,G,H	5	1	–	–	243	25	3	1	<1	<1	1	<1	105	10	–	–
Alternative 9D	32	2	–	–	30	2	–	–	6	<1	–	–	–	–	–	–
Alternative 9F	1	–	–	–	30	2	–	–	6	<1	–	–	–	–	–	–
Alternative 9G	91	6	–	–	1	–	–	–	7	<1	–	–	–	–	–	–
Alternative 9H	59	4	–	–	1	–	–	–	7	<1	–	–	–	–	–	–
Proposed–Comparison Portion for Alternative 9E (revised)	5	1	–	–	245	25	3	1	1	<1	1	<1	105	10	–	–
Alternative 9 E (revised)	6	1	2	<1	87	9	2	<1	5	1	–	–	140	13	20	2

1/ Data are based on mapped occurrences.

2/ Value is less than 0.1 acre.

3.7-54

Table 3.7-12. Potential Impacts to Other Special Status Plant Species along Segment 9 Proposed and Alternative Routes (continued)

Proposed Route or Alternative	Acres ^{1/}															
	Spreading Gilia		King's Desert Grass		Packard's Buckwheat		Janish's Penstemon		Spine-noded Milkvetch		Alki Cleomella		Shining Flatsedge		Bruneau River Prickly Phlox	
	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op	Const	Op
Preferred Segment 9 – Total Length	1	t ^{2/}	5	<1	16	2	54	6	1	t ^{2/}	53	5	–	–	20	3
Proposed Segment 9 – Total Length	–	–	–	–	–	–	174	22	–	–	–	–	–	–	–	–
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,F,G,H	–	–	–	–	–	–	174	22	–	–	–	–	–	–	–	–
Alternative 9D	3	<1	–	–	193	14	–	–	–	–	–	–	129	12	–	–
Alternative 9F	1	<1	–	–	200	14	–	–	–	–	–	–	129	12	–	–
Alternative 9G	2	<1	–	–	160	13	–	–	–	–	–	–	–	–	–	–
Alternative 9H	–	–	–	–	160	13	–	–	–	–	–	–	–	–	–	–
Proposed– Comparison Portion for Alternative 9E (revised)	–	–	–	–	–	–	174	22	–	–	–	–	–	–	–	–
Alternative 9 E (revised)	1	t ^{2/}	5	<1	16	2	54	6	1	t ^{2/}	53	5	–	–	20	3

1/ Data are based on mapped occurrences.

2/ Value is less than 0.1 acre.

3.7-55

Segment 10

The BLM’s Preferred Route in Segment 10 is as follows:

Preferred Route	Agency
Proposed Route (Figure A-12)	BLM

Segment 10 would link the Cedar Hill and Midpoint Substations with a 34.4-mile single-circuit 500-kV line. Segment 10 would follow a WWE corridor for most of the route. The Preferred/Proposed Route would also be adjacent to the existing 345-kV line most of this length and has been sited to follow the same alignment of the planned SWIP. Either the SWIP or Gateway West would be built, but not both. There are no Route Alternatives proposed along this segment. Figure A-12 in Appendix A shows the location of the Preferred/Proposed Route in Segment 10.

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 Preferred/Proposed Route along this segment would have no effect on ESA-listed or candidate plants.

Other Special Status Species

Segment 10 would directly impact giant helleborine (15 acres during construction, 1 acre during operations). This species is also present in nearby springs along the Snake River. Pre-construction clearance surveys along Segment 10 would ensure that this species would be identified and avoided during construction.