



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

SPAR CANYON-ROUND VALLEY SERVICE ROAD PROJECT AND RIGHT-OF-WAY AMENDMENT

Environmental Assessment

June 2018



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Chapter 1 PURPOSE AND NEED FOR ACTION

The Bonneville Power Administration (BPA) proposes to construct access to portions of its Spar Canyon-Round Valley transmission line located on public lands managed by the Bureau of Land Management-Challis Field Office (BLM Challis FO) in Custer County, Idaho. The proposed project would involve constructing roads, grading existing roads, and developing and armoring drainage crossings. These actions would require an amendment to BPA's existing BLM right-of-way (ROW) grant, serial number IDI-22582. BPA is proposing access road construction because existing authorized access routes are insufficient to provide critical access for continued safe and reliable operation of the transmission line.

BPA and BLM have prepared this environmental assessment (EA) pursuant to the National Environmental Policy Act (NEPA), which requires federal agencies to assess the effects their actions may have on the environment.

1.1 Background

BPA owns and operates more than 15,000 miles of high-voltage transmission lines. These transmission lines move most of the Northwest's high-voltage power from generation facilities to users throughout the region. BPA has obligations to ensure that its transmission system is safe, reliable, and has sufficient capability to serve its customers.

BPA's Spar Canyon-Round Valley 230-kilovolt (kV) transmission line, the Round Valley and Spar Canyon Substations, and associated access roads are located on public land within the bounds of BLM Challis FO and Upper Snake Field Office of the Idaho Falls District. On October 23, 1980, Salmon River Electric Cooperative (SREC) was issued a ROW grant, BLM serial number IDI-15966, authorizing the construction of the 230-kv transmission line referred to as the Spar Canyon Line on public land in Butte and Custer Counties. On May 30, 1984 the BLM-approved the as-built survey submitted by SREC. On December 19, 1986, the BLM Challis FO approved an assignment of what is currently authorized in this ROW from SREC to BPA. BPA received the right to operate, maintain, improve, and repair the existing 230-kV Spar Canyon-Round Valley transmission line, substations, and approved access roads. During the transfer between BPA and SREC, SREC retained the Spar Canyon Switchyard, the portion of the 230-kV transmission line that runs from the Spar Canyon Switchyard to the South Butte Substation, and access roads associated with that portion of the line.

The ROW grant, serialized under number IDI-22582, which includes the transmission line corridor, substation, and service routes, encumbers approximately 741 acres of public land and is managed consistent with the Federal Land Policy and Management Act of 1976, as amended (90 Stat. 2776; 43 U.S.C. 1761) and the regulations at 43 CFR 2800. The ROW currently consists of approximately 59 miles of transmission line, with a ROW width of 100 feet. In addition, the grant authorized the existing Round Valley Substation (approximately 2 acres), and the right to construct, upgrade, maintain and operate approximately six miles of access roads. The grant specified that BPA use the existing road or track width, where developed, which varied depending on the location. Some portions of service routes were never developed or used by BPA because they crossed terrain that is too steep (greater than a 10-percent grade, and in some places 25- to 30-percent grades) to be safely traversed. Currently, BPA accesses some portions of the transmission line by driving cross-country. BPA received the right to operate, maintain,

improve, and repair the existing 230-kV transmission Spar Canyon-Round Valley and Lost River-Spar Canyon transmission lines, the Round Valley Substation, and approved access/service roads. Overland travel is not allowed according to the BLM Challis Comprehensive Travel Management and Transportation Plan (TMP).

1.2 BPA's Purpose and Need for Action

BPA needs safe and reliable access to the Spar Canyon-Round Valley and Lost River-Spar Canyon transmission line to perform maintenance and make emergency repairs. The proposed service road project would improve access to 19 transmission line support structures on the Spar Canyon-Round Valley transmission line between the Round Valley Substation and structure 10/2. Currently, portions of BPA's authorized ROW access roads and routes to the transmission line in the project area are not well defined, too steep in many places, and difficult for vehicles and repair equipment to negotiate, especially in ephemeral drainages. Some routes that were authorized are not being used because of the steep terrain and other hazards, thus repair crews are currently using roads that BPA does not have a ROW grant for. BPA has obligations to ensure that its transmission system is safe, reliable, and has sufficient capability to serve its customers. The Federal Columbia River Transmission System Act directs BPA to make improvements, additions, and replacements to its transmission system for electrical stability and reliability, as well as provide service to BPA's customers (16 United States Code [U.S.C.] 838b[b-d]).

In meeting the need for action, BPA works toward the following purposes:

- Maintain or improve transmission system reliability to BPA and industry standards
- Minimize environmental impacts
- Demonstrate cost effectiveness

1.3 BLM's Purpose and Need for Action

The purpose and need for the federal action is established by BLM's responsibility under Section 501(a)(4) the Federal Land Policy and Management Act of 1976, as amended [43 U.S.C. 1761], which provides authority for the Secretary of the Interior, in his discretion, to grant rights-of-way on lands under its jurisdiction according to regulations at 43 C.F.R. § 2802.10.

The Challis FO needs to respond to an application submitted by BPA requesting an amendment to their existing ROW grant which would allow them to construct, improve, operate, maintain, rehabilitate, and relinquish specific access roads associated with the 230kV transmission line.

1.4 Location

The ROW encumbers public land in Butte and Custer Counties within the bounds of the BLM Challis FO and the Upper Snake Field Office (USFO) in the Idaho Falls District, see Figure 1, Right-of-Way Overview Map. The proposed access road project area is located near Challis, Idaho, and is accessible from Highway 93 on public land administered by the Challis FO, see Figure 1-A, Project Area Map.

1.5 Conformance with the Applicable Land Use Plan

The Proposed Action is within the area identified in the following BLM LUPs: Challis Resource Management Plan, as amended (RMP), 1999.

Challis RMP Amendments include:

- Record of Decision for Implementation of a Wind Energy Development Program and Associated Land Use Plan Amendments (Wind Energy Amendment 2005)
- Record of Decision and RMP Amendments for Geothermal Leasing in the Western United States (Geothermal Amendment 2008)
- Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA) (2015)

The alternatives analyzed in this EA are in conformance with the goals and objectives outlined in the 1999 Challis RMP, specifically:

Land Tenure and Access: Goal 3, page 35: Consider public needs for use authorizations, such as ROWs, leases, permits, and withdrawals. Specifically, the following goal from the RMP, “[c]onsider public needs for use authorizations such as rights-of-way, lease permits and withdrawals” is relevant to BPA’s amendment right-of-way request to include portions of new access roads, upgrade portions of existing access road ROW and relinquish a portion of ROW on which authorized access roads were never developed.

The GRSG ARMPA and Record of Decision (ROD) were signed on September 21, 2015. The GRSG ARMPA provides a layered management approach that offers the highest level of protection for GRSG in the most valuable habitat. Land use allocations in the GRSG ARMPA limit or eliminate new surface disturbance in Priority Habitat Management Areas (PHMA) and Important Habitat Management Areas (IHMA), while minimizing disturbance in General Habitat Management Areas (GHMA).

The Proposed Action, including compensatory mitigation, was found to be in conformance with the GRSG ARMPA (2015). The Wildlife Section 3.8 describes the GRSG habitat found within the proposed project area, the environmental consequences of project implementation, and the proposed mitigation measures.

The Proposed Action has been determined to be in conformance with the terms and conditions of the applicable BLM LUP as required by 43 CFR 1610.5.

1.6 Relationship to Statutes, Regulations or Other Plans

- The subject application was made in accordance with Title V of the Federal Land Policy and Management Act of 1976 as amended (43 U.S.C. 1761) and the regulations found in 43 CFR 2800
- The National Historic Preservation Act (NHPA) of 1966, as amended (with regulations under 36 CFR 800)
- The Fort Bridger Treaty of 1868 (15 Stat. 673)

1.7 Scoping, Issues, and Decision to be Made

1.7.1 *Scoping*

To help determine the issues to be addressed in this EA, BPA and BLM conducted public scoping. On August 1, 2014, BPA and BLM sent a scoping letter to contacts potentially interested or affected by the proposed access road project, including landowners, public interest groups, and local governments. The public scoping letter sought public input for the project and contained a list of preliminary issues, which was posted on BPA's project website at www.bpa.gov/goto/SparCanyon. A description of the Proposed Action was posted on September 18, 2014 to the online BLM NEPA Register through the e-Planning application: https://eplanning.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do.

1.7.2 *Scoping Comments*

Comments were received on the following topics:

- **Wildlife.** Two commenters expressed concern about the potential impacts on GRSG habitat, requesting that BPA and BLM identify priority habitat and implement measures to avoid and mitigate impacts on GRSG populations. One commenter requested analysis on potential impacts to deer and antelope. This topic is addressed in Section 3.8.2.
- **Soils (erosion control).** One commenter requested BPA to consider placing culverts where access roads cross drainages. This topic is addressed in Sections 2.1 and 3.5.
- **Access (Transportation) and Wildlife.** One commenter expressed concern about new road construction in areas with user-created routes or GRSG habitat, and recommended measures to eliminate unauthorized trail systems in such areas. This topic is addressed in Section 3.4 and 3.8.

1.7.2 *Issues*

Through the scoping process and the BLM interdisciplinary team the following issues concerning the Proposed Action were identified:

- Vegetation removal
- Soil disturbance
- Loss of GRSG habitat and/or disturbance of
- Noxious and invasive weeds
- Unauthorized travel

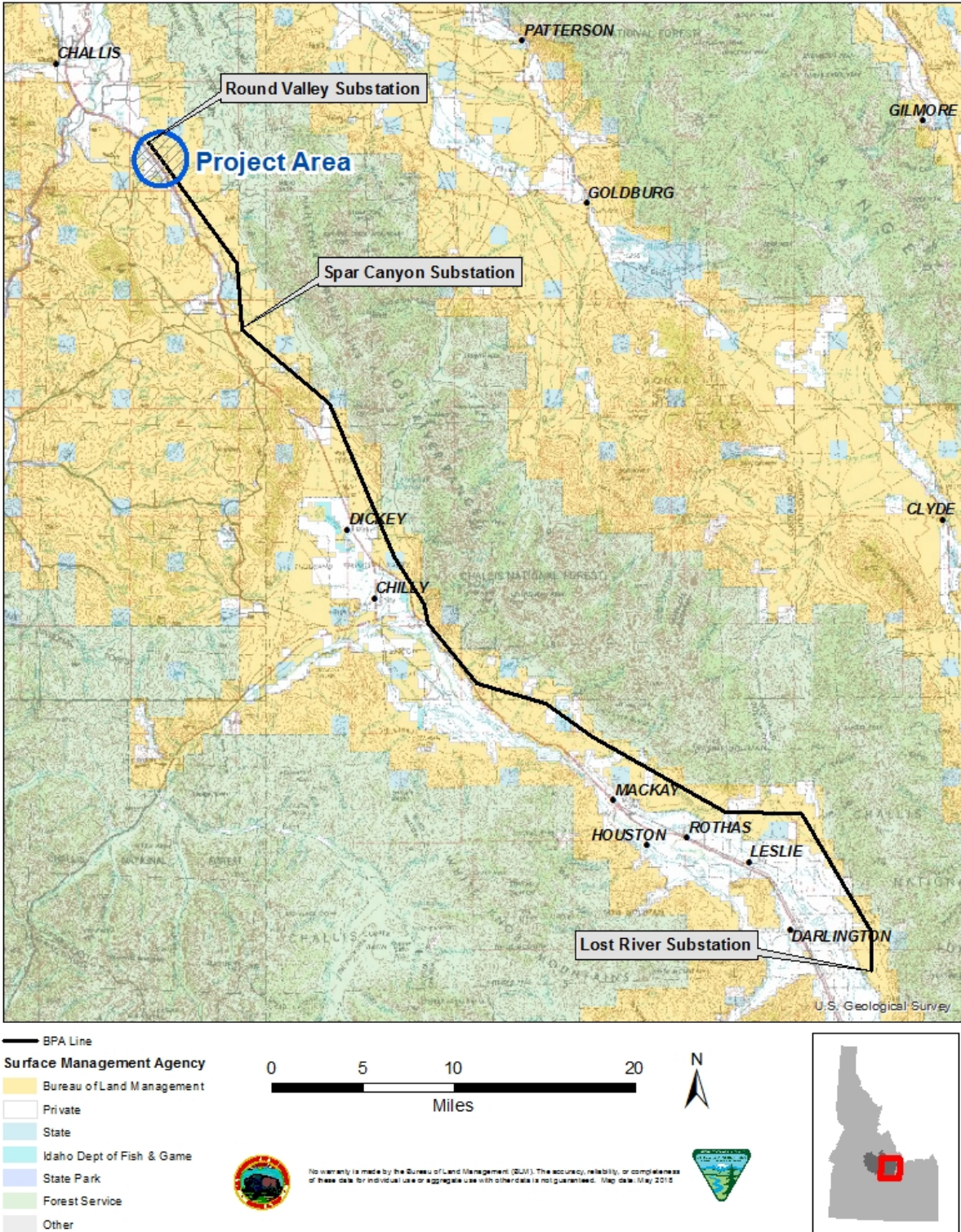
1.7.3 *Decisions to be Made*

The BLM Challis Field Manager is the Authorized Officer responsible for decisions regarding management of public lands within the proposed project area. The decision would be whether or not to issue an amended grant as proposed, allowing the construction, improvement, operation, maintenance and relinquishment of described service roads on BLM administered lands, or with modifications; including mitigation, terms, and conditions. The EA will provide information for the Authorized Officer to make an informed decision regarding actions proposed in the EA. Based on the results of the NEPA analysis, the Authorized Officer will issue a determination of the significance of the environmental effects and whether or not an environmental impact

statement (EIS) would be required.

Figure 1. Right-of-Way Overview Map

BPA Spar Canyon-Round Valley Transmission Line Right-of-Way



Chapter 2 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and the No Action Alternative. This chapter compares the Proposed Action and the No Action Alternatives to the project purpose and need.

2.1 Proposed Action

Under the Proposed Action, BLM would issue an amendment to BPA's existing transmission line and access road ROW grant (BLM serial number IDI-22582) allowing for the construction, improvement, operation, maintenance, and rehabilitation of 4.9 miles service roads associated with the transmission line. Of the 4.9 miles of road being proposed for improvement/construction activities, 2.29 miles were not included in the original grant. Construction and/or improvement activities include blading, removing vegetation along the route, and removing about 6 inches of soil. BPA has requested a ROW width of 20 feet for the service roads, with the road bed average width of approximately 14 feet.

Approximately 1,915 feet or 0.89 acres (ROW width assumed 20 feet wide in existing grant) of service routes near the Round Valley Substation were granted but never constructed and would be relinquished. In addition, after a review conducted by BPA it has been determined that about 14.06 acres of existing road included in the original grant are not part of BPA's service road system and would be relinquished and removed from the grant. These roads are currently designated in the Challis Field Office Travel Management Plan and would remain as is.

BPA would reclaim areas disturbed by construction activities outside of the permanent road bed through seeding and revegetation and placing erosion control structures where needed. The 230-kv transmission line, 59 miles in length with a ROW width of 100 feet (715 acres) would remain authorized with updated terms and conditions according to current regulations, policy, and guidance. The public land encumbered by BPA's Round Valley Substation, approximately two acres, would remain authorized.

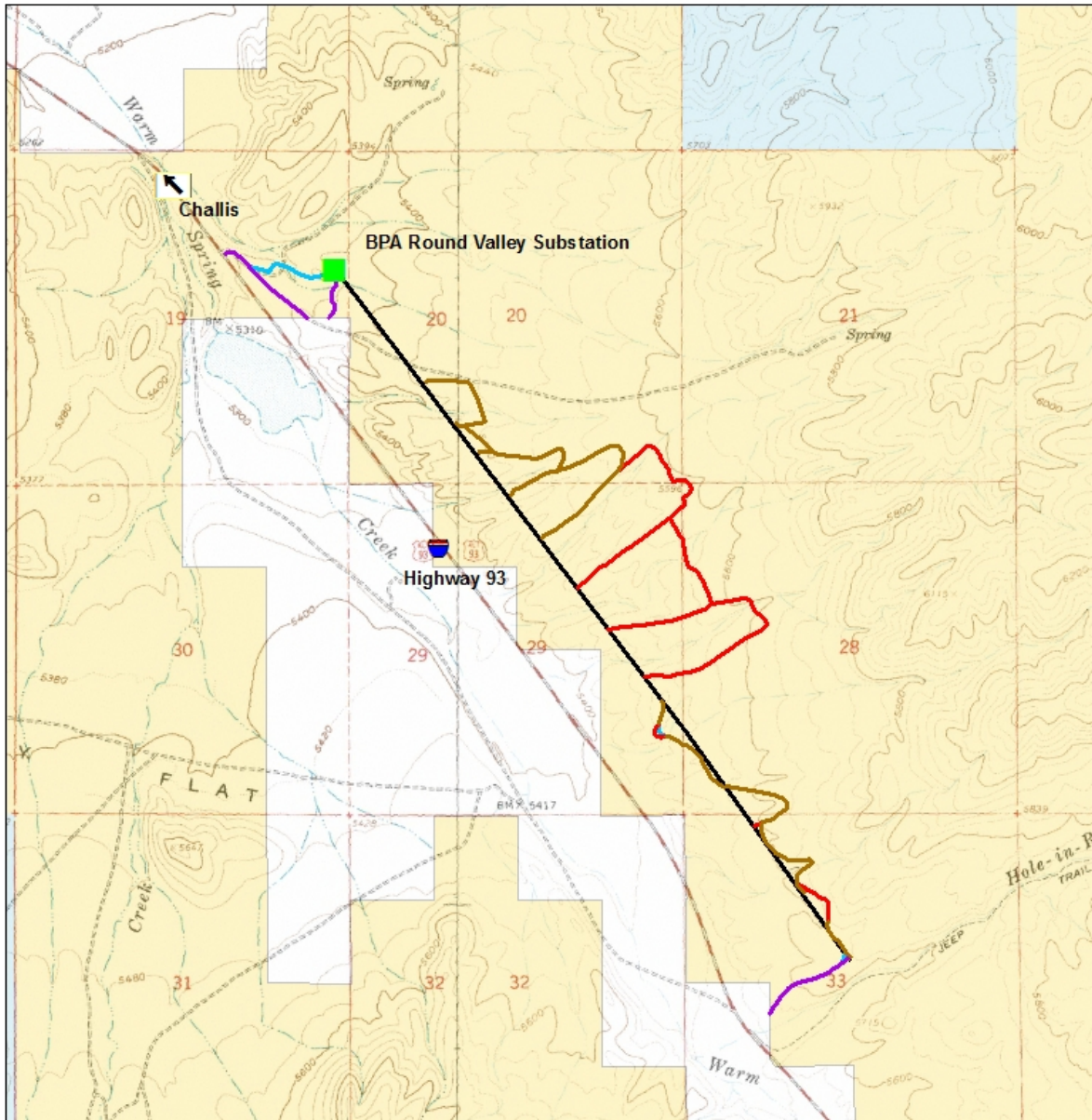
According to BLM Manual 2807.20, amendments are to be processed in the same manner as new applications. A new grant would replace the existing grant covering the new use and/or location, include existing stipulations if applicable, updated terms and conditions as necessary, and correct any discrepancies discovered in the grant during the amendment process.

Road Construction and Improvement Activities

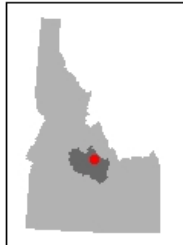
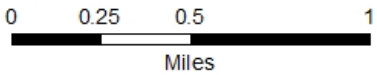
Construction and improvement activities would involve developing safer service roads while minimizing impacts to environmental resources and the need to drive cross-country. The construction and improvement activities (see Table 1. Proposed Action Service Road Activities) would occur along approximately 4.9-mile-long route between transmission structures. A steel-tracked excavator or bull dozer would be used to construct this route through removal of approximately the upper 6-inch topsoil layer; with clearing widths up to twenty-feet wide along the route. The construction would incorporate appropriately spaced drainage dips or swales on steep slopes and where service roads enter ephemeral drainages within the 20-foot width, which would reduce erosion and runoff into vegetated areas rather than drainages.

Figure 1-A, Project Area Map

**BPA Spar Canyon- Round Valley Transmission Line
Right-of-Way Amendment - Service Road Project Area**



- Part of Original Grant - Developed
 - Part of Original Grant - Construction/Improvement
 - Amend to Include - Construction/Improvement
 - Relinquish, Not Developed
 - IDI-22582: 230 kV
- Surface Management Agency**
- Bureau of Land Management
 - Private
 - State



No warranty is made by the Bureau of Land Management (BLM), the accuracy, reliability or completeness of these data for individual use or aggregate use with other data is not guaranteed. Map date: May 2010



Table 1. Proposed Action Service Road Activities

Characteristic	Road Construction/Improvement	Ford Development
Construction activities	Remove vegetation and blade 6 inches of topsoil to define roads.	Grade surface, apply geotextile fabric and larger crushed rock. Some approaches would require excavation.
Length	26,015 feet (about 4.9 miles)	16 crossings 200 feet per crossing total of 3,200 feet*
Width of road bed and future maintenance activities	14 feet	15 feet
Disturbance width during construction activities and width of ROW	20 feet	20 feet
Materials/Rock	None	2400 feet geotextile fabric 2400 tons 6-inch minus rock 2000 tons 4-inch minus rock

**The ford dimensions are included in the total length of the service roads, 4.9 miles, and is displayed separately for analysis purposes*

Ford Development

A series of ford crossings would be constructed (between structures 10/5 and 10/3, 11/2 and 10/7, and 12/3 and 11/7) that would allow vehicles to safely navigate steep grades into, across, and out of ephemeral drainages by providing appropriate approach grades and well defined crossings for vehicles to traverse these steep-angled washes. Fords and associated approaches would be approximately 15-foot wide by 200-foot long or approximately 1.1 acres of new disturbance. Sixteen ford crossings would be developed, totaling 3,200 linear feet of construction. The ford development dimensions are included in the total length and width of the service road; approximately entire 4.9 miles, with a ROW width of 20 feet.

Due to site topography, approaches to these washes would require rock stabilization on sloped sections and soil excavation and grading to accommodate vehicle passage. Excavators or bull dozers would be used to establish appropriate grades for the 16 new fords, and this same method would provide additional widening and grading at approaches as necessary. At the bottoms of the ephemeral drainages, ford construction would involve surface grading with vibratory rollers, graveling, placing geotextile fabric to hold rock and gravel in place, and lining the downstream side with larger rip-rap to ensure crossings remain intact during runoff and storm events.

2.1.1 ROW Addition and Relinquishment of Service Roads

As part of the Proposed Action, BPA would relinquish segments of service routes that were never constructed and existing roads that were included in the grant but not needed as service

roads by BPA. If approved, the amended ROW grant would reflect the facilities, their dimensions and acreages (Table 2).

Table 2. BPA’s Spar Canyon-Round Valley and Lost River-Spar Canyon 230-kv Transmission Line and Service Road ROW

Facilities	Length (miles)	Width (feet)	Acreage
Transmission line ROW	59	100	715
Service Roads*	75	20	182
Roads to be relinquished	6.17	20	(15)
Round Valley Substation	n/a	n/a	2
TOTAL ACRES			899

*Service roads are referred to as BPA Tract Roads and located outside of the transmission line ROW 100’ width. Total service roads include roads that were in original grant, or noted on BLM Master Title Plats, or part of BPA’s service road plats. All totals are rounded up to the nearest 10th

Authorizing or permitting the development of a new transportation linear feature does not, in and of itself, constitute a route designation to be included as part of the existing TMP. The service roads that would be constructed and/or improved, which were not considered in Challis TMP would be available for public use, the TMP would be updated accordingly.

2.1.2 *Proposed Construction Schedule and Work Crews Description*

If the Proposed Action is implemented, construction would occur in accordance with seasonal timing restrictions. The construction window would be between migratory bird nesting season (March 15–August 15) and big-game winter season (November 30–April 30), which would allow construction between August 15 and November 29. Construction duration would be about two months (outside of seasonal restrictions), including allowances for possible weather-related delays.

One or more construction crews would be working in different areas along the proposed service road routes. A typical construction crew would include approximately eight construction workers and two equipment operators. The crew would use about six vehicles with associated construction equipment, which may include a bull dozer, excavator, vibratory roller, dump trucks, water truck, and fire protection trailer.

2.1.3 *Ongoing Service Road Maintenance and Use*

BPA would use the service roads at least once per year during inspections of the transmission line and would maintain road footprints. Roads would be used for transmission line maintenance activities and for emergency repairs. Typical road maintenance would include grading roads and maintenance of the fords, especially after storm activity. Vegetation removal, as necessary, would be accomplished in accordance with BPA’s *Transmission System Vegetation Management Program EIS and Record of Decision* (BPA 2000) and in accordance with all terms and conditions applied if the grant were issued.

2.1.4 *Best Management Practices*

Best management practices (BMPs) would be applied to all construction activities and maintenance activities associated with project implementation and long-term operation of the ROW, as appropriate (see Table 3).

Table 3. Best Management Practices

Environmental Resource	Mitigation Measures and BMPs
Existing and Potential Land Uses (Access)	<ul style="list-style-type: none"> • Coordinate the routing and scheduling of construction activity with county road staff and BLM as necessary • Post signs along roads to warn of construction activity, merging traffic, and temporary disruptions
Soils	<ul style="list-style-type: none"> • Space and size drainage dips as prescribed by a road engineer. • Sequence or schedule work to reduce exposed bare soil to wind erosion. • Conduct as much work as possible during the dry season—at times when washes are dry—to minimize erosion, sedimentation, and soil compaction. • Cease all project work during heavy precipitation events (>1.6-inches in 24 hours [5-YR, 24-HR Storm Event]) in order to minimize resource damage. Do not proceed with project work would not occur until ground is sufficiently dry that wheeled equipment does not leave ruts with depth greater than 4-inches. Additionally, ground disturbing activities would not occur during wet conditions (i.e., during or immediately following rain events). • Use dust abatement measures such as spreading water with watering trucks. • Use mechanical barriers to erosion in disturbed areas as specified in the stormwater pollution prevention plan. • Inspect and maintain service roads after construction to ensure proper function and low erosion. • Inspect revegetation sites to verify adequate growth, and implement contingency measures to ensure adequate growth as needed.
Vegetation (Including Threatened, Endangered, and Sensitive Plants)	<ul style="list-style-type: none"> • Minimize ground disturbance to the maximum extent practicable • Use a BLM-recommended seed mix for revegetation of roadsides, and use appropriate measures (e.g., hay bales, wattles) to stabilize disturbed slopes along hillsides and drainages • Store heavy equipment during construction within disturbance limits and at the existing substation • Do not drive over, or otherwise disturb areas outside the designated construction areas • Utilize BMPs to prevent erosion and the potential transport of weeds onto or off of the project area • As necessary, flag all special-status plant populations that need to be avoided during construction • Train contractors on how to identify special-status plant species that occur in the project area, and explain requirements for avoidance • Vegetation may be grubbed only from areas where permanent ground alteration would occur. Vegetation is to be cut at ground level and root wads retained where temporary clearing occurs
Invasive and Non-Native Species	<ul style="list-style-type: none"> • Train contractors on how to identify noxious weed species that occur in the project area, and explain required actions to prevent their spread.

Environmental Resource	Mitigation Measures and BMPs
	<ul style="list-style-type: none"> • Flag all weed populations that need to be avoided during construction and treat upon completion. • Provide vehicle and equipment washing stations for daily use before apparatus enters or leaves the project area. • Upon each entry, BPA would be responsible for ensuring the undercarriages of equipment and/or vehicles used within the ROW are free of all soil and plant material prior to operating on public lands to reduce the establishment of new invasive, non-native species and/or the spread of existing species to new areas. • Record cleaning sites using GPS and report this information to BLM weed management personnel. • Store cleared vegetation next to the area from which it is stripped to avoid transporting soil-borne noxious weed seeds, roots, or rhizomes. • Get road fill materials from weed-free quarries. • Monitor for weeds along the route in the years after construction to ensure no new invasive plant species have been introduced as a result of project implementation. BPA would be responsible for the control of noxious and invasive weed species within the limits of the ROW for the term of the grant.
Wildlife, Migratory Birds, Special-Status Species (Threatened, Endangered, and Idaho BLM Sensitive Species)	<ul style="list-style-type: none"> • Construction and other ground disturbing activities (vegetation removal) would not occur during the migratory bird nesting season, April 1 – July 15 • Do not drive over, or otherwise disturb areas outside the designated right-of-way areas • Establish and enforce reasonable driving speed during construction to minimize potential for incidental wildlife injuries and mortality • Properly store and manage all wastes generated during construction
Water Quality (Surface and Ground)	<ul style="list-style-type: none"> • Design roads with appropriate drainage dips to maintain the existing hydrologic regime. • Size and space drainage dips properly to accommodate flows and direct sediment-laden waters into vegetated areas. • Line the downstream side of the ephemeral drainages with larger rip-rap rock to maintain road integrity and prevent effects to water quality during seasonal runoff. • Do as much work as possible during the dry season when ephemeral drainages are dry. • Limit disturbance to the minimum area necessary when working in or near washes (ephemeral drainages), and install stakes or flagging to keep vehicles and equipment on designated routes and areas. • If a water right is needed for construction/dust control, BPA would be responsible for procuring a Temporary Approval of Water Appropriation from the Idaho Department of Water Resources, or would procure the water from another approved source. Water would not be withdrawn from waterways on BLM administered land without an approved water right. • Any water drawn from streams occupied by Endangered, Threatened, or Sensitive fish species must meet United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) screening criteria to reduce the impingement of juveniles. Intake hoses and/or pipes should be placed in locations to avoid juvenile fish habitats. • No water can be drawn, or used, from any water source that contains aquatic invasive species or aquatic nuisance species.

Environmental Resource	Mitigation Measures and BMPs
	<ul style="list-style-type: none"> • Excess or unused water cannot be dumped, or disposed of, in any waterway, waterbody, stream, wetland, or riparian area that is publicly or privately owned without prior authorization. • Maintain a spill containment kit, of appropriate size for the equipment used, at the construction site in accordance with BMP 8: Spill prevention and control. • Promptly clean-up any spill of petroleum products and dispose of in an appropriate facility. If spills of hazardous materials (including petroleum products) occur on site in excess of 25 gallons, the site supervisor shall immediately notify Idaho Department of Environmental Quality and the BLM, in that order. • Prepare a storm water pollution prevention plan—in accordance with The Catalog of Stormwater BMP, Idaho Department of Environmental Quality (IDEQ), for Idaho Cities and Counties (IDEQ 2005)—addressing measures to reduce erosion and runoff and stabilize disturbed areas. • Install temporary erosion controls, such as silt fences, weed-free straw matting/bales or fiber wattles, down slope of project activity with the riparian buffer area before any significant alteration of the project area and until site rehabilitation is complete. • Inspect erosion and sediment controls weekly, maintain them to ensure their continued effectiveness, and remove them from the site when vegetation is re-established and the site has been stabilized. • Once the site is stabilized, temporary erosion control measures must be removed. • Adequate materials for the emergency control of erosion and chemical spills would be maintained on site at all times, including: (1) An adequate supply of sediment control materials (e.g. silt fence, straw wattles, certified weed-free straw bales); and (2) an oil-absorbing floating boom and absorbent pads whenever surface water is present. • Remove sediment from erosion controls once the sediment has reached one-third of the exposed height of the control. If inspections show that the controls are ineffective, crews would be immediately mobilized to repair, replace, or reinforce controls as necessary. • Prohibit side-casting of road grading materials along roads within 300 feet of drainages. • Maintain vehicles and equipment in good working order to prevent oil and fuel leaks. • Restrict refueling and servicing operations to locations where spilled material cannot enter ephemeral drainages, and use pumps, funnels, absorbent pads, and drip pans when fueling or servicing vehicles. • Inspect and maintain service roads after construction to ensure proper function and nominal erosion levels. • Do not use petroleum-based products for dust abatement. • Do not use dust abatement additives or stabilization chemicals (typically magnesium chloride, calcium chloride salts, or lignosulfonate) within 25 feet of ephemeral washes and when using, apply them so as to minimize the likelihood that they would enter washes.

Environmental Resource	Mitigation Measures and BMPs
Visual Resources	<ul style="list-style-type: none"> • Apply water or a dust suppressant to gravel and dirt travel routes to control dust • Use a road base that blends in with the natural soil in the road development areas • Remove visually obtrusive erosion control devices, such as silt fences, plastic ground cover, and straw bales, as soon as the area is stabilized following construction
Air Quality and Greenhouse Gases	<ul style="list-style-type: none"> • Use water trucks to control dust during construction, as needed • Set a speed limit for construction vehicles on unpaved service roads to minimize dust if necessary • Turn off equipment engines when not in use to minimize exhaust emissions • Use local rock sources for road construction where practicable to reduce transportation distances for construction materials, rock can only be removed from BLM at an existing material site with prior authorization • Revegetate disturbed areas after the conclusion of construction with the exception of those areas required to remain clear of vegetation to ensure access to transmission line structures
Public Health (Noise, and Public Health and Safety)	<ul style="list-style-type: none"> • Limit construction noise to daylight hours. • Turn off construction equipment during prolonged periods of non-use. • Operate and maintain all equipment to minimize noise generation. • Ensure gasoline and diesel engines have appropriate mufflers. • Conduct crew safety meetings to start each workday to review potential safety issues and concerns. • Conduct monthly meetings between BPA and the construction contractor to discuss safety concerns. • Secure the site at the end of each workday to protect equipment and the general public. • BPA would ensure that adequate sanitation facilities are provided on site during construction, in accordance with 29 CFR 1910.141(c)(1)(i).
Cultural Resources	<ul style="list-style-type: none"> • Any cultural and/or paleontological resource (historic or prehistoric site or object, or fossil) discovered by the Holder, or any persons working on his behalf on public or federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery would be made by the BLM archaeologist authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder would be responsible for the cost of evaluation and mitigation, and any decision as to proper avoidance, protection or mitigation measures would be made by the Authorized Officer after consulting with the Holder and others under Section 106 of the National Historic Preservation Act.

Greater Sage-Grouse Compensatory Mitigation Strategy

The Proposed Action to amend BPA’s existing transmission line, substation and service road ROW grant to allow for the construction, improvement, operation and maintenance of proposed service roads at a maintenance Level 1, as identified in Exhibit E of the ARMPA, would not result in an anthropogenic disturbance as defined by the ARMPA. However, there would be a loss to habitat and therefore compensatory mitigation would be required as directed and described in the ARMPA under MD MIT 3 and Appendix E of the ARMPA:

“In undertaking BLM/USFS management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation, the BLM/USFS will require and ensure mitigation that provides a net conservation gain to the species... if impacts from BLM/USFS management actions and authorized third party actions that result in habitat loss degradation remain after applying avoidance and minimization measures (i.e. residual impacts), then compensatory mitigation projects will be used to provide a net conservation gain to the species.”

Chapter 3 discusses the amount of habitat loss that would be subject to compensatory mitigation and the details of the mitigation required.

2.2 No Action Alternative

Under the No Action Alternative, BLM would not issue an amended grant to BPA authorizing the construction and/or improvement of approximately 2.29 miles of service roads not currently authorized in the existing BPA ROW grant. BPA would not construct or improve those roads. In addition, BPA would not be allowed to use or maintain approximately 0.62 miles of existing service road not currently authorized and BLM would not accept the relinquishment of approximately 15 acres service route authorized but not used or constructed. BPA could construct, improve, use, and maintain approximately 3.02 miles of service roads around the Round Valley Substation identified and authorized in the original grant.

BPA would not be allowed to travel off-road or cross-country travel according to the 2008 Challis TMP, so crews would not be able to access some structures to inspect, perform maintenance activities, or respond to emergency outages.

BPA’s ability to maintain transmission structures or to make timely emergency line repairs during a line outage may be limited. Longer outages may reduce system reliability for BPA and affect its utility customers. Emergency repairs or improvements to fords would likely be necessary in order to get equipment to required locations. Furthermore, leaving the service roads in poor condition could contribute to decreased worker safety because hazardous road conditions may require BPA employees to drive and walk up steep slopes. Obtaining access to the transmission line during an emergency could result in adverse impacts to soils, vegetation, and wildlife habitat if conditions make service roads impassable and alternate routes must be found quickly and without typical mitigation measures.

2.3 Alternatives Considered but Eliminated from Detailed Study

During the scoping process, Idaho Conservation League submitted a comment recommending that rather than building new roads, BPA utilize an existing two-track road that runs adjacent to an irrigation ditch and build spur roads from this existing two-track road to each transmission structure. BPA considered this route and determined that the two-track irrigation road is too unstable to support maintenance vehicles because it consists of side-cast soil from construction of the irrigation ditch. Due to the nature of its construction, BPA would need to develop a new road base to stabilize it. In addition, because the two-track road is situated across the irrigation ditch from the transmission line, construction of at least five new bridges and at least ten new road spurs (about one mile of new road) up slopes greater than 15 percent would be required to reach the transmission line structures. BPA would also need to acquire new access rights to use

these roads. A larger area, and therefore more soil, vegetation, and wildlife habitat, would be affected with the construction of new road spurs.

Reconstruction of the irrigation road with spur roads to the transmission line structures would take place in close proximity to U.S. Highway 93. Visual contrasts resulting from this work would create visual contrasts that would likely be noticeable to those driving on Highway 93. The affected area is classified under BLM's Visual Resource Management program as Class II, with the goal of retaining the existing character of the landscape, and keeping the level of change to the characteristic of the landscape.

In addition, reconstructing the irrigation road with spur roads would cost twice as much as the Proposed Action because it would require grading of steep slopes (about one mile) to construct the spurs, construction to develop a road base for the irrigation ditch road, and in water work to install new bridges (each estimated to cost \$35,000) to cross the ditch. Bridges, grading, and developing the road base are costly construction activities that would increase the overall cost of the project as well as increase impacts on the environment.

For these reasons, using and reconstructing the irrigation ditch road was eliminated from detailed study in this EA

Chapter 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter includes analysis of the potential effects on human and natural resources from the Proposed Action and the No Action Alternatives. Each section of this chapter includes a description of the potentially affected environment for a specific resource and an analysis of the effects on that resource. Cumulative impacts, which are the total impacts anticipated from this project in combination with past, present and reasonably foreseeable future actions, are described at the end of the chapter.

3.2 General Setting

The project area is located on the eastern edge of Round Valley, about 6 miles southeast of Challis, Idaho on the eastern side of US 93. It is on the western slope of the Pahsimeroi Mountains and the Lost River Range. The Salmon River is about 4 miles to the northwest, and bisects Round Valley. Warm Spring Creek and Lone Pine Creek are to the west, separated from the project area by Highway 93. Hole-in-Rock Creek is outside of the southern boundary of the project.

The climate of the project area is primarily influenced by the Pacific maritime air masses moving eastward over the area on prevailing westerly winds (IDEQ 2003). The semi-arid region has annual temperatures ranging from an average 20.7° Fahrenheit (°F) in January to 68.7°F in July with maximum temperatures exceeding 85°F.

Approximately 70 percent of the precipitation falls in the spring and fall (BLM 1998). The average annual precipitation is 8.39 inches; the highest precipitation occurs in May and June with average precipitation in each month exceeding 1 inch. The driest months occur during January through March and August through October (Western Regional Climate Center 2015). Precipitation in summer is mainly a result of thunderstorms, which can produce large amounts of rainfall in short periods of time. In some instances, precipitation from high intensity storms can cause flash flooding and subsequent erosion damage within a watershed (IDEQ 2003).

The subbasin is a glacially carved mountain and valley system (IDEQ 2003). The Salmon River, the major drainage of the subbasin, flows through narrow V-shaped valleys flanked by cliffs, rock outcrops, and moderate to steep terrain, as well as intermittent open valleys near its headwaters and the lower part of the subbasin. The project area is flanked to the east by the Pahsimeroi Mountains, near the northern end of the Lost River Range. These mountains are generally characterized by low topographic and structural relief. In the project area, elevations range between about 5,400 feet and 5,650 feet above mean sea level. Slopes vary across the landscape, but average about 14 percent.

The project area is situated within rangelands classified by the United States Geological Survey (USGS) as open-range shrubland (USGS 2006). Rangelands are vast natural landscapes in the form of grasslands, shrublands, woodlands, wetlands, and deserts. Livestock graze on rangeland in the project area.

The area is accessible to the public for many forms of outdoor recreation. Typical recreational activities in the area include hiking, hunting, camping, antler collection, nature photography, and horseback riding. Recreation occurs throughout much of the year, which peaks during big-game hunting season in fall. There are no developed recreation facilities or campgrounds within the project area.

The project is within the BLM Warm Spring grazing allotment that provides forage for grazing cattle, up to 2276 Animal Unit Months (AUMs).

3.3 Resources Considered in the Analysis

The results of the site-specific assessments indicate that not all of the resources considered are present or would be directly or indirectly affected by the alternatives described in Chapter 2. Only those resources that are present and affected are analyzed in detail beginning in Section 3.4. Some resources, while present and not affected, merit further rationale for the resource status applied (present, not affected); this status is indicated in the rationale column, with additional supporting rationale following Table 4.

Table 4. Resources Considered in the Analysis

Resource	Resource Status	Rationale
Access (Transportation)	Present, affected	Impacts are addressed in Section 3.4
Air Quality and Greenhouse Gases	Present, affected	Impacts are addressed in Section 3.9
Areas of Critical Environmental Concern (ACEC's)	Not present	Proposed project is not within the bounds of an ACEC.
Cultural Resources	Present, not affected	Rationale is provided in the text following this table, section 3.3.1.
Environmental Justice	Not present	The Proposed Action and No Action Alternative would not affect populations as described under Executive Order 12898 of 2/11/1994 because there are no environmental justice populations within or adjacent to the project area.
Existing and Potential Land Uses	Present, not affected	Existing and Potential Land Uses are not expected to change due to the implementation of the project.
Floodplains	Not present	Flood plains are not present in the project area.
Forest Resources	Not present	Forest resources are not present in the project area.
Invasive, Non-Native Species	Present, affected	Impacts are addressed in Section 3.7
Migratory Birds	Present, affected	Impacts are addressed in Section 3.8
Mineral Resources	Not present	Mineral resources are not present in the project area.
Native American Religious Concerns	Present, not affected	Tribal Consultation did not indicate any impacts to religious practices.
Paleontological Resources	Not present	There are no known paleontological resources located in the project area.
Prime and Unique Farmlands	Not present	There are no prime or unique farmlands located within or near the proposed project area.

Resource	Resource Status	Rationale
Rangelands (Livestock/Grazing)	Present, not affected	The removal of approximately 12 acres of vegetation would result in a loss of approximately one AUM (the loss of one cow/calf pair for one month) which would not affect the overall grazing practices in the allotment.
Recreational Use	Present, not affected	It is anticipated that overall Recreational Use would remain nearly the same as it is now and effects to recreation from implementation of the Proposed Action would not be discernable.
Socioeconomics	Present, affected	Impacts addressed in Section 3.10
Soils	Present, affected	Impacts are addressed in Section 3.5
Threatened, Endangered, and Sensitive Animals	Present, affected	Special-status animal species are addressed in Section 3.8. Threatened and Endangered animals are present, not affected; rationale is provided in the text following this table, Section 3.3.1.
Threatened, Endangered, and Sensitive Fish	Present, not affected	Rationale is provided in the text following this table, Section 3.3.1.
Threatened, Endangered, and Sensitive Plants	Present, not affected	Rationale is provided in the text following this table, section 3.3.1.
Tribal Treaty Rights and Interests	Present, not affected	Rationale is provided in the text following this table, Section 3.3.1.
Vegetation	Present, affected	Impacts are addressed in Section 3.6
Visual Resources	Present, not affected	A visual contrast rating was conducted and the Proposed Action meets the objects of a Visual Resource Management Class II; visual resources would not be affected.
Wastes, Hazardous and Solid	Not present	Hazardous and solid wastes are not known to be present in the project area.
Water Quality (Surface and Ground)	Present, not affected	Rationale is provided in the text following this table, Section 3.3.1.
Wetland and Riparian Zones	Not present	Wetlands and riparian zones are not present in the project area.
Wild and Scenic Rivers	Not present	There are no Wild and Scenic River segments in project area.
Wild Horse and Burro HMAs	Not present	There are no wild horse and burro HMAs in the project area.
Wilderness	Not present	There are no Wilderness Areas, Wilderness Study Areas or Lands with Wilderness Characteristics within or near the proposed project area.
Wildlife	Present, affected	Impacts are addressed in Section 3.8

3.3.1 *Resources Present but Not Affected–Expanded Rationale*

Cultural Resources

The NHPA requires federal agencies to inventory and evaluate cultural resources for eligibility for listing in the National Register of Historic Places (NRHP), and that federal agencies evaluate and consider effects of their actions on these resources. Cultural resources are evaluated for eligibility in the National Register of Historic Places (NRHP) using four criteria commonly

known as Criterion A, B, C, or D, as identified in 36 CFR Part 60.4 (a–d). These criteria include an examination of the cultural resource’s age, integrity (of location, design, setting, materials, workmanship, feeling, and association), and significance in American culture, among other things. A cultural resource must meet at least one criterion to be eligible for listing in the NRHP.

A literature search of past surveys revealed no previously recorded historic properties within the project area. A Class III cultural resource survey was conducted to identify archaeological resources along the proposed route on July 10, 2014. This survey documented one archaeological site and four isolate finds. The isolated finds were determined not eligible for listing on the NRHP. The archaeological site was determined to be potentially eligible for listing; however BPA has agreed to avoid this site by slightly adjusting the service road route. Because the site would be avoided the project would have no adverse effect on cultural resources.

Threatened and Endangered Animals

The wildlife species listed under the Endangered Species Act (ESA) in Custer County are Canada lynx (*Lynx Canadensis*, Threatened), North American wolverine (*Gulo gulo luscus*, Proposed Threatened), and yellow-billed cuckoo (*Coccyzus americanus*, Threatened). Due to lack of suitable habitat, these species are not expected to be present within the project area. There are no Lynx Analysis Units or linkage habitat for Canada lynx within the proposed project area. Critical habitat has not been designated for wolverines but their distribution is generally limited to higher elevations in alpine habitats that receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season, which is absent from the project area. In addition, there is no designated critical habitat or suitable habitat to support Yellow-Billed cuckoo. For these reasons, Canada lynx, wolverines, and Yellow-Billed cuckoos will not be analyzed further within this document.

Threatened, Endangered, and Sensitive Fish

There are no ESA listed fish species that occur within the project area. This project would have no significant impact to these federally listed species, their designated critical habitat, or essential fish habitat.

The proposed project would not impact fish species, including ESA listed and special-status species, based on the lack of species presence, the lack of suitable habitat in the project area, and the fragmentation of the project area to known and/or occupied habitat. Furthermore, with the exception of historical occurrences of west slope cutthroat trout in a pond fed by the Warm Spring Creek, none these fish species exist close to the project area in Warm Spring Creek due to blocked passage from Bar D dam, naturally warm/elevated water temperatures, seasonal agricultural dewatering, wintertime emptying of the impoundment, and habitat alterations. For all species, any impact would be indirect, which could be caused by sediment carried by seasonal runoff through ephemeral washes. If not controlled, erosion and sedimentation could affect water quality and fish. As detailed in Section 2.1.4 (Best Management Practices), fish-protective mitigation measures would reduce runoff that may carry sediment to downstream Salmon River reaches where fish species and critical habitat are present. In summary, there would be *no impacts* to fish because none are present in the project area nor is there habitat for them, and mitigation measures would reduce or avoid potential impacts from sedimentation to downstream water quality.

Threatened, Endangered, and Sensitive Plants

Special-status plants include federally listed species under the Endangered Species Act (ESA; 16 U.S.C. 1531 *et seq.*), as well as those plants designated as special-status species by BLM and the Idaho Department of Fish and Game’s Idaho Natural Heritage Program described in further detail below.

Based on field surveys conducted in June of 2014¹ and an evaluation of known data, no ESA listed plant species occur in the project area. Special-status plant species found during the project area survey included Lemhi milkvetch (BLM Type 2), Salmon wildrye (BLM Type 2), and Challis crazyweed (BLM Type 3) (Table 5).

Table 5. Special-Status Plant Species Documented Within Project Area

Scientific Name	Common Name	Idaho Natural Heritage Program	
		Rank	BLM Rank
<i>Astragalus aquilonius</i>	Lemhi milkvetch	S3	Type 2
<i>Leymus salinus</i> var. <i>salmonis</i>	Salmon wildrye	S3	Type 3
<i>Oxytropis besseyi</i> var. <i>salmonensis</i>	Challis crazyweed	S3	Type 3

Ranking Scale:

Idaho Natural Heritage Program S3 = Vulnerable: At moderate risk of extinction or elimination

BLM Type 2 = Rangewide/Globally Imperiled Species – High Endangerment

BLM Type 3 = Rangewide/Globally Imperiled Species – Moderate Endangerment

No ESA listed plant species occur in the project area. Three special-status species exist within the transmission line corridor and adjacent to project area; however, none exist along the proposed service roads where construction and improvement activities would occur. Therefore, there would be no effect on special-status plant species.

Tribal Treaty Rights and Interests

The project area is located on unoccupied federal lands within the Tribes’ aboriginal territory. Therefore, tribal treaty rights, as defined, are applicable to the project area. The current condition and nature of affected resources associated with these tribal rights and interests are not impacted by this proposed project. There would be no changes in land status or access associated with the Proposed Action and the project area would retain its unoccupied federal land status. Therefore, the Shoshone-Bannock Tribes’ right to access the lands for treaty and traditional uses would be unaffected.

¹ Surveys occurred on June 24 and 25 of 2014. The survey corridor was an area within 50 feet of the center-line of the proposed access road construction and ford development, which also included the 100-foot width within the Spar Canyon-Round Valley transmission line ROW near the project area.² CO_{2e} is a unit of measure used by the Intergovernmental Panel on Climate Change that takes into account the global warming potential of each of the emitted GHGs based on carbon dioxide concentrations.

Water Quality (Surface and Ground)

Warm Spring Creek is listed under Section 303(d) of the Clean Water Act (33 U.S.C. 1251 *et seq.*) for sedimentation/siltation and low-flow alteration (IDEQ 2012). Section 303(d) sets requirements for states and Tribes to identify and prioritize waterbodies not meeting water quality standards. According to IDEQ, the perennial portion of the creek flows for approximately 100 yards in its natural channel before it is diverted in its entirety for agriculture and a hydropower project. Additionally, the stream channel is extensively altered and lacks habitat as it flows through irrigated fields; however, it still appears to be at least seasonally connected to the Salmon River.

Any erosion from project activities in these two areas would not be measurable above background levels and therefore is not expected to affect surface water quality in Warm Spring Creek. Surface water flow from the other five ephemeral washes is intercepted by the irrigation canal described above; therefore water quality impacts within these drainages would not impact water quality in Warm Spring Creek.

3.4 Access (Transportation)

3.4.1 *Affected Environment*

The project area sits adjacent to U.S. Highway 93, which serves as a major north-south transportation route between the communities of Salmon, Challis, Mackay, Arco, and interstate highways in southeast Idaho. Traffic volume on U.S. Highway 93 averages around 550 vehicles per day (ITD 2011).

On BLM administered lands in the project area, the 2008 Challis FO TMP designated roads and trails that are open for public use or restricted to authorized use only. A total of approximately 2,217 miles of road were designated for public use in the TMP.

Two designated roads extend to the east of the transmission line in the project area, providing motorized access to the foothills of the Lost River Range. Off-road or cross-country motorized travel is not allowed on BLM lands. Routes that are not designated open in the TMP are not authorized for motorized travel by the general public unless otherwise authorized (ROW, administrative access, etc.).

3.4.2 *Environmental Consequences – Proposed Action*

Construction traffic would not substantially affect the normal use of area roads because of the small number of vehicles used and the short duration during which those vehicles would travel along US 93 to the project area.

If authorized, the service roads would be designated for use by the general public and administrative purposes... As there is currently public access into the area as described above, and the areas that weren't designated were not signed otherwise, therefore it is estimated that use of the roads would continue and possibly increase with the addition of 4.1 miles of constructed or improved roads.

3.4.3 *Best Management Practices*

Coordinating the routing and scheduling of construction activity with county road staff and BLM as necessary and postings signs along roads to warn of construction activity would help reduce temporary disruptions on traffic and access to the area. Once constructed or improved, service roads would be signed as administrative use only to reduce unauthorized use.

3.4.4 *Environmental Consequences – No Action*

Under the No Action Alternative, service road construction beyond what was authorized in the original grant for the Spar Canyon-Round Valley transmission line would not occur. The existing roads that were constructed as part of the transmission line and substation operation, 0.62 miles, would remain unauthorized and BPA would not have the right to operate or maintain.

With regard to transmission line access, crews would continue to use portions of currently authorized roads, in their current condition, during annual inspection and maintenance. Since off-road or cross-country travel is not authorized by the 2008 Challis TMP, crews could only utilize routes that are authorized by a valid ROW or the routes that are designated as open by the BLM. Access to certain portions of the transmission line would be limited, which could result in longer outage times should there be a need for an emergency repair.

3.5 Soils

3.5.1 *Affected Environment*

Project area soils consist of very deep, well-drained gravelly sand, coarse sand, and gravel. The Natural Resources Conservation Service (NRCS) described these soils as having moderate to moderately rapid permeability, which may indicate a moderate to high soil erosion hazard (NRCS 2006). The major sediment sources in the project area are the result of weathering and erosion of Eocene Challis volcanic deposits (BLM 1998).

NRCS information identified two types of soils within the project area with a corresponding level of erosive potential. Approximately 94 percent of the soils in the project area are Sprabat-Snowslide complex—very deep, well-drained soils with a moderate potential for water erosion. These soils also have a moderate resistance to wind erosion. The remaining 6 percent of the project area are Mitring-Holinrock soils—moderately deep, well-drained soils that have a severe potential for water erosion with increasing slope. These soils also have a moderate resistance to wind erosion (HDR 2014a).

3.5.2 *Environmental Consequences – Proposed Action*

Effects to soils would be associated with removing the top 6 inches of soil on approximately 12 acres (about 9,680 cubic yards) to develop road beds. The area would be disturbed by using heavy equipment to clear vegetation and soil. Soil would be relocated to road edges and compacted along road beds. Consequently, soil exposure to erosion from rain events and wind would occur either during construction or after construction before natural vegetation can reestablish (typically 3–5 years while plants establish and aid soil retention). Compaction and rutting from heavy equipment degrades soil structure by reducing the pore space needed to retain moisture and promote gas exchange in soils. These effects would be limited through the implementation of BMPs. BMPs include revegetation of disturbed areas that would be expected

to revegetate over time, decreasing the erosion potential along the shoulders of constructed roads, and in areas that may be disturbed, but not maintained as travel routes in the future. The road beds would generally be 14 feet wide, disturbance beyond this width would be reseeded; approximately 3.6 acres of the 12 total acres of disturbance.

In addition, appropriate drainage features would be incorporated into the construction of the roads and fords, and would help minimize water conveyance, and consequent erosion, that would occur along the proposed roads.

In most of the areas where fords would be developed, there would be no long-term effect on soils because rocking of the fords would help hold soil in place. In the fords between structures 10/5 and 10/3 the soils are highly erodible and erosion potential is considered “severe”. Armoring and implementing soil erosion and sediment control measures during construction (See Table 3) should minimize the effects on soils.

3.5.3 Mitigation Measures and Best Management Practices

BMPs listed in Table 3, including minimization of soil disturbance, dust abatement, and cessation of activities when soils are wet and most susceptible to rutting and compaction would help decrease effects to soils.

3.5.4 Environmental Consequences – No Action

Under the No Action Alternative, the continued use of the existing service roads would occur. Since off-road or cross-country travel is not authorized by the 2008 Challis TMP, crews could only utilize routes that are authorized by a valid ROW or the routes that are designated as open by the BLM. There would not be an additional 5.54 acres of soils disturbed due to access road construction, improvement, and maintenance activities. BPA could construct, improve, and maintain the 2.64 miles (6.41 acres) of access road authorized in the existing grant.

3.6 Vegetation

3.6.1 Affected Environment

The project occurs in saline gravelly soil on alluvial fans, mountain footslopes, and rolling hills. At elevations ranging from 5,360 to 5,600 feet, the project area is within the Intermountain Basin Big Sagebrush Steppe ecological system with dominant habitat of a desert scrub community that is composed of shrubs and perennial grasses (USGS 2014). Vegetative cover is estimated to be 10–20%. The approximate composition by weight is 45% shrubs, 45% grasses, 5% forbs, and 5% other. Annual precipitation is typically 8 inches or less. About half falls during the winter-plant dormant period (October–March) and the other half during plant growing season (April to September) (NRCS 2006).

Vegetation Types

The project area is a salt desert scrub habitat without trees. The majority of its species composition is common to the project area and elsewhere in the region. The ephemeral washes intersecting the service road corridor are included in the desert scrub community vegetation classification because they feature a similar species composition. Shadscale saltbush (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*) are the dominant shrub species, as well as common species such as rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush

(*Chrysothamnus viscidiflorus*), and winterfat (*Krascheninnikovia lanata*). Dominant grass species include Indian ricegrass (*Achnatherum hymenoides*), sand dropseed (*Sporobolus cryptandrus*), squirreltail (*Elymus elymoides*), and cheatgrass (*Bromus tectorum*). Plains pricklypear (*Opuntia polyacantha*) is also a dominant species on site. The ephemeral washes along the project corridor support fewer grass and non-grassy herbaceous flowering plants than nearby areas of habitat, but are composed of similar species.

3.6.2 Environmental Consequences – Proposed Action

Potential effects on vegetation would include removal and disturbance (crushing, root damage) of approximately 12 acres (6.41 acres of authorized service roads, 5.54 acres of new service road) of existing vegetation communities. The duration (temporary vs. permanent) of effects on vegetation would depend on the type and amount of vegetation affected and the rate at which vegetation would regenerate after construction.

The proposed width of the road and ford development is 14 to 15 feet, with a construction disturbance width of 20 feet. Although the additional ground disturbance area to either side of the roads (about 3 feet) would be re-vegetated by BPA with BLM-approved native seed mix, the effect to the native habitat within this narrow strip would be considered permanent because future road maintenance may include periodic grading and possible placement of additional materials (e.g., gravel or crushed rock).

The loss of vegetation in linear lengths due to the service road construction would contribute to vegetation fragmentation on the landscape. Dominant vegetation that would be removed includes shadscale saltbush and budsage, and grass species such as Indian ricegrass, sand dropseed, squirreltail, and Sandberg's bluegrass (West 2014).

3.6.3 Mitigation Measures and Best Management Practices

If the Proposed Action is implemented, the mitigation measures and BMPs listed in Table 3 would reduce effects on vegetation by minimizing the amount of disturbance and potentially revegetating portions of the ROW outside of the road footprint.

3.6.4 Environmental Consequences – No Action

Under the No Action Alternative, road construction and ford development would not remove approximately 5.54 additional acres of vegetation. BPA could construct, improve, and maintain the 2.64 miles of service road authorized in the existing grant which could remove approximately 6.41 acres of vegetation. Without established routes, BPA crews may inadvertently drive over vegetation outside of the ROW. Impacts to vegetation from crushing and compaction would continue to be minimal.

3.7 Invasive and Non-Native Species

3.7.1 Affected Environment

Invasive and non-native species, including noxious weed species, exist in the project area. Invasive plant species are non-native species that can cause adverse economic, environmental, and ecological effects on the habitats they invade and are capable of outcompeting native plant species. The term “noxious weed” is legally defined under federal and state laws. Under the

Federal Plant Protection Act (7 U.S.C. 7701 *et seq.*), a noxious weed is defined as “any plant or plant product that can directly or indirectly injure or cause damage to crops, livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment.”

In addition to federal noxious weed lists, Idaho Code (Title 22, Chapter 24 Noxious Weeds) designates 65 species of noxious weeds; this law is implemented by administrative rules established under the Idaho Administrative Procedures Act (IDAPA) (IDAPA 02, Title 06, Chapter 22 Noxious Weed Rules). The administrative rules place each noxious weed species into one of three categories. Each category has specific management requirements associated with detection, control, and containment of the given species. These include the following categories:

- **Early Detection and Rapid Response** – Plants in this category must be reported to the Idaho State Department of Agriculture within 10 days of observation. Eradication must begin in the same season in which the weed is found.
- **Statewide Control** – Plants in this category may already exist in some parts of the state. In some areas of the state, control or eradication may be possible, and a plan must be established that would reduce population levels within 5 years.
- **Statewide Containment** – Plants in this category already exist in the state. New or small infestations can be reduced or eliminated, while established populations may be managed as determined by the local weed control authority.

The project area is within the Custer County Cooperative Weed Management Area. Twenty-seven out of the 65 weeds considered “noxious” under the Idaho Code are found within Custer County. During vegetation surveys conducted for the project, three invasive plants were found and two species of noxious weeds listed on the Idaho State Department of Agriculture’s Statewide Containment List were found (see Table 6).

Table 6. Invasive/Noxious Weeds Located in the Project Area

Common Name	Scientific Name	Category	Occurrences	Individuals
Canada thistle	<i>Cirsium arvense</i>	Noxious–Statewide Containment	1	30
Whitetop	<i>Cardaria draba</i>	Noxious–Statewide Containment	1	20
Bull thistle	<i>Cirsium vulgare</i>	Uncategorized invasive	1	3
Halogeton	<i>Halogeton glomeratus</i>	Uncategorized invasive	Throughout	Many
Cheatgrass	<i>Bromus tectorum</i>	Uncategorized invasive	Throughout	Many

The northern portion of the project area contained the highest concentration of invasive and noxious weed species. Canada thistle (*Cirsium arvense*) and whitetop (*Cardaria draba*) were next to a short segment of proposed ford development. Thirty individuals of Canada thistle and

20 individuals of whitetop were mapped at this location along the bank of the irrigation ditch passing under the transmission line near the Round Valley Substation.

The three other weed species not categorized on the state noxious weed list that surveyors found include bull thistle (*Cirsium vulgare*), cheatgrass (*Bromus tectorum*) and halogeton (*Halogeton glomeratus*). These plants are invasive species capable of outcompeting desirable native plant species. Three bull thistle rosettes are within the transmission line corridor along an ephemeral drainage near structure 12/3 and halogeton and cheatgrass occurred throughout the project area in all habitats, and although not state-listed noxious species, are invasive plants that can readily establish in recently disturbed areas.

3.7.2 *Environmental Consequences – Proposed Action*

Road construction and ford development could disturb areas where invasive and non-natives plant species exist. While revegetation in disturbed areas would help minimize further spread of these species, wind-blown or vehicle-carried seed from these species may infest newly disturbed and exposed areas of soil. Custer County noted that the proposed project has potential to cause disturbances that could open up vegetative canopies and establish weeds that would overtake native vegetation, as well as the potential for noxious weed seed dispersal (Casey Kristofferson, Custer County Department of Noxious Weeds, e-mail comm., Aug. 11, 2014). Because invasive and noxious weeds occur where construction activities would take place, disturbance would likely encourage dispersal and spread on the approximate 12 acres. Cheatgrass and other annual weed species would likely colonize within the first or second year post construction. Depending on precipitation, seeded native perennial grass species would potentially germinate the spring following planting. In their first year, under ideal conditions, they would produce a single shoot. This single shoot has very little root mass and is a poor competitor against aggressive annual weeds for light, moisture, nutrients and other valuable resources. Seeded native grasses would not provide adequate competition against invasive weeds until at least the second or third year of growth. In this time, species like cheatgrass, may have already established in disturbed areas and would inhibit the future growth of grass seedlings.

3.7.3 *Mitigation Measures and Best Management Practices*

If the Proposed Action is implemented, BPA would seed all disturbed areas with an agreed upon seed mixture, using an agreed upon method suitable for the location. Seeding would be repeated if a satisfactory stand is not obtained as determined by the authorizing officer upon evaluation after the third growing season. Furthermore, BPA would be responsible for weed control in coordination with the Authorized Officer to ensure acceptable weed control measures are used prior to implementation. Herbicide applications would be performed by a certified applicator using BLM-approved herbicides. All invasive species treatments would be carried out in accordance with the Challis-Salmon Integrated Weed Control Program Programmatic EA (BLM 2008a) and a Pesticide Use Proposal specific to this project.

In addition to the BMPs outlined in Table 3 and stated above, the following term and condition would become part of the grant:

The Holder is responsible for ensuring the undercarriages of equipment and/or vehicles used within the ROW are free of all soil and plant material prior to operating on public lands to reduce the establishment of new invasive, non-native species and/or the spread of existing species to new areas.

3.7.4 Environmental Consequences – No Action

Under the No Action Alternative, introduction and/or spread of invasive and non-native species from the construction and improvement of 2.29 miles would not occur. Operation and maintenance activities from the existing 230-kV transmission line and authorized service roads would continue to occur potentially introducing and spreading invasive and non-native species; however, the current ROW grant requires the treatment of noxious weeds so there would likely be little to no increase in the incidental spread of noxious and invasive species.

3.8 Wildlife

3.8.1 Affected Environment

General

The proposed service road construction and ford development would occur in a sagebrush steppe habitat consisting of a shrubland habitat dominated by short shrubs with shrub canopy that is greater than 20 percent of total vegetation (USGS 2006). The Middle Rockies-Blue Mountains ecoregion has a distinct combination of climate, soils, and landforms such as mountains and valleys (IDFG 2014a). In general, these environmental features strongly influence where wildlife species live, making the ecoregion home to wildlife species characteristic of the Rocky Mountain West such as western rattlesnake, gray wolf, Swainson's hawk, and big-game species including elk, pronghorn, bighorn sheep and mule deer.

Pronghorn Antelope and Other Big-Game Species

Pronghorn and mule deer are known to use habitat similar to the project area, particularly in winter, when they seek foraging habitat at lower elevations. Almost the entire proposed road construction (3.7 miles) falls within winter habitat for pronghorn. Pronghorn antelope habitat is open plains, fields, grasslands, brush, deserts and basins. Pronghorn antelope were observed during project surveys in June 2014, and they are likely to use the project area during the winter. Additionally, mule deer may seek similar foraging habitat during the winter within the project area.

Sensitive Species

Greater Sage-Grouse

The *Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA 2015)* divided occupied GRSG habitat within the planning area into three separate categories. These categories consist of Priority Habitat Management Areas (PHMA), Important Habitat Management Areas (IHMA), and General Habitat Management Areas (GHMA). PHMA encompasses areas with the highest conservation value to GRSG, based on the presence of larger leks, breeding habitat quality and extent, important movement and connectivity corridors, and winter habitat. IHMA encompasses areas of generally moderate to high conservation value habitat and populations, and often connect patches of PHMA. The IHMA generally reflect somewhat lower GRSG population status or reduced habitat

value when compared to PHMA, due to disturbance, habitat fragmentation, or other factors. GHMA encompasses habitat that is outside of PHMA and IHMA. These areas are generally characterized by more marginal habitat and few, if any, occupied leks or other important seasonal use areas (BLM 2015a). The proposed service road project area is within the GRSG Idaho Mountain Valleys Conservation Area and the habitat has been designated as IHMA. In addition, the GRSG ARMPA designated the habitat within the proposed project area as Winter Habitat and a Biologically Significant Unit (BSU).

The entire existing transmission corridor from Round Valley Substation to the Lost River Substation is approximately 65 miles in length with the majority of the corridor on BLM-managed lands. Approximately 75 percent of the 230kV line transmission corridor and associated facilities are located within a BSU comprised of IHMA and PHMA habitat, and is also classified as a Sagebrush Focal Area. In addition, the majority of the corridor is located within winter habitat and about half is in habitat designated as nesting/late brood-rearing.

While the GRSG ARMPA designated habitat management areas as described above, the designations were made at a large scale based on various criteria. The authors of the document realized that there could be areas within certain designations that may not reflect the actual quality of that habitat on the ground. Therefore, management direction was included stating GRSG habitat within a proposed project area will be assessed during the project-level NEPA analysis for habitats designated as PHMA, IHMA, and GHMA. As directed, proposals and their effects will be evaluated based on the habitat and values affected.

The dominant ecological site R012XY009ID is described as saline gravelly 7-9, and the soil unit is comprised of the Sprabat-Snowslide complex, with 1 to 8 percent slopes. Dominant vegetation consists of shadscale saltbush (*Atriplex confertifolia*), Indian ricegrass (*Achnatherum hymenoides*), and needle & thread grass (*Hesperostipa comata*). A recent (June 2017) vegetation survey for GRSG suitability at the northern end of the project area indicated limited sagebrush occurrences in areas outside of drainages and a significant population of non-native invasive cheatgrass.

The only sagebrush species common within the project area is budsage (*Artemisia spinescens*), which has been shown to have low palatability for GRSG (Rosentreter 2005). Furthermore, a review of GRSG nest-site characteristics in Idaho reveals that the birds typically place nests under sagebrush more than 22 inches in height, with greater than 15 percent sagebrush density (Connelly et al. 2000). High forb diversity, tall grass height, and dense grass cover are also essential habitat components for GRSG nesting, as well as supporting GRSG during the post-breeding period (Connelly et al. 2000). These habitat characteristics, which are essential for GRSG nesting habitat and survival in winter months, are scarce in the project area. Lack of sagebrush, low forb diversity, and limited cover indicate the area is most likely unsuitable to marginally suitable for GRSG occupation.

Surveys conducted in June 2014 indicate that the project area does not contain known GRSG leks, an aggregation of males that gather to engage in competitive displays to attract females. During the survey, no signs of GRSG presence such as droppings, cecal casts (dark-colored scats often associated with leks), or feathers were observed (West 2014). The nearest known lek lies approximately six miles to the south of the project area (IDFG 2014b). This distance from the

project area to the known lek site is beyond the 2-mile non-disturbance buffer applied to GRSG leks.

Birds and Raptors

Five BLM Type 3 bird and raptor species—species experiencing declines in population or habitat and are considered in danger of regional or local extinctions in Idaho in the foreseeable future—have the potential to occur within the Project Area: Brewer’s sparrow (*Spizella breweri*), ferruginous hawk (*Buteo regalis*), loggerhead shrike (*Lanius ludovicianus*), peregrine falcon (*Falco peregrinus*), and prairie falcon (*Falco mexicanus*). Two Brewer’s sparrows were spotted during the survey effort, and they prefer sagebrush habitat. Loggerhead shrike is a songbird that prefers open habitat favored by raptors, characterized by low grasses and forbs interspersed with bare ground and shrubs and similar to that found in the project area.

Other bird species with possible occurrence in the project area include grasshopper sparrow (*Ammodramus savannarum*), green-tailed towhee (*Pipilo chlorurus*), long-billed curlew (*Numenius americanus*), and sage thrasher (*Oreoscoptes montanus*). One sage thrasher was spotted during surveys.

Raptors, including ferruginous hawks, Swainson’s hawks, prairie falcons, and peregrine falcons could also use the project area as foraging habitat for prey. Ferruginous hawks prefer grasslands and shrublands; nest low in trees, on steep slopes, or on mounds in open desert. Swainson’s hawks nest in trees and prefer open habitats. Peregrine falcon breed in open country with cliff sites available for nest sites and migrate through mountain ranges; they are likely transient visitors because the project area lacks nearby cliff sites for nesting. Prairie falcon inhabits grasslands, shrub steppe, and other open areas like those within the project area. Prairie and peregrine falcons have been previously spotted within 5 miles of the general project area (IDFG 2005, 2014b).

Owls may also use the project area. Western burrowing owl (*Athene cunicularia*), considered a S2 (imperiled) species by Idaho Department of Fish and Game (IDFG), burrows in shrub-dominated habitats but would be unlikely to occupy the project area due to a lack of suitable nesting burrows made by fossorial (burrowing) rodents. Short-eared owl (*Asio flammeus*) nests on the ground in grasslands and tundra and may use desert shrublands like those in the project area.

Bald and Golden Eagles

Bald (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) may use the project area for foraging. Bald eagles typically occupy large trees near large bodies of water, which is not characteristic of the project area. Golden eagles tend to nest on cliff ledges but can nest in trees. There are no known golden eagle nests close to the project area. IDFG has records of a bald eagle sighting within 2 miles of the project area (IDFG 2005, 2014b), in addition to multiple observations of golden eagles in the immediate vicinity of the area during the mid to late 1970’s. Due to the openness of the project area and the lack of potential nesting sites, the area has potential to be used for only foraging.

Migratory Birds

Birds indigenous to the US are protected under the Migratory Bird Treaty Act of 1918 (MBTA). MBTA makes it unlawful to pursue, hunt, take, capture, kill or sell native birds, or native bird

parts (nests, eggs, feathers, etc.) without a permit. The area in and around the proposed project area is sagebrush steppe habitat that can be used during migration and for nesting by indigenous birds. During migration, these birds rely on habitat like that found in the project area as stopover points for food and shelter.

Bats

Several species of bats may be found within the Challis Field Office management area and are managed as Sensitive Species under BLM's guidelines including: pallid bats (*Antrozous pallidus*), silver-haired bats (*Lasionycteris noctivagans*), Townsend's big-eared bats (*Corynorhinus townsendii*), big brown bats (*Eptesicus fuscus*), hoary bats (*Lasiurus cinereus*), little brown bats (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), western small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*). All of Idaho's bats are invertivores and nectarivores that seek riparian areas, wetlands, and other water resources as well as forested and xeric areas to forage. Bat distribution is further defined by the availability of roost habitat. Caves, mines, cliffs, and trees all provide suitable bat roost habitat. Roosting areas are not found within the project area, but can be found within foraging distance in the form of cliffs and trees. The adjacent canal would provide potential water and foraging habitat for migrating and resident bats.

3.8.2 *Environmental Consequences – Proposed Action*

General Wildlife

Effects to wildlife would include removal of habitat, potential incidental mortality or death from collisions with construction equipment, and temporary displacement due to construction activities. Because different species have differing tolerance thresholds for human-caused disturbance, this EA evaluates impacts on general wildlife and special-status species in separate sections.

Road construction would cause temporary noise and increased human activity over existing conditions. This would likely result in some short-term behavior modifications by wildlife in the area, such as avoidance of areas disturbed by construction equipment. Road graders and other heavy equipment would temporarily affect wildlife and their habitat on the outer portions of the 20-foot-wide disturbance area. There would be a loss of 12 acres of habitat due to vegetation removal. Construction activities could displace individuals using the area during the construction window. This would be short-term and animals could resume using the area around the site within several weeks after construction is completed. The area is small in comparison to available similar habitat and would not limit population maintenance of general wildlife species that use the surrounding area.

Pronghorn Antelope and Other Big-Game Species

Construction would result in the loss of 12 acres of habitat loss in pronghorn winter range. This equals less than .05 percent of winter range in the area. Construction would be limited to summer and early fall months, thereby avoiding effects to big-game during the winter season between November 15 and April 30. Construction vehicles could potentially strike pronghorn and mule deer during construction or maintenance trips, but vehicle speeds would be slow and lessen potential strikes. Additionally, improved access, could increase the frequency of interactions between pronghorn and humans. This would impact a small portion of winter habitat and individuals could relocate to other undisturbed portions of habitat. Overall, effects to big-game

species from the Proposed Action would be in compliance with the Challis RMP as amended (BLM 1999).

Sensitive Species

Greater Sage-Grouse

Lack of suitable habitat characteristics within and around the project area that would support the GRSG lifecycle, particularly the absence of palatable sagebrush shrub species of a sufficient height and density, indicate that GRSG is unlikely to occur in the project area or be affected by the Proposed Action.

Through the functional acreage calculation, which incorporates both habitat quantity and habitat quality, the BLM determined that the proposed project would result in the loss of 4.44 functional acres of GRSG habitat, see Appendix A. The long-term loss of sagebrush would impact GRSG by reducing availability of potential foraging and cover habitat for the species into the long-term timeframe. Seeding and other stabilization activities could minimize impacts due to ground disturbance where employed; potentially up to 3.6 acres outside of the established road prism. Native seed mixes would be required during revegetation as approved by the Authorized Officer.

Mitigation for the loss of habitat would be required to provide a net conservation gain with respect to the species, as required by the GRSG ARMPA (BLM 2015). To mitigate impacts to 4.44 acres of functional GRSG habitat and to provide a net conservation gain, BPA has proposed a Compensatory Mitigation Plan outlined in Section 3.8.3.

Construction period activities would not occur during the reproductive period from March 1st through June 30th. Although habitat characteristics necessary to support the GRSG during nesting and brood-rearing are not present in the project area, the surrounding area has marginally suitable habitat for sage-grouse which requires seasonal restrictions.

For the rest of the existing transmission corridor and related facilities outside of the proposed amendment area; the pertinent management direction, RDFs, and seasonal restrictions from the GRSG ARMPA would be applied as appropriate.

Birds and Raptors

Potential impacts would be disturbance during construction and loss of habitat. There would likely be a permanent loss of 12 acres of habitat. The construction period would occur outside the nesting period, which avoids impacts to nesting birds. Noise and increased human activity associated with service road construction and ford development could have temporary effects on the birds that may be present. Individuals present during this time would be mobile and could relocate to adjacent areas of no disturbance.

Noise and human disturbance associated with the proposed project could have a temporary effect on raptors foraging in the project area by displacing them to areas outside of the active construction zone. The construction effects would be localized, temporary (approximately 60 days) and would affect only a portion of any raptor's home range in the area. The construction window would be outside of nesting periods for raptors.

The Proposed Action would be in compliance with the policy set forth in BLM Manual 6840 for Special-Status Species Management (BLM, 2008) for birds and raptors.

Bald and Golden Eagles

Bald and golden eagles would likely be seasonal or transient visitors, and may experience the same effects for raptors described above while foraging near the project site.

Migratory Birds

Potential impacts would be disturbance during construction and loss of habitat. There would likely be a permanent loss of 12 acres of potential migratory bird habitat. The construction period would occur outside the nesting period, which avoids impacts to nesting birds. Noise and increased human activity associated with service road construction and ford development could have temporary effects on the birds that may be present. Individuals present during this time would be mobile and could relocate to adjacent areas of no disturbance. Due to the scale of the proposed project in relation to available habitat, life processes (e.g., nesting) for migratory birds would not be limited. Thus, the Proposed Action would be in compliance with the policy set forth in BLM Manual 6840 for migratory birds.

Bats

Noise and human disturbance from construction could have a temporary effect on bats seeking to forage in the nearby irrigation ditch and pond by displacing them to other areas. This would be unlikely, however, because most bats use of the proposed project area would occur at night when construction activities are not taking place. Therefore, because of the temporary nature of this disturbance in the project area, the proposed project would be in compliance with BLM Manual 6840.

3.8.3 *Mitigation Measures and Best Management Practices*

The mitigation measures and BMPs listed in Table 3 would be implemented to help minimize potential construction-related effects to wildlife and migratory bird habitat. In addition, for the protection of all bird species, the following term and condition would be made part of the grant:

Unless otherwise agreed to by the Authorized Officer in writing, powerlines shall be constructed in accordance to standards outlined in the most recent version of the report, Suggested Practices for Avian Protection on Power Lines (Avian Power Line Interaction Committee, 2006). The Holder shall assume the burden and expense of proving that pole designs not shown in the above publication are “eagle safe.” Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modifications or additions to all power line structures placed on this ROW, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the Holder without liability or expense to the United States.

In compliance with the MBTA, construction activities and maintenance activities that remove or disturb vegetation are not allowed during the migratory bird nesting season April 1 – July 15. The Authorized Officer may waive this restriction, with a notice in writing, only if a qualified biologist conducts a survey to determine the presence of

nesting birds near the project location, and determines that the activities would not impact migratory birds.

Operations and maintenance activities shall be conducted within the ROW in order to avoid and/or minimize take of migratory birds as defined in the MBTA of 1918 (16 U.S.C. § 703 et seq.) as amended. If any ground disturbing activities must occur during the nesting season (e.g., soil disturbance or vegetation removal), the Holder shall coordinate with the BLM and USFWS to determine appropriate measures to comply with the MBTA. At a minimum, the Holder shall consider conducting ground disturbance and vegetation removal either prior to or following the nesting season to avoid take during the nesting season.

Greater Sage-Grouse

In order to comply with the GRSG ARMPA and further mitigate potential impacts from the proposed project and operation and maintenance activities associated with the existing transmission line and related facilities, the following terms and conditions would become part of the grant if authorized:

No repeated or sustained behavioral disturbance (e.g., construction activities, road maintenance, pole replacement, and noise over 10 dbA at lek, etc.) to lekking birds from 6:00pm to 9:00am within 2 miles (3.2 km) of leks during the lekking season, March 1 through May 31.

Avoid mechanized anthropogenic disturbance, in nesting habitat during the nesting season, April 15 through July 15 when implementing: infrastructure construction or maintenance.

Avoid mechanized anthropogenic disturbance during the winter, in wintering areas when implementing: infrastructure construction or maintenance.

The Holder shall install anti-perch devices on transmission towers within GRSG habitat where monitoring and/or surveys have shown raptor perching is problematic or as determined by the Authorized Officer. Such modifications shall be made by the Holder without liability or expense to the United States.

Right-of-way shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ash, and equipment that are a result of the Holder's activities.

Service roads shall be maintained at a Level 1 or lower, as defined in Appendix E of the ARMPA.

Should a fuel break project and plan be developed for the area in or around the right-of-way, associated service roads may be considered for fuel break development in cooperation with the Holder.

To mitigate impacts to 4.44 acres of functional GRSG habitat that would be lost with the implementation of the Proposed Action and provide a net conservation gain to the species, BPA proposes the following actions and compensatory mitigation:

1. Observe an appropriate mitigation sequence

- a. **Avoid** – The service road improvement/construction project is located approximately six miles from the nearest known occupied GRSG lek and outside of known nesting and wintering habitat. Forb density, grass height, and cover that characterize GRSG nesting and wintering habitat (Connelly et al. 2000) are absent in the project area.
- b. **Minimize** – The service road improvement/construction project is located as close as practicable to the BPA’s existing Spar Canyon-Round Valley No. 1 transmission line. The service road locations are vegetated by budsage (*Artemisia Spinecens*), which has low palatability for GRSG (Rosentreter 2005), reducing the likelihood that they use the project area. BPA would implement Best Management Practices to reclaim road-side areas disturbed by construction through a revegetation seed mix recommended by BLM.
- c. **Compensate** –The avoidance and minimization measures detailed above should result in little to no impact to GRSG. The proposed service road improvement/construction activities, however, would disturb 4.44 acres of BLM-designated GRSG habitat. To mitigate for this impact at an offsite location, BPA and BLM collaborated with the Idaho Governor’s Office of Species Conservation, Lemhi Regional Land Trust, Natural Resources Conservation Service, and The Nature Conservancy (TNC) to identify GRSG conservation benefits on a TNC-managed conservation easement property project located about 35 miles to the north of the service road project area.

The proposed property is a 10 acre site within the Big Creek Ranch in the Pahsimeroi Valley at the base of the Lemhi Mountains and approximately 3.5 miles south of Patterson Creek. Proposed GRSG conservation actions funded by BPA would involve: (1) Applying herbicide to control invasive species, primarily cheatgrass (*Bromus tectorum*); (2) revegetating the site with a BLM-recommended seed mix consisting of grasses, forbs and/or shrubs; (3) pre-treatment monitoring to establish baseline conditions as well as post-treatment monitoring to assess the efficacy of treatments; (4) any subsequent weed treatments or seed augmentation that may be identified through monitoring results.

2. **Attain Net Conservation Gain:** BPA, through the Idaho Office of Species Conservation, would fund restoration efforts designed to enhance and conserve GRSG habitat in a 10-acre area that is greater in size than the 4.44-acre-habitat disturbance expected from the proposed service road project. As such, the proposed compensatory mitigation is intended to achieve a net conservation gain for GRSG from the service road project’s impact.

3. **Use a landscape scale:** BPA would fund the proposed GRSG conservation activities on a 10 acre parcel within the Big Creek Ranch. These activities would be implemented in conjunction with restoration actions on adjacent private and BLM lands within the same habitat type. The ability to treat invasive species and apply native seed over a contiguous area would reduce habitat fragmentation across ownerships. This mitigation action in combination with recent riparian habitat restoration and stream re-connect projects on the Big Creek Ranch would benefit both fish and wildlife species.
4. **Ensure Transparency, Consistency, and Participation:** BLM would use the Greater Sage-Grouse Range-Wide Mitigation Framework (USFWS 2014) to ensure consistent application of principles and standards for the mitigation of unavoidable impacts to GRSG and its habitats across BLM lands. BLM incorporated mitigation in this EA to ensure a transparent process and an opportunity for public input and stakeholder participation.
5. **Base Mitigation Decisions on Science:** The invasive species treatments, revegetation and monitoring are all intended to improve summer habitat and enhance the potential for new nesting habitat for GRSG. Existing sagebrush on the site provides potential cover and foraging habitat for GRSG. Summer brood-rearing habitats typically consist of farmland and other irrigated areas adjacent to sagebrush habitat especially as other sagebrush habitats dry out (Connelly et al. 2000). The mitigation site offers high potential to enhance the quality of summer habitat for GRSG by keeping the existing sagebrush in place and restoring a diverse native understory. In addition, enhancing sagebrush cover and density close to forage on adjacent irrigated fields and in the riparian area along Big Creek would improve local habitat.

Greater sage-grouse typically nest under tall sagebrush canopies with dense ground cover (Connelly et al. 2000). Reducing competition from invasive species and restoring beneficial native plants would also enhance the area's potential to provide nesting habitat.

6. **Siting:** The vegetative component and the proximity of the proposed mitigation site to agricultural fields and forage may improve the prospect for successfully enhancing habitat for GRSG. Removing invasive species, especially cheatgrass, and subsequent seeding with preferred forbs and grasses should create more forage for GRSG than is currently available in adjacent agricultural fields and cheatgrass dominated rangelands.
7. **Duration:** While the mitigation would not be completed before construction of the service road, the treatments proposed for mitigation would occur over a 3-5 year span beginning in 2018. BPA would enter into a financial assistance agreement with the Idaho Office of Species Conservation (OSC) that ensures BPA funding to carry out the conservation actions described in this plan. In the event that BPA does not begin implementation of this mitigation plan by the end of 2018, the ROW authorization would stipulate that BPA must identify and fund a similar compensatory mitigation project that meets BLM's requirements under the GRSG Range-Wide Mitigation Framework.

8. **Additionality:** The additive element of the proposed mitigation is the treatment of invasive species and post-treatment reseeding native forbs and grasses on 10 acres of land directly adjacent to ongoing restoration actions on public land. Without BPA mitigation funds these two actions would not be performed concurrently. Additional restoration projects are being implemented on other sites on the Big Creek Ranch involving multiple partners therefore this mitigation action is additive to other ongoing and future actions in the area.
9. **Effectiveness:** The proposed mitigation includes several conservation actions (invasive species treatments, seeding and monitoring) expected to improve the likelihood of achieving conservation benefits.

To monitor the effectiveness of these actions, OSC, in cooperation with the landowner and the BLM, would monitor effectiveness of both the herbicide treatments and the revegetation efforts. Timing of the monitoring would be dependent on sampling methods that are applied. An annual report outlining monitoring results would be provided to the BLM Challis Field Office. The report would include quantitative data, photos including replicate photo points as well as any relevant observations such as sage-grouse sightings.

10. **Durability:** The conservation actions would be described as terms in the conservation easement negotiated between the landowner and TNC. To ensure that BPA's investment results in value-added changes that benefit the species, BPA would enter into a grant agreement with the Idaho OSC. This agreement provides further assurance that the actions would be funded and implemented.
11. **Metrics:** BPA and BLM surveyed the project site for biological conditions to determine the expected impacts of the proposed service road project and identify measures to avoid, minimize, and compensate for the those impacts. In identifying the proposed compensatory mitigation, BPA and BLM collaborated with NRCS and the Idaho OSC to determine actions with high potential to deliver conservation benefits to GRSB consistent with the best available science.

3.8.4 *Environmental Consequences – No Action*

Under the No Action Alternative, road construction and ford development would not remove approximately 5.54 additional acres of habitat. BPA could construct, improve, and maintain the 2.64 miles of service road authorized in the existing grant which could remove approximately 6.41 acres of wildlife and Greater Sage-grouse habitat. Impacts to wildlife habitat from crushing and compaction would continue to be minimal.

3.9 Air Quality and Greenhouse Gases

3.9.1 *Affected Environment*

Air Quality

The IDEQ and the Environmental Protection Agency (EPA) regulate air quality in Custer County. Under the Clean Air Act (42 U.S.C. 7401 *et seq.*), EPA has established the National

Ambient Air Quality Standards (NAAQS) for six criteria air pollutants: carbon monoxide (CO), ozone, particulate matter (PM), lead, sulfur dioxide, and nitrogen dioxide. IDEQ regulates compliance with NAAQS in Idaho, and has plans for how it will achieve, maintain, and enforce these standards (IDEQ 2014a). For each of the six criteria pollutants, NAAQS are defined as a maximum concentration above which adverse effects on human health may occur.

Geographic areas in which ambient concentrations of criteria pollutants exceed the NAAQS are classified as nonattainment areas. Federal regulations require states to have statewide air quality planning documents called State Implementation Plans that establish methods to bring air quality in nonattainment areas into compliance with the NAAQS and to maintain that compliance. Nonattainment areas that return to compliance are called maintenance areas.

EPA regulates two forms of particulate matter: particulate matter less than 10 micrometers (PM₁₀) and particulate matter less than 2.5 micrometers (PM_{2.5}). PM is generated by industrial emissions, residential wood combustion, motor vehicle engines, and fugitive dust from roadways and unpaved surfaces. Of the two regulated forms of PM, PM_{2.5} has a greater health effect at locations far from the emitting source because it remains suspended in the atmosphere longer and travels farther. IDEQ does not monitor for PM in Custer County (IDEQ 2014a). The project area is 60 miles outside of the boundaries of the nearest area of nonattainment for PM_{2.5} which is the airshed surrounding Salmon, Idaho (IDEQ 2014a). Thus, no part of the project area is designated as a nonattainment area for PM.

CO is generally associated with transportation sources. The highest ambient CO concentrations often occur near congested roadways and intersections during periods of low temperatures, light winds, and stable atmospheric conditions. IDEQ does not monitor for CO in Custer County (IDEQ 2014a).

Ozone is primarily a product of more concentrated motor vehicle traffic on a regional scale. It is created during warm sunny weather by photochemical reactions involving volatile organic compounds and nitrogen oxides. Small amounts of ozone may be produced by the existing transmission line as a result of corona (i.e., the breakdown of air at the surface of transmission line conductors). IDEQ does not monitor for ozone in Custer County (IDEQ 2014a). Ozone concentrations are likely to be less than the 8-hour average standard of 0.075 parts per million because the area is sparsely developed and traffic levels are relatively low.

Class 1 areas encompass specific areas of national or regional natural, recreational, scenic, or historic value. Because regional visibility can be affected by air quality (known as regional haze), Congress has given these areas heightened protection under the Clean Air Act. The proposed project is not located within or near the only Class 1 area in Custer County, the Sawtooth Wilderness Area managed by the US Forest Service (IDEQ 2014b).

Greenhouse Gases

Fossil-fueled vehicles and equipment used for construction and maintenance produce greenhouse gases. Greenhouse gases (GHG) are chemical compounds in the Earth's atmosphere that absorb and trap infrared radiation as heat. Global atmospheric GHG concentrations come from continuous emission (release) and removal (storage) of GHGs over time. In the natural

environment, this release and storage is largely cyclical. For instance, through the process of photosynthesis, plants capture atmospheric carbon as they grow and store it in the form of sugars. When plants decay or are burned, the stored carbon is released back into the atmosphere, available to be taken up again by new plants (Ecological Society of America 2008). In forests, the carbon can be stored for long periods, and because they are so productive and long lived, forests have an important role in carbon capture and storage. Forests can be thought of as temporary carbon reservoirs. There is also a large amount of GHGs stored deep underground in the form of fossil fuels, and soils store carbon in the form of decomposing plant material, serving as the largest carbon reservoir on land.

Human activities such as deforestation, soil disturbance, and burning of fossil fuels disrupt the natural cycle by increasing the GHG emission rate over the storage rate, which results in a net increase of GHGs in the atmosphere. When forests are permanently converted to cropland, for instance, or when new buildings or roads displace vegetation, the GHG storage capacity of the disturbed area is diminished. Carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄) emissions increase when soils are disturbed, and burning fossil fuels releases GHGs that have been stored underground for thousands of years and cannot be readily replaced (Kessavalou et al. 1998). The resulting buildup of heat in the atmosphere is due to increased GHG levels, which causes warming of the planet through a greenhouse-like effect (US Energy Information Administration 2009a). Increasing levels of GHGs could increase the Earth's temperature by between 2.0 and 11.8 degrees Fahrenheit by the end of the twenty-first century (EPA 2013c).

The principal GHGs emitted into the atmosphere through human activities are CO₂, CH₄, N₂O, and fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (EPA 2013a). CO₂ is the major GHG emitted, and the burning of fossil fuels accounts for 84 percent of all US GHG emissions (EPA 2013a, US Energy Information Administration 2009b). CO₂ enters the atmosphere primarily through electricity generation and transportation activities, with lesser quantities from industrial, residential, and commercial activities. Because of human activities, CO₂ levels have increased to 379 parts per million in the last century, a 36 percent increase (Intergovernmental Panel on Climate Change 2007).

3.9.2 Environmental Consequences – Proposed Action

Air Quality

Construction equipment that would be used to implement the Proposed Action would increase local emissions of criteria pollutants described below during the estimated 2 months of project construction.

Primarily particulate matter would increase due to road work, travel on unpaved surfaces, and other soil disturbances that create dust. Although construction could increase dust and particulate levels, effects would be low because it would be temporary and occur in local areas. Spraying water on road surfaces during dry periods would partially reduce PM levels.

The use of heavy equipment during construction could cause temporary increases in carbon monoxide, carbon dioxide, sulfur oxides, oxides of nitrogen, and volatile organic hydrocarbons. The increase in vehicle emissions from construction equipment would be temporary and in specific work areas, and would change on a daily or weekly basis. The increase in vehicle and

equipment emissions would be small and comparable to current emission levels found in surrounding agricultural and rural areas.

Greenhouse Gases

Service road construction and permanent vegetation removal would contribute to GHG emissions. The proposed project would use about six vehicles including several large units of construction equipment over a period of approximately two months. Permanently removing vegetation would reduce the level of soil carbon storage. To provide context, the EPA mandatory reporting threshold for large sources of GHGs is 25,000 metric tons of carbon dioxide equivalent (CO₂e²) emitted annually (EPA 2013b), which is approximately the same amount of CO₂e generated by 4,400 passenger vehicles per year. As illustrated in Table 7, the estimated GHG emissions from construction activities would produce approximately 94 metric tons of total CO₂e, which would not meet EPA’s reportable GHG threshold.

Table 7. Estimated Greenhouse Gas Emissions from Construction Activities

Estimated GHG Emissions of Construction Activities	CO₂ (metric tons)	CH₄ (CO₂e) (metric tons)	N₂O (CO₂e) (metric tons)	Total CO₂e (metric tons)
Peak construction transportation	0.2	0.2	0.9	1.3
Off-peak construction transportation	0.3	0.3	1.3	1.9
BPA employee transportation	0.5	0.4	1.7	2.6
Peak construction: equipment operation	50.1	0.1	0.3	50.5
Off-peak construction: equipment operation	37.6	0.0	0.2	37.9
TOTAL	88.7	0.9	4.4	94.2

3.9.3 Pa17

3.9.4 Mitigation Measures and Best Management Practices

If the Proposed Action is implemented, BMPs in Table 3, specifically using dust abatement during construction, would minimize effects on air quality and contributions to GHG.

² CO₂e is a unit of measure used by the Intergovernmental Panel on Climate Change that takes into account the global warming potential of each of the emitted GHGs based on carbon dioxide concentrations.

3.9.5 *Environmental Consequences – No Action*

Under the No Action Alternative, construction-related effects on air quality and greenhouse gas emissions would not occur; however continued operation and maintenance of the authorized facilities would continue to contribute minimal, localized amounts of dust.

3.10 Socioeconomics

3.10.1 *Affected Environment*

Population and Housing Availability

Custer County has an estimated population of 4,249, which is less than 1 percent (approximately .28 percent) of the state of Idaho’s estimated population of 1,567,803. The county had a negative-growth population trend of –2.7 percent between 2010 and 2013. Population density is about one person per mile of Custer County’s land base (1.16 per mile) (U.S. Census Bureau 2013).

Approximately 38% of housing units (1,157 out of 3,035) are estimated to be vacant in Custer County. This estimated vacancy rate is substantially higher than that for Idaho at 13.4% (US Census Bureau 2013).

Economic Characteristics

The leading industries in Custer County between 2008 and 2012 were agriculture/mining/fishing and hunting (26.8 percent), educational services/health care/social assistance (14.3 percent) and retail trade (10.5 percent). Meanwhile, construction provided 8 percent of overall employment in the county (U.S. Census Bureau 2014). During the same timeframe, the average unemployment rate for Custer County was 5.8 percent, lower than the state average of 8.5 percent. Median household income was estimated at \$41,698 in Custer County, which is below the statewide median income of \$47,015 (U.S. Census Bureau 2014).

Public Services

The Salmon River Electric Cooperative is the primary distributor of electricity in the area. Water supply primarily comes from well water, with two significant sources of recharge to public supply wells in the Challis area—one of which is the Salmon River and the other Garden Creek, which is west of Challis. Most of the wells in the Challis area are in the valley close to the Salmon River.

The Custer County Sheriff’s Department, Idaho State Police, and BLM law enforcement personnel provide police protection, and the North Custer Rural Fire District provides fire protection.

Non-emergency and limited emergency medical treatment is provided locally by the Challis Area Health Clinic. Emergency care and transportation is provided by the all-volunteer Challis Ambulance Service. The nearest hospital is located approximately 60 miles away in Salmon, Idaho. Many emergency cases are flown from Challis to appropriate regional hospitals. The Challis School District 181 is the primary school district in the area. A system of school bus routes transport students to the schools.

Noise

Construction equipment, such as a bulldozer, heavy trucks, or road grader, would cause noise. Noise is defined as loud, unwanted, or unexpected sound that disrupts normal human activities or diminishes the quality of the human environment. Audible noise is measured in decibels on the A-weighted scale, which describes sound that corresponds to human perception. In general, continuous exposure to dBA above 80 can cause damage to human hearing.

Table 8 considers noise levels caused by typical equipment that could be used for the proposed project. Noise levels at 50 feet from a construction site would range from 80 to 89 dBA. Noise produced by construction equipment would decrease with distance from the site.

Noise-sensitive land uses in the project area consists of recreational use of BLM land and open rangeland for grazing. The single residence in the area across U.S. Highway 93 is more than 500 feet from the proposed service road work. Custer County does not have regulations specific to noise control and the county zoning code does not address acceptable noise levels.

Table 8. Typical Construction Noise Levels

Type of Equipment	Max Noise Level (dBA at 50 feet)
Backhoe	80
Bulldozer	85
Heavy Truck	88
Road Grader	85
Combined Equipment	89

Existing noise levels vary within the project area depending on the distance from the nearby highway and BPA's existing transmission infrastructure. Traffic on U.S. Highway 93 can be heard from the project area.

Public Health and Safety

Year-round access for line crews, materials, and equipment to each structure on the Spar Canyon-Round Valley transmission line is required for routine operations, and to restore main grid lines in the event of an emergency. As discussed in Chapter 1, poor conditions create difficult access for crews attempting to reach the transmission structures. Impaired access creates a hazard for the public from the increased risk of extended outages, and risks to maintenance worker health and safety.

3.10.2 Environmental Consequences – Proposed Action

Population and Housing Availability

During peak construction, one or more work crews with up to 10 workers would work along various segments of the proposed service road route for up to 2 months. Depending on where the construction contractor is based, the majority of construction workers would likely commute to

the worksite from areas 50 to 75 miles away. If a local contractor is used, it is likely that nearly all workers would commute.

If construction workers (and possibly some dependents) are from out of the area, they would require temporary lodging in the local area during construction. In 2010, there were 1,157 vacant housing units available within Custer County. Additionally, temporary housing accommodations, including hotels, are available in the town of Challis approximately 5 to 10 miles away from the project area.

If a local contractor (from within a 50- to 75-mile radius) is used, it is likely that all construction workers would commute daily and there would be no effect on local population growth or housing. The low number of construction workers coming from outside the area would be temporary and distributed throughout the county so there would likely be minimal impact on population in Custer County.

Economic Characteristics

Between 2008 and 2012, there was an average of around 163 construction jobs in Custer County (US Census Bureau 2014). Project construction would employ up to 10 workers during the construction period lasting 2 months. This would have a negligible to minimal effect on the number of available jobs and employment rate in Custer County.

Project costs, including environmental review, design and engineering, and construction are estimated at \$530,877. The Proposed Action could stimulate the rural Custer County economy during preconstruction environmental review, design, and engineering, and during construction through payroll, material purchases in the area, and related direct or indirect “multiplier effects” that represent additional economic activity generated from the initial project expenditure. An estimated 5 to 10 percent of total project costs would involve local purchases of fuel, vehicle parts, and other goods and services in Custer County.

Public Services

The project would have a negligible effect on water supplies. Dust suppression and washing of vehicles to prevent the spread of weeds would require the use of washing stations and water trucks; however, local water providers would provide a sufficient water supply with little to no effect on local water supply.

Increased truck traffic could cause minimal traffic delays for public services using U.S. Highway 93. The proposed project would use fire-prevention measures, such as use of a fire trailer, to limit the potential for effect on the local fire district from responding to a fire. With mitigation measures and BMPs, increased traffic congestion would not disrupt the ability of police and medical emergency services personnel to respond to emergencies. Local and regional medical facilities would continue to treat minor injuries that may occur during construction without interfering with their ability to serve the larger community. Further, the level of congestion during the workweek likely would not cause measurable traffic delays or affect bus routes for the local school district.

Noise

Construction would cause temporary and intermittent noise as construction progresses along the service roads. Construction would proceed at an average rate of about 1 mile per week, with ford

development taking about six weeks to complete. Noise from truck traffic and increased worker trips would temporarily add to existing traffic noise on local roads and highways, but would not likely create a substantial increase in average traffic noise levels.

Construction that occurs within 500 feet of people recreating on BLM land could diminish their experience. While long-duration and continuous exposure could cause damaged hearing, the short-term nature of recreational activities (i.e., walking or driving within the project area) and the short duration and intermittent construction noise would likely not cause a negative noise effect beyond temporary annoyance. Construction noise would also be barely discernible from the sounds of normal traffic on local roads and U.S. Highway 93, which would be temporary and intermittent.

Public Health and Safety

Construction and the use of heavy equipment could cause public health and safety effects. These include exposure to hazardous materials, such as fuels and lubricants during construction, and possible collisions between construction vehicles and those driven by the public. Health and safety effects from construction would present minimal risk because workers would use standard construction safety procedures such as the mitigation measures described in Table 3.

3.10.1 Mitigation Measures and Best Management Practices

To reduce the potential for temporary, adverse noise effects during construction and minimize potential public health and safety risks, the mitigation measures and BMPs listed in Section 2.1.4 would be implemented.

3.10.2 Environmental Consequences – No Action

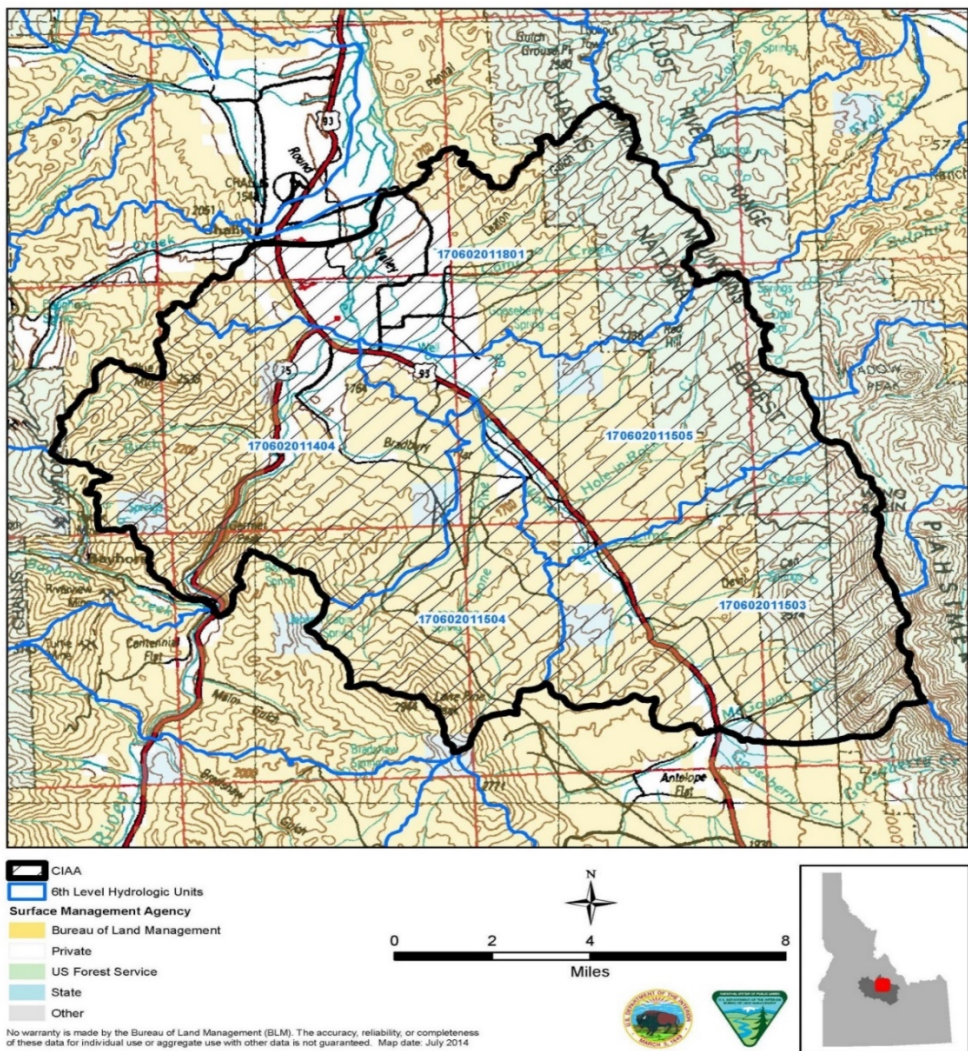
Under the No Action Alternative, there would be no positive socioeconomic impacts from temporary employment, purchases of local goods and services, and temporary housing from construction workers or activities. There would also be no short-term construction impacts from noise, dust, and traffic delays. Overall, the No Action Alternative would have either no effect or a level of effect that would not be discernable from current condition as related to local socioeconomics, including population and housing availability, economic characteristics, public services related to local water and first responders, noise, or public health and safety. BPAs ability to improve access to the ROW would not occur, which would affect its ability to ensure the BPA transmission system is safe, reliable, and has sufficient capability to provide electricity to its customers.

3.11 Cumulative Effects Analysis

Cumulative impacts are the impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

This section of the EA describes existing development from past actions, as well as present and reasonably foreseeable future development within Custer County. The cumulative impacts analysis area includes an area of Custer County bounded by the watersheds surrounding the

project area (defined by the 6th-level hydrologic units depicted below). The analysis area represents the area where each environmental resource potentially affected by the project is assessed for cumulative impacts.



3.11.1 Past Actions

The Council on Environmental Quality (CEQ) issued cumulative impact guidance, which states “environmental analysis required under NEPA is forward looking ... review of past actions is required only to the extent this review informs agency decision making regarding the Proposed Action” (CEQ 2005). Use of information on the effects of a past action may be useful in two ways: one is for consideration of the cumulative effects from the Proposed Action; and second, as a basis for identifying direct and indirect effects.

The guidance also states that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions” (CEQ 2005). This is because a description of the current state of the environment (i.e., “Affected Environment” sections) inherently includes the effects of past actions. Further, it underscores that “CEQ regulations do not require consideration

of the individual effects of all past actions to determine the present effects of past actions” (CEQ 2005). Current information on environmental conditions is more accurate for establishing a baseline to analyze cumulative impacts than attempting to establish a baseline by adding the impacts of individual past actions to a past baseline condition that, unlike current conditions, can no longer be verified by direct examination.

In general, development began to occur in southern and central Idaho during the mid-19th century with permanent Euro-American settlement with increased mining. With the arrival of settlers came increased demands for food, which led to increased cattle grazing and shepherding in the area. In addition to ranching, settlers also grew crops. Most of the area near the Proposed Action has continued to be grazed and farmed since the early 20th century.

A network of local, state, and county roads exists in the area, which has facilitated increased land access and further development. Maintenance of this system of roads has occurred over time, which included grading, re-shaping, re-paving, culvert replacement and so forth. Typical development in the vicinity has been rural residences and agriculture and grazing-related uses. The Spar Canyon-Round Valley transmission line and Round Valley Substation was built in the early 1980s.

Land use in the area has incrementally changed due to past and present disturbance from grazing, agriculture, residential development, and infrastructure such as transmission lines, highways and roadways. This trend is expected to continue, although current land use is not expected to change much in the near future because no projects are planned by the county or landowners that would require a county land use approval. The areas that the transmission line traverses are mostly rural in nature. Overall the CIAA consists of large landscapes of mostly intact native vegetation and large agricultural operations.

3.11.2 Current and Reasonably Foreseeable Future Actions

Current actions are those projects, developments, and other actions that are currently underway, either because they are under construction or are occurring on an ongoing basis. Reasonably foreseeable future actions include those actions formally proposed or planned, or highly likely to occur based on available information. BPA and BLM consulted with numerous sources, including local, state, and federal agencies, to get information about any current and potential future development near the project area. The following describes these current and reasonably foreseeable future actions. BPA would continue to perform maintenance on the Spar Canyon-Round Valley transmission line. This may include helicopter patrols every few months, as well as a ground patrol once per year. Transmission line maintenance crews would replace or repair damaged equipment. Crews would control vegetation, which may include mowing around towers and cutting tall-growing vegetation within BPA’s existing ROW.

Transportation and Land Use Development Projects

There are no known planned transportation and land use development projects in the CIAA and the county has not received any applications for land use approvals for large scale development (e.g., housing subdivisions) within the analysis area (Christy Foster, Custer County, personal comm., Sept. 24, 2014). Maintenance and repair to the local system of roads is ongoing and expected to continue to occur in the future; this would include grading, re-shaping, re-paving, and so forth.

Federal Land Management Agency Projects

BLM Challis FO and the U.S. Forest Service (USFS) currently do not have future projects planned within the analysis area, however, current land use management and other authorized activities would continue. Grazing by permittees within existing allotments would continue, which primarily occurs during the summer seasons throughout much of the BLM- and USFS-managed lands. Federal land and resource management plans would continue to manage land use, and trail and travel management plans would continue to manage public access for transportation and recreation opportunities such as hunting (Ken Rodgers, USFS, person comm., Sept. 25, 2014).

3.11.3 Cumulative Impact Analysis

Access (Transportation)

The Proposed Action would cause environmental impacts similar to routine maintenance conducted by Custer County Road and Bridge, including noise, dust, vegetation clearing, and traffic delays. This could cause minor traffic increases along U.S. Highway 93. Construction could also temporarily displace some grazing animals. However, because of the temporary and local impact on existing land uses (e.g., nearby residence), recreational users and vehicles traveling along U.S. Highway 93, the incremental contribution of the Proposed Action along with the reasonably foreseeable future projects would result in a minimal change in land use, recreation, and transportation.

Soils

Past and present erosion, compaction, and decreased soil productivity has occurred and continues to occur in the area from natural weathering processes, continued livestock grazing, and from utility infrastructure and roads. These soil disturbances and loss, in addition to the 12 acres of soil disturbed by the Proposed Action, would likely continue as these activities continue in the project area and throughout the analysis area. The Best Management Practices described in Section 2.1.4, would reduce soil compaction and erosion during construction, and soil loss caused by the service road construction and ford development.

Vegetation Including Invasive and Non-Native Species

Livestock grazing, agriculture, roads, maintenance activities associated with the Warm Spring Canal, and disturbance from use as a transmission corridor have altered the native vegetation in the analysis area. Additionally, these past and present land uses spread noxious weeds. When combined with past, present, and reasonably foreseeable vegetation-altering activities, there would be a minimal cumulative impact on special-status plant communities in the project area such as Challis crazyweed, as well as on invasive and non-native species, which would be minimized by the Best Management Practices outlined in Section 2.1.4.

Wildlife Including Migratory Birds, and Threatened, Endangered and Sensitive Animals

Past and present development and activities such as grazing, mining, road and utility construction and operation, land development, and agriculture have impacted wildlife and habitat in the area. Of these, continued grazing, roads and utility construction activities could affect

wildlife in the analysis areas. Impacts on wildlife from the proposed project would primarily result from displacement during construction and maintenance activities and 12 acres of habitat degradation and loss.

Air Quality and Greenhouse Gases

Traffic on highways and other area roads, residential wood burning, operation and maintenance activities by utilities and on roads, and the operation of commercial facilities in Challis are all sources of air pollutants in the analysis area that will continue to emit criteria pollutants and GHG. Land uses removing vegetation and thereby reducing solid carbon storage, such as roads and other development, have contributed to and are expected to continue contributing to greenhouse gas levels. The Proposed Action would contribute a small amount of air pollutants from construction vehicles, as well as GHG from vegetation removal and emissions from construction. It is unlikely, however, that concentrations would cause violations of NAAQS or more than a negligible contribution to existing greenhouse gas levels in the analysis area. Therefore, when added to the impacts of other past, present and reasonably foreseeable future projects, there would not be an cumulative impact to air quality and/or GHG.

Socioeconomics

Past and present population growth, housing development, agriculture and mining activities, and public service operations have occurred in the analysis area. Growth and development trends are expected to continue, but there are no large developments planned in the near future.

The Proposed Action would likely not result in any changes in population. Also, there is ample housing available (e.g., motels) to accommodate construction workers. In addition, because the Proposed Action would not be expected to disproportionately affect any low-income or minority populations, there would be no cumulative impact on environmental justice populations.

Low-level sounds from transmission lines, and traffic—both from occasional recreational activities and U.S. Highway 93 in the analysis area—affect noise levels in the project vicinity. Additionally, the Custer County Road and Bridge project could contribute construction noise if it occurs during the same time as construction of the Proposed Action. Depending on timing and closeness of these sources, the Proposed Action may contribute to noise levels during the approximate 2-month construction period. Considering the intermittent nature and limited duration of construction noise, when added to the impacts of other past, present and reasonably foreseeable future sources of noise, the Proposed Action's contribution to noise levels would be minimal.

APPENDIX A—SAGE-GROUSE HABITAT INFORMATION

Appendix A
 DOI-BLM-ID-1030-2014-0007-EA
 BPA Spar Canyon-Round Valley Right-of-Way Amendment
 June 14, 2017

1. Sage-grouse Habitat Suitability			2. Landscape Importance Model			3. Anthropogenic Disturbance			4. Habitat Designation Multiplier			
Sage-brush Cover %	Value	Acres	Landscape Importance	Value	Acres	Disturbance Level	Value	Acres	Habitat Type	Percent by Habitat Type	Multplier	Final Project Functional Acres
> 10	1	0.69	Low	0.20	0.00	Low	1.00	0.00	Priority	0	1.50	0.00
5 to 10	0.75	11.14	Low/Moderate	0.40	11.81	Low/Moderate	0.75	0.00	Important	100	1.20	4.44
1 to 5	0.25	0.28	Moderate	0.60	0.34	Moderate	0.50	0.00	General	0	1.00	0.00
0	0	0.05	Moderate/High	0.80	0.00	Moderate/High	0.25	0.00				
			High	1.00	0.00	High	0.00	12.15				
Average Values	0.52		0.41			0.00			Average (Values in each category weighted by acres in each category) = Average Values Sum: (Average Values by Category * 0.33) = Weighted Sum Value Weighted Sum Value * Total Acres = Preliminary Functional Acres Preliminary Funtional Acres * Habitat Designation Multiplier = Final Functional Acres			
Average Value by Category * 0.33	0.1716		0.1353			0.00						
Weighted Sum Value	0.31											
Total Acres	12.15											
Preliminary Functional Acres	3.7											
Final Functional Acres	4.44											

APPENDIX B ENVIRONMENTAL CONSULTATION REVIEW AND PERMIT REQUIREMENTS

Appendix B addresses statutes, implementing regulations, and executive orders applicable to the Proposed Action. BPA and BLM will send this EA to Tribes, federal agencies, state agencies, and state and local governments as part of the consultation process for the Proposed Action. Persons, Tribes, and agencies who will receive the EA are included Persons, Tribes, and Agencies Consulted.

National Environmental Policy Act

BPA and BLM prepared this EA pursuant to regulations implementing NEPA (42 U.S.C. § 4321 *et seq.*), which require federal agencies to assess, consider, and disclose the impacts that their actions may have on the environment before making decisions or taking actions. NEPA requires preparation of an EIS for major federal actions significantly affecting the quality of the human environment. BPA and BLM prepared this EA to determine if the Proposed Action would cause significant environmental impacts that would warrant preparation of an EIS, or whether it would be appropriate to prepare a FONSI.

BPA and BLM will consider the Proposed Action's potential environmental consequences and comments from agencies, Tribes and the public before making decisions regarding the Proposed Action.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA, 43 U.S.C. 1701 *et seq.*) requires that the BLM manage public lands based on the principle of "multiple-use and sustained yield," protecting environmental, ecological, recreational, and other values while also recognizing "the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands." FLPMA establishes a multiple-use mandate for management of federal lands, including energy generation and transmission facilities as outlined in 43 CFR 2800. FLPMA requires that BLM prepare land use plans providing broad-scale multiple-use direction for management of public lands. FLPMA also requires that all approved management actions conform to the goals and management direction contained in the applicable land use plan (43 CFR 1610.5-3).

FLPMA, and its implementing regulations, authorize BLM to issue ROW grants for facilities and systems, including transmission and distribution systems. Specifically, pursuant to 43 CFR 2801.2, BLM is directed to grant rights-of-way and to control their use on public lands in a manner that: (a) protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity; (b) prevents unnecessary and undue degradation of public lands; (c) promotes the use of rights-of-way in common, considering engineering and technological compatibility, national security, and land use plans; and (d) coordinates, to the fullest extent possible, all BLM actions under the regulations in this part with state and local governments, interested individuals, and appropriate quasi-public entities. In fulfilling these obligations, the BLM decision maker may include terms, conditions, and stipulations which she or he determines to be in the public interest. BPA is coordinating with

BLM to meet its requirements for crossing BLM-managed land and has submitted an SF-299 Application for Transmission and Utility Systems and Facilities on Federal Lands.

The subject application was made in accordance with Title V of the FLPMA of 1976 as amended (43 U.S.C. 1761) and the regulations found in 43 CFR 2800. These regulations would govern the granting of the ROW (if approved), determination of cost reimbursement, determination of the rental value, and the compliance and monitoring requirements.

State and Local Land Use Planning Framework

As an action proposed by federal agencies, BPA and BLM are generally not required to obtain state and local land use approvals or permits unless required by federal law. While Custer County has a regulatory framework for planning and zoning, no environmental provisions are applicable to the Proposed Action. BPA would, however, strive to meet or exceed the substantive standards and policies of state and local environmental regulations to the maximum extent practicable.

Endangered Species Act

The ESA (16 U.S.C. 1531 *et seq.*) establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants, and the preservation of the ecosystems upon which they depend. The USFWS administers the ESA for plants, wildlife, and freshwater species, and the NMFS administers the ESA for marine and anadromous species. The ESA defines procedures for listing species, designating critical habitat for listed species, and preparing recovery plans. It also specifies prohibited actions and exceptions.

Section 7(a) of the ESA requires federal agencies to ensure that the actions they authorize, fund, and carry out do not jeopardize the continued existence of endangered or threatened species or cause the destruction or adverse modification of their critical habitat. Section 7(c) of the ESA and other federal regulations require that federal agencies prepare a biological assessment addressing the potential effects their actions have on endangered or threatened species.

Based on existing data and field surveys, BPA and BLM determined no ESA listed species, or candidate species for protection under the ESA, exist in the project area. Field surveys of the project area conducted in June 2014 included the length of the existing transmission line ROW and off-ROW service roads.

The only plant that is a candidate species for protection under the ESA that could occur in Custer County is the Whitebark Pine (*Pinus albicaulis*), and none were sighted in the project area or could occur at the project site elevation (see Section 3.5 for additional information).

For fish and wildlife species, USFWS, NMFS, and BLM species lists were used to determine which ESA listed, special-status species, and their habitats occur in the proposed project area. Canada lynx is an ESA listed threatened species that could occur in Custer County with a recently recorded sighting in central Idaho in 2012. North American wolverines were designated as a *Proposed Threatened* species for listing under ESA in October 2016 with potential for occurring within the Challis Field Office area. However, “deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the

contiguous United States (Aubry et al. 2007, pp. 2152-2156; Copeland et al. 2010, entire).” None of the habitat characteristics suitable for wolverines are present within the proposed project area. In addition, the yellow-billed cuckoo is listed as a threatened species that could potentially occur in Custer County. No observations of Canada lynx, North American wolverine or yellow-billed cuckoo, or suitable habitat, occurred during the wildlife surveys in 2014. No TES fish species that are regulated by either the USFWS or NMFS under the ESA occur within the proposed project area. In this EA, Section 3.7, Wildlife, and Section 3.9, Fish and Water Resources, discuss potential effects of the Proposed Action on these resources.

Fish and Wildlife Conservation Act and Fish and Wildlife Coordination Act

The Fish and Wildlife Conservation Act of 1980 (16 U.S.C. 2901 *et seq.*) encourages federal agencies to conserve and promote conservation of non-game fish and wildlife species and their habitats. In addition, the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) requires federal agencies undertaking projects affecting water resources to consult with the USFWS and the state agency responsible for fish and wildlife resources. The analyses in Section 3.8, Wildlife and Section 3.3.1 for Fish and Water Resources indicate that the Proposed Action would have a minimal effects to wildlife and no effects to fish resources with the implementation of appropriate mitigation measures.

Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act (16 U.S.C. 703–712) implements the treaties and conventions between the U.S. and other countries, including Canada, Japan, Mexico, and the former Soviet Union, for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds or their eggs or nests is unlawful. The Act classifies most species of birds as migratory, except for certain non-native bird species.

BPA (through the U.S. Department of Energy) and USFWS have a memorandum of understanding (MOU) to address migratory bird conservation in accordance with Executive Order 13186 (*Responsibilities to Federal Agencies to Protect Migratory Birds*). This directs each federal agency taking actions that could negatively affect migratory bird populations to work with the USFWS to develop an agreement to conserve those birds (DOE and USFWS 2013). The MOU addresses how both agencies can work cooperatively to address migratory bird conservation and includes specific measures to consider during project planning and implementation.

Executive Order on Invasive Species

In February 1999, the President issued Executive Order 13112, Invasive Species. This order requires federal agencies to identify actions that affect the status of invasive species, prevent the introduction of invasive species and control and monitor invasive species.

Clean Water Act

Sections 401, 402, and 404 of the Clean Water Act (CWA) (33 U.S.C. 1251 *et seq.*) regulates discharges into waters of the United States.

Section 401

Section 401 of the CWA requires that states certify compliance of federal permits and licenses with state water quality standards. The federal government may issue a permit to conduct an activity that causes discharges into waters of the U.S., including wetlands, only after the affected state certifies that the Proposed Action would not violate existing water quality standards if the permit were issued. The project would not require a 401 water quality certification.

Section 402

Section 402 of the CWA authorizes discharges of pollutants, such as stormwater from point sources, into waters of the United States through the National Pollutant Discharge Elimination System permitting program. The EPA and delegated states administer the NPDES permitting program. BPA would determine if it needs to issue a Notice of Intent to receive coverage under the EPA general permit. BPA is also preparing a stormwater pollution prevention plan to address erosion and sediment control, stormwater management, and other controls (see Section 3.8 Water Quality - Surface and Ground).

Section 404

Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. This includes excavation activities that cause the discharge of dredged material that could destroy or degrade waters of the U.S. BPA analyzed whether wetlands and waters of the United States exist along the proposed new and improved roads and ford development, and coordinated with the US Army Corps of Engineers (Corps) Idaho Falls District in the summer of 2014 regarding the need for CWA Section 404 permitting. Based on the analysis in this EA, the Proposed Action would not have effects to waters of the United States. Thus, no CWA Section 404 permit is required.

Clean Air Act

The Clean Air Act (42 U.S.C. 7401 *et seq.*) requires EPA and individual states to ensure attainment of the NAAQS. In Idaho, EPA has delegated authority to IDEQ. Because the Proposed Action would occur in an area that is currently in attainment for the NAAQs and because no stationary sources of air emissions would occur, construction activities associated with the Proposed Action are exempt from IDEQ regulation. Air quality effects of the Proposed Action would be low, local, and temporary, as described in Section 3.11, Air Quality and GHG.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 (a–y)) registers and regulates pesticides. BPA uses herbicides (a kind of pesticide) during vegetation management in accordance with BPA's *Transmission System Vegetation Management Final EIS and Record of Decision* (2000). BPA uses herbicides on transmission line rights-of-way to control vegetation, including noxious weeds. When BPA uses herbicides, it records and reports the date, dose, and chemical used to the BLM and state government officials. BPA disposes of herbicide containers according to Resource Conservation and Recovery Act (RCRA) standards, as discussed in Section 4.9.6 below.

Executive Order 12898

In February 1994, the President released Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, to federal agencies. This order

states that federal agencies shall identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

BPA and BLM evaluated the Proposed Action for disproportionately high environmental effects on minority and low-income populations and identified none, as described in Section 3.9, Socioeconomics and Public Services.

Cultural and Historic Resources

Several laws and regulations govern management of cultural resources. A cultural resource is an object, structure, building, site, or district that provides irreplaceable evidence of natural or human history of national, state, or local significance, such as national landmarks, archaeological sites, and properties listed or eligible for listing in the NRHP. Cultural resource-related laws and regulations include:

- Antiquities Act of 1906 (16 U.S.C. 431–433)
- Historic Sites Act of 1935 (16 U.S.C. 461–467)
- Section 106 of the NHPA of 1966 (54 U.S.C. 300101 *et seq.*), as amended
- Archaeological Data Preservation Act of 1974 (16 U.S.C. 469 a–c)
- Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S.C. 470aa-mm), as amended
- Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001 *et seq.*)
- Executive Order 13007 – Indian Sacred Sites
- American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996, 1996a)

The National Historic Preservation Act of 1966, as amended (NHPA; with regulations under 36 CFR 800) established the federal government's policy and programs on historic preservation. Section 106 of NHPA requires agencies to consider the effects of their actions on historic properties (defined as cultural resources determined to be eligible for listing on the NRHP) prior to project implementation. The NHPA specifically requires federal agencies to identify and manage historic properties on federally owned and administered lands. Consultation under NHPA for this project has been conducted in accordance with BLM's National Programmatic Agreement and the 2014 implementing Protocol Agreement between Idaho BLM and the Idaho State Historic Preservation Office.

BPA and BLM conducted field surveys to identify effects on cultural resources from the Proposed Action and requested input on cultural resources from the Shoshone-Bannock Tribes. (see Section 3.11, Cultural Resources). Archaeologists surveyed for cultural resources along the transmission line ROW and the proposed areas for service road improvement/construction, as described in Section 3.3.1, Cultural Resources.

Any cultural and/or paleontological resource (historic or prehistoric object or site) discovered during any stage of project implementation shall be immediately reported to the Challis FO archaeologist. All operations in the immediate area of such a discovery would cease, and an evaluation of the discovery would be made by a qualified archaeologist to determine actions necessary to prevent the loss of significant cultural or scientific values. Consultation with Idaho State Historic Preservation Office and, if appropriate, American Indian Tribes, would be orchestrated through the Challis FO archaeologist. If, during construction, workers find previously unidentified cultural resources that the Proposed Action would adversely affect, BPA and BLM would follow all required procedures set forth in the NHPA, NAGPRA, and ARPA.

Climate Change

Gases that absorb infrared radiation and prevent heat loss to space are called GHGs. Models predict that atmospheric concentrations of all GHGs will increase over the next century, but the extent and rate of change is difficult to predict, especially on a global scale. As a response to concerns over the predicted increase of global GHG levels, various federal and state mandates address the need to reduce GHG emissions, including the following:

- The Clean Air Act is a federal law that controls emissions from large generation sources such as power plants; limited regulation of GHG emission occurs through New Source Review permitting program.
- EPA issued the *Final Mandatory Reporting of Greenhouse Gases Rule* that requires reporting of GHG emissions from large sources. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHGs must submit annual reports to the EPA (EPA, 2013b).
- Executive Orders 13423 and 13514 require federal agencies to measure, manage, and reduce GHG emissions by agency-defined target amounts and dates.

GHG emissions were calculated for activities that would produce GHG emissions as part of the Proposed Action. GHG emissions would be below EPA's mandatory reporting threshold. The impact of the Proposed Action on GHG is discussed in Section 3.8, Air Quality and GHG.

APPENDIX C TRIBES, AGENCIES, AND PERSONS CONSULTED

Tribes

Shoshone-Bannock Tribes

Federal Agencies

U.S Army Corps of Engineers

U.S. Department of the Interior – Bureau of Land Management

U.S. Department of the Interior – U.S. Fish and Wildlife Service

U.S. Department of Commerce – National Oceanic and Atmospheric Administration, National Marine Fisheries Service

State Agencies

Idaho Department of Environmental Quality

Idaho Governor’s Office of Energy Resources

Idaho Department of Fish and Game

Idaho State Historic Preservation Officer

Local Agencies

Custer County Planning and Zoning Department

Custer County Roads and Bridges Department

Custer County Commissioners

Public Interest Groups

Idaho Conservation League

Western Watersheds Project

List of Preparers

Name	Title	Organization
Todd Kuck	Field Manager – Authorized Officer	BLM
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Eric Reiland	Fisheries Biologist	BLM
Kevin Lloyd	Vegetation, Range, T&E Plants	BLM
Andrew “Ace” Hess	Invasive and Non-Native Species	BLM
Ben Roundtree	Recreation, Travel Management, Visuals	BLM
Mike Whitson	Hydrology, Soils, Air, Water	BLM
Kyra Povirk	NEPA Review, Assistant Field Manager	BLM
Jeff Maslow	Project Manager, Environmental Protection Specialist	BPA
Elizabeth Oliver	Archaeologist, Cultural Resources	BPA

APPENDIX D GLOSSARY AND ACRONYMS

<i>airshed</i>	A geographic area that is frequently affected by the same air mass because of topography, meteorology, and/or climate.
<i>anadromous</i>	Species that hatch in freshwater, mature in saltwater, and return to freshwater to spawn, e.g., salmon, steelhead, trout, sturgeon, and chad.
<i>aquifer</i>	A geological formation or structure that stores and/or transmits water, such as to wells and springs. Use of the term is usually restricted to those water-bearing formations capable of yielding water in sufficient quantity to constitute a usable supply for people's uses.
<i>area of potential effect</i>	The area around a project where the character or use of historic properties may be affected as a result of the project.
<i>best management practices</i>	The practices determined by the discipline to be most effective at achieving a specific goal.
<i>candidate species</i>	Plant or animal species for which U.S. Fish and Wildlife Service or National Marine Fisheries Service has on file sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened.
<i>critical habitat</i>	Habitat essential to the conservation of a threatened or endangered species that has been designated as critical by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.
<i>cultural resources</i>	Historic, archaeological, or paleontological resources, including properties of traditional and cultural significance, sacred sites, Native American human remains, and associated objects, which are entitled to special consideration under federal statutes, regulations, and executive orders. Cultural resources found to meet specific criteria are called historic properties (see definition).
<i>cumulative impacts</i>	Impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions.
<i>ecoregion</i>	Large area that has a distinct combination of climate, soils, and landforms.

<i>endangered species</i>	A plant or animal species in danger of extinction within the foreseeable future throughout all or a significant portion of its range.
<i>environmental justice populations</i>	Low-income and minority populations protected under Executive Order 12898 from disproportionate adverse effects of federal projects.
<i>ephemeral drainage</i>	A waterbody that flows only in direct response to precipitation or snowmelt.
<i>erosion</i>	The movement of soil and surface sediments caused by wind and water.
<i>evolutionarily significant unit</i>	A population of organisms that is considered distinct for purposes of conservation. Delineating ESUs is important when considering conservation action under the ESA.
<i>ford crossing</i>	A shallow place in a body of water, such as a river, where one can cross by walking or riding an animal or vehicle.
<i>geotextile fabric</i>	permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain. Typically made from polypropylene or polyester, geotextile fabrics come in three basic forms: woven (resembling mail bag sacking), needle punched (resembling felt), or heat bonded (resembling ironed felt).
<i>greenhouse gases</i>	Chemical compounds found in the Earth's atmosphere that absorb and trap infrared radiation as heat.
<i>historic property</i>	Any cultural resource, including prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior.
<i>invasive species</i>	Non-native plants or animals that cause adverse economic, environmental, and/or ecological effects on the habitats and bioregions they invade.
<i>isolated structure</i>	An isolated structure is a wood pole or steel tower that cannot be accessed safely or dependably because there is either no access road or the service road is in such poor condition that crews, equipment, and materials cannot reach the structure.
<i>isolate finds</i>	A singular artifact (e.g., projectile point, historic bottle, or 1922 Model T) or a grouping of artifacts that do not meet a specific density ration to be classified as a site.

<i>lek</i>	Traditional breeding area for sage and sharp-tailed grouse where male grouse assemble to establish dominance and display to attract females during the breeding season (also referred to as strutting ground).
<i>low-income population</i>	A group of low-income residents who live in geographic proximity who could be disproportionately affected by a federal action.
<i>megawatt</i>	One million watts.
<i>minority population</i>	A group of minority persons who live in geographic proximity who could be disproportionately affected by a federal action.
<i>mitigation</i>	Measures that would reduce the overall impact of the Proposed Action on a resource by reducing, avoiding, or compensating for the impact.
<i>multiplier effect</i>	The multiplier effect is sometimes called the “ripple effect” because a single expenditure in an economy can have repercussions throughout the entire economy. The multiplier is a measure of how much additional economic activity is generated from a single expenditure.
<i>noxious weeds</i>	Plants that are injurious to public health, crops, livestock, land or other property, as identified by state law.
<i>resident fish</i>	Fish species that reside in fresh water throughout their lives.
<i>rangeland</i>	A kind of land are not barren deserts, farmed, or covered by bare soil, rock, ice, or concrete and include primarily of grasses, grass-like forbs, or shrubs.
<i>riparian</i>	Areas of wetland transition between permanently saturated wetlands and upland that exhibit vegetation or physical characteristics reflective of surface or subsurface water.
<i>seep</i>	A moist or wet place where water, usually groundwater, reaches the earth’s surface from an underground aquifer.
<i>service roads</i>	Roads and spurs that provide access to corridor and structure sites during construction, operation, and maintenances.
<i>sole source aquifer</i>	Defined by the U.S. Environmental Protection Agency as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend on the aquifer for drinking water.

<i>special-status species</i>	A species that is listed, or proposed for listing as endangered or threatened under the Endangered Species Act that is identified by the State of Idaho Department of Fish and Game as a species of concern.
<i>spur roads</i>	A short length of new road extending an existing road network.
<i>stormwater runoff</i>	The portion of precipitation that does not naturally percolate into the ground or evaporate, but flow via overland flow, interflow, pipes, and other features of a drainage system into a defined surface waterbody or treatment facility.
<i>threatened</i>	A plant or animal species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
<i>turbidity</i>	A condition in water caused by the presence of suspended material resulting in scattering and absorption of light rays.
<i>wetlands</i>	Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not usually include those artificial wetlands intentionally created from non-wetlands sites, including, but not limited to irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands may include artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands, if permitted by the appropriate authority.

Acronyms and Abbreviations

APE	Area of Potential Effect
ARMPA	Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment 2015
AUM	Animal Unit Months
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH₄	Methane
CO	Carbon Monoxide
CO₂	Carbon Dioxide
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
CWMA	Cooperative Weed Management Areas
dB	Decibel
dba	Adjusted Decibel
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act

GHG	Greenhouse Gas
GHMA	General Habitat Management Area
GIS	Geographic Information System
GRSG	Greater Sage-grouse
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IHMA	Important Habitat Management Area
kV	Kilovolt
LUP	Land Use Plans
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MW	Megawatt
NAAQs	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NHPA	National Historic Preservation Act
NLCD	National Land Cover Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPCC	Northwest Power and Conservation Council
NPS	National Park Service
N₂O	Nitrous Oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PCBs	Polychlorinated Biphenyls
PHMA	Priority Habitat Management Area
PM	Particulate Matter
PM₁₀	Particles of 10 micrometers (microns) or less
PM_{2.5}	Particles less than 2.5 micrometers (microns) in aerodynamic diameter

RCRA	Resource Conservation and Recovery Act
RMP	Resource Management Plan
ROW	Right-of-Way
SIP	State Implementation Plan
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traditional Cultural Properties
TMDL	Total Maximum Daily Load
TTM	Travel and Transportation Manual
TMP	Travel Management Plan
U.S.C.	United States Code
USDOE	United States Department of Energy
USFS	United States Forest Service
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management

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