Mitigation Action Plan

for the

Albany-Burnt Woods and Santiam-Toledo Pole Replacement Project

DOE/EA-1636

Summary

This Mitigation Action Plan (MAP) is part of the Finding of No Significant Impact (FONSI) for the Albany-Burnt Woods and Santiam-Toledo Pole Replacement Project. The project involves replacing wood pole structures on about 26 miles of the Albany-Burnt Woods single-circuit, 115-kilovolt (kV) transmission line and about 21 miles of the Santiam-Toledo single circuit, 230-kV transmission line in Linn, Benton and Lincoln counties, Oregon.

This MAP is for the Proposed Action and includes all of the integral elements and commitments made in the Environmental Assessment (EA) to mitigate any potential adverse environmental impacts. The purpose of this MAP is to explain how the mitigation measures will be implemented, who is responsible for implementation, and at what time during the project they will be implemented.

BPA and its Contractor are responsible for implementation of mitigation measures during various phases of the project. A BPA contractor will remove old wood pole structures and replace with new wood pole structures and associated structural components. To ensure that the contractor will implement mitigation measures, the relevant portions of this MAP will be included in the construction contract specifications developed for the project. This will obligate the contractor to implement the mitigation measures identified in the MAP that relate to their responsibilities during construction and post-construction.

If you have general questions about the project, contact the Project Manager, Erich Orth, at 360-619-6559. If you have any questions about the MAP, contact the Project Environmental Lead, Tish Eaton, at 503-230-3469 or the Regional Environmental Specialist, Laura Roberts at 503-230-5073. This MAP may be amended if revisions are needed due to new information or if there are any significant project changes.

Consultation Related To Mitigation Measures

BPA has consulted with the U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries under Section 7 of the Endangered Species Act. Impacts to some federally listed threatened or endangered species or their habitat may occur, however implementation of mitigation measures listed below will reduce impacts to low to moderate.

As part of Section 106 Consultation, BPA submitted a cultural resources report to the Oregon State Historic Preservation Office (SHPO) on September 2, 2008. The Oregon SHPO concurred with BPA's determination of eligibility findings for the cultural resources documented for this project. The SHPO recommends complete avoidance of all sites eligible or potentially eligible for

listing on the NRHP. Since complete avoidance is not possible for all sites, mitigation measures would be implemented for affected sites.

The report was also submitted to the Confederated Tribes of the Grand Ronde, the Confederated Tribes of the Warm Springs Reservation, and the Confederated Tribes of Siletz in September 2008. The Confederated Tribes of the Grand Ronde responded with information regarding archaeological sites within the project area. BPA contacted tribal cultural resources representatives at the Grand Ronde to discuss the sites. The sites were then included in the cultural resources survey and background research conducted as part of the proposed project. No comments or communications have been received from the Tribes with regard to the survey report.

Given that the project generally would avoid wetlands and waters of the U.S., it is expected that Section 404 Clean Water Act permits likely will not be required for the proposed project. Because work at each structure listed Section 3.5 of the EA would result in the loss of less than 1/10-acre of wetland and less than 50 cubic yards of material would be removed or filled, coordination with the Corps and DLS does not include a preconstruction notification. Work is authorized under a Corps Nationwide Permit; no permit or authorization is required by DSL. However, mitigation is included below and in the EA to ensure compliance with Section 404 if it is later determined necessary. BPA will comply with all federal requirements for impacts to waters of the U.S.

Mitigation Measures

The mitigation measures in the following Mitigation Action Plan table have been identified to reduce potential impacts from the project.

Mitigation Action Plan Table

Environmental Resource	Mitigation
Land Use	▪ Distribute the proposed schedule of construction activities to all potentially affected landowners and post in recreational areas along the corridor so landowners and recreational users know when they might experience construction related disruptions. ▪ Keep construction activities and equipment clear of residential driveways and access to recreational areas as much as possible. ▪ Consult property owners on plant selection following vegetation disturbance in residential and other populated areas. ▪ Conduct construction activities in coordination with agricultural activities to the extent practicable. ▪ Instruct equipment operators and construction crews to close gates to avoid disturbances to livestock, and to stay within the project corridor to minimize impacts to crops.

Environmental Resource	Mitigation
	▪ Compensate affected farmers for any lost crop production caused by the construction of the proposed project. ▪ Wash construction equipment and vehicles before entering construction areas to minimize establishment and spread of noxious weeds.
Soils and Geology	▪ Conduct project construction during the dry season to the maximum extent practicable, when stream flow, rainfall, and runoff are low, in order to minimize erosion, sedimentation, and soil compaction. ▪ Space and size culverts properly. ▪ Install sediment barriers and other suitable erosion control devices where needed to minimize movement of sediment. ▪ Retain vegetative buffers where possible to prevent sediment from eroding into water bodies. ▪ Use water trucks on an as-needed basis to minimize dust. ▪ Reseed disturbed areas with native seed mix. ▪ Break up compacted soils at structure sites before reseeding by tilling or scarifying. ▪ Control runoff and prevent erosion where possible by using low grades, out sloping, intercepting dips, water bars, and ditch-outs for access road improvements. ▪ Inspect and maintain access roads, culverts, and other facilities to ensure proper function and nominal erosion levels following construction. ▪ Inspect reseeded areas to verify adequate growth, and implement contingency measures to ensure restoration as needed following construction. ▪ Assist farm operators in restoring productivity of compacted soils for structure sites on agricultural lands.
Vegetation	▪ Prior to construction, conduct a noxious weed survey within the project corridor to more specifically identify existing locations of noxious weeds. ▪ Minimize ground disturbance to prevent expansion of false brome, Scot's broom, and other noxious weeds populations. ▪ Implement other appropriate measures to minimize the introduction and broadcast of weed seeds, including washing equipment and vehicles before entering construction areas. ▪ Use existing road systems, where possible, to access structure locations.

Environmental Resource	Mitigation
	▪ Limit disturbance of native plant communities to the minimum necessary. ▪ Reseed disturbed areas with native seed. ▪ Inspect seeded sites to verify adequate growth and implement contingency measures as needed. ▪ Monitor disturbed areas for three years after construction for spread of noxious weeds and implement appropriate measure to control any infestations. In addition to the above measures, the following mitigation measures are identified specifically to avoid, minimize, or compensate for potential impacts to Kincaid's lupine and its habitat from the proposed project: ▪ Resurvey portions of the project corridor that could support Kincaid's lupine for Kincaid's lupine in spring 2009 to document any new or expanded populations. As part of this resurvey, record and map all lupine patches and individuals documented. ▪ Do not begin project construction work until after September 1, 2009 to avoid Kincaid's lupine May to June flowering and for the plant to become dormant in mid-August. ▪ Prior to construction, surround any lupine patches that are within 10 feet of access roads or 20 feet of the construction footprint at a wood pole with temporary high-visibility fencing to alert crews to avoid these areas, and place a no-construction buffer around these areas. ▪ In Kincaid's lupine habitat, restrict the construction footprint at each structure site to a 50- by 50-foot area (approximately 0.06 acre) for 2 pole wood structures and a 100- by 100-foot area (about 0.2 acre) for 3 pole wood structures. No work will occur outside of these construction footprints, and vehicles and equipment will not travel off access roads between wood pole structures. ▪ Avoid staging of equipment or vehicles in designated critical habitat and from Albany-Burnt Woods structures 14/1 to 14/4 and Santiam-Toledo structures 39/1 to 39/5 ▪ In coordination with the USFWS and if determined feasible, attempt to remove, either by hand or using a dozer, and temporarily store during construction the lupine plants found during 2008 surveys near the base of Albany-Burnt Woods structure 16/3, as well as any other lupine plants discovered during 2009 surveys. Upon construction completion, replant the plants in place. ▪ Ensure that a trained biologist is present to monitor all construction in Kincaid's lupine critical habitat to ensure that impact avoidance and minimization measures are followed and disturbance to sensitive species minimized.

Environmental Resource	Mitigation
	▪ Mitigate any damage to Kincaid's lupine plants and critical habitat along the access road between Santiam-Toledo structures 41/5 to 41/7 at a 3:1 ratio on a permanently protected site. This mitigation will most likely occur adjacent to the project corridor, depending on agreements with private landowners. Based on the potential impacts in this area, the maximum amount of habitat that would be needed at a mitigation site would be 0.51 acre. At the mitigation site, BPA will fund native prairie habitat enhancement and/or restoration for a period of 10 years. Kincaid's lupine and other native prairie species will be planted as needed and BPA will fund management activities at the mitigation site which may include brushing, mowing, noxious weed eradication, and tree removal depending on site-specific characteristics. ▪ Reseed the approximately 1.1 acre of Kincaid's lupine critical habitat disturbed during wood pole replacement with a native species seed mix as needed. Disturbance to Kincaid's lupine critical habitat due to pole replacement will be mitigated for at a 2:1 ratio on a permanently protected site (as described above). ▪ When possible, use construction equipment and vehicles with rubber track tires to reduce ground disturbance and soil compaction between Albany-Burnt Woods structures 13/2 to 17/1 and Santiam-Toledo structures 38/3 to 41. ▪ Minimize blading and rocking and restrict this work to areas where the Santiam-Toledo line access road within the critical habitat is impassable. ▪ Document the above measures in a 3-year plan for reseeding disturbed habitats with native plants and nectar source species. The plan will include site pre-treatment, seeding, and vegetation monitoring and maintenance (including noxious weed removal), as discussed above. At a minimum, sites will be restored to pre-existing conditions.
Fish and Wildlife	**Fish and Wildlife** ▪ Conduct pre-construction assessments with construction personnel to determine appropriate site-specific mitigation approaches to help reduce erosion and runoff, and to stabilize disturbed areas. ▪ Install sediment barriers and other suitable erosion and sediment control devices where needed prior to ground-disturbing activities at construction sites to minimize off-site sediment movement. ▪ Construct during the dry season (summer-fall) to minimize erosion, sedimentation, and soil compaction. **Fender's Blue Butterfly and Taylor's Checkerspot Butterfly** ▪ Restrict the construction footprint in Fender's blue butterfly critical habitat and Taylor's checkerspot habitat to 0.06 acre for 2 pole wood structures and

Environmental Resource	Mitigation
	0.2 acre for 3 pole wood structures. No work would occur outside of these construction footprints, and vehicles and equipment would not travel off access roads between wood pole structures. ▪ Do not begin project construction work until after September 1, 2009 to avoid impacts to butterfly habitat and adult emergence in May and June. ▪ Ensure that a trained biologist is present to monitor all construction in Taylor's checkerspot and Fender's blue butterfly habitat to ensure that impact avoidance and minimization measures are followed and disturbance to sensitive species minimized. ▪ Reseed with a native species seed mix approximately 1.1 acre of Fender's blue butterfly (and Kincaid's lupine) critical habitat following wood pole replacement. Mitigate disturbance to Fender's blue butterfly critical habitat from pole replacement at a 2:1 ratio on a permanently protected site (as described in Section 3.3.3). ▪ Reseed with a native species seed mix approximately 0.7 acre of Taylor's checkerspot habitat disturbed during wood pole replacement. Monitor reseeded area. ▪ Mitigate any damage to Taylor's checkerspot habitat by developing a mitigation plan, in conjunction with the USFWS. The plan could include protection of habitat through conservation easements, habitat enhancement and/or restoration, or funding for other recovery activities. ▪ Resurvey portions of the project corridor for Taylor's checkerspot butterfly in 2009 to identify all areas that are currently being used by the butterfly.
Water Quality	▪ Prepare and implement a Storm Water Pollution Prevention Plan. ▪ Inspect and maintain tanks and equipment containing oil, fuel or chemicals for drips or leaks and to prevent spills onto the ground or into state waters. ▪ Maintain and repair all equipment and vehicles on impervious surfaces away from all sources of surface water. ▪ Refuel and maintain equipment at least 200 feet from natural or manmade drainage conveyance including streams, wetlands, ditches, catch basins, ponds, and pipes, and provide spill containment and cleanup. Utilize pumps, funnels and absorbent pads for all equipment fueling operations. ▪ Provide spill prevention kits at designated locations on the project site and at the hazardous material storage areas. ▪ Place construction vehicles and equipment at least 50 feet from any stream or wetland unless there is an existing permanent or temporary road constructed for access to the site. ▪ Examine wood poles prior to purchase to reject poles that are leaking or dripping preservatives. ▪ Remove any augured soil within sensitive areas (such as wetlands or designated critical habitat) from the work site.

Environmental Resource	Mitigation
	▪ Monitor revegetation and site restoration work for adequate growth; implement contingency measures as necessary. ▪ Monitor erosion control BMPs to ensure proper function and nominal erosion levels.
Wetlands	▪ Obtain and comply with applicable Clean Water Act permits for all work in wetlands or streams. ▪ Identify and flag wetlands before construction for avoidance. ▪ Install erosion control measures prior to work in or near wetlands such as silt fences, straw mulch, straw wattles, straw bale check dams, other soil stabilizers, and reseed disturbed areas as required; ▪ Avoid construction within wetlands and wetland buffers to protect wetland functions and values, where possible. Do not permit use of these areas for construction staging, equipment or materials storage, fueling of vehicles, or related activities. ▪ Use existing road systems, where possible, to access structure locations. ▪ Remove all temporary fill, geotextile fabric and revegetate after use of temporary roads built in wetlands. ▪ Use herbicides to control vegetation near wetlands in accordance with the Transmission System Vegetation Management Program (BPA 2000), to limit impacts to water quality.
Floodplains	▪ Install erosion control measures prior to work in or near floodplains. ▪ Avoid construction within floodplains to protect floodplain function, where possible.
Socioeconomics and Environmental Justice	▪ Compensate landowners at market value for any new land rights required to acquire new, temporary or permanent access roads on private lands.
Visual Resources	▪ Locate construction staging and storage areas away from locations that would be clearly visible from state highways. ▪ Use non-reflective insulators (i.e., non-ceramic insulators or porcelain). ▪ Require that contractors maintain a clean construction site and that the corridor is kept free of litter after construction.
Air Quality	▪ Use water trucks on as-needed basis to minimize dust during construction. ▪ Drive all construction vehicles at low speeds (5 mph) on access roads to minimize dust. ▪ Keep off-road vehicles good operating condition to minimize exhaust emissions.

Environmental Resource	Mitigation
Cultural Resources	▪ Flag culturally sensitive areas so that these areas may be avoided by project personnel. ▪ Stop work immediately and notify local law enforcement officials, appropriate BPA personnel, the Oregon SHPO, and the interested Tribes if cultural resources, either archaeological or historical materials, are discovered during construction activities. ▪ Develop an Inadvertent Discovery Plan that details crew member responsibilities for reporting in the event of a discovery during construction. ▪ Stop construction in the area immediately should human remains and/or burials be encountered. Secure the area, placing it off limits for anyone but authorized personnel and immediately notify proper law enforcement, BPA archaeologist, the Oregon SHPO, and the Tribes. ▪ Prevent unauthorized collection of cultural materials by ensuring a professional archaeologist and tribal monitor are present during excavation within known sites. ▪ Implement any additional mitigation measures for cultural resources identified by the Oregon SHPO through the Section 106 consultation process.
Public Health and Safety	▪ Prior to starting construction, require the contractor to prepare and maintain a safety plan in compliance with State Oregon requirements. This plan would detail how to manage hazardous materials such as fuel, and how to respond to emergency situations. It would be kept onsite at all times. ▪ During construction, require the contractors to hold crew safety meetings at the start of each workday to review potential safety issues and concerns. ▪ At the end of each workday, require the contractor and subcontractors to secure the site to protect equipment and the general public. ▪ Fuel all highway-authorized vehicles offsite to minimize the risk of fire. Fueling of construction equipment would be done in accordance with regulated construction practices and state and federal laws. ▪ Comply with all fire safety laws, rules, and regulations of the State of Oregon. The contractor would be required to prepare a Fire Prevention and Suppression Plan that would meet BPA, local authority, and land manager requirements. ▪ Provide notice to the public of construction activities. ▪ Ensure transmission structures minimize EMF, corona and electric fields through implementation of standard BPA design and construction practices. All BPA lines are designed and constructed in accordance with the National Electrical Safety Code (NESC). NESC specifies the minimum allowable distance between the lines and the ground or other objects. These

Environmental Resource	Mitigation
	requirements determine the edge of the right-of-way and the height of the line, that is, the closest point that houses, other buildings, and vehicles are allowed to the line. ▪ Ground fences and other metal structures on and near the project corridor during construction to limit the potential for nuisance shocks.
Transportation/ Traffic	▪ BPA will prepare a notice about construction activities and a proposed schedule for posting on the Oregon Department of Transportation (ODOT) Traffic Advisory. ▪ Schedule construction activities at transmission line crossings of U.S. Route 20, State Route 99W, and State Route 223 so as to avoid lane closures during peak travel times, as determined in coordination with ODOT. ▪ Use traffic safety signs and flaggers to inform motorists and manage traffic during construction activities on affected roads. ▪ Keep construction activities and equipment clear of residential driveways as much as possible.
Noise	▪ Use mufflers on all construction equipment and vehicles with exhaust. ▪ Conduct noise-generating construction activities within 1,000 feet of residential structures only during normal daytime hours (that is between 7 a.m. and 7 p.m.). ▪ Restore radio or television to a quality as good or better than before the project, if the pole replacement project was found to be the source of interference.