Albany-Eugene 115-kilovolt No. 1 Transmission Line Rebuild Project

Final Environmental Impact Statement

March 2012

DOE/EIS-0457

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Bonneville Power Administration

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Responsible Agency: U.S. Department of Energy (DOE), Bonneville Power Administration (BPA)

Title of Proposed Project: Albany-Eugene 115-kilovolt No. 1 Transmission Line Rebuild Project

State Involved: Oregon

Abstract: The Bonneville Power Administration is proposing to rebuild a 32-mile section of the Albany-Eugene 115-kilovolt No. 1 Transmission Line. This line extends from the Albany Substation in the City of Albany, Linn County, Oregon, to the Alderwood Tap near Junction City in Lane County, Oregon. Many of the structures, the electric wire (conductor), and associated structural components are physically worn and structurally unsound in places. These wood transmission poles have lasted beyond their expected 55 to 60 years and now need to be replaced due to age, rot, and deterioration. As a result, there is a need to rebuild the line to maintain reliable electrical service and to avoid safety risks to the public and maintenance crews.

Proposed activities would include establishing access to the line, improving access roads, developing staging areas for storage of materials, removing vegetation including danger trees, removing and replacing existing wood pole structures and associated structural components and conductors, and revegetating areas disturbed by construction activities. The existing structures would be replaced with structures of similar design within or near to their existing locations. The line would continue to operate at 115 kilovolts. BPA's preferred alternative is the Proposed Action Alternative; BPA also considered the No Action Alternative.

The proposed project could create impacts to the following resources: land use and recreation; geology and soils; water resources; wetlands and floodplains; vegetation; fish and wildlife; visual quality; cultural resources; socioeconomics and public services; transportation; air quality; and noise, public health, and safety. Chapter 3 of the Draft Environmental Impact Statement (EIS) describes the affected environment and potential impacts.

BPA released the Draft EIS in January 2012 for public review and comment. BPA considered all comments received to prepare this Comment–Response Addendum which, together with the Draft EIS, constitutes the Final EIS (40 CFR 1503.4(c)). The Comment-Response Addendum includes a chapter that indicates revisions to the Draft EIS; deleted text is in strikethrough format and new text is underlined. BPA expects to issue a Record of Decision for the proposed project in spring 2012.

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For additional copies of this document, please call 1-800-622-4519 and ask for the document by name. The EIS is also on the Internet at:

http://efw.bpa.gov/environmental_services/Document_Library/Albany-Eugene_Rebuild/

Copies also may be requested by writing to: Bonneville Power Administration, ATTN: Public Affairs Office – DKE-7, P.O. Box 14428, Portland, Oregon 97293-4428.

For additional information on DOE's National Environmental Policy Act (NEPA) activities, please contact Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance, GC-54, U.S. Department of Energy, 1000 Independence Avenue S.W., Washington, D.C. 20585-0103, telephone: 1-800-472-2756, or visit the DOE NEPA Web site at: www.nepa.energy.gov.

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Acronyms and Abbreviations

APLIC	Avian Power Line Interaction Committee
BMP	best management practice
BPA	Bonneville Power Administration
CFR	Code of Federal Regulations
CGP	Construction General Permit
DEQ	Oregon Department of Environmental Quality
DOE	U.S. Department of Energy
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	U.S. Endangered Species Act
kV	Kilovolts
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries Service	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
ODFW	Oregon Department of Fish and Wildlife
P&W Railroad	Portland and Western Railroad
PAB4	Palustrine, Aquatic Bed, Floating Vegetation
PEM1	Palustrine, Emergent, Persistent
PFO6	Palustrine, Forested, Deciduous
PSS6	Palustrine, Scrub-Shrub, Deciduous
PUB3x	Palustrine, Unconsolidated Bottom, Mud, Excavated
R2UB1	Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel
R2US1	Riverine, Lower Perennial Unconsolidated Shore Cobble-Gravel
R4SB3	Riverine, Intermittent, Stream Bed, Cobble-Gravel
R4SB5	Riverine, Intermittent, Stream Bed
R4SB5x	Riverine, Intermittent, Stream Bed, Mud, Excavated
ROW	right-of-way
TMDL	total maximum daily load
USFWS	U.S. Fish and Wildlife Service
UWR	Upper Willamette River

Chapter 1. Introduction

This Comment–Response Addendum presents the comments received on the Draft Environmental Impact Statement (EIS) for the Albany-Eugene 115-kilovolt (kV) No. 1 Transmission Line Rebuild Project, which was published in January 2012, as well as Bonneville Power Administration's (BPA's) responses to those comments. Consistent with the Council on Environmental Quality's Regulations for Implementing the National Environmental Policy Act (NEPA), this Comment–Response Addendum and the Draft EIS comprise the Final EIS for this project. When changes in response to comments are minor consisting mainly of factual corrections or an explanation of why the comments do not warrant further agency response, NEPA regulations allow preparation of an errata sheet instead of rewriting the Draft EIS (40 Code of Federal Regulations 1503.4(c)). For readers of this Comment–Response Addendum who do not already have a copy of the Draft EIS, copies can be obtained by the following means:

- Accessing the document online at: http://efw.bpa.gov/environmental_services/Document_Library/Albany-Eugene_Rebuild/
- Calling BPA's document request line at 1-800-622-4519
- Sending an e-mail to Mr. Douglas F. Corkran, Project Environmental Lead, at dfcorkran@bpa.gov or by calling (503) 230-7646

The remainder of this chapter provides a summary of the Proposed Action Alternative and No Action Alternative, a description of the comment period for the Draft EIS, and an overview of the key changes to the Draft EIS. Chapter 2 identifies the specific changes that have been made to the Draft EIS. Chapter 3 presents the comment letters received on the Draft EIS and BPA's responses to these comments.

1.1 Summary of the Proposed Action Alternative and the No Action Alternative

BPA is a Federal agency that owns and operates transmission lines that move most of the Northwest's high-voltage power from facilities that generate the power to wholesale power users throughout the region. BPA has a statutory obligation to ensure that its transmission system has sufficient capability to serve its customers while maintaining a system that is safe and reliable. The Federal Columbia River Transmission System Act directs BPA to construct improvements, additions, and replacements to its transmission system that are necessary to maintain electrical stability and reliability, as well as to provide service to BPA's customers (16 USC 838b(b-d)).

BPA's 115-kV Albany-Eugene transmission line was originally built in 1940. This transmission line serves BPA's utility customers, who in turn serve communities in western Oregon. No major rebuild work has been done on the Albany-Eugene line since it was originally built. In general, wood poles for transmission lines are expected to have a service life of 55 to 60 years, at which point they are usually replaced due to age, rot, and other forms of deterioration. Most structures

on the Albany-Eugene line now exceed their service life and are physically worn and structurally unsound in places. Some of the transmission line poles are made of Douglas fir, which is more prone to decay and subsequent collapse. Therefore, replacement of the transmission line serves multiple purposes, including the following:

- Maintain or improve transmission system reliability to BPA and industry standards
- Continue to meet BPA's contractual and statutory obligations
- Minimize environmental impacts
- Demonstrate cost-effectiveness

Based on the current condition of the line, BPA needs to replace the wood pole structures and associated structure components to maintain reliable electrical service and to avoid risks to the public and worker safety.

For more detail and definition of technical terms used in this Final EIS, please refer to Section 2.1 (Proposed Action) and Chapter 7 (Glossary) of the Draft EIS.

1.1.1 Proposed Action Alternative

BPA's Proposed Action is to replace aging and deteriorating wood pole structures and associated structural components on the existing 115-kilovolt (kV) Albany-Eugene No. 1 Transmission Line, which extends from BPA's existing Albany Substation in the City of Albany, Oregon, approximately 32 miles south to the Alderwood Tap, near the City of Junction City (Figure 1-1).

The main components of the Proposed Action are as follows:

- Transmission Line Right-of-Way—The right-of-way (ROW) width for the line is generally about 100 feet. The majority of the transmission line corridor is located on the Portland and Western Railroad ROW, and small sections of the corridor are located on city-owned or privately-owned land in the City of Harrisburg, over the Willamette River, and through the City of Junction City.
- Replacement Transmission Structures—The Proposed Action would replace existing deteriorating wood pole structures and components along the transmission line with new poles and components of essentially the same basic design. The replacement suspension structures would have one or two wood poles with an above-ground height of 70 feet. The replacement dead-end structures would have three poles and also be 70 feet in height. The steel lattice structures used at the Willamette River crossing would not be replaced.
- Conductors and Overhead Ground Wire—Conductors are the wires on the structures that carry the electrical current; each of the three conductors on the existing transmission line would be replaced. Overhead ground wire, which is currently installed on the transmission line for the first one-half mile out of the Albany Substation to protect substation equipment from lightning strikes, would be replaced. In addition, a series of wires and/or grounding rods (called counterpoise) are buried in the ground at structure

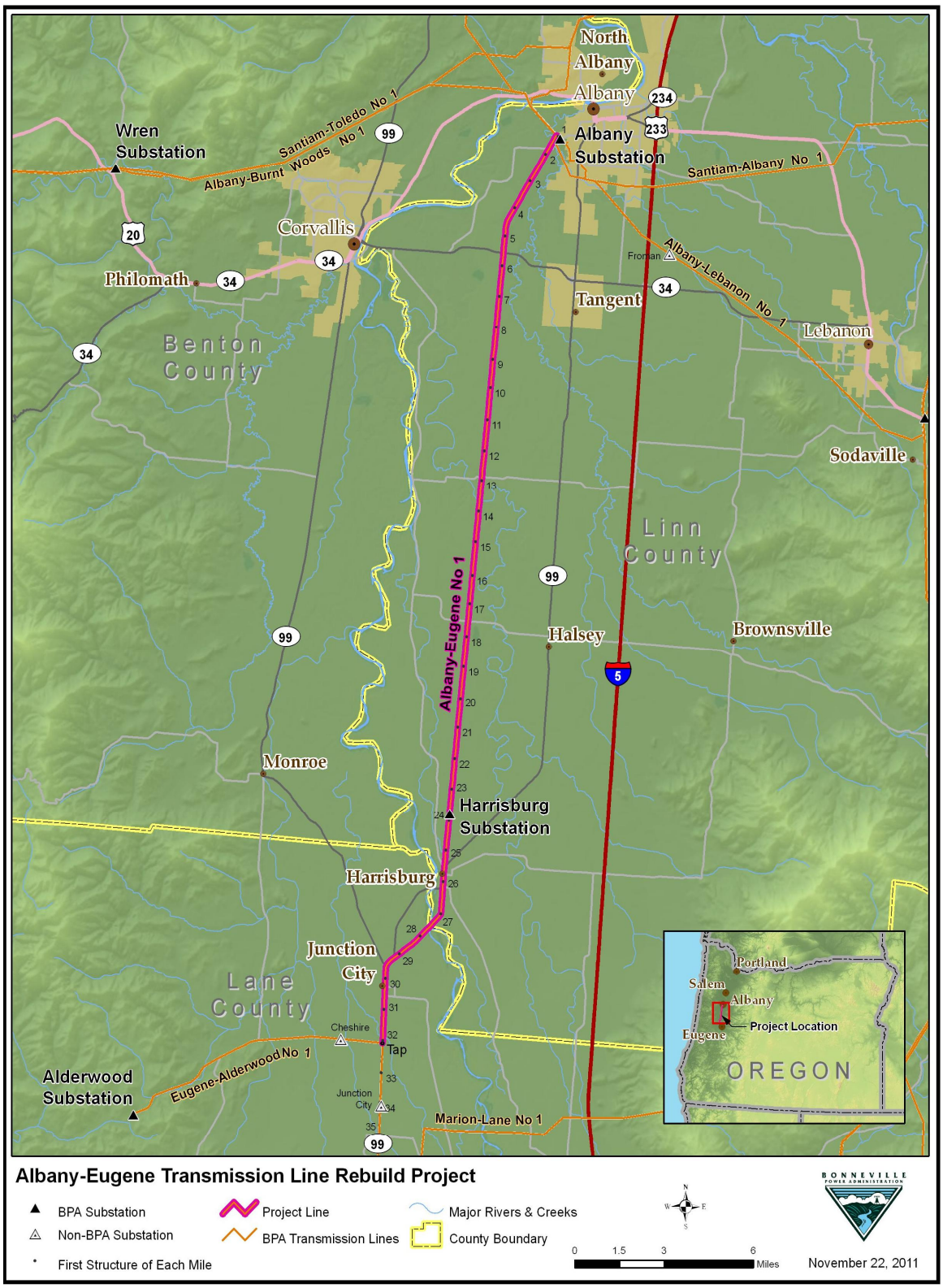

Figure 1-1. Project Vicinity Map

1/2 to establish a low resistance path to the ground for lightning protection. The counterpoise at structure 1/2 would be replaced.

- Vegetation Clearing —Vegetation within the existing transmission line corridor generally consists of low-growing shrubs, small trees, and agricultural crops. Approximately 55.5 acres of vegetation would be cleared within the project area for construction of access roads. Other areas would need to be cleared because danger trees have been identified. A danger tree is defined as a tree located off the ROW that poses a present or future hazard to the transmission line. Approximately 6,300 danger trees have been identified for removal. Danger tree removal would occur between August and March to minimize impacts to migratory birds.
- Access Roads—Access to the transmission line corridor is limited for the length of the proposed project. Most construction access would consist of temporary access across agricultural fields by obtaining access rights or constructing stub roads. Some new road construction (450 feet) and access road improvements (3,400 feet) would be needed to allow for better access of structure sites during construction and maintenance. Other improvements would include the replacement of gates and installation of new culverts.
- Staging Areas—One or two temporary staging areas approximately 30 acres in size would be needed along or near the transmission line easement to store and stockpile structure materials, trucks, and other equipment during construction.
- Construction Activities—The typical sequence of construction activities includes vegetation management, access road construction, removal of conductors and hardware from the existing transmission line, removal of the existing wood pole structures, installation of the replacement wood pole structures, installation of the replacement structure components, and conductor installation and tensioning. Construction activities are expected to begin in May 2012. Danger tree removal would occur between August and March of 2012 and 2013 to minimize impacts to migratory birds.
- Operation and Maintenance—Operation and maintenance of the lines upon completion of construction would be essentially the same as for the existing lines. Future danger tree removal is scheduled to occur on a frequent basis as part of routine maintenance of the transmission line. The lines would continue to operate at their current voltages, and BPA would conduct routine, periodic inspection and maintenance as necessary.

BPA has continued to discuss the Proposed Action with project stakeholders, including other Federal, State, and local agencies since publication of the Draft EIS in January 2012. These ongoing discussions focused primarily on danger tree removal; associated impacts to vegetation, fish and wildlife; and potential mitigation. Several of the changes made to the Draft EIS (see Chapter 2) resulted from these discussions.

BPA has identified the Proposed Action as its environmentally preferred alternative.

1.1.2 No Action Alternative

Under the No Action Alternative, BPA would not take action to replace structures along the transmission line or upgrade access roads, and would continue to operate and maintain the existing transmission line in its current condition. Within the Albany-Eugene corridor, approximately 6,300 danger trees have been identified for removal and would be removed as part of the No Action Alternative.

The reliability concerns that prompted the need for this project would continue to be of concern. BPA would continue to attempt to maintain the existing lines as their aged and rotting wood poles and cross arms further deteriorate. Given the current poor condition of the lines, it is reasonable to expect that the No Action Alternative would result in more frequent and more disruptive maintenance activities within the corridor than under the Proposed Action, which would likely lead to increased impacts to vegetation, fish and wildlife as presented in Table 2-2 of the Draft EIS.

1.2 Draft EIS Comment Period

BPA published the Draft EIS for the Albany-Eugene 115-kV No. 1 Transmission Line Rebuild Project in January 2012. The Draft EIS was filed with the U.S. Environmental Protection Agency, which published a Notice of Availability of the Draft EIS in the *Federal Register* (Volume 77, No. 13) on January 20, 2012. All parties included on the project mailing list (see Chapter 5 in the Draft EIS) were sent a letter (see Appendix A of the Final EIS) that provided notice that the Draft EIS was available for review and an address where the full Draft EIS was posted on the BPA web site at: http://efw.bpa.gov/environmental_services/Document_Library/Albany-Eugene_Rebuild/. Several Federal and State officials, local governments, businesses, libraries, and individual property owners received paper copies of the Draft EIS.

An open house public meeting was held on February 22, 2012, in Harrisburg, Oregon. Nine people from the surrounding communities attended the meeting.

The comment period for the Draft EIS officially closed on March 5, 2012. Two comment letters were received; a copy of each letter is provided in Chapter 3.

1.3 Key Changes to the Draft EIS

The following summarizes the main changes that have been made to the Draft EIS. For a complete description of all the changes to the Draft EIS, please see Chapter 2.

- Identified the BPA preferred alternative for the project
- Updated the environmental analysis to reflect subsequent discussions with resource agencies that clarify the impacts to vegetation, fish, and wildlife, particularly migratory bird species, resulting from danger tree removal and proposed additional mitigation
- Updated information from the *Final Wetland Delineation* Report (Mason, Bruce & Girard 2011)

- Clarified the consultation that BPA is undertaking with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) to comply with Section 7 of the Endangered Species Act
- Added information on the coordination between BPA and the Oregon Department of Fish and Wildlife (ODFW) and the consistency between the Proposed Action and ODFW's Fish and Wildlife Habitat Mitigation Policy
- Added mitigation requested by Oregon Department of Environmental Quality (DEQ) to prevent leaching of wood pole preservative chemicals into surrounding areas
- Updated information about the status of the National Pollutant Discharge Elimination System (NPDES) permit application and measures to protect water quality, including collaboration BPA has undertaken with the Oregon DEQ
- Included a new appendix (Appendix D) that describes the draft mitigation strategy for impacts to migratory birds that would result from danger tree removal associated with the Proposed Action. The details of the mitigation strategy may change based on continued discussions with USFWS and ODFW

Chapter 2. Changes to the Draft EIS

This chapter identifies the specific changes made to the text of the Draft EIS. Text changes are organized by the chapters and sections of the Draft EIS. For each change, the location of the change is identified by page and paragraph number of the Draft EIS. Where text has been modified, deleted text is indicated in "strikethrough" format and new text is underlined.

2.1 Summary

Page S-2, Section S.1.2, bullet list of scoping comments has been modified as follows:

- Potential loss of wildlife habitat and vegetation impacts related to native hazelnut trees
- Potential loss of trees that provide a noise and visual shield
- Potential for impacts to ongoing farming operations adjacent to the alignment
- Potential for impacts to rare and endangered plant populations
- Potential environmental impacts to water resources; road use and construction impacts; wetlands and floodplains; habitat, vegetation and wildlife; noxious weeds and invasive plants; air quality; cumulative effects; land use; climate change; and endangered species
- Coordination with Tribal governments
- Environmental justice and public participation
- Mitigation monitoring

Page S-5, Section S.2.1, fourth paragraph has been modified as follows:

> The start of construction depends on completion of the National Environmental Policy Act process, but it is likely that construction of the Proposed Action could begin in May 2012 and would be completed around December ~~2012~~ 2013. Danger tree removal would occur ~~over the summer and fall months during~~ between August and March 2012 and 2013 to minimize impacts to migratory birds.

Page S-11, Table S-1, Water Quality, Mitigation has been modified as follows:

Mitigation	• Prepare and implement a Storm Water Pollution Prevention Plan • Inspect and maintain tanks and equipment containing oil, fuel, or chemicals for drips or leaks to prevent spills onto the ground or into waterbodies • Maintain and repair all equipment and vehicles on impervious surfaces away from all sources of surface water • Refuel and maintain equipment away from natural or manmade drainage conveyances, including streams, wetlands, ditches, catch basins, ponds, and culverts; provide spill containment and cleanup; and use pumps, funnels, and absorbent pads for all equipment-fueling operations. • Keep, maintain, and have readily available appropriate spill containment and cleanup materials in construction equipment, in staging areas, and at work sites • Place sorbent materials or other impervious materials underneath individual wood poles at pole storage and staging areas to contain leaching of preservative materials • Install polyethylene pole wraps around the underground portion of the poles located in wetlands, to prevent leaching of the preservative material into the surrounding area • Install erosion control measures prior to work in or near floodplains • 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

Page S-12, Table S-1, Wetlands, Proposed Action Construction Impacts has been modified as follows:

Proposed Action Construction Impacts	Structure replacement would result in low impacts to wetlands because the wetland function would be temporarily disrupted but would return to pre-construction conditions Construction of new temporary access roads in wetlands totaling ~~52,270~~ 12,460 square feet (~~1.2~~ 0.286 acre) would result in low impacts to wetlands due to post-construction restoration, including removal of wetland fill and the creation of replacement wetlands through compensatory mitigation for those areas where wetland fill will remain after project construction Construction of permanent fords in wetlands totaling ~~870~~ 3,530 square feet (~~0.02~~ 0.081 acre) would result in low impacts due to the burying of the ford gravel under native soils and the re-establishment of wetland vegetation. No compensatory mitigation is required for construction of the permanent fords

Page S-12, Table S-1, Wetlands, Mitigation has been modified as follows:

Mitigation	• Obtain and comply with applicable Clean Water Act permits for all work in wetlands or streams • Replace wetland functions and values lost at the removal-fill sites using wetland credits purchased from a mid-Willamette Valley wetland mitigation bank • Purchase approximately 0.29 acre of wetland mitigation credits from a mid-Willamette Valley wetland mitigation bank • Identify and flag wetland boundaries before construction • Install erosion-control measures prior to work in or near wetlands, such as silt fences, straw wattles, and other soil stabilizers; reseed disturbed areas as required • Install polyethylene pole wraps around the underground portion of the poles located in wetlands, to prevent leaching of the preservative material into the surrounding area • Deposit and stabilize all excavated material not reused in an upland area outside of wetlands • Avoid construction within wetlands and wetland buffers to protect wetland functions and values, where possible. Avoid using 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 and geotextile fabric, and revegetate after use of temporary roads built in wetlands • Bury permanent fords under a layer of native soils to allow wetland vegetation to re-establish. • Use herbicides to control vegetation near wetlands in accordance with BPA's *Transmission System Vegetation Management Program Final EIS* (BPA 2000) to limit impacts to water quality

Page S-14 and S-15, Table S-1, Vegetation, Mitigation has been modified as follows:

Mitigation	*Mitigation before construction or danger tree removal* • Prior to construction, conduct a noxious weed survey within the corridor to more specifically identify existing infestations of noxious weeds • Prior to construction, visit existing noxious weed infestations and conduct pre-emptive measures to minimize transport and expansion of weed occurrences during construction; flag infestations for avoidance (as practicable) during construction • Flag vegetation clearing limits prior to disturbance • Clearly mark danger trees and demarcate danger tree removal disturbance limits, log deck areas, and skid/access routes • Finalize and implement a mitigation strategy (see Appendix D) for associated impacts to migratory birds resulting from danger tree removal in coordination with USFWS and ODFW. Mitigation would include retention of non-danger trees and native understory vegetation, creation and retention of snags, and native plantings • Evaluate Oregon white oak trees designated as danger trees for alternative treatments (e.g., top and trim). Top and/or trim Oregon white oak trees designated as danger trees if possible • Identify potential onsite mitigation opportunities specific to vegetation replacement/replanting (e.g., willow planting/cutting installations) • Identify offsite mitigation for forested habitats during the permitting process that could replace tree removal occurring as a result of the Proposed Action • Coordinate with local watershed councils and land conservancies (e.g., Calapooia Watershed Council, Institute for Applied Ecology, and similar groups) regarding tree salvage for use in nearby habitat restoration projects. Determine potential for assisting with or furthering planned mitigation opportunities and priority projects *Mitigation for construction or danger tree removal* • Use existing road systems (including farm access roads), where practicable to access structure locations • Minimize the construction area (footprint) to the extent practicable, especially within wetlands and adjacent waterbody crossings • Install construction "envelopes" of silt fencing, straw wattles, or other barrier materials around construction sites to prevent vehicle turnaround, materials storage, or other disturbance outside designated construction areas • Place materials storage and staging areas in upland areas (away from wetland/waterbodies) • Minimize ground disturbance in proximity to existing noxious weed populations • Implement appropriate measures to minimize the introduction and broadcast of weed seeds/propagules, including inspection of vehicles before entering construction areas and appropriate equipment cleaning measures • Conduct as much work as possible during the dry season when stream flow, rainfall, and runoff are low to minimize erosion, sedimentation, and soil compaction • Cut and remove danger trees during the dry season to minimize compaction. Conduct danger tree removal in a manner that minimizes disruption to remaining trees and shrubs • Do not disturb existing root system of danger trees by "tipping over" danger trees with an excavator or similar machine due to potential wetland impact constraints • Use a feller buncher (where access allows), a "cable and winch" removal approach, or equivalent method to limit damage to remaining trees and understory vegetation during danger tree removal in sensitive areas • Do not allow danger trees to be chipped and left onsite • Top and trim Oregon white oak trees designated as danger trees if possible • Top, trim, and/or girdle a percentage of designated danger trees to create snags (e.g., in higher quality habitat areas) to reduce impacts to vegetation and wildlife species, such as small mammals and amphibians • Leave a small percentage of cut and felled danger trees as snags within the corridor as additional habitat/structure for wildlife, particularly small mammals and amphibians where appropriate • Use adjacent open fields for accessing and removing danger trees where possible

	Mitigation after construction • Reseed disturbed areas with native grasses and forbs to ensure appropriate vegetation coverage and soil stabilization prior to November 1 (rainy season) • Inspect seeded sites to verify adequate growth and implement contingency measures as needed *Mitigation for rare plants* • Schedule maintenance for fall or winter to avoid disturbing or destroying plants before they reproduce • Salvage natives where possible (especially camas) and replant after construction • Limit herbicide use to appropriate areas as specified in Section 3.3.2. • Restrict equipment access to wooden pole structures within or near the remnant native prairie areas to the edges of the ROW where possible

Page S-15, Table S-1, Fish and Wildlife, No Action has been modified as follows:

No Action	Impacts to fish would be similar to the impacts described for on-going operation and maintenance of the Proposed Action. In addition, any repairs in areas near stream crossings could result in greater impacts to fish species and their habitat, especially if conducted during periods when Endangered Species Act (ESA)-listed fish species are present. Maintenance activities, such as roadway improvements, are expected to have low impacts to fish. Impacts to wildlife would mainly result from vegetation clearing and disturbance activities associated with on-going maintenance, operation, and emergency repairs. On-going maintenance and operation would result in low impacts to wildlife species. Other maintenance actions, including repairs, could also occur in areas or during times of year where impacts to nesting bird species may occur. Maintenance activities are expected to have low impacts on wildlife. Danger trees would be selectively cleared, primarily east of the railroad. Danger tree removal areas (including cottonwood-dominated habitats east of the railroad tracks) provide perching, nesting, and foraging opportunities for a variety of bird species. The amount of danger tree removal would result in a loss of most of the overstory canopy within and adjacent to the corridor. For a variety of bird species, impacts would be high ~~without mitigation measures applied~~.

Page S-17, Table S-1, Fish and Wildlife, Mitigation has been modified as follows:

Mitigation	*Mitigation for fish* • Implement all impact minimization and mitigation measures identified in Section 7 Consultation with U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries • Conduct all construction activities according to Oregon Department of Fish and Wildlife (ODFW) in-water work guidelines or ODFW-approved in-water work extension for streams identified as having ESA-listed Oregon chub • Conduct all construction activities according to ODFW in-water work guidelines or ODFW-approved in-water work extension for all streams identified as containing ESA-listed fish species (UWR chinook/UWR steelhead) • Install, monitor, and maintain construction "envelopes" of silt fencing, wattles, or other barrier materials around construction sites to prevent vehicle turnaround, materials storage, or other disturbance outside designated construction areas; locate staging, turnaround, and material storage away from streams • Use existing road systems (including farm access roads), where practicable to access structure locations • Minimize the construction area (footprint) to the extent practicable, especially within wetlands and adjacent water feature crossings • Locate new access roads in previously disturbed areas and away from water crossings, when practicable • Prevent spills from entering streams and/or groundwater by developing a spill prevention and spill response plan prior to construction; carry spill kits in all construction equipment and vehicles • Conduct site restoration as soon as possible following construction; grade disturbed areas to their original contours and plant with suitable native vegetation during the appropriate season • Salvage and stockpile selected vegetation (e.g., coniferous trees) for use in nearby watershed stream enhancement/habitat restoration projects. Coordinate with local watershed councils (e.g., Calapooia Watershed Council) regarding any other tree salvage needs *Mitigation for wildlife* • ~~Prior to initiating ground-disturbing activities, identify active raptor nest sites by consulting with ODFW and/or the USFWS and conduct raptor nesting surveys if required~~

	• Install bird diverters near the Calapooia and Willamette Rivers • Avoid disruptive construction activities within 330 feet of active bald eagle nests during their critical nesting period (January–June) • Schedule danger tree removal between August and March to minimize impacts to migratory birds. • Finalize and implement a mitigation strategy (see Appendix D) for associated impacts to migratory birds resulting from danger tree removal in coordination with USFWS and ODFW. Mitigation would include retention of non-danger trees and native understory vegetation, creation and retention of snags, and native plantings • Minimize the construction area to the extent practicable • In areas where cottonwoods would be removed, leave the understory layer intact (i.e., do not remove hawthorn, cherry, or willow trees) • Leave a small percentage of cut and felled danger trees in upland and wetland areas as additional habitat/structure for wildlife, particularly small mammals and amphibians • Top, trim, and/or girdle a percentage of designated danger trees to create snags (e.g., in higher quality habitat areas) to reduce impacts to vegetation and wildlife species, such as small mammals and amphibians

2.2 Proposed Action and Alternatives (Chapter 2)

Page 2-2, Section 2.1.2, third paragraph has been modified as follows:

> Generally, the height of new structures would be approximately 70 feet above ground, with structure heights at particular locations dependent on terrain, requirements for road crossings, and clearing needs. Proposed structure heights would be approximately the same height as structures along the existing line (Figure 2-1). The replacement components would be compliant with the *Suggested Practices for Avian Protection on Power Lines* prepared by the Avian Power Line Interaction Committee (APLIC) (APLIC 2006).

Page 2-8, Section 2.1.8, fifth paragraph has been modified as follows:

> In addition, vegetation would continue to be maintained for safe operation of the line and to allow access to the structures. Removal of danger trees could also occur during maintenance of the line. Future danger tree removal is scheduled to occur on a frequent basis as part of routine maintenance. Vegetation management would continue to be guided by the program identified in BPA's *Transmission System Vegetation Management Program Final EIS* (BPA 2000). This program includes ongoing consultation between BPA, landowners, and others concerning vegetation and noxious weed control. A number of different vegetation management methods may be used: manual (hand-pulling, clippers, chainsaws); mechanical (roller-choppers, brush-hog); and/or chemical (herbicides).

Page 2-9, Section 2.2, first paragraph has been modified as follows:

> Under the No Action Alternative, BPA would not take action to replace structures along the transmission line or upgrade access roads, and would continue to operate and maintain the existing transmission line in its current condition. Within the Albany-Eugene corridor, approximately 6,300 danger trees have been identified for removal and would be removed as part of the No Action Alternative. Most of these trees lie along the east side of the P&W Railroad ROW and are not directly under the transmission line.

~~Danger tree removal would likely occur during August, September, and October~~ Given the large number of danger trees to be removed for this corridor, it is likely that tree removal would need to occur over a two-year period.

Page 2-13, Table 2-2, Wetlands, Proposed Action Construction Impacts has been modified as follows:

Proposed Action Construction Impacts	Structure replacement would result in low impacts to wetlands because wetland function would be temporarily disrupted but would return to pre-construction conditions. Construction of new temporary access roads in wetlands totaling ~~52,270~~ 12,460 square feet (~~1.2~~ 0.286 acre) would result in low impacts to wetlands due to post-construction restoration, including removal of temporary wetland fill and the creation of replacement wetlands through compensatory mitigation for those areas where wetland fill will remain after project construction. Construction of permanent fords in wetlands totaling ~~870~~ 3,530 square feet (~~0.02~~ 0.081 acre) would result in low impacts due to the burying of the ford gravel under native soils and the re-establishment of wetland vegetation. No compensatory mitigation is required for the construction of the permanent fords.

Page 2-15, Table 2-2, Fish and Wildlife, No Action has been modified as follows:

No Action	Impacts to fish would be similar to the impacts described for on-going operation and maintenance of the Proposed Action. In addition, any repairs in areas near stream crossings could result in greater impacts to fish species and their habitat, especially if conducted during periods when Endangered Species Act (ESA)-listed fish species are present. Maintenance activities, such as roadway improvements, are expected to have low impacts to fish. Impacts to wildlife would mainly result from vegetation clearing and disturbance activities associated with on-going maintenance, operation, and emergency repairs. On-going maintenance and operation would result in low impacts to wildlife species. Other maintenance actions, including repairs, could also occur in areas or during times of year where impacts to nesting bird species may occur. Maintenance activities are expected to have low impacts on wildlife. Danger trees would be selectively cleared, primarily east of the railroad. Danger tree removal areas (including cottonwood-dominated habitats east of the railroad tracks) provide perching, nesting, and foraging opportunities for a variety of bird species. The amount of danger tree removal would result in a loss of most of the overstory canopy within and adjacent to the corridor. For a variety of bird species, impacts would be high ~~without mitigation measures applied~~.

2.3 Affected Environment, Environmental Consequences, and Mitigation Measures (Chapter 3)

Page 3-20, Section 3.3.2, third paragraph has been modified as follows:

Impacts on surface water temperature for those streams with TMDL limits for temperature are expected to be none-to-low due to danger tree removal. Danger tree removal would remove only the mature trees and not the understory; thus the ground surface would remain intact and post-removal site runoff is not expected to be different from existing conditions. Most danger tree removal would occur away from waterways (more than 200 feet from the Calapooia River and 1,000 feet from the Willamette River) and thus, are expected to have only minimal impacts on these waterways. Tree removal would occur near some smaller streams; however, the riparian understory would still

exist and provide shading for these smaller streams. Mitigation in the form of riparian tree plantings in a nearby mitigation area (see Appendix D) would help to offset any temperature impacts to habitat.

Page 3-21, Section 3.3.3, bullet points have been modified as follows:

- Prepare and implement a Storm Water Pollution Prevention Plan
- Inspect and maintain tanks and equipment containing oil, fuel, or chemicals for drips or leaks to prevent spills onto the ground or into waterbodies
- Maintain and repair all equipment and vehicles on impervious surfaces away from all sources of surface water
- Refuel and maintain equipment away from natural or manmade drainage conveyances, including streams, wetlands, ditches, catch basins, ponds, and culverts; provide spill containment and cleanup; and use pumps, funnels, and absorbent pads for all equipment-fueling operations. Keep, maintain, and have readily available appropriate spill containment and cleanup materials in construction equipment, in staging areas, and at work sites
- Place sorbent materials or other impervious materials underneath individual wood poles at pole storage and staging areas to contain leaching of preservative materials
- Install polyethylene pole wraps around the underground portion of the poles located in wetlands, to prevent leaching of the preservative material into surrounding areas.
- Install erosion control measures prior to work in or near floodplains
- 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

Page 3-22, Section 3.4, first paragraph has been modified as follows:

Additional detail on the wetlands and floodplains analysis is provided in the Final Water Quality and Floodplains Technical Report (Parsons Brinckerhoff 2010) and the Wetland and Waters of the U.S./State Delineation Report (Mason, Bruce & Girard ~~2010~~2011), available on request.

Page 3-22, Section 3.4.1, Affected Environment, Wetlands has been modified as follows:

Wetlands are transitional areas between well-drained uplands and permanently flooded aquatic habitats. Many wetlands are highly productive and support numerous complex food chains that provide valuable sources of energy to plants and animals. Wetlands also provide general and specialized habitat for a wide variety of aquatic and terrestrial animals.

Wetlands within the transmission line corridor were identified using National Wetland Inventory maps, National Hydrography Dataset, county soil survey reports, aerial

photographs, and field visits. Wetlands along the corridor are associated with topographic depressions or riparian areas and are dominated by herbaceous vegetation (emergent wetlands). Some wetlands also occur in agricultural fields or pastures.

Based on the results of the office determination and field investigations conducted between June 14, 2010 and July 2, 2010~~,~~ and between October 26 and October 28, 2011, wetland scientists identified ~~67~~ 27 water features and 58 wetlands that could be affected by structure replacement and access road construction. ~~Of these, 26 intermittent and perennial streams, ditches, or ponds and 38 wetlands are likely waters of the State. Additionally, 26 intermittent and perennial streams, ditches, or ponds and 39 wetlands are likely waters of the U.S.~~ All wetlands and waters were assumed to be jurisdictional waters of the State and U.S. Additional field investigations conducted between November 8, 2010 and November 11, 2010, identified likely wetlands along virtually the entire east side of the P&W Railroad ROW that would be temporarily affected by danger tree removal.

Wetland and other water types identified along the transmission line corridor ~~during field investigations~~ include the following:

- Palustrine, Emergent, Persistent (PEM1) wetlands
- Palustrine, Scrub-Shrub, Deciduous (PSS6) wetlands
- Palustrine, Aquatic Bed, Floating Vegetation (PAB4) wetlands
- Palustrine, Forested, Deciduous (PFO6) wetlands
- Riverine, Intermittent, Stream Bed, Mud, Excavated (R4SB5x) excavated ditches
- Palustrine, Unconsolidated Bottom, Mud, Excavated (PUB3x) excavated ditches
- Riverine, Intermittent, Stream Bed, Cobble-Gravel (R4SB3) intermittent streams
- Riverine, Intermittent, Stream Bed, Mud (R4SB5) intermittent streams
- Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel (R2UB1) waterway
- Riverine, Lower Perennial Unconsolidated Shore, Cobble-Gravel (R2US1) waterway
- Palustrine, Aquatic Bed, Floating Vegetation (PAB4) waterway

Vegetation communities adjacent to these wetland and water features are generally consistent with the disturbed/maintained upland grass and forb community described in more detail in Section 3.5 (Vegetation). Specific vegetation communities observed and associated with some of these wetland and other water types include the following:

- PEM1—reed canarygrass, velvetgrass, creeping bentgrass, and common rush
- PSS6—willow species, rose spirea, Nootka rose, and reed canarygrass

- R2UB1—Himalayan blackberry, Pacific poison oak, willow species, and reed canarygrass
- R2US1—Himalayan blackberry, red alder, black cottonwood, and Oregon ash

Page 3-24, Section 3.4.2, Environmental Consequences—Proposed Action, Construction Impacts, Wetlands has been modified as follows:

~~Eighteen~~ One hundred eighty (180) existing structures are within wetlands; these wetlands would be temporarily disturbed during replacement with new structures. ~~No additional removal or fill of wetland soil would occur during wood pole replacement if the same holes are used for new poles.~~ In most cases, wood poles would be placed in the same holes from which they were removed. To prepare for installation, each existing hole would be cleaned out and re-augured approximately 2 feet deeper; depth of finished holes would vary between 7 and 12 feet deep. Polyethylene pole wraps would be placed around the underground portion of the poles located in wetlands, to prevent leaching of the preservative material into surrounding areas. The replacement wood poles would then be lifted by crane into position and placed into the holes. Gravel or crushed rock will be placed in the hole around the pole to secure it in place. If poles need to be relocated, wetlands will be avoided if possible.

~~Temporary~~ Permanent access roads (installed with ~~either wood or rubber pads or~~ geotextile fabric and rock and culverts as required) would be used during construction to access these structures. Construction equipment would drive over the wetland areas between structures in the dry season to avoid impacts. Structure replacement would result in low impacts to wetlands; the wetland function would be temporarily disrupted but would return to pre-construction conditions after mitigation and restoration are complete.

Impacts to wetlands would occur as wetland vegetation is crushed and soil is compacted by equipment near structures and while accessing danger trees for removal. Implementation of access strategies for danger tree removal and BMPs would reduce and minimize the potential for impacts to wetlands.

New ~~temporary~~ permanent access road construction would affect approximately ~~52,270~~ 12,460 square feet (~~1. 2~~ 0.286 acre) of wetlands along the corridor. ~~Temporary~~ Permanent access road construction would result in low impacts to wetlands because ~~the~~ these wetlands ~~would be restored to their former condition following the temporary disturbance~~ are currently characterized by low species diversity, lack vegetative structure, and are routinely disturbed because they are located within or adjacent to actively farmed fields and the maintained transmission line easements. BPA will replace these wetlands in kind through a purchase of wetland mitigation bank credits. New permanent access road fords would affect ~~870~~ 3,530 square feet (0.081 acre) of wetlands. Permanent access road fords would result in low impacts to wetlands because the gravel layer would be covered with existing wetland soils which would allow the

wetland vegetation, typically reed canarygrass, to reestablish; therefore, the wetland function would only be temporarily disrupted.

Page 3-25, Section 3.4.3, Mitigation Measures, Wetlands has been modified as follows:

In addition to general mitigation measures identified for soils and geology, water resources, and vegetation in Sections 3.2.3, 3.3.3, and 3.5.3, the following mitigation measures have been identified to avoid or minimize potential impacts to wetlands from the Proposed Action:

- Obtain and comply with applicable Clean Water Act permits for all work in wetlands or streams
- Replace wetland functions and values lost at the removal-fill sites using wetland credits purchased from a mid-Willamette Valley wetland mitigation bank
- Purchase approximately 0.29 acre of wetland mitigation credits from a mid-Willamette Valley wetland mitigation bank
- Identify and flag wetland boundaries before construction
- Install erosion-control measures prior to work in or near wetlands, such as silt fences, straw wattles, and other soil stabilizers; reseed disturbed areas as required
- Install polyethylene pole wraps around the underground portion of the poles to prevent leaching of the preservative material into surrounding areas
- Deposit and stabilize all excavated material not reused in an upland area outside of wetlands
- Avoid construction within wetlands and wetland buffers to protect wetland functions and values, where possible. Avoid using 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 and geotextile fabric, and revegetate after use of temporary roads built in wetlands
- Use herbicides to control vegetation near wetlands in accordance with BPA's *Transmission System Vegetation Management Program Final Environmental Impact Statement* (BPA 2000) to limit impacts to water quality

Page 3-26, Section 3.4.4, Unavoidable Impacts Remaining After Mitigation has been modified as follows:

Wetland disturbance would be short-term and highly localized during construction, operation, and maintenance activities. In addition, wetlands would be avoided where possible. Wetlands disturbed by ~~temporary~~ permanent access roads would be ~~restored~~ replaced in kind through a purchase of wetland mitigation bank credits. Permanent

access road fords would be covered with existing wetland soil allowing for wetland vegetation to reestablish. Unavoidable impacts to wetlands would be low with implementation of identified mitigation.

Floodplain disturbance would be short-term and highly localized during construction, operation, and maintenance activities. In addition, floodplains would be avoided where possible. Unavoidable impacts to floodplains would be low with implementation of identified mitigation.

Page 3-36, Section 3.5.3, Mitigation Measures, General Vegetation has been modified as follows:

Potential measures that could be applied to avoid, minimize, or mitigate for impacts to vegetation before construction include the following:

- Prior to construction, conduct a noxious weed survey within the corridor to more specifically identify existing infestations of noxious weeds
- Prior to construction, visit existing noxious weed infestations and conduct pre-emptive measures to minimize transport and expansion of weed occurrences during construction; flag infestations for avoidance (as practicable) during construction
- Flag vegetation clearing limits prior to disturbance
- Clearly mark danger trees and demarcate danger tree removal disturbance limits, log deck areas, and skid/access routes
- <u>Finalize and implement a mitigation strategy for associated impacts to migratory birds resulting from danger tree removal. Mitigation would include retention of non-danger trees and native understory vegetation, creation and retention of snags, and native plantings</u>
- Evaluate Oregon white oak trees designated as danger trees for alternative treatments (e.g., top and trim). If possible, top and/or trim Oregon white oak trees designated as danger trees
- Identify potential onsite mitigation opportunities specific to vegetation replacement/replanting (e.g., willow planting/cutting installations)
- Identify offsite mitigation for forested habitats during the permitting process that could replace tree removal occurring as a result of the Proposed Action
- Coordinate with local watershed councils and land conservancies (e.g., Calapooia Watershed Council, Institute for Applied Ecology, and similar groups) regarding tree salvage for use in nearby habitat restoration projects. Determine potential for assisting with or furthering planned mitigation opportunities and priority projects

Page 3-38, Section 3.5.4, Unavoidable Impacts Remaining After Mitigation, General Vegetation has been modified as follows:

> Replacement of structures and access road work could cause long-term soil compaction and minor reduced soil productivity under structures and on roadbeds. Reduced soil productivity could further reduce native species diversity, increase non-native and invasive species, and reduce habitat quality and quantity. Continued maintenance of the corridor, including danger tree removal, would be unavoidable. Additionally, based on the prolific nature of weeds and the difficulty in controlling them, their unintentional spread throughout and adjacent to the corridor could occur and continue. The mitigation measures described above, including finalizing and implementing a mitigation strategy (see Appendix D) in coordination with USFWS and ODFW that addresses impacts to migratory birds resulting from danger tree removal would reduce unavoidable impacts to vegetation communities to low-to-moderate.

Page 3-54, Table 3-15, Impacts to Threatened and Endangered Wildlife Species within the Transmission Line Corridor, first row has been modified as follows:

Streaked-horned lark	Moderate	Clear trees and mature shrubs outside the critical nesting periods for migratory birds (March 1–~~September 15~~ August 1) Minimize the construction area to the extent practicable at individual sites

Page 3-54, Section 3.6.2, third paragraph, and page 3-55, first paragraph has been modified as follows:

> Impacts to wildlife from operation and maintenance of the corridor are generally related to the temporary disturbance of wildlife caused by maintenance equipment and human presence. Maintenance activities may include inspections conducted by people in vehicles or on foot, vegetation clearing near structures, and other disturbances. Maintenance activities could impact a wide variety of species, including black-tailed deer, raptors, waterfowl, passerine bird species, small rodents, reptiles, and amphibians. Raptors are known to use transmission line structures for nesting and perching sites. Replacement components of the structures would be APLIC compliant to minimize the risk of electrocution to perching raptors. BPA would install flight diverters on the conductors crossing the Willamette and Calapooia Rivers to minimize migratory bird collisions with the conductor.

Page 3-56, Section 3.6.3, Mitigation Measures, Wildlife has been modified as follows:

- ~~Prior to initiating ground-disturbing activities, identify active raptor nest sites by consulting with ODFW and/or USFWS and conduct raptor nesting surveys if required~~
- Install bird flight diverters where the line crosses the Calapooia and Willamette Rivers
- Avoid disruptive construction activities within 330 feet of active bald eagle nests during their critical nesting period (January–June)

- Schedule danger tree removal between August and March to minimize impacts to migratory birds
- Finalize and implement a mitigation strategy for associated impacts to migratory birds resulting from danger tree removal in coordination with USFWS and ODFW. Mitigation would include retention of non-danger trees and native understory vegetation, creation and retention of snags, and native plantings
- Minimize the construction area to the extent practicable
- In areas where cottonwoods would be removed, leave understory layer intact (i.e., do not remove hawthorn, cherry, or willow trees)
- Leave a small percentage of cut and felled danger trees as snags in upland and wetland areas within the corridor as additional habitat/structure for wildlife, particularly small mammals and amphibians
- Top, trim, and/or girdle a percentage of designated danger trees to create snags (e.g., in higher quality habitat areas) to reduce impacts to vegetation and wildlife species, such as small mammals and amphibians

Page 3-56, Section 3.6.4, Unavoidable Impacts Remaining After Mitigation has been modified as follows:

Replacement of structures and temporary access road work could cause short-term soil compaction and minor reduced soil productivity under structures and along routes of travel. Reduced soil productivity could further reduce native species diversity, increase non-native and invasive species, and reduce habitat quality and quantity. Additionally, based on the prolific nature of weeds and the difficulty in controlling them, their unintentional spread throughout and adjacent to the corridor could occur and continue. Impacts from noxious weeds could result in adverse changes to wildlife habitat. Danger tree removal would result in the loss of most of the overstory tree canopy within and adjacent to the corridor. The overstory tree canopy is primarily the Riparian Community consisting of cottonwood trees and also includes some elements of the Oak Woodland Community. The mitigation measures described above would reduce unavoidable impacts to fish and wildlife to low or moderate.

The mitigation strategy for impacts to migratory birds resulting from danger tree removal would include measures to retain non-danger trees and minimize damage to the understory vegetation within the danger removal areas, outline a snag creation plan that would provide habitat for migratory birds, and outline mitigation measures that include riparian plantings that provide habitat for migratory birds. Through the implementation of this mitigation strategy and the mitigation measures described in Section 3.6.3, unavoidable impacts to migratory birds due to the loss of the 6,300 danger trees would be moderate.

Page 3-57, Section 3.6.5, Environmental Consequences – No Action Alternative second paragraph has been modified as follows:

> Impacts to wildlife resulting from the No Action Alternative would occur as a result of danger tree removal. Danger trees would be selectively cleared, primarily east of the railroad. Danger tree removal areas (including cottonwood-dominated habitats east of the railroad tracks) provide perching, nesting, and foraging opportunities for a variety of bird species, especially migratory bird species. The amount of danger tree removal would result in a loss of most of the overstory canopy within and adjacent to the corridor. ~~Considering project mitigation, the~~ Tree removal within the corridor would constitute ~~moderate~~ high impacts to wildlife species.

Page 3-75, Section 3.9.1, fourth paragraph has been modified as follows:

> Linn and Lane Counties and the Cities of Albany, Harrisburg, and Junction City are the primary providers of public facilities and services within the corridor, including roads, parks, police protection, fire protection, medical services, and libraries. The Greater Albany Public School District 8J, Harrisburg School District #7, and the Junction City School District provide public school services within the corridor. Utility providers in urban areas along the corridor are listed in Table 3-21.

Page 3-79, Section 3.9.2, third paragraph has been modified as follows:

> In rural areas of the corridor, construction activities are unlikely to affect environmental justice populations because very few ~~residents~~ residences and businesses are located adjacent to the corridor. Similarly, in Albany, the corridor begins at the edge of the city at the Albany Substation and only passes behind approximately three single-family residences.

2.4 Environmental Consultation, Review, and Permit Requirements (Chapter 4)

Page 4-1, Section 4.2.1, fifth paragraph and page 4-2, first paragraph has been modified as follows:

> A Section 7 Consultation under the ESA will be required to address potential impacts to listed fish, wildlife, or plant species, including Chinook salmon, steelhead trout, and Oregon chub (Table 4-1). ~~Surveys of additional portions of the project corridor (e.g., access roads and danger tree removal areas) may be required. The likely outcome of the consultation would be an incidental take permit authorized by Section 10(a)(1)(B) for impacts related to listed fish, wildlife, or plant species during construction, operation, and maintenance activities.~~ A Biological Opinion will be developed by the NOAA Fisheries Service for species and critical habitats where the Proposed Action is Likely to Adversely Affect and where incidental take authorization is necessary. A Letter of Concurrence was received on January 9, 2012 from the USFWS for species and critical habitats where the Proposed Action is Not Likely to Adversely Affect. The incidental take

authorization will be granted under ESA section 7 and will only apply (as necessary) to the three fish species (Upper Willamette River Chinook salmon, Upper Willamette River steelhead, and Oregon chub) where incidental take is likely.

Page 4-3, Section 4.2.4, fifth paragraph has been modified as follows:

Forty-two species of birds protected under the Act were observed within the corridor. Compliance with the MBTA ~~may be required and will be~~ is being accomplished by collaboratively working with USFWS and ODFW to ~~determine impacts and any required mitigation measures~~ finalize a project-specific mitigation strategy that seeks to avoid and minimize impacts to migratory birds and mitigate for loss of habitat and is consistent with the MBTA and Executive Order 13186.

Page 4-3, Section 4.2.5, sixth paragraph and page 4-4 first paragraph have been modified as follows:

Executive Order 13186, issued on January ~~17~~10, 2001, directs each Federal agency undertaking actions that may negatively impact migratory bird populations to work with the USFWS to develop an agreement to conserve those birds. The protocols developed ~~by this consultation~~ in this agreement are intended to guide future agency regulatory actions and policy decisions; renewal of permits, contracts, or other agreements; and the creation of or revisions to land management plans. This order also requires that the environmental analysis process include effects of Federal actions on migratory birds. On August 3, 2006, the USFWS and the U.S. Department of Energy signed a Memorandum of Understanding (MOU) to complement the Executive Order. BPA, as part of the Department of Energy, will work cooperatively in accordance with the protocols of the MOU and will finalize and implement a project-specific mitigation strategy (Appendix D) for danger tree removal and associated impacts to migratory birds.

Page 4-4, added new section as follows:

4.2.8 Oregon Fish and Wildlife Habitat Mitigation Policy

ODFW's fish and wildlife habitat mitigation policy (OAR 635-415-0000) requires or recommends mitigation for losses of fish and wildlife habitat resulting from development actions. Specific mitigation depends upon the habitat protection and mitigation opportunities provided by specific statutes. Rules for the fish and wildlife habitat mitigation policy are in Oregon Administrative Rules 635, Division 415. The purpose of these rules is to further the Wildlife Policy (ORS 496.012) and the Food Fish Management Policy (ORS 506.109) of the State of Oregon through the application of consistent goals and standards to mitigate impacts to fish and wildlife habitat caused by land and water development actions.

BPA has consulted with the ODFW and incorporated recommendations into the draft mitigation strategy to avoid and minimize potential impacts to fish and wildlife

resources, as well as provide offsetting mitigation. The mitigation strategy (Appendix D) will be consistent with ODFW's fish and wildlife habitat mitigation policy.

Documentation of the interagency collaboration is as follows:

- BPA staff met with USFWS on December 15, 2011, to discuss mitigation planning for danger tree removal. Subsequent to that meeting and up through the publication of the Final EIS, BPA staff have regularly corresponded with USFWS by electronic mail and telephone regarding mitigation planning for danger tree removal.
- BPA's wildlife contractor met with the Calapooia Watershed Council on December 21, 2011 to discuss mitigation opportunities within their portfolio of restoration projects.
- BPA's wildlife contractor met with Greenbelt Land Trust on January 4, 2012 to discuss mitigation opportunities within their portfolio of restoration projects.
- BPA staff met with ODFW on January 10, 2012 to discuss the Proposed Action and its impacts to migratory bird habitat. BPA staff conducted a site visit with ODFW along portions of the transmission line corridor that same day.
- BPA staff met with USFWS and NOAA Fisheries Service on January 24, 2012 to discuss the Proposed Action and its impacts to migratory bird habitat. Impacts to listed salmonid species were also discussed.
- BPA's wildlife contractor met with the City of Albany on February 12, 2012 to discuss mitigation opportunities on city properties.
- BPA's wildlife contractor met with USFWS on February 27, 2012 to discuss potential mitigation projects in the mid-Willamette Valley.
- BPA's wildlife contractor met with USFWS on March 9, 2012 to discuss mitigation opportunities and recommendations in the mid-Willamette Valley.

Page 4-4, Section 4.3, seventh paragraph and page 4-5, first paragraph has been modified as follows:

Section 402 of the Clean Water Act authorizes stormwater discharges associated with industrial activities under the National Pollutant Discharge Elimination System (NPDES). ~~BPA, as a Federal agency, holds and maintains an agency NPDES General Storm Water 1200-CA Permit from Oregon DEQ. BPA has been instructed by Oregon DEQ to comply with the Federal General Construction permit (January 8, 2009) until the state revises the 1200-CA permit. BPA will prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) involving the installation of appropriate BMPs, monitoring of any discharges, hazardous materials management, and site restoration. This plan helps ensure that erosion control measures are implemented and maintained during construction. It also addresses BMPs for stabilization and stormwater management.~~ The U.S. Environmental Protection Agency (EPA) and delegated states regulate the discharge

of stormwater into waters of the United States through the NPDES permitting program. As part of this program, General NPDES permits will be issued to BPA to regulate stormwater discharges associated with construction activities. Under Storm Water Phase II, all construction activities that disturb one or more acres of land are being regulated. "Disturbance" refers to exposed soil resulting from activities such as clearing, grading, and excavating. Construction activities can include road building and demolition.

For Federal facilities in the State of Oregon, EPA has delegated enforcement and permitting authority to the State. The Oregon DEQ regulates stormwater runoff from construction sites through a series of general and individual permits. BPA, being a Federal agency, has obtained and maintains an agency NPDES General Storm Water 1200-CA Permit from Oregon DEQ (File No.: 111769; EPA No.: ORR10-4145). The General NPDES Permit requires permittees to notify the issuing agency of proposed construction activities, prepare and implement Stormwater Pollution Prevention Plans (SWPPP) to control stormwater pollution associated with construction activities, and to notify the issuing agency once construction ceases and the site has been stabilized.

BPA has prepared a SWPPP to meet the requirements of the EPA Construction General Permit (CGP February 16, 2012) at the direction of Oregon DEQ, which is in the process of revising the 1200-CA permits. The EPA CGP also requires that BPA construction projects comply with water quality standards set by the State in the Oregon Administrative Regulations (OAR) OAR 340-41. The purpose of this plan is to ensure that non-point source pollution does not contaminate waters of the U.S., both during and after construction.

Within the city limits of Albany, Oregon, the city has been given regulatory authority to issue NPDES permits for construction that disturbs greater than 2,000 square feet in area.

Pages 4-5 and 4-6, Section 4.5, first paragraph and bullet list have been modified as follows:

Preserving cultural resources allows Americans to have an understanding and appreciation of their origins and history. 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. Cultural resources include National Landmarks, archaeological sites, and properties listed (or eligible for listing) on the NRHP. In addition, American Indian Tribes are afforded special rights under certain laws, as well as the opportunity to voice concerns about issues under these laws when their aboriginal territory falls within a Proposed Action area. Laws and other directives for the management of cultural resources include the following:

- Antiquities Act of 1906 (16 U.S.C. §431-433)
- Historic Sites Act of 1935 (16 U.S.C. §461-467)
- National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. §470aa-mm ~~*et seq.*~~), as amended, inclusive of Section 106

- Archaeological Data Preservation Act of 1974 (16 U.S.C. §469 a-c)
- Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S.C. §470 *et seq.*), 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 (PL 95-341, 92 Stat. 469, 42 U.S.C. §1996, 1996a).

2.5 References (Chapter 6)

Page 6-1, added reference as follows:

Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C., and Sacramento, California.

Page 6-5, modified reference as follows:

Mason, Bruce, & Girard (MB&G) ~~2010~~2011. ~~*Draft*~~ *Final Albany-Eugene Transmission Line Rebuild Project, Wetland and Waters of the U.S./State Delineation Report*.

2.6 Glossary (Chapter 7)

Page 7-2, modified definition as follows:

Danger Tree — Trees (or high-growing brush) ~~in or alongside~~ outside the ROW that are hazardous to the transmission line. These trees are identified by special crews and must be removed to prevent tree-fall into the line or other interference with the conductors. BPA's Construction Clearing Policy requires that trees be removed that meet either one of two technical categories: Category A is any tree that within 15 years will grow to within about 18 feet of conductors when the conductor is at maximum sag (212ºF) and swung by 6 lb per sq feet of wind (58 mph); Category B is any tree or high-growing brush that after a year of growth will fall within about 8 feet of the conductor at maximum sag (176ºF) and in a static position.

2.7 Appendix A. Public Notices

One additional public notice has been added to Appendix A.

2.8 Appendix D. Draft Danger Tree Removal and Migratory Bird Treaty Act Mitigation Strategy

A new appendix has been added to include the draft mitigation strategy for danger tree removal associated with the Proposed Action Alternative. The details of the mitigation strategy may change based on continued discussions with USFWS and ODFW.

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Chapter 3. Comments and Responses

This chapter presents comments received on the Draft EIS and BPA's responses to these comments.

Comments were submitted in writing. Two letters were received from Federal agencies (U.S. EPA and U.S. Department of Interior). From these letters, BPA cataloged 21 individual comments received on the Draft EIS.

Comments were primarily made on the Summary and Chapters 2, 3, and 4 of the Draft EIS. Of the 21 comments received:

- Three comments addressed mitigation measures pertaining to migratory bird species that was presented in the Summary.
- Three comments addressed information discussed in Chapter 2, Proposed Action and Alternatives. These comments focused on how the project would be designed and maintained to avoid or minimize impacts to bird species.
- Eight comments pertained to Chapter 3, Affected Environment, Environmental Impacts, and Mitigation Measures. Comments were in the following areas: water resources, vegetation, and fish and wildlife.
- Six comments were made on Chapter 4, Environmental Consultation, Review, and Permit Requirements.

At the February 22, 2012, public meeting in Harrisburg, Oregon, BPA addressed questions from the nine attendees on the following topics (no written comments were received at the public meeting):

- Danger tree removal and other concerns about vegetation clearing that would occur in or near the ROW
- Access routes for construction activities, particularly those routes that would be on active agricultural lands
- Location of wood poles that would be replaced in the City of Harrisburg
- Other projects that BPA is proposing in surrounding areas

Comments were designated with an identifying number based on the order in which the letter was received. Comment letters and responses to those comments are provided below.

Log No.	Name/Affiliation
AE1R12-0001	Allison O'Brien, U.S. Department of Interior
AE1R12-0002	Christine B. Reichgott, U.S. Environmental Protection Agency

AE1R12-0001

United States Department of the Interior

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ER12/78

Electronically Filed

March 5, 2012

Douglas Corkran
Environmental Specialist
Bonneville Power Administration – KEC-4
Portland, Oregon 97208

Dear Mr. Corkran:

The Department of the Interior (Department) has reviewed the Bonneville Power Administration's (BPA) Draft Environmental Impact Statement (DEIS) for the Albany-Eugene 115-kilovolt No. 1 Transmission Line Rebuild Project (Project) in Lane and Linn Counties. The U.S. Fish and Wildlife Service (Service), a component bureau of the Department, has completed informal Section 7 Endangered Species Act (ESA) consultation on potential Project impacts to certain ESA-listed Willamette Valley plants (Concurrence Letter to BPA dated January 9, 2012), and is drafting a Biological Opinion on Project impacts to ESA listed Oregon chub. In addition, the Service provided comments on the Project's Administrative Draft DEIS on December 23, 2011. The Department offers the following comments for use in the development of the Final Environmental Impact Statement (FEIS).

General Comment

The Project has the potential to significantly impact migratory birds and their habitats. While the DEIS proposes numerous measures to avoid and minimize impacts to migratory birds and their habitats, these protective measures, as well as the related impact analyses and effects summarizations, are described in different sections of the document and are not consistent. All
0001-01 vegetative clearing in migratory bird nesting habitat should be conducted outside of the normal migratory bird nesting window, and this should be consistently stated in the FEIS. Additionally, there is no compensatory mitigation plan for the Project's significant removal of forested habitat.
0001-02 As previously recommended by the Service in their December 2011 comments, the Department recommends that BPA place all the DEIS' migratory bird and habitat protective measures, analyses, summaries, and any compensatory mitigation plan, into a Migratory Bird Conservation Strategy (Strategy) and incorporate the Strategy into the FEIS. The Department also
0001-03 recommends that BPA work with the Service and Oregon Department of Fish and Wildlife to develop and finalize the Strategy, including development of an adequate compensatory

0001-04 mitigation plan for the Project's impacts. Further, we recommend that the FEIS include a consistent commitment to clear vegetation only outside of the migratory bird nesting window.

Specific Comments

The following specific comments identify Migratory Bird and habitat concerns associated with the Project's DEIS. As stated above, these Migratory Bird concerns should be addressed through the development of a Strategy which is incorporated into the FEIS.

0001-05 Page 2-8, Section 2.1.8 Operation and Maintenance (O&M):
The Department recommends that the FEIS include migratory bird and habitat considerations associated with O&M activities, including but not limited to timing of clearing and allowable migratory bird habitat conditions during Project operations.

0001-06 Page 3-1, Section 3.1.2 Transmission Replacement Structures
The Department recommends that the FEIS include Project power pole replacement features that are consistent with power pole designs identified by the Avian Power Line Interaction Committee (reference below), thereby ensuring any avian electrocution hazard from new Project features is negligible.

> Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006.* Edison Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA. Available on the internet at: http://www.dodpif.org/downloads/APLIC_2006_SuggestedPractices.pdf

0001-07 Page 3-38, Section 3.5.4 Unavoidable Impacts Remaining After Mitigation
It is not clear how the conclusion was made that the Project's impacts to vegetation, after mitigation, would be low-to-moderate. Because the compensatory mitigation plan for impacted vegetation is undeveloped, no substantive conclusions about the Project's impacts can be drawn. On January 26, 2012, the Service provided BPA with examples of compensatory mitigation standards and guidelines. The Department recommends that these examples be used in development of the final compensatory mitigation plan for the Project's impacts to vegetation.

0001-08 Page 3-51, Section 3.6.2 Wildlife
The impact analysis described in paragraph 2 does not incorporate the DEIS' commitment to avoid construction activities during migratory bird nesting periods. Impacts described on page 3-51 therefore are determined to be greater than with these DEIS work window protections. The Department recommends that the impacts be recalculated, based on consistency with migratory bird nesting work windows and other protective measures.

0001-09 Page 3-54, Section 3.6.2 Operations and Maintenance Impacts
The DEIS does not include a discussion of the protective Best Management Practices and other protective action commitments for wildlife. The Department recommends that the Project's activities be consistent with all proposed protective measures in order to reduce adverse effects from operations and maintenance activities.

Page 3-55, Section 3.6.2 Operations and Maintenance Impacts

0001-10 Based on the Project's APLIC 2006-compliant power pole design, the Department recommends that the FEIS describe why electrocution of migratory birds is not a concern. The Department also recommends that the FEIS discuss how other APLIC 2006 design measures (avian flight diverters, etc.) will further minimize migratory bird impacts during the Project's operations period.

Page 3-56, section 3.6.3 Wildlife

0001-11 The Department recommends adding text in Sections 3.6.2 and 3.6.3 regarding BPA's commitment to develop and implement a Project-specific Migratory Bird Conservation Strategy.

Page 3-56, Section 3.6.4 Unavoidable Impacts Remaining After Mitigation

0001-12 As noted above for Page 3-38, Section 3.6.4 anticipates that a compensatory mitigation plan for wildlife species and habitats is fully developed. However, at this DEIS stage, there is no compensatory mitigation plan defined. Until a Migratory Bird Conservation Strategy, including compensatory mitigation actions, is developed and finalized, the Project's adverse effects to wildlife species and habitats, especially to Migratory Bird species, remains high. The Department recommends that a compensatory mitigation plan for the Project's impacts to wildlife species and habitats be fully developed.

Page 3-57, Section 3.6.5 Environmental Consequences No Action Alternative – Wildlife

0001-13 The Department anticipates significant, unmitigated migratory bird and habitat impacts if the No Action alternative is selected. Currently, the DEIS does not lead the reader to understand these migratory bird impacts from the No Action alternative. The Department recommends that the FEIS compare relative benefits of the Preferred alternative to migratory birds and their habitats in comparison to the substantial, unmitigated impacts to migratory birds and their habitats from the No Action alternative.

Page 4-1, Section 4.2.1. Endangered Species Act

0001-14 The Department recommends that the following language be included in this section to correctly reflect section 7 ESA consultation outcomes:

> "a Biological Opinion will be developed for species and critical habitats where the proposed action is Likely To Adversely Affect and where incidental take authorization is necessary; a Letter of Concurrence will be developed for species and critical habitats where the proposed action is Not Likely to Adversely Affect."

0001-15 Based on Table 4.1, it appears to the Service that there is no critical habitat in the Project's action area that will be affected, that Biological Opinions will only be developed for fish species, Letters of Concurrence will be developed for two species, and no consultation will occur for five No Effect species. The last sentence should also be corrected to indicate that incidental take authorization will be granted under ESA section 7, not section 10(a)(1)(b), and will only apply (as necessary) to the three fish species where incidental take is likely.

Page 4.2, Section 4.2.2 Fish and Wildlife Conservation Act and Fish and Wildlife Coordination Act:

0001-16 The Department recommends that any compensatory mitigation plans developed for the FEIS be consistent with Oregon Department of Fish and Wildlife's Fish and Wildlife Habitat Mitigation Policy.

Page 4.3, Sections 4.2.4 (Migratory Bird Treaty Act) and 4.2.5 (Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds)

0001-17 The Department recommends that the FEIS reference consistency with MBTA and EO 13186 through BPA's commitment to develop a Project-specific Migratory Bird Conservation Strategy.

Thank you for the opportunity to review this document. Should you have questions about these comments, please contact Doug Young, Oregon Fish and Wildlife Office, at 503-231-6179. If you have any other questions, please contact me at 503-326-2489.

Sincerely,

Allison O'Brien

Allison O'Brien
Regional Environmental Officer

Responses to AE1R12-0001

AE1R12-0001-01 All references to vegetation clearing in the Draft EIS were updated in the Final EIS to reflect that these activities would be scheduled to occur between August and March to minimize impacts to migratory birds.

AE1R12-0001-02 BPA is working with USFWS and ODFW to finalize the draft mitigation strategy (see Appendix D), which includes migratory bird and habitat protections. Text in Table S-1 (Vegetation and Fish and Wildlife sections) was revised to include commitments to finalize the draft mitigation strategy plan for potential impacts to migratory birds prior to danger tree removal.

AE1R12-0001-03 BPA met with ODFW in January 2012 to develop the mitigation plan and select mitigation opportunities to offset danger tree removal by planting in riparian areas along the Calapooia and Willamette Rivers (see Appendix D). Section 4.2.8 was added to the Final EIS that references the fish and wildlife habitat mitigation policy and the coordination that BPA has had with the Oregon Department of Fish and Wildlife.

AE1R12-0001-04 See response to AE1R12-0001-01.

AE1R12-0001-05 BPA's *Transmission System Vegetation Management Program Final EIS* is cited in Section 2.1.8, which includes the vegetation control measures that will be applied to this project's operation and maintenance activities. Updated detail on impacts and mitigation for migratory birds was added in other sections of the Final EIS, as stated in responses AE1R12- 0001-01, -0001-10, -0001-11, -0001-12, and -0001-13.

AE1R12-0001-06 Section 2.1.2 was revised to acknowledge that the transmission line replacement features would be APLIC compliant. The APLIC reference was added to Chapter 6.

AE1R12-0001-07 BPA is working with USFWS and ODFW to finalize the draft mitigation strategy, which includes migratory bird and habitat protections. Section 3.6.3 was revised to add a commitment to finalize and implement the draft mitigation strategy that addresses impacts to migratory birds resulting from danger tree removal, and includes examples recommended by the Department of Interior. The discussion in Section 3.5.4 was revised to reference this mitigation and clarify how impacts would be reduced to a low-to-moderate level.

AE1R12-0001-08 The second paragraph on page 3-51 in Section 3.6.2 described the potential impacts for all construction rather than just the impacts associated with danger tree removal. Although danger tree removal would be scheduled to avoid the critical nesting period for migratory birds (March 1 through August 1), other construction activities may occur within this window. No recalculations of impacts or revisions to this paragraph were made as the discussion addressed broader impacts related to construction and not just the danger tree removal activities.

AE1R12-0001-09 BMPs and mitigation measures for wildlife are listed in the Draft EIS in Section 3.6.3. The net impact after mitigation is described in Section 3.6.4, which indicates all unavoidable impacts to fish and wildlife would be reduced to a low or moderate level. Thus, no revisions were made to the Draft EIS.

AE1R12-0001-10 Section 3.6.2 was revised to note that the transmission line replacement features will be APLIC compliant to minimize the risk of electrocution to bird species. Section 3.6.2 also was revised to state that flight diverters would be installed on the new conductor at the Willamette River and Calapooia River crossings.

AE1R12-0001-11 Section 3.6.3 was revised to include a commitment to finalize and implement the draft mitigation strategy developed with USFWS and ODFW for danger tree removal and associated impacts to migratory birds.

AE1R12-0001-12 BPA is working with USFWS and ODFW to finalize the draft mitigation strategy, which includes various protections to minimize impacts to migratory birds and restore their habitats. See response to AE1R12-0001-11. Section 3.6.4 also was revised to clarify how impacts would be reduced to a moderate level.

AE1R12-0001-13 Section 3.6.5 was revised to clarify impacts to migratory birds for the No Action Alternative.

AE1R12-0001-14 Section 4.1.2 was revised to correctly reflect the Section 7 consultation outcomes.

AE1R12-0001-15 Section 4.1.2 also was revised to correctly indicate the process to obtain incidental take authorization.

AE1R12-0001-16 See Section 4.2.8 and response to AE1R12-0001-03.

AE1R12-0001-17 Section 4.2.4 was revised to reference the collaborative development of a mitigation strategy for impacts to migratory birds and its consistency with the Migratory Bird Treaty Act and Executive Order 13186.

AE1R12-0002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

March 5, 2012

Erich Orth
Project Manager
Bonneville Power Administration – TEP-TPP-3
P.O. Box 3621
Portland, Oregon 97208-3621

Re: Comments on the draft EIS for Albany-Eugene Transmission Line Rebuild Project (EPA Project Number 10-058-BPA).

Dear Mr. Orth:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the US Environmental Protection Agency (EPA) has reviewed the Bonneville Power Administration (BPA) Draft Environmental Impact Statement (DEIS) for the proposed **Albany-Eugene Transmission Line Rebuild Project** in Lane and Linn Counties, Oregon.

The DEIS analyzes potential environmental impacts associated with a proposal to rebuild a 32-mile long section of the Albany-Eugene 115-kV Transmission Line in Oregon. Components of the original line built in the 1940s have deteriorated and require replacement. In particular, wood pole structures supporting the line have reached their expected service life of 55-60 years, and BPA is proposing to replace them. The project would ensure reliable power supply and minimal safety risks to the public and line maintenance crews. Analysis of impacts from the project considered two action alternatives, the Proposed Action and No Action.

Under the Proposed Action, BPA would replace transmission structures and facilities within the existing 100-feet corridor Right-Of-Way (ROW) after vegetation clearance on nearly 56 acres, removal of 6,300 dangerous trees, and disturbance of about 56 acres for new access road construction and upgrade of existing ones. Structure replacement and access road construction would disturb no more than a total of 130.5 acres.

The EPA supports the goals of the proposed action. We believe that the DEIS provides adequate discussion of the potential environmental impacts associated with the proposed action. Therefore, the EPA has rated the DEIS as LO (Lack of Objections). An explanation of this rating is enclosed for your reference.

We would suggest that the final EIS include the following:

0002-01

- Updated information on the status of the National Pollutant Discharge Elimination System (NPDES) permit application, and measures to protect water quality. The DEIS indicates that the proposed project would disturb more than 130 acres, of which 55 acres would be disturbed during construction of access roads and another 30 acres as staging areas, possibly causing increased erosion and discharge of sediment to nearby waterways.

0002-02
- Updated information on how BPA will be working collaboratively with the Oregon Department of Environmental Quality to ensure compliance with Water Quality Restoration Plans that will function as BPA's share of the Upper Willamette River Total Maximum Daily Load (TMDL) implementation, designed to meet State and Federal water quality rules and regulations (p. 3-16).

0002-03
- Outcomes of consultations with the US Fish and Wildlife Service and the National Marine Fisheries Service, including recommended measures to reduce risks and protect biota and habitat. Similarly, a discussion on work with Oregon Department of Fish and Wildlife will also be important.

0002-04
- Information on an environmental inspection and mitigation-monitoring program to ensure compliance with all mitigation measures and assess effectiveness. The final EIS should describe the program and its use as an effective feedback mechanism so that needed adjustments can be made to meet environmental objectives throughout the period of the project. The DEIS states that up to 6,300 danger trees would be removed, which would suggest a lack of regular monitoring of the transmission line.

We appreciate the opportunity to review this DEIS. If you have question about our comments, please contact me at (206) 553-1601 or by electronic mail at reichgott.christine@epa.gov, or you may contact Theo Mbabaliye of my staff at (206) 553-6322 or electronic mail at mbabaliye.theogene@epa.gov.

Sincerely,

Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

Enclosure
EPA Rating System for Draft EISs

cc: Oregon Department of Environmental Quality

3

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Responses to AE1R12-0002

AE1R12-0002-01 Section 4.3 was revised to include updated and more detailed information regarding BPA's NPDES permit process to prevent sediment-laden discharge of stormwater to nearby waterways.

AE1R12-0002-02 Section 3.3.2 was revised to acknowledge the possible effects of danger tree removal on streams in the project area that have TMDL limits for temperature.

AE1R12-0002-03 Section 4.2.1 was revised to discuss the outcomes of consultation with the USFWS and NOAA. Section 4.2.8 was added to discuss the fish and wildlife habitat mitigation policy and the coordination that BPA has had with ODFW and NOAA.

AE1R12-0002-04 As a result of BPA's capital investment to rebuild their transmission line, danger tree removal would be greater than is typically conducted during regular operations and maintenance to ensure cost effectiveness with the investment. BPA has a vegetation management program that regularly inspects BPA transmission lines. After this transmission line is rebuilt, vegetation management would continue to be guided by the program identified in BPA's *Transmission System Vegetation Management Program Final EIS*. Future danger tree removal is scheduled to occur frequently as part of routine maintenance. Section 2.1.8 was revised accordingly.

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Appendix A. Public Notices

Department of Energy

Bonneville Power Administration
P.O. Box 61409
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

January 18, 2012

In reply refer to: TEP-TPP-3

To: Parties interested in Bonneville Power Administration's Albany-Eugene 115-kilovolt Transmission Line Rebuild Project.

You are invited to review and comment on the draft environmental impact statement (EIS) for BPA's Albany-Eugene Transmission Line Rebuild Project in Linn and Lane counties, Oregon. The draft EIS describes the proposed project and the environmental effects expected from construction, operation, and maintenance of the transmission line. Public comments on the draft EIS will help BPA refine the environmental analysis and decide whether to build the project.

Project background

BPA proposes to rebuild a 32-mile section of the Albany-Eugene 115-kilovolt No. 1 Transmission Line. No major work has been done on the line since it was originally built in 1940. Many of the structures, the electric wire (conductor), and associated structural components (cross arms, insulators, and dampers) are physically worn and structurally unsound in places. These wood transmission poles have lasted beyond the expected 55 to 60 years, and now need to be replaced due to age, rot, and deterioration. Based on the deteriorated condition of this line, there is a need to rebuild the line to maintain reliable electrical service and to avoid risks to the safety of the public and maintenance crews.

Proposed activities would include establishing temporary access to the line, improving some access roads, removing danger trees, removing and replacing existing wood pole structures and associated structural components and conductor, and revegetating areas disturbed by construction activities. The existing structures would be replaced with structures of similar design in the same location. The line would continue to operate at 115-kilovolts. BPA is also considering a no action alternative, that is, BPA would not rebuild the transmission line but continue to maintain it as needed.

Public meeting

You are also invited to an open house public meeting on this project. Project team members will be available to take your comments on the draft EIS and answer any questions you may have. The meeting will be held:

February 22, 2012
4:30 p.m. to 7:00 p.m.
Harrisburg High School
400 South 9th Street
Harrisburg, OR

How to comment

All comments are encouraged. Comments will be accepted through March 05, 2012 Of particular interest are observations about the environmental analysis in the draft EIS, and recommendations for making the project more environmentally friendly while still meeting the need and fulfilling its intended purposes.

Comments may be submitted online at: *www.bpa.gov/comment*, via mail to: Bonneville Power Administration, Public Affairs Office - DKE-7, P.O. Box 14428, Portland, OR, 97293-4428; or by fax to 503-230-4019. You also may call us with your comment toll free at 800-622-4519. Please reference "Albany-Eugene Rebuild Project" with your comments. All comments will be posted in their entirety on BPA's Web site at *http://efw.bpa.gov/environmental_services/Document_Library/Albany-Eugene_Rebuild/*. Comments and responses to them will be made part of the final EIS.

Copies available

If you previously requested the draft EIS, a copy is enclosed for your review. If you would like additional copies of the draft EIS, please call BPA's toll-free document request line at 800-622-4519. Please leave a message naming this project, giving your complete mailing address and requesting the format of documentation (hard copy or CD) you would prefer. The draft EIS can also be viewed at the project website: *www.bpa.gov/go/AlbanyEugeneRebuild*.

Next Steps

BPA expects to complete and publish the final EIS in late winter 2012 and then issue a record of decision in spring 2012 that will explain BPA's decision about whether to build the project.

For More Information

BPA is committed to providing reliable, low-cost transmission products and services to the region while minimizing environmental impacts. If you have questions or would like more information about the project, please call us toll free at 800-622-4519 or e-mail me at *etorth@bpa.gov*.

Sincerely,

/s/ Erich T. Orth

Erich T. Orth
Project Manager

Enclosures:
Draft EIS
Comment Form
Public Meeting Location Map
Return Envelope

Appendix D. Draft Danger Tree Removal and Migratory Bird Treaty Act Mitigation Strategy

Draft Danger Tree Removal and Migratory Bird Treaty Act Mitigation Strategy

1. Introduction

The Bonneville Power Administration (BPA) is proposing to rebuild a 32-mile section of the Albany-Eugene 115-kilovolt No. 1 Transmission Line. This line extends from the Albany Substation in the City of Albany, Linn County, Oregon, to the Alderwood Tap near Junction City in Lane County, Oregon. Many of the structures, the electric wire (conductor), and associated structural components are physically worn and structurally unsound in places. These wood transmission poles have lasted beyond their expected 55 to 60 years and now need to be replaced due to age, rot, and deterioration. As a result, there is a need to rebuild the line to maintain reliable electrical service and avoid safety risks to maintenance crews and the general public.

This memorandum documents and describes the steps taken to develop a mitigation strategy for the unavoidable impacts to migratory bird habitat resulting from danger tree removal occurring as part of the project. BPA's transmission lines within the 32-mile corridor are located primarily within the Portland and Western Railroad right-of-way (ROW). ROW areas under the BPA's transmission lines are regularly maintained and mowed, precluding the typical natural succession of tree and shrub species. As such, very minimal danger tree removal is proposed along the west side of the ROW. Most danger tree removal proposed is within the railroad ROW east of the existing railroad tracks and transmission lines. The following paragraphs outline the regulatory framework protecting migratory birds, a description of proposed avoidance and minimization measures, a description of the habitat assessment and impact quantification, as well as BPA's proposed mitigation measures. BPA is in continuing discussions with U.S. Fish and Wildlife Service (USFWS) about the contents of the mitigation strategy; therefore, the type and amount of mitigation described in this document may change.

2. Regulatory Framework

Migratory Bird Treaty Act (MBTA)

The MBTA protects migratory birds, and their active nests, eggs, young, and parts from possession, sale, purchase, barter, transport, import, and export, and take. For purposes of the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." (50 C.F.R. § 10.12). The MBTA applies to migratory birds that are identified in 50 C.F.R. § 10.13 (defined hereafter as "migratory birds"). Although migratory bird habitat is not protected under the MBTA, activities that impact habitat and result in take of migratory birds would violate the MBTA. Any activities, intentional or unintentional, resulting in take of migratory birds are prohibited unless otherwise permitted by the USFWS. Many migratory birds are sensitive to disturbance when nesting and roosting. Should such disturbance result in the wounding or killing of adult birds, chicks, or eggs, including abandonment of a nest with eggs or young, the activity causing the disturbance would violate the MBTA. Activities involved in construction of the proposed project have the potential to result in take of migratory birds. The

unavoidable impacts to migratory birds resulting from the proposed project are expected to be moderate taking into account all avoidance, minimization, and mitigation measures.

Executive Order 13186

Executive Order 13186 of January 10, 2001, identifies the responsibility of federal agencies to protect migratory birds and their habitats, and directs executive departments and agencies to undertake actions that will further implement the MBTA. Executive Order 13186 includes a directive for federal agencies to develop a memorandum of understanding (MOU) with the USFWS to promote the conservation of migratory bird populations, including their habitats, when their actions have, or are likely to have, a measurable negative effect on migratory bird populations. Whereas the MBTA only protects migratory birds, Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. The Executive Order encourages federal agencies to undertake several types of conservation actions for migratory birds including: integration of bird conservation principles, measures, and practices into agency activities; avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions; restoration and enhancement of migratory bird habitat; to evaluate the effects of actions and agency plans on migratory birds in any environmental analyses of federal actions required by NEPA or other established environmental review processes; to identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations, and relative to this take to develop and use principles, standards, and practices that will lessen the amount of unintentional take; and to inventory and monitor bird habitat and populations within the agency's capabilities and authorities to the extent feasible. The Department of Energy and USFWS signed an MOU in August of 2006 (currently in revision). BPA is proposing specific avoidance, minimization, and mitigation measures to address project impacts to migratory birds that are consistent with the 2006 MOU.

BPA will take necessary and reasonable measures to comply with the MBTA, and also desires to provide, per Executive Order 13186, for the reasonable restoration and conservation of habitats for migratory birds where the Project will be constructed. Accordingly, BPA will implement this plan both during and after construction of the proposed transmission line rebuild project.

3. Avoidance and Minimization Measures Before and During Construction

Avoidance

Avoidance measures for the project were discussed and evaluated during project planning. The following avoidance measures have been identified.

- Maintain the existing alignment
- Avoid tree removal activities within 1,000 feet of the Willamette River
- Utilize existing access roads and/or farmed fields where practicable

Minimization

The following minimization measure have been proposed in the EIS and supporting documents in order to minimize, to the extent practicable, the impact to wildlife (including migratory birds) resulting from danger tree removal.

- Danger tree removal will occur after fledging and before the next breeding season begins.
- At least two leave trees or snags will be designated every 500 feet along the entire 32 mile corridor. Target snags will be large in diameter (e.g., greater than 30 inches dbh and will be located as far from the power line as possible in order to maximize the allowable height of the snag). Snags will be girdled, and topped as high as practicable without resulting in a danger tree.
- Bird diverters will be installed near the Calapooia and Willamette Rivers.
- Disruptive construction activities within 330 feet of active bald eagle nests will be avoided during their critical nesting period (January–June).
- Danger tree removal disturbance limits, log deck areas, and temporary skid/access routes will be clearly marked and demarcated.
- Vegetation clearing limits for all project activities will be clearly marked prior to disturbance.
- Where practicable, Oregon white oak trees designated as danger trees will receive alternative treatments (e.g., top and/or side-trim versus complete removal).
- Danger tree removal will be conducted in a manner that minimizes disruption to remaining trees and shrubs. Non-designated danger trees and understory vegetation (e.g., hawthorn, cherry, and willow trees and shrubs) will be avoided to the greatest extent practicable.
- A feller buncher (where access allows), a “cable and winch” removal approach, or equivalent method to limit damage to remaining trees and understory vegetation during danger tree removal will be used in sensitive areas.
- Where practicable, a percentage of cut and felled danger trees will be left within the corridor as additional habitat/structure for wildlife, particularly small mammals and amphibians.
- Adjacent open fields will be utilized for accessing and removing danger trees where practical.
- Disturbed areas will be reseeded with native grasses and forbs to ensure appropriate vegetation coverage and soil stabilization prior to November 1.
- BPA will inspect reseeded sites to verify adequate growth and implement contingency measures or additional seeding as needed.
- Danger tree removal will not result in development of any portions of the project corridor (e.g., buildings/structures/impervious surfaces) or associated acreage loss.

- A percentage of danger trees will be made available for local habitat restoration and enhancement projects.

4. Habitat Assessment

In addition to field surveys conducted for preparation of the EIS, the habitat along the 32-mile corridor was classified according to the Oregon Department of Fish and Wildlife (ODFW) guidance provided in the ODFW Wildlife Habitat Mitigation Policy (as applicable for this linear project corridor). None of the habitats identified within the project corridor are within the Category 5 classification because the corridor lies between an actively used and maintained railroad ROW. Additionally the surrounding areas are largely active farmland and residential/urban areas. Areas of the corridor were classified as either 2 (high quality habitats such as the Calapooia River or Muddy Creek), 3 (larger contiguous habitats that provide connectivity in the broader landscape), 4 (larger important habitats with structure providing connectivity for wildlife), or 6 (unimportant, degraded areas along the railroad ROW or in urban areas). Biologists classified these areas using project knowledge from several previous site visits, aerial photography, and photos taken during site visits. Selective danger tree removal will mainly occur in Category 3 and 4 habitats.

The narrow forested hedgerow where danger tree removal will occur does provide habitat for migratory birds because the forested hedgerow provides structure and diversity in comparison to the adjacent agricultural fields. In many areas along the corridor, there are adjacent higher quality habitats (e.g., riparian areas along the Calapooia River and Muddy Creek). BPA intends to provide nesting, perching, and foraging opportunities for migratory birds by maintaining non-danger trees and understory vegetation within the narrow hedgerow habitat, and by leaving snags throughout the hedgerow. These actions will maintain structure and diversity for many species of migratory birds. However, nesting, perching, and foraging habitat for some species will be reduced as a result of the danger tree removal along the length of the corridor.

On January 10, 2012, BPA conducted a site visit with ODFW to review existing conditions and proposed danger tree removals along several miles of the project corridor. Discussions with ODFW and review of their guidance indicated that in many cases, the removal of danger trees will not change the habitat classification because non-danger trees, understory shrubs and herbaceous vegetation will remain. Given ODFW's regulations and the nature of evaluating changes in habitat conditions from selective danger tree removal in a largely agricultural and urbanized corridor, BPA focused on mitigation opportunities to offset removed trees by replanting within higher value areas along the Calapooia and Willamette Rivers.

Danger Tree Removal Impact Quantification

Selective danger tree removal will occur within a total of 79 acres along the 32-mile linear project area. Danger tree removal will reduce or eliminate the overstory canopy in some areas; however, trees not designated as danger trees and understory trees and shrubs will remain, providing nesting, foraging, and perching habitat within the corridor for migratory birds and other wildlife species along the corridor after project construction.

Proposed post construction mitigation measures have taken the following into consideration:

- Danger tree removal will not result in increased development or paved surfaces.
- Danger tree removal does not include non-designated trees or shrubs. Remaining trees and shrubs, including cottonwood, maple, willow, hawthorn, cherry, serviceberry, hazelnut, rose, as well as herbaceous vegetation within the ROW will continue to provide habitat for migratory birds and other wildlife species.
- Snag retention and snag creation are specified along the entire alignment (minimum of 2 per 500 feet).
- In some cases, the removal of danger trees does not change the designated ODFW habitat categories.
- Mitigation opportunities that include significant riparian plantings.
- Shovel-ready mitigation opportunities for 2013.

5. Mitigation Options

The following paragraphs describe two mitigation opportunities that include intensive efforts to restore forested floodplain conditions in close proximity to the project corridor. Meetings with ODFW (Nancy Taylor), National Oceanic and Atmospheric Administration (NOAA) Fisheries Service (Anne Mullan), and USFWS (Doug Young and Steve Smith) confirmed a preference for mitigation as close to the impact areas as practicable, and one that that focuses on riparian restoration (plantings), protection of existing cottonwood galleries and backwater/off-channel areas, and/or protection of existing oak savanna.

Calapooia Watershed Council – Cox Creek Confluence Project

This project consists of restoration of forested conditions on approximately 11.5 acres of a 27 acre parcel located at the confluence of Cox Creek and the Willamette River (See attached figure). The project site is located three miles northwest of BPA's Albany Substation at a high priority confluence area as determined by ODFW. The current site includes some forested areas that provide nesting, perching, and foraging opportunities for migratory birds, as well as larger open areas in need of restoration. The proposed project is located on Oregon State Parks and Recreation Department property that is managed by the City of Albany Parks Department, thus additional funding to secure long-term protection of the site is not required. Future projects on Cox Creek will include removal of two fish passage barriers upstream of the confluence as well as additional less intensive (inter-planting) efforts on other portions of the site.

According to the Calapooia Watershed Council, this phase of the project would consist of intensive floodplain forest revegetation within and adjacent to Cox Creek and the Willamette River. Although some initial site preparation and invasive species removals have occurred onsite, funding for the proposed forested floodplain restoration has not been acquired. Proposed riparian plantings would increase the quantity and quality of native floodplain forest and off-channel forested and scrub-shrub habitat along Cox Creek and the Willamette River. Additional benefits would include improved stream shading, and refugia for ESA-listed steelhead and Chinook, cutthroat, and resident fish species that utilize Cox Creek. The proposed planting effort at the confluence of Cox Creek and

the Willamette River is well positioned to provide habitat benefits to migratory birds and other wildlife species while serving as a piece of a larger complex of valuable habitats along the Willamette River.

Additional educational benefits of this restoration site include its proximity Simpson Park, the Oxbow Lakes complex (First through Fourth Lakes), and the Talking Water Gardens (wetland) Project. Proposed restoration efforts and educational signage at the confluence will also enhance environmental education opportunities and the public's awareness of the importance of this habitat type for wildlife including migratory birds. This mitigation project has the full Support of the Calapooia Watershed Council and City of Albany, with site preparation and planting potentially occurring in 2012 and 2013, respectively.

Funding for site preparation, planting, and three years of maintenance with replacement plantings (to facilitate survival and coverage) on the 11.5 acres totals $37,500 and is outlined below. Plant species will include a suite of native floodplain species including Oregon ash, black cottonwood, red alder, and bigleaf maple along with native shrubs including red-osier dogwood, Douglas' spiraea, rose, willow, and others. Planting densities of 500 per acre (trees and shrubs) are proposed to create a mosaic of native forested and scrub-shrub conditions adjacent to Cox Creek and the Willamette River. Higher densities and clustered plantings are proposed based on existing conditions and the presence of reed canarygrass.

- Total Estimated Site Preparation, Plant Purchase/Installation cost per acre: $1,660/acre
- Total Plant Maintenance (selective mowing/spraying for 3 year term) and Inter-Planting cost per acre: $1,225/acre
- Total Estimated cost per acre: $2,885/acre
- Educational Signage total: $4,000
- Schedule for planting proposed acreage: 2013 and 2014

Greenbelt Land Trust – Harkens Lake Restoration

The Harkens Lake Restoration consists of several planned restoration efforts on a 371 acre parcel located along the Willamette River between Monroe and the Albany-Eugene Transmission Line Rebuild corridor (See attached map). The property is located less than four miles from the Albany-Eugene Transmission line corridor in an area considered a high priority floodplain in the Willamette River Basin Planning Atlas. This large parcel is primarily farmed; however it is a high value site because of its size, adjacency to the mainstem, and presence of an existing forested oxbow. The 371 acre site has a conservation easement in place that was supported by BPA. According to the Greenbelt Land Trust, funding for the proposed restoration and enhancement measures, including all of the forested floodplain restoration, has not been acquired. As described below, the phase to be funded includes restoration of forested conditions on approximately 68.5 acres at the Harkens Lake site.

Based on its location, and as part of a large-scale effort, this project is well-suited to offset potential migratory bird impacts resulting from danger tree removal on the Albany-Eugene Transmission Line Rebuild. Specifically, proposed plantings would increase the quantity and quality of native

floodplain forest which would provide perching, foraging, and nesting opportunities for migratory birds, while proposed wet prairie and open-water areas will provide a diversity of habitats. The project would also provide benefits to ESA-listed and other resident fish species that take refuge in the side-channels and historic oxbows during flood events.

Although restoration and enhancement of the entire 371-acre site is well outside the scope of mitigating for this project's tree removal, funding for site preparation, planting, and initial maintenance to facilitate planting survival of 68.5 acres of floodplain forest for $137,000 is outlined below. Plant species will include a suite of native floodplain species including Oregon ash, black cottonwood, red alder, and bigleaf maple. Planting densities of 222 trees per acre are proposed.

- Total Estimated Site Preparation, Plant Purchase/Installation cost per acre: $1,250/acre
- Total Plant Maintenance cost per acre (selective mowing/spraying for three-year term): $750/acre
- Total Estimated cost per acre: $2,000/acre
- Schedule for planting proposed acreage: 2013, 2014, 2015

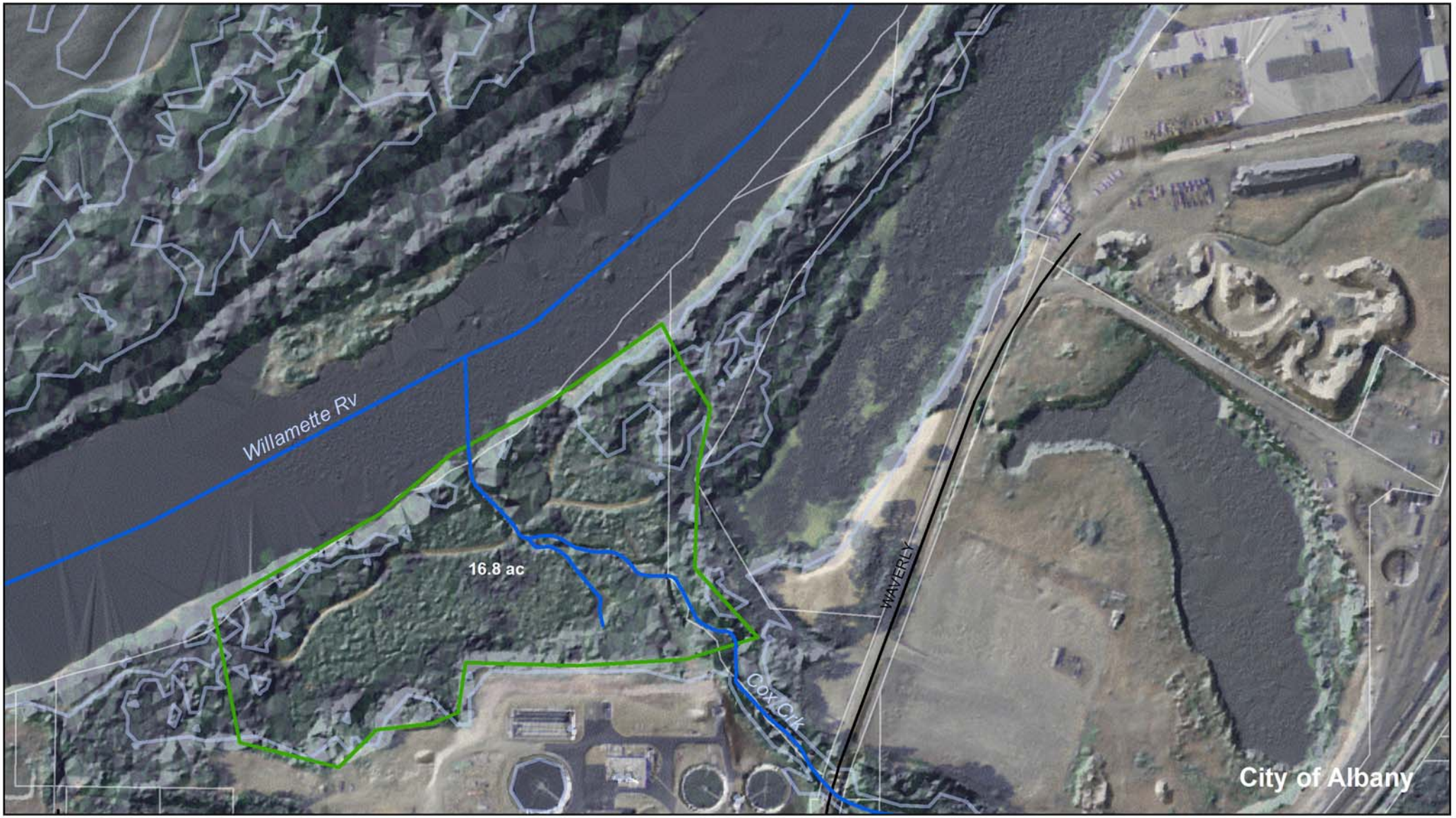
6. Summary and BPA Mitigation Commitments

BPA recognizes that the proposed Albany-Eugene Transmission Line Rebuild Project will have an impact on migratory birds, and as such, has agreed to provide mitigation that addresses and offsets danger tree removal. BPA will implement the above-described avoidance and minimization measures before and during the construction phase of the proposed project. Additionally, BPA will provide funding for implementation of riparian and floodplain forest plantings at the Cox Creek Confluence and the specified riparian and floodplain forest planting at the Harkens Lake Restoration site. Funding in an amount totaling $174,500 will finance site preparation, restoration plantings, and plant maintenance for a period of three years in order to provide additional habitat for migratory birds in proximity to the project. The proposed mitigation will also provide benefits to ESA-listed salmonid species (UWR Chinook and UWR Steelhead) and resident fish species by improving riparian conditions, increasing off-channel and native floodplain forest acreage, and increasing stream shading. As part of a comprehensive plan to enhance and restore riparian conditions along the Willamette River near Albany, BPA is confident that funding these two restoration efforts will help offset project habitat impacts and serve to improve the public's awareness and understanding of the value of riparian habitat.

Attachment A. Mitigation Site Maps

Cox Creek Confluence Restoration Project

Harkens Lake Restoration Project



Cox Creek Conluence Floodplain Vegetation Restoration

N

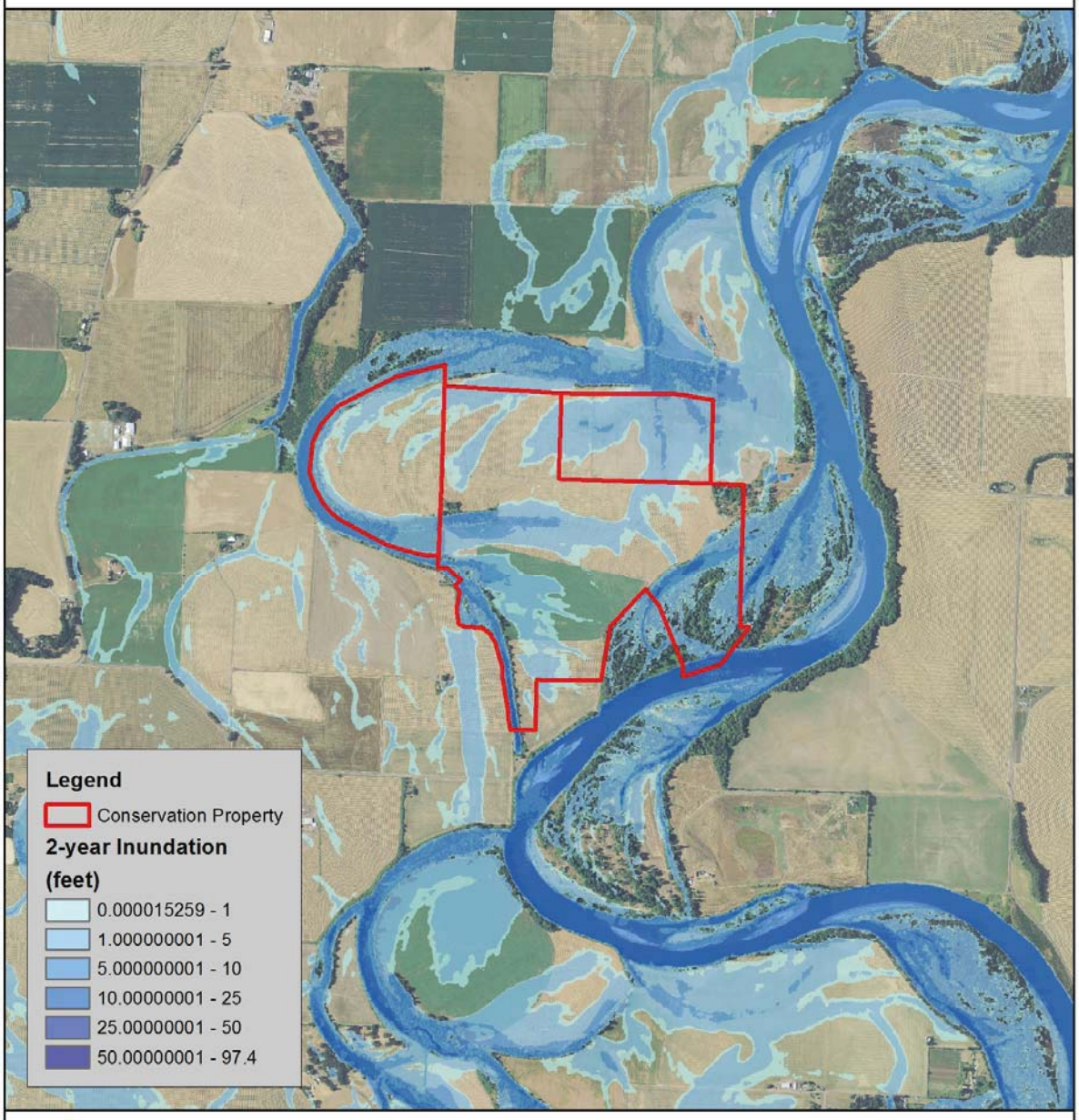
Streams
Cox Creek Confluence
2 Year Inundation Boundary-RDG

Map created by T.Davis, Calapooia Watershed Council, Jan. 2012
for the purpose of initial project development.
Data Sources: DOGAMI LiDAR, Linn County, River Design Group, 2009 OR Imagery

0 150 300 600 Feet

CALAPOOIA WATERSHED COUNCIL

Harkens Lake
Conservation Area



greenbelt land trust

0 0.25 0.5 1 Miles

Imagery: 2011 NAIP
Data Source: River Design Group
3/7/2012
MXD: U:\GIS\Projects\Harkens\SIP2012.mxd

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Bonneville Power Administration

DOE/BP-4404 • March 2012