Central Ferry-Lower Monumental 500-kilovolt Transmission Line Project

Final Environmental Impact Statement

February 2011

DOE/EIS-0422

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Bonneville Power Administration

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

Cooperating Agency: Washington Energy Facility Site Evaluation Council (EFSEC)

Title of Proposed Project: Central Ferry-Lower Monumental 500-kilovolt Transmission Line Project, DOE/EIS - 0422

State Involved: Washington

Abstract: BPA is proposing to construct, operate, and maintain a 38- to 40-mile-long 500-kilovolt (kV) transmission line in Garfield, Columbia, and Walla Walla counties, Washington. The proposed line would extend west from BPA's planned Central Ferry Substation in Garfield County to BPA's Lower Monumental Substation located in Walla Walla County. BPA is considering four routing alternatives for the proposed Central Ferry-Lower Monumental transmission line; portions of all four routes would parallel existing BPA lines in the area. Two of the routing alternatives for the transmission line are about 38 miles long, and the other two are about 40 miles long. BPA's preferred alternative is the Combination A Alternative.

During BPA's 2008 Network Open Season (NOS) process, studies found that there was not enough available transmission capacity to accommodate all requests for long-term service from the Lower Snake River area in southeast Washington to load centers west of the Cascades and to major transmission lines serving the region's growing energy needs. Wind generation facilities built and proposed in the Lower Snake River area will increase the amount of power being produced in southeast Washington. Further studies revealed that building a new 500-kV line from BPA's planned Central Ferry Substation to BPA's Lower Monumental Substation would allow BPA to increase the electrical capacity of the transmission system in the southeast Washington area and accommodate the requests for firm transmission service. BPA is also considering the No Action Alternative.

The proposed project could create impacts to the following resources: soils; land use; vegetation; recreation; wildlife; water resources and fish; visual resources; cultural resources; social and economic resources; transportation; noise, public health and safety; air quality; and greenhouse gas emissions. Chapter 3 of the Environmental Impact Statement (EIS) describes the affected environment and potential impacts in detail. .

BPA released a Draft EIS in July 2010 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)). BPA expects to issue a Record of Decision (ROD) for the proposed project in spring 2011.

For additional information, contact:

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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://www.efw.bpa.gov/environmental_services/Document_Library/Central_Ferry-Lower_Monumental/

You may also request copies by writing to: Bonneville Power Administration, ATT: Public Affairs Office – DKE-7, P. O. Box 14428, Portland, Oregon 97293-4428

For additional information on DOE NEPA activities, please contact Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance, GC-20, U.S. Department of Energy, 1000 Independence Avenue S.W., Washington D.C. 20585-0103, phone: 1-800-472-2756 or visit the DOE NEPA Web site at neap.energy.gov.

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Chapter 1 Introduction

This Comment-Response Addendum presents the comments received on the Draft Environmental Impact Statement (EIS) for the Central Ferry-Lower Monumental 500-kilovolt (kV) Transmission Line Project, which was published in July 2010, as well as Bonneville Power Administration's (BPA's) responses to those comments. Consistent with the Council on Environmental Quality's (CEQ'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 because changes in the EIS in response to comments are minor (40 Code of Federal Regulations [CFR] 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/Central_Ferry-Lower_Monumental/
- Calling BPA's document request line at 1-800-622-4520
- Sending an e-mail to Ms. Tish Eaton, Project Environmental Lead, at tkeaton@bpa.gov

The remainder of this chapter provides a summary of the Proposed Action Alternatives 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 comments received on the Draft EIS (organized by the chapters and sections of the Draft EIS) and BPA's responses to these comments. Chapter 4 presents all the comment letters and e-mails received on the Draft EIS, as well as notes from the public meeting held to accept comments on July 21, 2010, in Dayton, Washington.

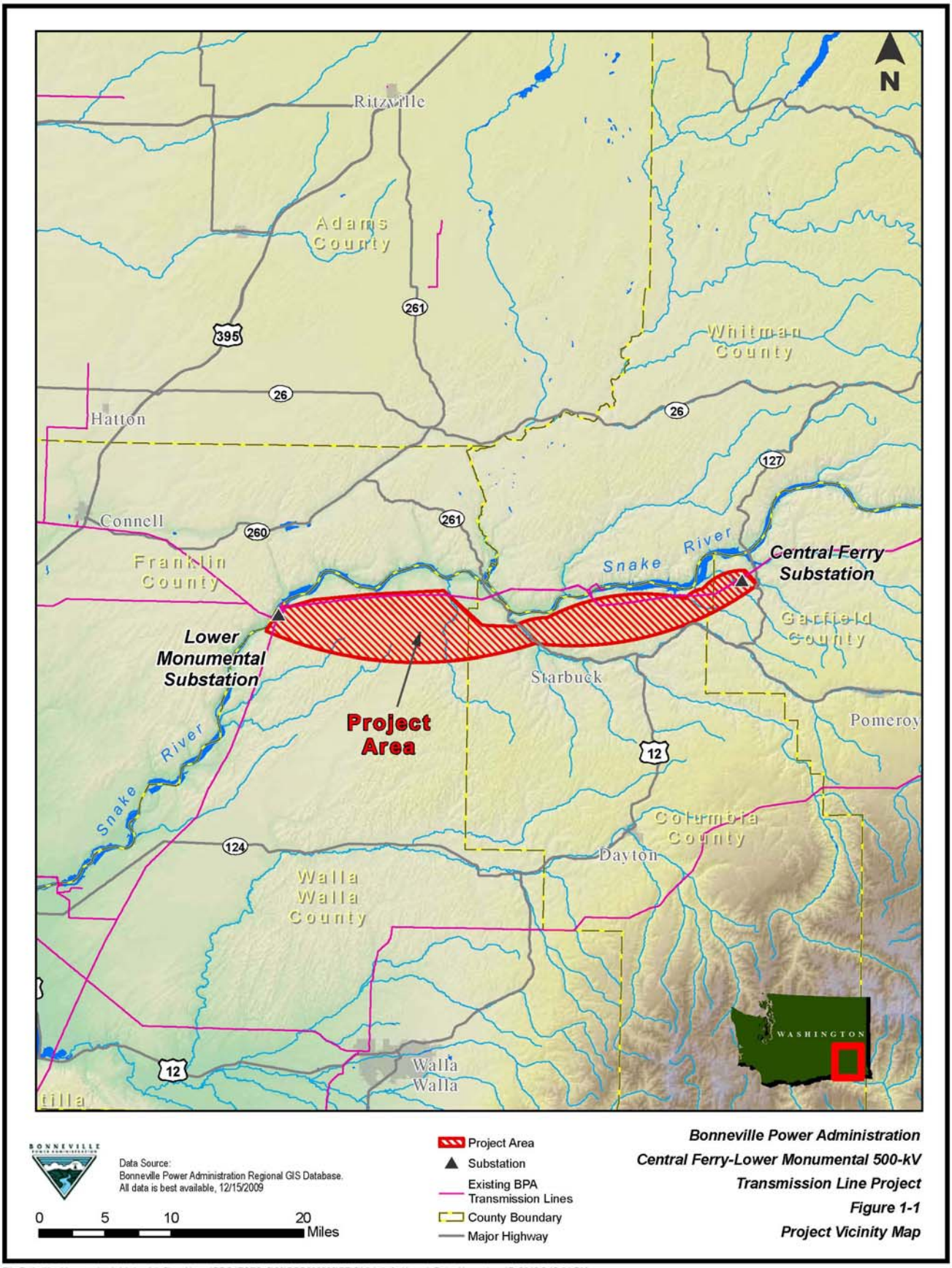
1.1 Summary of Proposed Action Alternatives and No Action Alternative

1.1.1 Proposed Action Alternatives

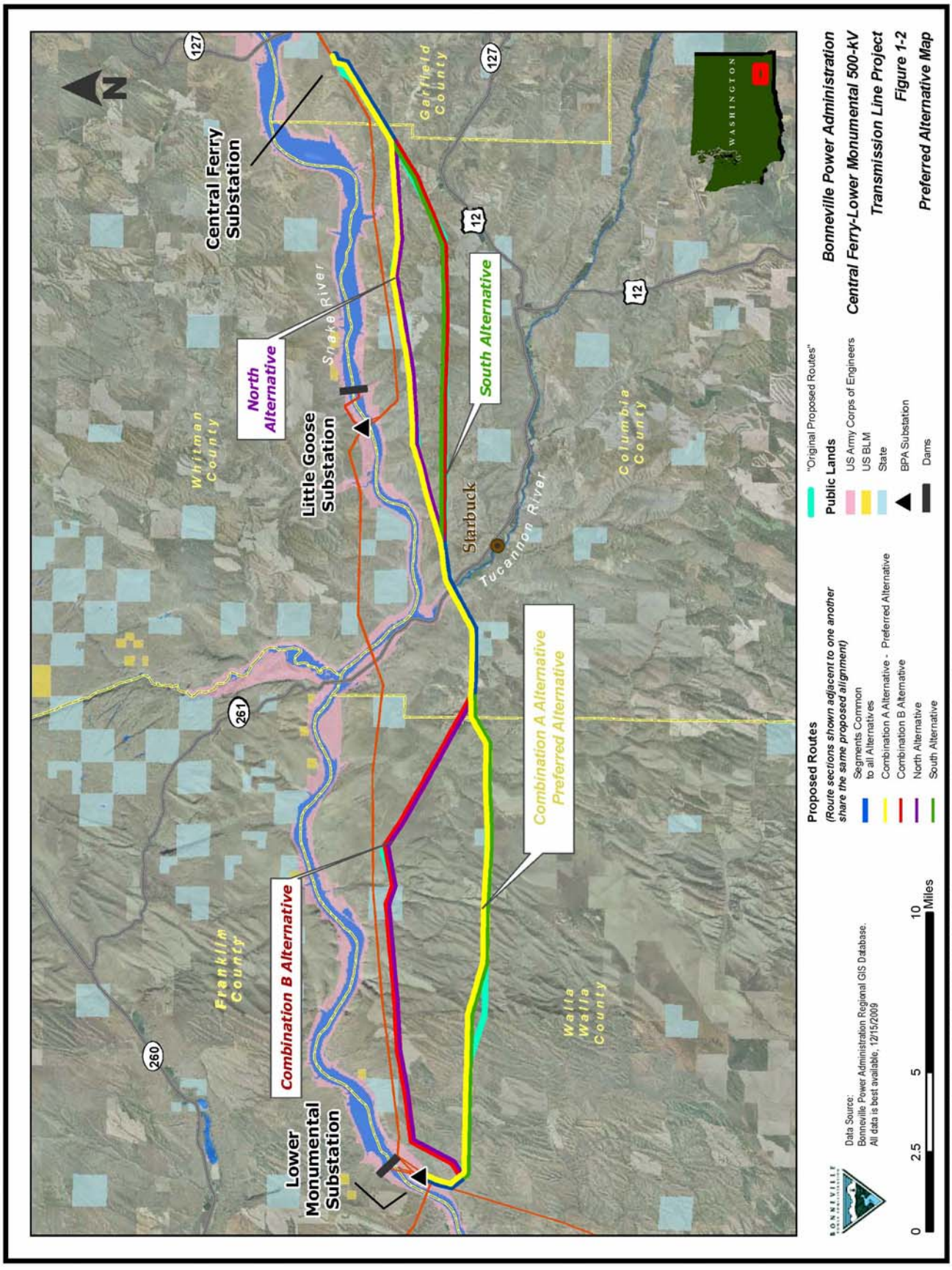
BPA is a federal agency in the Pacific Northwest that owns and operates about three-fourths of the high-voltage transmission lines in its service territory. Among other things, BPA is responsible for marketing and transmitting electrical power to utility, industrial, and other customers in the Pacific Northwest. BPA has a statutory obligation to ensure it has sufficient capability to serve its customers through a safe and reliable transmission system.

BPA's proposed action is to build a 500-kV electric transmission line that would extend from BPA's new Central Ferry Substation generally west to its existing Lower Monumental Substation, a distance of approximately 40 miles (Figure 1-1). The proposed project is needed to increase the electrical capacity of the transmission system in the southeast Washington area in response to requests that BPA has received for use of the system.

Four action alternatives are evaluated in the EIS to meet the purpose and need for the project: the North Alternative, South Alternative, Combination A Alternative, and Combination B Alternative (Figure 1-2).



File Path: \\bud.bpa.gov\wg\gis\gis_data2\work\ryan\PROJECTS_2\09\RDB090006\FEIS\Vicinity8x11.mxd, Date: November 17, 2010 2:12:01 PM


Central Ferry Substation
Little Goose Substation
Lower Monumental Substation
North Alternative
South Alternative
Combination B Alternative
Combination A Alternative Preferred Alternative
Snake River
Tucannon River
Starbuck
Whitman County
Garfield County
Columbia County
Franklin County
Walla Walla County
127
12
261
260
N
WASHINGTON
Proposed Routes
(Route sections shown adjacent to one another share the same proposed alignment)
Segments Common to all Alternatives
Combination A Alternative - Preferred Alternative
Combination B Alternative
North Alternative
South Alternative
"Original Proposed Routes"
Public Lands
US Army Corps of Engineers
US BLM
State
BPA Substation
Dams
Data Source:
Bonneville Power Administration Regional GIS Database.
All data is best available, 12/15/2009
0
2.5
5
10
Miles
Bonneville Power Administration
Central Ferry-Lower Monumental 500-kV
Transmission Line Project
Figure 1-2
Preferred Alternative Map
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The main components of the proposed action, regardless of routing alternative, would be as follows:

- Transmission Line Right-of-Way – All action alternatives would require a 150-foot-wide right-of-way easement for the entire length of the transmission line corridor. In order to minimize the risk of simultaneous outage, the proposed line would be routed at least 1,200 to 2,500 feet from the existing lines in areas where the lines would be parallel.
- Transmission Towers – The proposed towers would be 104- to 189-foot-tall single-circuit, lattice steel towers with spans of approximately 1,200 feet between towers. The towers would be made of galvanized steel and would appear shiny for 2 to 4 years before they dull with the weather. Depending on alternative, from 161 to 181 towers would be required to support the conductors for the proposed transmission line. Four types of tower footings (plate, grillage, rock anchor, or concrete shaft) would be used, depending on the terrain, soil, and tower type.
- Conductors – Conductors, wires that carry the electrical current on a transmission line, are suspended from towers with insulators. Insulators are made of non-conductive materials (porcelain or composite materials) that prevent electric current from passing through towers to the ground.
- Overhead Ground Wire and Counterpoise – Two small wires (½-inch diameter), called overhead ground wires, would be attached to the top of the transmission towers. Overhead ground wires are used for lightning protection. In order to take the lightning charge from the overhead ground wire and dissipate it into the earth, a series of wires called counterpoise would be buried in the ground at each tower. Counterpoise would vary from one to six runs of wire that extend up to 250 feet from the tower, with three counterpoise running out from each side of the tower footings.
- Fiber Optic Cable – Fiber optic cable, which would be used for communications as part of the power system, would be strung on the towers along portions of the transmission line. This cable is less than 1 inch in diameter and would be installed as either the overhead ground wire or independently on the towers.
- Pulling/Tensioning Sites – During construction, the conductors are pulled and tightened to the correct tension during construction. Depending on alternative, either 22 or 23 pulling/tensioning sites would be used along the proposed transmission line, resulting in a temporarily disturbed area approximately 300 feet long by 100 feet wide.
- Access Roads – Depending on alternative, from 36 to 39 miles of new access roads would be constructed and from 3 to 8 miles of existing access roads would be improved. New roads would be located within the transmission line right-of-way wherever possible. Access roads would require a 14-foot-wide travel surface (wider on curves), with an approximately 20- to 40-foot-wide total area disturbed (including drainage ditches).
- Lower Monumental Substation Modifications – New equipment would be installed at BPA's existing Lower Monumental Substation as part of the proposed project. This new equipment would include power circuit breakers, disconnect switches, bus tubing and pedestals, and transmission dead-end towers. Three existing transmission lines would require realignment in the vicinity of Lower Monumental Substation to allow entry of the proposed line, with five or six existing towers needing to be relocated.
- Staging Areas – One or two temporary staging areas would be needed along or near the proposed transmission line for construction crews to store materials, equipment, and vehicles. Staging areas would be from 5 to 15 acres in size, depending on the number or location needed.
- Vegetation Clearing – Most of the vegetation along the proposed transmission line routes is wheat, brush, and other low-growing vegetation, which are compatible with

transmission lines. BPA does not anticipate any tree removal where the proposed line would cross the Tucannon River.

- Maintenance – During the life of the project, BPA would perform routine, periodic maintenance and emergency repairs to the transmission line. For lattice steel structures, maintenance usually involves replacing insulators and checking for loose hardware. BPA typically conducts routine helicopter inspection patrols twice a year. Vegetation also would be maintained along the line for safe operation and to allow access to the line, but little vegetation maintenance is anticipated due to the low-growing vegetation along the proposed right-of-way.

BPA has continued to refine the design of the proposed action alternatives since publication of the Draft EIS in July 2010, working with individual landowners to site towers and roads to minimize impacts, as well as adjusting tower and road locations in response to the results of the environmental surveys conducted for the project, as appropriate. This ongoing work has resulted in relatively minor adjustments in each action alternative's engineering characteristics and ground disturbance estimates. The summary of project components above reflects these refinements.

BPA has identified the Combination A Alternative as its preferred alternative (Figure 1-2). This alternative extends southwest from Central Ferry Substation for about 11 miles mostly parallel to and about 1,200 to 2,500 feet (about ¼ mile to ½ mile) south of BPA's two existing Little Goose-Lower Granite 500-kV steel lattice transmission lines. The alternative then angles away from the existing lines and proceeds southwest for about 6 miles before crossing the Tucannon River directly north of the town of Starbuck. The alternative proceeds west for about 20 miles from the Tucannon River crossing to BPA's existing Lower Monumental Substation. This alternative is about 38 miles long.

1.1.2 No Action Alternative

Under the No Action Alternative, BPA would not build the proposed Central Ferry-Lower Monumental transmission line. Without building the proposed line, BPA would not be able to offer long-term firm transmission service for all of the service requests that the proposed line is intended to accommodate. However, BPA may be able to provide other forms of transmission service, such as non-firm service to some or all of these customers.

1.2 Draft EIS Comment Period

BPA published the Draft EIS for the Central Ferry-Lower Monumental 500-kV Transmission Line Project in July 2010. The Draft EIS was filed with the U.S. Environmental Protection Agency (EPA), which published a Notice of Availability of the Draft EIS in the Federal Register (Volume 75, No. 127) on July 2, 2010. CD versions of the Draft EIS were distributed to cooperating agencies and the full Draft EIS was posted on the BPA web site (http://efw.bpa.gov/environmental_services/Document_Library/Central_Ferry-Lower_Monumental/).

An open house style public meeting was held on July 21, 2010, in Dayton, Washington. Fourteen people from the community attended the meeting.

The comment period for the Draft EIS officially closed on August 16, 2010. A total of nine comment forms, emails, and letters were received. All comments received during the comment period can be found in Chapter 4 of this document.

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 project information and environmental analysis to reflect refinements made to the number of proposed transmission towers and miles of new and improved access roads for each alternative.
- Updated text to reflect the results of additional vegetation and wildlife field surveys conducted in spring/summer 2010.
- Updated text to reflect the results of cultural resource surveys and information provided by the tribes.
- Included an additional appendix (Appendix J) that summarizes information specific to the lands managed by the Washington Department of Natural Resources (WDNR) that would be crossed by the proposed action alternatives.

Chapter 2
Changes to 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. The additional appendix specific to WDNR-managed lands that has been added to the EIS (Appendix J) is presented at the end of this Final EIS.

2.1 Summary

Page S-3, fourth paragraph has been modified as follows:

The towers for the proposed 500-kV line would be 104- to 189-foot-tall single-circuit, lattice steel towers with spans of approximately 1,200 feet between towers. The towers would be made of galvanized steel and would appear shiny for two to four years before they dull with the weather. About ~~167~~ 161 to ~~178~~ 181 transmission towers would be needed to carry the conductors for the proposed transmission line.

Page S-4, second paragraph has been modified as follows:

Pulling/tensioning sites are temporarily disturbed areas from which the conductors are pulled and tightened to the correct tension during construction. About 22 or 23 pulling/tensioning sites would be required along the proposed project's approximately 38- to 40-mile length.

Page S-8, fifth paragraph has been modified as follows:

From the Tucannon River crossing, the North Alternative route continues southwest and west for about 3 miles before angling northwest for about 5 miles to a point approximately 1,500 feet south of BPA's two existing Lower Monumental-Little Goose 500-kV steel lattice transmission lines. From this point, the route continues west for about 14 miles to BPA's existing Lower Monumental Substation. Much of this latter segment of the route runs parallel to and approximately 1,500 feet south of the existing lines. This alternative is about ~~40~~ 39 miles long.

Page S-8, sixth paragraph has been modified as follows:

There would be approximately ~~178~~ 175 transmission towers for the North Alternative. This action alternative would require about ~~33~~ 36 miles of new road construction and about ~~5~~ 3 miles of road improvements. Fiber optic cable would be installed along a portion of the North Alternative.

Page S-9, first paragraph has been modified as follows:

There would be approximately 167 transmission towers for the South Alternative. This action alternative would require about ~~35~~ 39 miles of new road construction and about ~~13~~ 8 miles of road improvements. Like the North Alternative, a fiber optic cable would be installed along a portion of the South Alternative.

Page S-9, third paragraph has been modified as follows:

There would be approximately ~~167~~ 161 transmission towers for the Combination A Alternative. This action alternative would require about ~~33~~ 38 miles of new road construction and about ~~9~~ 5 miles of road improvements. A fiber optic cable would be placed in the same location as described above for the North Alternative.

Page S-9, fifth paragraph has been modified as follows:

There would be approximately ~~178~~ 181 transmission towers for the Combination B Alternative. This action alternative would require about ~~35~~ 37 miles of new road construction and about ~~10~~ 6 miles of road improvements. A fiber optic cable would be placed in the same location as described above for the South Alternative.

Page S-12, Table S-1 has been revised as follows:

Table S-1. Erosion Hazard Classes Potentially Affected by Construction of the Action Alternatives (acres)

Action Alternative/ Project Component	Slight	Moderate	Severe	Total
North Alternative	1 ~~0.9~~	48 ~~47.1~~	304 ~~306.6~~	352 ~~354.6~~
South Alternative	0 ~~0.4~~	27 ~~23.0~~	330 ~~319.5~~	357 ~~343.0~~
Combination A Alternative	0 ~~0.4~~	36 ~~31.2~~	311 ~~304.9~~	347 ~~336.5~~
Combination B Alternative	1 ~~0.9~~	39.0	323 ~~321.6~~	363 ~~361.1~~

Source: NRCS 2009a, 2009b, 2009c
Numbers are rounded and may not sum exactly.

Page S-12, Table S-2 has been revised as follows:

Table S-2. Compaction Resistance Classes Potentially Affected by Construction of the Action Alternatives (acres)

Action Alternative/ Project Component	Low[1/]	Moderate[2/]	Not Rated[3/]	Total
North Alternative	142 ~~153.1~~	207 ~~196.3~~	4 ~~5.2~~	353 ~~354.6~~
South Alternative	79 ~~114.1~~	271 ~~223.9~~	7 ~~5.3~~	357 ~~343.0~~
Combination A Alternative	90 ~~105.7~~	253 ~~225.6~~	4 ~~5.3~~	347 ~~336.5~~
Combination B Alternative	134 ~~161.5~~	222 ~~194.4~~	7 ~~5.2~~	363 ~~361.1~~

Notes:
Numbers are rounded and may not sum exactly.
1/ A low resistance to compaction rating indicates that one or more soil characteristics exist that favor the formation of a compacted layer.
2/ Soils with a moderate resistance to compaction have features that are favorable to resisting compaction.
3/ Some units have not been rated by the NRCS; this is often because the rating is not applicable, such as for bedrock or water.
Source: NRCS 2009a, 2009b, 2009c

Page S-14, Table S-3 has been revised as follows:

Table S-3. Impacts to Land Use (acres)

Action Alternative/ Project Component	Agriculture	Grassland	Developed	Total
Temporary Construction Impacts				
North Alternative	102 ~~96.6~~	246 ~~251.8~~	3 ~~6.3~~	352 ~~354.6~~
South Alternative	121 ~~101.3~~	228 ~~237.3~~	8 ~~4.6~~	357 ~~343.0~~
Combination A	109 ~~93.1~~	231 ~~238.9~~	8 ~~4.6~~	347 ~~336.5~~
Combination B	116 ~~104.8~~	244 ~~250.2~~	3 ~~6.3~~	363 ~~361.1~~
Permanent Impacts				
North Alternative	62 ~~57.1~~	127 ~~120.4~~	1 ~~2.0~~	190 ~~179.5~~
South Alternative	73 ~~58.1~~	123 ~~128.0~~	5 ~~2.0~~	202 ~~188.1~~
Combination A	69 ~~54.8~~	125 ~~121.3~~	5 ~~2.0~~	199 ~~178.1~~
Combination B	66 ~~60.4~~	124 ~~127.1~~	1 ~~2.0~~	191 ~~189.5~~

Numbers are rounded and may not sum exactly.
Source: USGS 2001

Page S-15, Table S-4 has been revised as follows:

Table S-4. Impacts to Prime Farmland (acres)

Action Alternative/ Project Component	Prime Farmland	Farmland of Statewide Importance	Prime Farmland if Irrigated	Not Prime Farmland	Total
Temporary Construction Impacts					
North Alternative	0	256 ~~248.8~~	11 ~~11.3~~	85 ~~94.6~~	352 ~~354.6~~
South Alternative	0	247 ~~209.4~~	20 ~~16.1~~	90 ~~117.5~~	357 ~~343.0~~
Combination A	0	237 ~~209.3~~	20 ~~16.1~~	90 ~~111.0~~	347 ~~336.5~~
Combination B	0	267 ~~248.9~~	11 ~~11.3~~	85 ~~100.9~~	363 ~~361.1~~
Permanent Impacts					
North Alternative	0	135 ~~127.9~~	7 ~~4.6~~	48 ~~47.0~~	189 ~~179.5~~
South Alternative	0	137 ~~115.2~~	11 ~~7.8~~	54 ~~65.1~~	202 ~~188.1~~
Combination A	0	135 ~~111.4~~	11 ~~7.8~~	53 ~~58.8~~	199 ~~178.1~~
Combination B	0	136 ~~131.7~~	7 ~~4.6~~	48 ~~53.3~~	192 ~~189.5~~

Numbers are rounded and may not sum exactly.
Source: NRCS 2009a, 2009b, 2009c

Page S-16, Table S-5 has been revised as follows:

Table S-5. Impacts to Vegetation Communities (acres)

Action Alternative/Project Component	Cropland	Disturbed Grassland	Native Grassland	~~Potential Native Grassland~~ Developed[1/]	Total
Temporary Construction Impacts					
North Alternative	54 ~~83.8~~	284 ~~213.6~~	12 ~~18.7~~	2 ~~38.5~~	352 ~~354.6~~
South Alternative	72 ~~65.0~~	272 ~~231.8~~	12 ~~14.0~~	2 ~~32.1~~	357 ~~343.0~~
Combination A	51 ~~64.1~~	281 ~~231.8~~	14 ~~14.1~~	2 ~~26.5~~	347 ~~336.5~~
Combination B	77 ~~84.8~~	274 ~~213.6~~	10 ~~18.6~~	2 ~~44.1~~	363 ~~361.1~~
Permanent Impacts					
North Alternative	31 ~~45.4~~	152 ~~109.8~~	5 ~~10.1~~	0 ~~14.1~~	190 ~~179.5~~
South Alternative	45 ~~41.4~~	152 ~~120.5~~	5 ~~8.8~~	0 ~~17.3~~	202 ~~188.1~~
Combination A	33 ~~43.7~~	158 ~~111.3~~	7 ~~9.7~~	0 ~~13.3~~	199 ~~178.0~~
Combination B	43 ~~43.0~~	144 ~~118.9~~	4 ~~9.2~~	0 ~~18.2~~	191 ~~189.5~~

Numbers are rounded and may not sum exactly.

1/ The developed category represents the area presently occupied by the Lower Monumental Substation. ~~This category consists of areas that were not surveyed in September 2009 and based on a review of aerial photography have the potential to contain native grassland.~~

Page S-16, fourth paragraph has been modified as follows:

The proposed project has the potential to impact TES plant species through habitat modification and direct removal/mortality. However, no ~~No~~ TES plant species were observed during ~~general~~ the vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Additional surveys will be conducted in the spring/summer of 2010. If any TES plant species are found, potential impacts will be assessed and mitigation measures will be developed, as appropriate.~~

Page S-17, second bulleted list has been modified as follows:

~~*Threatened, Endangered, and Sensitive Plant Species*~~

- ~~Conduct additional surveys for TES plant species in all areas of native grassland, as well as areas classified as potential habitat, during spring/summer 2010.~~
- ~~Consult with the U.S. Fish and Wildlife Service concerning any federally listed TES plant species that are identified and implement any mitigation measures to eliminate or reduce adverse impacts to these species.~~

Page S-18, text has been added after the last bullet item as follows:

- Control noxious weeds on fee-owned properties and assist or coordinate noxious weed control with affected landowners on easement areas during operation and maintenance of the transmission line as guided by BPA's Vegetation Management Program. Where appropriate, enter into weed control programs with active weed control districts during operation and maintenance of the transmission line.

Pages S-23, final full paragraph has been modified as follows:

An assessment of the project's potential impacts on cultural resources is presented in Section 3.8 of the EIS. The project crosses the ancient lands of many Columbia River basin tribes.

No impacts to known cultural resources are anticipated during operation and maintenance of the proposed transmission line. In addition, impacts to unknown sites are not anticipated (***none*** to ***low***), due to the procedures that require construction to stop and appropriate protective measures to be determined if artifacts are found. Appropriate protective measures would be implemented if necessary, and could include avoidance, minimization, or mitigation.

Pages S-23 and S-24, final and first paragraphs have been modified as follows:

~~Possible impacts to TCPs will not be known until the Nez Perce Tribes and the Confederated Tribes of the Umatilla Indian Reservation complete their TCP studies for this project. Following preparation of the studies, appropriate protective measures would be implemented if necessary, and could include avoidance, minimization, or mitigation~~.

Page S-24, an introduction has been added to the Mitigation Measures section as follows:

Mitigation measures listed in Section S.3.2.10 Transportation, would minimize impacts to cultural resources from unauthorized use on WDNR lands. Additionally, ~~The~~ the following mitigation measures would minimize or avoid impacts to cultural resources:

Page S-26, an introduction has been added to the Mitigation Measures section as follows:

Mitigation measures listed in Section 3.1.3 Geology and Soils, would minimize impacts to soils from access road construction and use. Additionally, the following mitigation measures have been identified to minimize or eliminate transportation impacts from the action alternatives:

2.2 Proposed Action and Alternatives (Chapter 2)

2.2.1 Proposed Action Alternatives

Page 2-13, Table 2-1 has been modified as follows:

Table 2-1. Engineering Characteristics of the Proposed Action Alternatives

Characteristic	North Alternative	South Alternative	Combination A Alternative	Combination B Alternative
Line length	39 ~~40~~ miles	38 miles	38 miles	40 miles
Voltage	500 kV	500 kV	500 kV	500 kV
Corridor width	150 feet	150 feet	150 feet	150 feet
Tower style and material	Steel lattice	Steel lattice	Steel lattice	Steel lattice
Tower height	104 to 189 feet	104 to 189 feet	104 to 189 feet	104 to 189 feet
Number of new towers	175 ~~178~~	167	161 ~~167~~	181 ~~178~~
Span length between towers	1,200 feet (average)	1,200 feet (average)	1,200 feet (average)	1,200 feet (average)
Miles of new access roads needed	36 ~~33~~ miles	39 ~~35~~ miles	38 ~~33~~ miles	37 ~~35~~ miles
Miles of access roads needing improvement	3 ~~5~~ miles	8 ~~13~~ miles	5 ~~9~~ miles	6 ~~10~~ miles
Number of pulling/tensioning sites	23	22	22	23
Number of fiber optic wood poles	4	11	4	11
Construction Costs	$99 million	$99 million	$99 million	$99 million

Page 2-13, Table 2-2 has been modified as follows:

Table 2-2. Ground Disturbance of the Proposed Action Alternatives (acres)

Disturbance	North Alternative	South Alternative	Combination A Alternative	Combination B Alternative
Construction				
Tower Installation	87 ~~92~~	84 ~~85~~	81 ~~86~~	90 ~~91~~
Counterpoise Installation	100 ~~104~~	96 ~~97~~	93 ~~97~~	104 ~~104~~
Access Roads	148 ~~143~~	161 ~~146~~	157 ~~139~~	152 ~~150~~
Pulling/Tensioning Sites	17 ~~16~~	16 ~~15~~	16 ~~15~~	17 ~~16~~
Total Construction	**352 ~~355~~**	**357 ~~343~~**	**347 ~~337~~**	**363 ~~361~~**
Permanent				
Tower Footings	23 ~~23~~	22 ~~21~~	21 ~~21~~	23 ~~23~~
Access Roads	167 ~~157~~	180 ~~167~~	178 ~~157~~	168 ~~167~~
Total Permanent	**190 ~~180~~**	**202 ~~188~~**	**199 ~~178~~**	**191 ~~190~~**

Notes:
1/ Acres impacted are adjusted to account for overlap between disturbance categories.
2/ Permanent disturbance is a subsection of the area that would be disturbed during construction.
3/ Access road disturbance is assumed to be the same during both phases of the project (construction and permanent). However, the permanent access road-related disturbance appears higher than during construction because the overlap between tower installation (construction) and roads is greater than the overlap between tower footing (permanent) and roads. As a result, the share of disturbance attributed to roads appears higher in the permanent estimates.

2.2.2 Comparison of Alternatives

Pages 2-22, 2-23, 2-24, and 2-28, Table 2-4 have been modified as follows:

Table 2-4. Summary of Impacts of the Proposed Action Alternatives and the No Action Alternative

Potential Impacts					Mitigation Measures
North Alternative	**South Alternative**	**Combination A Alternative**	**Combination B Alternative**	**No Action Alternative**	
Geology and Soils					
• Construction would result in about 352 355 acres of temporary ground disturbance (304 307 acres classified as having severe erosion hazard, 48 47 acres of moderate, and 1 acre of slight potential for erosion). With mitigation in place, impacts would be low. • About 142 153 acres of soils having a low resistance to soil compaction and 207 196 acres of soils with a moderate resistance to compaction would be impacted during construction. With mitigation in place, impacts would be low.	• Construction would result in about 357 343 acres of temporary ground disturbance (330 320 acres classified as having severe erosion hazard, and 27 23 acres of moderate, and less than 1 acre of slight potential for erosion). With mitigation in place, impacts would be low. • About 79 114 acres of soils having a low resistance to soil compaction and 271 224 acres of soils with a moderate resistance to compaction would be impacted during construction. With mitigation in place, impacts would be low.	• Construction would result in about 348 337 acres of temporary ground disturbance (311 305 acres classified as having severe erosion hazard, and 36 31 acres of moderate, and less than 1 acre of slight potential for erosion). With mitigation in place, impacts would be low. • About 90 106 acres of soils having a low resistance to soil compaction and 253 226 acres of soils with a moderate resistance to compaction would be impacted during construction. With mitigation in place, impacts would be low.	• Construction would result in about 363 361 acres of temporary ground disturbance (323 322 acres classified as having severe erosion hazard, 39 acres of moderate, and 1 acre of slight potential for erosion). With mitigation in place, impacts would be low. • About 134 162 acres of soils having a low resistance to soil compaction and 222 194 acres of soils with a moderate resistance to compaction would be impacted during construction. With mitigation in place, impacts would be low.	• Under the No Action Alternative the proposed project would not be built and there would be no impact on geology and soils.	• Prior to construction, conduct a detailed geologic hazard assessment for the selected action alternative. This assessment will include a review of geologic maps and aerial photomaps combined with surface condition assessments at each proposed tower location and surrounding terrain. In addition, subsurface information will be obtained from water well logs, material exposed in existing road and stream-cut slopes, and construction/design information from the existing transmission lines in the project area. Particular attention will be given to on-site evaluation of the slope stability of each proposed tower location. Tower or road locations found to be within previously unidentified active slides, bedrock hollows, or other geologic hazard areas will be relocated outside the limits of these areas. • Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to lessen soil erosion and improve water quality of stormwater run-off. SWPPPs are developed to prevent movement of sediment off-site to adjacent water bodies during short term or temporary soil disturbance at construction sites. The SWPPP for this project will address stabilization practices, structural practices and stormwater management. • Design access roads to control runoff and prevent erosion by using low grades, outsloping, intercepting dips, water bars, or ditch-outs, or a combination of these methods. • Minimize construction equipment use within 150 feet of a water body (stream or river). • Surface all permanent access roads with rock to help prevent erosion and rutting of road surfaces and to support vehicle traffic. • Minimize construction on steep, unstable slopes, if possible. • Save topsoil removed for structure and new access road construction for onsite restoration activities to promote regrowth from the native seed bank in the topsoil. If contaminated, follow-up weed control would be needed. • Cover exposed piles of soil with plastic or similar material to reduce erosion potential from rain or wind. • Cut or crush vegetation, rather than blade, in areas that will remain vegetated in order to maximize the ability of plant roots to keep soil intact and prevent sediment movement offsite. • Revegetate or reseed all disturbed areas with a native plant/grass seed mixture suited to the site and landowner, to promote vegetation that will hold soil in place. • Till or scarify compacted soils before reseeding where necessary. • Monitor erosion control best management practices (BMPs) to ensure proper function and nominal erosion levels. • Monitor revegetation and site restoration work for adequate growth; implement contingency measures as necessary. • Mark construction limits within agricultural fields or grasslands to minimize disturbance. • Inspect and maintain project facilities, including the access roads. • Inspect and maintain tanks and equipment containing oil, fuel, or chemicals for drips or leaks and to prevent spills onto the ground or into state waters. • Maintain and repair all equipment and vehicles on impervious surfaces away from all sources of surface water. • Refuel and maintain equipment at least 25 feet from any natural or manmade drainage conveyance including streams, wetlands, ditches, catch basins, ponds, and pipes, and provide spill containment and cleanup. Utilize pumps, funnels and absorbent pads for all equipment fueling and maintenance operations. • Provide spill prevention kits at designated locations on the project site and at the hazardous material storage areas. • Minimize the number of road stream crossings. • Stabilize cut and fill slopes.

Table 2-4. Summary of Impacts of the Proposed Action Alternatives and the No Action Alternative (continued)

Potential Impacts					Mitigation Measures
North Alternative	**South Alternative**	**Combination A Alternative**	**Combination B Alternative**	**No Action Alternative**	
Land Use					
• Construction activities would result in a total of 352 ~~355~~ acres of impacts to lands; consisting of 102 ~~97~~ acres of agricultural lands, 246 ~~252~~ acres of grassland, and 3 ~~6~~ acres of developed lands. Impacts would be temporary and localized and, therefore, ***low***. • Approximately 190 ~~180~~ acres would be permanently converted to transmission line-related uses. This would consist of 62 ~~57~~ acres of agricultural lands, 127 ~~120~~ acres of grassland, and 1 ~~2~~ acre~~s~~ of developed lands. • CRP lands may be crossed by the proposed project (the acreage crossed is unknown); however, it is assumed no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for reduction in CRP acres under this alternative. • Construction would disturb 11 acres of Prime Farmland, if Irrigated and 256 ~~249~~ acres of Farmland of Statewide Importance. • Approximately 7 ~~5~~ acres of Prime Farmland, if Irrigated and 135 ~~128~~ acres of Farmland of Statewide Importance would be permanently converted to transmission line-related uses. These acreages represent very small amounts of county totals (0.01 to 0.02 percent) and impacts are expected to be ***low***. • Transmission line easements would be obtained for crossings on private lands, and right-of-way grants would be obtained for crossings on federal and state lands. • No private residences or other structures would be impacted under this alternative	• Construction activities would result in a total of 357 ~~343~~ acres of impacts to lands; consisting of 121 ~~101~~ acres of agricultural lands, 228 ~~237~~ acres of grassland, and 8 ~~5~~ acres of developed lands. Impacts would be temporary and localized and, therefore, ***low***. • Approximately 202 ~~188~~ acres would be permanently converted to transmission line-related uses. This would consist of 73 ~~58~~ acres of agricultural lands, 123 ~~128~~ acres of grassland, and 5 ~~2~~ acres of developed lands. • CRP lands may be crossed by the proposed project (the acreage crossed is unknown); however, it is assumed no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for reduction in CRP acres under this alternative. • Construction would disturb 20 ~~16~~ acres of Prime Farmland, if irrigated and 247 ~~209~~ acres of Farmland of Statewide Importance. • Approximately 11 ~~8~~ acres of Prime Farmland, if Irrigated and 137 ~~115~~ acres of Farmland of Statewide Importance would be permanently converted to transmission line-related uses. These acreages represent very small amounts of county totals (0.01 to 0.02 percent) and impacts are expected to be ***low***. • Transmission line easements would be obtained for crossings on private lands, and right-of-way grants would be obtained for crossings on federal and state lands. • One private residence, located 400 feet north of the proposed project, would be impacted during construction; potential impacts would include a short-term increase in noise, construction traffic levels, and dust.	• Construction activities would result in a total of 347 ~~337~~ acres of impacts to lands; consisting of 109 ~~93~~ acres of agricultural lands, 231 ~~239~~ acres of grassland, and 8 ~~5~~ acres of developed lands. Impacts would be temporary and localized and, therefore, ***low***. • Approximately 199 ~~178~~ acres would be permanently converted to transmission line-related uses. This would consist of 69 ~~55~~ acres of agricultural lands, 125 ~~121~~ acres of grassland, and 5 ~~2~~ acres of developed lands. • CRP lands may be crossed by the proposed project (the acreage crossed is unknown); however, it is assumed no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for reduction in CRP acres under this alternative. • Construction would disturb 20 ~~16~~ acres of Prime Farmland, if irrigated and 237 ~~209~~ acres of Farmland of Statewide Importance. • Approximately 11 ~~8~~ acres of Prime Farmland, if Irrigated and 135 ~~111~~ acres of Farmland of Statewide Importance would be permanently converted to transmission line-related uses. These acreages represent very small amounts of county totals (0.01 to 0.02 percent) and impacts are expected to be ***low***. • Transmission line easements would be obtained for crossings on private lands, and right-of-way grants would be obtained for crossings on federal and state lands. • One private residence, located 400 feet north of the proposed project, would be impacted during construction; potential impacts would include a short-term increase in noise, construction traffic levels, and dust.	• Construction activities would result in a total of 363 ~~361~~ acres of impacts to lands; consisting of 116 ~~105~~ acres of agricultural lands, 244 ~~250~~ acres of grassland, and 3 ~~6~~ acres of developed lands. Impacts would be temporary and localized and, therefore, ***low***. • Approximately 191 ~~190~~ acres would be permanently converted to transmission line-related uses. This would consist of 66 ~~60~~ acres of agricultural lands, 124 ~~127~~ acres of grassland, and 1 ~~2~~ acre~~s~~ of developed lands. • CRP lands may be crossed by the proposed project (the acreage crossed is unknown); however, it is assumed no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for reduction in CRP acres under this alternative. • Construction would disturb 11 acres of Prime Farmland, if irrigated and 267 ~~249~~ acres of Farmland of Statewide Importance. • Approximately 7 ~~5~~ acres of Prime Farmland, if Irrigated and 137 ~~132~~ acres of Farmland of Statewide Importance would be permanently converted to transmission line-related uses. These acreages represent very small amounts of county totals (0.01 to 0.02 percent) and impacts are expected to be ***low***. • Transmission line easements would be obtained for crossings on private lands, and right-of-way grants would be obtained for crossings on federal and state lands. • No private residences or other structures would be impacted under this alternative.	• Under the No Action Alternative the proposed project would not be built and there would be no impact on land use.	• Provide a schedule of construction activities to all landowners that could be affected by construction. • Compensate landowners for any new land rights required for right-of-way easements, or to construct new, temporary or permanent access roads. • Plan and conduct construction activities to minimize temporary disturbance, displacement of crops, and interference with agricultural activities. • Use BMPs to limit erosion and the spread of noxious weeds. • Restore compacted cropland soils to pre-construction conditions. • Compensate landowners for any damage to property during construction and maintenance activities. • Minimize or eliminate public access to project facilities through postings and installation of gates and barriers at appropriate access points and, at the landowner's request, on private property.

Table 2-4. Summary of Impacts of the Proposed Action Alternatives and the No Action Alternative (continued)

Potential Impacts					Mitigation Measures
North Alternative	South Alternative	Combination A Alternative	Combination B Alternative	No Action Alternative	
Vegetation					
• Construction activities would result in a total of 352 ~~355~~ acres of impacts to vegetation; consisting of 54 ~~84~~ acres of croplands, 284 ~~214~~ acres of disturbed grasslands, 12 ~~19~~ acres of native grasslands, and 2 ~~39~~ acres of developed lands ~~potential native grasslands~~. • Approximately 190 ~~180~~ acres of vegetation would be permanently converted to transmission line-related uses. This would consist of 31 ~~45~~ acres of croplands, 152 ~~110~~ acres of disturbed grasslands, and 5 ~~10~~ acres of native grasslands ~~and 14 acres of potential native grasslands~~. • Overall impacts to native grasslands would be ***moderate*** ~~to ***high***~~ under this alternative, depending on the size/integrity of the community/area impacted. Impacts to croplands and disturbed habitats would be ***low***. • The project could result in the spread of noxious weeds, especially along newly constructed access roads. The spread of noxious weeds could impact native plant communities, as well as reduce the production value of croplands. This potential impact would be reduced by the implementation of mitigation measures. • The proposed project has the potential to impact threatened, endangered, and sensitive plant species through habitat modification and direct removal/mortality; however, no threatened, endangered, and sensitive (TES) plant species were observed during the vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Surveys for these species are scheduled for Spring/Summer 2010.~~	• Construction activities would result in a total of 357 ~~343~~ acres of impacts to vegetation; consisting of 72 ~~65~~ acres of croplands, 272 ~~232~~ acres of disturbed grasslands, 12 ~~14~~ acres of native grasslands, and 2 ~~32~~ acres of developed lands ~~potential native grasslands~~. • Approximately 202 ~~188~~ acres of vegetation would be permanently converted to transmission line-related uses. This would consist of 45 ~~41~~ acres of cropla~~n~~ds, 152 ~~121~~ acres of disturbed grasslands, and 5 ~~9~~ acres of native grasslands ~~and 17 acres of potential native grasslands~~. • Overall impacts to native grasslands would be ***moderate*** under this alternative, depending on the size/integrity of the community/area impacted. Impacts to croplands and disturbed habitats would be ***low***. • Impacts from noxious weeds would be similar to those described for the North Alternative. • Impacts to ~~threatened, endangered, and sensitive (~~TES~~)~~ plant species would be similar to those described for the North Alternative.	• Construction activities would result in a total of 347 ~~337~~ acres of impacts to vegetation; consisting of 51 ~~64~~ acres of croplands, 281 ~~232~~ acres of disturbed grasslands, 14 acres of native grasslands, and 2 ~~27~~ acres of developed lands ~~potential native grasslands~~. • Approximately 199 ~~178~~ acres of vegetation would be permanently converted to transmission line-related uses. This would consist of 33 ~~44~~ acres of croplands, 158 ~~111~~ acres of disturbed grasslands, and 7 ~~10~~ acres of native grasslands ~~and 13 acres of potential native grasslands~~. • Overall impacts to native grasslands are considered ***moderate*** under this alternative, depending on the size/integrity of the community/area impacted. Impacts to croplands and disturbed habitats would be ***low***. • Impacts from noxious weeds would be similar to those described for the North Alternative. • Impacts to TES ~~threatened, endangered, and sensitive~~ plant species would be similar to those described for the North Alternative.	• Construction activities would result in a total of 363 ~~361~~ acres of impacts to vegetation; consisting of 77 ~~85~~ acres of croplands, 274 ~~214~~ acres of disturbed grasslands, 10 ~~19~~ acres of native grasslands, and 2 ~~44~~ acres of developed lands ~~potential native grasslands~~. • Approximately 191 ~~190~~ acres of vegetation would be permanently converted to transmission line-related uses. This would consist of 43 acres of croplands, 114 ~~119~~ acres of disturbed grasslands, and 4 ~~9~~ acres of native grasslands ~~and 18 acres of potential native grasslands~~. • Overall impacts to native grasslands would be ***moderate*** ~~to ***high***~~ under this alternative, depending on the size/integrity of the community/area impacted. Impacts to croplands and disturbed habitats would be ***low***. • Impacts from noxious weeds would be similar to those described for the North Alternative. • Impacts to TES ~~threatened, endangered, and sensitive~~ plant species would be similar to those described for the North Alternative.	• Under the No Action Alternative, construction of the proposed transmission line would not occur and vegetation communities ~~and TES plant species~~ found within the project area would likely remain in their current state. Current ongoing activities, such as farming and grazing, would continue to affect vegetation communities ~~and have the potential to affect TES plant species~~ in the project area under this alternative. Noxious weeds would continue to spread in the project area at current rates, with treatment conducted at landowner discretion.	**Vegetation Communities** • Limit ground-disturbing activities to tower sites, access roads, and staging areas; stake or flag native grassland or sensitive cropland areas prior to initiating construction. • Limit road improvements to the minimum amount necessary to safely move equipment, materials, and personnel into and out of the construction area. • Avoid introduction of non-native seed into areas of native grassland and/or areas where non-native species are not yet well established. • Use an approved native seed mix to re-vegetate areas of native grassland disturbed during construction activities. • Use an approved mixture of native and non-native species or seed for re-vegetation in areas were non-native species are already well established (i.e., disturbed grassland). • Use a seed mix approved by the local Farm Service Agency **Noxious Weeds** • Comply with all federal, state, and county noxious weed control regulations and guidelines. • Wash all equipment using pressure or steam before entering the project area and when leaving discrete patches of noxious weeds. • Map and flag noxious weed populations to construction so these populations can be avoided when possible. Clean vehicles after leaving these areas to avoid the spread of noxious weeds. • Use seed mixes to revegetate construction areas that meet the requirements of federal, state, and county noxious weed control regulations and guidelines. • Use certified weed-free straw for erosion control during construction and restoration activities. • Cooperate with private, county, state, and federal landowners to treat noxious weeds along access roads that will be used to bring construction equipment into the project area to reduce the introduction and spread of noxious weeds and noxious weed seeds. • Apply herbicides according to labeled rates and recommendations to ensure protection of surface water, ecological integrity, and public health and safety. • Conduct a post-construction noxious weed survey to determine whether noxious weeds have been spread within the project area. Take corrective action if needed. • Control noxious weeds on fee-owned properties and assist or coordinate noxious weed control with affected landowners on easement areas during operation and maintenance of the transmission line as guided by BPA's Vegetation Management Program. Where appropriate, enter into weed control programs with active weed control districts during operation and maintenance of the transmission line. ~~**Threatened, Endangered, and Sensitive Plant Species**~~ ~~• Conduct additional surveys for TES plant species in all areas of native grassland, as well as areas classified as potential habitat, during spring/summer 2010.~~ ~~• Consult with the U.S. Fish and Wildlife Service concerning any federally listed TES plant species that are identified and implement any mitigation measures to eliminate or reduce adverse impacts to these species.~~

Table 2-4. Summary of Impacts of the Proposed Action Alternatives and the No Action Alternative (continued)

Potential Impacts					Mitigation Measures
North Alternative	**South Alternative**	**Combination A Alternative**	**Combination B Alternative**	**No Action Alternative**	
Cultural Resources					
• The proposed project crosses the ancient lands of many Columbia River Basin tribes. However, impacts to unknown sites are not anticipated (***none*** to ***low***), due to the procedures that require construction to stop and appropriate protective measures to be determined if artifacts are found • ***No*** impacts to cultural resources are anticipated during operation and maintenance of the proposed project. • The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation have identified potentially eligible TCPs that could be affected by the proposed transmission line project. ~~Possible impacts to TCPs will not be known until the Nez Perce Tribes and the Confederated Tribes of the Umatilla Indian Reservation complete their TCP studies for this project. Following preparation of the studies, appropriate protective measures would be implemented, if necessary~~	• Impacts would be similar to those described for the North Alternative.	• Impacts would be similar to those described for the North Alternative.	• Impacts would be similar to those described for the North Alternative.	• Under the No Action Alternative the proposed project would not be built and there would be no impact on cultural resources.	• Design the transmission line so that tower sites are placed to avoid cultural resources. • Design new access roads to avoid cultural resources and minimize the potential for trespassing access, where practicable. • Improve the existing road system in a manner that minimizes new roads and avoids cultural resource sites. If improvements are needed on existing roads that cross through cultural resources sites, such improvements would be constructed in a manner to avoid/minimize impacts, such as using fabric and rock or other mitigation agreed to during the consultation process. • Consult with the Washington DAHP, the Nez Perce Tribe, and the Confederated Tribes of the Umatilla Indian Reservation regarding NRHP eligibility of cultural sites and TCPs. • Develop an Inadvertent Discovery Plan that details crew member responsibilities for reporting in the event a discovery during construction. • Ensure tribal monitors from the Nez Perce Tribe and/or the Confederated Tribes of the Umatilla Indian Reservation are present if work within prehistoric sites or TCPs cannot be avoided. • Prevent unauthorized collection of cultural materials by ensuring a professional archaeologist and tribal monitor are present during any excavation within known sites. • Prepare a Mitigation Plan to protect sites in situ if final placement of project elements results in unavoidable adverse impacts to a significant cultural resource. • Stop work immediately and notify local law enforcement officials, appropriate BPA personnel, Washington DAHP, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and WDNR, if on state lands, if cultural resources, either archaeological or historical materials, are discovered during construction activities.

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

2.3.1 Geology and Soils

Page 3-7, Table 3-1b has been revised as follows:

Table 3-1b. Soil Erosion Hazard Classes in the Project Corridor (acres)

Soil Classification	Action Alternative[1/]			
	North	South	Combination A	Combination B
Slight	9 ~~7~~	6 ~~4~~	6 ~~4~~	9 ~~7~~
Moderate	89 ~~94~~	49 ~~42~~	63 ~~58~~	75 ~~77~~
Severe	727 ~~732~~	756 ~~743~~	734 ~~726~~	749 ~~749~~
Not Rated	0	0	0	0
Total	**825 ~~833~~**	**811 ~~789~~**	**803 ~~788~~**	**833 ~~833~~**

Notes:

1/ The project corridor, as defined here, includes a 150-foot-wide right-of-way that extends 75 feet either side of the proposed centerline of the action alternatives, and areas affected by new access road construction based on an average disturbance width of 40 feet. These acres represent the entire right-of-way and new road footprint for each action alternative, not estimates of soils that would be disturbed under each alternative as a result of this project.

Source: NRCS 2009a, 2009b, 2009c

Page 3-8, Table 3-2 has been revised as follows:

Table 3-2. Soil Compaction Resistance Classes in the Project Corridor (acres)

Soil Classification	Action Alternative[1/]			
	North	South	Combination A	Combination B
Low	333 ~~337~~	203 ~~206~~	205 ~~204~~	330 ~~339~~
Moderate	475 ~~472~~	593 ~~538~~	585 ~~565~~	484 ~~446~~
Not Rated[2/]	17 ~~24~~	15 ~~45~~	13 ~~19~~	19 ~~49~~
Total	**825 ~~833~~**	**811 ~~789~~**	**803 ~~788~~**	**833 ~~834~~**

Notes:

1/ See footnote 1 to Table 3-1.

2/ Some units have not been rated by the NRCS; this is often because the rating is not applicable, such as for bedrock or water.

Source: NRCS 2009a, 2009b, 2009c

Page 3-9, Table 3-3 has been revised as follows:

Table 3-3. Erosion Hazard Classes Potentially Affected by Construction of the Action Alternatives (acres)

Action Alternative/ Project Component	Slight	Moderate	Severe	Total
North Alternative				
Tower Installation	0	12 ~~12.6~~	75 ~~79.3~~	87 ~~91.9~~
Counterpoise Installation	0 ~~0.1~~	14 ~~13.1~~	87 ~~90.7~~	101 ~~103.9~~
Access Roads	1 ~~0.7~~	20 ~~18.0~~	127 ~~124.2~~	148 ~~142.9~~
Pulling/Tensioning Sites	0	2 ~~3.5~~	15 ~~12.4~~	17 ~~15.8~~
Total	**1 ~~0.9~~**	**48 ~~47.1~~**	**304 ~~306.6~~**	**352 ~~354.6~~**
South Alternative				
Tower Installation	0	8 ~~7.0~~	76 ~~78.3~~	84 ~~85.2~~
Counterpoise Installation	0	8 ~~7.5~~	88 ~~89.4~~	97 ~~97.0~~
Access Roads	0 ~~0.4~~	9 ~~6.7~~	152 ~~138.6~~	161 ~~145.7~~
Pulling/Tensioning Sites	0 ~~0.1~~	2 ~~1.8~~	14 ~~13.3~~	16 ~~15.2~~
Total	**0 ~~0.4~~**	**27 ~~23.0~~**	**330 ~~319.5~~**	**357 ~~343.0~~**
Combination A Alternative				
Tower Installation	0	10 ~~9.6~~	71 ~~76.1~~	81 ~~85.7~~
Counterpoise Installation	0	11 ~~9.8~~	83 ~~87.1~~	93 ~~97.0~~
Access Roads	0 ~~0.4~~	12 ~~9.5~~	145 ~~128.8~~	157 ~~138.6~~
Pulling/Tensioning Sites	0 ~~0.1~~	3 ~~2.3~~	13 ~~12.8~~	16 ~~15.2~~
Total	**0 ~~0.4~~**	**36 ~~31.2~~**	**311 ~~304.9~~**	**347 ~~336.5~~**
Combination B Alternative				
Tower Installation	0	10 ~~10.0~~	80 ~~81.5~~	90 ~~91.4~~
Counterpoise Installation	0 ~~0.1~~	11 ~~10.8~~	93 ~~93.0~~	104 ~~103.9~~
Access Roads	1 ~~0.7~~	18 ~~15.2~~	135 ~~134.0~~	153 ~~149.9~~
Pulling/Tensioning Sites	0	1 ~~3.0~~	15 ~~12.9~~	16 ~~15.8~~
Total	**1 ~~0.9~~**	**39**	**323 ~~321.6~~**	**363 ~~361.1~~**

Source: NRCS 2009a, 2009b, 2009c

Page 3-11, Table 3-4 has been revised as follows:

Table 3-4. Compaction Resistance Classes Potentially Affected by Construction of the Action Alternatives (acres)

Action Alternative/ Project Component	Low[1/]	Moderate[2/]	Not Rated[3/]	Total
North Alternative				
Tower Installation	40 ~~41.9~~	47 ~~48.6~~	1 ~~1.4~~	87 ~~91.9~~
Counterpoise Installation	44 ~~45.4~~	56 ~~57.0~~	1 ~~1.5~~	101 ~~103.9~~
Access Roads	52 ~~59.8~~	95 ~~82.1~~	2 ~~1.0~~	148 ~~142.9~~
Pulling/Tensioning Sites	7 ~~6.0~~	10 ~~8.6~~	1 ~~1.2~~	17 ~~15.8~~
Total	**142 ~~153.1~~**	**207 ~~196.3~~**	**4 ~~5.2~~**	**353 ~~354.6~~**
South Alternative				
Tower Installation	24 ~~28.4~~	59 ~~55.7~~	1 ~~1.1~~	84 ~~85.2~~
Counterpoise Installation	27 ~~32.7~~	68 ~~63.0~~	1 ~~1.3~~	96 ~~97.0~~
Access Roads	25 ~~48.2~~	132 ~~95.2~~	4 ~~2.3~~	161 ~~145.7~~
Pulling/Tensioning Sites	4 ~~4.7~~	12 ~~9.8~~	0 ~~0.7~~	16 ~~15.2~~
Total	**79 ~~114.1~~**	**271 ~~223.9~~**	**7 ~~5.3~~**	**357 ~~343.0~~**
Combination A Alternative				
Tower Installation	27 ~~27.7~~	53 ~~56.6~~	1 ~~1.5~~	81 ~~85.7~~
Counterpoise Installation	28 ~~31.1~~	64 ~~64.6~~	1 ~~1.3~~	93 ~~97.0~~
Access Roads	33 ~~43.0~~	123 ~~94.3~~	1 ~~1.3~~	157 ~~138.7~~
Pulling/Tensioning Sites	3 ~~3.9~~	13 ~~10.0~~	1 ~~1.3~~	16 ~~15.2~~
Total	**90 ~~105.7~~**	**253 ~~225.6~~**	**4 ~~5.3~~**	**347 ~~336.5~~**
Combination B Alternative				
Tower Installation	37 ~~42.6~~	52 ~~47.7~~	1 ~~1.1~~	90 ~~91.4~~
Counterpoise Installation	42 ~~47.0~~	60 ~~55.3~~	1 ~~1.6~~	104 ~~103.9~~
Access Roads	47 ~~65.0~~	101 ~~83.0~~	5 ~~2.0~~	153 ~~149.9~~
Pulling/Tensioning Sites	8 ~~6.9~~	9 ~~8.4~~	0 ~~0.6~~	17 ~~15.8~~
Total	**134 ~~161.5~~**	**222 ~~194.4~~**	**7 ~~5.2~~**	**363 ~~361.1~~**

Notes:
1/ A low resistance to compaction rating indicates that one or more soil characteristics exist that favor the formation of a compacted layer.
2/ Soils with a moderate resistance to compaction have features that are favorable to resisting compaction.
3/ Some units have not been rated by the NRCS; this is often because the rating is not applicable, such as for bedrock or water.
Source: NRCS 2009a, 2009b, 2009c

Page 3-11, second paragraph has been modified as follows:

Construction of the North Alternative would result in about ~~355~~ 353 acres of temporary ground disturbance (Table 3-3). Approximately ~~307~~ 304 acres (86 percent of the affected acres) of the soils that would be affected by construction of the North Alternative are rated as having a severe erosion hazard (Table 3-3). About ~~153~~ 142 acres (~~43~~ 40 percent of the affected acres) of soils with a low resistance to compaction would be affected by the North Alternative (Table 3-4).

Page 3-11, third paragraph has been modified as follows:

Construction of the North Alternative would result in about ~~343~~ 357 acres of temporary ground disturbance (Table 3-3). Approximately ~~320~~ 330 acres (~~93~~ 92 percent of the affected acres) of the soils that would be affected by construction of the South Alternative are rated as having a severe erosion hazard (Table 3-3). About ~~114~~ 79 acres (~~33~~ 22 percent of the affected acres) of soils with a low resistance to compaction would be affected by the South Alternative (Table 3-4).

Page 3-12, first paragraph has been modified as follows:

Construction of the Combination A Alternative would result in about ~~337~~ 347 acres of ground disturbance (Table 3-3), which is the least of any action alternative. Approximately ~~305~~ 311 acres (~~91~~ 89 percent of the affected acres) of the soils that would be affected by construction of the Combination A Alternative are rated as having a severe erosion hazard (Table 3-3). About ~~106~~ 90 acres (~~31~~ 26 percent of the affected acres) of soils with a low resistance to compaction would be affected by the Combination A Alternative (Table 3-4).

Page 3-12, first paragraph has been modified as follows:

Construction of the Combination B Alternative would result in about ~~361~~ 363 acres of ground disturbance (Table 3-3), which is the most of any action alternative. Approximately ~~322~~ 323 acres (89 percent of the affected acres) of the soils that would be affected by construction of the Combination B Alternative are rated as having a severe erosion hazard (Table 3-3). About ~~162~~ 134 acres (~~45~~ 37 percent of the affected acres) of soils with a low resistance to compaction would be affected by the Combination B Alternative (Table 3-4).

2.3.2 Land Use

Page 3-15, Table 3-5 has been revised as follows:

Table 3-5. Land Use in the Project Corridor (acres)

Land Use	Action Alternative[1/]			
	North	South	Combination A	Combination B
Agriculture	214 ~~207.8~~	257 ~~220.9~~	217 ~~197.9~~	253 ~~230.8~~
Grassland	599 ~~607.7~~	540 ~~553.3~~	572 ~~575.6~~	567 ~~585.5~~
Developed	13 ~~17.4~~	15 ~~14.6~~	15 ~~14.6~~	13 ~~17.4~~
Total	**826 ~~832.9~~**	**811 ~~788.8~~**	**804 ~~788.0~~**	**833 ~~833.7~~**

Note:
1/ The project corridor, as defined here, includes a 150-foot-wide right-of-way that extends 75 feet either side of the proposed centerline of the action alternatives, and areas affected by new access road construction based on an average disturbance width of 40 feet. These acres represent the entire right-of-way and new road footprint for each action alternative, not estimates of soils that would be disturbed under each alternative as a result of this project.
Source: USGS 2001

Page 3-15, Table 3-6 has been revised as follows:

Table 3-6. Land Ownership in the Project Corridor (acres)

Ownership	Action Alternative[1/]			
	North	South	Combination A	Combination B
Private	784 ~~796.2~~	780 ~~762.6~~	773 ~~762.6~~	791 ~~796.2~~
Federal (USACE)	22 ~~15.0~~	22 ~~15.0~~	22 ~~15.0~~	22 ~~15.0~~
State (WDNR)	21 ~~20.4~~	9	9	21 ~~20.4~~
~~Other[2/]~~	~~1.3~~	~~2.1~~	~~1.3~~	~~2.1~~
Total	**826 ~~832.9~~**	**811 ~~788.8~~**	**804 ~~788.0~~**	**833 ~~833.7~~**

Notes:
USACE – U.S. Army Corps of Engineers
WDNR – Washington Department of Natural Resources
1/ See footnote 1 to Table 3-5.
~~2/ "Other" consists primarily of county roads.~~

Page 3-16, fourth paragraph has been revised as follows:

Only a small percentage of the project corridor (3 to ~~4~~ 5 percent, depending on the alternative corridor) is designated as prime farmland or prime farmland if irrigated, with the majority of this designation being prime farmland if irrigated (see Table 3-7). More than half of the project corridor is designated as farmland of statewide importance under all four action alternatives, ranging from ~~55~~ 57 percent of the area under the Combination A Alternative to ~~66~~ 67 percent under the Combination B Alternative (see Table 3-7).

Page 3-16, Table 3-7 has been revised as follows:

Table 3-7. Prime Farmland in the Project Corridor (acres)

Land Classification	Action Alternative[1/]			
	North	South	Combination A	Combination B
Prime Farmland	2 ~~0.5~~	2 ~~0.5~~	2 ~~0.5~~	2 ~~0.5~~
Farmland of Statewide Importance	523 ~~525.9~~	487 ~~452.1~~	455 ~~430.7~~	554 ~~547.3~~
Prime Farmland if Irrigated	21 ~~20.9~~	40 ~~33.7~~	40 ~~33.7~~	21 ~~20.9~~
Not Prime Farmland	280 ~~285.6~~	282 ~~302.4~~	307 ~~323.0~~	256 ~~265.0~~
Total	**826 ~~832.9~~**	**811 ~~788.8~~**	**803 ~~788.0~~**	**833 ~~833.7~~**

Note:
1/ See footnote 1 to Table 3-5.
Source: NRCS 2009a, 2009b, 2009c

Page 3-20, Table 3-8 has been revised as follows:

Table 3-8. Construction Impacts to Land Use (acres)

Action Alternative/ Project Component	Agriculture	Grassland	Developed	Total
North				
Tower Installation	23 ~~22.5~~	63 ~~67.8~~	1 ~~1.8~~	87 ~~92.0~~
Counterpoise Installation	25 ~~25.4~~	74 ~~75.5~~	1 ~~3.0~~	100 ~~103.9~~
Access Roads	51 ~~45.6~~	96 ~~95.8~~	1 ~~1.5~~	148 ~~142.9~~
Pulling/Tensioning Sites	3 ~~3.1~~	14 ~~12.7~~	0 ~~0~~	17 ~~15.8~~
Total	**102 ~~96.6~~**	**246 ~~251.8~~**	**3 ~~6.3~~**	**352 ~~354.6~~**
South				
Tower Installation	27 ~~24.6~~	55 ~~58.8~~	2 ~~1.9~~	83 ~~85.2~~
Counterpoise Installation	30 ~~27.9~~	65 ~~67.6~~	1 ~~1.5~~	96 ~~97.0~~
Access Roads	60 ~~44.9~~	98 ~~99.6~~	4 ~~1.2~~	162 ~~145.7~~
Pulling/Tensioning Sites	4 ~~3.9~~	11 ~~11.3~~	0 ~~0~~	16 ~~15.2~~
Total	**121 ~~101.3~~**	**228 ~~237.3~~**	**8 ~~4.6~~**	**357 ~~343.0~~**
Combination A				
Tower Installation	23 ~~22.4~~	56 ~~61.5~~	2 ~~1.9~~	81 ~~85.7~~
Counterpoise Installation	26 ~~25.8~~	66 ~~69.7~~	1 ~~1.5~~	93 ~~97.0~~
Access Roads	57 ~~41.6~~	97 ~~95.9~~	4 ~~1.2~~	158 ~~138.7~~
Pulling/Tensioning Sites	4 ~~3.3~~	12 ~~11.8~~	0 ~~0~~	16 ~~15.2~~
Total	**109 ~~93.1~~**	**231 ~~238.9~~**	**8 ~~4.6~~**	**347 ~~336.5~~**
Combination B				
Tower Installation	27 ~~24.7~~	62 ~~65.1~~	1 ~~1.8~~	90 ~~91.4~~
Counterpoise Installation	30 ~~27.5~~	72 ~~73.4~~	1 ~~3.0~~	104 ~~103.9~~
Access Roads	55 ~~48.9~~	97 ~~99.5~~	1 ~~1.5~~	153 ~~149.9~~
Pulling/Tensioning Sites	3 ~~3.7~~	13 ~~12.2~~	0 ~~0~~	17 ~~15.8~~
Total	**116 ~~104.8~~**	**244 ~~250.2~~**	**3 ~~6.3~~**	**363 ~~361.1~~**

Page 3-20, Table 3-9 has been revised as follows:

Table 3-9. Construction Impacts to Prime Farmland (acres)

Land Classification	Action Alternative			
	North	South	Combination A	Combination B
Prime Farmland	0	0	0	0
Farmland of Statewide Importance	256 ~~248.8~~	247 ~~209.4~~	237 ~~209.3~~	267 ~~248.9~~
Prime Farmland if Irrigated	11 ~~11.3~~	20 ~~16.1~~	20 ~~16.1~~	11 ~~11.3~~
Not Prime Farmland	85 ~~94.6~~	90 ~~117.5~~	90 ~~111.0~~	85 ~~100.9~~
Total	**352 ~~354.6~~**	**357 ~~343.0~~**	**347 ~~336.5~~**	**363 ~~361.1~~**

Source: NRCS 2009a, 2009b, 2009c

Page 3-21, Table 3-10 has been revised as follows:

Table 3-10. Permanent Impacts to Land Use (acres)

Action Alternative/ Project Component	Agricultural	Grassland	Developed	Total
North				
Tower Footings	6 ~~5.6~~	17 ~~17~~	0 ~~0.4~~	23 ~~23~~
Access Roads	56 ~~51.5~~	110 ~~103.4~~	1 ~~1.7~~	167 ~~156.5~~
Total	**62 ~~57.1~~**	**127 ~~120.4~~**	**1 ~~2.0~~**	**190 ~~179.5~~**
South				
Tower Footings	7 ~~6.1~~	14 ~~14.7~~	0 ~~0.5~~	22 ~~21.3~~
Access Roads	66 ~~52.0~~	109 ~~113.3~~	5 ~~1.5~~	180 ~~166.8~~
Total	**73 ~~58.1~~**	**123 ~~128.0~~**	**5 ~~2.0~~**	**202 ~~188.1~~**
Combination A				
Tower Footings	6 ~~5.5~~	15 ~~15.4~~	0 ~~0.5~~	21 ~~21.4~~
Access Roads	63 ~~49.3~~	110 ~~105.9~~	5 ~~1.5~~	178 ~~156.6~~
Total	**69 ~~54.8~~**	**125 ~~121.3~~**	**5 ~~2.0~~**	**199 ~~178.1~~**
Combination B				
Tower Footings	7 ~~6.2~~	16 ~~16.3~~	0 ~~0.4~~	23 ~~22.9~~
Access Roads	59 ~~54.2~~	108 ~~110.8~~	1 ~~1.7~~	168 ~~166.7~~
Total	**66 ~~60.4~~**	**124 ~~127.1~~**	**1 ~~2.0~~**	**191 ~~189.5~~**

Page 3-21, second paragraph has been revised as follows:

The placement of transmission line towers and permanent access roads through agricultural lands could lead to fragmentation and less efficient harvesting of agricultural crops, and could require some modification of existing agricultural systems such as center-pivot irrigation equipment that would be located immediately adjacent to the proposed transmission line and its support towers. In addition, where the proposed line would run parallel to existing transmission lines in the area, physically separating the proposed line from existing lines pursuant to WECC and NERC TPL Standards would create swaths of land between the proposed and existing lines ranging from 1,200 to 2,500 feet in width. Because the proposed line would not prevent current agricultural uses on these swaths of lands, these agricultural uses would be expected to continue and no impact would be expected. BPA would work with landowners to ensure that safe access of farm equipment and other vehicles across BPA's easements to these areas would be provided. If any changes in the use of these swaths of land are proposed at some point in the future, BPA also would work with landowners concerning any necessary changes in access requirements.

New permanent access roads may also have beneficial impacts in cases where a landowner has need for the access. In agricultural areas, new permanent roads could potentially be used by farmers during planting and harvest and for spraying fields.

The construction and operation of the proposed transmission line could also affect the areas of agricultural land that can be treated by aerial spraying. This potential effect would vary, depending on the location of structures and transmission line conductor relative to crop planting patterns, the presence of other tall structures, and the comfort level of the individual pilot. The presence of a transmission line could also affect spray coverage. Spray is applied at a downward angle to reduce over-spray and, as a result, areas immediately adjacent to the towers could receive less product than desired. Potential crop-spraying impacts to individual landowners will be addressed as part of BPA's easement acquisition process.

Page 3-21, final paragraph has been revised as follows:

Lands permanently impacted would include farmlands of statewide importance and prime farmland, if irrigated (see Table 3-11). These lands would be unavailable for agricultural use for the duration of project operation. Impacts to farmlands of statewide importance would range from an estimated ~~111~~ 135 acres to ~~132~~ 137 acres. As noted in the Affected Environment discussion, almost half of the land in the affected counties (where information is available) is identified as farmland of statewide importance. Impacts under all of the action alternatives would ~~range from about 0.01 percent~~ be equivalent to about 0.02 percent of the county total, and overall impacts are, therefore, expected to be ***low***. Impacts to prime farmland, if irrigated, would range from ~~5~~ 7 to ~~8~~ 11 acres, approximately 0.01 percent of land in this classification in the affected counties, and are, as a result, expected to be ***low***.

Page 3-22, Table 3-11 has been revised as follows

Table 3-11. Permanent Impacts to Prime Farmland (acres)

Land Classification	Action Alternative			
	North	South	Combination A	Combination B
Prime Farmland	0.1	0.1	0.1	0.1
Farmland of Statewide Importance	135 ~~127.9~~	137 ~~115.2~~	135 ~~111.4~~	136 ~~131.7~~
Prime Farmland if Irrigated	7 ~~4.6~~	11 ~~7.8~~	11 ~~7.8~~	7 ~~4.6~~
Not Prime Farmland	48 ~~47.0~~	54 ~~65.1~~	53 ~~58.8~~	48 ~~53.3~~
Total	**189 ~~179.5~~**	**202 ~~188.1~~**	**199 ~~178.1~~**	**192 ~~189.6~~**

Source: NRCS 2010

Page 3-23, third paragraph has been revised as follows:

Construction of the North Alternative would temporarily disturb about ~~355~~ 352 acres of land, with approximately ~~71~~ 70 percent (~~252~~ 246 acres) of this disturbance expected to occur on areas characterized by the USGS as grassland and ~~27~~ 29 percent (~~97~~ 102 acres) on land used for agriculture (Table 3-8). Approximately ~~70~~ 73 percent (~~249~~ 256 acres) of construction-related disturbance under this alternative would occur on farmland of statewide importance, with 11 acres of prime farmland, if irrigated, also affected (Table 3-9). As discussed above under Impacts Common to All Action Alternatives, temporary impacts on land use from the North Alternative would be ***low***.

Page 3-23, fourth paragraph has been revised as follows:

The North Alternative would result in the permanent conversion of approximately ~~180~~ 190 acres of land from primarily agricultural and grassland uses to tower footings and access roads. The majority of this land (~~87~~ 88 percent) would be associated with permanent access roads. The remaining ~~13~~ 12 percent would be associated with the tower footings. Approximately ~~31~~ 33 percent of this disturbance would occur on agricultural lands, with the majority of the remainder occurring on grasslands (Table 3-10). Approximately 71 percent (~~128~~ 135 acres) of the permanent disturbance under this alternative would occur on farmland of statewide importance, with ~~5~~ 7 acres of prime farmland, if irrigated, also affected (Table 3-11). As discussed above under Impacts Common to All Action Alternatives, permanent impacts on land use from the North Alternative would be ***low***.

Page 3-23, sixth paragraph has been revised as follows:

Temporary and permanent land disturbance impacts for construction of the South Alternative would be similar to those described above for the North Alternative. Construction of the South Alternative would temporarily disturb about ~~343~~ 357 acres of land, with approximately ~~69~~ 64 percent (~~237~~ 228 acres) of this disturbance expected to occur on areas characterized by the USGS as grassland and ~~30~~ 34 percent (~~101~~ 121 acres) on land used for agriculture (Table 3-8). Approximately ~~61~~ 69 percent (~~209~~ 247 acres) of construction-related disturbance under this alternative would occur on farmland of statewide importance, with ~~16~~ 20 acres of prime farmland, if irrigated, also affected (Table 3-9). As discussed above under Impacts Common to All Action Alternatives, temporary impacts on land use from the South Alternative would be ***low***.

Page 3-23, final paragraph has been revised as follows:

Construction of this alternative would result in the permanent conversion of approximately ~~188~~ 202 acres of land from primarily agricultural and grassland uses to tower footings and access roads. The majority of this land (89 percent) would be associated with permanent access roads. The remaining 11 percent would be associated with the tower footings. Approximately ~~31~~ 36 percent of this disturbance would occur on agricultural lands, with the majority of the remainder occurring on grasslands (Table 3-10). Approximately ~~61~~ 68 percent (~~115~~ 137 acres) of the permanent disturbance under this alternative would occur on farmland of statewide importance, with ~~8~~ 11 acres of prime farmland, if irrigated, also affected (Table 3-11). As discussed above under Impacts Common to All Action Alternatives, permanent impacts on land use from the South Alternative would be ***low***.

Page 3-24, second full paragraph has been revised as follows:

Construction of the Combination A Alternative would temporarily disturb about ~~337~~ 347 acres of land, with approximately ~~71~~ 67 percent (~~239~~ 231 acres) of this disturbance expected to occur on areas characterized by the USGS as grassland and ~~28~~ 31 percent (~~93~~ 109 acres) on land used for agriculture (Table 3-8). Approximately ~~62~~ 68 percent (~~209~~ 237 acres) of construction-related disturbance under this alternative would occur on farmland of statewide importance, with ~~16~~ 20 acres of prime farmland, if irrigated, also affected (Table 3-9). Similar to the North and South alternatives, temporary impacts on land use from the Combination A Alternative would be ***low***.

Page 3-24, third full paragraph has been revised as follows:

Construction of this alternative would result in the permanent conversion of approximately ~~178~~ 199 acres of land from primarily agricultural and grassland uses to tower footings and access roads. The majority of this land (~~88~~ 89 percent) would be associated with permanent access roads. The remaining ~~12~~ 11 percent would be associated with the tower footings. Approximately ~~31~~ 35 percent of this disturbance would occur on agricultural lands, with the majority of the remainder occurring on grasslands (Table 3-10). Approximately ~~63~~ 68 percent (~~111~~ 135 acres) of the permanent disturbance under this alternative would occur on farmland of statewide importance, with ~~8~~ 11 acres of prime farmland, if irrigated, also affected (Table 3-11). Similar to the North and South alternatives, permanent impacts on land use from the Combination A Alternative would be ***low***.

Page 3-24, fourth full paragraph has been revised as follows:

Construction of the Combination B Alternative would temporarily disturb about ~~361~~ 363 acres of land, with approximately ~~69~~ 67 percent (~~250~~ 244 acres) of this disturbance expected to occur on grassland and ~~29~~ 32 percent (~~105~~ 116 acres) on land used for agriculture (Table 3-8). Approximately ~~69~~ 74 percent (~~249~~ 267 acres) of construction-related disturbance under this alternative would occur on farmland of statewide importance, with 11 acres of prime farmland, if irrigated, also affected (Table 3-9). Similar to the alternatives above, temporary impacts on land use from the Combination B Alternative would be ***low***.

Page 3-24, final paragraph has been revised as follows:

Construction of this alternative would result in the permanent conversion of approximately ~~190~~ 191 acres of land from primarily agricultural and grassland uses to tower footings and access roads. The majority of this land (88 percent) would be associated with permanent access roads. The remaining 12 percent would be associated with the tower footings. Approximately ~~32~~ 35 percent of this disturbance would occur on agricultural lands, with the majority of the remainder occurring on grasslands (Table 3-10). Approximately ~~69~~ 71 percent (~~132~~ 136 acres) of the permanent disturbance under this alternative would occur on farmland of statewide importance, with ~~5~~ 7 acres of prime farmland, if irrigated, also affected (Table 3-11). Similar to the alternatives above, permanent impacts on land use from the Combination B Alternative would be ***low***.

2.3.3 Vegetation

Page 3-27, third paragraph has been modified as follows:

General vegetation surveys were conducted along the project corridors in September 2009 and spring/summer 2010. The purpose of the field surveys was to determine the distribution and condition of vegetation types within the transmission line rights-of-way for the proposed alternatives and to assess impacts of the proposed alternatives on vegetation communities. All vascular plant species encountered in the survey area are listed in Appendix A to this Environmental Impact Statement (EIS) ~~; however, due to the timing of the surveys, it was not possible to identify all species, and other species (primarily annual herbaceous species) had, presumably, completed their life cycle and were no longer present. Additional vegetation field surveys are scheduled for spring/summer of 2010~~.

Page 3-27, fourth paragraph has been modified as follows:

Vegetation communities within the project area include cropland, disturbed grassland, native grassland, riparian/wetland, and developed land~~, and potential native grassland~~. Although land enrolled in the CRP ~~likely~~ exists along all the action alternatives, these areas are often difficult to distinguish in the field from disturbed grasslands and/or fallow agricultural fields and information regarding the specific location of CRP lands is not available (see Section 3.2 Land Use). As a result, CRP lands are included in this report in the disturbed grassland category. Table 3-12 lists the acres of cropland, disturbed grassland, native grassland, riparian/wetland, and ~~potential native grassland~~ developed land along the project corridor for all action alternatives. Note that these acres represent the entire corridor (right-of-way and new access roads) for each alternative, not estimates of vegetation that would be disturbed under each alternative as a result of this project.

Page 3-28, Table 3-12 has been modified as follows:

Table 3-12. Vegetation Communities in the Project Corridor (acres)

Vegetation Community[1/]	Action Alternative			
	North[2/]	South[2/]	Combination A[2/]	Combination B[2/]
Cropland	118 ~~176.7~~	157 ~~150.9~~	106 ~~130.7~~	174 ~~196.9~~
Disturbed Grassland	667 ~~489.0~~	616 ~~519.2~~	651 ~~535.3~~	632 ~~473.0~~
Native Grassland	38 ~~50.2~~	36 ~~28.5~~	43 ~~32.7~~	26 ~~45.9~~
Riparian/wetland	1 ~~3.6~~	1 ~~3.2~~	1 ~~3.5~~	1 ~~3.2~~
Developed[3/] ~~Potential Native Grassland[3/]~~	2 ~~113.4~~	2 ~~87.0~~	2 ~~85.8~~	2 ~~114.6~~
Total	**826 ~~832.9~~**	**811 ~~788.8~~**	**803 ~~788.0~~**	**833 ~~833.7~~**

Notes:

1/ Vegetation communities were identified based on field surveys conducted during September 2009 and spring/summer 2010 and a review of high-resolution aerial imagery.

2/ The project area, as defined here, includes a 150-foot-wide right-of-way that extends 75 feet either side of the proposed centerline of the action alternatives, and areas affected by new access road construction based on an average disturbance width of 40 feet. These acres represent the entire right-of-way and new road footprint for each alternative, not estimates of vegetation that would be disturbed under each alternative as a result of this project.

3/ The developed category represents the area presently occupied by the Lower Monumental Substation.

~~3/ Not all areas of the proposed transmission line rights-of-way were accessible by foot during 2009 surveys. Based on binocular surveys and/or aerial map interpretation, areas that appeared to potentially have native grassland communities present were classified as potential native grassland. However, it is possible that these areas may also include disturbed grassland and cropland.~~

Page 3-28, first paragraph has been modified as follows:

Areas that were observed to be fallow ~~in September 2009~~ during the field surveys and had not obviously been cultivated in the recent past were classified as disturbed grassland. Thus, areas that are not currently, but may be cultivated for agriculture in the future, were classified as disturbed grassland.

Page 3-28, second paragraph has been modified as follows:

This vegetation type consists of areas degraded due to land use activities, such as ~~grazing~~ ranching and past agricultural practices. These communities are dominated by invasive annual grass and forb species such as cheatgrass, bulbous bluegrass, tall tumblemustard, prickly lettuce, rush skeletonweed, and yellow star-thistle. Native bunchgrasses, such as Idaho fescue and Sandberg bluegrass are rare, although bluebunch wheatgrass and squirreltail were observed to be locally common. Other species commonly observed in disturbed grasslands include branched lagophylla, horseweed, and Russian thistle. Scattered shrubs, primarily ~~gray~~ rubber

rabbitbrush, were also often present and locally abundant in disturbed grassland communities. As mentioned above, areas that were fallow during the field surveys ~~in September 2009~~ and had not obviously been cultivated in the recent past were classified as disturbed grassland.

Page 3-28, third paragraph has been modified as follows:

Additionally, lands presumed to be enrolled in CRP are included in this classification. Land enrolled in the CRP was, in general, previously cultivated for crops. These areas are seeded with a mix of native and non-native grasses and forbs specified by federal agencies managing CRP lands. Although not deliberately seeded in, annual invasive grasses are often very common in these communities. Dominant species observed in potential CRP ~~communities~~ land in the project corridor include introduced perennial bunchgrasses, such as crested wheatgrass and tall wheatgrass, and Sherman big bluegrass (a cultivated variety of Sandberg bluegrass), invasive annual grasses such as cheatgrass, and native perennial bunchgrasses such as bluebunch wheatgrass ~~and Sandberg bluegrass~~. Although these areas often include a native component and are more resistant to weed infestations, these areas provide minimal habitat for native plant species. More than half of the land crossed by each of the action alternatives was classified as disturbed grassland, ranging from an estimated ~~473~~ 616 acres under the ~~Combination B~~ South Alternative to ~~535~~ 667 acres under the ~~Combination A~~ North Alternative (Table 3-12).

Page 3-28, fourth paragraph has been modified as follows:

Patches of native grassland occur along all the action alternative corridors. These areas vary in size and quality, but are generally small, patchy, and isolated with localized areas of weed infestation. These patches generally provide habitat for native plant species, but the quality of the habitat depends on the size and integrity of the community and the species composition of the surrounding vegetation communities. Dominant grass species in native grassland communities include bluebunch wheatgrass, Sandberg bluegrass, and Idaho fescue. Squirreltail was also locally abundant, especially in the northern region of the project corridor. Herbaceous species commonly observed in native grassland communities include hoary aster, woolly plantain, yarrow, and lupine. Invasive species such as cheatgrass and bulbous bluegrass are also commonly found, though in lesser extents, in native grasslands in the project corridor. Scattered shrubs, primarily ~~gray~~ rubber rabbitbrush, and occasionally snow buckwheat, were at times observed in native grassland.

Page 3-29, second full paragraph has been modified as follows:

Native grassland within the action alternative corridors ranges from 26 acres for the Combination B Alternative to 43 acres for the Combination A Alternative ~~comprises a slightly larger share of the corridors along the North and Combination B alternatives, approximately 6 percent of the total, versus 4 percent of the total under the South and Combination A alternatives~~ (Table 3-12). ~~During the 2009 survey, one larger, relatively undisturbed area of native grassland was observed in the northwestern quadrant of the project area along the North and Combination B Alternative corridor. This area of native grassland supports a diverse assemblage of native bunchgrass, herbaceous, and shrub species. Non-native species within this area were generally restricted to disturbed areas, such as near an existing BPA access road.~~

Page 3-29, third full paragraph has been modified as follows:

~~***Potential Native Grassland***~~

~~Either due to lack of permission to enter or due to topography, not all areas of the project corridors were accessible by foot during the 2009 survey. Based on binocular surveys and/or aerial map interpretation, areas with the potential to contain native grassland communities present were classified as "potential native grassland." Areas assigned this classification comprised approximately 14 percent of the North and Combination B Alternative corridors and 11 percent of the South and Combination A Alternative corridors.~~

Page 3-29, fourth full paragraph has been modified as follows:

Small patches of riparian vegetation exist near the perennial Tucannon River, and intermittent streams in the project corridor. Riparian vegetation observed along intermittent streams in the project corridor consists primarily of non-native shrub and herbaceous species including Russian thistle, absinth wormwood, yellow star-thistle, fiddleneck, and Canada goldenrod. The only riparian forest habitat observed exists along the Tucannon River. The dominant tree species in this area is white alder. Other common species in this area include black walnut, Russian-olive, and the noxious weeds: false indigo, reed canary grass, absinth wormwood, and Queen Anne's lace. The only wetland area<u>s</u> observed during the 2009 <u>and 2010</u> field surveys ~~was~~ <u>were</u> adjacent to the Tucannon River <u>and one small emergent wetland area near a proposed access road along the North and Combination A alternatives</u>. Riparian areas and wetlands are discussed further in Section 3.6 Water Resources and Fish.

Page 3-33, third full paragraph has been modified as follows:

No TES plant species were observed during ~~general~~ vegetation surveys conducted in September 2009 <u>and spring/summer 2010.</u>~~; however, these surveys occurred outside of the optimal survey period for these species. Additional vegetation surveys, including surveys for TES plant species, will be conducted in all native and potential native grassland areas in the spring/summer of 2010 because this is where, and when, TES plant species are more likely to be identified if present.~~

Page 3-33, sixth full paragraph has been modified as follows:

During the ~~2009 general~~ vegetation surveys along the proposed transmission line corridor<u>s</u>, ~~11~~ <u>13</u> noxious weed species were observed (Table 3-14). Two of these species, false indigo, and Queen Anne's lace are Class B species designated for control in Columbia County, the county in which these two species were observed. The remaining nine species are Class B and Class C species not designated for control in Columbia, Garfield, or Walla Walla counties. No Class A species were observed. Yellow star-thistle and rush skeletonweed were the predominant noxious weeds observed along all action alternative corridors. Although noxious weed species were more common and abundant along roads and other disturbed areas, many species, particularly yellow star-thistle and rush skeletonweed, have become widespread across the entire project corridor. Heavy infestations of yellow star-thistle were common in many of the disturbed grasslands surveyed. Cultivated rye was also locally abundant in many areas along all action alternative corridors. Table 3-14 lists the noxious weed species observed during the vegetation surveys and their state weed classification.

Page 3-34, Table 3-14 has been modified as follows:

Table 3-14. Noxious Weed Species Observed during ~~2009~~ Field Surveys of the Project Corridor

Scientific Name	Common Name	Designation	Observations
Aegilops cylindrica	jointed goatgrass	Class C	Occasionally observed along all action alternatives.
Amorpha fruticosa	false indigo; river-locust	Class B–designated for control in Walla Walla, Columbia, Garfield counties	Only observed near the Tucannon River where the proposed alternatives share a common alignment.
Artemisia absinthium	absinth wormwood	Class C	Restricted to riparian areas near the Tucannon River and intermittent streams.
Centaurea diffusa	diffuse knapweed	Class B–not designated for control	Occasionally observed along all action alternatives.
Centaurea solstitialis	yellow star-thistle	Class B–not designated for control	Widespread and abundant along all action alternatives.
Chondrilla juncea	rush skeletonweed	Class B–not designated for control	Widespread and abundant along all action alternatives.
Cirsium arvense	Canada thistle	Class C	Occasionally observed along all action alternatives.
Conium maculatum	poison hemlock	Class B	Restricted to riparian areas near the Tucannon River and intermittent streams.
Convolvulus arvensis	field bindweed	Class C	Occasionally observed along all action alternatives.
Daucus carota	Queen Anne's lace	Class B–designated for control in Walla Walla, Columbia, Garfield counties	Only observed near the Tucannon River where the proposed alternatives share a common alignment.
Hypericum perforatum	Common St. Johnswort	Class C	Occasionally observed along all action alternatives.
Phalaris arundinacea	reed canary grass	Class C	Only observed near the Tucannon River where the proposed alternatives share a common alignment.
Secale cereale	cultivated rye	Class C	Commonly observed and locally abundant along all action alternatives.

Page 3-35, Table 3-15 has been modified as follows:

Table 3-15. Construction Impacts to Vegetation Communities (acres)

Action Alternative/ Project Component	Cropland	Disturbed Grassland	Native Grassland	~~Potential Native Grassland~~ Developed[1/]	Total[2/]
North					
Tower Installation	13 ~~20.5~~	71 ~~54.6~~	2 ~~5.1~~	1 ~~11.7~~	87 ~~**91.9**~~
Counterpoise Installation	15 ~~24.1~~	80 ~~60.9~~	5 ~~5.1~~	1 ~~13.8~~	101 ~~**103.9**~~
Access Roads	24 ~~35.5~~	120 ~~88.5~~	4 ~~8.5~~	0 ~~10.3~~	147 ~~**142.9**~~
Pulling/Tensioning Sites	3 ~~3.6~~	13 ~~9.5~~	1 ~~0.0~~	0 ~~2.8~~	17 ~~**15.8**~~
Total	**54** ~~**83.8**~~	**284** ~~**213.6**~~	**12** ~~**18.7**~~	**2** ~~**38.5**~~	**352** ~~**354.6**~~
South					
Tower Installation	15 ~~14.7~~	66 ~~56.4~~	3 ~~4.1~~	1 ~~10.0~~	84 ~~**85.2**~~
Counterpoise Installation	17 ~~19.0~~	74 ~~64.3~~	5 ~~3.7~~	1 ~~10.0~~	97 ~~**97**~~
Access Roads	36 ~~27.8~~	121 ~~101.1~~	3 ~~5.9~~	0 ~~10.7~~	160 ~~**145.7**~~
Pulling/Tensioning Sites	4 ~~3.5~~	11 ~~10.0~~	1 ~~0.3~~	0 ~~1.4~~	16 ~~**15.2**~~
Total	**72** ~~**65.0**~~	**272** ~~**231.8**~~	**12** ~~**14.0**~~	**2** ~~**32.1**~~	**357** ~~**343.0**~~
Combination A					
Tower Installation	9 ~~14.0~~	69 ~~59.8~~	3 ~~3.6~~	1 ~~8.3~~	81 ~~**85.7**~~
Counterpoise Installation	11 ~~17.6~~	76 ~~67.0~~	6 ~~3.4~~	1 ~~9.0~~	93 ~~**97.0**~~
Access Roads	28 ~~29.4~~	124 ~~94.4~~	5 ~~7.1~~	0 ~~7.8~~	157 ~~**138.7**~~
Pulling/Tensioning Sites	3 ~~3.1~~	12 ~~10.6~~	1 ~~0.0~~	0 ~~1.4~~	16 ~~**15.2**~~
Total	**51** ~~**64.1**~~	**281** ~~**231.8**~~	**14** ~~**14.1**~~	**2** ~~**26.5**~~	**347** ~~**336.5**~~
Combination B					
Tower Installation	19 ~~21.2~~	68 ~~51.2~~	2 ~~5.6~~	1 ~~13.4~~	90 ~~**91.4**~~
Counterpoise Installation	21 ~~25.5~~	78 ~~58.2~~	4 ~~5.3~~	1 ~~14.8~~	104 ~~**103.9**~~
Access Roads	34 ~~34.1~~	115 ~~95.4~~	3 ~~7.3~~	0 ~~13.1~~	152 ~~**149.9**~~
Pulling/Tensioning Sites	3 ~~4.0~~	13 ~~8.8~~	1 ~~0.3~~	0 ~~2.8~~	17 ~~**15.8**~~
Total	**77** ~~**84.8**~~	**274** ~~**213.6**~~	**10** ~~**18.6**~~	**2** ~~**44.1**~~	**363** ~~**361.1**~~

Note:
1/ The developed category represents the area presently occupied by the Lower Monumental Substation.
2/ Numbers are rounded and may not sum exactly.

Page 3-36, Table 3-16 has been modified as follows:

Table 3-16. Permanent Impacts to Vegetation Communities (acres)

Action Alternative/Project Component	Cropland	Disturbed Grassland	Native Grassland	~~Potential Native Grassland~~ Developed[1/]	Total[2/]
North					
Tower Footings	4 ~~5.1~~	18 ~~13.7~~	1 ~~1.3~~	0 ~~2.9~~	23
Access Roads	28 ~~40.3~~	135 ~~96.2~~	5 ~~8.8~~	0 ~~11.2~~	167 ~~156.5~~
Total	**31 ~~45.4~~**	**152 ~~109.8~~**	**5 ~~10.1~~**	**0 ~~14.1~~**	**190 ~~179.5~~**
South					
Tower Footings	4 ~~3.6~~	17 ~~14.2~~	1 ~~1~~	0 ~~2.5~~	22 ~~21.3~~
Access Roads[2/]	41 ~~37.8~~	135 ~~106.3~~	4 ~~7.8~~	0 ~~14.8~~	180 ~~166.8~~
Total	**45 ~~41.4~~**	**152 ~~120.5~~**	**5 ~~8.8~~**	**0 ~~17.3~~**	**202 ~~188.1~~**
Combination A					
Tower Footings	2 ~~3.4~~	18 ~~15.0~~	1 ~~0.9~~	0 ~~2.1~~	21 ~~21.4~~
Access Roads[2/]	31 ~~40.3~~	140 ~~96.3~~	7 ~~8.8~~	0 ~~11.2~~	178 ~~156.6~~
Total	**33 ~~43.7~~**	**158 ~~111.3~~**	**7 ~~9.7~~**	**0 ~~13.3~~**	**199 ~~178.0~~**
Combination B					
Tower Footings	5 ~~5.3~~	17 ~~12.8~~	1 ~~1.4~~	0 ~~3.3~~	23 ~~22.9~~
Access Roads	38 ~~37.8~~	127 ~~106.2~~	3 ~~7.8~~	0 ~~14.8~~	168 ~~166.7~~
Total	**43 ~~43.0~~**	**144 ~~118.9~~**	**4 ~~9.2~~**	**0 ~~18.2~~**	**191 ~~189.5~~**

Note:
1/ The developed category represents the area presently occupied by the Lower Monumental Substation.
2/ Numbers are rounded and may not sum exactly.
3/ New access roads proposed for the South and Combination A alternatives would also cross 0.2 acre of riparian vegetation associated with an intermittent drainage east of the Tucannon River.

Page 3-37, second full paragraph has been modified as follows:

As discussed in Section 3.3.1, no TES plant species were observed during general vegetation surveys conducted for the project in September 2009. Additional surveys were conducted during the spring and summer 2010. These surveys were timed to consider the phenology of threatened, endangered, and sensitive (TES) plant species with the potential to occur in the project area. No TES species were identified along any of the action alternative corridors during these surveys. ~~will be conducted in the spring/summer of 2010. If any TES plant species are found, potential impacts will be assessed and mitigation measures will be developed, as appropriate.~~

Page 3-38, first full paragraph has been modified as follows:

Areas of native grassland~~, including patches of native grassland in areas of potential native grassland,~~ are generally less disturbed and contain a lower abundance of non-native species and noxious weeds than disturbed grasslands. Native grassland communities are important because they provide habitat for a diverse assemblage of native species, and potentially TES plant species. Very few areas of native grassland vegetation exist in the project corridor, and these areas are vulnerable to the effects of noxious weed introduction and proliferation. Construction-related ground disturbance would increase the potential for noxious weed introduction in areas of native grassland, therefore, impacts to these areas are considered ***moderate ~~to high~~***.

Page 3-38, fifth full paragraph has been modified as follows:

The North Alternative would involve construction of approximately ~~40~~ 39 miles of new transmission line. This alternative would involve the installation of approximately ~~178~~ 175 towers and construction of approximately ~~33~~ 36 miles of new access roads. Construction of this alternative would disturb approximately ~~355~~ 352 acres of land. More than ~~half~~ three-quarters (~~60~~ 81 percent) of this disturbance would occur in areas classified as disturbed grassland (Table 3-15). Construction would also disturb approximately ~~84~~ 54 acres of cropland, and ~~19~~ 12 acres of native grassland~~, and 39 acres of potential native grassland~~. As discussed above under Vegetation Communities, construction-related impacts on vegetation in cropland and disturbed grassland communities, assuming mitigation measures are implemented, would be ***low***. ~~One larger, relatively undisturbed area of native grassland was observed along the North Alternative during the 2009 field survey~~. Impacts to ~~this~~ native grassland ~~area~~ would be ***moderate ~~to high~~*** ~~because this is one of few relatively intact areas of native grassland in the project area~~.

Page 3-38, the final paragraph has been modified as follows:

Under the North Alternative, approximately ~~180~~ 190 acres of land would be permanently occupied by tower footings and new access roads. Permanently disturbed areas would include approximately ~~110~~ 152 acres of disturbed grassland, ~~45~~ 31 acres of cropland, and ~~10~~ 5 acres of native grassland~~, and 14 acres of potential native grassland~~ (Table 3-16). Long-term impacts similar to those described above under Vegetation Communities would occur. Impacts on disturbed grassland and cropland would be ***low.*** Impacts to native grasslands would be ***moderate ~~to high~~*** if towers and roads are placed within the few intact areas of native grassland in the project area, depending on the size and integrity of the community/area being impacted. The transmission line would be designed to avoid these native grassland areas ~~if~~ whenever possible.

Page 3-39, first full paragraph has been modified as follows:

New access roads, which increase the potential for the spread of noxious weeds, account for the majority (~~87~~ 88 percent) of the estimated permanent disturbance under this alternative (Table 3-16). The majority of this disturbance related to access road construction and movement of vehicles along these roads would occur in areas classified as disturbed grassland (~~96~~ 135 acres), where impacts are considered ***low***. Approximately ~~40~~ 28 acres of cropland~~,~~ and ~~9~~ 5 acres of native grassland~~, and 11 acres of potential native grassland~~ would also be impacted by access roads (Table 3-16). Noxious weed impacts to cultivated areas relatively free of noxious weeds would be ***moderate***. Impacts to the few intact areas of native grassland in the project area would be ***moderate*** ~~to ***high***~~. ~~Patches of native grassland likely exist in areas of potential native grassland; however, as discussed above, a considerable portion of these areas most likely consist of disturbed grassland communities and cropland.~~

Page 3-39, second full paragraph has been modified as follows:

~~As stated above, n~~ No TES plant species were observed during the ~~general~~ vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Impacts to TES plant species under this alternative will be evaluated if TES plant species are observed during the additional vegetation surveys scheduled for spring/summer 2010~~.

Page 3-39, third full paragraph has been modified as follows:

The South Alternative would involve construction of approximately 38 miles of new transmission line. This would involve the installation of approximately 167 towers, as well as construction of approximately ~~35~~ 39 miles of new access road. Construction of this alternative would disturb about ~~343~~ 357 acres of land. Approximately ~~two-thirds~~ three-quarters (~~68~~ 76 percent) of this disturbance would occur in areas classified as disturbed grassland (Table 3-15). Construction would temporarily disturb an estimated ~~65~~ 72 acres of cropland~~,~~ and ~~14~~ 12 acres of native grassland~~, and 32 acres of potential native grassland~~. Areas of native grassland along the South Alternative are generally small and isolated; impacts on these areas during construction would be ***moderate***.

Page 3-39, fourth full paragraph has been modified as follows:

Under the South Alternative, approximately ~~188~~ 202 acres of land would be permanently occupied by tower footings and new access roads. Permanently disturbed areas would include approximately ~~121~~ 152 acres of disturbed grassland, ~~41~~ 45 acres of cropland, and ~~9~~ 5 acres of native grassland~~, and 17 acres of potential native grassland~~ (Table 3-16). Impacts to native grassland would be ***moderate***.

Page 3-39, fifth full paragraph has been modified as follows:

New access roads, which increase the potential for the spread of noxious weeds, would disturb approximately ~~167~~ 180 acres of ground under the South Alternative. The majority of road-related disturbance (i.e., movement of construction equipment and other vehicles) would occur in areas classified as cropland or disturbed grassland, with an estimated ~~8~~ 4 acres of native grassland ~~and 15 acres of potential native grassland~~ also disturbed due to new access roads (Table 3-16). Impacts of the potential spread of noxious weeds for cropland and disturbed grassland would be ~~***low*** to~~ ***moderate*** and ***low***, respectively. Noxious weed impacts to the few intact areas of native grassland potentially affected by this alternative would be ***moderate***.

Page 3-39, sixth full paragraph has been modified as follows:

No TES plant species were observed during the vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Impacts to TES plant species under this alternative will be evaluated if TES plant species are observed during the additional vegetation surveys scheduled for spring/summer 2010.~~

Page 3-39, final paragraph has been modified as follows:

The Combination A Alternative would involve construction of approximately 38 miles of new transmission line. This alternative would involve the installation of approximately ~~167~~ 161 towers and construction of approximately ~~33~~ 38 miles of new access roads. Construction of this alternative would disturb about ~~337~~ 347 acres of land. ~~More than half~~ Three-quarters (81 ~~69~~ percent) of this disturbance would occur in areas classified as disturbed grassland (Table 3-15). Construction would disturb an estimated ~~64~~ 51 acres of cropland~~,~~ and 14 acres of native grassland~~, and 27 acres of potential native grassland~~. The Combination A Alternative would result in slightly less total construction-related disturbance to vegetation than the other action alternatives ~~and would result in less impact to potential native grassland than under the North, South, and Combination B alternatives~~ (Table 3-15). ~~However, viewed~~

~~in terms of acres, I~~ Impacts to native grassland due to construction of this alternative would be similar (within 2 acres) to those under the other action alternatives (***moderate***).

Page 3-40, first full paragraph has been modified as follows:

Under the Combination A Alternative, approximately ~~178~~ 199 acres of land would be permanently occupied by tower footings and new access roads. Permanently disturbed areas would include approximately ~~111~~ 158 acres of disturbed grassland, ~~44~~ 33 acres of cropland, and ~~10~~ 7 acres of native grassland~~, and 13 acres of potential native grassland~~ (Table 3-16). Permanent impacts ~~on these areas~~ to native grassland from the Combination A Alternative would be similar to those discussed ~~under the South Alternative~~ for the other alternatives (***moderate***). ~~The Combination A Alternative would result in slightly less permanent disturbance to vegetation than the North, South, and Combination B alternatives (Table 3-16). However, permanent impacts to native grassland would be similar to those under the South Alternative.~~

Page 3-40, second full paragraph has been modified as follows:

New access roads, which increase the potential for the spread of noxious weeds, would disturb approximately ~~157~~ 178 acres of ground under the Combination A Alternative. The majority of road-related disturbance (i.e., movement of construction equipment and other vehicles) would occur in areas classified as disturbed grassland, with an estimated ~~40~~ 31 acres of cropland~~,~~ and ~~9~~ 7 acres of native grassland~~, and 11 acres of potential native grassland~~ also disturbed due to new access roads (Table 3-16). Impacts of the potential spread of noxious weeds for cropland and disturbed grassland would be ~~***low*** to~~ ***moderate*** and ***low***, respectively. Noxious weed impacts to the few intact areas of native grassland potentially affected by this alternative would be ***moderate***.

Page 3-40, third full paragraph has been modified as follows:

No TES plant species were observed during the vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Impacts to TES plant species under this alternative will be evaluated if TES plant species are observed during the additional vegetation surveys scheduled for spring/summer 2010.~~

Page 3-40, fourth full paragraph has been modified as follows:

The Combination B Alternative would involve construction of approximately 40 miles of new transmission line. This alternative would involve the installation of approximately ~~178~~ 181 towers and construction of approximately ~~35~~ 37 miles of new access roads. Construction of this alternative would disturb an estimated ~~361~~ 363 acres of land. ~~More than half~~ About three-quarters (~~59~~ 76 percent) of this disturbance would occur in areas classified as disturbed grassland (Table 3-15). Construction would also disturb an estimated ~~85~~ 77 acres of cropland~~,~~ and ~~19~~ 10 acres of native grassland~~, and 44 acres of potential native grassland~~. The Combination B Alternative would result in more total construction-related disturbance than the other action alternatives (Table 3-15). Acres of impacts to native grassland due to construction of this alternative would be slightly lower than under the other action alternatives. ~~Construction of the Combination B Alternative would also result in more acres of impact to potential native grassland than under the North, South, and Combination A alternatives. In addition, the Combination B Alternative would cross the larger, relatively undisturbed area of native grassland discussed above under the North Alternative. Impacts to~~

~~this area would be ***moderate to high*** because this is one of few relatively intact areas of native grassland in the project area.~~

Page 3-40, final paragraph has been modified as follows:

Under the Combination B Alternative, approximately 191 acres of land would be permanently occupied by tower footings and new access roads. Permanently disturbed areas would include approximately 144 acres of disturbed grassland, 43 acres of cropland, and ~~9~~ 4 acres of native grassland~~, and 18 acres of potential native grassland~~ (Table 3-16). ~~The Combination B Alternative would also result in more acres of permanent impacts than the other action alternatives; however, permanent impacts to native grassland would be similar under all action alternatives.~~ Acres of permanent impacts to ~~potential~~ native grassland would be slightly ~~more~~ lower under this alternative than under the North, South, or Combination A alternatives.

Page 3-41, first full paragraph has been modified as follows:

New access roads, which increase the potential for the spread of noxious weeds, would disturb approximately ~~167~~ 168 acres of ground under the Combination B Alternative. The majority of road-related disturbance (i.e., movement of construction equipment and other vehicles) would occur in areas classified as disturbed grassland, with an estimated 38 acres of cropland, and ~~8~~ 3 acres of native grassland~~, and 15 acres of potential native grassland also disturbed due to new access roads~~ (Table 3-16). Impacts of the potential spread of noxious weeds for cropland and disturbed grassland would be ~~***low*** to~~ ***moderate*** and ***low***, respectively. Noxious weed impacts to the few intact areas of native grassland potentially affected by this alternative would be ***moderate.*** ~~to ***high*** because the potentially affected areas include a larger, relatively undisturbed area of native grassland observed along the northwestern section of this alternative where it shares an alignment with the North Alternative.~~

Page 3-41, second full paragraph has been modified as follows:

No TES plant species were observed during the vegetation surveys conducted for the project in September 2009 and spring/summer 2010. ~~Impacts to TES plant species under this alternative will be evaluated if TES plant species are observed during the additional vegetation surveys scheduled for spring/summer 2010.~~

Page 3-41, final paragraph and bullets have been modified as follows:

~~***Threatened, Endangered, and Sensitive Plant Species***~~

~~The following mitigation measures have been identified to reduce or eliminate potential impacts on TES plant species under the action alternatives:~~

- ~~Conduct additional surveys for TES plant species in all areas of native grassland, as well as areas classified as potential habitat, during spring/summer 2010.~~
- ~~Consult with the USFWS concerning any federally listed TES plant species that are identified and implement any mitigation measures to eliminate or reduce adverse impacts to these species.~~

Page 3-42, text has been added after the last bullet item as follows:

- Control noxious weeds on fee-owned properties and assist or coordinate noxious weed control with affected landowners on easement areas during operation and

maintenance of the transmission line as guided by BPA's Vegetation Management Program. Where appropriate, enter into weed control programs with active weed control districts during operation and maintenance of the transmission line.

2.3.4 Wildlife

Page 3-53, third paragraph has been modified as follows:

~~A general wildlife field survey was conducted along the proposed project corridors in September 2009~~. Information on wildlife resources in the vicinity of the project area, including known and suspected occurrence, was compiled from many sources during a pre-field review. These sources included the WDFW PHS database (WDFW 2009d), National Audubon Society (NAS) Important Bird Area (IBA) database (NAS 2009), North American Breeding Bird Survey database (USGS 2009b), The Nature Conservancy (TNC) list of Places They Protect (TNC 2009), Northwest Regional Gap Analysis Project (ReGap) (USGS 2009c), and Watershed Updates by Water Resource Inventory Area (WRIA) (Ecology 2009a).

Page 3-53, fourth paragraph has been modified as follows:

A general wildlife field survey was conducted along the proposed project corridors in September 2009. The focus of the field survey was to identify and document potential or actual raptor nesting habitat and nest sites, mule and/or whitetail deer sign and habitat locations, although all other species observed were recorded as well. ~~A complete list of species observed during the field survey is presented as Appendix B.~~ The timing of the fall general wildlife field survey did not overlap with the breeding season of most wildlife species, including raptors and, therefore, additional wildlife surveys were conducted in spring 2010. The focus of the spring 2010 surveys was to document the locations of active raptor nests and potential raptor nesting habitat, survey all PHS locations for species of interest as identified by WDFW (WDFW 2008, 2009a, 2009b), and document all observations or signs of species of concern. A complete list of species observed during the field surveys is presented as Appendix B. ~~As a result, an additional field survey is scheduled for summer 2010. This survey will target potential raptor nesting habitat and nest sites identified during the fall general wildlife survey.~~

Page 3-54, footnote 1 to Table 3-17 has been modified as follows:

1/ Habitat and species data compiled during ~~the fall~~ field surveys of the project area and from the following sources: Leonard et al. (1993), Storm and Leonard (1995), Dvornich et al. (1997), Johnson and Cassidy (1997), Smith et al. (1997), St. John (2002), Wahl et al. (2005).

Page 3-60, third paragraph has been modified as follows:

Across its range, the sagebrush lizard inhabits a wide array of dry habitats including desert, forest-conifer, forest-mixed, grassland/herbaceous, sand/dune, shrubland/chaparral, woodland-conifer, woodland-hardwood, and woodland-mixed (NatureServe 2009). However, in the Columbia Basin, this species is strongly associated with stands of big sagebrush or antelope bitterbrush intermixed with sandy bare ground, and avoids habitats dominated by rabbitbrush or dense exotic or native grasslands (Green et al. 2001). While Green et al. (2001) did not observe rock use by sagebrush lizards in the Columbia Basin shrub-steppe, both Rodgers (1953) and Rose (1976) observed this behavior suggesting rocky

outcrop habitats in the project area might support this small lizards. The sagebrush lizard is a "sit and wait" predator dashing out over open ground to capture prey and then quickly returning to cover afforded by large shrubs. Snakes, raptors, and shrikes are the most common predators. Columbia Basin sagebrush lizards are active during only the warmer months of the year (NatureServe 2009). No sign of this species was observed during the fall or spring wildlife surveys~~, although it is unlikely that they would have been active during the September survey period~~.

Page 3-61, first full paragraph has been modified as follows:

Grassland/shrub-steppe found within the project area provides potential foraging habitat for golden eagles, and cliffs provide potential nesting sites. Small mammals such as rabbits, marmots, and ground squirrels make up the majority of their diet; however, insects, snakes, birds, juvenile ungulates, and carrion are also consumed (see Palmer 1988, NatureServe 2009). Primary threats to this species include habitat loss and disturbance, loss of foraging areas, and direct human-caused mortality (Kochert et al. 2002). A juvenile golden eagle was observed near Magallon Road during the spring 2010 wildlife surveys. Any golden eagle observations in the project area are likely related to either spring migration or foraging activity. No nest sites were identified during the fall or spring wildlife surveys or ~~by~~ the pre-field review (WDFW 2009d); however, known nesting habitat is present north of the project area along the cliffs of the lower Snake River near Lyons Ferry. The cliffs found on the east side of the Tucannon River where the action alternatives share the same alignment, provide the only potential nesting habitat within the project area.

Page 3-61, third full paragraph has been modified as follows:

Nesting ferruginous hawks require substantial nest substrate such as isolated large trees, cliffs, or occasionally rock outcrops or bare ground to support their bulky stick nests (Green and Morrison 1983, Bechard and Schmutz 1995). One known nest (WDFW 2009d) and one previously unknown potential cliff nest were identified in the project area during the fall wildlife survey. In addition, moderate quality nesting habitat was documented along the North and Combination A alternative corridor, east of the Tucannon River wherever cliffs were present. Somewhat lower quality nesting habitat was also documented along all alternative alignments wherever rock outcrops were present. No individuals were observed during the fall or spring wildlife surveys (fall migration occurs from early August to late November; spring migration occurs from late February to mid-June; Bechard and Schmutz 1995). However, individuals have been documented passing through the project area en route to southern wintering grounds or spring breeding grounds (WDFW 1996). Despite the presence of nesting habitat in the project area, densities of prey species are unknown and may be depressed due the highly fragmented habitat found in the area, potentially limiting usage by ferruginous hawks.

Page 3-62, second paragraph has been modified as follows:

The pre-field review did not identify any nesting peregrine falcons in the vicinity of the project area (WDFW 2009d) and no individuals were documented during the fall or spring wildlife surveys. Further, Hayes and Buchanan (2001) found no peregrine nesting sites anywhere near the project area. However, the project area does fall within the historic breeding range of this species and the Washington breeding population is currently expanding its range (WDFW 2002). In addition, the cliffs found along the lower Snake River, including near the Lower Monumental Substation in the project area, provide potential nesting habitat.

Still, peregrine falcons attempting to nest locally would likely face competition from existing prairie falcon pairs. Presently, it is unlikely that breeding peregrine territories occur in vicinity of the project area.

Page 3-62, fourth paragraph has been modified as follows:

No known nesting sites or nesting habitat are located in the project area (WDFW 2009d), or anywhere in eastern Washington (Wahl et al. 2005). One adult female was seen during the fall wildlife survey along the North Alternative, east of the Tucannon River and none were observed during the spring 2010 survey. The pre-field review indicated only limited usage in the project area by merlin (WDFW 2009d), primarily as an occasional migrant or winter resident (Wahl et al. 2005).

Page 3-62, final paragraph has been modified as follows:

The Loggerhead shrike is present throughout much of North America in areas of open fields and grasslands interspersed with shrubs and trees that are used for nesting or the impaling of prey (Vander Haegen 2003a). In Washington, this species is known to breed in the shrub-steppe of the central Columbia Basin (Yosef 1996) and the closest confirmed breeding area is in the Juniper Dunes Wilderness, approximately 20 miles east of the project area (Smith et al. 1997). Although migration patterns of this species are generally poorly understood, it is thought that fall migration occurs from September through November while spring migration occurs in March (Yosef 1996). No shrikes were observed during the fall or spring wildlife surveys, and the project area is outside the historic breeding range. Loggerhead shrikes are not expected to be present in the project area although it is possible that migrants may pass through the area on occasion.

Page 3-63, second full paragraph has been modified as follows:

A small mixed flock that included sage sparrows was observed moving through the project area in an area of disturbed grassland near Lyons Ferry Road during the fall wildlife survey. The migratory nature of this flock and direction of travel suggested that it flew across all action alternatives. These birds must be considered migrants as the pre-survey analysis revealed that neither their current breeding nor wintering distributions overlap with the project area (Smith et al. 1997, Vander Haegen 2003c). No sage sparrows were observed during the spring 2010 wildlife surveys.

Page 3-64, first full paragraph has been modified as follows:

Washington ground squirrel-sized open burrows were found sporadically in the project area though no individual squirrels were seen or heard during the fall or spring wildlife surveys and no fresh diggings were observed. ~~This was not unexpected because the timing of the fall wildlife survey coincided with the period when this and other squirrel species are inactive and underground~~. The fall and spring wildlife surveys also revealed that the majority of potential habitat is low in quality, primarily due to disturbance from agricultural practices and invasion of weedy species. The pre-field review, however, indicated the presence of a Washington ground squirrel colony located above and east of the riparian corridor of the Tucannon River where the action alternatives share the same alignment (WDFW 2009d). However, a thorough investigation of this area during the fall and spring wildlife surveys found no sign of their presence (e.g., burrows). ~~Additional field surveys will be performed during summer 2010 when the Washington ground squirrel is active~~. While several holes within the size

range defined for Washington ground squirrel were evident, no scat or trails were noted, suggesting that the colony may no longer exist.

Page 3-64, second full paragraph has been modified as follows:

White-tailed jackrabbits are most common in open grasslands and sagebrush plains (NatureServe 2009) and are the rabbit most often associated with rabbitbrush habitats. They usually rest by day in shallow depressions or forms at the base of shrubs, or during winter, in cavities in snow. Young are born in a well-concealed depression in the ground or in burrows abandoned by other animals (NatureServe 2009). White-tailed jackrabbits are herbivores that eat grasses, forbs, and grains in summer, and browse on twigs, buds, and bark in winter, and may feed on cultivated crops. They are active throughout the year and are primarily crepuscular (active at dusk and dawn) (Armstrong 1975). Habitat marginally suitable for white-tailed jackrabbits is present throughout the project area wherever grassland or patches of sagebrush or rabbitbrush is present. Johnson and Cassidy (1997) suggest that habitat for this species is still available in the project area although no evidence of white-tailed jackrabbit use was observed during the fall or spring wildlife surveys.

Page 3-64, third full paragraph has been modified as follows:

Black-tailed jackrabbits inhabit open country such as open plains, fields, and deserts with scattered thickets of shrubs (Caire et al. 1989). This species rests by day in shallow depressions or forms typically located near the cover of large bunchgrasses or forbs (NatureServe 2009). Black-tailed jackrabbits forage on grasses, forbs, crops, and hay in summer, and buds, bark, and leaves of woody plants in winter. The black-tailed jackrabbit is well-adapted to arid landscapes because it is able to obtain water from vegetation, as well as re-ingest soft fecal pellets, extracting nutrients and moisture. This species may be crepuscular or nocturnal, and is active throughout the year (NatureServe 2009). Habitat suitable for black-tailed jackrabbits is present in the project area wherever patches of shrub-steppe are present. However, no sign of this species was observed during the fall or spring wildlife surveys and the pre-field review suggested black-tailed jackrabbits may now be uncommon due to the loss of sagebrush shrub-steppe (Smith et al. 1997).

Page 3-66, fifth paragraph has been modified as follows:

In Washington, nearly all bald eagle nests (99 percent) are within 1 mile of a lake, river, or marine shoreline (WDFW 2007). Migration occurs from early March to late May (Buehler 2000). Habitat that could support bald eagles in the project area is limited to where the action alternatives share the same alignment and cross the Tucannon River, and near the Lower Monumental Substation on the south shore of the Snake River. No bald eagles or bald eagle nests were observed in the project area during the fall or spring wildlife surveys, and no nests or territories (WDFW 2009d, 2009f) have been documented in the past. However, individuals have been documented in areas near the general project area including the Tucannon Fish Hatchery (see BPA 2000b).

Page 3-67, first full paragraph has been modified as follows:

Lewis' woodpecker has been documented along the Tucannon River near the project area and suitable habitat occurs in the cottonwood trees along the river. However, no birds were observed during the fall or spring wildlife surveys and the pre-field analysis suggested that Lewis' woodpeckers are rare in the project area.

Page 3-69, first paragraph has been modified as follows:

Oregon vesper sparrows breed in the lower valleys and plains west of the Cascade Range in western Washington, western Oregon, and extreme northwestern California (AOU 1957, 1998; King 1968) and are restricted almost entirely to California in winter (Shuford and Gardali 2008). Vesper sparrows were observed in mixed flocks with sage sparrows during the fall survey, but were most certainly western vesper sparrows (a separate subspecies). Evidence suggests Oregon vesper sparrows are highly unlikely to occur in the project area. Oregon vesper sparrows were not observed during the spring 2010 wildlife surveys.

Page 3-73, first paragraph has been modified as follows:

Few raptor nests, individual raptors, or bats were observed during the fall wildlife survey or documented during pre-field analysis. Additional field surveys for golden eagle, ferruginous hawk, and peregrine falcon ~~will be~~ were conducted in ~~summer~~ spring 2010. With the exception of a juvenile golden eagle observed soaring near Magallon Road, no sign of these species was evident during the spring 2010 field surveys. ~~when these species are more likely to be present~~. For long-eared myotis and pallid Townsend's big-eared bats, the habitat surrounding the cliffs in the project area is marginal in quality especially in regard to the production of bat prey species such as flying insects. As a result, the action alternatives are, therefore, expected to have a ***low*** impact on long-eared myotis and pallid Townsend's big-eared bat.

Page 3-74, fifth paragraph has been modified as follows:

Any differential impacts on wildlife due to differences in acreages would be low because of the poor quality habitat cropland provides. Only a few wildlife species of interest are potentially found in this habitat: merlin, white-tailed jackrabbit, black-tailed jackrabbit, and mule deer (see Table 3-19), and of these species, only mule deer appear to use it regularly. Although one adult female merlin was observed near cropland during the fall 2009 field survey, this species is considered uncommon in the area and more often uses grassland/shrub-steppe habitat. No merlins were observed during the spring 2010 surveys. White-tailed and black-tailed jackrabbits, though known to use cropland habitat, would most likely only use cropland for limited foraging, performing all other behaviors in the surrounding grassland/shrub-steppe habitat. Mule deer are habitat generalists that use cropland as foraging habitat. As with jackrabbits, most non-foraging behaviors occur away from cropland in other habitats such as grassland/shrub-steep. Disturbance to cropland from any of the proposed action alternatives would, therefore, be expected to result in a ***low*** level of impact on cropland-associated wildlife species of interest (merlin, white-tailed jackrabbit, black-tailed jackrabbit, and mule deer).

Page 3-75, fifth paragraph has been modified as follows:

The confirmed use of the project area by ferruginous hawks and the relatively high densities of rock outcrops located along the North Alternative right-of-way suggest a ***moderate to high*** potential for impacts to these species from this alternative. The rock outcrops within the North Alternative right-of-way would continue to attract these species and other wildlife both during and after construction. ~~Although f~~Few nests ~~or~~ and no individuals were observed during the fall or spring wildlife surveys or documented during pre-field analysis~~, additional field surveys are scheduled for summer 2010 to further investigate the presence of this species in the project area~~.

2.3.5 Water Resources and Fish

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

Based on a review of wetland maps available from the National Wetlands Inventory, the only wetlands occurring within the project corridor are adjacent to each bank of the Tucannon River. General vegetation field surveys conducted in the fall of 2009 and spring/summer 2010 confirmed the presence of wetlands adjacent to the Tucannon River and one small emergent wetland area near a proposed access road along the North and Combination A alternatives ~~did not identify any other potential wetlands in the project corridor~~ (see Section 3.3 Vegetation).

2.3.6 Cultural Resources

Page 3-107, first paragraph has been modified as follows:

The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation have identified potentially eligible Traditional Cultural Properties (TCPs) that could be affected by the proposed transmission line project, ~~are in the process of preparing TCP studies for this project to determine if areas,~~ including sacred and traditional sites. ~~within the project vicinity, could be affected. The Confederated Tribes of the Umatilla Indian Reservation have indicated that the APE for their studies will include the project corridor, and also areas near the project corridor, from which the proposed project would be visible~~. The laws and regulations related to Native American traditional and sacred sites are summarized in Section 4.4 of this EIS.

Page 3-107, third paragraph has been modified as follows:

Based on the results of the background search that has been conducted for the proposed project, there would be ***no*** expected impacts to previously identified cultural resources. A cultural resources inventory of the action alternatives was conducted in March 2010. ~~will be conducted in the summer of 2010 to confirm these results, and field surveys will be undertaken as needed.~~ The inventory resulted in identification of 17 historic archaeological sites, three historic isolated finds, and one above-ground resource. No archaeological resources that may be eligible for inclusion in the NRHP were identified. The proposed project would have ***no*** effect on archaeological resources.

Page 3-107, text has been added to the sixth paragraph as follows:

~~Possible impacts to TCPs will not be known until the Nez Perce Tribes and the Confederated Tribes of the Umatilla Indian Reservation complete their TCP studies for this project. Following preparation of the studies, appropriate protective measures would be implemented if necessary, to avoid and could include avoidance, minimization, or mitigation~~.

Page 3-107, text has been added to the first paragraph under Section 3.8.3, Mitigation Measures as follows:

Mitigation measures listed in Section 3.10.3 Transportation, would minimize impacts to cultural resources from unauthorized use on WDNR lands. Additionally, ~~The~~ the following mitigation measures would minimize or avoid impacts to cultural resources:

2.3.7 Socioeconomics and Public Facilities

Page 3-127, fifth paragraph has been revised as follows:

The impact of introducing a new right-of-way for transmission structures and lines can vary dramatically depending on the placement of the right-of-way in relation to the property's size, shape, and the location of existing improvements. In addition, where a proposed line would run parallel to existing transmission lines, physically separating the proposed line from existing lines pursuant to WECC and NERC TPL Standards can create swaths of land between the proposed and existing lines that may be viewed as more difficult to access, use, or develop by the underlying landowner. A transmission line also may diminish the utility of a portion of property if the line effectively severs this area from the remaining property. These factors as well as any other elements unique to the property are taken into consideration to determine the loss in value within the easement area, as well as outside the easement area in cases of severance.

2.3.8 Transportation

Page 3-136, third and fourth full paragraphs have been revised as follows:

Local roads including Fletcher Road, Powers Road, Tucker Road, Riveria Road, Ferrell Road, Archer Road, Hagen Road, Scot Station Road, Whitetail Road, Canyon Bottom Way, and New York Gulch Road, and any other unimproved roads would be improved under all action alternatives. In areas where the proposed alternatives would immediately parallel existing transmission lines, existing access roads would be improved as necessary for use during construction and operation of the project. In areas where the proposed line would parallel existing transmission lines but would need to be physically separated from the existing lines pursuant to WECC and NERC TPL Standards, new access roads and extensions to existing roads would need to be constructed specifically for the proposed line (see below). Improvements to local roads and other existing roads for project access may include: widening; upgrading road surfaces from gravel to aggregate; adding ditches, culverts, rolling dips and waterbars; smoothing out curves; and clearing brush. If towers are placed in agricultural fields, BPA would build temporary access roads to these tower sites to construct the transmission line. Once construction is complete, these roads would be removed and the soil would be restored for continuing agricultural use. Impacts from access road improvement and use of temporary roads would be ***low***.

Permanent impacts from construction of the proposed project would include construction of new access roads. In areas where existing roads do not provide access to the project corridor, new gravel access roads would be constructed and maintained. BPA would construct and maintain these roads in accordance with BPA's policy and standards regarding the design and construction of access roads contained in BPA's Access Road Planning and Design Manual. This comprehensive manual addresses a wide variety of considerations, including environmental protection and safety requirements. BPA follows this complete set of road design standards whenever it constructs new access roads.

As discussed in Section 3.2 of this EIS, physically separating the proposed line from existing transmission lines pursuant to WECC and NERC TPL Standards where these lines parallel each other would create swaths of land between the proposed and existing lines ranging from 1,200 to 2,500 feet in width. In general, it is expected that new and improved access roads

constructed by BPA as part of the proposed project could be used by underlying landowners to access these swaths of land, to the extent that improved access to these areas is needed. It is possible, but generally unlikely, that some landowners could choose to construct their own access roads that avoid the BPA easements instead of using the BPA access roads. For any planned crossing of BPA's easements by vehicles that are larger or taller than usual, BPA would work with landowners and other involved parties to help facilitate access and identify locations that would provide for a safe crossing of the easement.

Most of the access road construction for this proposed project would likely occur from late spring to early fall. Any temporary disturbance areas would be reclaimed after construction is completed. Road-related impacts to other resources, such as agricultural use, vegetation, and wildlife, are discussed in the resource-specific sections elsewhere in this EIS. See below for a discussion of specific miles of new access roads required under the action alternatives.

Page 3-140, text has been added to the first paragraph under Section 3.10.3, Mitigation Measures as follows:

Mitigation measures listed in Section 3.1.3 Geology and Soils, would minimize impacts to soils from access road construction and use. Additionally, ~~The~~ the following mitigation measures have been identified to minimize or eliminate transportation impacts from the action alternatives:

2.3.9 Cumulative Impact Analysis

Page 3-160, first full paragraph has been revised as follows:

Present actions are those that are currently occurring and also result in impacts to the same resources as would be affected by the proposed action. Reasonably foreseeable future actions are those actions that are likely to occur and affect the same resource as the proposed action. The determination of what future actions should be considered requires a level of certainty that they will occur. This level of certainty is typically met by the completion of permit application, the subject of approved proposals or planning documents, or other similar evidence. Determining how far into the future to consider other cumulative actions is ~~based on~~ guided by the duration of the impact of the proposed action. ~~Once the impacts are no longer experienced by the affected resource, future actions beyond that need would not be considered.~~ For the purposes of this EIS, the future actions being considered are those that will occur ~~over~~ during the project's impacts, up until the time ~~it takes temporary~~ that these impacts ~~to~~ no longer occur or can be mitigated ~~or eliminated~~. The life of a transmission line is typically approximately fifty years; however, ~~except for TCPs and visual resources~~ for some resources, this is not an appropriate time horizon in which to consider the project's contribution to cumulative impacts along with other future actions because the impacts from construction of the transmission line are greatly reduced if not eliminated shortly after construction is complete, the subsequent impacts from operation and maintenance are minimal, and future actions over that long of a period are generally speculative in nature. For ~~TCPs and visual~~ other resources, consideration of the project's contribution to cumulative impacts along with other future actions would be for the life of the line because while the line is present, impacts to these resources would potentially be occurring. The temporal boundary for each resource addressed in this cumulative impact analysis is identified by resource in Section 3.14.3.

Page 3-164, fifth paragraph has been revised as follows:

The spatial boundary for the following evaluation consists of the area in the vicinity of the proposed project, and more broadly, the three counties that would be crossed by the action alternatives (Columbia, Garfield, and Walla Walla counties). While ~~T~~the temporal boundary for cumulative land use impacts is generally three to five years based on the general planning timeframes established for the affected counties under their respective county plans, the proposed project would introduce a new use that would be present for the life of the line, and impacts related to the presence of the line are evaluated accordingly.

Page 3-166, first full paragraph has been revised as follows:

BPA would obtain transmission easements for operation of the proposed project on private lands, and would obtain right-of-way grants to cross federal and state lands. While ~~E~~existing land use or ownership would not change along the majority of the transmission line right-of-way, the areas occupied by the proposed transmission towers, access roads, and other facilities would not be available for agricultural or other uses during the life of the line, and these facilities could affect the ability of landowners to further develop these portions of their properties for other uses in the future. The proposed project thus would contribute incrementally, though in a relatively minor way, to potential cumulative land use impacts.

Page 3-166, second full paragraph has been revised as follows:

The spatial boundary for the following evaluation is the project corridor (the proposed rights-of-way and new access roads), because project-related impacts to this resource would primarily occur within this corridor. The temporal boundary for temporary impacts to plant species and communities is three years, because that is the time that would be required for most species to re-establish. The temporal boundary for noxious weeds is the life of the line because ongoing project activities have the potential to introduce noxious weeds during this timeframe.

Page 3-170, sixth full paragraph has been revised as follows:

The spatial boundary for the following evaluation consists of the three counties that would be crossed by the action alternatives (Columbia, Garfield, and Walla Walla counties), because this is the area where the majority of the potential socioeconomic and public facility impacts are expected to occur. The temporal boundary is three to five years based on the general planning timeframes established for the affected counties under their respective county plans, although for WDNR lands crossed by the proposed project, it is acknowledged that the proposed project could have longer-term effects on revenues for state trust beneficiaries.

Page 3-171, sixth full paragraph has been revised as follows:

The spatial boundary for the following evaluation consists of the area in the vicinity of the proposed project, and more broadly, the three counties that would be crossed by the action alternatives (Columbia, Garfield, and Walla Walla counties). The temporal boundary for cumulative impacts to area roads is expected to be limited to project construction, because operation of the proposed project would not be expected to noticeably affect local transportation patterns. The temporal boundary for access issues is the life of the line because the presence of the line could affect access during this timeframe.

Page 3-172, fourth full paragraph has been revised as follows:

As noted in Section 3.10, construction traffic associated with the proposed project could result in temporary delays at localized spots. Both of these projects would likely use some of the same local roads during construction and, if construction were to coincide temporally, would result in a cumulative impact to local traffic. With mitigation in place, including the use of flaggers, signage, and traffic reroutes, where necessary, potential cumulative impacts to roads would be reduced.

Reasonably foreseeable future actions in the vicinity of the proposed project, along with the proposed project, also would cumulatively increase the number of improved access roads present in the regional landscape. This increase would likely provide for greater ease of access to portions of the vicinity, which may prove beneficial to the owners of land where the new access roads would be located. However, it is likely that more road maintenance activities would be required, as well as greater efforts to control noxious weeds. Because BPA would work with landowners and others to ensure that safe vehicle and equipment access across BPA's easements is provided, the proposed project would not be expected to contribute to any cumulative property access impacts. Overall, however, ~~T~~the proposed project thus would contribute incrementally, though in a relatively minor way, to potential cumulative transportation-related impacts.

2.4 Consistency with State Substantive Standards (Chapter 5)

2.4.1 Washington Department of Natural Resources (Section 5.2)

Page 5-11, text has been added after the third bullet item under Lands Use and Socioeconomics as follows:

- RCW 79.10.120 Multiple uses compatible with financial obligations of trust management – Other uses permitted, when;
- Chapter 332-52 WAC Public Access and Recreation

Page 5-11, text has been added after the second bullet item under Fish and Wildlife as follows:

- WDNR will comply with the standards set in WDNR's 2010 Forest Roads Guidebook. Roads and their impacts are tied to standards set in WDNR's 2010 Forest Roads Guidebook and designed to protect this trust asset and the environment from the impacts of roads. Please refer to the WDNR substantive state standards document dated January 19, 2010.

Page 5-12, first full paragraph under Transportation and Access has been revised as follows:

In response to WDNR's policy and in order to achieve the regulatory requirements under Washington Forest Practice Act, a comprehensive discussion of WDNR standards for roads designed, constructed, maintained, and abandoned on state-managed lands was developed in the ~~Draft~~ 2010 Forest Roads Guidebook.

Page 5-12, bulleted text has been added after the first full paragraph under Transportation and Access as follows:

- WDNR will comply with the standards set in DNR's 2010 Forest Roads Guidebook.
- WDNR will comply with the standards set in Chapter 332-52 WAC Public Access and Recreation.

2.5 EIS Preparers (Chapter 8)

Page 8-1, the following individual has been added to the list of preparers:

Stephanie Breeden – Contributing writer for Greenhouse Gas analysis
Education: MS, Environmental Science
Years of Experience: 8
Affiliation: BPA Contract Environmental Protection Specialist, CIBER, Inc.

Page 8-2, the following individual has been added to the list of preparers:

Steven L. Flegel – Technical Editor, Senior Desktop Publisher
Education: BA, English
Years of Experience: 23
Affiliation: Tetra Tech

Page 8-3, the following individual has been added to the list of preparers:

Sierra Marrs – GIS Analyst
Education: BS, Geology; Certificate, GIS
Years of Experience: 5
Affiliation: Tetra Tech

2.6 Appendices A and B

Appendix A in the Draft EIS presents a list of the vegetation species documented during the vegetation field surveys conducted for this project in fall 2009. Appendix B in the Draft EIS presents a list of wildlife species documented during the fall 2009 wildlife survey conducted for this project. Additional vegetation and wildlife surveys were conducted for the project in spring/summer 2010. These surveys provided additional information about vegetation and wildlife in the project area, which has been incorporated into the Final EIS, as detailed above in Sections 2.3.3 and 2.3.4, respectively.

The spring/summer 2010 vegetation surveys resulted in the identification of additional vegetation species in the project area. These species have been added to Appendix A and are shown underlined in the updated version of this appendix.

The spring/summer 2010 wildlife survey also resulted in additional information and Appendix B has been updated to show the results of both the fall 2009 and spring/summer 2010 surveys. The format of Appendix B has been revised to show both sets of survey results separately. Changes are not shown in strikethrough or underlined text in the updated appendix that follows because of the format change. The results identified for the fall 2009 survey are unchanged from the Draft EIS, just presented in a different order. The results for the spring/summer 2010 survey are new information and a change from the Draft EIS.

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 by comment forms, e-mails, and letters, and at the July 21, 2010 public meeting in Dayton, Washington. A total of nine comment forms, e-mails, and letters were received. One of these was received from a federal agency (U.S. EPA), four were received from Washington state agencies, and four were from private citizens living in Garfield, Columbia, or Walla Walla counties. From these comment forms, e-mails, and letters, BPA catalogued a total of 182 individual comments received on the Draft EIS.

Comments were primarily made on Chapters 2 and 3 of the Draft EIS. Chapter 2, Proposed Action and Alternatives, generated about 16 percent of the comments. These comments focused largely on the transmission line right-of-way, project components, and where the project would be routed. Chapter 3, Affected Environment, Environmental Impacts, and Mitigation Measures, received most of the comments (74 percent). Comments were in the following areas: transportation (19 percent); land use (17 percent); vegetation (12 percent); socioeconomics and public facilities (9 percent); cultural resources (4 percent); geology and soils (3 percent); wildlife (3 percent); cumulative impact analysis (3 percent); water resources and fish (2 percent); recreation (1 percent); visual resources (1 percent); and noise, public health and safety (1 percent). The remaining comments consisted of comments made on Chapter 4, Environmental Consultation, Review, and Permit Requirements (3 percent); Chapter 5, Consistency with State Substantive Standards (3 percent); and other miscellaneous comments (4 percent).

Comments were designated with an identifying number based on the order in which the letter, e-mail, or other item of correspondence was received. Comments, and responses to each comment, are organized by chapter/section generally in accordance with the table of contents of the Draft EIS. The letters, e-mails, and comment forms received on the Draft EIS are provided in their entirety in Chapter 4.

3.1 Proposed Action and Alternatives (Chapter 2)

3.1.1 Alternatives Development

Comment: *We are pleased to see that Bonneville Power Administration (BPA) has included an alternative that minimizes impacts to Washington State Department of Natural Resources (DNR) managed lands, the South alternative that avoids state land with the exception of roads to be constructed on one parcel. We encourage BPA to include reasonable alternatives with no impacts to state trust lands. [CFLM10008]*

Response: Comment noted. Thank you.

3.1.2 Transmission Line Right-of-way

Comment: *BPA's method and process is not clear for arriving at the need to separate corridors and thereby create severance and additional encumbrances on underlying landowners. One concern appears to be simultaneous outages (p. S-3) and yet the EIS does not analyze how the separation of lines reduces these threats. It is also not clear if the minimum 1200' is a standard or an objective for separation and if a standard how or when it was analyzed through NEPA. [CFLM10008]*

Response: The process for determining the appropriate physical separation of the proposed transmission line from existing lines in the area is largely driven by North American Electric Reliability Council (NERC) and Western Electricity Coordinating Council (WECC) Transmission Planning (TPL) Standards. NERC is the electric reliability organization (ERO) certified by the Federal Energy Regulatory Commission (FERC) to establish and enforce reliability standards for the bulk-power system. WECC is the regional entity responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection. BPA is required to comply with both NERC TPL Standards[1] and WECC TPL Standards[2]. The purpose of these Standards is to ensure that reliable systems are developed that meet specified performance requirements with sufficient lead time, and these systems continue to be modified or upgraded as necessary to meet present and future system needs.

Utilities that violate NERC Standards associated with reliability can be subject to significant penalties. For example, Florida Power and Light (FPL) agreed to pay a civil penalty of $25,000,000 for a cascading outage event on February 26, 2008, that occurred due in part to violations of NERC TPL Standards[3].

WECC and NERC Standards TPL 001 - 004 require that utilities assess a range of operating conditions on their systems and plan to meet certain performance criteria that these standards specify for four classes of contingencies or categories of events:

- Category A: All Facilities in Service (no contingencies)
- Category B: Event resulting in the loss of a single element
- Category C: Event resulting in the simultaneous loss of two or more facilities triggered by a single contingency, such as a structural failure causing an outage on adjacent circuits
- Category D: Extreme event resulting in the simultaneous loss of two or more facilities from independent contingencies

[1] These include NERC Standard TPL-001-0: System Performance Under Normal Conditions, effective date: April 1, 2005 (available at http://www.nerc.com/files/TPL-001-0.pdf); NERC Standard TPL-002-0: System Performance Following Loss of a Single Bulk Electric System Element, effective date: April 1, 2005 (available at http://www.nerc.com/files/TPL-002-0.pdf); NERC Standard TPL-003-0: System Performance Following Loss of Two or More Bulk Electric System Elements, effective date: April 1, 2005 (available at http://www.nerc.com/files/TPL-003-0.pdf); and NERC Standard TPL-004-0: System Performance Following Extreme Bulk Electric System Events, effective date: April 1, 2005 (available at http://www.nerc.com/files/TPL-004-0.pdf).

[2] WECC TPL 001 – 004 System Performance Criteria. Effective Date April 18, 2008. http://www.wecc.biz/Standards/WECC%20Criteria/TPL%20%E2%80%93%20(001%20thru%20004)%20%E2%80%93%20WECC%20%E2%80%93%201%20%E2%80%93%20CR%20-%20System%20Performance%20Criteria.pdf

[3] Federal Energy Regulatory Commission Docket No. IN09-5-000. Issued October 8, 2009. http://www.nerc.com/files/Order_FPL_Settlement_10082009.pdf

WECC TPL Standards define the terms "common corridor" and "adjacent transmission circuits" as follows:

> **Common Corridor:** Contiguous right-of-way or two parallel right-of-ways with structure centerline separation less than the longest span length of the two transmission circuits at the point of separation or 500 feet, whichever is greater, between the transmission circuits. This separation requirement does not apply to the last five spans of the transmission circuits entering into a substation.
>
> **Adjacent Transmission Circuits:** Transmission circuits within a "common corridor" with no other transmission circuits between them. Transmission lines that cross but are otherwise on separate corridors are not "adjacent transmission circuits."

If BPA were to site the Central Ferry-Lower Monumental line next to the existing transmission line referenced in the comment, the two lines would share a "common corridor" and meet the definition of an "adjacent transmission circuit." In this scenario, the Central Ferry-Lower Monumental line would be required to meet Category C performance requirements specified in WECC and NERC TPL Standards, and BPA would be required to plan for a Category C type outage.

Siting the proposed line with sufficient separation to ensure that the new line and the existing 500-kV lines do not meet WECC's definition of an "adjacent transmission circuit" allows BPA to apply less restrictive performance requirements associated with Category D outages. This is because separating the proposed line from existing lines by a distance that is the length of the longest span of adjacent existing lines at the point of separation, but not less than 500 feet (see the above definition of "common corridor"), lessens the risk of simultaneous outages of these important lines. The longest spans of the existing lines in the area are between 1,200 to 2,500 feet. Accordingly, in order to minimize the risk of simultaneous outage, the proposed line needs to be routed at least 1,200 to 2,500 feet from the existing lines in areas where the lines would be parallel.

The difference between meeting Category C and Category D performance is important because it directly affects the usable capacity of the proposed line. The TPL Standards permit some loss of load and curtailment of firm transfers for Category C outages, provided that it is done in a planned and controlled manner. However, cascading outages are not permitted for Category C outages, so lower operating limits must be set so that the transmission system will remain stable if a Category C outage were to occur. In comparison, while utilities are required to annually evaluate the risks and consequences of some Category D outages, there are no specific performance requirements related to loss of load, system instability, or cascading outages for Category D outages. If BPA were required to use the performance requirements for Category C rather than Category D outages, the result would be a significant reduction in the usable transmission capacity provided by the proposed line.

The physical separation requirements arise from the WECC and NERC TPL Standards. These types of standards typically are not subject to environmental review. However, BPA does consider any environmental impacts associated with compliance with these standards for individual proposed projects, as was done here with the proposed Central Ferry-Lower Monumental project. Sections 3.2, 3.9, and 3.10 of the EIS have been revised to clarify this consideration.

Comment: *The following comments refer to the North American Electric Reliability Corporation (NERC) standards referred to on p. S-2 of the DEIS and the Transmission Vegetation Management clearance requirements under Draft 4 FAC-003-2 (June 16, 2010). There are some discrepancies that need to be clarified within the EIS right-of-way width in*

regards to the proposed NERC standards and the "Active Transmission Line Right of Way" vegetation clearance requirements. On pages 3-7, 3-14, and 3-28 the DEIS states "Notes: 1/ The project corridor, as defined here, includes a 150-foot-wide right-of-way that extends 75 feet either side of the proposed centerline of the action alternatives…" The 150 right-of-way for all alternatives is also discussed on pp. 3-20 and 3-21. In comments BPA submitted to NERC regarding Draft 4 of FAC-003-2, BPA commented on the description of an "Active Transmission Line Right of Way" as follows: "The distance is reasonable in the table, but due to widely varying designs of structures it does not give a relationship of the outside wire to edge of ROW. It should be noted as outside wire, phase or conductor to edge of ROW." *The table referenced is Table 3 (page 28) of Draft 4 FAC-003-2 and the footnote on page 6. Table 3, Minimum Distance from the centerline of the Circuit to the edge of the active transmission line ROW, defines 87.5' for a 346 to 500 kV transmission line.*

If per the NERC table, 87.5' each side of centerline of the circuit to the edge of the transmission right-of-way reasonably defines the "Active Transmission Line Right of Way" for a 500 kV transmission line, why is BPA proposing to acquire only 75' of right-of-way each side of centerline for the Central Ferry-Lower Monumental project? Furthermore, it appears that BPA's comment above is suggesting this distance should be defined as the distance from the outside wire to the edge of the right-of-way. This could lead to an "Active Transmission Line Right of Way" well in excess of 200' (or estimate to 225'). Why does BPA not meet the right-of-way widths NERC is proposing as the "Active Transmission Line Right of Way"? [CFLM10008]

Response: Several factors are considered when determining right-of-way width to provide for the safe, long-term operation of a high voltage transmission line. Some of these factors involve the need to limit the electric field strength and audible noise at the edge of the right-of-way. Another factor involves the need to maintain a safe horizontal distance between the energized electrical conductor and vegetation, buildings, and other installations located outside or potentially outside of the right-of-way (BPA does not generally allow tall growing vegetation or buildings to exist within its Active Transmission Line Right-of-Way). FAC-003-2 provides guidance to achieve these horizontal distances, particularly in the context of managing vegetation for high-voltage transmission lines.[4]

The quoted BPA comment submitted to NERC pertaining to Draft 4 of FAC-003-2 identifies the reason for the apparent discrepancy between NERC's recommended distance of 87.5 feet from the transmission line centerline to the edge of a right-of-way and BPA's specification of 75 feet for this project, *"...due to widely varying designs of structures... It [ROW width specifications] should be noted as [expressed in terms of distance of] outside wire, phase or conductor to edge of ROW."* Electric transmission towers vary in design. Towers designed to suspend one circuit of an alternating current transmission line are configured to hold three individual phases of conductive cable. The individual phases of cable need to be separated by sufficient space to prevent electricity from jumping from one phase to another. Some tower designs provide for this phase spacing by separating the three phases horizontally, but not vertically; some tower designs

[4] FAC-003-2 is a North American Electric Reliability Council (NERC) reliability standard defining the reliability requirements for planning and operating the North American bulk power system. Specifically, FAC-003 is a standard pertaining to transmission vegetation management to improve reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way and minimizing outages from vegetation located adjacent to right-of-way, maintaining clearances between transmission lines and vegetation on and along transmission right-of-way, and reporting vegetation-related outages of the transmission systems to the respective Regional Reliability Organizations (WECC in BPA's case) and the NERC. FAC refers to a collection of standards pertaining to *Facilities Design, Connections, and Maintenance.*

provide for this spacing by separating the three phases vertically, but not horizontally; and some tower designs use a combination of horizontal and vertical spacing.

Some tower designs allow for shorter towers, but at the expense of the phases being located farther away from the centerline of the tower, requiring a wider right-of-way to maintain safe horizontal clearance distances to energized electrical conductors. These wide towers are referred to as having a flat configuration because the phases are positioned at the same elevation on the tower. Except in rare instances, flat configuration towers would not be used on the proposed project.

The tower design proposed for this project suspends the middle phase above the two lower phases, allowing the two lower phases to be positioned closer to the tower center resulting in a more compact tower design requiring less right-of-way width. This type of tower is referred to as having a delta configuration because the phases are positioned in a way that resembles the Greek letter delta.

Any standard recommending a right-of-way width to be used in all cases (FAC-003-2) would have to recommend the widest right-of-way that would allow for the widest horizontal spacing of the phase conductors. BPA has tower designs for both flat and delta configuration 500-kV towers. BPA's flat configuration tower has an outside phase to outside phase nominal horizontal spacing of 76 feet, each phase located 38 feet from the tower center. BPA's delta configuration tower has an outside phase to outside phase nominal horizontal spacing of 50 feet, each phase located 25 feet from the tower center. The flat configuration tower requires approximately 13 feet of additional distance from the transmission line centerline to the edge of the right-of-way. This distance corresponds to the difference between the 87.5 feet recommended by Draft 4 of FAC-003-2 and the 75 feet proposed for this project.

Finally, BPA's proposal for a 150-foot-wide right-of-way, with edges of the right-of-way located 75 feet on each side of the transmission line's centerline, does not imply that BPA is designing for a minimum of 75 feet of horizontal separation between energized electrical conductor and vegetation, buildings, and other installations located outside or potentially located outside of the right-of-way. Accounting for the outside phases being offset from the transmission line centerline, the potential displacement of the phases from a resting position due to wind, and the location of some spans over deep canyons in remote areas, the required horizontal separation of phase conductors to features located off the right-of-way is less than 75 feet.

Comment: *The line location in DNR Parcel 4 zigzags, extending down a deep ravine and broken topography in the SE corner of the section thus exaggerating the severance of this section. It is not clear why this configuration was necessary. [CFLM10008]*

Response: In the vicinity of WDNR Parcel 4, the proposed route was influenced by an attempt to locate the route close to the existing BPA transmission corridor and nearer to existing access roads while at the same time satisfying WECC Planning Standards as discussed above. The proposed route was influenced by a drainage winding through the south half of WDNR Parcel 4. In general, the lower elevations of drainage systems are less desirable for high voltage transmission towers than the higher slopes or ridge tops. The lower elevation areas are more likely to contain riparian areas as well as steeper slopes requiring larger areas of ground disturbance for tower installation and access roads. The number of required towers and associated ground disturbance can be reduced by spanning over drainages. Spans are longer over large drainages than in areas with flatter topography. Longer spans require greater separation from adjacent high-voltage lines to satisfy WECC Planning Standards. Both the proposed line and the existing BPA transmission lines in this area have longer than average spans to cross over the drainage mentioned above. These longer than average spans partly contribute to the "zigzag"

in the proposed route in order to provide for adequate WECC-mandated separation between adjacent high-voltage lines.

Another factor contributing to this "zigzag" is the atypical orientations of this particular drainage system across WDNR Parcel 4 and a smaller tributary drainage system flowing into WDNR Parcel 4 from the south. Many of the drainage systems in this area are oriented in a north-south direction, flowing northerly to drain into the Snake River. In general, this north-south drainage orientation has allowed the proposed transmission route, running in an east-west direction, to span over these drainages in a more or less perpendicular manner while also being able to maintain a generally straight alignment. Crossing a larger drainage perpendicularly often allows for a closer to typical span length than crossing a drainage at a skew which can require a much longer span. Longer spans tend to require heavier towers and can even require different types of conductor and fiber optic cables. In order to cross over the drainage traversing the south half of WDNR Parcel 4 in a more perpendicular orientation, several angle points were introduced into the proposed alignment. These angle points allowed for more typical span lengths not requiring extreme measures in the design, construction, and maintenance of the proposed transmission line.

3.1.3 Conductors

Comment: *The DEIS Appendix G – Land Owner Guide p.2 describes vegetation heights to be maintained "at least 30 feet of clearance from the top of any vegetation and the lowest point of the BPA wires." We are concerned that it appears from this language that if the line height to ground is at the 29 foot or 30 foot minimum, then no agricultural activities will be allowed. DNR understands that there will always be site specific situations and applications to fill out, however, minimum clearance standards are necessary to understand the implications on potential land use management activities. [CFLM10008]*

Comment: *Describe specifically and incorporate a list or spreadsheet into the EIS identifying minimum conductor clearance distances of bare ground, trees, vegetation, crops, orchards, orchard structures/trellises, vineyards, hop poles, etc. which can be permitted under the line. The EIS should also be clear on the general minimum clearances from the top of the crop or structure to the overhead conductor. The minimum clearance spreadsheet should also include minimum distances and height to line ratios for buildings and in particular wind tower setbacks for construction outside the R/W. [CFLM10008]*

Comment: *What are the agricultural uses permitted within and outside the proposed right-of-way and any future potential crops and other uses that may be foreclosed? [CFLM10008]*

Response: BPA does not maintain conductor clearance requirements specifically crafted for a wide variety of different agricultural uses, as suggested by the commenter. As discussed in Section 2.2 of the Draft EIS, the standard minimum conductor clearance requirement for this proposed project would be 29 feet above the ground, with a 45.5-foot clearance requirement over highways. Clearance requirements for other specific existing features such as railroads and rivers are determined on a case-by-case basis.

Regarding the continuation of existing agricultural uses under the proposed line if it is constructed, it is expected that these uses could continue. In addition, BPA does not intend to secondarily restrict use of the BPA easement or adjacent areas for these agricultural uses by not allowing agricultural equipment to cross its easements (see other responses concerning vehicle and equipment access across BPA easements). As discussed in Section 3.2 of the Draft EIS, since most of the agricultural uses on the proposed right-of-way are low-growing grasslands used for grazing or low-growing crop fields that are both generally compatible with transmission lines,

the conductor height requirement would not prevent these uses under the line. In addition, while BPA would obtain the right through its easements to keep the right-of-way clear of vegetation and structures, BPA may enter into agreements with landowners for low growing vegetation that does not interfere with BPA's safe operation and maintenance of its transmission facilities. Landowners would need to coordinate with BPA prior to planting to ensure that the use is safe, compatible, and does not create an interference.

Appendix J, Section J.2.2, provides additional information on use limitations within BPA's rights-of-way. BPA does not have an additional required setback from the edge of the right-of-way.

Comment: *Is the design clearance of 29' to ground sufficient to safely accommodate operation and passage of farm equipment including combines where this minimum distance exists? [CFLM10008]*

Comment: *What minimum clearance is required to accommodate farm equipment, top of equipment to conductor? [CFLM10008]*

Response: As indicated in Appendix D of the Draft EIS, BPA's minimum design clearance allows for various types of farm equipment and other heavy machinery up to 14 feet in height. The majority of farm equipment does not exceed this height, so this equipment can be safely accommodated. However, because some agricultural equipment could exceed the 14 feet clearance height, BPA would cooperate with landowners to identify feasible limitations on any such equipment use under the lines and to ensure that they can cross the transmission line corridor at a safe location.

Comment: *What are the minimum clearance distances for traffic under lines top to bottom of conductor? [CFLM10008]*

Comment: *Power lines often have a 14' height restriction for vehicles. Most vehicles associated with wind power development exceed 14'. [CFLM10008]*

Comment: *Considering that development for wind power is occurring in the vicinity, is the design clearance sufficient to safely accommodate passage of trucks, equipment and supplies related to wind developments? [CFLM10008]*

Response: As with farm equipment, BPA's minimum design clearance allows for vehicles and large equipment up to 14 feet in height below the transmission line. If any trucks hauling wind equipment that exceed the 14 feet clearance height intend to cross under the proposed line, BPA would cooperate to the extent possible or work with them to help facilitate access.

Comment: *What environmental review has been done to establish the minimum clearance requirements? [CFLM10008]*

Response: As discussed in Section 2.2 of the Draft EIS, minimum conductor height requirements have been established for safety reasons and to meet or exceed clearance requirements established by the National Electrical Safety Code. While establishment of this type of safety standards is typically not subject to environmental review, BPA does consider any environmental impacts associated with compliance with these standards for individual proposed projects, as was done here with the proposed Central Ferry-Lower Monumental project.

3.1.4 Overhead Ground Wire and Counterpoise

Comment: *On page 2-7 it states "Counterpoise would vary from one to six runs of wire that extend up to 250 feet from the tower, with three counterpoise running out from each side of the tower footings. BPA would use 3/8-inch diameter aluminum wire buried 12 to 18 inches deep, except in cultivated areas where it would be buried about 30 inches deep, or deeper where the farmer uses deeper plowing methods." How are counterpoise lines installed in relation to other existing UG utilities in the area (wind towers)? Are there above ground locator stakes or signs identifying where these wires are buried and extend parallel to the R/W or at the 45 degree angle from the towers and at right angles from centerline? Can these counterpoise wires be located by underground locator wands easily? What dangers/liabilities might there be if these wires are dug up accidently by the grantor doing normal road maintenance work or replacing culverts, etc? [CFLM10008]*

Response: BPA typically maintains a 25-foot separation or avoids crossing existing buried cables or pipes. However, in rare cases when there are no other alternatives and the grounding would be significantly improved by crossing the existing metallic cable or pipe, counterpoise can be installed in PVC conduit out to 25 feet from each side of the crossing. Because the counterpoise is buried 12 to 18 inches (or as much as 30 to 36 inches in cultivated areas), it is often located above the other underground utility.

BPA does not place above ground locators to identify where the wires are buried. As mentioned above, counterpoise located in agricultural fields would be buried 30 to 36 inches deep. Counterpoise can be located with locator wands capable of detecting aluminum. While there are passive-type detectors that can do this, BPA uses non-passive detectors that utilize a signal generator connected to the counterpoise.

BPA expects that all road work would take normal precautions when digging near buried counterpoise. However, if the counterpoise is accidentally exposed, everyone should avoid touching the wires and BPA should be contacted to repair the wires if damaged. In most cases there are no potential hazards; however, there is a small possibility of low voltages being induced onto the wire which could pose a shock hazard if workers were to touch both sides of a broken wire.

3.1.5 Access Roads

Comment: *East side of Tucannon Resident: No advantage to leaving permanent access roads. [CFLM10011]*

Response: Comment noted. As discussed in Section 2.2 of the Draft EIS, if towers are placed in agricultural fields, BPA would typically build only temporary access to the tower site to construct the line. Once construction is complete, the road would be removed and the soil would be un-compacted for continued agricultural use. If the tower would need to be accessed for maintenance or emergency situations, depending on conditions included in the easement, BPA would compensate the landowner for any crop damage.

Comment: *East side of Tucannon Resident: Prefers access via Riveria Road. [CFLM10011]*

Response: Comment noted.

3.1.6 Maintenance

Comment: *Review the May 2000 Transmission System Vegetation Management Program Final Environmental Impact Statement DOE/EIS-0285, and supplements, and identify the vegetation management activities, the land use impacts and environmental impacts that will occur within and outside of the right-of-way. [CFLM10008]*

Response: As discussed in Section 2.2 of the Draft EIS, BPA's vegetation management would be guided by its Transmission System Vegetation Management Program EIS. BPA may use a variety of vegetation control methods that were evaluated in the Vegetation Management Program EIS, including manual (hand-pulling, clippers, chainsaws), mechanical (roller-choppers, brush-hogs), biological (insects or fungus for attacking noxious weeds), and EPA-approved herbicides. The appropriate method chosen for controlling the vegetation at a particular location is based on the type of vegetation and its density, the natural resources present at a particular site, landowner requests, regulations, and costs.

For more information about how BPA would work with the commenter to implement BPA's vegetation management policy on the commenter's property, see Section J.2.3 of Appendix J.

3.1.7 Construction Schedule and Work Crews

Comment: *How long would it take to build the line? [CFLM10011]*

Response: As discussed in Section 2.2 of the Draft EIS, construction of the proposed project would take about 2 years. Assuming that BPA makes a decision in spring or summer 2011 to proceed with the proposed project following completion of the National Environmental Policy Act (NEPA) process, it is likely that project construction would extend from July 2011 to July 2013.

3.1.8 Proposed Action Alternatives

Comment: *The four action alternatives of the proposed 500-kV transmission line project are nearly identical in many of the categories that they are compared across. For example, the number of miles of new transmission line (38-40 miles), new access roads (33-35 miles), acres of ground disturbance (337-361 acres), and acres of permanent impacts (178-190 acres) are essentially the same. Since these impacts will traverse 38-40 miles, be occupied by regularly spaced 104-189' high towers connected by transmission lines, and all within a 150-foot wide easement, fragmentation of habitat and migration and movement corridors could be negatively impacted. Therefore, WDFW would prefer the south route for the transmission line. This route has slightly fewer towers, less new road construction, less acreage disturbance, less East Side Steppe priority habitat, and probably less density of mule deer. [CFLM10006]*

Response: Comment noted. Thank you.

Comment: *Jackson Estate is strongly in favor of the North Alternative or Combination A routes as it pertains to crossing the lands owned by or leased by our family. We are adamantly opposed to the Southern Alternative as well as the Combination B routes as it would interfere with our farming operations and would require a new infrastructure system. [CFLM10001]*

Comment: *East side of Tucannon Resident: Prefers North Alignment (Combo A). [CFLM10011]*

Response: Comments noted. Thank you.

Comment: *South Alternative appears to impact state lands the least. [CFLM10011]*

Response: Comment noted.

Comment: *Wants north alternative because south has a lot more fields cultivated. [CFLM10011]*

Response: Comment noted.

Comment: *I support the project. We need more transmission capacity for the economic development. I like the North Alternative. [CFLM10011]*

Response: Comment noted. Thank you.

Comment: *Can't live with the South Alternative. [CFLM10011]*

Response: Comment noted.

3.1.9 Alternatives Considered but Eliminated from Detailed Study

Comment: *To address the long-term issues with the siting of this transmission line, the EIS should . . . [p]ropose and analyze an Alternative that has no negative impacts on state trust lands. [CFLM10008]*

Comment: *[The EIS should] analyze locations for siting the corridor that ensure the maximum productive use of trust lands within the corridor. [CFLM10008]*

Response: Early route studies did consider the impacts of routing onto state trust lands. In these early studies, which heavily influenced proposed route locations, the data representing relative impacts (monetary, environmental, land use, visual, etc.) clearly depicted the potential impacts that BPA route planners associated with state trust lands. Twelve discrete parcels of state trust land lay within the limits of the earliest route study corridors. Nine of these twelve parcels lay within the limits of the constrained study corridor used in the final selection of the feasible alternatives presented in the Draft EIS. While state trust lands did not present the largest contiguous land parcels in the study corridor nor did they represent the largest total area of lands in the early study corridor, the state was by far the most prolific landowner as measured by the number of discrete parcels distributed throughout the study corridor area.

In addition to BPA's desire to avoid state trust lands, other factors also contributed to the location of the proposed route alternatives. A partial list includes terrain, known areas of environmental and cultural sensitivity, current and potential land use (including areas with existing plans for wind development), visual impacts, cost of construction, proximity to ground transportation,

aviation facilities, residences, population centers, BPA transmission facilities, riparian areas, and parcel boundaries. In several cases, competing factors recommended routing across state trust lands, including some stakeholders' (including WDNR) expressed desire to locate the proposed line as close to the existing BPA transmission corridor as possible. Other factors were earnest attempts to minimize impacts to actively cultivated lands and areas with the highest potential of future wind development located along ridge tops and areas of generally higher ground. Other factors included attempts to maximize distances to human residences and minimize impacts to farming infrastructure, including storage facilities and airstrips.

Even with these sometimes competing factors, BPA was able to develop its proposed route alternatives such that state trust lands are largely avoided. Two of the alternatives each cross only two such state parcels, and the other two alternatives each cross only one such parcel (see Table J-1 in Appendix J). Each alternative also includes acquisition of an easement over an existing access road on another state parcel.

As explained in Chapter 3 of the Draft EIS and Appendix J of this Final EIS, BPA expects that the overall impact to state trust lands would be low. BPA is continuing to work with WDNR to explore potential measures to further reduce these impacts and provide appropriate compensation where necessary.

Comment: *BPA has not included the expansion of the existing corridor as an alternative. DNR believes analysis of the expansion of the existing corridor by placing the new line more adjacent to the existing BPA transmission line corridor is required as a reasonable alternative to adequately address mitigation of impacts to current and future land use. [CFLM10008]*

Comment: *As stated in correspondence given to you at the July 13, 2009 meeting in Starbuck, WA, there are currently two sets of BPA transmission lines that run through our property. In our estimation, placing the proposed new line as close to the existing lines makes perfect sense since the existing lines must be maintained and there is currently access to them. [CFLM10001]*

Comment: *Include an Alternative that accommodates the new line by expanding the existing corridor. [CFLM1-0008]*

Response: Placing the proposed transmission line adjacent to the existing transmission lines in the area was considered but rejected from further study because this alternative would not meet the need for the project. The need to comply with WECC and NERC TPL Standards largely result in this outcome (see Section 3.1.2 of these responses for more information on these Standards). As described in Section 2.2 of the Draft EIS, BPA has routed the action alternatives for the proposed 500-kV transmission line to ensure that adequate physical separation exists between the proposed line and the existing 500-kV lines in the area for reliability purposes. This is particularly important for higher-voltage transmission lines such as the proposed and existing 500-kV lines in the area because these lines serve essentially as the "backbone" of the transmission system. Separating the proposed line from existing lines by a distance that is the length of the longest span of adjacent existing lines at the point of separation, but not less than 500 feet, lessens the risk of simultaneous outage of these important lines. The longest spans of the existing lines in the area are between 1,200 to 2,500 feet. Accordingly, in order to minimize the risk of simultaneous outage, the proposed line needs to be routed at least 1,200 to 2,500 feet from the existing lines in areas where the lines would be parallel. Because of this issue, siting the proposed transmission line adjacent to existing transmission lines in the area by expanding the existing right-of-way for these lines was considered but eliminated from detailed study in the EIS.

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

3.2.1 General

Comment: *We note with appreciation that the DEIS addresses many of the issues we raised during the project scoping period in August 2009, including analysis of cumulative and climate change effects. [CFLM10009]*

Response: Comment noted. Thank you.

Comment: *Our primary concerns at this stage of review are about the impacts to lands and other resources, including State lands managed by DNR. [CFLM10008]*

Comment: *We are particularly concerned about . . . [t]he management and economic impacts of the proposal on current and future land use; [CFLM10008]*

Response: Comment noted. Chapter 3 of the Draft EIS provides an analysis of potential impacts of the proposed project on land and other elements of the natural and human environment. Appendix J of the EIS provides an analysis specific to WDNR-managed state lands that could be impacted by the proposed project.

Comment: *Alternatives and alternative analysis to mitigate the impacts associated with the potential for geologic hazards along the proposed line and significant impacts to trust land management associated with current and future land use are currently considered gaps in the DEIS analysis. [CFLM10008]*

Response: Comment noted. Additional information concerning the consideration of alternatives for the proposed project is provided in Section 3.1 of these responses. Additional information concerning geologic hazards in the vicinity of the proposed routing alternatives is provided in Appendix J of the EIS. Additional discussion of potential impacts to state trust lands is provided in Sections 3.2.2 and 3.2.10 of these responses, as well as in Appendix J.

Comment: *The proposal also locates the new line 1,200 feet to one half mile south of an existing transmission line corridor that already severs these parcels. All other things being equal, a new transmission line corridor has greater environmental and economic impacts to adjacent lands than the expansion of an existing corridor. [CFLM10008]*

Response: Comment noted. Expansion of the existing corridor was considered in siting the proposed transmission line but eliminated because of the need to ensure that adequate physical separation exists between the proposed line and the existing lines for reliability purposes (see Section 2.2 of the Draft EIS). This is also discussed in Section 3.1.9 of these responses, and clarifications concerning the potential impacts of this separation have been made to Sections 3.2, 3.9, and 3.10 of the EIS.

3.2.2 Geology and Soils

Comment: *Discuss the need to limit the acres equipment will be used on including considering helicopter installation to minimize damage to soils. [CFLM10008]*

Response: Issues that would influence the use of helicopters for tower construction may include environmental issues, constructability issues, and/or cost issues. Helicopters are often used to construct transmission lines in remote, inaccessible areas such as steep mountainsides. In those areas, helicopters are used to transport workers to a safe ground location near the construction area and to move materials and equipment required to construct the transmission line towers. Because building roads in inaccessible areas would potentially impact resources such as water quality, sensitive species and their habitat, and visual resources, use of a helicopter is preferred. For the proposed project, there are no areas that are remote or inaccessible by road.

The use of helicopters for different aspects of transmission line construction is normally the province of the construction contractor. While BPA may specify areas or features as mentioned above that require special environmental sensitivity, the presumption is that with inspection oversight, the construction contractor has the special expertise to safely execute a cost-effective project which fully satisfies all environmental requirements. Certain aspects of transmission line construction do regularly use helicopters, e.g., ferrying equipment up to linemen in a tower and stringing the first lightweight rope (sock line) into travelers (pulley-like devices) mounted in the towers which are then used to pull heavier cables between the towers. Other aspects of transmission line construction, such as tower erection (ferrying and mounting partly assembled towers to prepared tower sites), use special helicopters like skycranes less frequently, and typically only when construction occurs in inaccessible areas.

Comment: *We are particularly concerned about:. . . [t]he presence of potential geologic hazards and the need for a complete analysis of all alternatives for those hazards as they relate to landslides and liquefaction. [CFLM10008]*

Comment: *DNR has data that shows this project crosses several geologic hazards, including unstable slopes, potential Quaternary faults and areas vulnerable to liquefaction. The proposed segments are close to the Central Ferry fault (approximately 1 mile from the eastern terminus of the segments), which could produce localized ground shaking, potentially resulting in landslides and liquefaction. The proposed segments also cross over numerous folds, which could be recent or active faults, such as a blind thrust fault (Table 1). Seismic shaking from local or regional earthquakes could cause liquefaction, which all proposed sections cross, from low to high vulnerable areas (Table 2). Structures built within areas of liquefaction could be at risk of failure or movement. Whereas the proposed sections do not cross over any mapped landslides, the area is covered with numerous bedrock hollows (rule or non-rule defined) and inner gorges (rule or non-rule defined), as defined in Ch. 16 of the Forest Practices Board Manual. Additionally, bluffs along the streams and rivers show mapped landslides and potentially could exist at the locations of the proposed routes.*

If mitigation measures are followed as stated, geologic hazards should be identified and mitigated sufficiently. However, such hazards have yet to be identified and the extent or the ability to avoid geologic hazards is unknown. A preliminary study should be conducted to identify the overall geologic hazards in the region. This can be completed by the following:

Requests for additional analysis:

1. The project area has poor mapping for landslides, a detailed study of landslides and landforms that the proposed project crosses would give better information of the potential landslide hazard in the area.

2. Identify unstable slopes using DNR's Shalstab model or through landforms in the Landslide Hazard Zonation projects where available data exists.

3. Identify unstable slope hazards associated with slope modification or vegetation removal at construction areas.

4. Identify seismic shaking potential on the Central Ferry fault and the potential shaking potential of the folds (Table 1) as well as movement potential and liquefaction dangers associated with seismic events. This could be completed by trenching through the fault to map movement events.

5. Identify and consider the following mitigation: Reconsider corridor locations in moderate to high liquefaction sensitive areas by using GIS modeling to identify the least sensitive lands. [CFLM10008]

Response: Possible geologic hazards within the project area are discussed in Section 3.1.2 of the Draft EIS. As suggested by the commenter, more detailed assessments of potential geologic hazards have been performed for the proposed project. For additional information regarding these assessments and possible geologic hazards on WDNR-managed lands, see Appendix J of this Final EIS.

Comment: *Analyze the different environmental impacts associated with constructing roads on steep slopes and under different soil conditions. [CFLM10008]*

Response: As discussed in Section 3.1.2 of the Draft EIS, access road design and construction would take into account the erosion potential of the soil, slopes, soil types, and the presence of bedrock hollows or inner gorges. Roads would be rocked where needed for dust abatement, stability, load bearing, and seasons of use. For more information on BPA's Access Road Planning and Design Manual, see Appendix J of this Final EIS.

Comment: *We are concerned that there be no increase in erosion, during construction and after the towers are finished. [CFLM10012]*

Response: As discussed in Section 3.1.2 of the Draft EIS, impacts from transmission line construction would be greatest during and immediately after construction until revegetation, drainage, and erosion controls are established. Vegetation removal would be limited to the extent possible during construction. Temporary erosion control measures would be maintained until vegetation is reestablished and/or permanent erosion control measures are in place. These measures along with additional mitigation measures discussed in Section 3.1.3 of the Draft EIS would reduce soil disturbance and erosion during and after construction.

3.2.3 Land Use

Comment: *DNR is concerned that although the impacts to overall land use patterns may be low on a geographic/regional scale, the impacts to trust land management will be high. [CFLM10008]*

Response: Comment noted. BPA recognizes that individual landowners may feel that any impact to their land is a high impact. BPA is continuing to work with WDNR to seek ways to minimize potential impacts to WDNR's management of trust lands. Nonetheless, given the extremely small acreage of trust lands that would be affected by the proposed project and the minimal interference with existing uses on these lands, the project's potential impact to trust lands is considered to be low.

Comment: *Identify and analyze the specific impacts to existing and future land use from implementing the measures recommended in BPA's pamphlet Appendices D Living and Working Safely Around High-voltage Power lines. [CFLM10008]*

Comment: *Based upon BPA's pamphlet "Living and Working Safely Around High-voltage Power Lines," restricted activities include some timber harvest activities, location of buildings and parking lots, recreation facilities, trails and fencing. DNR considers these restrictions, when applied outside of the right-of-way, to constitute an adverse environmental impact to land use and a negative easement that prevents DNR from fully managing state lands. The limitations to landowner activities due to the proximity to power lines have not been addressed. [CFLM10008]*

Comment: *What are the agricultural uses permitted within and outside the proposed right-of-way and any future potential crops and other uses that may be foreclosed? [CFLM10008]*

Response: As discussed in Section 2.2 of the Draft EIS, BPA would not permit any uses of the transmission line right-of-way that are unsafe or might interfere with constructing, operating, or maintaining the transmission facilities. Use limitations within the right-of-way would include keeping the right-of-way clear of all structures, fire hazards, tall-growing vegetation, and any other use that may interfere with the safe operation or maintenance of the line. The construction of buildings within the right-of-way would therefore not be permitted.

While BPA would obtain the right through its easements to keep the right-of-way clear of vegetation and structures, BPA may enter into agreements with landowners for low-growing vegetation that does not interfere with BPA's safe operation and maintenance of its transmission facilities. However, orchards, Christmas trees, tall-growing landscape or natural vegetation, and structure-supported crops (i.e., trellises) would require special consideration. In addition, trees outside of the right-of-way that have the potential to fall or grow close enough to the conductors to cause an electrical arc would need to be removed. No trees are located within or adjacent to the proposed corridor on WDNR-managed lands, however. For additional information regarding use of BPA's rights-of-way on WDNR-managed lands, see Appendix J.

Other than danger trees, BPA has no control over agricultural or other uses permitted on lands outside of the proposed transmission line right-of-way. These other uses thus would not be limited in any way by the proposed right-of-way.

Comment: *DNR would like to work with BPA to mitigate impacts to existing agriculture and grazing land uses and leases. [CFLM10008]*

Comment: *BPA to agree to abide by the 1989 DNR Agricultural and Grazing Lands Policy Plan and related Resource Management Plans for individual parcels during construction and maintenance of the line and access roads over DNR trust lands. [CFLM10008]*

Response: As discussed in Section 3.2.2 of the Draft EIS, while some temporary impacts would occur to agricultural and grazing lands uses during construction, these land uses are compatible with the proposed project. As discussed in Appendix J, BPA would commit to coordinate with WDNR regarding the 1989 WDNR Agricultural and Grazing Lands Policy Plan, Agriculture Business Plan, Strategic Plan, and related Resource Management Plans for affected WDNR parcels during construction and maintenance of the line and access roads over WDNR trust lands.

Comment: *Thank you for the attention given in the DEIS to lands managed under the Conservation Reserve Program (CRP). DNR Parcel 3 is managed under the CRP. Although clear guidelines are presented and responsibility accepted by BPA in the DEIS for impacts to ground cover for lands managed under the CRP program, the DEIS does not acknowledge that any access roads would require an acreage change and that payments would likely be reduced. [CFLM10008]*

Response: As discussed in Section 3.2.2 of the Draft EIS, BPA assumes that no adjustment would be made to CRP enrollees' annual lease payments because only temporary roads would more than likely be constructed across CRP lands. As discussed in Section 2.2 of the Draft EIS, if access to a tower is across an agricultural field, BPA would typically build only temporary access to the tower site to construct the line. Once construction is complete, the road would be removed and the soil would be un-compacted for continued agricultural use. The Farm Service Agency has stated that with appropriate ground restoration following transmission line construction, CRP lands could remain in the CRP (Schettler, 2009a).

If a permanent access road is required for line access or is requested by the landowner, the ground impacted by the road would be required to be removed from the CRP. Only impacted ground beneath the permanent roads would need to be removed from the program, not the entire field.

Comment: *Acquire in writing, from DNR, prior to any action, permission to disturb ground cover if disturbing lands enrolled in the CRP. This allows DNR, as landowner, to get prior approval for ground disturbance from Farm Service Agency (FSA).*

Comment: *BPA agreement to compensate DNR for any reduction in CRP acreage compensation received due to BPA's construction of access roads. [CFLM10008]*

Response: As discussed in the Draft EIS, BPA always obtains permission to enter property where land rights have not been acquired while conducting environmental and civil surveys. BPA proposes to develop an agreement to compensate WDNR for any reduction in CRP acreage due to construction of access roads or towers (see Table J-19 in Appendix J).

Comment: *The DEIS indicates that more than half of the project corridor would involve lands that have been designated as prime farmland, and lands managed under the Conservation Reserve Program (CRP) (Table 3-7, p.3-16). Even though some areas would be disturbed temporarily and would be restored afterwards, other areas would be impacted permanently. Depending on the routing alternative selected, such permanent impacts to farmlands would involve 178 – 189.5 acres, while temporary impacts would involve up to 361 acres (p. S-15). The*

*Farmland Protection Policy Act (FPPA) includes prime farmland, unique farmland, and land of statewide or local importance (*see http://www.nrcs.usda.gov/programs/fppa/). *Farmlands that are contiguous to sensitive areas, such as floodplains, wetlands, and aquifer recharge zones play important roles in buffering these areas from development and should be protected. Thus, the FPPA seeks to assure that federal actions are designed in a manner compatible with state and local policies and programs to protect farmlands.*

Because of potential impacts to farmlands and subsequent loss of crops and wildlife habitat, we recommend BPA coordinate with the Natural Resources Conservation Service (NRCS) and/or USDA Service Center and the Farm Service Agency in assessing the project impacts to farmlands, including loss of CRP lands and determining measures to be followed to avoid and minimize any significant impacts to farmlands. The final EIS should include information about NRCS analysis and rating of potential impacts, and what will be done to restore farmlands and compensate landowners for losses incurred due to the project. [CFLM10009]

Response: As shown in Table 3-7 on page 3-16 of the Draft EIS, more than half of the project corridor crosses lands classified as farmland of statewide importance rather than prime farmland. Approximately 0.06 percent of the proposed corridor would cross lands designated as Prime Farmland. Further, Tables S-4 and 3-11 display that no permanent impacts would occur on Prime Farmlands.

As discussed in Section 3.2.2, impacts to farmlands of statewide importance would range from an estimated 111 acres to 132 acres. As noted in the Section 3.2.1, almost half of the land in the affected counties (where information is available) is identified as farmland of statewide importance. Impacts under the action alternatives would range from about 0.01 percent to 0.02 percent of the county total, and overall impacts are, therefore, expected to be low. Impacts to prime farmland, if irrigated, would range from 5 to 8 acres, approximately 0.01 percent of land in this classification in the affected counties, and are, as a result, expected to be low.

As discussed on page 3-22 of the Draft EIS, BPA has been consulting with the Farm Service Agency regarding CRP lands crossed by the proposed project. If BPA makes a decision to proceed with the proposed project, consultation with the FSA and landowners will continue. A determination would be made whether or not construction would affect the CRP status of the land or if special construction or revegetation techniques would be necessary. BPA will provide landowners with any information, including estimated disturbance to ground cover and length of use, if required to obtain prior approval from the FSA for ground disturbance on CRP lands. It is assumed that no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for a permanent reduction in CRP acres under the action alternatives from the transmission tower footings and access roads.

Comment: *The land is currently in the Conservation Reserve Program (CRP), through 2012. We want there to be minimal impact of the towers on future use of the land for wheat farming. [CFLM10012]*

Comment: *Tower located outside cultivated land in CRP area. CRP has to be a 60 foot swath. CRP contract plants one-half acre for animals. [CFLM10011]*

Comment: *Combo A - 3 towers in CRP land. [CFLM10011]*

Comment: *5 towers in cultivation. [CFLM10011]*

Comment: *All routes affect our property the same. Would like to see the route through less agricultural (cultivated) land. [CFLM10011]*

Response: Section 3.2.2 of the Draft EIS discusses CRP lands that would be crossed by the proposed project. BPA would minimize long- and short-term impacts to these lands as much as is possible. BPA would use existing access roads where possible and use special construction or revegetation techniques if necessary. BPA will provide landowners with any information, including estimated disturbance to ground cover and length of use, if required to obtain prior approval from the FSA for ground disturbance on CRP lands.

Comment: *[The EIS should] analyze BPA's full use or encumbrance of state trust lands inside and outside the right-of-way. [CFLM10008]*

Response: The Draft EIS evaluates the potential impact of the proposed project on all lands, including state trust lands. This evaluation addresses all project components, including transmission towers, access roads, and pulling/tensioning sites, as described in Chapter 2 of the Draft EIS. As noted in response to other comments, with the exception of danger trees and some access roads, construction and operation of the proposed project would not affect land use outside the proposed right-of-way.

Comment: *BPA is proposing to "double the encumbrance" for this transmission line to meet the need of increased reliability. For this project, state trust lands are already encumbered by the existing lines. [CFLM10008]*

Comment: *Ensure that no one landowner is being unduly burdened by the transmission line; And that no land owner benefits at the detriment of another, especially for isolated parcels and parcels already encumbered by existing transmission lines. [CFLM1-0008]*

Response: The presence of existing BPA transmission lines on some parcels that would be crossed by the proposed line is noted. As discussed in Section 3.2.3 of the Draft EIS, landowners would be compensated for any new land rights required for right-of-way easements, or to construct new, temporary or permanent access roads. It is not BPA's intent to unduly burden or benefit any particular landowner through the routing of its proposed transmission line.

Comment: *[The EIS should] identify impacts to lands and property owners along the proposed corridors including lost income from wind generation or other uses that will occur along the transmission line siting. [CFLM1-0008]*

Response: Project-related impacts to existing land uses and other resources are evaluated in detail in Chapter 3 of the Draft EIS. Reasonably foreseeable future projects, including wind development, are considered in Section 3.14, which addresses cumulative impacts. This is discussed further in response to other comments below.

Comment: *DNR Parcel's 1 and 4 are viable for wind power development with the potential to become some of the highest revenue producing trust land. Landowners adjacent to DNR in the project vicinity have already entered into lease agreements with wind developers and DNR is currently working with Puget Sound Energy to develop state lands. [CFLM10008]*

Comment: *[The EIS should] analyze if the proposed transmission line placement would impact areas of potential wind development or areas currently being developed and consider mitigation to avoid or minimize using lands with wind power development potential for the transmission line location. [CFLM1-0008]*

Comment: *DNR understands that energy transmission facilities are necessary for wind development in the area, but the impacts of the siting of these facilities on potential wind tower locations and development along the corridor must be considered. [CFLM10008]*

Comment: *We recognize the benefit and necessity of transmission lines to support potential wind power development, however, the transmission line benefits more than just state lands and cannot be justified as a specific benefit to those lands. It should not detract from or supplant the best locations for siting wind towers on DNR managed trust lands. [CFLM10008]*

Comment: *We expect that in the near future it will be feasible to site wind generation turbines on the land. We would like to have the transmission towers, and lines, sited to retain as much wind generation potential as possible. [CFLM10012]*

Comment: *Don't affect the wind turbine locations. [CFLM10011]*

Response: Consistent with NEPA, the EIS for the proposed project analyzes the potential impact of the proposed project on existing land uses in Section 3.2.2 of the Draft EIS. This analysis addresses impacts on existing land uses and conditions. Reasonably foreseeable future projects, including wind development, are considered in Section 3.14 of the Draft EIS, which addresses cumulative impacts. As discussed in Section 3.14, reasonably foreseeable future actions are those actions that are likely to occur and affect the same resource as the proposed action. The determination of what future actions should be considered requires a level of certainty that they will occur. This level of certainty is typically met by the completion of a permit application, the subject of approved proposals or planning documents, or other similar evidence. NEPA does not require an EIS to evaluate impacts to the "potential" for different types of future land use when no formal proposal has been made and many different future outcomes are possible.

The review of reasonably foreseeable future projects in the general vicinity of the proposed transmission line identified two wind projects: Puget Sound Energy's Lower Snake River Wind Energy Project and the proposed Pomeroy Wind Energy Project (see Section 3.14 of the Draft EIS). BPA is currently working with Puget Sound Energy to ensure that wind turbine sites would not interfere with the safe operation and maintenance of the proposed transmission line. Alternately, BPA works to place towers in locations that have the lowest impact on turbine locations. The proposed transmission line would not affect the siting of turbines for the Pomeroy Wind Energy Project, which is located approximately 20 miles southeast of the proposed transmission line at its closest point.

At this point in time, other wind generation development in the vicinity of the proposed transmission line is considered speculative. In addition, the siting of the proposed line would affect an extremely small area of the land that is available for potential wind generation facilities in the region, should they ultimately be proposed and developed. Nonetheless, if other wind generation projects are proposed at some point in the future in the project vicinity, the presence of the proposed line would prevent the area occupied by the line, and possibly some immediately adjacent areas, from being developed with wind turbines and other wind generation facilities. BPA would work with the developers of any such future projects to avoid conflict between wind turbines and the line to the extent possible, and to assist in determining appropriate and safe access of wind turbine construction equipment across BPA's transmission line easements, should such access be desired.

Comment: *Considering that failure of structures also has the potential to create outages, does BPA have policies generally limiting the placement of structures and, specifically wind*

towers, located outside of the right-of-way? For instance, will BPA allow a wind turbine to overhang a BPA right-of-way? Does BPA allow wind towers directly adjacent to its right-of-way, or is there a set-back? If there is a set-back, how does BPA enforce it? And, do the requirements change depending on whether the structures are located before or after the establishment of the BPA transmission line? [CFLM10008]

Comment: *DNR is concerned that the DEIS specifies no setback requirement for wind turbines along BPA right of ways. It is our understanding that there are always additional setbacks required between wind towers and transmission lines, particularly for potential ice throw off of the turbines. Setbacks will make a significant difference in the development potential of the lands adjacent to the proposed lines and those lands between transmission line corridors. For example, with a 450' setback (the height of the wind tower) on both sides of the line and the 150' right-of-way corridor, as appeared to be the design requirement on the Big Eddy-Knight East Alternative proposal, a total width of 1,050' would be undevelopable for wind tower construction. This potentially significant impact to land use is not currently analyzed in the DEIS. [CFLM10008]*

Comment: *[The EIS should] directly address the setback issue and impact to current and future land use especially the impacts on the proposed corridor on wind tower placement due to setbacks from the right-of-way and the resulting loss of land use to the landowner. [CFLM10008]*

Comment: *[The EIS should] analyze and more fully define the extent of restrictions outside of the easement area particularly in areas where the corridor will disallow, limit or increase the cost of agriculture, wind power production, solar energy development, communication sites, residential development, commercial development and recreational use. [CFLM10008]*

Response: BPA does not have an additional required setback for wind turbines or other uses from the edge of the right-of-way. Specific to wind generation, BPA works cooperatively with wind developers to ensure that proposed wind turbine sites do not interfere with the safe operation and maintenance of our transmission lines. For instance, BPA does not allow proposed wind turbines to be sited in such a way that any wind turbine components would break the vertical plane of the right-of-way for a BPA transmission line. This requirement is consistent regardless of whether the wind turbines are located before or after construction of a transmission line. Impacts to existing land use and reasonably foreseeable projects are evaluated in the Draft EIS.

Comment: *The Central Ferry-Lower Monumental proposed transmission line traverses across prime wind tower location ground over the top edge of the bluff (DNR Parcel 1) thereby reducing or eliminating DNR's ability to develop wind power. Confining the environment footprint by expanding the existing corridor would allow this area to be fully developed. Alternatively, relocating the line more northerly and deeper into the canyon would allow the key wind power area on top of the bluff to be fully developed. [CFLM10008]*

Comment: *Relocating the proposed line more northerly down over the bluff and adjacent/parallel to the existing BPA line corridor in DNR parcel 1 will greatly reduce future land use impacts such as to prospective wind development. [CFLM10008]*

Response: Expansion of the existing transmission line corridor was considered in siting the proposed transmission line but eliminated because of the need to ensure that adequate physical separation exists between the proposed line and the existing lines for reliability purposes (see Section 2.2 of the Draft EIS). This is also discussed in Section 3.1.9 of these responses. In the vicinity of WDNR Parcel 1, a more northerly location for the routing of the proposed line

segment that is part of both the North and Combination A alternatives was analyzed and determined unfeasible for the following reasons:

- A more northerly location would result in a spatial separation with the existing high voltage lines serving Central Ferry Substation that would be a distance less than the span lengths of the existing lines as well as the proposed line. Per WECC Planning Standards discussed in Section 3.1.2 of these responses, this more northerly location would result in a large reduction in the usable transmission capacity of the proposed line and would reduce the ability of the new line to meet its stated purpose and need.

- The terrain is significantly steeper to the north at two sites where towers would be required for a more northerly alignment on WDNR Parcel 1. While transmission towers can be constructed in terrain where the slope of the ground has a grade of 40 percent or greater, the area of ground disturbance is usually much greater than it is for the same tower located in less steep terrain. Ground disturbance impacts associated with road construction are also greater in steep terrain. Tower footings often need to be installed deeper than normal, requiring larger areas of excavation, to provide adequate tower leg uplift resistance.

Comment: *The PDEIS acknowledged that concerns were expressed about the impacts of line placement on the potential development of wind resources in the immediate vicinity of the proposed transmission line corridors. DNR is unable to find this language in the DEIS and believes it is important. [CFLM10008]*

Response: Information about public concerns that were raised during project scoping regarding the proposed project's potential effect on future wind development placement is provided in Section 1.5 of the Draft EIS.

3.2.4 Vegetation

Comment: *We acknowledge and appreciate the analysis to date in the DEIS including the surveying and screening for state and federally listed threatened, endangered and sensitive plant species. We also appreciate recognition and incorporation of the DNR Natural Heritage Program data into the DEIS analysis. We encourage the inclusion of alternatives that minimize impacts to undisturbed land areas and appreciate the recognition of the importance of minimizing impacts to these undisturbed land areas in the DEIS. [CFLM10008]*

Comment: *The Natural Heritage Program has no current data indicating concerns for the proposal area beyond those described in Chapter 3.3 of the DEIS. [CFLM10008]*

Response: Comment noted.

Comment: *We do acknowledge and appreciate BPA's commitment to conduct additional surveys in spring and summer of 2010 (DEIS pg.3-37). [CFLM10008]*

Comment: *Include the results of the additional surveys committed to by BPA for the spring/summer of 2010 (See page 3-37 and 3-41 Mitigation Measures for T, E&S species), the analysis based on the surveys, and any additional mitigation measures. [CFLM10008]*

Comment: *We also acknowledge and appreciate the commitment in the DEIS to complete plant surveys that consider the phenology of the plants in BPA's plans to conduct additional surveys in the spring and summer months of 2010. [CFLM10008]*

Comment: *The proposed timing for conducting field work to identify plants should take into consideration the phenology of the plants for which the surveys are conducted; [CFLM10008]*

Response: Vegetation surveys were conducted of the proposed transmission line corridors in fall 2009 and spring/summer 2010. These surveys included rare and sensitive plant surveys. Surveys conducted during spring and summer 2010 were timed to consider the phenology of threatened, endangered, and sensitive (TES) plant species with the potential to occur in the project area. No TES species were identified on any of the action alternative corridors. No additional mitigation measures are required.

Comment: *DNR acknowledges the BPA commitment in the DEIS that for any ground cover destroyed, BPA will restore it to the same type of cover, at no expense to the lessee or to DNR as landowner. [CFLM10008]*

Response: Comment noted. As discussed in Section 3.2.2 of the Draft EIS, if access to a tower on agricultural land without permanent access roads is necessary for maintenance or emergency situations, BPA would compensate the landowner for any crop damage that would occur. Mitigation included in Section 3.2.3 of the Draft EIS also includes restoring compacted cropland soils to pre-construction conditions and reclaiming any road-related disturbance areas after construction is completed.

Comment: *Alternative analyses in the EIS should consider the amount of already disturbed/converted land area compared to undisturbed or relatively intact habitat land area. Undisturbed land should be given higher priority because of the amount of land already disturbed/converted. The shrub-steppe ecosystem continues to be impacted by fragmentation and isolation of the remaining lands in good ecological condition. Routes that minimize/avoid the impact on the remaining relatively undisturbed land areas and avoid significant adverse environmental impacts to these rare plant communities and the shrub-steppe ecosystem should be clearly recognized in the environmental analysis. [CFLM10008]*

Response: The vegetation analysis presented in the Draft EIS evaluates the amount of already-disturbed land compared to undisturbed or relatively intact habitat as suggested in this comment. The amount and type of vegetation that would be temporarily and permanently disturbed is summarized in Tables 3-15 and 3-16 of the Draft EIS. These tables have been updated following completion of additional vegetation field surveys in spring/summer 2010, as shown in Section 2.2.3 of this document. The majority of project-related temporary and permanent disturbance would occur on already disturbed lands. Relatively undisturbed vegetation areas—identified in Tables 3-15 and 3-16 as native grassland—comprise just 4 to 5 percent of the total vegetation that would be disturbed under any of the action alternatives. Potential impacts to these areas would be further reduced by the mitigation measures identified in Section 3.3.3 of the Draft EIS.

Comment: *Review the May 2000 Transmission System Vegetation Management Program Final Environmental Impact Statement DOE/EIS-0285, and supplements, and identify the vegetation management activities, the land use impacts and environmental impacts that will occur within and outside of the right-of-way. [CFLM10008]*

Response: The Draft EIS evaluates the potential environmental impacts of the proposed project with mitigation measures in place, including vegetation management measures. Vegetation management would be limited to the right-of-way, with the exception of new access roads that extend outside the right-of-way and potential issues related to danger trees. Mitigation measures designed to eliminate or minimize potential impacts to vegetation are presented in Section 3.3.3 of the Draft EIS. Vegetation management on WDNR-managed lands is discussed further in Appendix J.

Appendix J also provides additional information on BPA's vegetation management responsibilities per the Transmission System Vegetation Management Program EIS.

Comment: *We are particularly concerned about . . . [t]he environmental impacts associated with the proposed transportation system including the spread of noxious weeds. [CFLM10008]*

Comment: *The DEIS fully recognizes the issue and concern for the existence and spread of noxious weeds. It is concerning to DNR that the impact of and need to control existing noxious weeds is minimized. There is an apparent assumption that since the disturbed grassland are typically characterized by a high abundance of noxious weeds, that somehow lessens the need to mitigate in these areas including those that have spread to the existing BPA right-of-way. [CFLM10008]*

Comment: *Analyze the long-term impacts from noxious weeds on all lands and consider long term mitigation. [CFLM10008]*

Comment: *Being that protection of sensitive plants and ecological systems are also determined by vigilant programs to reduce the spread of noxious weeds and conversion of undisturbed areas to non-native plant communities, we emphasize the concerns expressed elsewhere in this comment letter for both short-term and long-term mitigation of impacts related to the spread of noxious weeds. [CFLM10008]*

Comment: *The construction of transmission lines and the use of roads also substantially increase the risk of introducing noxious weeds and other undesirable vegetation. It will be critical for BPA to be clear about proposed vegetation management activities that will occur within and outside of the right of way. [CFLM10008]*

Comment: *Concern about weeds (star thistle) around towers. Maintain roads and keep weeds off of road. [CFLM10011]*

Response: As discussed in Section 3.3.2 of the Draft EIS, the possible spread of noxious weeds during construction, operation and maintenance of the transmission line is of concern to BPA. The mitigation measures listed in Section 3.3.3 of the Draft EIS address these concerns for impacts during and following construction. During operation and maintenance of the line, BPA's vegetation management including control of weeds is guided by its Transmission System Vegetation Management Program EIS. Under the Vegetation Management Program EIS, it is BPA's policy to control or contain noxious weeds on its fee-owned properties and, when appropriate, on easement areas. BPA has no control over weed infestations in areas outside of the right-of-way. On fee-owned properties and easement areas, when appropriate, BPA makes every effort to control or contain noxious weeds at four stages of a project: preconstruction,

construction, immediate post-construction, and long-term maintenance. Vegetation management on WDNR-managed lands is discussed further in Appendix J.

Comment: *It is also a concern that, even though the DEIS recognizes the spread of noxious weeds in the new corridor could be reduced but not eliminated, the mitigation measures proposed in Section 3.3.3 do not adequately address the long-term issue of controlling the spread of noxious weeds. The mitigation measures proposed in the DEIS are disproportionately focused on the construction phase and need to include greater mitigation for the long-term operational life of the project. [CFLM10008]*

Response: Comment noted. An additional mitigation measure has been added to Section 3.3.3 of the Draft EIS to reflect that noxious weeds would be mitigated during operation through implementation of BPA's Vegetation Management Program, as coordinated with affected landowners.

Comment: *Discuss the potential development of a cooperative management plan with DNR that reduces noxious, invasive and undesirable species and works towards compatible and native species vegetation where appropriate. [CFLM10008]*

Comment: *Discuss the possible development of cooperative management plans that coordinate DNR's use of herbicides with BPA's on those lands where DNR uses herbicides and minimizes the use of herbicides on lands where DNR does not use herbicides. [CFLM10008]*

Comment: *The potential environmental impacts that may result from potentially conflicting requirements needs to be analyzed in the EIS and reconciled in an agreement between DNR and BPA. [CFLM10008]*

Comment: *Discuss the potential for BPA working with DNR to develop and implement a cooperative management plan to increase native species within the corridor. [CFLM10008]*

Response: See Appendix J for a description of the development of a cooperative management plan between BPA and WDNR with respect to vegetation management on WDNR-managed lands.

Comment: *We acknowledge the additional mitigation measure added to the DEIS to "Comply with all federal, state, and county noxious weed control regulations and guidelines." BPA should also recognize and agree to comply with Forest Practices Title 222 for herbicide applications subject to the Forest Practices Regulations. [CFLM10008]*

Comment: *Commit to voluntarily comply with the requirements of Forest Practices Title 222 WAC for herbicide applications subject to the Forest Practices Regulations. [CFLM10008]*

Response: BPA's herbicide applications for control of noxious weeds are guided by our Transmission System Vegetation Management Program EIS and not the Forest Practices Regulations. However, BPA does incorporate some aspects of the WAC-222 in utilizing Washington Department of Agriculture's certified herbicides for normal and special condition (i.e., aquatics) application.

3.2.5 Recreation

Comment: *Identify existing recreation uses of state lands and analyze the impacts of the proposal on the dispersed recreational uses of state lands. [CFLM10008]*

Response: As discussed in Section 3.4.2 of the Draft EIS and Appendix J of this Final EIS, there are no developed recreation sites, facilities, or trails on WDNR-managed lands that would be crossed under any of the action alternatives. Accordingly, there would be no impact to any WDNR or other Washington state designated recreational facilities or trails from construction or operation of the proposed project. WDNR does allow dispersed recreation, such as hunting, on its parcels in the project area. However, as noted in the Draft EIS, no formal data exists about the levels of dispersed recreation use on the potentially affected private or WDNR-managed lands in the project area. During construction, there could be short-term impacts to dispersed recreation on WDNR-managed parcels if wildlife is temporarily displaced, which results in less available wildlife, thereby diminishing the recreation experience. These potential impacts would, however, be localized and would only occur during construction. As stated in the Draft EIS, there would be no permanent impact to dispersed recreational activities in the project area.

3.2.6 Wildlife

Comment: *Sections 3.3.2 and 3.5.2 discuss the project's impacts to vegetation and wildlife species. The DEIS indicates that impacts to these resources would range from moderate to high for native grasslands and up to moderate impacts to some wildlife species, including golden eagles. In order to further inform the decision maker and public about potential impacts to these resources, it would be beneficial to discuss monitoring results for the existing BPA transmission line corridor which is adjacent to the proposed corridor. If this information is available, the final EIS should include a summary of such monitoring results, note the adverse and positive impacts and discuss implications for the proposed project. [CFLM10009]*

Response: Currently, there is no monitoring information on vegetation and wildlife impacts from transmission lines in this area of eastern Washington. However, as discussed below with respect to wildlife, the vegetation and wildlife analyses presented in the Draft EIS (and updated in Sections 2.3 and 2.4 of this document) use existing information, input from state agencies, and site-specific field surveys to evaluate potential impacts to these resources.

Comment: *The DEIS indicates that several federal and state species of concern also have the potential to occur in the project area (p. 3-30). Given the potential usage of the project area by golden eagles and other species of concern (p. 3-59) and limited use surveys conducted in 2009, it is important to work with USFWS to determine the level of risk to the species and identify ways to reduce the risks. If monitoring data for the existing transmission corridor exist, they would be useful for that conversation as well. We recommend that the final EIS include outcomes of the work with the USFWS. [CFLM10009]*

Response: As discussed in Section 3.5 of the Draft EIS, twelve species with the potential to occur in the project area are currently listed under the Endangered Species Act. Nine are listed as species of concern and three are listed as threatened or candidate: Canada lynx (threatened), yellow-billed cuckoo (candidate), and Washington ground squirrel (candidate). The presence of the Canada lynx, yellow-billed cuckoo, and Washington ground squirrel within the project area is very unlikely. Habitat that would normally support Canada lynx or snowshoe hare, its preferred prey species, is not present in the project area. Large areas of deciduous woodland habitat

preferred by the yellow-billed cuckoo are not present within the project area. Agricultural practices and weed infestations within the project area have decreased availability of potential Washington ground squirrel habitat. No burrows were found during the summer 2010 surveys. Because no threatened, endangered, or proposed listed species were found to be present within the project area, BPA believes it is not necessary to consult with the USFWS for this proposed project.

As noted above, no monitoring information is available on wildlife impacts from transmission lines in this area of eastern Washington. However, information on wildlife resources in the vicinity of the project area, including known and suspected occurrence, was compiled from many sources as part of the wildlife analysis presented in the Draft EIS. These sources included the WDFW PHS database (WDFW 2009d), National Audubon Society (NAS) Important Bird Area (IBA) database (NAS 2009), North American Breeding Bird Survey database (USGS 2009b), The Nature Conservancy (TNC) list of Places They Protect (TNC 2009), Northwest Regional Gap Analysis Project (ReGap) (USGS 2009c), and Watershed Updates by Water Resource Inventory Area (WRIA) (Ecology 2009a). In addition, BPA conducted a general wildlife survey of the proposed transmission line corridors in September 2009. Additional wildlife surveys were conducted in spring 2010 to document the locations and species of all active nests and potential raptor nesting habitat, survey all Priority Habitat and Species (PHS) locations for species of interest as identified by Washington Department of Wildlife (WDFW) (WDFW 2008, 2009a, 2009b), and document all observations or signs of species of concern. Changes to the wildlife analysis presented in the Draft EIS as a result of these surveys are identified in Section 2.2.4 of this document. BPA has also worked closely with WDFW and other state agencies to ensure that potential wildlife issues are adequately addressed. Based on this combination of existing data, site-specific surveys, and coordination with WDFW and other state agencies, BPA believes that the EIS accurately determines the level of risk to potentially affected wildlife species, and mitigation measures designed to eliminate or reduce potential impacts to wildlife are presented in Section 3.5.3 of the Draft EIS.

Comment: *The DEIS states in section 3.5.2; "With implementation of mitigation measures impacts on golden eagles and ferruginous hawks during construction would be moderate for all action alternatives given the known use of the area by those species and their susceptibility to disturbance." We would like to note that given the precariousness of both the Golden eagle and Ferruginous Hawk in Washington State; even a moderate level of disturbance may be significant. [CFLM10006]*

Response: Comment noted. BPA recognizes the sensitive status of golden eagles and ferruginous hawks. Mitigation measures designed to eliminate or reduce potential impacts to raptors and other wildlife species are presented in Section 3.5.3 of the Draft EIS.

Comment: *We would like to acknowledge the effort of BPA to understand and incorporate our concerns regarding the mule deer population within and adjacent to the project area. Section 3.5.2, Environmental Consequences of Action Alternatives, Impacts Common to All Action Alternatives, accurately characterizes that most if not all of the potential adverse issues such as disturbance and displacement, loss of habitat and foraging areas, and impacts to winter range are largely unknown for mule deer in this area. [CFLM10006]*

Response: Comment noted.

Comment: *We don't have any concerns regarding birds, deer or other wildlife. [CFLM10012]*

Response: Comment noted.

3.2.7 Water Resources and Fish

Comment: *The DEIS is unclear whether access roads outside the corridor were included in the surveys and the analysis of impacts to fish and water quality. [CFLM10008]*

Response: The analysis of impacts to fish and water quality included all new access roads that would be constructed for this project, as well as existing access roads that would require improvements. This analysis included roads located outside the proposed right-of-way corridors. Possible impacts to fish and water quality from construction, operation, and maintenance are discussed in Section 3.6.2 of the Draft EIS.

Comment: *The DEIS indicates that water quality may be adversely affected if the project construction alters the hydrology of springs and surface runoff such that erosion carries sediment to nearby waterbodies (p. 3-87). While we recognize that there will be between 970-1610 feet of buffer on either side of the Tucannon River to avoid direct water quality impacts there, the project will cross almost 40 drainages altogether, and the combination of vegetation removal, erosion, and sediment loading could exacerbate conditions in streams on Washington State's list of impaired water bodies due to turbidity and thermal effects. Also please note that antidegradation provisions of the Clean Water Act apply to those waterbodies where water quality standards are currently being met. Thus, we recommend that BPA coordinate with Washington State Department of Ecology and affected Tribes to assure that the state and tribal water quality standards will be met during implementation of the proposed action. [CFLM10009]*

Response: While temporary ground disturbance may occur during construction as discussed on page 3-87 of the Draft EIS, any local slight sediment increases to intermittent streams would be dispersed and settle before reaching any potential downstream streams that may contain fish. As discussed in Section 3.6.2, Fish, all but one of the drainages crossed by the proposed project are intermittent streams with little or no riparian vegetation and no trees. Further, while the new proposed access roads would generally follow the proposed routes, they avoid many of the drainages and would only cross 8 to 15 drainages, depending on the alternative (see Table 3-21 in the Draft EIS).

The Tucannon River is the only perennial water body and the only 303(d) listed waterbody within the project area. As mentioned above and in Section 3.6.2, all construction activities would occur at least 970 feet away from the edge of the Tucannon River. Other than the Tucannon River, the drainages crossed by the action alternatives and their access roads are all intermittent and well upstream of streams that may contain fish.

BPA has consulted with the Washington State Department of Ecology (Ecology) regarding possible impacts to aquatic resources. As discussed in Section 5.4 of the Draft EIS, the Washington State Shoreline Management Act establishes a planning program and regulatory permit system initiated at the local level under state guidance. While Ecology is designated as the lead state agency, local governments exercise primary authority for implementing the Act. Each local government's master program consists of a shoreline inventory and a "shoreline master program" (SMP) to regulate shoreline uses. Columbia County's SMP regulates land uses

impacting shorelines of the state in Columbia County. The proposed transmission facilities would only impact state shorelines if the towers or access roads would be located within 200 feet of them or their associated wetlands. Because the project would comply with Columbia County's SMP, Ecology has not suggested further consultation regarding the proposed project. Section 5.4 of the Draft EIS summarizes BPA's compliance with state laws and regulations with respect to water quality.

The proposed project is not located on a tribal reservation and BPA is therefore not required to consult with tribes regarding tribal water quality standards. However, BPA is coordinating with the Confederated Tribes of the Umatilla Indian Reservation and the Nez Perce Tribe regarding cultural resources that could be affected by the project, as well as any other project concerns that the tribes may have.

Comment: *Since the project anticipates obtaining a National Pollutant Discharge Elimination System (NPDES) permit for planned construction activities likely to disturb up to 361 acres, the final EIS should include updated information on the permit application process and measures to protect water quality. [CFLM10009]*

Response: As discussed in Section 4.15 of the Draft EIS, BPA would obtain an NPDES permit for the proposed project. In the state of Washington, construction stormwater discharges from federal facilities disturbing greater than 1 acre of land and impacting waters of the U.S. are regulated by EPA through the NPDES permitting program. BPA would comply with the appropriate conditions for this project, such as issuing a Notice of Intent to obtain coverage under the NPDES permit and preparing a Stormwater Pollution Prevention Plan. Once the project is completed and the site is stabilized, BPA would notify EPA through a Notice of Termination that the project is stabilized and that no further permit coverage is required.

3.2.8 Visual Resources

Comment: *Thank you for the details on the Central Ferry 500kv route alternatives. I have seen the preliminary staking for the south towers across our farm and I understand the north alternative will be done soon. I can tell you now, neither location is desirable on our farm, however, we would much rather see the north route developed and not the south option. The north route would have a lesser visual impact on our farm and is our preference. [CFLM10004]*

Response: Comment noted.

3.2.9 Cultural Resources

Comment: *The Draft EIS Section addressing Cultural Resources (Section 3.8.) summarizes existing information based upon current literature, the actual on the ground survey is occurring this summer. We are awaiting the results of the professional technical reports and their findings. We would like to reserve our comments until the technical documents and the Section 3.8 text is revised to incorporate the new field data. [CFLM10007]*

Response: Section 3.8 of the EIS has been revised to incorporate results of the 2010 field surveys (see Sections 2.2.3 and 2.2.4 of this Final EIS).

Comment: *The mitigation measures listed on Page 3-107 and 108 appear to be largely focused on the construction phase of the project. DNR is concerned that mitigation of long-term impacts to cultural resources are not clearly identified. The DEIS does not appear to directly address the potential from increased access to increase the risk of impacts to cultural resources in this section. [CFLM10008]*

Response: Potential impacts to various resources, including cultural resources, from increased access and unauthorized use is discussed in Section 3.10.2 of the Draft EIS. As discussed in this section, increased access and use also can potentially disturb cultural resources by the damaging of known or previously undiscovered cultural resource sites or the unauthorized collection of artifacts or other cultural resources. While many of the mitigation measures described in Section 3.8.3 of the Draft EIS refer primarily to construction activities, several of these measures (such as routing roads to avoid known cultural resource sites and designing roads to minimize trespass access) would also be in place during project operation and thus would help mitigate longer-term impacts to cultural resources. In addition, mitigation measures listed in Section 3.10.3 of the Draft EIS include the possible development of a cooperative agreement between BPA and WDNR to address unauthorized access and associated resource impacts on state lands in particular.

Comment: *We applaud BPA for the substantial additional discussion regarding the potential impacts to cultural and other resources that result from unauthorized public access in the Transportation section on p. 3-137. [CFLM10008]*

Response: Comment noted. Thank you.

Comment: *Provide a cross reference that links the mitigation in Transportation noted above to the mitigation proposed on pages 3-107, 108 for mitigating impacts to cultural resources. [CFLM10008]*

Response: Section 3.8.3 of the EIS has been revised to incorporate a cross-reference to mitigation listed in Section 3.10.3 (see Section 2.2.5 of this Final EIS).

Comment: *Although DNR acknowledges and much appreciates the attention given in the DEIS to Unauthorized Public Access on state trust lands and the impacts that can result from unauthorized access including impacts to cultural resources, we are concerned that BPA is not addressing this issue as thoroughly on lands other than state trust lands. [CFLM10008]*

Response: BPA is concerned about unauthorized access on all lands crossed by the proposed project. As discussed in Section 3.10.2 of the Draft EIS, at the request of any landowners whose land would be crossed by access roads for the proposed project, BPA would place gates at the entrances to these access roads to prevent public access to these lands and the project corridor. BPA intends to work with all landowners concerning possible avenues for controlling or minimizing the potential for unauthorized public access and use that could result from the proposed project.

Comment: *The draft EIS indicates that there been contacts with Tribes that may be affected by the proposed project. The final EIS should include a discussion of how issues raised by Tribes were addressed. This is especially important because the DEIS states that possible impacts to traditional cultural properties will not be known until affected tribes have completed their assessment. [CFLM10009]*

Response: The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation have identified potentially eligible TCPs that could be affected by the proposed transmission line project, including sacred and traditional sites. Information on issues raised by the tribes is provided in Section 3.8 of the Draft EIS.

Comment: *At this time am requesting a full cultural study on the proposed project. [CFLM10002]*

Response: A cultural resources inventory of the action alternative corridors was conducted in March 2010. This initial inventory included archival and ethnohistoric/ethnographic research, a review of the Washington Department of Archaeology and Historic Preservation's (DAHP) recently developed site sensitivity model, and fieldwork. Further archaeological field investigations were conducted in sensitive areas in June and August 2010 and consisted of pedestrian and subsurface survey. The results of both surveys have been submitted to DAHP for concurrence. All interested tribes have also been sent the reports. As mentioned above, Section 3.8 of the EIS has been revised to incorporate results of the 2010 field surveys (see Section 2.2.5 of this Final EIS).

Comment: *There is a schoolhouse replica (lat 46.513667, long -118.513021) on top of the hill close to the ranch house. It sits on the site of the original one-room school, which was built over 100 years ago and donated by my Grandfather (Robert Cline). The current replica was constructed with material from the original. We would like to keep the schoolhouse in its present location. [CFLM10012]*

Response: Comment noted. BPA does not propose to move this or any other building within the project area.

3.2.10 Socioeconomics and Public Facilities

Comment: *Although the impacts to the local agriculture economy are expected to be low and short-term, encroachment on DNR lands can have long-term impacts to the revenues produced from these lands and to the beneficiaries of those revenues. [CFLM10008]*

Comment: *Transmission line placement should avoid siting corridors across highly productive or revenue generating trust lands. [CFLM10008]*

Response: BPA proposes to compensate all affected landowners for the long-term use of their lands. As stated in the Draft EIS, this compensation will be negotiated as part of the easement acquisition process. The potentially affected WDNR-managed lands are currently used for agriculture, grazing, or enrolled in the CRP (see Appendix J). The placement of the proposed transmission line across WDNR-managed lands would allow existing land uses to continue largely unaffected. While this placement would also provide an additional source of revenue for state trust beneficiaries, WDNR has indicated that it does not consider the placement of transmission lines across WDNR-managed lands to be a long-term benefit to the lands or the beneficiaries. BPA has worked with WDNR and other potentially affected land managers and owners to minimize the potential impacts of the proposed transmission line. Potential impacts to WDNR-managed lands, as well as proposed mitigation, are discussed further in Appendix J.

Comment: *Unlike other public lands, DNR-managed trust lands cannot be used for the general benefit of the public without full compensation. [CFLM10008]*

Comment: *DNR is legally required to obtain full compensation for any use or encumbrance of state trust lands. [CFLM10008]*

Comment: *BPA commit to paying fair market value for use of trust lands within and also various compensation options for impacts encumbering or restricting activities outside the R/W. [CFLM10008]*

Response: BPA is coordinating with WDNR concerning potential compensation for use of WDNR-managed land for the proposed project. As discussed in Appendix J of the EIS, BPA and WDNR plan to implement an Appraisal MOU for WDNR-managed lands that will provide a mutually acceptable methodology for appraisals of WDNR-managed lands crossed by the proposed project.

Comment: *The Central Ferry-Lower Monumental DEIS p. 3-127 under "General Property Impacts and Compensation and Property Value Impacts" mentions severance only in general terms. [CFLM10008]*

Comment: *Of particular concern are impacts to the two 640 acre parcels of DNR managed trust lands: DNR Parcel 4 and DNR Parcel 1. DNR Parcel 4 is impacted by the North Alternative and Combination B. DNR Parcel 1 is impacted by the North Alternative and Combination A. The proposal bisects the parcels, creating excessive severance. [CFLM10008]*

Comment: *The siting of new transmission lines can result in significant severance and result in lower economic productivity and more environmental impacts. The impacts resulting from the severance of DNR trust lands is particularly apparent in DNR Parcel 1 and DNR Parcel 4. Impacts include:*

- *Reduction of lands available for wind power development*
- *The creation of an unusable strip of land between the old power line and the new*
- *Creation of a new road system. [CFLM10008]*

Comment: *The land use impacts related to severance damages need to be analyzed for the transmission line location in regards to wind tower development, line siting, and mitigation measures within and outside the R/W. [CFLM10008]*

Comment: *To address the long-term issues with the siting of this transmission line, the EIS should analyze . . . the environmental impacts of the severance including impacts to land use. [CFLM10008]*

Comment: *To address the long-term issues with the siting of this transmission line, the EIS should analyze . . . the short and long-term impacts to the trust beneficiaries of the potential reduction in revenue from the severance of trust properties. [CFLM10008]*

Response: The Draft EIS evaluates potential impacts to existing land use within the project area. As discussed in Section 3.2.3 of this FEIS, the EIS does not evaluate impacts to the potential for different types of future land use when no formal proposal has been made and there is no other non-speculative evidence to indicate that such future uses are reasonably foreseeable. In the short term, the placement of a transmission line on WDNR-managed land would generate additional income for trust beneficiaries while allowing existing land uses to continue largely unaffected, likely resulting in a net economic gain to trust beneficiaries.

In the long term, the possibility may exist for the affected parcel(s) to be developed for wind power. However, the likelihood of this occurring is dependent on many factors, including supply of, and demand for, wind and other forms of energy; market capitalization of energy developers and the availability of capital; federal and other subsidies for wind and other competing forms of energy; and the availability of transmission capacity to transport the power to the grid where it can be sold. The placement of a transmission line across WDNR Parcels 1 and/or 4 would directly reduce the land available on those parcels for potential wind development. However, in the case of Parcel 1, the proposed easement would affect a total of 23 acres, approximately 4 percent of the 640 acre parcel. The proposed easement on Parcel 4 would affect a total of 21 acres, about 3 percent of the total parcel.

The placement of the proposed transmission line may also affect the wind development potential for the WDNR land between this line and the existing transmission line to the north, which WDNR in its comments refers to as "severance." These areas would not necessarily be unusable as stated in WDNR's comment, and existing uses would be able to continue uninterrupted. Future types of uses may also be possible and BPA would work with potential future lessees, as appropriate. Sections 3.2, 3.9, and 3.10 of the EIS have been revised to clarify information and impacts from the proposed project related to these areas.

WDNR's concern that placement of the proposed transmission line on WDNR Parcels 1 and 4 would result in "creation of a new road system" is addressed below in Section 3.2.11, Transportation.

Comment: *The presence of the corridor creates increased risk of wildfire through the use and maintenance of the corridor by BPA and through increased public access to the corridor. [CFLM10008]*

Response: The proposed project would be located on lands, primarily dry grassland and agricultural fields, that are susceptible to wildfire, and placement of this project as an addition to the landscape could, therefore, result in an increase in the potential for wildfire. However, this increase in potential would be very small, given that access for operation and maintenance would normally be very limited and BPA would work with landowners to limit unauthorized access to new roads and the right-of-way, as appropriate. Further, as stated in Section 3.11.3 of the Draft EIS, all operation and maintenance vehicles would be required to carry fire suppression equipment including (but not limited to) shovels, buckets, and fire extinguishers.

Comment: *Although the lands impacted by this proposal are not protected by DNR's Fire Protection laws, the potential impacts to lands from the increased risk of wildfire from BPA activities exist and warrant consideration of additional mitigation. To prevent unnecessary risk to life and natural resources it is critical that all fire prevention laws and rules of the state and local government be adhered to by BPA and their contractors during corridor construction, maintenance or use. It is in BPA's interest to take reasonable actions to prevent wildfires that may occur within and adjacent to power line corridors. [CFLM10008]*

Comment: *Include a commitment in the EIS regarding BPA's intent and those of its contractors to voluntarily comply with fire prevention laws. [CFLM10008]*

Response: BPA fully intends to comply with any applicable fire prevention laws and rules during project construction, operation, and maintenance. Regardless of the source of such laws and rules, BPA's overarching objective in this area to take all necessary precautions and measures to avoid causing or contributing to wildfires from its activities. As discussed in Section 3.9.3 of

the Draft EIS, BPA would coordinate with local fire districts and other appropriate emergency responders to develop a Fire and Emergency Response Plan that addresses potential wildland fires and other emergencies.

Comment: *Commit to only burn within the right-of-way and only after obtaining a burning permit from the county fire district. [CFLM10008]*

Response: BPA would not burn within or outside the right-of-way during construction or operation and maintenance of the proposed transmission line.

Comment: *Commit to reimbursement of landowners for the full cost of suppressing any wildfires occurring on the BPA right-of-way or as a result of BPA operations in the area, regardless of cause. [CFLM10008]*

Comment: *Commit to the potential development of a cooperative fire prevention plan with DNR and county fire district prior to construction for the construction phase and for long-term ongoing BPA operation and maintenance activities. [CFLM10008].*

Response: As indicated in Table J-19 of Appendix J, BPA and WDNR propose to develop a mutually agreeable fire prevention and suppression plan that addresses managing and controlling the risks associated with wildland fire due to construction, operation, and maintenance of the transmission line. This agreement may be contained within the Washington Statewide Rights-of-Way Memorandum of Agreement discussed in Appendix J of the EIS.

3.2.11 Transportation

Comment: *Roads can remain on most of Tucannon Ranch. [CFLM10011]*

Response: Comment noted.

Comment: *Road from Starbuck to Tucannon Ranch would need ditch if improved or used for access. [CFLM10011]*

Response: Comment noted.

Comment: *To address the long-term issues with the siting of this transmission line, the EIS should . . . [a]nalyze impacts on transportation systems and patterns by alternative including those required for agricultural and wind power management based upon current and future land uses. [CFLM10008]*

Comment: *When it is farmed, trucks have to use the tops of the ridges to move wheat and other supplies. If I remember correctly, the School House Ridge was used for wheat and fuel trucks. Leaving roadways for future farming is an important consideration. [CFLM10012]*

Response: Potential impacts to the existing transportation system and local traffic patterns during construction, operation, and maintenance of the proposed transmission line are discussed by action alternative in Section 3.10.2 of the Draft EIS. To the extent that they are reasonably foreseeable, transportation system impacts associated with future land uses are considered in

Section 3.14.3, Cumulative Impacts Analysis, of the Draft EIS. As discussed Sections 2.2 and 3.10.2 of the Draft EIS, BPA would cooperate with underlying landowners when using access roads during construction, operation, and maintenance of the transmission line, and the project would not be expected to significantly interfere with access by others to existing or reasonably foreseeable future land uses in the area.

Comment: *By creating a new corridor, separated from the old corridor, the existing road system serving the old corridor does not serve the new corridor. New roads need to be built to serve the new corridor causing environmental damage during construction, permanent reduction of productive acres and a greater potential for erosion and sedimentation in the future. [CFLM10008]*

Comment: *Include analysis and proposed mitigation that addresses all access roads proposed for construction, reconstruction and use within and outside the BPA corridor. [CFLM10008]*

Response: The analysis of the proposed project in the EIS includes potential impacts from all new roads required to access the proposed transmission line, as well as existing access roads that would require improvements, within and outside the proposed transmission line corridors. Mitigation measures proposed in Sections 3.1.3, 3.2.3, 3.3.3, and 3.6.3 of the Draft EIS address the impacts from construction and improvement of all proposed access roads. In addition, Section 3.10 of the EIS has been revised to clarify road and access issues specific to additional new roads for the proposed corridor in areas near existing transmission lines.

Comment: *DNR's road system is a valuable asset to the trusts. Use of the roads by the project proponent contributes to increased road maintenance and replacement needs. DNR wants to ensure BPA contributes fairly to maintenance. [CFLM10008]*

Comment: *Discuss the need to develop and implement a plan for the improvement of substandard access roads, regular maintenance of access roads and abandonment of roads no longer required. [CFLM10008]*

Comment: *Discuss the need to enter into an agreement to jointly maintain mutually beneficial roads that ensures payments by BPA for their use and their need for a permanent transportation system. [CFLM10008]*

Response: As discussed in Appendix J, Table J-19, BPA and WDNR propose to implement a statewide MOA which would include provisions to jointly maintain mutually beneficial roads and ensure payment by BPA for their use of roads on WDNR-managed lands. As discussed and evaluated in the Draft EIS, BPA would improve existing roads for use during construction of the project, as needed. An estimate of the miles of existing road that would need improvement is presented by action alternative in Table 2-2 of the Draft EIS.

Comment: *EIS considerations need to be identified that directly relate to road access outside the right-of-way and sharing of maintenance with respective land owners. [CFLM10008]*

Response: Consideration of project use of roads outside of the proposed transmission line right-of-way is discussed in Sections 2.2 and 3.10.2 of the Draft EIS. BPA would cooperate with underlying landowners for use of access roads outside of the right-of-way, as well as any maintenance needs for these roads.

Comment: *[W]e do acknowledge the proposed mitigation in Section 3.6.3 on p. 3-89 to "Regularly inspect and maintain the condition of access roads, culverts, and sediment control measures to prevent long-term impacts during operation and maintenance.". [CFLM10008]*

Comment: *We also acknowledge the additional discussion and commitment from BPA on p. 3-136 to provide improvements to existing roads and new roads and the mitigation measure on p. 3-140 to obtain Haul Road Agreements that include conditions during construction and operation. [CFLM10008]*

Comment: *We also acknowledge significant additional mitigation listed in Section 3.1.3 Geology and Soils Mitigation Measures regarding roads. Perhaps BPA could cross reference this mitigation to this section. [CFLM10008]*

Response: Comment noted. Section 3.10.3 of the EIS has been revised to incorporate a cross-reference to mitigation listed in Section 3.1.3 (see Section 2.2.6 of this Final EIS).

Comment: *We are particularly concerned about:. . . [t]he environmental impacts associated with the proposed transportation system including . . . the lack of design standards and guidelines for the use, construction, re-construction and abandonment of roads. [CFLM10008]*

Comment: *It is common knowledge that using recognized road guidelines for the design, construction and maintenance of roads reduces environmental impacts. The DEIS does not reference any comprehensive road guidelines. Guidelines must target environmental impacts as well as safety concerns. [CFLM10008]*

Comment: *Considering the significant impacts that access roads can have on the environment, it is necessary and reasonable that BPA declare specific road design parameters and "Best Management Practices" under which they will abide in the design, construction or reconstruction, and maintenance of roads associated with any transmission line proposal. [CFLM10008]*

Comment: *It is a concern to DNR that even though the DEIS recognizes the need to properly construct roads to minimize sedimentation and run-off and prevent road failures due to construction, it does not provide or reference a complete set of road design standards. [CFLM10008]*

Comment: *The EIS should include . . . a description of the road design standards to be used. [CFLM10008]*

Response: Appendix J of this EIS discusses BPA's Access Road Planning and Design Manual. This comprehensive manual, developed in 1987, includes BPA's access road policy and standards regarding the design and construction of access roads. These standards address a wide variety of considerations, including environmental protection and safety requirements. BPA follows this complete set of road design standards whenever it constructs new access roads.

Comment: *Historically, BPA roads have not been designed to minimize their long-term environmental impacts. BPA roads readily degrade creating a variety of environmental issues including erosion leading to sedimentation. [CFLM10008]*

Response: Contrary to the commenter's assertion, there actually is a wide variety of types and conditions of BPA access roads throughout BPA's transmission system, most of which are extremely well designed and maintained. While it may be true that some of BPA's older access

roads (some of which have been in existence for 60 years or more) were not necessarily initially designed with environmental protection as a primary consideration, all BPA access roads designed in the past few decades have included environmental considerations. In fact, consideration of environmental impacts has been an essential part of the road design process since at least 1987, when BPA adopted its Access Road Planning and Design Manual. BPA also is continually working on improving older access roads throughout its access road network to address environmental and other issues as they arise.

Comment: *BPA provide a complete listing and map showing all roads that BPA will potentially construct and any existing roads BPA will use on state lands. [CFLM10008]*

Comment: *Include a reasonable prediction of the amount of use they will sustain and whether that use will be joint or exclusive. [CFLM10008]*

Response: Appendix J of the EIS provides a complete listing and maps of all existing and proposed access roads on state lands. Table J-18 also identifies whether use of these access roads would be joint or exclusive. Typical use of these roads by BPA during construction would include about 50 to 90 trips. For designing the transmission line and access road system, about 20 to 30 trips would be needed. Typical use of these roads by BPA for operation and maintenance would include about 4 to 5 trips per year for access to single lines and about 6 to 8 trips for multiple lines such as the existing BPA lines.

Comment: *Commit to obtaining pre-approval of road design by DNR. [CFLM10008]*

Response: Appendix J of the EIS provides additional information concerning the possible development of a cooperative agreement between BPA and WDNR. This agreement would include a commitment by BPA to coordinate access road design with WDNR on WDNR-managed lands.

Comment: *The EIS should describe "Best Available Science" and "Best Management Practices" in more detail so the reader can understand how access road design will minimize present and future adverse environmental impacts. [CFLM10008]*

Response: The Draft EIS does not use the term "Best Available Science," but Best Management Practices (BMPs) are referenced and described with respect to mitigation measures proposed for Geology and Soils (Section 3.1.3). Additional detail on environmental and other considerations for access road design, including measures specific to WDNR-managed lands, is provided in Appendix J.

Comment: *The DNR has provided in a separate letter regarding "state substantive standards" the link to the 2010 Forest Roads Guidebook. The standards in this guidebook provide BMPs primarily for forest hauling. Although the guidebook is not specifically targeted to the minimum standards required for BPA's use they would serve as a good starting place for BPA to develop standards and could serve as a default until BPA develops standards. [CFLM10008]*

Comment: *Commit to designing and constructing roads as much as practicable to 2010 DNR Forest Road Guidelines (chapter 3) using a civil engineer experienced in road design and*

construction in consultation with a soil scientist including considering the use of geotextiles. [CFLM10008]

Response: As noted above and discussed in Appendix J to this EIS, BPA's access road policy and standards regarding the design and construction of access roads are identified in BPA's 1987 Access Road Planning and Design Manual. BPA would work with WDNR on plans for new roads on WDNR-managed lands (see Appendix J).

Comment: *When corridors cross land, the uses on either side can be severed due to restrictions on road use under the power lines. Landowners may end up building additional road to reach their lands without crossing the power line. [CFLM10008]*

Comment: *If wind power traffic is unable to pass under lines, will more roads need to be built for wind power development access leaving a larger environmental footprint to get around the transmission facilities? [CFLM10008]*

Response: In the absence of a formal proposal or other relatively certain plans, it is not possible to assess the impact that the proposed transmission line could have on access for potential future wind development on WDNR-managed lands. While the presence of a transmission line could affect the movement of large construction equipment because of height restrictions and safety concerns, without a formal proposal it is not possible to say if this would result in additional roads. BPA would work to accommodate future land uses to the extent practicable if wind development or other projects are proposed. Sections 3.2 and 3.10 of the EIS have been revised to clarify the land use and access implications for potential future uses, if proposed, because of the proposed project.

Comment: *DNR acknowledges the substantial additional discussion, in response to DNR concerns on the PDEIS, included on pages 3-137 and 3-138 regarding impacts that result from unauthorized public access and use. We found the discussion to be complete in recognizing the potential impacts to state trust lands. [CFLM10008]*

Response: Comment noted.

Comment: *We acknowledge the additional mitigation to work with DNR concerning development of an agreement to control access and use of state lands and the environmental impacts that can result from the improper use of state lands. [CFLM10008]*

Comment: *We also acknowledge BPA's commitment listed in the Mitigation Measures on p. 3-140 mentioned earlier in this comment letter to work with DNR concerning a possible cooperative agreement for the control of unauthorized public access and use on state lands that could result from the proposed project. [CFLM10008]*

Response: Comment noted. Appendix J of the EIS provides additional information concerning the possible development of a cooperative agreement between BPA and WDNR for the control of unauthorized public access and use of state lands that could result from the proposed project.

Comment: *Survey the easement corridor and clearly mark it so that BPA, contractors, adjacent landowners and the public can clearly recognize when they are within the corridor to*

prevent uncompensated corridor expansion, vegetation management conflicts, and to reduce trespass. [CFLM10008]

Comment: *Survey existing power lines on DNR-managed lands in the vicinity and document unauthorized use and damage to state lands and public resources. Use this survey to predict damage on proposed lines. Include costs to repair or mitigate predicted damage or identify effective mitigation that could be added that would avoid unauthorized use and damage. [CFLM10008]*

Comment: *Design the corridor to prevent trespass. [CFLM10008]*

Comment: *Maintain signs that discourage unauthorized use of the corridor. [CFLM10008]*

Comment: *Pursue legal action against those who habitually trespass. [CFLM10008]*

Response: Section 3.10.3 of the Draft EIS identifies development of a cooperative agreement between BPA and WDNR concerning project-related unauthorized public access and use of state lands as a possible mitigation measure. This mitigation measure identifies various aspects of unauthorized access that could be addressed in the agreement. The actual scope of the agreement would be determined through further discussions between BPA and WDNR.

3.2.12 Noise, Public Health and Safety

Comment: *We would like the transmission lines sited such that there are no health concerns for people who may live in the ranch house. The ranch house is occasionally occupied now. When the CRP contract ends, and the land is again being farmed, the house may be occupied on a full time basis. [CFLM10012]*

Response: The home mentioned by the commenter is approximately 0.8 mile south of the Combination A and South alternatives. Although there are no definitively proven health effects associated with high-voltage transmission lines, concerns are often raised about potential health effects from long-term exposure to magnetic and electric fields generated by such lines, as discussed in Section 3.11 of the Draft EIS. Calculated magnetic and electric peak fields are discussed in Section 3.11.2 of the Draft EIS. These calculated peak values would only be present at locations directly under the line, near mid-span of the conductor, or where the conductors are at minimum clearance. The home mentioned above is not located in any of these locations.

3.2.13 Cumulative Impact Analysis

Comment: *DNR is concerned that limiting the analysis of long-term impacts to TCPs and visual resources is unrealistic and does not adequately assess the potential for cumulative impacts for several elements of the human environment. The argument presented in the DEIS that the time required to indicate that temporary impacts are mitigated somehow provides a surrogate for analyzing the potential for long-term cumulative impacts is fundamentally false. DNR is concerned that this premise does not allow for an adequate analysis of cumulative impacts nor the conclusions asserted in the DEIS for several of the elements of the human environment. [CFLM10008]*

Response: BPA did not intend to imply that the analysis of cumulative impacts in Section 3.14 of the Draft EIS was limited to only TCPs and visual resources. As can be seen throughout Section 3.14.3 of the Draft EIS, the project's potential contribution to cumulative impacts was evaluated for the full spectrum of resources addressed in the EIS. Nonetheless, the expected duration of the project's impact on a particular resource is directly relevant to the project's

anticipated contribution to any cumulative impacts related to that resource. Use of a varying temporal boundary, depending on the resource, for the cumulative impact analysis helps provide the context in which to analyze these cumulative impacts. This boundary also helps to define which reasonably foreseeable future actions are likely to occur and affect the same resource as the proposed action, and thus should be considered in the cumulative impact analysis for that resource.

In order to clarify the use of temporal boundaries in the cumulative impact analysis, the first full paragraph on p. 3-160 of the Draft EIS has been revised. In addition, the temporal boundary information for certain resources in Section 3.14.3 has been updated.

Comment: *The geology and soils discussion about the cumulative impacts related to the project appears to be limited to soils and erosion. DNR is concerned that a complete analysis and assessment of geologic hazards is not evident in the DEIS. A preliminary review by DNR has revealed the potential for risk of geologic hazards along the transmission line proposal. [CFLM10008]*

Response: The discussion of potential cumulative impacts related to geology and soils focuses on soils and erosion because those are the areas where the project could potentially contribute to cumulative impacts. As discussed in Section 3.2.2 of these responses, possible geologic hazards within the project area are discussed in Section 3.1.2 of the Draft EIS. For specific information regarding possible geologic hazards on WDNR-managed lands, see Appendix J of this EIS.

Comment: *DNR is concerned that short and long-term mitigation of cumulative impacts of existing noxious weed infestations on BPA rights-of-way is lacking and long-term mitigation (for) the cumulative impacts of noxious weed infestations on the new right-of-way is not clearly defined. [CFLM10008]*

Response: Potential mitigation for the proposed project's impacts relative to noxious weeds is identified in Section 3.3.3 of the Draft EIS. BPA believes that this mitigation would serve to mitigate both short- and long-term noxious weed impacts potentially resulting from the proposed project.

Comment: *As with BPA's determination that the temporal boundary for a TCP and visual resources is expected to be the life of the project, DNR believes that the temporal boundary for reviewing direct, indirect and reasonably foreseeable future impacts to the management of state trust lands to be the life of the easement. We do not believe the DEIS has adequately identified and disclosed the potential direct, indirect or cumulative impacts to trust land management and to the trust beneficiaries. [CFLM10008]*

Comment: *The cumulative impacts of BPA transmission lines on state trust lands should be addressed. This should include the long-term loss of revenue to the trusts and land use impacts to activities inside and outside the right-of-way that result from vegetation management, safety concerns and other restrictions, unauthorized use, and maintenance and management of roads. [CFLM10008]*

Response: Direct and indirect effects to WDNR-managed and other potentially affected lands are discussed in Chapter 3 of the Draft EIS. Impacts to WDNR-managed lands are also addressed further in Appendix J to this EIS. Text that addresses potential impacts to WDNR trust

beneficiaries is included in Appendix J. The potentially affected WDNR-managed lands are currently used for agriculture, grazing, or enrolled in the CRP (see Appendix J). The placement of the proposed transmission line across WDNR-managed lands would allow existing land uses to continue largely unaffected and would provide an additional source of revenue for state trust beneficiaries.

Cumulative impacts are addressed in Section 3.14 of the Draft EIS. As noted in response to other comments, with the exception of danger trees and some access roads, construction and operation of the proposed project would not affect land use outside the proposed right-of-way. The proposed transmission line could affect the future use of WDNR-managed and other potentially affected lands, but in the absence of any formal proposal or other relatively certain plans, it is not possible to assess the impact that the project will have on these speculative potential uses. BPA is, however, coordinating with WDNR concerning potential compensation for use of WDNR-managed land for the proposed project. In addition, as discussed in Appendix J of the EIS, BPA and WDNR are addressing the statewide effect of BPA's transmission facilities on WDNR-managed lands through statewide agreements between the two agencies. One of these agreements is an Appraisal MOU for WDNR-managed lands that was entered into in August 2010. This Appraisal MOU provides a mutually acceptable methodology for appraisals of WDNR-managed lands crossed by BPA's transmission facilities such as the proposed project. BPA and WDNR are also in the process of negotiating a Statewide Rights-of-Way MOA intended to comprehensively address BPA transmission line operations and maintenance compatibility with trust land management.

Comment: *DNR is concerned that BPA's discussion in the DEIS under Transportation cumulative impacts is limited primarily to the impacts of increased traffic during the construction phase of the project. DNR has identified several additional issues that are not adequately analyzed that are related to the BPA's transportation system. DNR has concerns including the increased risk of unauthorized use of roads and property (in addition to those of state trust lands), spread of noxious weeds, the lack of clear road construction, maintenance and abandonment standards, increased attractive nuisance, and safety. Without an appropriate understanding of direct and indirect impacts and a correct temporal and special boundary, the cumulative impacts analysis will be incomplete. [CFLM10008]*

Response: The additional issues identified by WDNR are addressed by resource in the preceding sections of this comment response chapter. As discussed, BPA believes that the EIS accurately characterizes and assesses the potential direct and indirect effects of the project, and therefore, in accordance with this comment, believes the cumulative impact analysis presented in the Draft EIS is complete. Additional concerns raised by WDNR with respect to the cumulative impact analysis are assessed in Section 3.2.13, and additional information on potential impacts to WDNR-managed lands is presented in Appendix J to this EIS.

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

Comment: *DNR is also concerned with consistency with other state and local agencies standards, policies and plans as DNR is the likely State Environmental Policy Act (SEPA) lead agency for the Central Ferry-Lower Monumental project. [CFLM10008]*

Response: Project consistency with various state and local agency policies and plans are discussed in Chapter 4 of the Draft EIS. Project consistency with the substantive standards of various state agencies is discussed in Chapter 5 of the Draft EIS.

Comment: *Under the DNR Strategic Plan: 2010-2014 "The Goldmark Agenda" goals have been developed to manage State trust lands, including "diversifying and improving our upland asset portfolio and strategies in a sustainable manner". Goal V of this strategic plan requires DNR as trust managers to "Develop renewable energy resources on State lands, address the challenges of climate change, and create renewable energy jobs". The construction, maintenance and operation of a transmission line conflicts with these purposes. BPA's corridor, as currently proposed will frustrate DNR's Strategic Plan and permanently reduce trust management activities occurring inside and outside the right-of-way. DNR is concerned that encumbered lands and lands adjacent to encumbered lands will have negative impacts on the productivity of those lands. Any alternatives that include DNR managed uplands create an adverse impact. [CFLM10008]*

Comment: *To address the long-term issues with the siting of this transmission line, the EIS should . . . indicate how BPA will take actions that are compatible with DNR's Strategic Plan and trust responsibilities. [CFLM10008]*

Comment: *[The EIS should] analyze and more fully define potential trust management activities that are compatible within the right-of-way. [CFLM1-0008]*

Response: Chapter 5 and Appendix J of the EIS provide information on actions that BPA is taking, and would expect to take, to be consistent to the extent practicable with applicable WDNR policies and trust responsibilities. Appendix J also provides an analysis of potential impacts specific to WDNR's trust lands from the proposed project.

Comment: *DNR is cooperating with BPA to help ensure BPA prepares a NEPA Environmental Impact Statement (EIS) that is adoptable under SEPA for all State and local agencies. The EIS must analyze the significant impacts of the proposal to the SEPA defined natural and built environment (WAC 197-11-444) even if there are no substantive standards, policies, or plans addressing them. We are also taking this opportunity to ensure that the basic tenets of NEPA, to protect the human environment, are met. [CFLM10008]*

Response: Comment noted.

3.4 Consistency with State Substantive Standards (Chapter 5)

Comment: *We are pleased that BPA has addressed all of EFSEC's comments and issues identified within the Central Ferry-Lower Monumental PDEIS. All of EFSEC's comments with regards to state substantive standards appear to have been addressed and are included in the DEIS State Agency Comments. No inconsistencies were discovered. [CFLM10003]*

Response: Comment noted. Thank you.

Comment: *We have preliminarily determined that the proposal includes: no State-owned aquatic lands (SOAL), no forest lands regulated by the Forest Practices Act (Chapter 76.09 RCW), and no lands protected under DNR's fire prevention and wildland suppression regulatory authority (Chapter 76.04 RCW.) [CFLM10008]*

Response: Comment noted.

Comment: ***Land Use and Socioeconomics*** *– Add the following:*

RCW 79.10.120 Multiple uses compatible with financial obligations of trust management – Other uses permitted, when; and
Chapter 332-52 WAC Public Access and Recreation [CFLM10008]

Response: Comment noted. These standards have been added to the Land Use and Socioeconomics subsection of Section 5.2 of the EIS, and have been considered in the evaluation of consistency with potentially applicable WDNR policies (see Section 2.3.1 of this Final EIS).

Comment: ***Fish and Wildlife*** *– Add the following:*
DNR will comply with the standards set in DNR's 2010 Forest Roads Guidebook. Roads and their impacts are tied to standards set in DNR's 20101 Forest Roads Guidebook and designed to protect this trust asset and the environment from the impacts of roads. Please refer to the DNR substantive state standards document dated January 19, 2010. [CFLM10008]

Response: Comment noted. This standard has been added to the Fish and Wildlife subsection of Section 5.2 of the EIS, and has been considered in the evaluation of consistency with potentially applicable WDNR policies (see Section 2.3.1 of this Final EIS).

Comment: ***Transportation and Access*** *– Add the following:*
DNR will comply with the standards set in DNR's 2010 Forest Roads Guidebook.
DNR will comply with the standards set in Chapter 332-52 WAC Public Access and Recreation.
Delete the "Draft" preceding the 2010 Forest Roads Guidebook as these are now final. [CFLM10008]

Response: Comment noted. These standards have been added to the Transportation and Access subsection of Section 5.2 of the EIS, and have been considered in the evaluation of consistency with potentially applicable WDNR policies (see Section 2.3.1 of this Final EIS).

3.5 Other Comments and Responses

Comment: *What alternative has the public mostly preferred? [CFLM10011]*

Response: During the July 2010 public meeting and in comments received on the Draft EIS, most commenters identifying a preference expressed preferences for the North and Combination A alternatives.

Comment: *Washington State has joint and several liability laws that result in DNR being more likely to be named in, and damages collected from, a third party lawsuit than BPA. Liability issues also stem from DNR being subject to state law and BPA not being subject to state law. Without a commitment from BPA to follow state law (along with the associated safeguards such as liability that make state law effective), the environmental protections afforded by these laws will not be provided, thereby resulting in additional environmental impacts. [CFLM10008]*

Response: Although BPA does not agree that potential liability issues translate to any potential for environmental impacts other than those already described in the Draft EIS, BPA expects to continue to work with WDNR concerning liability issues and concerns related to BPA's proposed project where it may cross WDNR-managed lands.

Comment: *Identify the BPA contracts where contractors could provide DNR liability protection through the addition of insurance and indemnity requirements and work with DNR's Risk Manager to ensure greater protection for DNR. [CFLM10008]*

Comment: *Analyze the impacts of noncompliance by landowner due to BPA activities with state law or commit to compliance and accept liability. [CFLM10008]*

Response: Information concerning potential unauthorized access and use of the proposed transmission line right-of-way is contained in Section 3.10 of the Draft EIS. As discussed in a response earlier in this section of the responses, BPA expects to continue to work with WDNR concerning liability issues and concerns related to BPA's proposed project where it may cross WDNR-managed lands.

Comment: *The proposed project has the potential to impact resources within the proposed corridor for a long time. Therefore, we recommend that the final EIS describe a monitoring program designed to assess both impacts from the project and the effectiveness of the proposed mitigation measures for the impacts. The document should also indicate how the program would use an effective feedback mechanism to assure environmental objectives would be met throughout the project lifespan. [CFLM10009]*

Response: Pursuant to applicable U.S. Department of Energy NEPA regulations, BPA prepares Mitigation Action Plans for all of its proposed actions for which an EIS is prepared. These Plans, which are completed at or around the time that BPA issues its Record of Decision (ROD) for a project, explain how all mitigation measures will be planned and implemented. In addition, BPA routinely monitors implementation of its proposed projects to assess the accuracy of the EIS impact analysis and the effectiveness of any mitigation measures that are implemented.

Comment: *Option on placing wind turbine expired this year. [CFLM10011]*

Response: Comment noted.

Comment: *We support wind projects in the area and the transmission required to carry the power. [CFLM10011]*

Response: Comment noted. Thank you.

Chapter 4
Comment Letters

This chapter presents copies of the nine comment letters, forms, and e-mails received on the Draft EIS, as well as a summary of the comments from the public meeting held in Dayton, Washington, on July 21, 2010. Correspondence was designated with an identifying number based on the order in which the items were received.

Log No.	**Name/Affiliation**
CFLM 10001	Merle Joelle Jackson
CFLM 10002	Randy Abrahamson
CFLM 10003	Stephen Posner, Washington Energy Facility Site Evaluation Council
CFLM 10004	Mark Zoller, ZMI Joint Venture
CFLM 10006	Michael Ritter, Washington Department of Fish and Wildlife
CFLM 10007	Robert Whitlam, Washington Department of Archaeology and Historic Preservation
CFLM 10008	Leonard Young, Washington Department of Natural Resources
CFLM 10009	Christine Reichgott, U.S. Environmental Protection Agency
CFLM 10011	Public Meeting Comments
CFLM 10012	Cline Frasier

CFLM10001

MERLE JOELLE JACKSON

From: "MERLE JOELLE JACKSON" <JACKSON2696@msn.com>
To: <tmberry@bpa.gov>
Sent: Thursday, July 22, 2010 10:15 AM
Subject: Bonneville Power Administration Proposed Central Ferry-Lower Monumental 500-kV Transmission Line Project

Theresa M. Berry, Project Manager, Thank you and your staff for meeting with me yesterday, July 21, 2010, at the Public Meeting held at the Seneca Activity Center in Dayton Washington. Jackson Estate is strongly in favor of the North Alternative or Combination A routes as it pertains to crossing the lands owned by or leased by our family. We are adamantly opposed to the Southern Alternative as well as the Combination B routes as it would interfere with our farming operations and would require a new infrastructure system. As stated in correspondence given to you at the July 13, 2009 meeting in Starbuck, WA, there are currently two sets of BPA transmission lines that run through our property. In our estimation, placing the proposed new line as close to the existing lines makes perfect sense since the existing lines must be maintained and there is currently access to them. Thank you for allowing us to comment. Sincerely, Merle D. Jackson, Jackson Estate

7/22/2010

Jul 27 10 11:18a Mavis Hill (509)258-69E

CFLM10002

BONNEVILLE POWER ADMINISTRATION

Proposed Central Ferry-Lower Monumental 500-kV Transmission Line Project

"I'd like to tell you . . ."

Comments on the Draft Environmental Impact Statement:

At this Time am Requesting a Full cultural Study on the proposed project.

I need more information about:

I have these other comments:

Name: Randy Abrahamson

Address: Box 100

City: Wellpinit State: WA Zip: 99040

Please mail your comments by **August 16, 2010** to:
BPA Public Affairs - DKE-7
PO Box 14428
Portland, OR 97293-4428.
You may also fax your comments to (503) 230-3285
or submit comments online at www.bpa.gov/comment

CFLM10003

STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL

905 Plum Street SE, PO Box 43172 • Olympia, Washington 98504-3172

Aug 16, 2010

Ms. Tish Eaton
Environmental Coordinator
Bonneville Power Administration
Public Affairs Office
P.O. Box 14428
Portland, Oregon 97293-4428

Dear Ms. Eaton:

Subject: State Agency Comments - Central Ferry-Lower Monumental Draft Environmental Impact Statement

Thank you for the opportunity to review the Central Ferry Lower Monumental Draft Environmental Impact Statement (DEIS). No inconsistencies between state agency comments were discovered. This determination was made after a thorough review and comparison of state agency comments submitted to EFSEC. Copies of state agency comments are enclosed and are being provided to you pursuant to the BPA/EFSEC Work Plan Agreement Section III - EFSEC Work Plan Responsibilities, Part G.

EFSEC Primary Concerns:
We are pleased that BPA has addressed all of EFSEC's concerns and issues identified within the Central Ferry-Lower Monumental PDEIS. All of EFSEC's comments with regard to state substantive standards appear to have been addressed and are included in the DEIS State Agency Comments. No inconsistencies were discovered.

The following state agencies provided comments to EFSEC:

- Washington State Department of Archaeology and Historic Preservation
- Washington State Department of Fish and Wildlife
- Washington State Department of Natural Resources

Thank you again for the opportunity to review the DEIS. Please contact Sonia Bumpus or me if you have any questions concerning this letter.

Sincerely,

Stephen Posner
EFSEC Compliance Manager

Enclosure

CFLM10004

From: Mark Zoller
To: Graeper,James M - TELP-TPP-3
Cc: Berry,Theresa M - TEP-TPP-3; Hildreth,Shannon D - TERR-FRANKLIN; Pappas,Timothy C - TERM-TPP-4
Sent: Thu Jul 08 14:48:35 2010
Subject: RE: ZMI BPA Central Ferry-Lower Monumental 500kV Transmission Project

Thank you for the details on the Central Ferry 500kv route alternatives. I have seen the preliminary staking for the south towers across our farm and I understand the north alternative will be done soon. I can tell you now, neither location is desirable on our farm, however, we would much rather see the north route developed and not the south option. The north route would have a lesser visual impact on our farm and is our preference.

Sincerely,
Mark Zoller
ZMI Ranch
ZMI Joint Venture
Lyons Ferry Rd, Prescott, WA

Mailing address:
P O Box 288
Washougal, WA 98671
Email: mark@mhzoller.com

8/17/2010

CFLM10006

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AUG 09 2010

ENERGY FACILITY SITE EVALUATION COUNCIL

Lower Monumental
Agency DEIS #2

State of Washington
Department of Fish and Wildlife

Mailing Address: 600 Capitol Way N, Olympia WA 98501-1091, (360) 902-2200, TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia WA

MWR-12-10

August 9, 2010

Tish Eaton
Environmental Protection Specialist
Bonneville Power Administration
905 NE 11th Avenue
Portland, OR 97208

SUBJECT: Draft Environmental Impact Statement (DEIS), Central Ferry-Lower Monumental Transmission Line Project

Dear Ms. Eaton:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the above-referenced document and offer the following comments at this time. Other comments may be offered as the project progresses.

The four action alternatives of the proposed 500-kV transmission line project are nearly identical in many of the categories that they are compared across. For example, the number of miles of new transmission line (38-40 miles), new access roads (33-35 miles), acres of ground disturbance (337-361acres), and acres of permanent impacts (178-190 acres) are essentially the same. Since these impacts will traverse 38-40 miles, be occupied by regularly spaced 104-189' high towers connected by transmission lines, and all within a 150-foot wide easement, fragmentation of habitat and migration and movement corridors could be negatively impacted. Therefore, WDFW would prefer the south route for the transmission line. This route has slightly fewer towers, less new road construction, less acreage disturbance, less East Side Steppe priority habitat, and probably slightly less density of mule deer.

The DEIS states in section 3.5.2; "With implementation of mitigation measures impacts on golden eagles and ferruginous hawks during construction would be moderate for all action alternatives given the known use of the area by these species and their susceptibility to disturbance." We would like to note that given the precariousness of both the Golden eagle and Ferruginous Hawk in Washington State; even a moderate level of disturbance may be significant.

We would like to acknowledge the effort of BPA to understand and incorporate our concerns regarding the mule deer population within and adjacent to the project area. Section 3.5.2, *Environmental Consequences of Action Alternatives, Impacts Common to All Action Alternatives,* accurately characterizes that most if not all of the potential adverse issues such as disturbance and displacement, loss of habitat and foraging areas, and impacts to winter range are largely unknown for mule deer in this area.

We look forward to working with all interested parties as this project moves forward to identify mitigation strategies, as well as cooperatively implementing the WDFW mule deer study.

Sincerely,

Michael Ritter

Michael Ritter
Wind Mitigation Biologist

cc: Travis Nelson, WDFW
Tom Schirm, WDFW
Pat Fowler, WDFW
Stephen Posner, EFSEC

CFLM10007

RECEIVED

JUL 07 2010

ENERGY FACILITY SITE EVALUATION COUNCIL

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

July 7, 2010

Lower Monumental
Agency DEIS #1

Ms. Tish Eaton
Environment, Fish & Wildlife
Bonneville Power Administration
PO Box 3621
Portland, Oregon 97208-3621

Re: Central Ferry to Lower Monumental Transmission Project
Log No.: 041410-13-BPA

Dear Ms. Eaton:

Thank you for contacting our department. We have reviewed the Draft EIS you provided for the proposed Central Ferry to Lower Monumental Transmission Line Project in Garfield, Columbia and Walla Walla Counties, Washington.

The Draft EIS Section addressing Cultural Resources (Section 3.8.) summarizes existing information based upon current literature, the actual on the ground survey is occurring this summer. We are awaiting the results of the professional technical reports and their findings.

We would like to reserve our comments until the technical documents and the Section 3.8 text is revised to incorporate the new field data.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
email: rob.whitlam@dahp.wa.gov

cc: S. Posner

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future

CFLM10008

Lower Monumental
Agency DEIS #3

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark – Commissioner of Public Lands

CARING FOR
Your natural resources
...now and forever

RECEIVED
AUG 0 9 2010
ENERGY FACILITY SITE
EVALUATION COUNCIL

August 16, 2010

Tish Eaton
Environmental Protection Specialist
Bonneville Power Administration
905 NE 11th Avenue
Portland, Oregon 97208

RE: DNR Comments on the Central Ferry-Lower Monumental Draft EIS.

Dear Ms. Eaton:

Thank you, for the opportunity to review and comment on the Central Ferry-Lower Monumental Draft Environmental Impact Study (DEIS). Congratulations on a well organized document and thank you for considering and addressing many of DNR's concerns on the Preliminary DEIS. Significant additions have been made by BPA to analyze issues and propose mitigation for:

- Improving roads and for inspecting and maintaining roads to prevent long-term maintenance and operational impacts;
- Incorporation of analysis regarding soil productivity and compaction, and
- Proposed mitigation to control unauthorized public access and the associated impacts.

Our primary concerns at this stage of review are about the impacts to lands and other resources, including State lands managed by DNR. We are particularly concerned about:

- The management and economic impacts of the proposal on current and future land use;
- The presence of potential geologic hazards and the need for a complete analysis of all alternatives for those hazards as they relate to landslides and liquefaction; and
- The environmental impacts associated with the proposed transportation system including the spread of noxious weeds and the lack of design standards and guidelines for the use, construction, re-construction and abandonment of roads.

Alternatives and alternative analysis to mitigate the impacts associated with the potential for geologic hazards along the proposed line and significant impacts to trust land management associated with current and future land use are currently considered gaps in the DEIS analysis.

We are pleased to see that Bonneville Power Administration (BPA) has included an alternative that minimizes impacts to Washington State Department of Natural Resources (DNR) managed lands, the South alternative that avoids state land with the exception of roads to be constructed on one parcel. We encourage BPA to include reasonable alternatives with no impacts to state trust lands. By doing this, you recognize DNR's constitutional obligation to manage these lands for the benefit of the trust beneficiaries, including K-12 school construction and county services.

1111 WASHINGTON ST SE • PO BOX 47000 • OLYMPIA, WA 98504-7000
FAX: (360) 902-1775 • TTY: (360) 902-1125 • TEL: (360) 902-1000
Equal Opportunity Employer

This letter includes DNR's specific concerns regarding the DEIS. The majority of the concerns are directly related to the substantive state standards embedded in the regulatory, proprietary and other natural resource stewardship duties of DNR. A compilation of the Department's standards has been prepared and provided to BPA under a separate letter dated January 19, 2010. The department has many responsibilities including the management of certain public lands as defined in RCW 79.02.01 including federally granted state lands, state forest lands, Natural Area Preserves, Natural Resource Conservation Areas and aquatic lands. DNR also regulates timber harvest activities; provides wild land fire protection on non-federal lands; collects, analyzes, and distributes scientific data about state plants; and provides recreational opportunities. The Washington State Geologist is part of DNR. This position is responsible for maintaining and providing expert information on geologic hazards throughout the state.

Consideration of State and local issues and standards is consistent with National Environmental Policy Act (NEPA) regulations in 40 CFR 1501.1 Purpose (b) in part to coordinate with State and local agencies, 40 CFR 1502.16 Environmental consequences (c) in part to include discussions of possible conflicts with State and local land use plans, policies and controls for the area concerned, and 40 CFR 1500.2 Policy (e) and (f) to avoid or minimize adverse effects of proposals upon the quality of the human environment. This is consistent with the requirement in the 2009 Work Plan Agreement between BPA and Washington Energy Facility Site Evaluation Council (WA EFSEC) for the Central Ferry-Lower Monumental 500-kV Transmission Line Project. "...to be consistent or compatible with state and local substantive standards, environmental or otherwise, to the extent practicable."

DNR is also concerned with consistency with other state and local agencies standards, policies and plans as DNR is the likely State Environmental Policy Act (SEPA) lead agency for the Central Ferry-Lower Monumental project.

DNR is cooperating with BPA to help ensure BPA prepares a NEPA Environmental Impact Statement (EIS) that is adoptable under SEPA for all State and local agencies. The EIS must analyze the significant impacts of the proposal to the SEPA defined natural and built environment (WAC 197-11-444) even if there are no substantive standards, policies, or plans addressing them. We are also taking this opportunity to ensure that the basic tenets of NEPA, to protect the human environment, are met.

SEPA requires sufficient information that discloses the significant adverse environmental impacts of the proposal and alternatives, discusses the effectiveness of possible mitigation measures that would significantly mitigate the impacts, and provides for making a reasoned choice between alternatives.

We have preliminarily determined that the proposal includes: no State-owned aquatic lands (SOAL), no forest lands regulated by the Forest Practices Act (Chapter 76.09 RCW), and no lands protected under DNR's fire prevention and wildland suppression regulatory authority (Chapter 76.04 RCW.) Also, the Natural Heritage Program has no current data indicating

concerns for the proposal area beyond those described in Chapter 3.3 of the DEIS. We do acknowledge and appreciate BPA's commitment to conduct additional surveys in spring and summer of 2010 (DEIS pg.3-37)

State lands managed by DNR are impacted by several of the currently identified alternative routes proposed for the Central Ferry-Lower Monumental Project. DNR manages approximately 1,880 acres of trust uplands along the proposed alternatives, a subset of which could be impacted by the alternatives. They are in four distinct parcels:

DNR Parcel 1 - Section 36, Township 13 North, Range 38 East-640 acres
DNR Parcel 2 Section 16, Township 12 North, Range 37 East-440 acres
DNR Parcel 3- Section 16, Township 12 North, Range 36 East-160 acres
DNR Parcel 4-Section 36, Township 13 North, Range 35 East-640 acres

Of particular concern are impacts to the two 640 acre parcels of DNR managed trust lands: DNR Parcel 4 and DNR Parcel 1. DNR Parcel 4 is impacted by the North Alternative and Combination B. DNR Parcel 1 is impacted by the North Alternative and Combination A. The proposal bisects the parcels, creating excessive severance. The proposal also locates the new line 1,200 feet to one half mile south of an existing transmission line corridor that already severs these parcels. All other things being equal, a new transmission line corridor has greater environmental and economic impacts to adjacent lands than the expansion of an existing corridor. BPA has not included the expansion of the existing corridor as an alternative. DNR believes analysis of the expansion of the existing corridor by placing the new line more adjacent to the existing BPA transmission line corridor is required as a reasonable alternative to adequately address mitigation of impacts to current and future land use.

DNR Parcel 2 is bordered by the corridor in all of the Alternatives and includes proposed road construction.

DNR Parcel 3, along the South route, is enrolled under the Conservation Reserve Program (CRP) that is bisected by the South Alternative and Combination A.

CHAPTER 3.1 Geology and Soils

Geologic Hazards

On Page S-12 it states "An assessment of the proposed project's potential impacts on geology and soils is presented in Section 3.1 of the EIS. Permanent impacts from construction would include some alterations to local topography, but no sensitive or hazardous geologic resources would be impacted."

On Page S-13 Geology and Soils Mitigation Measures, it states "Prior to construction, conduct a detailed geologic hazard assessment for the selected action alternative. This assessment will include a review of geologic maps and aerial photomaps combined with surface condition assessments at each proposed tower location and surrounding terrain. In addition, subsurface information will be obtained from water well logs, material exposed in existing road and stream-cut slopes, and construction/design information from the existing transmission lines in the project

area. Particular attention will be given to on-site evaluation of the slope stability of each proposed tower location. Tower or road locations found to be within previously unidentified active slides, bedrock hollows, or other geologic hazard areas will be relocated outside the limits of these areas."

DNR has data that shows this project crosses several geologic hazards, including unstable slopes, potential Quaternary faults and areas vulnerable to liquefaction. The proposed segments are close to the Central Ferry fault (approximately 1 mile from the eastern terminus of the segments), which could produce localized ground shaking, potentially resulting in landslides and liquefaction. The proposed segments also cross over numerous folds, which could be recent or active faults, such as a blind thrust fault (Table 1). Seismic shaking from local or regional earthquakes could cause liquefaction, which all proposed sections cross, from low to high vulnerable areas (Table 2). Structures built within areas of liquefaction could be at risk of failure or movement. Whereas the proposed sections do not cross over any mapped landslides, the area is covered with numerous bedrock hollows (rule or non-rule defined) and inner gorges (rule or non-rule defined), as defined in Ch. 16 of the Forest Practices Board Manual. Additionally, bluffs along the streams and rivers show mapped landslides and potentially could exist at the locations of the proposed routes.

If mitigation measures are followed as stated, geologic hazards should be identified and mitigated sufficiently. However, such hazards have yet to be identified and the extent or the ability to avoid geologic hazards is unknown. A preliminary study should be conducted to identify the overall geologic hazards in the region. This can be completed by the following:

Requests for additional analysis:
1. The project area has poor mapping for landslides, a detailed study of landslides and landforms that the proposed project crosses would give better information of the potential landslide hazard in the area.
2. Identify unstable slopes using DNR's Shalstab model or through landforms in the Landslide Hazard Zonation projects where available data exists.
3. Identify unstable slope hazards associated with slope modification or vegetation removal at construction areas.
4. Identify seismic shaking potential on the Central Ferry fault and the potential shaking potential of the folds (Table 1) as well as movement potential and liquefaction dangers associated with seismic events. This could be completed by trenching through the fault to map movement events.
5. Identify and consider the following mitigation: Reconsider corridor locations in moderate to high liquefaction sensitive areas by using GIS modeling to identify the least sensitive lands.

Table 1. Segments that Intersect with Faults			
Township and Range	Fault Name	DNR Uplands ?	Segment
T13R36E S31	Fold	No	North
T12R36E S16	Fold	Yes	South
T12R37E S11	Fold	No	Both
T12R38E S2	Fold	No	North
T12R38E S11	Fold	No	South
T13R39E S34	Fold	No	North
T13R39E S35	Fold	No	North
T12R39E S3	Fold	No	South

Table 2. Segments that Intersect with Liquefaction Hazards			
Township and Range	Liquefaction Susceptibility	DNR Uplands ?	Segment
T12R34E S11	Moderate to High	No	South
T13R35E S36	Moderate to High	Yes	North
T13R36E S32,33	Low to Moderate	No	North
T12R36E S2,3,4	Low to Moderate	No	North
T12R36E S2	Moderate to High	No	North
T12R36 S14	Moderate to High	No	South
T12R37E S10,11	Moderate to High	No	Both
T13R40E S29	Moderate to High	No	Both

Impacts related to geologic hazards are tied to standards set in the Geologic Survey Act RCW 43.92. Please refer to the DNR substantive state standards document dated January 19, 2010.

For additional information regarding geologic hazards please contact Isabelle Y.Sarikhan, Hazards Geologist & GIS Analyst at (360) 902- 1425 or Dave Norman, State Geologist at (360) 902-1439.

Chapter 3.2 Land Use

Impacts to state trust lands - Introduction

DNR is the manager of 3 million acres of state trust lands. We are constitutionally and legislatively required to generate revenue in perpetuity for specific trust beneficiaries in addition to providing protection of state and federal threatened and endangered species. Millions of dollars in revenue generated each year provides necessary funds for construction of public schools, universities, prisons, other state institutions, and county services such as libraries, firefighting, and hospitals. Revenue producing activities on state trust lands include sustainable management and harvest of timber and forest products, leasing of agricultural lands (for orchards, vineyards, row crops, dry land crops, and grazing), mineral leases, communication and increased development of wind power sites.

Under the DNR Strategic Plan: 2010-2014 "The Goldmark Agenda" goals have been developed to manage State trust lands, including "diversifying and improving our upland asset portfolio and strategies in a sustainable manner". Goal V of this strategic plan requires DNR as trust managers to "Develop renewable energy resources on State lands, address the challenges of climate change, and create renewable energy jobs".

The construction, maintenance and operation of a transmission line conflicts with these purposes. BPA's corridor, as currently proposed will frustrate DNR's Strategic Plan and permanently reduce trust management activities occurring inside and outside the right-of-way. DNR is concerned that encumbered lands and lands adjacent to encumbered lands will have negative impacts on the productivity of those lands. Any alternatives that include DNR managed uplands create an adverse impact.

We recognize the benefit and necessity of transmission lines to support potential wind power development, however, the transmission line benefits more than just state lands and cannot be justified as a specific benefit to those lands. It should not detract from or supplant the best locations for siting wind towers on DNR managed trust lands. Unlike other public lands, DNR-managed trust lands cannot be used for the general benefit of the public without full compensation.

Restrictions on trust land management - Introduction
On page 3-20 it states "Although construction of the proposed project would result in the development of a new utility corridor, the permanent impacts from construction would be ***low***. The proposed project would not substantially affect overall land use patterns in the project area. BPA would obtain transmission easements for operation of the proposed project on private lands, and would obtain right-of-way grants to cross federal and state lands. Existing land use or ownership would not change along the majority of the transmission line right-of-way, but the new 150-foot-wide transmission line easement that would be required under all action alternatives would encumber the right-of-way area with some land use limitations. Each transmission line easement would specify the present and future right to clear the right-of-way and to keep it clear of all trees, brush, vegetation, crops, other structures, and fire and electrical hazards. Most of the vegetation along the proposed right-of-way is low growing grasslands or agricultural fields; both are generally compatible with transmission lines."

On page 3-21 it states "The placement of transmission line towers and permanent access roads through agricultural lands could lead to fragmentation and less efficient harvesting of agricultural crops. New permanent access roads may also have beneficial impacts in cases where a landowner has need for the access." ..."Impacts under the action alternatives would range from about 0.01 percent to 0.02 percent of the county total, and overall impacts are, therefore, expected to be ***low***. Impacts to prime farmland, if irrigated, would range from 5 to 8 acres, approximately 0.01 percent of land in this classification in the affected counties, and are, as a result, expected to be ***low***."

DNR is concerned that although the impacts to overall land use patterns may be low on a geographic/regional scale, the impacts to trust land management will be high.

- What are the agricultural uses permitted within and outside the proposed right-of-way and any future potential crops and other uses that may be foreclosed? (See following sections for concerns regarding the need for clarity in the DEIS on vertical and horizontal clearances required for management activities.)

Counterpoise restrictions

On page 2-7 it states "Counterpoise would vary from one to six runs of wire that extend up to 250 feet from the tower, with three counterpoise running out from each side of the tower footings. BPA would use 3/8-inch diameter aluminum wire buried 12 to 18 inches deep, except in cultivated areas where it would be buried about 30 inches deep, or deeper where the farmer uses deeper plowing methods."

- How are counterpoise lines installed in relation to other existing UG utilities in the area (wind towers)? Are there above ground locator stakes or signs identifying where these wires are buried and extend parallel to the R/W or at the 45 degree angle from the towers and at right angles from centerline? Can these counterpoise wires be located by underground locator wands easily? What dangers/liabilities might there be if these wires are dug up accidently by the grantor doing normal road maintenance work or replacing culverts, etc?

Clearance restrictions from conductors

On page 2-6 it states "For safety reasons, BPA has established minimum conductor heights above ground and other obstacles which meet or exceed National Electrical Safety Code clearance requirements. For this proposed 500-kV line, standard minimum clearance of the conductor above the ground is 29 feet."

The DEIS Appendix G - Land Owner Guide p.2 describes vegetation heights to be maintained "at least 30 feet of clearance from the top of any vegetation and the lowest point of the BPA wires".

We are concerned that it appears from this language that if the line height to ground is at the 29 foot or 30 foot minimum, then no agricultural activities will be allowed. DNR understands that there will always be site specific situations and applications to fill out, however, minimum clearance standards are necessary to understand the implications on potential land use management activities.

- What environmental review has been done to establish the minimum clearance requirements?
- Describe specifically and incorporate a list or spreadsheet into the EIS identifying minimum conductor clearance distances of bare ground, trees, vegetation, crops, orchards, orchard structures/trellises, vineyards, hop poles, etc. which can be permitted under the line. The EIS should also be clear on the general minimum clearances from the top of the crop or structure to the overhead conductor. The minimum clearance spreadsheet should also include minimum distances and height to line ratios for buildings and in particular wind tower setbacks for construction outside the R/W.

- Is the design clearance of 29' to ground sufficient to safely accommodate operation and passage of farm equipment including combines where this minimum distance exists?
- What minimum clearance is required to accommodate farm equipment, top of equipment to conductor?
- Considering that development for wind power is occurring in the vicinity, is the design clearance sufficient to safely accommodate passage of trucks, equipment and supplies related to wind developments?
- What are the minimum clearance distances for traffic under lines top to bottom of conductor?

Right-of-way width restrictions including setbacks

The following comments refer to the North American Electric Reliability Corporation (NERC) standards referred to on p. S-2 of the DEIS and the Transmission Vegetation Management clearance requirements under Draft 4 FAC-003-2 (June 16, 2010). There are some discrepancies that need to be clarified within the EIS right-of-way width in regards to the proposed NERC standards and the "Active Transmission Line Right of Way" vegetation clearance requirements. On pages 3-7, 3-14, and 3-28 the DEIS states "Notes: 1/ The project corridor, as defined here, includes a 150-foot-wide right-of-way that extends 75 feet either side of the proposed centerline of the action alternatives..." The 150 right-of-way for all alternatives is also discussed on pp. 3-20 and 3-21. In comments BPA submitted to NERC regarding Draft 4 of FAC-003-2, BPA commented on the description of an "Active Transmission Line Right of Way" as follows: *"The distance is reasonable in the table, but due to widely varying designs of structures it does not give a relationship of the outside wire to edge of ROW. It should be noted as outside wire, phase or conductor to edge of ROW."* The table referenced is Table 3 (page 28) of Draft 4 FAC-003-2 and the footnote on page 6. Table 3, Minimum Distance from the centerline of the Circuit to the edge of the active transmission line ROW, defines 87.5' for a 346 to 500 kV transmission line.

- If per the NERC table, 87.5' each side of centerline of the circuit to the edge of the transmission right-of-way reasonably defines the "Active Transmission Line Right of Way" for a 500 kV transmission line, why is BPA proposing to acquire only 75' of right-of-way each side of centerline for the Central Ferry-Lower Monumental project? Furthermore, it appears that BPA's comment above is suggesting this distance should be defined as the distance from the outside wire to the edge of the right-of-way. This could lead to an "Active Transmission Line Right of Way" well in excess of 200' (or estimate to 225'). Why does BPA not meet the right-of-way widths NERC is proposing as the "Active Transmission Line Right of Way"?

DNR is concerned that the DEIS specifies no setback requirement for wind turbines along BPA right of ways. It is our understanding that there are always additional setbacks required between wind towers and transmission lines, particularly for potential ice throw off of the turbines. Setbacks will make a significant difference in the development potential of the lands adjacent to the proposed lines and those lands between transmission line corridors. For example, with a 450' setback (the height of the wind tower) on both sides of the line and the 150' right-of-way corridor, as appeared to be the design requirement on the Big Eddy-Knight East Alternative proposal, a total width of 1,050' would be undevelopable for wind tower construction. This

potentially significant impact to land use is not currently analyzed in the DEIS.

- Considering that failure of structures also has the potential to create outages, does BPA have policies generally limiting the placement of structures and, specifically wind towers, located outside of the right-of-way? For instance, will BPA allow a wind turbine to overhang a BPA right-of-way? Does BPA allow wind towers directly adjacent to its right-of-way, or is there a set-back? If there is a set-back, how does BPA enforce it? And, do the requirements change depending on whether the structures are located before or after the establishment of the BPA transmission line?

Severance Impacts to DNR Managed Trust Lands – (Wind power, road construction and land productivity)

The siting of new transmission lines can result in significant severance and result in lower economic productivity and more environmental impacts. The impacts resulting from the severance of DNR trust lands is particularly apparent in DNR Parcel 1 and DNR Parcel 4. Impacts include:

- Reduction of lands available for wind power development
- The creation of an unusable strip of land between the old power line and the new
- Creation of a new road system

DNR understands that energy transmission facilities are necessary for wind development in the area, but the impacts of the siting of these facilities on potential wind tower locations and development along the corridor must be considered.

The Central Ferry-Lower Monumental DEIS p. 3-127 under "General Property Impacts and Compensation and Property Value Impacts" mentions severance only in general terms. BPA's method and process is not clear for arriving at the need to separate corridors and thereby create severance and additional encumbrances on underlying landowners. One concern appears to be simultaneous outages (p. S-3) and yet the EIS does not analyze how the separation of lines reduces these threats. It is also not clear if the minimum 1200' is a standard or an objective for separation and if a standard how or when it was analyzed through NEPA.

DNR Parcel's 1 and 4 are viable for wind power development with the potential to become some of the highest revenue producing trust land. Landowners adjacent to DNR in the project vicinity have already entered into lease agreements with wind developers and DNR is currently working with Puget Sound Energy to develop state lands. The Central Ferry-Lower Monumental proposed transmission line traverses across prime wind tower location ground over the top edge of the bluff (DNR Parcel 1) thereby reducing or eliminating DNR's ability to develop wind power. Confining the environment footprint by expanding the existing corridor would allow this area to be fully developed. Alternatively, relocating the line more northerly and deeper into the canyon would allow the key wind power area on top of the bluff to be fully developed.

By creating a new corridor, separated from the old corridor, the existing road system serving the old corridor does not serve the new corridor. New roads need to be built to serve the new corridor causing environmental damage during construction, permanent reduction of productive

acres and a greater potential for erosion and sedimentation in the future. Transmission line placement should avoid siting corridors across highly productive or revenue generating trust lands.

When corridors cross land, the uses on either side can be severed due to restrictions on road use under the power lines. Landowners may end up building additional road to reach their lands without crossing the power line. Power lines often have a 14' height restriction for vehicles. Most vehicles associated with wind power development exceed 14'.

The line location in DNR Parcel 4 zigzags, extending down a deep ravine and broken topography in the SE corner of the section thus exaggerating the severance of this section. It is not clear why this configuration was necessary.

- If wind power traffic is unable to pass under lines, will more roads need to be built for wind power development access leaving a larger environmental footprint to get around the transmission facilities?
- The PDEIS acknowledged that concerns were expressed about the impacts of line placement on the potential development of wind resources in the immediate vicinity of the proposed transmission line corridors. DNR is unable to find this language in the DEIS and believes it is important.

Requests for additional analysis:
The land use impacts related to severance damages need to be analyzed for the transmission line location in regards to wind tower development, line siting, and mitigation measures within and outside the R/W. To address the long-term issues with the siting of this transmission line, the EIS should analyze the following issues and discuss the following possible mitigation:

- Include an Alternative that accommodates the new line by expanding the existing corridor.
- Propose and analyze an Alternative that has no negative impacts on state trust lands or indicate how BPA will take actions that are compatible with DNR's Strategic Plan and trust responsibilities.
- Analyze impacts on transportation systems and patterns by alternative including those required for agricultural and wind power management based upon current and future land uses.
- Analyze locations for siting the corridor that ensure the maximum productive use of trust lands within the corridor.
    - Relocating the proposed line more northerly down over the bluff and adjacent/parallel to the existing BPA line corridor in DNR parcel 1 will greatly reduce future land use impacts such as to prospective wind development.
- Analyze BPA's full use or encumbrance of state trust lands inside and outside the right-of-way; DNR is legally required to obtain full compensation for any use or encumbrance of state trust lands.
- Analyze the environmental impacts of the severance including impacts to land use.
- Analyze the short and long-term impacts to the trust beneficiaries of the potential reduction in revenue from the severance of trust properties.

- Analyze and more fully define the extent of restrictions outside of the easement area particularly in areas where the corridor will disallow, limit or increase the cost of agriculture, wind power production, solar energy development, communication sites, residential development, commercial development and recreational use.
- Analyze and more fully define potential trust management activities that are compatible within the right-of-way.
- Analyze if the proposed transmission line placement would impact areas of potential wind development or areas currently being developed and consider mitigation to avoid or minimize using lands with wind power development potential for the transmission line location;
- Identify impacts to lands and property owners along the proposed corridors including lost income from wind generation or other uses that will occur along the transmission line siting;
    - Ensure that no one landowner is being unduly burdened by the transmission line; And that no land owner benefits at the detriment of another, especially for isolated parcels and parcels already encumbered by existing transmission lines.
- Directly address the setback issue and impact to current and future land use especially the impacts on the proposed corridor on wind tower placement due to setbacks from the right-of-way and the resulting loss of land use to the landowner.

Land use impact issues to the State trust lands and the beneficiaries are tied directly to DNR's duties and standards set as a trust manager. Please refer to the DNR substantive state standards document dated January 19, 2010, pages 1-3 and policies embedded in the Real Property Management/Transactions; Transition Lands; and the Agriculture and Grazing Lands Plan.

Furthermore, analysis of land use impacts to the state trusts are tied to the NEPA standards set in NEPA 1969 Title 1 Sec. 101(a) "....and fulfill the social, economic, and other requirements of present and future generations of Americans"; 40 CFR 1501.2(a) "...integrated use of natural and social sciences and the environmental design arts in planning and decision making which may have an impact on human's environment."; and the requirements of 40 CFR 1502.23 which in part requires that a cost-benefit analysis relevant to the choice among environmental alternatives be incorporated by reference or appended to an environmental impact statement or at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.

For additional information regarding analysis of the land use impacts to the state trust beneficiaries please contact Janet Ballew at (360) 902-1685.

Conservation Reserve Program
On page 3-22 it states "BPA plans to consult with the FSA and landowners to determine if construction would affect the CRP status of the land or if special construction or revegetation techniques would be necessary. The following paragraph states "It is assumed that no adjustment would be made to CRP enrollees' annual lease payments, despite the potential for reduction in CRP acres under the action alternatives from the transmission tower footings and access roads."

The following paragraph states "BPA would use existing access roads where possible, but additional access road easements across private and public ownership would also need to be acquired." DNR acknowledges the BPA commitment in the DEIS that for any ground cover destroyed, BPA will restore it to the same type of cover, at no expense to the lessee or to DNR as landowner.

Thank you for the attention given in the DEIS to lands managed under the Conservation Reserve Program (CRP). DNR Parcel 3 is managed under the CRP. Although clear guidelines are presented and responsibility accepted by BPA in the DEIS for impacts to ground cover for lands managed under the CRP program, the DEIS does not acknowledge that any access roads would require an acreage change and that payments would likely be reduced.

Requests for mitigation:

- Acquire in writing, from DNR, prior to any action, permission to disturb ground cover if disturbing lands enrolled in the CRP. This allows DNR, as landowner, to get prior approval for ground disturbance from Farm Service Agency (FSA).
- BPA agreement to compensate DNR for any reduction in CRP acreage compensation received due to BPA's construction of access roads.

The impacts to DNR agriculture and grazing leases are directly tied to standards in leases established under Chapter 79.13 RCW Land leases and to standards set in the DNR's PO08 Agricultural and Grazing Lands Plan Policies. Please refer to the DNR substantive state standards document dated January 19, 2010.
For further coordination regarding the affected parcels your best contact is District Manager, Mark Bohnet at (509) 545-2026 or Matt Fromherz at (509) 925-8510.

CHAPTER 3.3 Vegetation

Noxious Weeds

On page 3-33 it states "Noxious weeds are non-native plant species, designated by federal, state, or county governments. They are highly destructive, competitive, and/or difficult to control and cause ecological and economic damage. Noxious weeds can reduce crop yields, displace native species, and destroy native plant and animal habitat."

On page 3-36 it states "Long-term impacts continue for an extended period of years, or may be permanent (i.e., continue for the life of the project). Long-term vegetation impacts are impacts that prevent the reestablishment of a vegetation community similar to the preconstruction community. .....Long-term impacts would result from placement of transmission tower footings and new permanent access roads."

On page 3-37 it states "Three noxious weed species—yellow-star thistle, rush, skeleton weed, and cultivated rye—are already widespread and abundant along all the action alternative corridors, particularly in disturbed grassland communities. The other six species observed during the September 2009 field surveys (Table 3-14) were occasionally observed along all the action

alternative corridors. The mitigation measures described in Section 3.3.3 would help reduce, but would not eliminate, the potential introduction and spread of noxious weeds in the project corridor."

On page 3-38 it states "Cropland vegetation communities are highly modified communities; however, noxious weed species can impact cropland by reducing crop and pasture production. Construction-related ground disturbance in croplands could increase the potential for noxious weed introduction and spread in cultivated areas that are free of noxious weeds and, therefore, result in a ***moderate*** level of impact. Disturbed grassland communities are typically characterized by a high abundance of noxious weeds and non-native species. Construction-related ground disturbance in these areas would have a ***low*** level of impact."

The following paragraph states "Operation and maintenance activities, including vegetation clearing and vehicular travel on access roads, would likely increase the potential for spread and introduction of noxious weeds in the project corridor. Weed seeds and propagules, including seeds from weed species not currently known from the project corridor, could be brought in on maintenance vehicles. Operational activities would have a ***moderate*** impact on the spread of noxious weeds in areas of native grassland under all action alternatives and in cultivated areas that are free of noxious weeds. Operational activities would have a ***low*** impact on the spread of noxious weeds in disturbed grassland."

The DEIS fully recognizes the issue and concern for the existence and spread of noxious weeds. It is concerning to DNR that the impact of and need to control existing noxious weeds is minimized. There is an apparent assumption that since the disturbed grassland are typically characterized by a high abundance of noxious weeds, that somehow lessens the need to mitigate in these areas including those that have spread to the existing BPA right-of-way.

It is also a concern that, even though the DEIS recognizes the spread of noxious weeds in the new corridor could be reduced but not eliminated, the mitigation measures proposed in Section 3.3.3 do not adequately address the long-term issue of controlling the spread of noxious weeds. The mitigation measures proposed in the DEIS are disproportionately focused on the construction phase and need to include greater mitigation for the long-term operational life of the project.

BPA is responsible for preparing a Supplement Analysis (SA) for vegetative management activities on each of BPA's lines. These SA's are often vague and do not account for complying with state law. Even where BPA may not have to comply with state law, the landowner does.

DNR is subject to weed control laws Weeds Title 17 RCW and to Forest Practices Title 222 WAC for herbicide applications. We acknowledge the additional mitigation measure added to the DEIS to "Comply with all federal, state, and county noxious weed control regulations and guidelines." BPA should also recognize and agree to comply with Forest Practices Title 222 for herbicide applications subject to the Forest Practices Regulations.

Requests for analysis or for additional mitigation in EIS:

- Analyze the long-term impacts from noxious weeds on all lands and consider long term mitigation.
- Discuss the potential development of a cooperative management plan with DNR that reduces noxious, invasive and undesirable species and works towards compatible and native species vegetation where appropriate.
- Discuss the possible development of cooperative management plans that coordinate DNR's use of herbicides with BPA's on those lands where DNR uses herbicides and minimizes the use of herbicides on lands where DNR does not use herbicides.
- The potential environmental impacts that may result from potentially conflicting requirements needs to be analyzed in the EIS and reconciled in an agreement between DNR and BPA.
- Review the May 2000 Transmission System Vegetation Management Program Final Environmental Impact Statement DOE/EIS-0285, and supplements, and identify the vegetation management activities, the land use impacts and environmental impacts that will occur within and outside of the right-of-way.
- Discuss the potential for BPA working with DNR to develop and implement a cooperative management plan to increase native species within the corridor.
- Commit to voluntarily comply with the requirements of Forest Practices Title 222 WAC for herbicide applications subject to the Forest Practices Regulations.

The impacts related to vegetation management are tied to standards set in the DNR's PO 08: Agricultural and Grazing Lands Plan Policies, the Forest Practices Act Title 76.09 RCW and Rules Title 222 WAC, and Weeds Title 17 RCW. Please refer to the DNR substantive state standards document dated January 19, 2010.

For additional information regarding analysis of the impacts from vegetation management activities please contact Jeanne Williams at (509) 925-0963.

Threatened, Endangered, and Sensitive Plant Species

The Washington Natural Heritage Program (WNHP) manages site-specific and species/ecosystem-specific information on priority species and ecosystems; those that are rare or have very limited distribution.

We acknowledge and appreciate the analysis to date in the DEIS including the surveying and screening for state and federally listed threatened, endangered and sensitive plant species. We also appreciate recognition and incorporation of the DNR Natural Heritage Program data into the DEIS analysis. We encourage the inclusion of alternatives that minimize impacts to undisturbed land areas and appreciate the recognition of the importance of minimizing impacts to these undisturbed land areas in the DEIS.

We also acknowledge and appreciate the commitment in the DEIS to complete plant surveys that consider the phenology of the plants in BPA's plans to conduct additional surveys in the spring and summer months of 2010. Being that protection of sensitive plants and ecological systems

are also determined by vigilant programs to reduce the spread of noxious weeds and conversion of undisturbed areas to non-native plant communities, we emphasize the concerns expressed elsewhere in this comment letter for both short-term and long-term mitigation of impacts related to the spread of noxious weeds.

Requests for analysis:

- The proposed timing for conducting field work to identify plants should take into consideration the phenology of the plants for which the surveys are conducted;
- Alternative analyses in the EIS should consider the amount of already disturbed/converted land area compared to undisturbed or relatively intact habitat land area. Undisturbed land should be given higher priority because of the amount of land already disturbed/converted. The shrub-steppe ecosystem continues to be impacted by fragmentation and isolation of the remaining lands in good ecological condition. Routes that minimize/avoid the impact on the remaining relatively undisturbed land areas and avoid significant adverse environmental impacts to these rare plant communities and the shrub-steppe ecosystem should be clearly recognized in the environmental analysis.
- Include the results of the additional surveys committed to by BPA for the spring/summer of 2010 (See page 3-37 and 3-41 Mitigation Measures for T, E&S species), the analysis based on the surveys, and any additional mitigation measures.

Impacts to the Natural Areas and Natural Heritage programs are tied to standards set in the Natural Areas Preserve Act (Chapter 79.70 RCW). Please refer to the DNR substantive state standards document dated January 19, 2010.

For additional information regarding potential impacts related to the Natural Areas and Heritage Program please contact Pene Speaks at (360) 902-1916.

CHAPTER 3.4 Recreation

On page 3-47 the DEIS states that "None of the action alternatives would cross any WDNR or other Washington state designated recreational facilities or trails. WDNR does, however, allow the use of state lands in the project area for hunting, fishing, and other dispersed recreation. Sightseeing and hunting in the general project area are discussed in the following section."

Undesignated and dispersed recreation may exist on any of the DNR-managed lands; however specifics on any undesignated trails are unknown at this time. (For a more complete discussion on DNR's concerns regarding unauthorized public use please refer to comments listed under CHAPTER 3.10 Transportation.)

Request for analysis:

- Identify existing recreation uses of state lands and analyze the impacts of the proposal on the dispersed recreational uses of state lands.

The concern for impacts related to dispersed recreational use on state managed trust lands are

tied to standards in Chapter 79.10 RCW Part 2 Multiple Use and Chapter 332-52 WAC Public access and recreation; and several additional laws listed and linked in the DNR substantive state standards document dated January 19, 2010.

For additional information regarding potential impacts to recreation please contact Mark Mauren at (360) 902-1047.

CHAPTER 3.6 Water Resources and Fish

Water Resources

On page 3-85 it states "Some intermittent waterbodies also could be affected by use and construction of access roads (Table 3-21). Where seasonal flow may occur, culverts of adequate size would be installed to pass water and protect the roadbed from erosion, as well as maintain the natural drainage pattern. During construction, stormwater and sedimentation, along with other potential contaminants, would be controlled by implementation of the SWPPP (see Section 3.1.3 Geology and Soils). If project generated sediment were to reach an intermittent stream, it would have little effect, if any, and likely be indiscernible from existing conditions within a few hundred feet. Therefore, impacts on intermittent water bodies would be ***none to low***."

Fish

On page 3-87 it states "Other than the Tucannon River the stream channels crossed by the action alternatives and their access roads are all intermittent channels well upstream of streams that may contain fish. Any local slight sediment increases to intermittent streams would be dispersed and settle before reaching any potential downstream streams that may contain fish..... Overall ***none to low*** impacts to aquatic resources would occur from clearing and construction of towers and roads."

The DEIS is unclear whether access roads outside the corridor were included in the surveys and the analysis of impacts to fish and water quality. We acknowledge the additional mitigation provided in the DEIS on p. 3-89 to "Regularly inspect and maintain the condition of access roads, culverts, and sediment control measures to prevent long-term impacts during operation and maintenance." (Please refer to comments under CHAPTER 3.10 Transportation for a more complete discussion of DNR concerns regarding roads).

Requests for analysis and/or for consideration in the EIS of possible mitigation:

- Include analysis and proposed mitigation that addresses all access roads proposed for construction, reconstruction and use within and outside the BPA corridor.
- EIS considerations need to be identified that directly relate to road access outside the right-of-way and sharing of maintenance with respective land owners.

For additional information regarding roads concerns please contact Alex Nagygyor at (360) 902-1162.

CHAPTER 3.8 Cultural Resources

On page 3-107 it states "Based on the results of the background search that has been conducted for the proposed project, there would be ***no*** expected impacts to previously identified cultural resources. A cultural resources inventory of the action alternatives will be conducted in the summer of 2010 to confirm these results, and field surveys will be undertaken as needed."

The mitigation measures listed on Page 3-107 and 108 appear to be largely focused on the construction phase of the project. DNR is concerned that mitigation of long-term impacts to cultural resources are not clearly identified. The DEIS does not appear to directly address the potential from increased access to increase the risk of impacts to cultural resources in this section.

However, we acknowledge the commitment listed in the mitigation measures under S.3.2.10 Transportation on page S-27 and again on page 3-140 in response to DNR concerns on the PDEIS to "Work with WDNR concerning a possible cooperative agreement for the control of unauthorized public access and use on state lands that could result from the proposed project. The agreement could address various provisions related to unauthorized access, such as additional measures to be taken to discourage unauthorized use of the project corridor and associated access roads, periodic inspection for unauthorized access and any resulting damage, and repair of any damage from unauthorized access." We applaud BPA for the substantial additional discussion regarding the potential impacts to cultural and other resources that result from unauthorized public access in the Transportation section on p. 3-137.

We also acknowledge the addition of mitigation in the DEIS to notify DNR, if on state lands, cultural resources are discovered during construction activities.

Request for mitigation:

- Provide a cross reference that links the mitigation in Transportation noted above to the mitigation proposed on pages 3-107, 108 for mitigating impacts to cultural resources.

DNR's responsibilities for protecting the integrity of cultural resources are imbedded in state, local and federal laws regarding cultural and archaeological resources and the department's government to government policy for communication with the tribes in the State of Washington.

For additional information regarding the department's responsibility for assessing potential impacts to cultural resources, please contact Lee Stilson at (360) 902-1281.

CHAPTER 3.10 Transportation

Roads

On page 3-136 it states:

"Construction-related traffic impacts are, therefore, with mitigation measures in place, expected to be ***low to moderate.***"...;

"Impacts from access road improvement and use of temporary roads would be ***low***."…;

"Permanent impacts from construction of the proposed project would include construction of new access roads. In areas where existing roads do not provide access to the project corridor, new gravel access roads would be constructed and maintained."…; and

"Operation and maintenance impacts would include use of state, county, and access roads by heavy and light vehicles to perform routine and emergency maintenance to project facilities under all action alternatives. Vehicles would also use access roads to maintain vegetation along the project corridor for safe operation and to allow access to the transmission line corridor."

On page 3-137 it states "Impacts to existing and new access roads would be ***low*** during operation and maintenance as vehicles would only access the project corridor periodically and would not be expected to affect local traffic conditions."

DNR's road system is a valuable asset to the trusts. Use of the roads by the project proponent contributes to increased road maintenance and replacement needs. DNR wants to ensure BPA contributes fairly to maintenance.

Historically, BPA roads have not been designed to minimize their long-term environmental impacts. BPA roads readily degrade creating a variety of environmental issues including erosion leading to sedimentation. It is common knowledge that using recognized road guidelines for the design, construction and maintenance of roads reduces environmental impacts. The DEIS does not reference any comprehensive road guidelines. Guidelines must target environmental impacts as well as safety concerns.

The construction of transmission lines and the use of roads also substantially increase the risk of introducing noxious weeds and other undesirable vegetation. It will be critical for BPA to be clear about proposed vegetation management activities that will occur within and outside of the right of way.

BPA requires a transportation system that allows road access to the corridor twenty-four hours a day, seven days a week and in all seasons. BPA's actual use of that system may be limited, but BPA needs the system in place and functional. That requires constructing roads to a high standard and actively maintaining them. It also requires BPA to work cooperatively with the road owners and users to maintain the system. We acknowledge the additional mitigation to work with DNR concerning development of an agreement to control access and use of state lands and the environmental impacts that can result from the improper use of state lands. We also acknowledge the additional discussion and commitment from BPA on p. 3-136 to provide improvements to existing roads and new roads and the mitigation measure on p. 3-140 to obtain Haul Road Agreements that include conditions during construction and operation.

It is a concern to DNR that even though the DEIS recognizes the need to properly construct roads to minimize sedimentation and run-off and prevent road failures due to construction, it does not

provide or reference a complete set of road design standards. However, we do acknowledge the proposed mitigation in Section 3.6.3 on p. 3-89 to "Regularly inspect and maintain the condition of access roads, culverts, and sediment control measures to prevent long-term impacts during operation and maintenance." We also acknowledge significant additional mitigation listed in Section 3.1.3 Geology and Soils Mitigation Measures regarding roads. Perhaps BPA could cross reference this mitigation to this section.

Considering the significant impacts that access roads can have on the environment, it is necessary and reasonable that BPA declare specific road design parameters and "Best Management Practices" under which they will abide in the design, construction or reconstruction, and maintenance of roads associated with any transmission line proposal.

The DNR has provided in a separate letter regarding "state substantive standards" the link to the 2010 Forest Roads Guidebook. The standards in this guidebook provide BMPs primarily for forest hauling. Although the guidebook is not specifically targeted to the minimum standards required for BPA's use they would serve as a good starting place for BPA to develop standards and could serve as a default until BPA develops standards.

Requests for analysis:

- Analyze the different environmental impacts associated with constructing roads on steep slopes and under different soil conditions.
- The EIS should describe "Best Available Science" and "Best Management Practices" in more detail so the reader can understand how access road design will minimize present and future adverse environmental impacts.

The EIS should include these possible mitigation measures:

- Include a description of the road design standards to be used.
  Other DNR needs:
  - BPA provide a complete listing and map showing all roads that BPA will potentially construct and any existing roads BPA will use on state lands.
  - Include a reasonable prediction of the amount of use they will sustain and whether that use will be joint or exclusive;
  - Commit to designing and constructing roads as much as practicable to 2010 DNR Forest Road Guidelines (chapter 3) using a civil engineer experienced in road design and construction in consultation with a soil scientist including considering the use of geotextiles;
  - Commit to obtaining pre-approval of road design by DNR.
- Discuss the need to develop and implement a plan for the improvement of substandard access roads, regular maintenance of access roads and abandonment of roads no longer required.
- Discuss the need to limit the acres equipment will be used on including considering helicopter installation to minimize damage to soils.

- Discuss the need to enter into an agreement to jointly maintain mutually beneficial roads that ensures payments by BPA for their use and their need for a permanent transportation system.

Impacts to roads are tied to standards set in DNR's Forest Roads Guidebook and designed to protect this trust asset and the environment from the impacts of roads. Please refer to the DNR substantive state standards document dated January 19, 2010.

For additional information regarding roads concerns please contact Alex Nagygyor at (360) 902-1162.

Unauthorized Public Use, Access and Trespass
Power line infrastructure is often highly accessible by the general public and can contribute to unauthorized use and damage to state lands and public resources. Unauthorized use is already occurring on other BPA power lines that exist on DNR-managed lands.

DNR acknowledges the substantial additional discussion, in response to DNR concerns on the PDEIS, included on pages 3-137 and 3-138 regarding impacts that result from unauthorized public access and use. We found the discussion to be complete in recognizing the potential impacts to state trust lands.

We also acknowledge BPA's commitment listed in the Mitigation Measures on p. 3-140 mentioned earlier in this comment letter to work with DNR concerning a possible cooperative agreement for the control of unauthorized public access and use on state lands that could result from the proposed project.

Requests for mitigation:

- Survey existing power lines on DNR-managed lands in the vicinity and document unauthorized use and damage to state lands and public resources. Use this survey to predict damage on proposed lines. Include costs to repair or mitigate predicted damage or identify effective mitigation that could be added that would avoid unauthorized use and damage.
- Design the corridor to prevent trespass.
- Maintain signs that discourage unauthorized use of the corridor.
- Pursue legal action against those who habitually trespass.
- Survey the easement corridor and clearly mark it so that BPA, contractors, adjacent landowners and the public can clearly recognize when they are within the corridor to prevent uncompensated corridor expansion, vegetation management conflicts, and to reduce trespass.

Impacts related to unauthorized use is primarily related to use of roads and the standards set in Chapter 332-52 WAC Public Access and Recreation. The impacts to the roads and the impacts that result from roads are covered in the DNR Roads Guidebook that is designed to protect the roads trust asset and the environment from the impacts of roads. Please refer to the DNR

substantive state standards document dated January 19, 2010.

For additional information regarding unauthorized use please contact Mark Mauren at (360) 902-1047 or Alex Nagygyor at (360) 902-1162.

CHAPTER 3.9 Socioeconomics and Public Facilities

Agriculture and Grazing Leases

There are several existing agriculture and grazing leases potentially impacted by the alternatives. DNR ownership in the following parcels has the identified management activities:

DNR Parcel 1 has a grazing lease with potential wind power development.
DNR Parcel 2 has both an agricultural and a grazing lease.
DNR Parcel 3 has an agricultural lease.
DNR Parcel 4 has a grazing lease with potential wind power development.

On page 3-124 it states "As discussed in Section 3.2 Land Use, temporary construction-related disturbance to agricultural land under the action alternatives would range from approximately 93 acres (Combination A Alternative) to 105 acres (Combination B Alternative). These estimates include disturbance from transmission tower and counterpoise installation, new access road construction, and pulling/tensioning sites. Permanent disturbance to agricultural land from construction, primarily the transmission tower footings and new access road construction would range from approximately 55 acres (Combination A Alternative) to 60 acres (Combination B Alternative). These totals represent a very small share of agricultural land in the three potentially affected counties (1.3 million acres in 2007, see Table 3-31) and the potential impact on the agricultural industry would be ***low***." And

"The introduction of a new transmission line could, however, have detrimental impacts on individual farm operations by reducing the acreage available for cultivation and in some cases disrupting existing harvest patterns, with new transmission line structures affecting the farmer's ability to maneuver equipment in the vicinity of the immediately affected area. BPA would work with individual landowners to try and coordinate the timing of construction to minimize short-term impacts to agriculture."

Although the impacts to the local agriculture economy are expected to be low and short-term, encroachment on DNR lands can have long-term impacts to the revenues produced from these lands and to the beneficiaries of those revenues.

DNR would like to work with BPA to mitigate impacts to existing agriculture and grazing land uses and leases.

Requests for consideration in the DEIS of possible mitigation:

- BPA to agree to abide by the 1989 DNR Agricultural and Grazing lands Policy Plan and related Resource Management Plans for individual parcels during construction and maintenance of the line and access roads over DNR trust lands.

- BPA commit to paying fair market value for use of trust lands within and also various compensation options for impacts encumbering or restricting activities outside the R/W.

The impacts to DNR agriculture and grazing leases are directly tied to standards in leases established under Chapter 79.13 RCW Land leases and to standards set in the DNR's PO08 Agricultural and Grazing Lands Plan Policies. Please refer to the DNR substantive state standards document dated January 19, 2010.

Impacts related to the local agricultural economy are tied to standards set in the National Environmental Policy Act (NEPA) Title 1 Sec.101 (a); NEPA regulations 40 CFR 1501.2(a); and 40 CFR 1502.23. (Please refer to DNR managed uplands section above for more detail about NEPA standards.)

For further coordination regarding the affected parcels your best contact is District Manager, Mark Bohnet (509) 545-2026 or Matt Fromherz at (509) 925-8510.

Protection from Fire

On page 3-125 it states "Columbia County Fire Department District 1 indicated that a lack of water could reduce their effectiveness in combating fires along the proposed routes (Hawks 2009). The combined capacity of the District's two water tender trucks is 5,300 gallons, which would not be adequate to respond to a large fire, and, as a result, the District may need to partner with additional resources or purchase additional water supplies. BPA proposes to mitigate this potential adverse impact (see Section 3.9.3), which is, therefore, considered to be ***low***."

On page 3-131 is the following mitigation measure:

- "Initiate discussions with local fire districts prior to construction and work with the Districts and other appropriate emergency response to develop a Fire and Emergency Response Plan that addresses potential wildland fires and other emergencies."

The presence of the corridor creates increased risk of wildfire through the use and maintenance of the corridor by BPA and through increased public access to the corridor. DNR is responsible for preventing and suppressing wildfires on 12 million acres of public and private forest land. Although the lands impacted by this proposal are not protected by DNR's Fire Protection laws, the potential impacts to lands from the increased risk of wildfire from BPA activities exist and warrant consideration of additional mitigation. To prevent unnecessary risk to life and natural resources it is critical that all fire prevention laws and rules of the state and local government be adhered to by BPA and their contractors during corridor construction, maintenance or use. It is in BPA's interest to take reasonable actions to prevent wildfires that may occur within and adjacent to power line corridors.

Requests for additional mitigation measures:

- Include a commitment in the EIS regarding BPA's intent and those of its contractors to voluntarily comply with fire prevention laws.

- Commit to the potential development of a cooperative fire prevention plan with DNR and county fire district prior to construction for the construction phase and for long-term ongoing BPA operation and maintenance activities.
- Commit to only burn within the right-of-way and only after obtaining a burning permit from the county fire district.
- Commit to reimbursement of landowners for the full cost of suppressing any wildfires occurring on the BPA right-of-way or as a result of BPA operations in the area, regardless of cause.

Consideration of State and local issues and standards is consistent with NEPA regulations in 40 CFR 1501.1 Purpose (b) in part to coordinate with State and local agencies, 40 CFR 1502.16 Environmental consequences (c) in part to include discussions of possible conflicts with State and local land use plans, policies and controls for the area concerned, and 40 CFR 1500.2 Policy (e) and (f) to avoid or minimize adverse effects of proposals upon the quality of the human environment.

For additional information regarding fire protection on DNR lands please contact District Manager Mark Bohnet at (509) 545-2026.

CHAPTER 3.11 Public Health and Safety

On page 3-145 it states "People must also take certain precautions when working or playing near power lines. It is extremely important that a person not bring anything, such as a TV antenna, irrigation pipe or water streams from an irrigation sprinkler, too close to the lines. BPA provides a free booklet that describes safety precautions for people who live or work near transmission lines (see Appendix D, Living and Working Safely Around High Voltage Power Lines). In addition, BPA does not permit any use of the rights-of-way that are unsafe or might interfere with constructing, operating, or maintaining the transmission facilities. These restrictions are part of the legal rights BPA acquires for its transmission line corridors. Landowners might incur delays and redesign or removal costs if they fail to contact BPA for concurrence before planting, digging, or constructing within the transmission corridor."

Based upon BPA's pamphlet "Living and Working Safely Around High-voltage Power Lines," restricted activities include some timber harvest activities, location of buildings and parking lots, recreation facilities, trails and fencing. DNR considers these restrictions, when applied outside of the right-of-way, to constitute an adverse environmental impact to land use and a negative easement[1] that prevents DNR from fully managing state lands. The limitations to landowner activities due to the proximity to power lines have not been addressed.

Request for analysis and mitigation:

- Identify and analyze the specific impacts to existing and future land use from implementing the measures recommended in BPA's pamphlet Appendices D Living and Working Safely Around High-voltage Power lines.

1 An affirmative easement authorizes a use of a landowner's property. A negative easement prevents a landowner from using his/her property.

For standards regarding economic impacts to the beneficiaries of DNR managed uplands please refer to the discussion following CHAPTER 3.2 Land Use earlier in this document.

For additional information regarding analysis of the economic impacts to the state trust beneficiaries please contact Janet Ballew at (360) 902-1685.

CHAPTER 13.14 Cumulative Impacts Analysis

On page 3-160 it states:
"Determining how far into the future to consider actions is based on the impact of the proposed action. Once the impacts are no longer experienced by the affected resource, future actions beyond that need would not be considered. For the purposes of this EIS, the future actions being considered are those that will occur over the time it takes temporary impacts to be mitigated or eliminated. The life of a transmission line is approximately fifty years; however, except for TCPs and visual resources, this is not an appropriate time horizon in which to consider future actions because the impacts from construction of the transmission line are greatly reduced if not eliminated, the impacts from operation and maintenance are minimal, and future actions over that period are speculative in nature. For TCPs and visual resources, consideration of future actions would be for the life of the line because while the line is present, impacts to these resources would potentially be occurring."

We recognize that BPA's goal is to mitigate the potential cumulative impacts related to the proposed transmission line. DNR is concerned that limiting the analysis of long-term impacts to TCPs and visual resources is unrealistic and does not adequately assess the potential for cumulative impacts for several elements of the human environment. The argument presented in the DEIS that the time required to indicate that temporary impacts are mitigated somehow provides a surrogate for analyzing the potential for long-term cumulative impacts is fundamentally false. DNR is concerned that this premise does not allow for an adequate analysis of cumulative impacts nor the conclusions asserted in the DEIS for several of the elements of the human environment:

Geology and Soils

On page 3-164 it states "The proposed project would result in minor alterations to topography within the project corridor, associated with grading and construction of towers and roads. These effects would be localized and limited to the construction footprint of the transmission line. Additionally, soil erosion associated with the proposed project would largely be mitigated by implementation of BMPs during and following construction. The proposed project thus would contribute incrementally, though in a relatively minor way, to this cumulative impact."

The geology and soils discussion about the cumulative impacts related to the project appears to be limited to soils and erosion. DNR is concerned that a complete analysis and assessment of geologic hazards is not evident in the DEIS. A preliminary review by DNR has revealed the potential for risk of geologic hazards along the transmission line proposal. For additional detail on DNR's concerns, please refer to DNR's comments in 3.1 Geology and Soils.

Vegetation

On p. 3-166 it states: "The spatial boundary for the following evaluation is the project corridor (the proposed rights-of-way and new access roads for the action alternatives), because project-related impacts to this resource would primarily occur within this corridor. The temporal boundary for temporary impacts is three years, because that is the time that would be required for most species to reestablish."

"Past and present actions have resulted in extensive changes to vegetative communities within the project corridor. Native vegetative communities in the project corridor and general vicinity have been substantially altered by agricultural conversion, ranching, road construction, and construction of the existing BPA transmission lines and Lower Monumental Substation. These actions have resulted in the removal and permanent conversion of vegetation communities."

"Operation and maintenance activities also have the potential to contribute to this cumulative impact. The potential contribution of the proposed project would, however, be minimized by project-related mitigation measures designed to minimize the acres of new noxious weed infestations and minimize the contribution to cumulative effects of noxious weed colonization in the project area. The proposed project thus would contribute incrementally, though in a relatively minor way, to potential cumulative impacts to vegetation."

DNR is concerned that short and long-term mitigation of cumulative impacts of existing noxious weed infestations on BPA rights-of-way is lacking and long-term mitigation the cumulative impacts of noxious weed infestations on the new right-of-way is not clearly defined. Please refer to DNR comments in Section 3.3 Vegetation for more detail.

Cultural Resources

Although DNR acknowledges and much appreciates the attention given in the DEIS to *Unauthorized Public Access* on state trust lands and the impacts that can result from unauthorized access including impacts to cultural resources, we are concerned that BPA is not addressing this issue as thoroughly on lands other than state trust lands.

Socioeconomics and Public Facilities

On pp. 3-170 and 3-171 it states:
"The spatial boundary for the following evaluation consists of the three counties that would be crossed by the action alternatives (Columbia, Garfield, and Walla Walla counties), because this is the area where the majority of the potential socioeconomic and public facility impacts are expected to occur. The temporal boundary is three to five years based on the general planning timeframes established for the affected counties under their respective county plans.
Past actions that have affected socioeconomic in the project vicinity include construction and operation of the lower Snake River dams, agricultural activities, highway and railroad construction, construction and operation of the existing BPA transmission lines and the Lower Monumental Substation, commercial and residential development, and, more recently, construction of the Hopkins Ridge and Marengo (I and II) wind energy facilities. Present and

ongoing activities in the immediate project vicinity include agricultural land uses, primarily crop production and livestock grazing. Reasonably foreseeable future actions in the vicinity of the proposed project include ongoing agricultural activities, construction of the Central Ferry Substation, and the development of wind energy facilities and associated electric transmission infrastructure."

As with BPA's determination that the temporal boundary for a TCP and visual resources is expected to be the life of the project, DNR believes that the temporal boundary for reviewing direct, indirect and reasonably foreseeable future impacts to the management of state trust lands to be the life of the easement. We do not believe the DEIS has adequately identified and disclosed the potential direct, indirect or cumulative impacts to trust land management and to the trust beneficiaries. For additional detail on the impacts that DNR believes necessary to anticipate please refer to the previous sections: Land Use, Vegetation, Water Resources and Fish, Cultural Resources, Socioeconomics and Public Facilities, Transportation, Noise, Public Health and Safety.

State trust lands have been heavily encumbered over the years by public projects such as transmission lines, dams, state and federal highways and pipelines. These lands have been preferred to other federal, state and private lands because they tend to be lower value because they are undeveloped, they are often in large blocks allowing more corridor length to be obtained from fewer landowners and DNR has traditionally had an easier process than other government landowners. DNR lands are currently encumbered with over 800 BPA easements. These are lands where the state has been compensated for the original encumbrance but continues to be negatively impacted by the corridor. Uncompensated costs include administrative time, maintenance of jointly used roads, resource damage from unauthorized use and reductions on the productivity of lands adjacent to the corridor.

BPA is proposing to "double the encumbrance" for this transmission line to meet the need of increased reliability. For this project, state trust lands are already encumbered by the existing lines.

The cumulative impacts of BPA transmission lines on state trust lands should be addressed. This should include the long-term loss of revenue to the trusts and land use impacts to activities inside and outside the right-of-way that result from vegetation management, safety concerns and other restrictions, unauthorized use, and maintenance and management of roads. For additional detail on the impacts to state trust lands, please refer to DNR's comments under CHAPTER 3.

Transportation
On pp. 3-171 and 3-172 it states:
"The temporal boundary is expected to be limited to project construction, because operation of the proposed project would not be expected to noticeably affect local transportation patterns."

"With mitigation in place, including the use of flaggers, signage, and traffic reroutes, where necessary, potential cumulative impacts to roads would be reduced. The proposed project thus

would contribute incrementally, though in a relatively minor way, to potential cumulative impacts."

DNR is concerned that BPA's discussion in the DEIS under Transportation cumulative impacts is limited primarily to the impacts of increased traffic during the construction phase of the project. DNR has identified several additional issues that are not adequately analyzed that are related to the BPA's transportation system. DNR has concerns including the increased risk of unauthorized use of roads and property (in addition to those of state trust lands), spread of noxious weeds, the lack of clear road construction, maintenance and abandonment standards, increased attractive nuisance, and safety. Without an appropriate understanding of direct and indirect impacts and a correct temporal and special boundary, the cumulative impacts analysis will be incomplete. For additional detail please refer to 3.3 Vegetation, 3.6 Water Resources and Fish, 3.8 Cultural Resources, and 3.10 Transportation.

CHAPTER 5 Consistency with State Substantive Standards

The department recognizes and appreciates the additional specific references included in this section. Consistency with DNR's substantive state standards is the umbrella that will largely ensure adequate mitigation for DNR's concerns. Adherence to DNR's standards can intercept the potential short and long-term impacts to the natural and human environment.

The following lists some of the additional standards that DNR would like BPA to consider as the NEPA environmental review for this proposal moves forward. This list may not be comprehensive but largely falls within the Substantive State Standards letter submitted to BPA January 19, 2010.

In addition to the policies specifically listed in the DEIS and below, please refer to the DNR substantive state standards document dated January 19, 2010, pages 1-3 and policies embedded in the Real Property Management/Transactions; Transition Lands; and the Agriculture and Grazing Lands Plan.

Land Use and Socioeconomics
Add the following:
RCW 79.10.120 Multiple uses compatible with financial obligations of trust management – Other uses permitted, when; and
Chapter 332-52 WAC Public Access and Recreation

Fish and Wildlife
Add the following:
DNR will comply with the standards set in DNR's 2010 Forest Roads Guidebook. Roads and their impacts are tied to standards set in DNR's 20101 Forest Roads Guidebook and designed to protect this trust asset and the environment from the impacts of roads. Please refer to the DNR substantive state standards document dated January 19, 2010.

Transportation and Access
Add the following:
DNR will comply with the standards set in DNR's 2010 Forest Roads Guidebook.
DNR will comply with the standards set in Chapter 332-52 WAC Public Access and Recreation.
Delete the "Draft" preceding the 2010 Forest Roads Guidebook as these are now final.
For additional discussion on roads please refer to comments listed under Chapter 3-10 Transportation and access.

OTHER CONCERNS:
LIABILITY
Washington State has joint and several liability laws that result in DNR being more likely to be named in, and damages collected from, a third party lawsuit than BPA. Liability issues also stem from DNR being subject to state law and BPA not being subject to state law. Without a commitment from BPA to follow state law (along with the associated safeguards such as liability that make state law effective), the environmental protections afforded by these laws will not be provided, thereby resulting in additional environmental impacts.

Request:

- Identify the BPA contracts where contractors could provide DNR liability protection through the addition of insurance and indemnity requirements and work with DNR's Risk Manager to ensure greater protection for DNR.
- Analyze the impacts of noncompliance by landowner due to BPA activities with state law or commit to compliance and accept liability.

Impacts related to DNR liability protection are tied to DNR's duties and standards set as trust manager and to the legal requirements of complying with State law. Please refer to the DNR substantive state standards document dated January 19, 2010. These impacts are also tied to the NEPA standards for considering economic impacts listed above under Land Use, i.e., 40 CFR 1502.16(c), 40 CFR 1500.02(e) and (f) and the requirement in the Work Plan Agreement between BPA and WA EFSEC for The Central Ferry-Lower Monumental Project.

For additional information regarding liability protection please contact Jim Smego at (360) 902-1264.

SEPA/NEPA
Consideration of "substantive state standards" and a thorough discussion in the NEPA EIS regarding the consideration, avoidance and mitigation of the potential environmental impacts noted in this letter for the Central Ferry-Lower Monumental Transmission Line Project should facilitate an adequate EIS for SEPA adoption while also meeting NEPA standards. New information that may become apparent regarding potentially significant adverse impacts will need to be considered by BPA as the NEPA process moves forward and the proposal is refined.

In order to minimize the risk of the need for any new substantive analysis, DNR must help to ensure through ongoing cooperation and communication with BPA that the NEPA EIS is

adoptable under SEPA for all State and local agencies. The NEPA EIS must analyze the significant adverse impacts of the proposal to the SEPA elements of the natural and built environment (WAC 197-11-444) even if there are no substantive standards, policies, or plans addressing them. SEPA requires sufficient information that discloses the significant adverse environmental impacts of the proposal and alternatives, discusses the effectiveness of possible mitigation measures that would significantly mitigate the impacts, and provides for making a reasoned choice between alternatives.

Impact analysis and coordination of SEPA and NEPA requirements are tied to standards set in the State Environmental Policy Act RCW 43.21C and the National Environmental Policy Act.

For additional information regarding SEPA/NEPA coordination and compliance please contact Dave Dietzman at (360) 902-1672.

Sincerely,

L. S. Young

Leonard Young
Department Supervisor

cc: Stephen Posner, EFSEC

CFLM10009

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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

Theresa M. Berry
Project Manager
Bonneville Power Administration - TEP-3
P.O. Box 3621
Portland, Oregon 97293-3621

Subject: Comments on the DEIS for Central Ferry-Lower Monumental Power Transmission Line Project (EPA Project # 09-031-BPA)

Dear Ms. Berry:

The U.S. Environmental Protection Agency (EPA) has reviewed the Bonneville Power Administration (BPA) Draft Environmental Impact Statement (DEIS) for the proposed **Central Ferry-Lower Monumental Transmission Line Project** (CEQ# 20100239) in Garfield, Columbia, and Walla Walla Counties, WA in accordance with the National Environmental Policy Act (NEPA) and §309 of the Clean Air Act (CAA). Section 309 of the CAA requires EPA to review and comment in writing on the environmental impacts associated with all major federal actions. Under our policies and procedures, we also evaluate the document's adequacy in meeting NEPA requirements.

The DEIS analyzes potential environmental impacts associated with a proposal to construct, operate, and maintain a single-circuit 500-kV transmission line that would extend from the proposed Central Ferry Substation in Garfield County to the existing Lower Monumental Substation in Walla Walla County, WA. This transmission line corridor would be 38-40 miles long and 150 feet wide and would cross both state and private lands used predominantly for crops and grazing. Other project infrastructure includes 167-178 lattice steel towers that would be sited on a half acre area each. The project is needed to increase power transmission capacity in southeast Washington area where power generation and requests for interconnection to the federal grid continue to exceed existing capacity. Analysis of the project impacts considered four routing alternatives and a No Action. The DEIS does not identify a Preferred Alternative.

We note with appreciation that the DEIS addresses many of the issues we raised during the project scoping period in August 2009, including analysis of cumulative and climate change effects. Overall, most impacts by the project would be due to construction activities, which would generate both temporary and permanent impacts. In particular, EPA is concerned about the project's potential impacts to water quality, land use and farmlands, and other resources as discussed below.

Water quality

The DEIS indicates that water quality may be adversely affected if the project construction alters the hydrology of springs and surface runoff such that erosion carries sediment to nearby waterbodies (p. 3-87). While we recognize that there will be between 970-1610 feet of buffer on either side of the Tucannon River to avoid direct water quality impacts there, the project will cross almost 40 drainages altogether, and the combination of vegetation removal, erosion, and sediment loading could exacerbate conditions in streams on Washington State's list of impaired water bodies due to turbidity and thermal effects. Also please note that antidegradation provisions of the Clean Water Act apply to those waterbodies where water quality standards are currently being met. Thus, we recommend that BPA coordinate with Washington State Department of Ecology and affected Tribes to assure that the state and tribal water quality standards will be met during implementation of the proposed action.

Since the project anticipates obtaining a National Pollutant Discharge Elimination System (NPDES) permit for planned construction activities likely to disturb up to 361 acres, the final EIS should include updated information on the permit application process and measures to protect water quality.

Land use and farmland impacts

The DEIS indicates that more than half of the project corridor would involve lands that have been designated as prime farmland, and lands managed under the Conservation Reserve Program (CRP) (Table 3-7, p. 3-16). Even though some areas would be disturbed temporarily and be restored afterwards, other areas would be impacted permanently. Depending on the routing alternative selected, such permanent impacts to farmlands would involve 178 – 189.5 acres, while temporary impacts would affect up to 361 acres (p. S-15). The Farmland Protection Policy Act (FPPA) includes prime farmland, unique farmland, and land of statewide or local importance (see http://www.nrcs.usda.gov/programs/fppa/). Farmlands that are contiguous to sensitive areas, such as floodplains, wetlands, and aquifer recharge zones play important roles in buffering these areas from development and should be protected. Thus, the FPPA seeks to assure that federal actions are designed in a manner compatible with state and local policies and programs to protect farmlands.

Because of potential impacts to farmlands and subsequent loss of crops and wildlife habitat, we recommend BPA coordinate with the Natural Resources Conservation Service (NRCS) and/or USDA Service Center and the Farm Service Agency in assessing the project impacts to farmlands, including loss of CRP lands and determining measures to be followed to avoid and minimize any significant impacts to farmlands. The final EIS should include information about NRCS analysis and rating of the potential impacts, and what will be done to restore farmlands and compensate landowners for losses incurred due to the project.

Vegetation and Wildlife

Sections 3.3.2 and 3.5.2 discuss the project's impacts to vegetation and wildlife species. The DEIS indicates that impacts to these resources would range from moderate to high for native grasslands and up to moderate impacts to some wildlife species, including golden eagles. In order to further inform the decision maker and public about potential impacts to these resources, it would be beneficial to discuss monitoring results for the existing BPA transmission line corridor which is adjacent to the proposed corridor. If this information is available, the final EIS should include a summary of such monitoring results, note adverse and positive impacts and discuss implications for the proposed project.

The DEIS indicates that several federal and state species of concern also have the potential to occur in the project area (p. 3-30). Given the potential usage of the project area by golden eagles and other species of concern (p. 3-59) and limited use surveys conducted in 2009, it is important to work with the USFWS to determine the level of risk to the species and identify ways to reduce the risks. If monitoring data for the existing transmission corridor exist, they would be useful for that conversation as well. We recommend that the final EIS include outcomes of the work with the USFWS.

Consultation with Tribal Governments

The draft EIS indicates that there have been contacts with Tribes that may be affected by the proposed project. The final EIS should include a discussion of how issues raised by Tribes were addressed. This is especially important because the DEIS states that possible impacts to traditional cultural properties will not be known until affected tribes have completed their assessment.

Monitoring

The proposed project has the potential to impact resources within the proposed corridor for a long time. Therefore, we recommend that the final EIS describe a monitoring program designed to assess both impacts from the project and the effectiveness of the proposed mitigation measures for the impacts. The document should also indicate how the program would use an effective feedback mechanism to assure environmental objectives would be met throughout the project lifespan.

Based on the concerns discussed above, we are assigning a rating of EC-2 (Environmental Concerns – Insufficient information) to this DEIS. A copy of the rating system used in conducting our review is enclosed for your reference.

We appreciate the opportunity to provide comments on the DEIS. If you have questions about our comments, please contact me at (206) 553-1601 or Theo Mbabaliye of my staff at (206) 553-6322.

Sincerely,

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

Enclosure:
U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

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.

Central Ferry – Lower Monumental Proposed Transmission Line Project
Public Meeting Comments
July 21, 2010

- Prefers North Alignment (Combo A).
- Prefers access via Riveria Road.
- No advantage to leaving permanent access roads.
- Combo A-3 towers in CRP land.
- Five towers in cultivation.
- Option on placing wind turbine expired this year.
- South Alternative appears to impact state lands the least.
- All routes affect our property the same. Would like to see the route through less agricultural (cultivated) land.
- Concern about weeds (star thistle) around towers. Maintain roads and keep weeds off of road.
- Roads can remain on most of Tucannon Ranch.
- Road from Starbuck to Tucannon Ranch would need ditch if improved or used for access.
- Tower located outside cultivated land in CRP area. CRP has to be 60' swath. CRP contract plants ½ acre for animals.
- Wants north alternative because south has a lot more fields cultivated.
- Don't affect the wind turbine locations.
- How long would it take to build the line?
- What alternative has the public mostly preferred?
- We support wind projects in the area and the transmission required to carry the power.
- I support the project. We need more transmission capacity for the economic development. I like the North Alternative.
- Can't live with the South Alternative.

CFLM10012

From: Cline Frasier
To: Berry,Theresa M - TEP-TPP-3
Cc: Bob Cline ; Gretchen Frasier ; Bob Rygg ; Mary Ann Sande
Sent: Fri Sep 03 07:33:21 2010
Subject: Comments regarding the Central Ferry Lower Monumental Line Project

Theresa,
My apologies for not getting comments in by the August date. I hope the following are helpful.

My family owns the Cline Clyde Ranch property located on Hair Rd, just off Lower Monumental Rd. The Ranch house is located at:
Lat 46.51595, Long -118.51323

The current owners of the property are:
Roberta Anderson
Robert Cline
Robert Rygg
Larry Rygg
Mary Ann Sande

I am Roberta Anderson's son and the designated manager for the property.

While we generally support transmission lines, we would like to have the following considered in the siting of the lines and towers:

- There is a schoolhouse replica (lat 46.513667, long -118.513021) on top of the hill close to the ranch house. It sits on the site of the original one-room school, which was built over 100 years ago and donated by my Grandfather (Robert Cline). The current replica was constructed with material from the original. We would like to keep the schoolhouse in its present location.
- The land is currently in the Conservation Reserve Program (CRP), through 2012. We want there to be minimal impact of the towers on future use of the land for wheat farming.
    - When it is farmed, trucks have to use the tops of the ridges to move wheat and other supplies. If I remember correctly, the School House Ridge was used for wheat and fuel trucks. Leaving roadways for future farming is an important consideration.
- We are concerned that there be no increase in erosion, during construction and after the towers are finished.
- We would like the transmission lines sited such that there are no health concerns for people who may live in the ranch house. The ranch house is occasionally occupied now. When the CRP contract ends, and the land is again being farmed, the house may be occupied on a full time basis.
- We expect that in the near future it will be feasible to site wind generation turbines on the land. We would like to have the transmission towers, and lines, sited to retain as much wind generation potential as possible.

We don't have any concerns regarding birds, deer or other wildlife.

Cline Frasier
--
Cline Frasier
PO Box 872167
Vancouver, WA 98687-2167
978-405-0128 (cell 978-290-0387)

Appendix A

Vegetation Species Documented During the Fall 2009 and Spring/Summer 2010 ~~General~~ Vegetation Surveys

Table A-1
Vascular Plant Species Encountered in the Study Area
in the Fall 2009 and Spring/Summer 2010 ~~General~~ Vegetation Surveys

Scientific name	Common name	Native/ Non-native
Abronia spp	sand verbena	native
Achillea millefolium	yarrow	native
Aegilops cylindrica	jointed goatgrass	non-native
Agoseris heterophylla	large-flowered agoseris	native
Agropyron cristatum	crested wheatgrass	non-native
Agrostis exarta	spike bentgrass	native
Agrostis variabilis	mountain bentgrass	native
Allium cf. *acuminatum*	taper-tip onion	native
Alnus rhombifolia	white alder	native
Amaranthus albus	prostrate pigweed	non-native
Amorpha fruticosa	false indigo; river-locust	non-native
Amsinckia sp.	fiddleneck	native
Antennaria dimorpha	low pussytoes	native
Anthriscus caucalis	burr chervil	non-native
Arenaria capillaris	slender mountain sandwort	native
Aristida purpurea	red threeawn	native
Artemisia absinthium	absinth wormwood	non-native
Artemisia ludoviciana	white sagebrush	native
Artemisia tridentata	big sagebrush	native
Asperugo procumbens	catchweed	non-native
Astragalus purshii	woolly-pod milk-vetch	native
Astragalus spaldingii	Spalding's milk-vetch	native
Avena spp.	oat	non-native
Balsamorhiza cf. *sagittata*	Arrow-leaf balsamroot	native
Bromus diandrus (B. rigidus)	great brome	non-native
Bromus hordeaceus ssp. *hordeaceus* (*B. mollis*)	soft brome/smooth brome	non-native
Bromus tectorum	cheatgrass	non-native
Calachortus macrocarpus	sagebrush mariposa lily	native
Centaurea cyanus	bachelor's button	non-native
Centaurea diffusa	diffuse knapweed	non-native
Centaurea solstitialis	yellow starthistle	non-native
Chaenactis douglasii	Douglas' dustymaiden	native
Chenopodium album	lambsquarters	non-native
Chondrilla juncea	rush skeletonweed	non-native
Chorispora tenella	crossflower	non-native
Chrysothamnus viscidiflorus	green rabbitbrush	native
Cichorium intybus	chicory	non-native
Cirsium arvense	Canada thistle	non-native
Cirsium undulatum	wavy-leaf thistle	native
Claytonia perfoliata	miner's lettuce	native
Clematis ligusticifolia	western white clematis	native
Collinsia parviflora	small-flowered blue-eyed mary	native
Cicuta douglasii	western water-hemlock	native

Table A-1 continued

Scientific name	Common name	Native/Non-native
Collomia cf. *grandiflora*	grand collomia	native
Conium maculatum	poison hemlock	non-native
Convolvulus arvensis	field bindweed	non-native
Conyza canadensis	horseweed	native
Cryptantha ambigua	basin cryptantha	native
Cryptantha flaccida	weak-stem cryptantha	native
Dactylis glomerata	orchard-grass	non-native
Daucus carota	Queen Anne's lace	non-native
Descurainia sophia	herb sophia	non-native
Dipsacus sp.	teasel	non-native
Draba verna	spring draba	non-native
Elaeagnus angustifolia	Russian-olive	non-native
Elymus elymoides	squirreltail	native
Epilobium brachycarpum	tall annual willowher	native
Ericameria nauseosa	gray rabbitbrush / rubber rabitbrush	native
Erigeron filifolius	threadleaf fleabane	native
Erigeron pumilis	shaggy fleabane	native
Eriogonum heracleoides	parsnip-flower buckwheat	native
Eriogonum niveum	snow buckwheat	native
Erodium cf. *cicutarium*	common stork's bill	non-native
Erythronium cf. *grandiflorum*	yellow avalanche-lily	native
Festuca idahoensis	Idaho fescue	native
Gaillardia aristata	blanket flower	native
Galium sp.	bedstraw	native
*Gnaphalium*spp.	cudweed	
Grindelia squarrosa	curlycup gumweed	native
Helianthus annuus	common sunflower	unknown
Hesperostipa comata	needle-and-thread	native
Hordeum jubatum	foxtail barley	native
Hordeum marinum (H. geniculatum)	seaside barley	non-native
Hypericum perforatum	common St. Johnswort	non-native
Juglans nigra	black walnut	non-native
Juncus bufonius	toad rush	native
Lactuca serriola	prickly lettuce	non-native
Lagophylla ramosissima	branched lagophylla	native
Lepidium cf. *perfoliatum*	clasping pepperweed	non-native
Leptosiphon cf. *harknessii (Linanthus harknessii)*	Harness' flaxflower	native
Leymus cinereus	basin wildrye	native
Linum lewisii	prairie flax/wild blue flax	native
Lithospermum ruderale	western stoneseed	native
Lomatium cf. *dissectum*	fern-leaf biscuitroot	native
Lomatium grayi	Gray's biscuitroot	native
Lomatium simplex	Great Basin desert-parsley	native
Lupinus leucophyllus	velvet lupine	native
Lupinus sp.	lupine	native

Table A-1 continued

Scientific name	Common name	Native/Non-native
Machaeranthera canescens	hoary aster	native
Medicago sativa	alfalfa	non-native
Mentzelia laevicaulis	smoothstem blazingstar	native
Mimulus guttatus	seep monkey-flower	native
Phacelia hastata	silver-leaf phacelia	native
Phacelia linearis	thread-leaf phacelia	native
Phalaris arundinacea	reed canarygrass	non-native
Philadelphus lewisii	Lewis' mock-orange	native
Phlox longifolia	long-leaf phlox	native
Plantago patagonica	woolly plantain	native
Poa bulbosa	bulbous blue grass	non-native
Poa secunda (P. sandbergii)	Sandberg bluegrass	native
Polygonum aviculare	prostrate knotweed	non-native
Pseudoroegneria spicata	bluebunch wheatgrass	native
Rumex crispus	curly dock	non-native
Salsola tragus (Salsola kali)	Russian thistle	non-native
Salvia dorrii	purple sage	native
Secale cereale	cultivated rye	non-native
Setaria viridis	green bristlegrass	non-native
Sisymbrium altissimum	tall tumblemustard	non-native
Solidago canadensis	Canada goldenrod	native
Spergularia rubra	red sandspurry	non-native
Sporobolus cryptandrus	Sand dropseed	native
Taeniatherum caput-medusae	medusa-head	non-native
Thinopyrum ponticum	tall wheatgrass	non-native
Tragopogon dubius	yellow salsify	non-native
Triticum aestivum	cultivated wheat	non-native
Urtica dioica	stinging nettle	native
Verbascum thapsus	common mullein	non-native
Verbena bracteata	bigbract verbena	native
Veronica cf. *anagallis-aquatica*	water speedwell	non-native
Vicia villosa	hairy vetch	non-native
Vulpia bromoides	brome fescue	non-native
Vulpia myuros	rat-tail fescue	non-native
Zigadenus venenosus	meadow death camas	native

Appendix B

Wildlife Species Documented During the Fall 2009 and Spring 2010 ~~General~~ Wildlife Surveys

Table B-1
Wildlife Species Documented
During the Fall 2009 and Spring 2010 ~~General~~ Wildlife Surveys

Common Name (*Scientific name*)	Habitat	Fall	Observed Abundance	Spring	Observed Abundance
Birds					
Canada goose (*Branta canadensis*)	Riparian/riverine	No	NA	Yes	Medium
Mallard (*Anas platyrhynchos*)	Riparian/riverine	No	NA	Yes	Medium
Wild turkey (*Meleagris gallopavo*)	Riparian/agricultural	No	NA	Yes	Medium
Chukar *(Alectoris chukar)*	All	Yes	Medium	Yes	Low
Ring-necked pheasant *(Phasianus colchicus)*	All	Yes	High	Yes	Low
Grey partridge (*Perdix perdix*)	Draws, Roadsides	No	NA	Yes	Low
California quail (*Callipepla californica*)	Riparian	No	NA	Yes	Medium
Killdeer *(Charadrius vociferus)*	Riparian	Yes	Low	Yes	Low
White pelican (*Pelecanus erythrorhynchos*)	Riverine (Snake River only)	No	NA	Yes	Medium
Double-crested cormorant (*Phalacrocorax auritus*)	Riverine (Snake River only)	No	NA	Yes	Medium
Great blue heron (*Ardea herodias*)	Riparian	No	NA	Yes	Medium
Turkey vulture (*Cathartes aura*)	All	No	NA	Yes	Low
Osprey (*Pandion haliaetus*)	Riparian	Yes	Low	Yes	Low
Sharp-shinned hawk *(Accipiter striatus)*	Draws, roadsides	Yes	Low	No	NA
Northern harrier *(Circus cyaneus)*	Open grassland/herb	Yes	Medium	Yes	Medium
Red-tailed hawk *(Buteo jamaicensis)*	All	Yes	High	Yes	High
Swainson's hawk (*Buteo swainsoni*)	Open grassland/herb	No	NA	Yes	Medium
Golden eagle (*Aquila chrysaetos*)	Open grassland/herb	No	NA	Yes	Low
Merlin *(Falco columbarius)*	Open grassland/herb	Yes	Low	No	NA
American kestrel (*Falco sparverius*)	Open grassland/herb	No	NA	Yes	Medium
Ring-billed gull (*Larus delawarensis*)	Riverine, riparian (Snake River only)	No	NA	Yes	Medium
Great horned owl* *(Bubo virginianus)*	Draws, rock features	Yes	Low	Yes	Low
Short-eared owl (*Asio flammeus*)	Open grassland, agricultural	No	NA	Yes	Low
Barn owl (*Tyto alba*)	Open grassland, farm structures and trees	No	NA	Yes	Low
Common nighthawk (*Chordeiles minor*)	Riparian	No	NA	Yes	Low
Anna's hummingbird (*Calypte anna*)	Riparian	No	NA	Yes	Low
Violet-green swallow (*Tachycineta thalassina*)	Riparian	No	NA	Yes	Medium
Tree swallow (*Tachycineta bicolor*)	Riparian	No	NA	Yes	Medium
Barn swallow (*Hirundo rustica*)	Riparian	No	NA	Yes	Medium
Cliff swallow (*Petrochelidon pyrrhonota*)	Riparian	No	NA	Yes	Medium

Table B-1 continued					
Common Name (*Scientific name*)	**Habitat**	**Fall**	**Observed Abundance**	**Spring**	**Observed Abundance**
Rock pigeon (*Columba livia*)	Riparian, roadsides, agricultural	Yes	Medium	Yes	Medium
Mourning dove *(Zenaida macroura)*	Draws, roadsides, agricultural	Yes	Medium	Yes	Medium
Belted kingfisher	Riparian	No	NA	Yes	Low
Hairy woodpecker *(Picoides villosus)*	Riparian	Yes	Low	No	NA
Northern flicker *(Colaptes auratus)*	Draws, roadsides	Yes	Medium	Yes	Low
Western wood-pewee (*Contopus sordidulus*)	Riparian	No	NA	Yes	Medium
Say's phoebe *(Sayornis saya)*	Draws	Yes	Low	No	NA
Eastern kingbird (*Tyrannus tyrannus*)	Roadsides	No	NA	Yes	Medium
Western kingbird *(Tyrannus verticalis)*	All	Yes	Low	Yes	Medium
Common raven (*Corvus corax*)	All	Yes	High	Yes	High
American crow (*Corvus brachyrhynchos*)	Riparian, roadsides	Yes	Low	Yes	Low
Black-billed magpie *(Pica pica)*	Riparian	Yes	Low	Yes	Medium
Western meadowlark *(Sturnella neglecta)*	Open grassland/herb	Yes	High	Yes	High
Brewer's blackbird (*Euphagus cyanocephalus*)	Riparian	No	NA	Yes	Medium
Red-winged blackbird (*Agelaius phoeniceus*)	Riparian	No	NA	Yes	Medium
Bullock's oriole (*Icterus bullockii*)	Riparian	No	NA	Yes	Medium
European starling (*Sturnus vulgaris*)	Riparian	No	NA	Yes	Medium
Rock wren *(Salpinctes obsoletus)*	Draws	Yes	Medium	Yes	Low
Bewick's wren *(Thryomanes bewickii)*	Riparian	Yes	Low	Yes	Low
House wren (*Troglodytes aedon*)	Riparian	No	NA	Yes	Low
Black-capped chickadee *(Poecile atricapillus)*	Riparian	Yes	Medium	Yes	Medium
Ruby crowned kinglet *(Regulus calendula)*	Riparian	Yes	Low	Yes	Low
Bushtit (*Psaltriparus minimus*)	Riparian	No	NA	Yes	Low
Hermit thrush *(Catharus guttatus)*	Draws, roadsides	Yes	Low	No	NA
American robin (*Turdus migratorius*)	Riparian, roadsides	No	NA	Yes	High
Horned lark *(Eremophila alpestris)*	Roadsides, open grassland/herb	Yes	High	Yes	High
Mountain bluebird (*Sialia currucoides*)	Roadsides	No	NA	Yes	Low
Cedar waxwing (*Bombycilla cedrorum*)	Riparian	No	NA	Yes	Medium
Yellow warbler (*Dendroica petechia*)	Riparian	No	NA	Yes	Low
Wilson's warbler (*Wilsonia pusilla*)	Riparian	No	NA	Yes	Low

Table B-1 continued					
Common Name (*Scientific name*)	**Habitat**	**Fall**	**Observed Abundance**	**Spring**	**Observed Abundance**
Common yellowthroat (*Geothlypis trichas*)	Riparian	No	NA	Yes	Medium
Western tanager (*Piranga ludoviciana*)	Riparian, draws	No	NA	Yes	Low
Savannah sparrow *(Passerculus sandwichensis)*	Open grassland/herb	Yes	Medium	No	NA
White-crowned sparrow *(Zonotrichia leucophrys)*	Roadsides, riparian	Yes	Medium	Yes	Medium
Brewer's sparrow *(Spizella breweri)*	Open Grassland/herb	Yes	Low	No	NA
Grasshopper sparrow (*Ammodramus savannarum*)	Open Grassland/herb	No	NA	Yes	High
Vesper sparrow *(Pooecetes gramineus)*	Open Grassland/herb	Yes	Medium	No	NA
Song sparrow *(Melospiza melodia)*	Riparian	Yes	Low	No	NA
American tree sparrow *(Spizella arborea)*	Riparian	Yes	Low	No	NA
Sage sparrow *(Amphispiza belli)*	Open Grassland/herb	Yes	Medium	No	NA
Spotted towhee *(Pipilo maculatus)*	Draws, Riparian	Yes	Medium	Yes	Low
Dark-eyed junco (*Junco hyemalis*)	Riparian	No	NA	Yes	Med
House finch (*Carpodacus mexicanus*)	Riparian, Roadsides	No	NA	Yes	Med
American goldfinch (*Spinus tristis*)	Riparian	No	NA	Yes	Med
Mammals					
Sagebrush vole* *(Lemmiscus curtatus)*	Open Grassland/herb	Yes	Low	Yes	Low
Northern pocket gopher* *(Thomomys talpoides)*	All	Yes	Medium	Yes	Medium
Yellow-bellied marmot (*Marmota flaviventris*)	Cliffs	No	NA	Yes	Low
Raccoon (*Procyon lotor*)	Riparian, Roadsides	No	NA	Yes	Med
Mule deer *(Odocoileus hemionus)*	All	Yes	High	Yes	High
White-tailed deer (*Odocoileus virginianus*)	Draws, Riparian	Yes	Med	Yes	Med
Coyote *(Canis latrans)*	All	Yes	Medium	Yes	Medium
Porcupine* (*Erethizon dorsatum*)	Riparian	Yes	Low	No	NA
American badger (*Taxidea taxus*)	Open Grassland/herb	Yes	Low	Yes	Medium
River otter* *(Lontra canadensis)*	Riparian	Yes	Low	No	NA
Elk* *(Cervus elaphus)*	Open Grassland/herb, Draws	Yes	Low	No	NA
Washington ground squirrel* *(Spermophilus washingtoni)*	Open Grassland/herb	Yes	Low	Yes	Low
Reptiles					
Western yellow-bellied racer *(Coluber constrictor mormon)*	Riparian	Yes	Low	No	NA
Bullsnake (*Pituophis catenifer*)	All	No	NA	Yes	Low

Appendix J

Washington Department of Natural Resources Lands Analysis

Appendix J
Washington Department of Natural Resources Lands Analysis

As described in Chapter 5, Washington Energy Facility Site Evaluation Council (EFSEC) and other state agencies have provided the Bonneville Power Administration (BPA) with potentially applicable state substantive standards that they believe apply to the proposed project. Inclusion of these standards in the Environmental Impact Statement (EIS) helps BPA understand these standards and aids state agencies in their review of the proposed project. It is the objective of BPA, Washington EFSEC, and other state agencies that by identifying and considering these standards as early as possible, the proposed project can be designed to be consistent or compatible with these standards to the maximum extent practicable.

In addition to the incorporation of state standards into the EIS and project design, BPA recognizes that when a state agency owns property that BPA proposes to cross with its proposed transmission line and associated facilities, that state agency may need to comply with certain state or local laws or regulations before it can agree to allow BPA use of their property. As discussed in Section 3.2 of the EIS, Washington Department of Natural Resources (WDNR) is a state agency that manages property crossed by all four route alternatives. To assist WDNR in its compliance efforts for WDNR lands potentially crossed by the proposed project, BPA has included this Appendix J to provide additional information, where available, for these lands.

Some of the information included in this appendix reflects the expected negotiation of a Washington Statewide Rights-of-Way Memorandum of Agreement (MOA) between BPA and WDNR. This MOA will cover certain issues related to all WDNR lands in the state of Washington that are encumbered with BPA easements. It is the mutual goal of BPA and WDNR to address BPA transmission line operations and maintenance compatibility with trust land management and to complete the MOA prior to December 31, 2011. It is expected that this MOA will, at a minimum, address the following elements:

a) Integration of State and Federal Requirements, as they apply to state-owned trust lands;
b) Danger Trees;
c) Vegetation management;
d) Access road management, maintenance, repair, and cost sharing;
e) Dispute resolution;
f) Situations where additional right-of-way and/or mitigation is needed for transmission operations, such as safety zones and vegetation removal for clear safe backlines;
g) Communications/notification;
h) Liability;
i) Third party use (authorized and unauthorized); and
j) Safety.

This appendix also reflects one other agreement between BPA and WDNR: an Appraisal Memorandum of Understanding (Appraisal MOU). The Appraisal MOU was finalized on August 1, 2010, and describes the process BPA will use to appraise WDNR lands crossed by this, or any other proposed project.

The following sections of this appendix provide more detailed information on WDNR lands relevant to the proposed Central Ferry-Lower Monumental Transmission Line Project. Section J.1 describes the specific WDNR properties that could be affected by the proposed project, and

Section J.2 discusses potential impacts to these properties. Section J.3, at the end of this appendix, lists possible measures that could be undertaken to lessen or avoid these potential impacts.

J.1 Potentially Affected WDNR Lands

The proposed project would be located in Garfield, Columbia, and Walla Walla counties in southeastern Washington. WDNR manages four parcels potentially crossed by, or adjacent to, the proposed project (see Figure J-1). These four parcels, which total approximately 1,880 acres of land, are:

WDNR Parcel 1 – Section 36, Township 13 North, Range 38 East, 640 acres
WDNR Parcel 2 – Section 16, Township 12 North, Range 37 East, 440 acres
WDNR Parcel 3 – Section 16, Township 12 North, Range 36 East, 160 acres
WDNR Parcel 4 – Section 36, Township 13 North, Range 35 East, 640 acres

The vicinity of the proposed project, including the general vicinity of the four parcels of WDNR lands, is sparsely populated with development mainly limited to rural homes, ranches, and farms. Land use in the general vicinity of the proposed project includes wind energy development, agriculture, and livestock grazing. Land use on the four WDNR parcels is primarily agriculture and livestock grazing. WDNR Parcel 3 is enrolled in the Conservation Reserve Program (CRP). The four WDNR parcels are located on gently rolling to moderately hilly plateaus. There are no perennial water bodies located on the four WDNR parcels. Vegetation found on the four WDNR parcels consists primarily of agricultural crops with some degraded native grasslands and remnant shrub-steppe vegetation communities. These parcels, like the surrounding disturbed grasslands, provide only limited habitat to various wildlife species that are found in the area. Although increased road density can have negative effects on some wildlife species, the current degraded nature of the parcels suggests any additional negative effects will be minimal.

None of the routing alternatives would cross any WDNR or other Washington state designated recreational facilities or trails. WDNR does, however, allow the use of state lands in the project area (including the four WDNR parcels potentially crossed by, or adjacent to, the proposed project) for hunting, fishing, and other dispersed recreation.

J.2 Impacts Related to WDNR Lands

Table J-1 identifies which WDNR parcels would be affected by each routing alternative under consideration for the proposed project. Table J-2 identifies project components potentially located on the four WDNR parcels if a routing alternative is chosen that would cross that parcel. Table J-3 identifies the amount of land of each DNR parcel that would potentially be within easements for the proposed 150-foot-wide transmission line corridor and access roads, as well as the acreage of each parcel that would actually be occupied by new BPA facilities and affected by BPA construction activities. BPA's preferred alternative, the Combination A Alternative, crosses through WDNR Parcels 1 and 3 and is adjacent to Parcel 2. Acquisition of an easement to use an existing road is the only proposed activity that would occur on Parcel 2.

The discussion in this section that follows Tables J-1 through J-3 provides additional information, by environmental resource, concerning the potential effects of the proposed project on WDNR lands. This discussion focuses on those environmental resources that have been raised by WDNR as requiring additional information to aid WDNR in its statutory and regulatory compliance efforts for WDNR parcels potentially crossed by the proposed project. For environmental resources not specifically addressed in this appendix, Chapter 3 of the EIS provides general information about these resources along the alternative project routes, including WDNR lands.

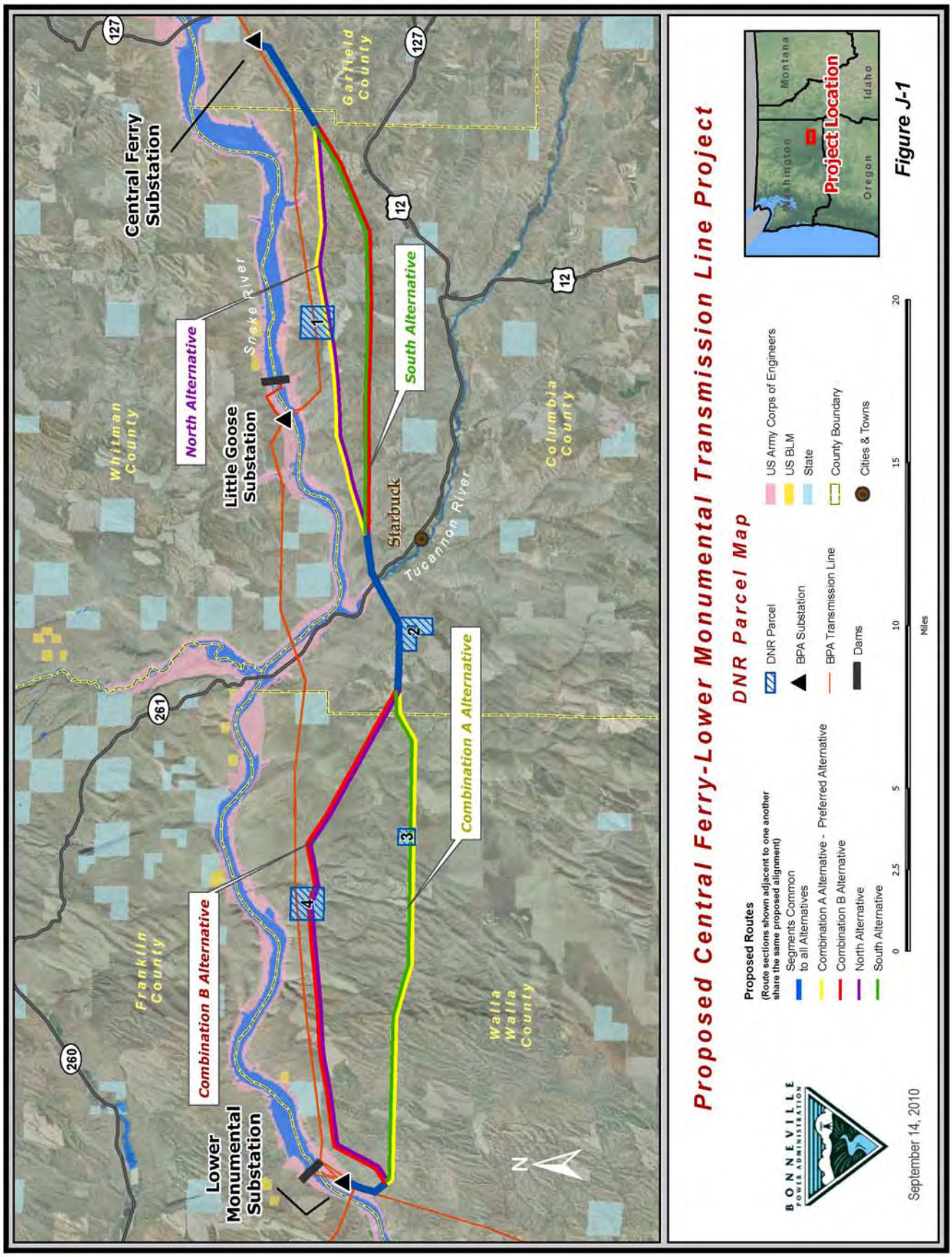
Proposed Central Ferry-Lower Monumental Transmission Line Project
DNR Parcel Map
Central Ferry Substation
Little Goose Substation
Lower Monumental Substation
North Alternative
South Alternative
Combination A Alternative
Combination B Alternative
Snake River
Tucannon River
Starbuck
Garfield County
Whitman County
Columbia County
Franklin County
Walla Walla County
Proposed Routes
(Route sections shown adjacent to one another share the same proposed alignment)
Segments Common to all Alternatives
Combination A Alternative - Preferred Alternative
Combination B Alternative
North Alternative
South Alternative
DNR Parcel
BPA Substation
BPA Transmission Line
Dams
US Army Corps of Engineers
US BLM
State
County Boundary
Cities & Towns
Miles
Project Location
Montana
Idaho
Oregon
Washington
Figure J-1
September 14, 2010
BONNEVILLE POWER ADMINISTRATION
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Table J-1. WDNR Parcels Related to Routing Alternatives

Action Alternative	WDNR parcels crossed by Action Alternative	WDNR parcels adjacent to Action Alternative
North Alternative	1, 4	2
South Alternative	3	2
Combination A Alternative	1, 3	2
Combination B Alternative	4	2

Table J-2. Project Components Potentially Located on WDNR Parcels

Component	WDNR Parcel 1	WDNR Parcel 2	WDNR Parcel 3	WDNR Parcel 4
Miles of proposed transmission line corridor	1	0	0.5	1
Number of new transmission towers	5	0	2	4
Miles of new access road	1.3	0	0.5	0.4
Miles of existing access road needing improvement	0	0	0	0
Number of temporary pulling/tensioning sites	0	0	1	0
Number of fiber optic wood poles	0	0	0	0

Table J-3. Acreage of WDNR Parcels Affected by Routing Alternatives

Action Alternative	Approximate acreage within BPA's proposed 150-foot wide easements	Permanent Impacts[2/]	Construction Impacts[3/]
North Alternative	Parcel 1: 24 ac Parcel 4: 21 ac Parcel 2: 1 ac[1/]	Parcel 1: 6.4 ac Parcel 4: 2.5 ac Parcel 2: 0 ac	Parcel 1: 10.6 ac Parcel 4: 6.1 ac Parcel 2: 0 ac
South Alternative	Parcel 3: 10 ac Parcel 2: 1 ac[1/]	Parcel 3: 2.5 ac Parcel 2: 0 ac	Parcel 3: 4.7 ac Parcel 2: 0 ac
Combination A Alternative	Parcel 1: 24 ac Parcel 3: 10 ac Parcel 2: 1 ac[1/]	Parcel 1: 6.4 ac Parcel 3: 2.5 ac Parcel 2: 0 ac	Parcel 1: 10.6 ac Parcel 3: 4.7 ac Parcel 2: 0 ac
Combination B Alternative	Parcel 4: 21 ac Parcel 2: 1 ac[1/]	Parcel 4: 2.5 ac Parcel 2: 0 ac	Parcel 4: 6.1 ac Parcel 2: 0 ac

Notes:

1/ Approximately 0.4 mile (1 acre) of access road would be acquired on WDNR Parcel 2. No ground disturbing activities would occur on this parcel.

2/ Acreages reflect the footprint of new tower footings, new access roads, and any existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

J.2.1 Geology and Soils

Section 3.1 of the EIS provides an analysis of the proposed project's potential impacts on geology and soils in the project vicinity for all four routing alternatives, and identifies measures to lessen or avoid potential geologic hazards and soil impacts. The analysis in Section 3.1 provides a general assessment of geologic hazards for the four WDNR parcels potentially affected by the proposed project, and the identified measures to lessen or avoid potential geologic hazards would also apply to the four WDNR parcels. In addition, Figures J-2 and J-3 of this appendix display the liquefaction risks and faults found within the project area, including the four WDNR parcels.

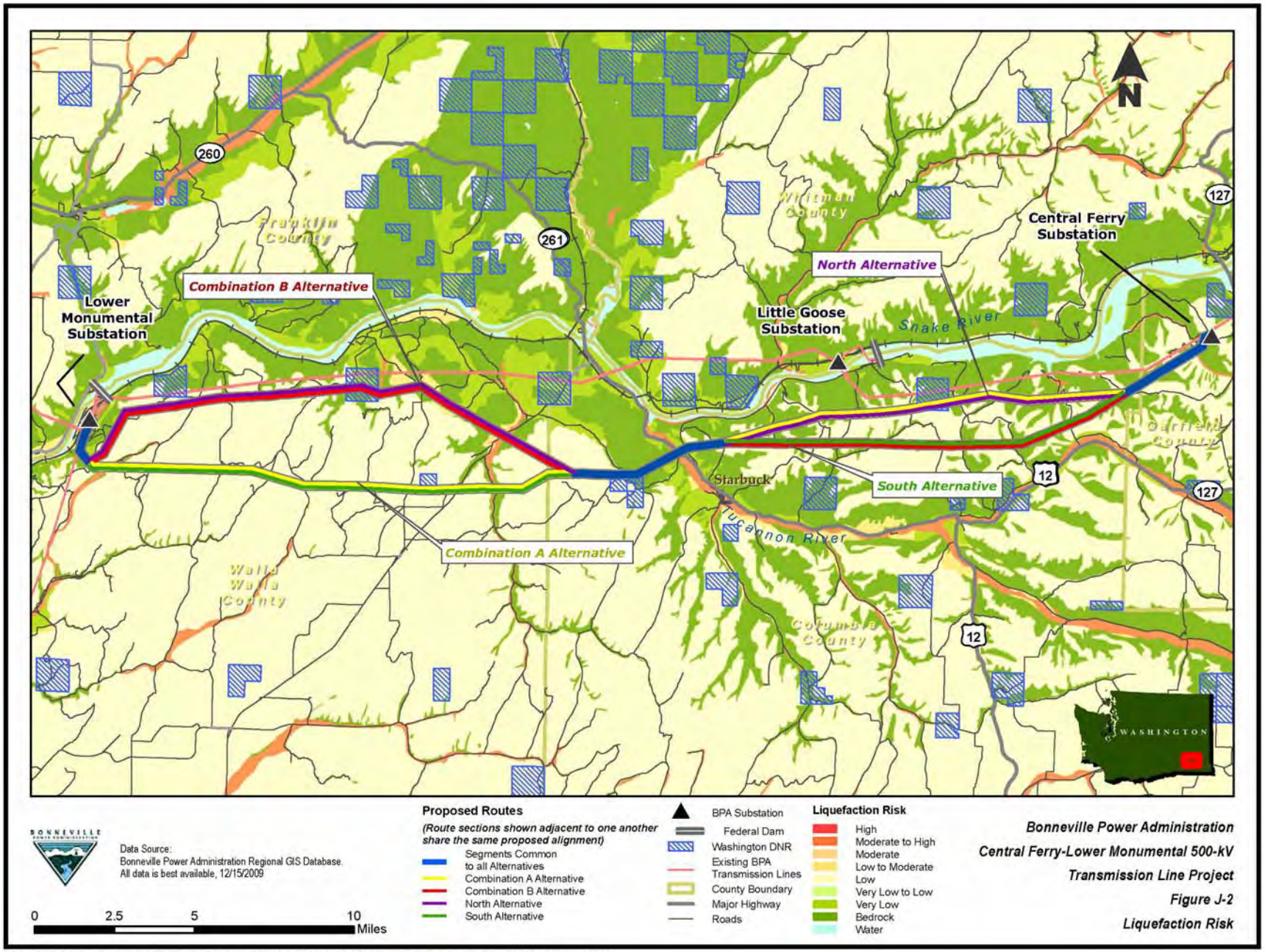
To provide additional geology and soils information specific to WDNR parcels that would be affected by the alternative routes, BPA performed geologic hazard assessments. BPA used on-the-ground field assessments and literature reviews to determine geologic hazards. The geologic hazard assessments included the review of liquefaction hazard mapping, geologic maps for fault locations, and aerial photographs combined with surface condition assessments at proposed tower locations and surrounding terrain for landslide hazard assessment. Additional subsurface information was obtained from test-pit profiles, material exposed in existing road and stream cut slopes, and construction and maintenance information from the existing BPA transmission lines that parallel portions of the alternative corridors. Particular attention was given to on-site evaluation of the slope stability of proposed tower locations. The information derived and generated from these activities was shared with WDNR's Geology and Earth Resources Division.

BPA considered using certain models suggested by WDNR as part of its geologic hazard assessments, but ultimately decided not to because it was already conducting field assessments that would essentially cover the outcomes the models would produce.

Results of the hazard assessments are summarized below.

LANDSLIDES

No active slides were observed at proposed tower locations on WDNR lands. Although signs of old, healed slumps were observed throughout the steeper portions of the routes, no active slides were observed near any of the proposed tower locations. In addition, the proposed transmission line would generally span over these older slide features. All but one tower location are considered stable and do not present a risk of landslide hazard. One structure (not located on WDNR lands) was originally proposed to be located near the crest of ancient slide scarps along the Tucannon River drainage. This proposed tower has been relocated to minimize the potential risk from any future slide activity.



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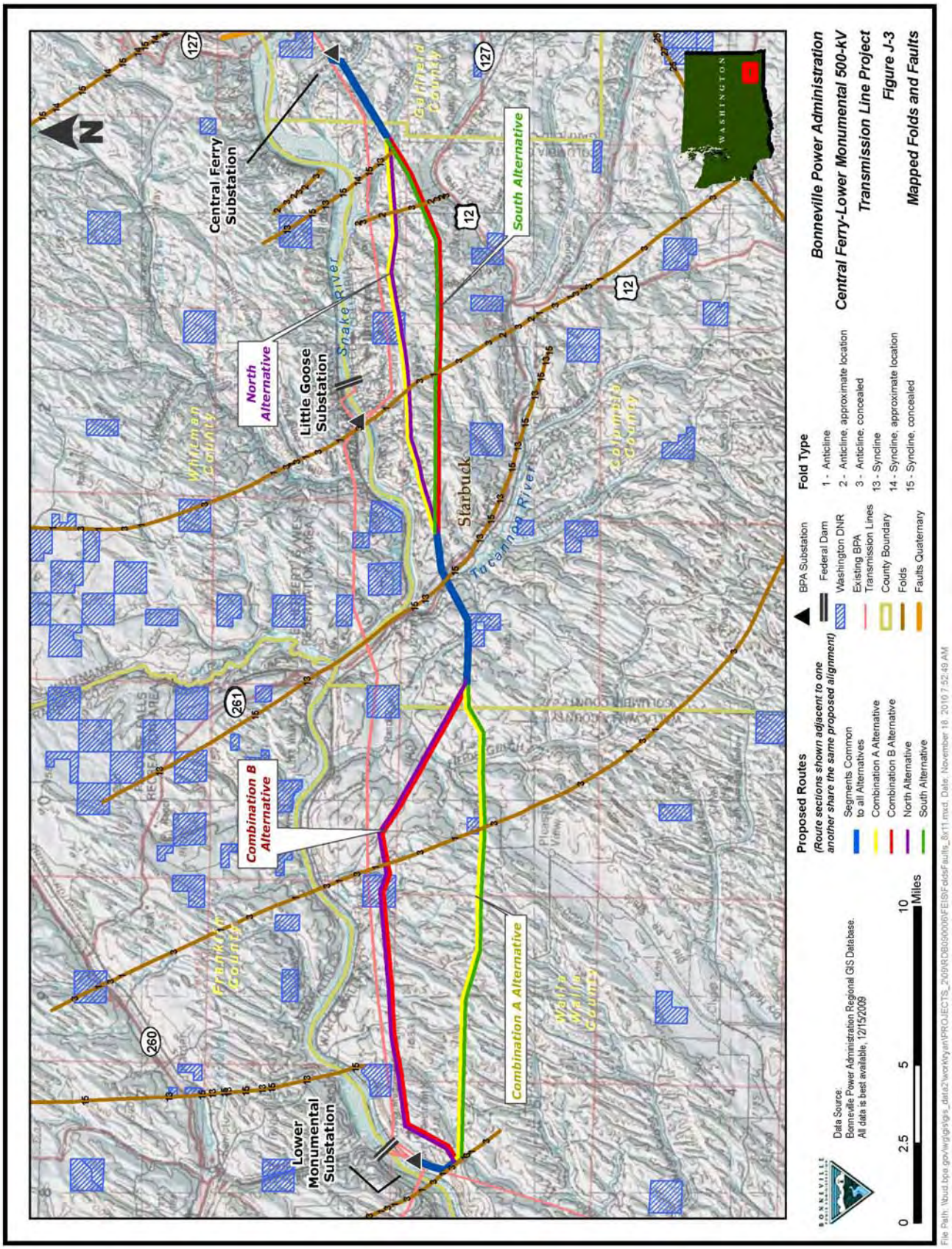
Central Ferry Substation
Little Goose Substation
Lower Monumental Substation
North Alternative
South Alternative
Combination B Alternative
Combination A Alternative
Starbuck
Snake River
Tucannon River
Whitman County
Columbia County
Franklin County
Walla Walla County
WASHINGTON
Proposed Routes
(Route sections shown adjacent to one another share the same proposed alignment)
Segments Common to all Alternatives
Combination A Alternative
Combination B Alternative
North Alternative
South Alternative
BPA Substation
Federal Dam
Washington DNR
Existing BPA Transmission Lines
County Boundary
Folds
Faults Quaternary
Fold Type
1 - Anticline
2 - Anticline, approximate location
3 - Anticline, concealed
13 - Syncline
14 - Syncline, approximate location
15 - Syncline, concealed
Data Source:
Bonneville Power Administration Regional GIS Database.
All data is best available, 12/15/2009
0
2.5
5
10
Miles
Bonneville Power Administration
Central Ferry-Lower Monumental 500-kV
Transmission Line Project
Figure J-3
Mapped Folds and Faults
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BPA has maintained multiple transmission lines on parallel routes since 1968, monitoring existing towers for signs of distress due to slope movement. Potential active slide-caused problems would likely be observed at the existing transmission line towers during the annual maintenance crew tower inspections and twice-a-year helicopter inspections. No landslide-related problems with these lines have been reported.

As discussed in Section 3.1.2 of the EIS, because development of roads has the potential to cause mass wasting (e.g., erosion or landslides), road grades on all lands crossed by the Combination A Alternative would be varied depending on the erosion potential of the soil. Roads would be rocked where needed for dust abatement, stability, load bearing, and seasons of use. Final design measures would take slopes, soil types, bedrock, the presence of bedrock hollows or inner gorges, and other factors into account based on site specific information.

SEISMIC

No surface ruptures were observed at proposed tower locations on WDNR lands. Area fault zones such as the Central Ferry fault are considered to have a low to moderate probability of surface rupture. Unless a surface rupture is visible, efforts to locate towers to avoid potential surface rupture is not considered practical. BPA does not plan to trench through fault zones as part of this project. No surface ruptures were observed at the remaining proposed tower locations. Additionally, BPA combined wind and ice loading tower design criteria typically exceeds earthquake induced loads; therefore, seismic induced accelerations on the towers are not considered a geologic hazard.

LIQUEFACTION

No liquefaction hazards were observed at proposed tower locations on WDNR lands. Liquefaction hazards occur where the combination of fine-grained cohesionless soils and high water table conditions occur. Generally, transmission towers are likely to survive settlement associated with liquefaction with only minor structural damage. It is BPA's policy to avoid placing towers in areas where liquefaction might occur, such as stream crossings.

Liquefaction hazards were identified along the flood terraces of some larger stream drainages. Generally tower locations are selected at hill or ridgetops that span over the liquefaction hazard areas. Only one tower would be located in an area identified as a moderate to high liquefaction hazard (not located on WDNR lands). Subsurface conditions at this proposed tower site are preliminarily identified as 5 to 10 feet of silty soil over basalt. Because the bedrock is most likely within the depth of the tower foundation, relocating the tower is not proposed. As mentioned in Section 3.1.3 Mitigation Measures of the EIS, a test pit would be excavated at this location to further investigate subsurface conditions and verify no liquefaction hazard exists. If a potential liquefaction hazard is found, the liquefiable soils would most likely be excavated to bedrock and replaced with non-liquefiable backfill.

J.2.2 Land Use

Section 3.2 of the EIS provides an analysis of the project's potential impacts on land use in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels. Land use on the WDNR parcels includes the following: Parcels 1 and 4 have grazing leases; Parcel 2 has both an agricultural and a grazing lease; and Parcel 3 has an agricultural lease and is enrolled in the CRP.

As discussed in Section 3.2.1 of the EIS, land use data are from the USGS National Land Cover Database (NLCD) (2001) and show the general distribution of Agriculture and Grasslands in the area. The Agriculture category consists of areas identified by the USGS as cultivated crops and pasture/hay. The grassland category consists of areas identified by the USGS as scrub/shrub and grassland/herbaceous. Tables J-4 through J-7 display the potential impacts to land use at each of the four WDNR parcels that could be affected by the proposed project.

Table J-4. Impacts to Land Use on WDNR Parcel 1 (acres)

Project Component	Agriculture	Grassland	Developed	Total
Easement Impacts[1/]				
Total Easement	**9.5**	**13.5**	**0.0**	**23.0**
Permanent Impacts[2/]				
Tower Footings	0.4	0.3	0.0	0.7
Access Roads	3.7	2.1	0.0	5.7
Total	**4.1**	**2.4**	**0.0**	**6.4**
Construction Impacts[3/]				
Tower Installation	1.6	1.0	0.0	2.5
Counterpoise Installation	1.4	1.5	0.0	2.9
Access Roads	3.3	1.9	0.0	5.2
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0
Total	**6.3**	**4.3**	**0.0**	**10.6**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-5. Impacts to Land Use on WDNR Parcel 2 (acres)

Project Component	Agriculture	Grassland	Developed	Total
Easement Impacts[1/]				
Total Easement	**0**	**0**	**0**	**0**
Permanent Impacts[2/]				
Tower Footings	0	0	0	0
Access Roads	0	0	0	0
Total	**0**	**0**	**0**	**0**
Construction Impacts[3/]				
Tower Installation	0	0	0	0
Counterpoise Installation	0	0	0	0
Access Roads	0	0	0	0
Pulling/Tensioning Sites	0	0	0	0
Total	**0**	**0**	**0**	**0**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-6. Impacts to Land Use on WDNR Parcel 3 (acres)

Project Component	Agriculture	Grassland	Developed	Total
Easement Impacts[1/]				
Total Easement	**3.7**	**5.6**	**0.0**	**9.3**
Permanent Impacts[2/]				
Tower Footings	0.2	0.1	0.0	0.3
Access Roads	0.9	1.3	0.0	2.3
Total	**1.2**	**1.4**	**0.0**	**2.5**
Construction Impacts[3/]				
Tower Installation	0.7	0.3	0.0	1.0
Counterpoise Installation	0.8	0.4	0.0	1.2
Access Roads	0.5	1.3	0.0	1.8
Pulling/Tensioning Sites	0.1	0.6	0.0	0.7
Total	**2.2**	**2.6**	**0.0**	**4.7**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-7. Impacts to Land Use on WDNR Parcel 4 (acres)

Project Component	Agriculture	Grassland	Developed	Total
Easement Impacts[1/]				
Total Easement	**0.0**	**20.6**	**0.0**	**20.6**
Permanent Impacts[2/]				
Tower Footings	0.0	0.5	0.0	0.5
Access Roads	0.0	2.0	0.0	2.0
Total	**0.0**	**2.5**	**0.0**	**2.5**
Construction Impacts[3/]				
Tower Installation	0.0	2.0	0.0	2.3
Counterpoise Installation	0.0	2.3	0.0	2.3
Access Roads	0.0	1.8	0.0	1.8
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0
Total	**0.0**	**6.1**	**0.0**	**6.1**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Impacts to land use at WDNR Parcels 1, 3, and 4 would include limitations of use within the right-of-way, removal of land from use due to tower footprints and roads, disruption of use due to the presence of the line through properties, and disturbance during maintenance and construction activities.

Use limitation within the right-of-way would include keeping the right-of-way clear of all structures, fire hazards, tall-growing vegetation, and any other use that may interfere with the safe operation or maintenance of the line. Buildings could not be constructed within the right-of-way.

While BPA would obtain the right through its easements to keep the right-of-way clear of vegetation and structures, BPA may enter into agreements with landowners for low-growing vegetation that does not interfere with BPA's safe operation and maintenance of its transmission

facilities. Landowners need to coordinate with BPA prior to planting to ensure that the use is safe, compatible, and does not create an interference.

Many uses would not be restricted, but certain precautions would need to be taken. For example, no object should be raised higher than 14 feet above the ground within the right-of-way (for instance irrigation pipes when moved should be kept low and parallel to the ground); ground elevation should not be altered (such as piling of dirt within the right-of-way); irrigation spray should not create a continuous stream onto the conductors or towers; fences should be grounded; and installing underground pipes or cables through the right-of-way needs to be coordinated with BPA so as not to interfere with transmission line grounding systems and tower footings. Vehicles and large equipment that do not exceed 14 feet in height, such as harvesting combines, cranes derricks and booms, could be operated safely under the line where it passes over roads, driveways, parking lots, cultivated fields, or grazing lands.

BPA does not restrict land uses outside the right-of-way. This is true of all lands adjacent to the proposed corridor including WDNR lands. Land uses such as growing crops, grazing livestock, participation in the Conservation Reserve Program (CRP), state and county roads, commercial gravel pits, electric transmission lines, and outdoor recreational sports and activities would continue. Some temporary low impacts may occur during construction of the transmission line as discussed in Section 3.2.2 of the EIS. The appraisal process would identify any damages to the remainder of the property outside of the right-of-way. Generally, placement of the transmission line would not increase the cost of growing crops, limit wind power production, or limit solar energy or communication site development outside the right-of-way. Within Garfield, Columbia, and Walla Walla counties, private lands crossed by the action alternatives including the Combination A Alternative are zoned for agricultural use. Uses such as residential or commercial development including wind farm development could occur on these lands under a county Conditional Use Permit. WDNR lands, as managed by the State of Washington, are not subject to local zoning regulations.

Placement of the proposed transmission line could potentially reduce the land available for potential wind power development with the transmission line right-of-way occupying areas that, in theory, could otherwise be proposed for development of wind turbines. Transmission lines and wind turbines can be sited in any desired manner so long as any part of the turbine does not cross into the transmission line right-of-way. Additionally, the proposed project footprint is small relative to the large amount of agricultural land and undeveloped grassland suitable for wind development within the three counties. WDNR has expressed concern that even a small project footprint can have significant impacts on wind development potential due to the constraining nature of wind power projects and the presently unknown effects that the proposed transmission line will have on wind tower siting potential.

Tables J-8 through J-11 display the potential impacts to prime farmland at each of the four WDNR parcels that could be affected by the proposed project. There would be no impact to prime farmland on the four WDNR parcels because none is present. Permanent disturbance to farmland of statewide importance found on WDNR parcels from construction of transmission tower footings and new access roads would range from approximately 1.9 acres (Parcels 1 and 4) to 2.11 acres (Parcel 3). Similar impacts to prime farmland, if irrigated, found on WDNR parcels would range from approximately 0.25 acre (Parcel 4) to 0.91 acre (Parcel 3). These totals represent a very small portion of the WDNR parcels (see Section J-1 for total parcel acreages) and the potential impact on prime farmland would be low.

Table J-8. Impacts to Prime Farmland on WDNR Parcel 1 (acres)

Project Component	Prime Farmland	Farmland of Statewide Importance	Prime Farmland if Irrigated	Not Prime Farmland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**4.2**	**0.0**	**18.8**	**23.0**
Permanent Impacts[2/]					
Tower Footings	0.0	0.4	0.0	0.3	0.7
Access Roads	0.0	1.3	0.0	4.5	5.8
Total	**0.0**	**1.7**	**0.0**	**4.8**	**6.4**
Construction Impacts[3/]					
Tower Installation	0.0	1.4	0.0	1.1	2.5
Counterpoise Installation	0.0	1.0	0.0	1.9	2.9
Access Roads	0.0	0.8	0.0	4.3	5.1
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0	0.0
Total	**0.0**	**3.3**	**0.0**	**7.3**	**10.6**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-9. Impacts to Prime Farmland on WDNR Parcel 2 (acres)

Project Component	Prime Farmland	Farmland of Statewide Importance	Prime Farmland if Irrigated	Not Prime Farmland	Total
Easement Impacts[1/]					
Total Easement	**0**	**0**	**0**	**0**	**0**
Permanent Impacts[2/]					
Tower Footings	0	0	0	0	0
Access Roads	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
Construction Impacts[3/]					
Tower Installation	0	0	0	0	0
Counterpoise Installation	0	0	0	0	0
Access Roads	0	0	0	0	0
Pulling/Tensioning Sites	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-10. Impacts to Prime Farmland on WDNR Parcel 3 (acres)

Project Component	Prime Farmland	Farmland of Statewide Importance	Prime Farmland if Irrigated	Not Prime Farmland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**3.7**	**5.6**	**0.0**	**9.3**
Permanent Impacts[2/]					
Tower Footings	0.0	0.0	0.3	0.0	0.3
Access Roads	0.0	1.0	1.3	0.0	2.3
Total	**0.0**	**1.0**	**1.5**	**0.0**	**2.5**
Construction Impacts[3/]					
Tower Installation	0.0	0.0	1.0	0.0	1.0
Counterpoise Installation	0.0	0.1	1.1	0.0	1.2
Access Roads	0.0	1.0	0.8	0.0	1.8
Pulling/Tensioning Sites	0.0	0.0	0.7	0.0	0.7
Total	**0.0**	**1.1**	**3.7**	**0.0**	**4.7**

Notes:
1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.
2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.
3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-11. Impacts to Prime Farmland on WDNR Parcel 4 (acres)

Project Component	Prime Farmland	Farmland of Statewide Importance	Prime Farmland if Irrigated	Not Prime Farmland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**7.5**	**0.8**	**12.4**	**20.6**
Permanent Impacts[2/]					
Tower Footings	0.0	0.4	0.0	0.1	0.5
Access Roads	0.0	1.5	0.3	0.3	2.0
Total	**0.0**	**1.9**	**0.3**	**0.4**	**2.5**
Construction Impacts[3/]					
Tower Installation	0.0	1.4	0.1	0.5	2.0
Counterpoise Installation	0.0	1.4	0.2	0.7	2.3
Access Roads	0.0	1.4	0.2	0.2	1.8
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0	0.0
Total	**0.0**	**4.2**	**0.5**	**1.5**	**6.1**

Notes:
1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.
2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.
3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

J.2.3 Vegetation

Section 3.3 of the EIS provides an analysis of the project's potential impacts on vegetation in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels. Tables J-12 through J-15 display the potential impacts to vegetation at each of the four WDNR parcels that could be affected by the proposed project.

Table J-12. Impacts to Vegetation on WDNR Parcel 1 (acres)

Project Component	Cropland	Disturbed Grassland	Native Grassland	Potential Native Grassland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**23.0**	**0.0**	**0.0**	**23.0**
Permanent Impacts[2/]					
Tower Footings	0.0	0.7	0.0	0.0	0.7
Access Roads	0.0	5.8	0.0	0.0	5.8
Total	**0.0**	**6.4**	**0.0**	**0.0**	**6.4**
Construction Impacts[3/]					
Tower Installation	0.0	2.5	0.0	0.0	2.5
Counterpoise Installation	0.0	2.9	0.0	0.0	2.9
Access Roads	0.0	5.2	0.0	0.0	5.2
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0	0.0
Total	**0.0**	**10.6**	**0.0**	**0.0**	**10.6**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-13. Impacts to Vegetation on WDNR Parcel 2 (acres)

Project Component	Cropland	Disturbed Grassland	Native Grassland	Potential Native Grassland	Total
Easement Impacts[1/]					
Easement					
Permanent Impacts[2/]					
Tower Footings	0	0	0	0	0
Access Roads	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
Construction Impacts[3/]					
Tower Installation	0	0	0	0	0
Counterpoise Installation	0	0	0	0	0
Access Roads	0	0	0	0	0
Pulling/Tensioning Sites	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-14. Impacts to Vegetation on WDNR Parcel 3 (acres)

Project Component	Cropland	Disturbed Grassland	Native Grassland	Potential Native Grassland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**9.3**	**0.0**	**0.0**	**9.3**
Permanent Impacts[2/]					
Tower Footings	0.0	0.3	0.0	0.0	0.3
Access Roads	0.0	2.3	0.0	0.0	2.3
Total	**0.0**	**2.5**	**0.0**	**0.0**	**2.5**
Construction Impacts[3/]					
Tower Installation	0.0	1.0	0.0	0.0	1.0
Counterpoise Installation	0.0	1.2	0.0	0.0	1.2
Access Roads	0.0	1.8	0.0	0.0	1.8
Pulling/Tensioning Sites	0.0	0.7	0.0	0.0	0.7
Total	**0.0**	**4.7**	**0.0**	**0.0**	**4.7**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Table J-15. Impacts to Vegetation on WDNR Parcel 4 (acres)

Project Component	Cropland	Disturbed Grassland	Native Grassland	Potential Native Grassland	Total
Easement Impacts[1/]					
Total Easement	**0.0**	**15.6**	**5.0**	**0.0**	**20.6**
Permanent Impacts[2/]					
Tower Footings	0.0	0.5	0.0	0.0	0.5
Access Roads	0.0	1.9	0.1	0.0	2.0
Total	**0.0**	**2.4**	**0.1**	**0.0**	**2.5**
Construction Impacts[3/]					
Tower Installation	0.0	1.5	0.5	0.0	2.0
Counterpoise Installation	0.0	1.8	0.0	0.6	2.4
Access Roads	0.0	1.8	0.0	0.0	1.8
Pulling/Tensioning Sites	0.0	0.0	0.0	0.0	0.0
Total	**0.0**	**5.0**	**0.5**	**0.6**	**6.1**

Notes:

1/ The easement acres represent the land within 75 feet either side of the transmission line centerline.

2/ Permanent impacts represent the impacts from new tower footings, new access roads, and existing access road improvements.

3/ Acreages reflect permanent impacts as well as temporary construction-related impacts from tower installation, counterpoise installation, access road construction or improvement, and placement of temporary pulling/tensioning sites.

Vegetation surveys of the proposed transmission line corridors were conducted in fall 2009 and spring/summer 2010. These surveys included rare and sensitive plant surveys. Surveys conducted during spring and summer 2010 were timed to consider the phenology of threatened, endangered, and sensitive (TES) plant species with the potential to occur in the project area. No TES plant species were identified on any of the action alternative corridors including WDNR lands.

As discussed in Section 3.3.2, the proposed project could result in the spread of noxious weeds, especially along newly constructed access roads. This potential impact would be reduced by the

implementation of mitigation measures discussed in this EIS and BPA's Vegetation Management Plan, as guided by BPA's Transmission System Vegetation Management Program EIS. It is BPA's policy to control or contain noxious weeds on its fee-owned properties and, when appropriate, on easement areas. When BPA holds actual fee title to property for its facilities, BPA has the full responsibility to control all vegetation, including plants identified as noxious weeds, on that property. When BPA holds its property rights for its facilities and rights-of-way through easements, BPA often assists or cooperates with the landowner that granted the easement to control noxious weeds on BPA's easement areas.

BPA uses a variety of means to participate in the control and containment of noxious weeds, including cooperation with other Federal, State, or local agencies; cooperation with property owners and land managers who have established ongoing weed control programs; and through BPA efforts in situations where weeds could spread from BPA facilities onto surrounding properties. Once the presence of noxious weeds is known, a strategy for control is developed and implemented. BPA recognizes and commits to actively contribute to WDNR's noxious weed control efforts in areas where weeds are present. Control during construction is designed to reduce the introduction or spread of weeds as a direct result of construction activities. Typical control actions include re-vegetation, providing chemicals to landowners, agreements with local weed control districts, or special requirements in the construction contract. Control during the maintenance phase would occur where BPA activities have caused or aggravated a noxious weed infestation and where adjacent landowners/managers have entered into an active weed control program.

To control or contain noxious weeds on WDNR parcels potentially crossed by the proposed project, BPA would undertake actions in coordination with WDNR at four stages of the proposed project: pre-construction, construction, immediate post-construction, and maintenance.

PRE-CONSTRUCTION

To strengthen efforts in assisting WDNR in the control or containment of noxious weeds on BPA easements across WDNR parcels, prior to construction BPA would identify the areas where noxious weeds are present These areas would be inventoried and documented. Construction specifications would contain a special provision stating how the noxious weeds would be controlled or contained. Where appropriate, the MOA with WDNR would identify necessary weed control measures.

All proposed actions to control or eradicate noxious weeds would comply with the Carson-Foley Act (P.L. 90-583), the Federal Noxious Weed Act (P.L. 93-629), and other applicable state and federal regulations.

CONSTRUCTION

During construction, the following types of actions would be employed to control the introduction and/or spread of noxious weeds on BPA easements across WDNR parcels:

a. Establish wash/blow station locations based on results of the pre-construction weed survey to minimize the spread of weeds.

b. Seeding the disturbed areas with commercially available native grasses may control weeds. In such cases, the site would be inspected in the spring or fall to determine the percentage of catch. To be fully effective, the seeding should be done when areas (or cuts) are first disturbed to ensure germination and control of noxious weeds.

To ensure that the desired level of noxious weed control is being carried out, the BPA field inspector and the land liaison representative would monitor the program.

IMMEDIATE POST-CONSTRUCTION

Upon completion of construction, the maintenance of the transmission line and its associated access roads and rights-of-way would become the responsibility of BPA Transmission Line Maintenance with the assistance of the BPA Regional Natural Resource Specialist. Before the line is released for future maintenance, the following activities would occur:

a. A detailed post-construction field review would be conducted with landowners/managers including WDNR, the BPA field inspector, and the BPA Regional Natural Resource Specialist. Specific weed control measures would be agreed upon, and responsibilities, including funding, would be assigned to the participating organization.

b. A clear understanding between the landowner/managers and BPA as to the responsibilities of their participation in the noxious weed program would be established.

MAINTENANCE

Future efforts, as part of on-going line maintenance activities, to control noxious weeds on BPA easements across WDNR parcels and other lands would be coordinated through the BPA Regional Natural Resource Specialist (NRS). Prior to conducting any such weed control, BPA's usual practice is to develop a noxious weed management plan within an overall Vegetation Management Prescription, followed by preparation of a Supplement Analysis (SA) to BPA's Transmission System Vegetation Management Program EIS. The SA provides a review of the control activities and ensures they are consistent with the vegetation maintenance activities contained in that EIS. BPA would coordinate preparation of the noxious weed management plan on WDNR managed trust lands with WDNR staff. Examples of maintenance policies that are defined in BPA's Transmission System Vegetation Management Program EIS, and that likely would be included in a noxious weed management plan and considered in SAs relevant to WDNR, include the following:

a. Apply pesticides to the rights-of-way.

b. Provide pesticides to landowners.

c. Contract with the owners or county weed control districts to apply herbicides to BPA rights-of-way.

d. Contract with the county weed control district to apply herbicides to specific identified noxious weeds.

e. Initiate additional control measures as recommended by local jurisdictions or responsible governmental agencies.

f. Where required by state or local agencies or in agricultural areas where noxious weeds are present, wash all vehicles used in that location before entering another location. Supply a spray truck or a 1-ton truck with a water tank to the site.

J.2.4 Recreation

Section 3.4 of the EIS provides an analysis of the project's potential impacts on recreation in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels. As discussed in the analysis, no impacts would occur to developed recreation sites, facilities, or trails on WDNR lands under any of the action alternatives because there are no WDNR or other Washington state designated recreational facilities or trails on the WDNR parcels potentially crossed by the proposed project. During construction, there could be short-term impacts to dispersed recreation activities, such as hunting, that are allowed by

WDNR on these parcels. Short-term impacts could occur as a result of temporary access restrictions and/or if wildlife is temporarily displaced. However, these dispersed recreational activities would be expected to continue at approximately their current levels after construction is complete, as allowed by WDNR.

J.2.5 Water Resources and Fish

Section 3.6 of the EIS provides an analysis of the project's potential impacts on water resources and fish in the project vicinity for all four routing alternatives, including the four WDNR parcels potentially affected by the transmission line and access roads, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels. There would be no impact to any perennial waterbody, wetland, or floodplain on WDNR lands under any of the action alternatives because there are no such water resources present on any of the four WDNR parcels potentially crossed by the proposed project. The Tucannon River is the only perennial waterbody that would be crossed by the action alternatives. None of the four WDNR parcels are located near or adjacent to the Tucannon River.

Table J-16 displays intermittent drainages located on the four WDNR parcels that could be affected by the proposed project. The only such drainage is Walker Canyon, which crosses from north to south through Parcel 3. As discussed in Section 3.6.2, if project-generated sediment were to reach an intermittent stream such as Walker Canyon, it would have little, if any, effect, and would likely be indiscernible from existing conditions within a few hundred feet. Similar to other intermittent drainages within the project area, impacts on Walker Canyon as it crosses through Parcel 3 would be none to low. There would be no impact to fish; none are present in this intermittent waterbody.

Table J-16. Intermittent Drainages within WDNR Parcels Crossed by the Action Alternatives

WDNR Parcel	Intermittent Drainages	Total Drainages Crossed
Parcel 1	None	0
Parcel 2	None	0
Parcel 3	Walker Canyon	1
Parcel 4	None	0

J.2.6 Cultural Resources

Section 3.8 of the EIS provides an analysis of the project's potential impacts on cultural resources in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels.

Cultural resource surveys were conducted of the proposed routing alternatives including the potentially affected WDNR lands in spring/summer 2010. No cultural resources were identified on WDNR lands.

J.2.7 Socioeconomics and Public Facilities

Section 3.9 of the EIS provides an analysis of the project's potential impacts on socioeconomics and public facilities in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels.

As discussed above in Section J.2.2, Land Use, Parcels 1 and 4 have grazing leases. Parcel 2 has both an agricultural and a grazing lease. Parcel 3 has an agricultural lease and is enrolled in the CRP. As discussed in Section 3.2 of the EIS, temporary construction-related disturbance from

transmission tower and counterpoise installation, new access road construction, and pulling/tensioning sites would occur. As shown above in Tables J-4 through J-7, permanent disturbance to agricultural land on WDNR parcels from construction of transmission tower footings and new access roads would range from zero (Parcels 2 and 4) to approximately 1.2 acres (Parcel 3) and 4.1 acres (Parcel 1). These totals represent a very small portion of the WDNR parcels (see Section J-1 for total parcel acreages) and the potential impact on agricultural and grazing leases would be low. Section 3.9.2 of the EIS provides a discussion of the potential impacts from the proposed project on agricultural practices, and these impacts would be the same on the WDNR parcels.

J.2.8 Transportation

Section 3.10 of the EIS provides an analysis of the project's potential impacts on transportation in the project vicinity for all four routing alternatives, including on the four WDNR parcels potentially affected by the proposed project, and identifies measures to lessen or avoid impacts that would also apply to the four WDNR parcels.

Table J-17 displays the proposed miles and acres of new access roads and those needing improvement located on the four WDNR parcels that could be affected by the proposed project. Figures J-4 through J-7 display the proposed new access roads and those needing improvement on these WDNR parcels. Included on Figure J-5, WDNR Parcel 2, are the roads that BPA proposes to acquire if a decision is made to proceed with the proposed project.

Table J-17. Miles and Acres of Proposed Access Roads on WDNR Parcels

Characteristic	WDNR Parcel 1	WDNR Parcel 2	WDNR Parcel 3	WDNR Parcel 4
Miles of new access road	1.3	0	0.5	0.4
Acres of new access road	6.1	0	2.4	2.0
Miles of access road needing improvement	0	0	0	0
Acres of access road needing improvement	0	0	0	0
Miles of access road to be acquired	0	0.4	0	0
Acres of access road to be acquired	0	1	0	0

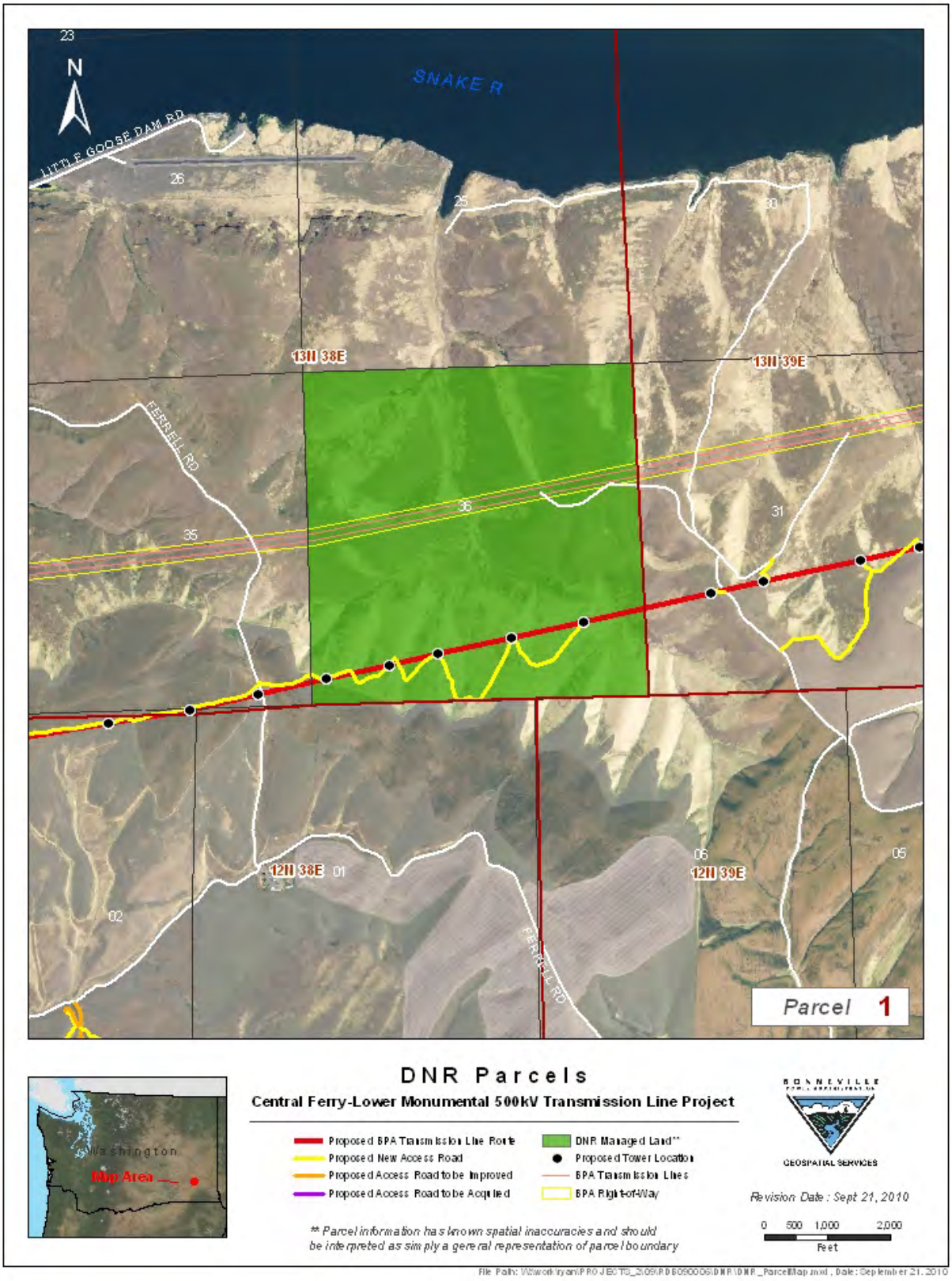

Figure J-4. WDNR Parcel 1

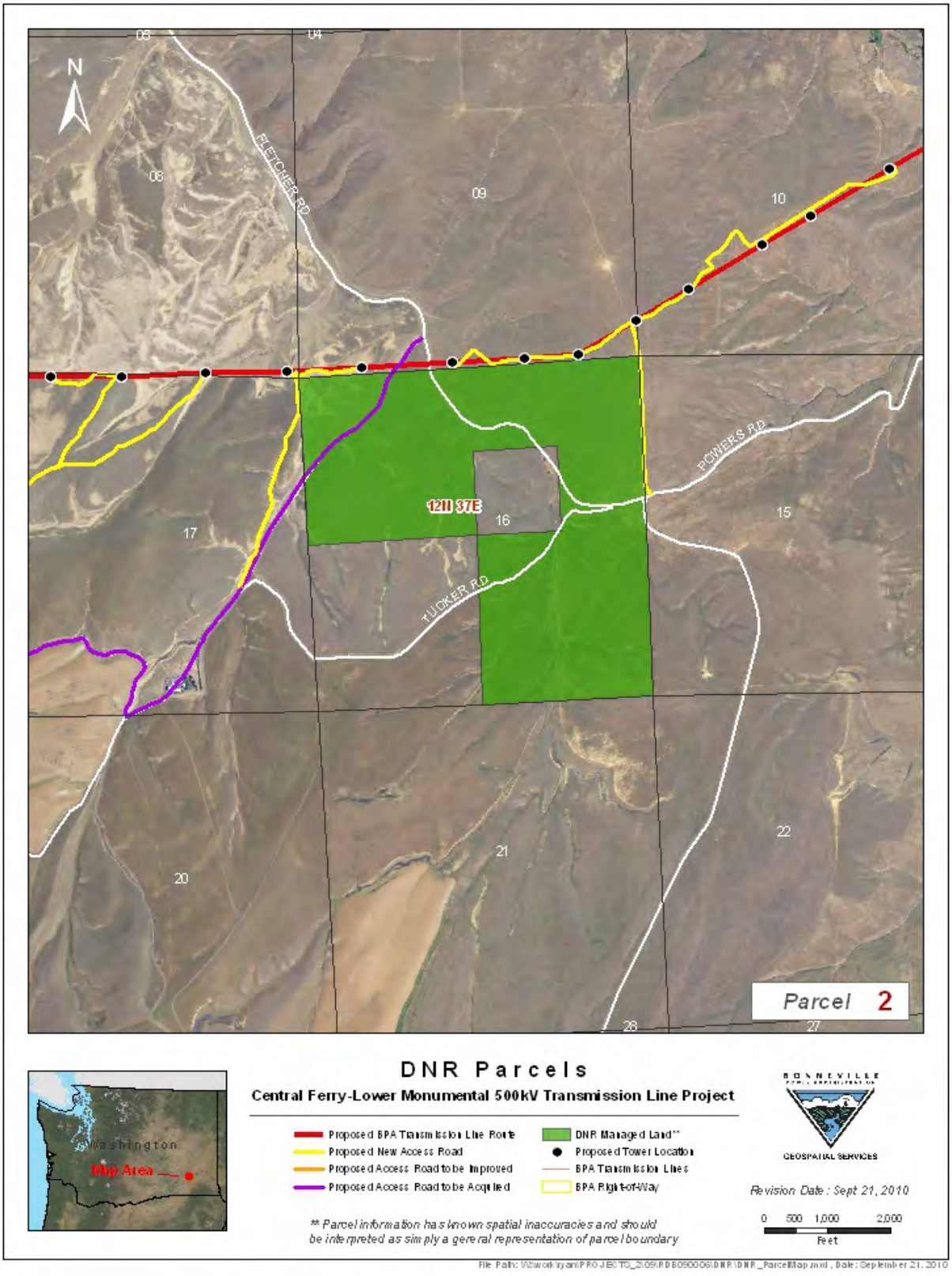

Figure J-5. WDNR Parcel 2

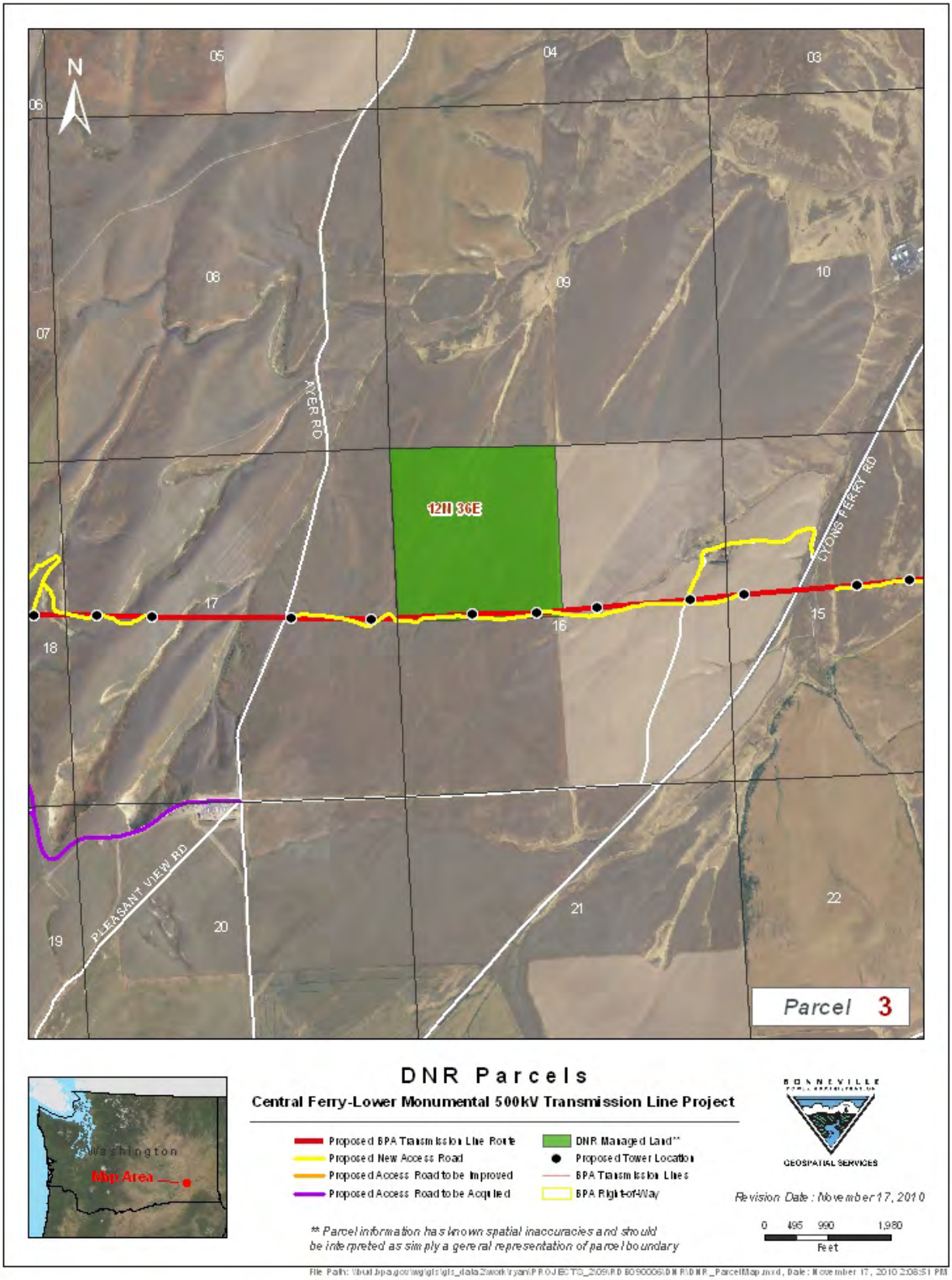

Figure J-6. WDNR Parcel 3

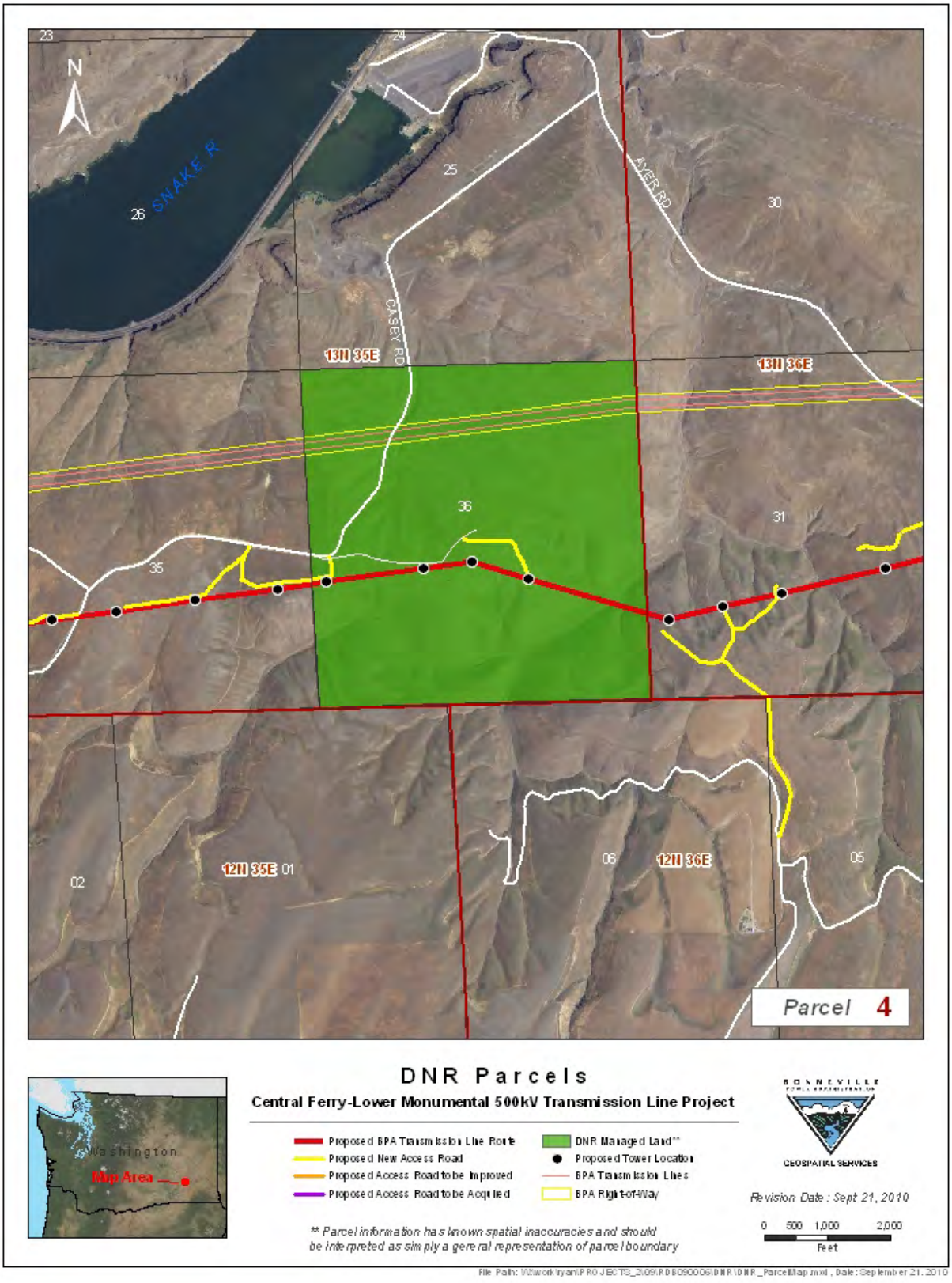

Figure J-7. WDNR Parcel 4

Table J-18 displays the general characteristics of access road easements proposed to be located on or adjacent to the four WDNR parcels that could be affected by the proposed project. This table identifies the type, length, and width of the proposed easements and the type of use that is expected (joint or BPA exclusive use). Typical use of these roads by BPA during construction would include about 40 to 70 trips. For designing the transmission line and access road system, about 20 to 30 trips would be needed. Typical use of these roads by BPA for operation and maintenance would include about 4 to 5 trips per year for access.

Table J-18. Characteristics of Proposed Access Road Easements on WDNR Parcels

BPA Tract ID/Tower	Legal Description	WDNR Parcel	Type of Easement	Length of Easement	Width of Easement	Use
AZC-10-AR-1	T12N R38E S 36	1	Permanent Road	1,683	50'	BPA Sole Use
AZC-10-AR-1	T12N R38E S 36	1	Permanent Road	2,281	50'	BPA Sole Use
AZC-10-AR-1	T12N R38E S 36	1	Permanent Road	1,089	50'	BPA Sole Use
AZC-10-AR-1	T12N R38E S 36	1	Permanent Road	1,460	50'	BPA Sole Use
AZC-20-AR-2	T12N R37E S 16	2	Existing Road	2,330	20'	Fletcher Road, Joint use
County Road	T12N R37E S 16	2	Existing Road	1,600	20'	Power Road, joint use
County Road	T12N R37E S 16	2	Existing Road	2,770	20'	Tucker Road, Joint use
Combination B Alternative Tower 96	T12N R36E S 16	3	Permanent Road	648	50'	BPA Sole Use
Combination B Alternative Tower 97	T12N R36E S 16	3	Permanent Road	1,624	50'	BPA Sole Use
Combination B Alternative Tower 98	T12N R36E S 16	3	Permanent Road	1,725	50'	BPA Sole Use
Combination B Alternative Tower 125	T12N R35E S 36	4	Permanent Road	1,825	50'	BPA Sole Use
Combination B Alternative Tower 127	T12N R35E S 36	4	Permanent Road	780	50'	BPA Sole Use
LM-LG-9-AR-2	T12N R35E S 36	4	Existing Road	3,870	50'	BPA Sole Use
Combination B Alternative Tower 126	T12N R35E S 36	4	Permanent Road	1,600	50'	BPA Sole Use
Casey Road (county road)	T12N R35E S 36	4	Existing Road	3,870	20'	Casey Road, Joint Use

A discussion of BPA's access road system for the proposed project is included in Section 2.2, Access Roads, of the EIS. This discussion includes a general description of the width, location, type of road improvement, and construction equipment that would be used. Use of temporary roads within agricultural fields is also discussed. Installation of gates to prevent unauthorized public access use is discussed in Section 3.10.2 of the EIS.

In 1987, BPA developed, as part of its Transmission Engineering Manual, an Access Road Planning and Design Manual (BPA, 1987). This comprehensive manual includes BPA's access road policy and standards regarding the design and construction of access roads that also would be used for proposed access roads on and adjacent to the four WDNR parcels. BPA normally acquires rights (easements or use permits for line access roads and fee title for substation access roads), and develops and maintains permanent overground access suitable for travel by wheeled vehicles to each transmission line structure site, communication station, maintenance complex, substation, or other transmission facility. Existing public and private roads and transmission line

rights-of way would be utilized for access when reasonably possible. Where permanent overground access is precluded by terrain, landowner, or environmental restrictions, plans to maintain the facility under these conditions must be developed and implemented.

Environmental, engineering, economic, and maintenance factors are considered in locating and designing access roads. Access road planning, as described in the BPA Manual, takes into account many factors including seasonal constraints for construction, steep slopes, present and potential land uses, soil conditions, soil erosion potential, water quality impacts, visual impacts, and impacts to cultural resources. The BPA Manual also describes erosion and sediment control methods that are implemented. Erosion control is a very important factor in planning, designing, constructing, and maintaining access roads. Erosion must be controlled during and after construction to prevent road damage, avoid undue increases in stream turbidity and sedimentation, and avoid soil deposition outside of the road right-of-way. Well-designed and constructed erosion control measures would reduce road maintenance costs and provide a reliable road in the event of emergency work on the transmission line. Drainage structures including culverts, intercepting dips, water bars, and gravel surfacing are elements of erosion control, as is seeding.

Access road planning and design are important elements of transmission project development. To be effective, they must begin at the earliest stage of project planning. BPA prepares access road plans and designs for all transmission projects, large or small, including all new transmission lines, access road development for older lines with inadequate access, transmission line relocations, taplines and switch points, and other installations except substations and communication stations. Well-developed access road plans and designs minimize construction and maintenance costs, environmental impacts, and costly delays because of late changes in access road routing. Access road plans and designs are developed using landowner, environmental, construction, and maintenance input. Prior to construction, representatives from BPA's Divisions of Construction, Land Resources, Transmission Engineering, and Area Maintenance will review proposed access road locations and designs. BPA would also commit to coordinating with WDNR on access road plans on WDNR parcels.

As discussed in the introduction to this appendix, BPA and WDNR expect to negotiate a Washington Statewide Rights-of-Way MOA with the goal of addressing BPA transmission line operations and maintenance compatibility with WDNR trust land management. Among other things, this MOA is expected to provide mutually agreeable definitions, classifications, and responsibilities for BPA sole and joint use access roads located on WDNR lands, in order to provide for mutually agreeable maintenance and operation of these roads. Although a statewide approach to BPA access roads on WDNR lands will be addressed in the Statewide MOA, there already has been fairly extensive discussion between BPA and WDNR on this issue. While these discussions have not concluded, they provide an indication of the likely language concerning definitions, classifications, and best practices for BPA access roads located on WDNR lands that BPA and WDNR expect may be included in the easement documents for the proposed Central Ferry-Lower Monumental Transmission Line Project, as well as in any project-specific maintenance and operation agreement that may be negotiated if the project is approved before the Statewide MOA is negotiated. Based on current, in-progress discussions between BPA and WDNR, any such language likely will be similar to, or possibly largely the same as, the following:

DEFINITIONS

1. Road Maintenance: Periodic work performed on a road so that the road prism remains usable and costly repairs are not needed. Activities include but are not limited to shaping the roadway, vegetation control, cleaning catch basins, installation of cross-drain culverts and

culvert maintenance, water bars, ditches, roadside brushing, and spot rocking. Includes traffic and non-traffic generated maintenance.

2. Road Improvement: Includes any work that increases the overall value of the road. Activities include but are not limited to: new road and bridge construction, bridge and culvert replacement, significant road surface improvement or changing the surface of a road, widening, ditch construction, abandonment, decommissioning and road realignments or rerouting. It does not include any of the specific activities listed in road maintenance.
3. BPA Sole Use Road: A road on State-managed uplands within and outside the transmission corridor that is used almost exclusively by BPA including roads built for the original line construction, patrol, maintenance, upgrades, emergency repairs, and vegetation management. General characteristics of this type of road include:
    a. Road does not currently, nor in the foreseeable future provide needed access to State-managed lands for the purpose of resource management.
    b. Road is not generally used, identified, or necessary for administrative use by State purchasers, lessees, or permittees.
    c. No additional easement holder user of the road has been identified.
    d. State rarely uses the road administratively. Such State use includes, but is not limited to easement administration.
    e. State does not have a designated recreational trail or promote other authorized recreational use of the road.
    f. State does not consider the road part of the State funded transportation system.
4. BPA/State Joint Use Road: A road on WDNR-managed land that is mutually beneficial where BPA is an easement holder. General characteristics of this type of road include:
    a. State uses or has immediate plans to use the road, or a portion of the road, to access DNR-managed lands.
    b. State's purchasers, lessees or permittees require use of the road.
    c. An additional easement holder user of the road may have been identified.
    d. State has designated sections of the road as a recreation trail or has invited recreational use onto the road.
    e. State maintains the road and considers the road part of the State funded transportation system.

BEST PRACTICES TO MAINTAIN AND IMPROVE JOINT AND SOLE USE ROADS ON STATE MANAGED LANDS

WDNR and BPA agree to produce and maintain a safe, cost effective, environmentally friendly, and practical road program that is supported by and meets the needs of the sole and joint use roads. Instead of complying with specific roads standards, the agencies will identify and implement best practices to accomplish the following objectives:

a. Protect water quality and avoid sediment loading into water bodies;
b. Protect sensitive areas and reduce ecosystem impacts;
c. Maintain natural channels, natural stream flow, and maintain passage for aquatic organisms;

d. Control surface water on the road;

e. Stabilize the driving surface;

f. Evaluate unauthorized use that may damage the road and take steps to curtail such use;

g. Implement needed slope stabilization measures and reduce mass wasting;

h. Establish compatible vegetation on disturbed areas; and

i. Avoid and control the spread of noxious weeds.

J.3 Possible Measures on WDNR lands

In addition to mitigation measures identified in Chapter 3 of the EIS, the measures shown in Table J-19 could be implemented to further reduce or avoid potential impacts on WDNR lands.

Table J-19. Possible Measures on WDNR Parcels

Measure	Implementation
Implement the MOA with WDNR that reduces noxious, invasive and undesirable species including tall growing woody plants and works towards compatible and native low growing species vegetation on WDNR lands. The MOA also will provide coordination between WDNR and BPA for the use of herbicides on lands where WDNR uses herbicides and minimizes the use of herbicides on lands where WDNR does not use herbicides.	Washington Statewide Rights-of-Way MOA / Central Ferry-Lower Monumental Easement Documents/Operations and Maintenance Agreement
Commit to developing and complying with mutually agreeable definitions, classifications, and responsibilities for BPA sole and joint use access roads for the proposed project that would be located on WDNR lands, with the goal of addressing operations and maintenance compatibility of the proposed transmission line with WDNR trust land management.	Washington Statewide Rights-of-Way MOA / Central Ferry-Lower Monumental Easement Documents/Operations and Maintenance Agreement
For any noxious weed management plans prepared for proposed weed control and other vegetation maintenance on WDNR managed trust lands as part of future line maintenance activities, coordinate preparation of these management plans with WDNR staff.	Noxious Weed Management Plans
Commit to coordinating with WDNR regarding the 1989 DNR Agricultural and Grazing Lands Policy Plan, Agriculture Business Plan, Strategic Plan, and related Resource Management Plans for affected WDNR parcels during construction and maintenance of the line and access roads over WDNR trust lands. Provide WDNR with notice of potential impacts to affected lands enrolled in the Conservation Reserve Program. Request permission to disturb ground cover as needed to complete the project and agree to restore impacted lands outside of lands developed to tower pads and access roads to the same type of cover at no expense to any applicable WDNR lessee or to WDNR as landowner.	Washington Statewide Rights-of-Way MOA
Implement the Appraisal MOU with WDNR to pay fair market value for any easement conveyances granted to BPA on trust lands.	Appraisal MOU
Utilize the Appraisal MOU with WDNR to assess the value for any reduction in CRP acreage due to construction of access roads or towers.	Appraisal MOU
Work with WDNR concerning a possible cooperative agreement for the control of unauthorized public access and use on state lands that could result from the proposed project. The agreement could address various provisions related to unauthorized access, such as additional measures to be taken to discourage unauthorized use of the project corridor and associated access roads, periodic inspection for unauthorized access and any resulting damage, and repair of any damage from unauthorized access. BPA will strive to design the corridor to prevent trespass and provide signs that discourage unauthorized use of the corridor.	Washington Statewide Rights-of-Way MOA / Central Ferry-Lower Monumental Easement Documents/Operations and Maintenance Agreement
In strategic locations identified by WDNR or BPA, mark the line easement corridor boundary so that BPA, contractors, adjacent landowners, and the public can clearly recognize when they are within the corridor to prevent uncompensated corridor expansion and vegetation management conflicts, and to reduce trespass.	Washington Statewide Rights-of-Way MOA/ Central Ferry-Lower Monumental Easement Documents/Operations and Maintenance Agreement
Develop a mutually agreeable fire prevention and suppression plan with WDNR that addresses managing and controlling the risks associated with wildland fire due to construction, operation, and maintenance of the transmission line.	Washington Statewide Rights-of-Way MOA / Central Ferry-Lower Monumental Easement Documents/Operations and Maintenance Agreement

BONNEVILLE POWER ADMINISTRATION

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