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United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: May 21, 2002

REPLY TO ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285/SA-65)

TO: Kathy Stephenson/ TR-TPP-4
Project Manager

Proposed Action: Vegetation Management along the Raymond – Cosmopolis Transmission Line would include danger tree removal within some areas adjacent to the right-of-way (ROW). Danger tree removal would mainly take place within 175 feet of the ROW centerline, except for some individual trees located further than 175 feet from centerline. Some brushing would take place along existing access roads, both on and off the ROW.

Location: The Raymond – Cosmopolis Transmission Line is located in the state of Washington, between the towns of Raymond in Pacific County and Cosmopolis in Grays Harbor County. The transmission line roughly parallels Highway 101.

Proposed by: Bonneville Power Administration (BPA)

Description of the Proposed Action: BPA proposes to remove danger trees with the goal of removing trees that could, within a 15-year period, be a hazard to the transmission line and to the health and safety of transmission line workers. The unstable danger trees would be replaced with Douglas fir, which tends to be a more stable native species. All work would be executed in accordance with the National Electrical Safety Code and BPA standards. No herbicide application would occur.

The areas where vegetation management would take place include selected areas adjacent to the ROW and some areas where brush would be removed along existing access roads. The attached checklist includes the specific locations where vegetation management activities would occur. Vegetation management is not needed along the entire ROW because there are no danger trees in areas that have been recently logged or replanted, or in areas where young or stable stands of trees are found. Danger tree removal areas are located on both sides of the ROW in some areas or only on one side of the ROW. In some areas only individual trees or groups of trees would be removed, leaving the remainder of the trees in that area. In other areas all trees would be removed. Most trees will be removed within 175 feet of the centerline of the ROW but some individual danger trees would be removed further from the centerline. The areas where brushing (removal of overhanging and encroaching vegetation) would be removed includes some access roads within the ROW and others off-ROW. Some approaches would be constructed off Highway 101, adjacent to the transmission line and danger tree removal areas, in order to remove trees.

A combination of manual and mechanical methods would be used to remove vegetation. Chainsaws would be used where access is restricted to manually remove vegetation. Equipment that might be used to mechanically remove logs includes skidders, caterpillar tractors, feller-bunchers, forwarders, yarders, and shovels. Danger trees would either be cut and removed or cut and left depending on the type of trees

and physical characteristics of an area. Slash would be disposed of using the appropriate method for the site. Methods that may be used to dispose of slash include lop and scatter, chip, physically remove, mulch with machines, or whole tree yard and treat slash at landing. Mulchers, grinders, or chippers might be used to dispose of slash.

During brushing, brush and trees adjacent to the road would be cut to a maximum of 4 inches above the ground surface. All limbs that extend within 14 feet over the surface of the roadway would be removed. Dead or unstable trees outside of the established clearing limits that are over 6 inches in diameter, lean toward the road, and are sufficiently tall to reach the roadbed if felled would also be cut. Stumps would only be removed if they were located within the traveled way. The disturbed areas that result from where stumps are removed would be smoothed, shaped, and compacted to prevent water ponding and soil erosion. Slash would be removed if greater than 12 inches in length or 3 inches in diameter, or in concentrations that may plug ditches or culverts.

Tree removal and brushing would be done utilizing Best Management Practices (BMPs) and mitigation in order to minimize environmental impacts. The attached checklist details the mitigation that would be implemented. Mitigation includes special practices along fish bearing streams (equipment restrictions, requirements to leave snags, prohibitions on removing trees from core riparian zones, and felling trees into the stream to provided large woody debris for fish habitat), general restrictions along non-fish bearing streams, restricted entry into wetlands until soils are dry if possible, the use of sediment and erosion control where appropriate to minimize impacts to water quality and fish habitat, and noise restrictions to minimize impacts to marbled murrelet, a federally listed species.

After harvesting, site restoration and replanting would be implemented. Landings and any temporary roads would be restored to original condition and topography, as much as possible. Any sediment and erosion control measures would be monitored for effectiveness until sediments and slopes are stabilized. Road approaches and disturbed roads areas would be seeded with a seed mix that includes native perennial species and a sterile hybrid grass for quick, temporary cover while the native species become established. Areas would be replanted with Douglas fir, where appropriate.

The proposed schedule for this project includes beginning most of the danger tree removal and brushing July 1, 2002, continuing through the summer, and ending in the fall of 2002. A few areas would not be cut until 2003, when access to these areas would be available, if the road building for the proposed Raymond-Cosmopolis Rebuild Project is done.

Analysis:
The attached checklist for this project meets the standards and guidelines for the Transmission System Vegetation Management Program Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). The checklist demonstrates that the site-specific planning steps required by the FEIS were followed and that the appropriate mitigation would be implemented, as recommended within the FEIS. The natural resources that were identified within the project area, potential impacts to those resources, any consultation requirements, and the appropriate mitigation are summarized below and detailed in the checklist. The impacts to these resources fall within the type and magnitude of impacts contemplated by the FEIS.

Water Resources: Water resources include wetlands, a few rivers, and streams of various sizes, some perennial, some intermittent, and some ephemeral drainages. Information on water features was gathered from state stream typing information, USGS quadrangle maps, National Wetland Inventory Maps, BPA photomaps, site visits, and by employing photogrammetry techniques.

The following measures would be implemented throughout the project area to protect water resources:

- Erosion and sediment control measures would be implemented, where needed, to prevent sediments from entering any surface water body including streams and wetlands
- Heavy equipment would not be allowed within 50 feet of rivers and streams to protect streams from mechanical damage and from sedimentation
- Mechanized equipment would be stored at least 150 feet from any waterway
- Equipment would be refueled at least 400 feet from any waterway
- Equipment would be inspected on a daily basis for leaks and promptly repaired if leaking

To identify wetlands within the project area, a wetland determination was done of the areas where danger trees would be removed. Although the project area is generally in uplands traversed by riparian areas, some areas of forested wetlands are located within danger tree removal areas and some scrub/shrub wetlands occur in the ROW, adjacent to danger tree areas along Highway 101. Wetlands were mapped on aerial photomaps and they would be flagged in the field prior to project implementation.

To mitigate for potential impacts to wetlands, contractors may not enter wetlands except to cut trees and remove trees, until the dry season when (and if) soils are dry enough to prevent disturbance. If this were not possible, the soil surface would be protected by the use of mats. Entry into wetlands when the soils are wet is allowed for entry on foot to remove trees by manual methods. As much as possible, the understory vegetation in wetlands would be left undisturbed.

Threatened or Endangered Species: The US Fish and Wildlife Service (USFWS) provided a list of the federal status species with the potential to occur in the project area. The list included the following listed species: bald eagle, bull trout, marbled murrelet, and northern spotted owl. The only federally proposed species within the project area is coastal cutthroat trout.

The Biological Assessment (BA) for this project addressed the status of these species, potential effects to these species, and conservation measures to minimize effects. The BA was submitted in early July 2001 and BPA and USFWS are currently engaged in the consultation process. BPA would follow the terms and conditions in the Biological Opinion (expected to be issued in June 2002) regarding listed species. The effects determination made by BPA for each of these species is discussed below.

Marbled murrelet is a listed threatened species that is known to occur near the ROW. Potential habitat areas were identified within a ½ mile corridor on either side of the ROW using photo interpretation, then verified by a field visit to the areas. The project would include tree removal within 14.6 acres of suitable habitat and 4.3 acres of marginal habitat. Marginal habitat is not expected to be used by birds for nesting because some of the physical characteristics of the occupied sites are lacking. The determination for marbled murrelet within the BA is “May Affect and Likely to Be Adversely Affected” by the project.

Tree removal would not be allowed within suitable marbled murrelet habitat during the core-breeding season, which begins April 1st and extends until August 5th. Because marbled murrelet are sensitive to noise during the breeding season, mitigation includes noise restrictions to protect the birds during the breeding season from noise. Timing restrictions would apply within suitable habitat and within ¼ mile of suitable habitat. During the core breeding season, prior to August 6th, no noise creating activities are allowed within 1/4 mile of suitable habitat. Between August 6th and September 15th, noise-creating activities are only allowed to occur only between two hours after sunrise and two hours before sunset. Noise creating-activities are defined as any noise above the ambient noise level.

As additional mitigation for marbled murrelet, BPA would train all personnel (Contractor and BPA) working on this project in the identification and reporting of murrelets, including adults, eggs, and chicks, prior to commencing any work

The BA concluded that bull trout are not found within the project area. Subsequently, USFWS informed BPA that one stream at the northern end of the project area (Mill Creek) drains into the Chehalis River, which contains bull trout. Because Mill Creek may provide bull trout habitat, the trees near the stream would be cut and left and the riparian area restrictions recommended by NMFS to protect fish habitat would be followed. With this mitigation in place, the project "May Affect, But is Not Likely to Adversely Affect" bull trout

The BA determination for spotted owl is that the project "May Affect, but is Not Likely to Adversely Affect" spotted owls. The nearest documented activity center for spotted owls is over one mile from the proposed work sites and noise would not affect nesting birds. No suitable nesting habitat is present with the ½-mile corridor on either side of the ROW, although the birds could use some areas for roosting, foraging, or dispersal. If present, owls would likely temporarily avoid noisy areas. The mitigation in place for marbled murrelet also minimizes effects to spotted owls.

BPA concluded there is a "No Effect" determination for bald eagles. Habitats that would be affected either directly or indirectly by the proposed action do not contain the attributes necessary for suitable foraging, nesting, roosting, or perching. It is not likely that bald eagles would occur in the area other than incidentally, such as in flight between the Chehalis basin to the Willapa basin.

BPA addressed coastal cutthroat in the BA, in the event that it might become listed during the life of the project (the listing decision is expected on June 23, 2002). Coastal cutthroat trout are know to occur in some streams within the project area and it is assumed that they occur in the Type 1-4 streams in the project area (Type 1-3 are fish bearing, and Type 4 are probable fish bearing). If listed, BPA would promptly reenter in formal consultation to obtain a Biological Opinion covering this species.

To mitigate for the effects to coastal cutthroat trout and other fish species, the following Essential Fish Habitat Assessment Conservations Recommendations from NMFS would be followed:

- All felled trees from the Core Riparian Management Zone (RMZ) would remain in the core zone. The Core RMZ is defined as the area within 50 feet on either side of the bank of a fish bearing streams. Trees would be felled into the stream to provide large woody debris. A minimum of 50 percent of the cut trees would be left as snags approximately 30 feet tall to provide woody debris as they decay and to provide food and habitat.
- In the Outer RMZ, defined at the area from the Core RMZ boundary, extending out to 170 feet from the edge of bank, a minimum of 10% of the trees would be left as snags.
- Riparian areas would be replanted with Douglas fir, a native woody species, however the core zones will not be replanted due to excessive slash from the trees that will be fallen into the streams.

Visual Resources: Tree removal would affect the quality of the visual resources, particularly in the areas where the ROW is visible to travelers along Highway 101. Tree removal is consistent with the land use and landscape patterns in place in this area because most of the area is dedicated to timber production. Stands of trees in various stages are present along the highway, including recent clearcuts, young stands of trees, and more mature stands that will likely be logged.

Portions of Highway 101 have State Scenic Classifications, including "Secondary Scenic Importance" and "High Scenic Value" designations. A Washington Department of Transportation (WSDOT) planner stated that WSDOT must take health and safety concerns into consideration and remove trees that are a hazard, therefore there are no restrictions on tree removal associated with this classification.

To mitigate for visual impacts, most of the tree removal areas would be replanted to Douglas fir, where appropriate. Douglas fir grows quickly, providing dense, attractive cover. In wet areas, it is expected that seedling red alder would volunteer and cut trees would immediately resprout because herbicides are not being used. Understory vegetation such as salal, salmonberry, and other species are expected to recover and spread fairly quickly. Within danger tree areas along Highway 101 that are within WSDOT fee ownership, mitigation may also include some plantings of low-growing native vegetation.

Cultural Resources: BPA consulted with the State Historic Preservation Office (SHPO) and seven Tribes with Usual and Accustomed Use areas within the project area. The SHPO recommended that a cultural resources survey be conducted. Both the SHPO and the Tribes were given the opportunity to comment on the proposed methodology of the survey.

A cultural resources survey was done of all areas in Spring 2002 of all areas that could be potentially affected by this project. The survey did not reveal any cultural resources within the Area of Potential Impact (APE). Prior to the survey, a background records and literature research was conducted in order to document the presence or absence of potentially significant cultural resources within the project area. Although there are no recorded sites within the transmission line right-of-way, one prehistoric archaeological site and three historic-period sites have been recorded within one mile of the northern end of this transmission line in Cosmopolis. Although the cultural resource survey did not reveal any known cultural resource sites within the project APE, if cultural resources are uncovered during construction, work would stop in the immediate vicinity of the discovery and BPA would consult with the Washington State Historic Preservation Officer.

Steep Slopes/Unstable Slopes: A certified geologist visited the site and compiled a Slope Stability Report. This report describes specific sites where there might be stability issues and made recommendations regarding the acceptability of cutting and removing trees. Based on this study, BPA excluded some areas from the project to avoid unstable slopes. In other areas, BPA determined where it was prudent to cut and leave trees and restrict machinery, rather than remove trees.

Public Involvement: Public involvement activities took place as part of this project, as detailed in the attached checklist. The following contacts were made:

- Landowners: Beginning in the fall of 2000, landowners were contacted through several mailings and personal contacts. Landowners were invited to a public meeting in April of 2002, where the danger tree project manager was available to answer questions. Landowners were asked for permission to have an archeological survey conducted on their land in April of 2002. Numerous contacts, including meetings, have been held with Weyerhauser Corporation, the main landowner within the project area.

- Tribes: Although there are no Tribal Lands along the ROW, it may be within the Usual and Accustomed Use area of seven Tribes. The Tribes were contacted through several letters and phone calls. Information on this project was made available to these Tribes and BPA initiated Section 106 consultation under the National Historic Preservation Act of 1966 in conjunction with the cultural resources survey for this project.

- General Public: A mailing list was developed which included people who might have an interest in this project including nearby residents and public interest groups. A public meeting was held in April 2002 for a related project along this transmission line (the Proposed Rebuild Project) and a section in that letter described the Danger Tree Removal Project and stated that the Project Manager would be at public meetings to discuss the project. The meeting was advertised in local newspapers and an article appeared prior to the meeting in the local paper. Information on how to contact the Danger Tree project manager and the environmental lead was present in the mailings.

- Agency Coordination and Contacts: BPA has coordinated with a variety of federal, state, and county agencies since early in 2001 to gather information, determine requirements and recommendations, and enter into consultation when required. Federal agencies contacted include the US Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the Army Corps of Engineers (ACOE). State agencies include the Washington Department of Natural Resources (DNR), the Washington Department of Fish & Wildlife (WDFW), and the Washington Department of Transportation (WSDOT). County agencies include the Planning Departments of Grays Harbor and Pacific Counties, and Pacific and Grays Harbor County Weed Boards.

Findings:

1) The proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and
2) There are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts.

Therefore, no further NEPA documentation is required.

/s/ Kimberly St. Hilaire
Kimberly St.Hilaire
Environmental Protection Specialist – KEC-4

CONCUR: /s/ *Thomas C. McKinney* DATE: 5/21/02
Thomas C. McKinney
NEPA Compliance Officer

Attachments:

cc:

L. Croff – KEC-4
T. McKinney – KEC-4
K. St.Hilaire – KEC -4
P. Key – LC-7
J. Meyer - KEP-4
S. Hugill – KEP-4
J. Sharpe - KEPR-4
M. Martin – KEPR/Covington
M. Johnson – TF/DOB-1
D. Krauss – TFO/Olympia
S. Martin – TFO/Olympia
Jim Jellison – TFO/Olympia
K. Stephenson – TR-TPP-4
Environment File – KEC-4
Official File – KEP-4 (EQ-14)

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Vegetation Management Checklist
for the Raymond – Cosmopolis Danger Tree Removal Project

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

Describe Right-of-way.

ROW: The right-of-way (ROW) traverses rural land, roughly parallel to Highway 101, crossing the Highway several times. No danger tree removal activities are proposed within the existing 50-foot ROW.

Danger Tree Removal: Danger trees will only be removed adjacent to portions of the ROW. There are no danger trees in areas that have been recently logged or replanted, or in areas where young or stable stands of trees are found. Danger tree removal areas generally extend up to 175 feet away from the ROW centerline, either on both sides of the ROW, or only on one side. In some cases, individual danger trees may be located more than 175 feet from the ROW.

Danger trees will either be cut and removed or cut and left depending on the type of trees and physical characteristics of an area. In some areas only individual trees or groups of trees were individually marked and will be removed, leaving the remainder of the trees in that area. In other areas all trees will be removed.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Raymond – Cosmopolis No. 1	18.3 Miles; 115 kV	50’	Various locations adjacent to the ROW within the 18.3 miles

Access Roads: Overhanging and encroaching vegetation (brushing) will be cut along the following existing access roads, some within the ROW and others off-ROW:

Road Name on BPA Photomaps (if off ROW) and Location Relative to Towers	Area along Road where Brushing Will Occur (Stationing)	Road Width Where Brushing Will Generally Occur
On ROW, Between Tower No. 78 and No. 82	428+70 to 443+90	Up to 16 feet wide
On ROW, Near Tower No. 107	608+95 to 604+81	Up to 16 feet wide
R-C-12-AR-1, Near Tower No. 105	0+00 to 15+56	Up to 16 feet wide
R-C-12-AR-4, east of Towers 112 and 113	0+00 to 5+40	Up to 16 feet wide
R-C-17-AR-1, Near Tower No. 148	0+00 to 17+90	Up to 16 feet wide
R-C-17-AR-3, Near Tower No. 149	0+00 to 14+56	Up to 16 feet wide
R-C-17-AR-4, Between Towers No. 150 and 151	0+00 to 7+80	Up to 16 feet wide
R-C-17-AR-5, Near Tower No. 151	1+00 to 10+25	Up to 16 feet wide

Road Name on BPA Photomaps (if off ROW) and Location Relative to Towers	Area along Road where Brushing Will Occur (Stationing)	Road Width Where Brushing Will Generally Occur
R-C-17-AR-6, Near Tower No. 154	0+00 to 5+27	Up to 16 feet wide
R-C-17-AR-7, Near Tower No. 155	0+00 to 21+33	Up to 16 feet wide
R-C 17 AR-8, Between Towers No. 155 and No. 156	0+00 to 3+50	Up to 16 feet wide
R-C-18-AR-1, Near Tower No. 160	0+00 to 12+30	Up to 16 feet wide
R-C-18-AR-2, Near Tower No. 159	0+00 to 3+20	Up to 16 feet wide
R-C-18-AR-3, Near Tower No. 161	0+00 to 6+23	Up to 16 feet wide

1.2 Describe the vegetation needing management.

Vegetation Types: Danger trees include the following species: Douglas fir, hemlock, Sitka spruce, red alder, and western red cedar.

There are two types of plant communities needing management. In uplands, the forests are dominated by coniferous species, including Douglas fir, hemlock, and Sitka spruce, with occasional western red cedar near riparian areas. In riparian areas and wetlands adjacent to streams, red alder is the common dominant species. A few forested wetlands are dominated by Sitka spruce.

Density of trees: High (250 + stems/per acre)

1.3 List measures you will take to help promote low-growing plant communities. If promoting low-growing plants is not appropriate for this project, explain why.

Because the danger tree removal areas are adjacent to the ROW and are mainly timber production lands, it is not appropriate to convert these areas to low growing plant communities. Because Douglas fir is a fairly stable species, the danger tree removal areas will be replanted to Douglas fir. Cut and leave areas will not be replanted.

1.4 Describe the overall management scheme/schedule.

Initial entry: In the summer and fall of 2002, beginning July 1, most of the identified danger trees will be cut and removed or cut and left, depending on the treatment in that area. To identify danger trees, individual trees have been marked or the backline (boundary of danger tree area, away from the centerline of the ROW) has been marked. A few areas will not be cut until 2003, when there would be access to these areas, if the road building for the proposed Raymond-Cosmopolis Rebuild Project is done.

Table 1.4, below, lists the areas where danger trees will be cut and in some cases removed. This includes individually marked trees, which may include one tree to a group of trees, and also areas where all the trees will be cut.

Table 1.4. Locations of Raymond Cosmopolis Danger Trees To Be Cut

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Douglas-fir	Right	45’	-155’ No. 2
Spruce	Left	25-70’	-5’ No. 2 to +90’ No. 2
Alder	"	"	"
Alder	"	"	"
Douglas-fir	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Various	Left & Right	25-150’	+150’ No. 7 to +300’ No. 9
Hemlock, Alder	Left	100-250'	Roadway & landing site for R-C-1-AR-3
Various	Right	25-150’	+300’ No. 9 to +250’ No. 11
Various	Right	25-150’	-500’ No. 13 to +100’ No. 15
Various	Right	200-400'	Temporary road -100' No. 13
Alder	Left	60'	+50 No. 13
"	"	25—60'	-210' No. 14 to –160' No.14
"	"	"	"
"	Right	20-50'	-100' No. 16 to –80 No. 16
"	"	"	"
"	"	"	"
"	"	20-40'	-110 No. 18
"	"	"	"
"	Right	20—70'	-150' No. 19 to –50' No. 19
"	"	"	"
"	"	"	"
"	"	"	"
"	Left	"	-220' No. 19 to –90' No.19
"	"	"	"
"	"	"	"
Douglas-fir	"	"	"
Alder	Right	20—50'	-40' No. 20 to –20' No. 20
"	"	70—90'	-280' No. 28
"	"	"	"
Various	“	25-150’	-350’ No.24 to +400’ No. 24
Various	“	25-90’	+30’ No. 27 to +380’ No. 27
Alder	"	20—40'	+30' No. 28 to +50' No. 28
Various	“	25-50’	+200’ No. 28 to –200’ No. 29
Hemlock	"	20—70'	+140' No. 28
Alder	"	20—40'	-200' No. 29
"	"	20—60'	+110' No 31
"	"	20-75'	+150' No. 33 to +300' No. 33
"	"	"	"
"	"	"	"
"	"	"	"
Willow	Right	"	+150' No. 33 to +300' No. 33

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Douglas-fir	"	"	"
"	"	"	"
Alder	"	20—80'	-250' No. 37 to –200' No. 37
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	-160' No. 37
"	"	"	"
"	"	"	"
Alder	Right	20—80'	+30' No. 37 to –120' No. 38
"	"	"	"
Hemlock	"	"	"
"	"	"	"
Various	“	25-190’	-380’ No. 39 to +10 No. 45
Hemlock	Right	20-75'	+10' No. 45 to +50' No. 46
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Spruce	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Douglas-fir	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	Left	50'	-90' No. 48
"	Right	60'	-90' No.48
"	Left	20—70'	-60' No. 48 to +50'No. 48
"	"	"	"
"	"	"	"
Alder	Left	20-70’	-60’ No. 48 to +50’ No. 48
Wild Cherry	Left	"	"

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Alder	"	30—70"	-180' No. 49 to –110' No. 49
"	"	"	"
"	"	"	"
"	"	"	"
Alder	Left	20—50'	+50' No. 50 to + 70' No. 50
"	"	"	"
"	"	"	"
"	"	20—70'	+175' No. 50 to +200' No. 50
"	"	"	"
"	"	"	"
"	"	"	"
Wild Cherry	Right	20—40'	+275' No. 50
Alder	Left	"	-225 No. 51
"	Right	"	-225' No. 51
Various	Right	25-100’	+400’ No. 59 to +900’ No. 59
Various	Left & Right	25-175’	+900’ No. 59 to –300’ No. 63
Various	Left	25-200’	-300’ No. 63 to –100’ No. 65
Various	Left & Right	25-180’	-100’ No. 65 to –50’ No. 68
Various	Right	25-150’	-50’ No. 68 to +230’ No. 71
Spruce	Right	30'	-110' No. 72
"	"	30-50'	+100' No. 72 to +250 No. 72
Hemlock	"	"	"
"	"	"	"
"	"	"	-200' No. 73
"	"	"	"
"	"	"	"
Various	Right	25-100’	-30’ No. 73 to +300’ No. 73
Hemlock	Right	60'	+175' No. 74
"	"	"	"
Various	Right	25-150’	+180’No. 74 to +250’ No. 78
Various	Left & Right	25-125’	+250’ No 78 to No. 80
Various	Left	25-170’	No. 80 to No. 83
Douglas-fir	Right	20—35'	+140' No. 84
Alder	Left	20—60'	-100' No. 87 to +110' No. 87
"	"	"	"
"	"	"	"
Douglas-fir	Right	20—35'	+75' No. 88 to +180' No. 88
Alder	"	"	"
"	"	"	"
Cascara	"	"	"

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Alder	Left	20—70'	+100' No. 88 to9 –100' No. 89
"	"	"	"
"	"	"	-5' No. 89 to –40' No. 90
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Spruce	Left	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Douglas-fir	"	"	"
Various	Right	25-200’	+30’ No. 89 to +350’ No. 90
Various	Left	25-75’	-80’ No. 94 to –100’ No. 95
Various	Right	25-50’	-200’ No. 95 to +350’ No. 95
Various	Right	25-150’	-150’ No. 96 to –400’ No. 105
Various	Left & Right	25-150’	-400’ No. 105 to +200’ No. 111
Various	Right	25-75’	+200’ No. 111 to No. 112
Various	Left & Right	25-75’	No. 112 to no. 115
Alder	Right	25—40'	-100' No. 118 to +100' No. 118
Various	Left & Right	25-50’	+200’ No. 118 to +125’ No. 120
Spruce	Right	20—75'	-175' No. 121
Hemlock	"	"	-5' No. 121
Douglas-fir	Left	"	+25' No. 121 to + 100' No. 121
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	"	"	"
"	"	"	"
Various	Right	25-50’	+25 No. 121 to +280’ No. 121
Alder	Right	20—50"	-220' No. 122 to-200' No. 122
Douglas-fir	"	"	-20' No. 122 to +20' No. 122
"	"	"	"
Hemlock	Left	"	-90' No. 122 to +250' No. 122
"	"	"	"
"	"	"	"
Hemlock	Left	20-50’	-90’ No. 122 to +250’ No. 122
"	"	"	"
"	"	"	"

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Alder	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	Right	20—60'	+210' No. 122 to +220' No. 122
"	"	"	"
"	"	"	"
"	"	"	"
Various	Left	25-50’	-300’ No. 123 to +30’ No. 125
Hemlock	Right	20-70'	-300' No. 124
"	"	"	"
"	Left	20—80'	-40' No. 124 to +5' No. 124
"	"	"	"
Hemlock	Left	20—80'	-40' No. 124 to +5' No. 124
Alder	Right	50—85'	+20' No. 124 to +320' No. 124
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Hemlock	"	50—85'	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	-130' No.125 to -60' No. 125
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	"	"	"
"	"	"	"
Hemlock	Left	35-85’	-50’ No. 131 to –10’ 131
“	“	“	“
“	“	“	“
“	“	“	“
Alder	Right	20-75'	-60' No. 131 to +200' No. 132
"	"	"	"
"	"	"	"
"	"	"	"
Spruce	"	"	"
"	"	"	"
Spruce	Right	20-75’	-60’ No. 131 to +200’ No. 132
Red Cedar	"	"	"
Hemlock	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Douglas-fir	"	"	"
"	"	"	"
"	"	"	"

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Hemlock	Left	50-100’	+170’ No. 132 to +270’ No. 132
"	"	"	"
"	"	"	"
Alder	"	"	"
"	"	"	"
"	"	"	"
Alder	Left	50-100’	+170’ No. 132 to +270’ No. 132
"	"	"	"
Alder	Right	20—65'	-150' No. 133 to –75' No. 133
Alder	"	20—65'	-150' No. 133 to –75' No. 133
"	"	"	"
Alder	Left	30-140’	+125’ No. 133 to –200’ No. 134
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Hemlock	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Spruce	"	"	"
"	"	"	"
Alder	Right	20—80'	+150' No. 133 to –20' No. 134
"	"	"	"
Alder	Right	20-80’	+150’ No. 133 to –20’ No. 134
"	"	"	"
Hemlock	"	"	"
Alder	Left	20—85'	-40' No. 135 to +20' No. 135
"	"	"	"
"	"	"	"
Hemlock	"	"	"
Various	Left	25-75’	-200’ No. 137 to +350’ No. 138
Alder	Left	20-85’	-250' No. 139 to –200' No.139
"	Right	20—50'	-210' No. 140
"	"	20—60'	-80' No.140 to –50' No.140
Willow	"	"	+250 No. 140
"	"	"	"
Various	Left & Right	25-75’	-300’ No. 141 to +300’ No. 141
Hemlock	Right	25-60'	-20 No. 142 to No. 142
"	Left	"	"
"	"	"	"

Species	Side of Centerline	Distance from Centerline	Location of Trees Relative to Towers
Hemlock	Left	25-60’	-20 No. 142 to No. 142
Hemlock	Right	25-60’	No. 142 to +100 142
Alder	"	"	"
Cascara	"	"	"
Various	Left & Right	25-75’	-550’ No. 143 to +50’ No. 143
Alder	Left	20—50'	+50 No.143 to +250' No.143
"	"	"	"
"	"	"	"
Hemlock	"	"	"
"	"	"	"
"	"	"	"
Alder	Right	20—35'	+75' No. 145
Douglas-fir	Left	"	"
Alder	"	20—50'	-40' No.148
Various	Left & Right	25-150’	-300’ No. 148 to +700’ No. 149
Various	Left & Right	25-100’	+150’ No. 150 to +50’ No. 154
Various	Left & Right	25-170’	+100’ No. 155 to –200 No. 166
Hemlock	Left	20-120'	-200' No.166 to –10' No.166
"	"	"	"
"	"	"	"
"	"	"	"
Red Cedar	"	"	"
Alder	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Alder	Left	20-120’	-200’ No. 166 to –10’ No. 166

Subsequent entries:

- The cutover areas will be replanted to Douglas-fir where appropriate, except for the cut and leave areas and core riparian zones where there will be too much slash from dropping the trees into the stream, in Winter 2003
- Any remaining danger tree areas will be cut and removed or cut and left in the spring, summer, or fall of 2003, then replanted, if appropriate.

Future cycles: There are no plans for continued management of these lands, except for future danger tree removal if needed.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

List the types of landowners and land uses along your corridor.

Private Timber Lands: Most of the land adjacent to the ROW is devoted to timber production, owned by private timber companies, primarily Weyerhauser Corporation.

State Owned and Managed Land: Near the Raymond substation, approximately ½ mile of the ROW is within state lands managed by the State of Washington's Division of Natural Resources (adjacent to Butte Creek Recreational Area).

Rural Residential Property: Some rural residential property is located along the ROW and 14 rural residential landowners would be affected by this project.

Privately Owned Business: There are two privately owned businesses that will be affected by the project:

- Weyerhauser Corporation owns most of the land in the project area.
- Trees will be removed along the edge of a golf course, adjacent to Highway 101.

Describe method for notifying right-of-way landowners and requesting information (i.e., door hanger, letter, phone call, e-mail, and/or meeting). Develop landowner mail list, if appropriate.

Landowners: Beginning in 2001, landowners were contacted through several mailings and personal contacts. The purpose of these contacts was to discuss the proposed project activities and location of danger trees. Landowners were invited to a public meeting in April of 2002, where the danger tree project manager was available to answer questions. Landowners were asked for permission to have an archeological survey conducted on their land in April of 2002.

The BPA Project Manger made the following contacts with Weyerhauser Corporation, the major landowner in the project area:

- Feb. 14, 2000 - Met with Jim Hillery to initially discuss the idea for the project
- June 22, 2000 - Met with Jim Hillery and Sue Eisler at their office in Cosmopolis to discuss the project
- Dec. 18, 2000 - Met with 5 representatives at the office in Raymond; Eric Powers, wildlife biologist of BPA, was there to discuss marbled murrelets and other federally listed or proposed species that may occur in the project area
- Jan. 29, 2001 - Met to go over trees and access roads
- March 15, 2001 - Met with Steve Barnowe-Meyer, to look at specific roads and trees within his district
- March 29, 2001 - Met with Jay Zillett, to look at specific roads and trees within his district
- April 20, 2001 - Meeting to write Letter of Understanding (LOU)
- Jan 7, 2002 - Meeting to introduce rebuild project

The following contacts were made with other landowners who would be directly affected by the project:

- Early Oct., 2000 - Sent out letter to landowners for Permission to Enter Property, describing project
- 2001-2002 – Project manager met with or spoke with the rural residential landowners within project during various times
- April, 2002-letter to landowners inviting them to public meetings in Raymond or Cosmopolis to discuss the danger tree project activities with the BPA Project Manager, Kathy Stephenson

Tribes: There are no tribal lands along the ROW. The ROW may be within the Usual and Accustomed Use area of seven tribes, including the Quinault Tribe of the Quinault Reservation, Squaxin Island Tribe, Skokomish Tribe, Confederated Tribes of Chehalis Reservation, Shoalwater Bay Tribe, Nisqually Indian Tribe, and the Cowlitz Indian Tribe. Contacts made with these Tribes are detailed in Section 2.6 below.

General Public: A mailing list was developed which included people who might have an interest in this project. A public meeting was held in April 2002 for a related project along this transmission line (the Proposed Rebuild Project) and a section in that letter described the Danger Tree Project and stated that the Project Manager would be at public meetings to discuss the project. The public letter and advertisements (in local newspapers) for the meeting was sent out to all people on the mail list. Information on how to contact the project manager and the environmental lead was present in the mailings.

2.3 List the specific land owner/landuse measures — determined from the handbook or through your consultations with the entities — that will be applied.

Residential and Commercial requirements are being determined through Letter of Understanding with Weyerhauser and through individual agreements with rural residential landowners.

2.4 Review any existing landowner agreements (e.g. tree/brush Permits or Agreements). List in table above any provisions that need to be followed and where they are located.

There are no existing landowner agreements with provisions regarding the vegetation maintenance that must be followed.

2.5 List any known casual informal use of the right-of-way by non-owner publics. List any constraints or measure's to take due to the informal use.

There are some instances of casual, informal use of the ROW by non-owner public citizens. At the public meeting, one local resident commented that they appreciate the opportunity to pick blackberries in cleared areas such as the ROW and would like them left. They currently walk on the ROW near Butte Creek Recreational Area. Weyerhauser leaves their gates open during the hunting season, which may lead to some hunting on or near the ROW. Most of the access roads have locked gates precluding vehicular access except during hunting season. There is some off-road recreational vehicle use. Garbage has been dumped along many BPA access roads and near or on the ROW.

2.6 List other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with. Describe method of notification and coordination.

Coordination and Contacts with Tribes: Seven Tribes were initially contacted by letter and by phone calls in October of 2000 to inform them of the proposed project and request for any information on historic properties in the area to which they attach religious and cultural significance. Subsequent telephone communications were made concerning their level of interest and participation. The Nisqually Tribe responded that they were interested in obtaining western red cedar for a canoe and traditional crafts.

BPA initiated Section 106 consultation under the National Historic Preservation Act of 1966 in January and February of 2002 by letter and followed up through subsequent phone calls. The Nisqually Tribes requested a meeting with BPA personnel; the other six Tribes asked to be keep informed of project activities.

In late March, BPA sent the Public Letter on the Rebuild Project to the Tribes, which included a description on the Danger Tree Removal Project. In April, 2002, BPA personnel met with members of the Nisqually Tribe, including the Assistant Tribal Chairman and four members of the Historical Committee. The Tribal members discussed the natural materials they would like to obtain for traditional crafts. At the meeting, the Nisqually requested that tribal elders and a spiritual leader visit the project area to determine if there are any areas of special significance; the meeting has been scheduled for early

June 2002. Another inquiry concerning traditional plants and basketry and carving materials from a Nisqually Tribal member was received by phone in May 2002.

Contacts have been made with the seven Tribes concerning cultural resources surveys for this project and for related projects along this transmission line. In early March 2002, the Tribes were sent a letter, which described the proposed methodology for the cultural resources survey for the Danger Tree Project. No comments were received. On May 10, 2002, the Tribes were sent the cultural resource survey report and asked to concur within 30 days on the finding of No Historic Properties Affected.

Agency Coordination and Contacts: BPA has coordinated with a variety of federal, state, and county agencies since early in 2001 to gather information and determine requirements and recommendations. The following list does not include all the agency contacts, largely because numerous phone messages were left and received concerning some topics. In some cases, contacts were ongoing and frequent. For example, the USFWS was contacted at least once per month and sometimes several contacts were made in each month. The following contacts were made:

- Jan. 16, 2001 - Met at the US Fish and Wildlife Service (USFWS) office in Lacy; met with USFWS (Kim Flotlin) concerning Section 7 consultation under the Endangered Species Act, and a number of Washington Division of Natural Resources (DNR) personnel to give them information about the project
- Feb. 15, 2001 - Met with Bob Bernard and Key McMurray of Washington Department of Fish & Wildlife (WDFW) and later Gary Graves, DNR, on site to discuss the project
- April 18, 2001 - Conference call with National Marine Fisheries Service (NMFS) to discuss EFH Assessment format and content
- May 1, 2001 - call to Kay Schmidt, of Central Region DNR, concerning wetland determination requirements for the Forest Practices Act; she suggested I call Gary Graves, also of DNR who was subsequently called on 5/21/2002 to discuss wetland determination requirements
- June 26, 2001 - Met with Tom Gibbs, Washington Department of Transportation (WSDOT), about road approaches off Highway 101
- July, 2002 – Submitted the Biological Assessment (BA) to USFWS and the EFH Assessment to NMFS
- June 27, 2001 - Met with DNR at their office in Castle Rock; talked more generically about the FPA and regulations, including listed and proposed wildlife species
- July 30, 2001 and August 1, 2001 - Conference calls with NMFS concerning Conservation Recommendations
- August 29, 2001 - Met on site with Tom Gibbs, WSDOT, to look at approaches
- October, 2001 - Curt Crites, Planner with Grays Harbor County, concerning County wetland requirements
- Nov, 2001 - Several calls to NMFS to clarify how to implement the Conservation Recommendation
- Dec. 27, 2001 - Called WSDOT about Scenic Highway classification requirements
- Dec. 27, 2001 - Called Pacific County Department of Community Development to discuss wetlands Critical Areas Ordinance
- Jan. 10, 2002 - Called Mr. Robert Whitlam, Washington State Archeologist, concerning cultural resources survey methodology
- January 16, 2002: Called Army Corps of Engineers (ACOE) about wetland requirements in project area

- Jan. 29, 2002 - Met with USFWS at their office in Lacy to discuss the consultation process and USFWS recommended amending the Biological Assessment, which subsequently was done; Kim Flotlin and Scott Craig, a fisheries biologist, both of USFWS attended, as well as a variety of BPA personnel
- Jan. 30, 2002 - USFWS called requesting spotted owl information (Kim Flotlin)
- Feb. 6, 2002 - Requested Pacific County Noxious Weed list from County Weed Board
- Feb. 20, 2002 - Spoke to Ann Potter, WDFW Wildlife Biologist at the Olympia Office, Wildlife Diversity Division about marbled murrelet habitat areas
- March 1, 2002 - Received letter of concurrence from Washington State Archeologist (Mr. Whitlam), on Area of Potential Effect and Mr. Whitlam recommended a professional survey and consultation with the tribes
- March 2, 2002 - Called Lori Salzer of WDFW about spotted owl habitat areas
- March, 2002 - Called Helen Presley, DOE about 401 WQ Certification
- March 12 - 2002 - Spoke with Kim Flotlin about amended BA
- April, 2002 – Several calls to Eric Cummins, WDFW for information about training for personnel for identification of marbled murrelet
- April 11, 2002 - Called Curt Crites, Grays Harbor County with floodplain information to determine to see if there are any County requirements related to floodplains
- April 17, 2002 - Received WA State Historic Preservation Office concurrence letter on Cultural Resources Survey methodology
- April 24, 2002 - Spoke with Olivia Romano, Army Corps of Engineers about wetland issues related to logging
- May 2, 2002 – Spoke to Debbie Clemons, WSDOT Planner concerning visual concerns in project area along the Highway
- May, 8, 2002 – Called Tim Wilson of the Pacific County Weed Board requested the new County weed list
- May 8, 2002 - E-mailed and called Nancy Ness of Grays Harbor Weed Board requesting County weed list

3. IDENTIFY NATURAL RESOURCES

List any water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body describe the control methods and requirements or mitigation measures that will be used.

Sources of Information: To initially gather information on water features in the project area, information was gathered from DNR stream typing information, USGS quadrangle maps, BPA photomaps, and information from BPA personnel working in the area. Photogrammetry was also employed to map streams using aerial photographs of the project area.

DNR Type 1-4 Streams: DNR Type 1-3 streams are presumed to be fish-bearing streams and Type 4 streams are probable fish-bearing streams. For the purposes of this project, all Type 1-4 streams are considered to be fish-bearing streams. These streams are mapped on the BPA photomaps.

BPA submitted an Essential Fish Habitat Assessment (attached) and NMFS made Conservation Recommendations. These recommendations apply to the Riparian Management Zone (RMA), which is the area on either side of the bank of a Type 1-4 stream. The width of the RMZ is 170 feet on either side of the stream. The Core RMZ is the area on either side of the stream, which extends 50 feet from the bank.

NMFS made the following Conservation Recommendations related to the Danger Tree Project, which BPA has agreed to follow:

- All felled trees from the Core Riparian Management Zone (RMZ) will remain in the core zone. The core zone is defined as the area within 50 feet on either side of the bank of a fish bearing streams. Trees will be felled so that a maximum amount of the tree is in contact with the stream to provide large woody debris. A minimum of 50 percent of the cut trees will be left as snags approximately 30 feet tall to provide large woody debris as they decay and to provide habitat.
- In the Outer RMZ, defined at the area from the Core RMZ, extending out to 170 feet from the edge of bank, a minimum of 10% of the trees will be left as snags.
- Riparian areas will be replanted with native woody species.

DNR Type 5 Streams: Numerous Type 5 streams are found in the project area. To protect Type 5 streams from mechanical damage and from sedimentation, no machinery will be allowed within 50 feet of Type 5 streams and logging activities will not occur within the stream channel. Type 5 streams are not subject to the RMZ restrictions that are imposed along Type 1-4 streams because Type 5 streams are not fish-bearing streams. Type 5 streams mapped by DNR within the project area are listed in Table 3.1 below.

General Requirements for protection of water quality and fish habitat: The following measures will be implemented throughout the project area:

- Erosion and sediment control measures will be implemented, where needed to prevent sediments from entering any surface water body including Type 5 streams and wetland
- Heavy equipment is not allowed within 50 feet of any stream
- Mechanized equipment will be stored at least 150 feet from any stream
- Equipment will be refueled at least 400 feet from any stream
- Equipment will be inspected on a daily basis for leaks and promptly repaired if leaking

Wetlands: A wetland determination was done of the areas where danger trees will be removed during several field visits over several months in 2002 and a wetland delineation was done in February, 2001 of several portions of the danger tree project area for a related project (road maintenance). The measures that will be implemented to protect wetlands are listed in Table 3.1, below.

Table 3.1. Water Features and Wetlands and Mitigation (Does not Include Marbled Murrelet Restrictions)

Site Description	Structure Number or Access Road Number Reference	Feature and Location	Description of Construction Activity	Type of Sensitive Area And Mitigation (See Note below)
Note: **Riparian Management Zones (RMZ)** are located 170 feet on either side of the bank of a fish bearing streams (DNR streams Types 1-4), they are subject to the restrictions imposed by NMFS discussed above in 3.1 **Wetlands** are depicted on photomaps and designed as "W" and numbered; Vehicles will not enter wetland areas within or adjacent to the logging area unless they are dry and vehicles will not cause rutting unless mats are used to prevent damage; do not disturb soil and retain understory vegetation; wetland areas are flagged and depicted on the photomaps **Cut and Leave** means that trees will not be removed from the site **BOL** means back on line, in the direction of Raymond, generally to the south **AOL** means ahead on line, in the direction of Cosmopolis, generally to the north **Backline** is the boundary of the danger tree removal area, away from the ROW				
Danger Tree Area	7-10	Type 5 Stream meanders through this area	Logging	Type 5 stream: no heavy equipment within 50 feet of stream bank
Danger Tree Area	13-15	Within RMZ	Logging	RMZ Restrictions along tributary of Smith Creek, Type 4 or 5 depending on location
Individual Tree Removal Area	16	BOL 200 ft.	12 Danger Trees	-RMZ Restrictions along Type 3 stream -Cut and Leave; leave undergrowth undisturbed and intact
Danger Tree Area	23-24	ROW between No. 23 and No. 24 and within Danger Tree Area	Logging	Wetland in Danger Tree Area and wetland in ROW (W1, W2), see mitigation above
Danger Tree Area	Southeast of R-C-3-AR-1 along backline	Between 24 and 25	Logging	Small Wetland along the backline within Danger Tree Area, see mitigation above
Danger Tree Area	39	Between 400 ft. BOL and 50 ft. AOL	Logging	Wetland within Danger tree Area and ROW (W3), see mitigation above

Site Description	Structure Number or Access Road Number Reference	Feature and Location	Description of Construction Activity	Type of Sensitive Area And Mitigation (See Note below)
Danger Tree Area	40-45	Within RMZ of Elkhorn Creek and Type 3 Tributary 200 ft. AOL No. 42	Logging	RMZ Restrictions along Type 3 stream
ROW adjacent to Danger Tree Area	40-41	Elkhorn Creek AOL No. 40 to 75 ft. BOL of No. 41	Adjacent to Danger Tree Area	Wetland Area within ROW between Danger Tree Area and Highway (W4), see mitigation above
ROW adjacent to Danger Tree Area	42-43	125 ft. AOL No. 42 to 100 ft. BOL No. 43	Adjacent to Danger Tree Area	Wetland Area within ROW (W5), see mitigation above
ROW adjacent to Danger Tree Area	43-44	100 ft. AOL No. 43 to 150 ft. BOL No. 44	Adjacent to Danger Tree Area	Wetland Area within ROW (W6), see mitigation above
Individual Tree Removal Area	50-51	Within RMZ	Individual Danger Trees	-RMZ Restrictions along Type 4 stream -Cut and Leave Area; leave undergrowth undisturbed and intact
Danger Tree Area	59-60	Within RMZ	Logging	RMZ Restrictions along Type 3 stream
Danger Tree Areas	62-65	Forested Wetlands	Logging	Wetlands within the Danger Tree Area, extending west from the wetland areas along access roads (W10), see mitigation above
Danger Tree Area	64-82	Areas within RMZ of Lower Salmon Creek and Tributaries	Logging	RMZ Restrictions along Type 1-4 streams, Lower Salmon Creek and tributaries
Danger Tree Area	66-67	Narrow wetland strip at east edge of ROW from No. 66 to No. 67	Logging	Wetland along access road (Part of W11), see mitigation above

Site Description	Structure Number or Access Road Number Reference	Feature and Location	Description of Construction Activity	Type of Sensitive Area And Mitigation (See Note below)
Danger Tree Area	67-68	Wetland AOL of No. 67 to BOL No. 68	Logging	Wetlands adjacent to the Type 3 stream where bridge will be installed (W11), see mitigation above
Danger Tree Area	69-70	Wetland 100 ft. BOL No. 70 to 200 ft. BOL No. 70	Logging	Wetland within danger tree area (W12), see mitigation above
Danger Tree Area	70-71	Wetland 100 ft. AOL No. 70 to 100 ft. BOL No. 71	Logging	Wetland within Danger Tree Area (W13), see mitigation above
Danger Tree Area	72	Wetland in ROW 100 ft. BOL of No. 72 and 150 ft. AOL of No. 72	Logging	Wetland Within ROW Adjacent to Danger Tree Area (W14), see mitigation above
Danger Tree Area	81-82	Two Type 5 stream crossings	Logging	Type 5 stream, No heavy equipment within 50 feet of stream bank
Danger Tree Area	82-83	Two Type 5 stream crossings	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	95-96	Two Type 5 stream crossings	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	97-98	Within RMZ	Logging	RMZ Restrictions, Type 3 stream
Danger Tree Area	100-101	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	102-103	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	110-111	Within RMZ	Logging	RMZ Restrictions, Type 3 stream
Danger Tree Area	111-112	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank

Site Description	Structure Number or Access Road Number Reference	Feature and Location	Description of Construction Activity	Type of Sensitive Area And Mitigation (See Note below)
Danger Tree Area	123- State Highway 107	Within RMZ	Logging	RMZ Restrictions, Type 1-3 streams (See photomap for Little North River and tributary locations; it meanders throughout this area, sometimes within 50 ft. of logging areas)
Danger Tree Area	123-124	Within RMZ, Wetland BOL of No. 24	Logging	-RMZ Restrictions, Type 3 stream -Wetland within Danger Tree Area (W15)
Danger Tree Area	137-138	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	155-156	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	156	Within RMZ along Mill Creek	Logging	RMZ Restrictions, Type 4 stream
Danger Tree Area	163-164	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank
Danger Tree Area	164-165	One Type 5 stream crossing	Logging	Type 5 stream: No heavy equipment within 50 feet of stream bank

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

Herbicides will not be used anywhere on this project.

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any BAs, T&E maps, or letters from US Fish and Wildlife.

The following maps are attached:

- Map 1- Bull trout Distribution and Fish Bearing Stream Locations Map (DNR Type 1-4 Streams)
- Map 2- Known Marbled Murrelet Occurrences
- Map 3- Known Spotted Owl Occurrence
- Map 4- WDFW Priority Species

The following documents are attached:

- Raymond – Cosmopolis Transmission Line Project Biological Assessment and Essential Fish Habitat Assessment (Amended March 1, 2002)
- Letter from NMFS dated October 3, 2001 concerning Essential Fish Habitat Consultation

Species List: USFWS provided a list of the federal status species with the potential to occur in the project area. The list included the following listed species: bald eagle, bull trout, marbled murrelet, and northern spotted owl. The only proposed species within the project area is coastal cutthroat trout. This letter is within the attached Biological Assessment.

Biological Assessment: The Biological Assessment (BA) for this project addressed the status of these species, potential effects to these species, and conservation measures to minimize effects. The BA was submitted in early July 2001, and then amended and resubmitted in early March 2002 based on the advice of the USFWS after discussions between BPA and USFWS. BPA and USFWS are currently engaged in the consultation process. BPA will follow the terms and conditions in the Biological Opinion (expected to be issued in June 2002) regarding listed species. The effects determination made by BPA for each of these species is discussed below.

Marbled murrelet: Marbled murrelet is a listed threatened species that is known to occur near the ROW. Suitable and marginal habitat areas were identified within a ½ mile corridor on either side of the ROW using photo interpretation followed by a field visit to the areas. Surveys were not done to detect birds within habitat areas.

Suitable habitat for marbled murrelet contains elements of old-growth stand structure, including numerous large-diameter individuals, either scattered or in patches, low canopy closure, lower stem densities, abundant moss, and it contains several potential nest platforms. Seven stands of suitable habitat, totaling 154.9 acres of marbled murrelet suitable habitat were identified. The project would include tree removal within 14.6 acres of suitable habitat.

Marginal habitat for marbled murrelet contains some trees over 18 inches in diameter at breast height (dbh) and a minimum of two potential nest platforms per acre but it also has characteristics such as high stem densities and low moss abundance which are not characteristic of most stands were marbled murrelet occupancy has been documented. The biologist who conducted the survey stated these stands are not likely to support nesting marbled murrelet. A total of 191.8 acres of marginal habitat was identified within the surveyed area. The project would impact 4.3 acres of marginal habitat.

The BA concluded that the project May Affect and Is Likely to Adversely Affect Marbled Murrelet.

Cutting and Noise restrictions: Marbled murrelet are sensitive to noise during the breeding season and are known to sometimes be startled off their nest and not return. The following timing restrictions are in place to protect the birds during their breeding season from noise and from injury to adults, eggs, and chicks:

- Prior to August 6th: No noise creating activities are allowed within 1/4 mile of suitable habitat.
- Between August 6th and September 15th: Noise creating activities are allowed to occur only between 2 hours after sunrise and 2 hours before sunset.
- Noise creating-activities are defined as any noise above the ambient noise level.

These timing restrictions apply to all activities conducted within the following areas, which are either within suitable habitat or within ¼ mile of suitable habitat:

- Tower No. 1 to Tower No. 10
- Tower No. 38 to Tower No. 46
- Tower No. 59 to Tower No. 72
- Tower No. 101 to Tower No. 107

Other Mitigation for Marbled Murrelet:

- BPA will train all personnel (Contractor and BPA) working on this project in the identification and reporting of murrelets, including adults, eggs, and chicks, prior to commencing any work
- BPA will comply with the Terms and Conditions of the Biological Opinion from USFWS expected to be issued in June, 2002

Bull trout: The BA concluded that bull trout are not found within the project area so there would be No Effect. Subsequently, USFWS informed BPA that one stream at the northern end of the project area (Mill Creek) drains into the Chehalis River, which contains bull trout. Because Mill Creek may provide bull trout habitat, the trees near the stream will be cut and left and the RMZ restrictions will be followed. Based on the new information, the effects determination was amended to May Affect But Is Not Likely to Adversely Affect.

Spotted Owl: The BA concluded that the project May Affect, But is Not Likely to Adversely Affect, spotted owls. The nearest documented activity center is over one mile from the proposed work sites and noise would not affect nesting birds. No suitable nesting habitat is present with the ½-mile corridor on either side of the ROW, although the birds could use some areas for roosting, foraging, or dispersal. If present, owls would likely temporarily avoid noisy areas.

Bald Eagle: The BA concluded that the project would have No Effect on bald eagle. Habitat that would be affected either directly or indirectly by the proposed action does not contain the attributes necessary for suitable foraging, nesting, roosting, or perching. It is not likely that bald eagles would occur in the area other than incidentally, such as in flight between the Chehalis basin to the Willapa basin.

Coastal Cutthroat Trout: BPA addressed coastal cutthroat in the Biological Assessment. Coastal cutthroat trout are know to occur in some streams within the project area and it is assumed that they occur in the Type 1-4 streams in the project area (Type 1-3 are fish bearing, and Type 4 are probable fish bearing).

The following Essential Fish Habitat Assessment Conservations Recommendations from NMFS will be followed and will mitigate for impacts to coastal cutthroat trout:

- All felled trees from the Core Riparian Management Zone (RMZ) will remain in the core zone. The core zone is defined as the area within 50 feet on either side of the bank of a fish bearing streams. Trees will be felled so that a maximum amount of the tree is in contact with the stream to provide large woody debris. A minimum of 50 percent of the cut trees will be left as snags approximately 30 feet tall to provide large woody debris as they decay and to provide habitat.
- In the Outer RMZ, defined at the area from the Core RMZ, extending out to 170 feet from the edge of bank, a minimum of 10% of the trees will be left as snags.
- Riparian areas will be replanted with native woody species.

The USFWS will publish the listing decision for coastal cutthroat trout in June, 2002. If listed, BPA will reenter in formal consultation to obtain a Biological Opinion covering this species.

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

NMFS concluded that the project may adversely affect the Essential Fish Habitat of chinook and coho. BPA will comply with Essential Fish Habitat Conservation Recommendations, as describe in Section 3.1 above. This involves leaving some snags within 170 feet of the bank edge of fish-bearing streams. This will provide habitat for bird species, in addition to benefiting fish species. As much as possible, the understory vegetation will be left undisturbed to provide habitat for wildlife.

List any visually sensitive areas and the measures to be taken at these areas.

Portions of the Highway 101 have a State Scenic Classification (WAC 468-34-330). The following Scenic Classifications apply to Highway 101 within the project area:

From Milepost Number	**To Milepost Number**	**Classification** (See explanation below)	**Geographic Reference Points**
53.5	61.1	C	The northern limits of the City of Raymond are at MP 56.96
61.1	61.8	BX	
61.8	66.2	C	
66.2	70.2	BX	The Grays Harbor County Line within the project area is at MP 67.81
70.9	77.0	C	
77.0	78.5	BX	
78.5	88.2	C	The southern limits of the City of Cosmopolis is MP 80.4

C=Secondary Scenic Importance; scenic characteristics are of marginal importance (WAC 468-34-333(3))

BX=Class B: High Scenic Value; areas where valuable scenic and environmental amenities exist and are enjoyed generally by travelers and public and deserve serious consideration for preservation and protective measures (WAC 468-34-333(3)). The X designation refers to the fact that aerial facilities, such as transmission lines are allowed without changing the landscape quality.

Some areas that fall under both the "C" and "BX" category will have danger tree removal. A WSDOT planner was contacted to determine the practical effect of this designation on the danger tree removal project. The planner stated that WSDOT must take health and safety concerns into consideration and remove trees that are a hazard, therefore there are no restrictions on tree removal associated with the scenic designation.

Tree removal is also consistent with the land use in this area. Most of the area is dedicated to timber production so removing danger trees is consistent with the landscape patterns already in place. Stands of trees in various stages are present along the Highway, from clearcut areas and young stands of trees, to older, more mature stands that will likely be logged when appropriate.

To mitigate for visual impacts, BPA will have the area promptly replanted to Douglas fir, a native species common in the area that grows quickly and will cover the area densely. In wet areas, it is expected that seedling red alder will volunteer and cut trees will immediately resprout since herbicides are not being used.

3.6 List areas with cultural resources and the measures to be taken in those areas.

A cultural resources survey (attached) was done of all areas that could be potentially affected by this project. The areas surveyed included the areas where trees will be removed, the adjacent right-of-way, landings and approaches along Highway 101, temporary roads, and areas along access roads where brushing will take place. **The survey did not reveal any cultural resources within the area of potential impact (APE).**

Prior to the survey, the firm that conducted the survey, Applied Archeological Resources, conducted a background records and literature research in order to document the presence or absence of potentially significant cultural resources within the project area. The review of archeological survey and site inventory files at the WA State Historic Preservation Office indicated that no cultural resources surveys have been conducted within the APE, but the background literature search indicated that several cultural resource surveys have been conducted in the vicinity of the project area. Although there are no recorded sites within the transmission line right-of-way, one prehistoric archaeological site and three historic-period sites have been recorded within one mile of the northern end of this transmission line in Cosmopolis. Seven tribes were contacted to determine if sites of religious or cultural significance are known to occur in the project area and no sites were reported.

Although the cultural resource survey for this project did not reveal any known cultural resource sites within the project area, if cultural resources are uncovered during construction, work will stop in the immediate vicinity of the discovery and the COTR and BPA archeologist will be notified. BPA will consult with the Washington State Historic Preservation Officer.

3.7 List areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

A Slope Stability Report (attached) was done by a certified geologist. This report described specific sites where there might be stability issues and made recommendations regarding the acceptability of cutting and removing trees. Based on this study, BPA excluded some areas from the project to avoid unstable slopes. In other areas, BPA determined where it was prudent to cut and leave and restrict machinery, rather than remove trees. The following areas were identified are needing specific cutting requirements:

Location	Specific Cutting Requirements
-300' to No. 8	Where slopes are over 50%, fell trees uphill away from creek. Leave undergrowth undisturbed and intact.
+50' to +550' No. 155 on left	Cut and leave due to unstable slope conditions.
No. 156 to –100' No. 157 on left	Cut and leave due to unstable slope conditions and bull trout creek nearby.

3.8 List areas of spanned canyons and the type of cutting needed.

Span		Methods, cutting
To	From	
147	148	No cutting except near Tower No. 148
149	150	Cutting extends down from No. 149 to approximately ½ way between these structures and there will be no cutting south of 150

4. DETERMINE VEGETATION CONTROL METHODS

4.1 List Methods that will be used in areas not previously addressed in steps above.

Span		**Methods,** including herbicide active ingredient, trade name, application technique
To	**From**	
1	167	Manual methods will be used which include chainsaws. Other equipment that might be used are associated with the removal of logs which include skidders, caterpillar tractors, feller-bunchers, forwarders, yarder, shovels. Mulchers, grinders, or chippers may also be used on this project. Herbicides will not be used.

Roadside Brushing Along Access Roads: For the brush removal areas listed in 1.1 above, brush and trees adjacent to the road will be cut to a maximum of 4 inches above the ground surface. All limbs which extend within 14 feet over the surface of the roadway. Limbs adjacent to the road will be cut flush with the trunk if possible to produce a reasonably smooth surface. Dead or unstable trees outside of the established clearing limits that are over 6 inches in diameter, lean toward the road, and are sufficiently tall to reach the roadbed if felled will also be cut. Stumps will only be removed if they are within the traveled way. The disturbed areas that result from where stumps are removed will be smoothed, shaped, and compacted to prevent water ponding and soil erosion. Slash will be removed if it is greater than 12 inches in length or 3 inches in diameter, or in concentrations that may plug ditches or culverts, from the traveled way, shoulders, ditches and water courses.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

Slash will be disposed of in one or more of the following ways:

- Lop & scatter
- Chip
- Physically remove
- Mulch with machines
- Whole tree yard and treat slash at landing

5.2 List areas of reseeding or replanting (those areas not already described in steps 1, 2, or 3).

Span		Reason for Reseed/plant	Type of Seed or Plants	Native?
To	From			
1	167	Danger tree removal areas will be replanted with native woody species (cut and leave areas and core riparian management zones will not be replanted) to keep land in timber production for landowners; provide fish and wildlife habitat, to stabilize soil and slopes, and for aesthetic reasons	Douglas-fir seedlings	Yes
1	167		Native grass seed mix (includes blue wild rye, red fescue, California brome, and mannagrass) with some non-native Regreen in areas by major roads (see table below of species in mix) at a rate of 50 lbs/acre	Yes, except for Regreen, a sterile hybrid as a component in the seed mix to provide quick cover

5.3 If not using native seed/plants, describe why.

The native grass seed mix will contain 20% Regreen, a sterile cross between wheat and wheatgrass, that provides quick cover, stabilizing soils while the slower-growing perennial grasses can become established, then dies out quickly.

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

Douglas fir seedlings will be planted from January through April of the year following removal of trees. Grass seed will be spread during early September to ensure that adequate moisture is available for germination. Rains tend to start in earnest in mid-September in this area. Spreading seed earlier than September may lead to seed loss from animals (particularly rodents and birds) feeding on the seed.

6. DETERMINE MONITORING NEEDS

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

None, other than continued vigilance by BPA personnel to identify any trees that pose a safety hazard.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

The effectiveness of erosion and sediment control measures will be monitored until sediments and slopes are stabilized.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are "substantial".

The Transmission System Vegetation Management Program EIS addresses effects to various resources. The main impact of this project will be on wildlife habitat, including a listed species (marbled murrelet) and a proposed species (coastal cutthroat trout). The potential impacts to these species from this project falls within the range of impacts addressed within the EIS and are not substantially different from the impacts contemplated, as described below.

Marbled murrelet: The EIS addresses tree removal within marbled murrelet habitat and what should be done if a tree greater than 32 inches in diameter, with suitable nest tree characteristics, is removed. As outlined in the EIS, BPA has initiated consultation with the USFWS. BPA will follow logging restrictions during the core breeding season in suitable marbled murrelet habitat, and will follow noise restrictions during the late breeding season.

Fish Species: The EIS addresses impacts from tree removal to fish species. The impacts to fish species were addressed in the Essential Fish Habitat Assessment submitted to NMFS. NMFS determined that the project may adversely affect fish habitat and gave Conservation Recommendations to mitigate for the adverse impacts. BPA will follow these Conservation Recommendations, which include not entering into core riparian zones with machinery, cutting and leaving trees in core riparian zones, leaving at least 50% of the trees as snags in core riparian zones. They also include leaving at least 10% of the trees as snags in the outer portion of the core riparian management zone (from 50' from the creek to 170' from the creek bank). BPA has also informally consulted with USFWS concerning the habitat needs of coastal cutthroat trout and appropriate mitigation for impacts.

Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

There is no need for additional documentation.